SCIENTIFIC, MEDICAL, AND TECHNICAL BOOKS

PUBLISHED IN THE
UNITED STATES OF AMERICA

A Selected List of Titles in Print with Annotations

SECOND EDITION
BOOKS PUBLISHED
TO
DECEMBER 1956

EDITED BY R. R. HAWKINS

FORMERLY CHIEF OF THE SCIENCE AND TECHNOLOGY DIVISION
NEW YORK PUBLIC LIBRARY

PREPARED UNDER THE DIRECTION OF THE NATIONAL ACADEMY OF SCIENCES—NATIONAL RESEARCH COUNCIL'S COMMITTEE ON BIBLIOGRAPHY OF AMERICAN SCIENTIFIC AND TECHNICAL BOOKS

WASHINGTON
1958

NATIONAL RESEARCH COUNCIL

COMMITTEE ON

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PREFACE

THE purpose of this bibliographical series is to supply descriptions of the outstanding scientific, medical and technical books written by citizens of Canada and the United States of America, published in the U S A., and available for both domestic and foreign distribution. Its origins are fully described in the Preface to the first volume published in 1946 under the title "Scientific, Medical and Technical Books Published in the United States of America 1930–1944 a Selected List of Titles in Print, with Annotations edited by R. R. Hawkins."

A primary motive in the establishment of the series was the furthering of cultural relations between the United States of America and other nations. Experience has shown that the series also has considerable usefulness in our own country It has become well established as a book selection guide in the libraries of the United States of America as well as in libraries and other institutions abroad

The original work represented a selection from books published during fifteen years 1930–1944 The first supplement, published in 1950 provided a selection of books published in original or substantially revised editions during the years 1945–1948. The second supplement provided a selection of books and substantially revised editions published during the years 1949–1952 The present volume is not a third supplement, but is a second edition of the original basic volume The arbitrary limit of the year 1930 was dropped so as to include a few books published before that year which are still useful and standard in their respective fields. The upper limit is essentially 1956 as stated on the title page. However as new editions published in 1957 and early 1958 of books already selected for inclusion came to the notice of the editor notes of them were included in the descriptions. The description pertinent to the edition published before 1957 was retained, but the existence of the new edition together with its pagination and price was noted in the last sentence of the description.

The scope in regards to kinds of publications included is the same as in the first edition and its supplements. Again, books published in regular book trade channels predominate. Monographs, symposia and papers published by American scientific and technical societies are included, but these are not so fully presented as trade books primarily because many such publications are printed for members of the publishing society and for exchange with other societies rather than for general distribution A selection of documents published by the National Government is included but the publications of state and local governments are not represented, except for books published by state university presses and distributed through established book trade channels The publications of commercial firms not in the book publishing business—for example publications of a manufacturing company about its own products—have been excluded except for about one dozen such publications which have come to be recognized as standard works transcending their applications to the publishers products.

The subject scope of this work is indicated in the title and in more detail in the Table of Contents. Medicine the pure and applied sciences and technology are covered, but there are certain exceptions. The social sciences are omitted except for certain works in such fields as nursing and psychology where some books which are listed are equally useful for sociological and technical information. A few small areas of technology for example the technical aspects of printing and allied arts are not covered at all and other semitechnical fields of which gardening is an example are covered less thoroughly than such fields as electrical engineering. In these semitechnical fields the editorial policy was to include the books of good quality which were turned up in the course of work on other parts of the list but not to pursue the subjects to the extent of special research.

As in the original volume the selection in most fields of knowledge is a liberal one. Throughout the selection process the aim has been to choose the books of merit among those which met the gross qualifications of date of publication, author's citizenship and availability The selections on a given subject are intended to represent the books that would be available in a well-stocked American library with an active collection in that subject. The list should be viewed as one of important

Preface

Our consultants made many valuable suggestions, both as to books which could be dropped from the lists and books which should be added.

The final selection of titles to be included was made by the Editor on the basis of his own appraisals of the books, the opinions of other reviewers as stated in published reviews and the recommendations of consultants both acknowledged and unacknowledged. The Editor is also responsible for the majority of the descriptive notes and for the final form of all of them. Careful readers of the volume will notice a "dated" flavor to some of the descriptive notes for the older books carried over from earlier volumes in our series This fault is acknowledged and the excuse for it is that the time and money were not available for rewriting all of the notes. As is customary the Editor assumes the responsibility for all the faults of selection and description, but readily and truthfully states that the good qualities of the work are the result of collaboration among the Editor his assistants the Committee, and the consultants.

Classification of scientific and technical literature is a vexatious problem which grows more difficult as areas of knowledge which once appeared to have fairly definite boundaries tend to merge with adjacent areas or to change character The basic principle followed in classifying was to place the title where it was most pertinent. However there are many instances where the Editor's judgment on points of classification was unequal to the particular problem. Furthermore, in the process of combining several lots of manuscript, galley proofs etc. some outright mistakes were made. A definite effort was made to correct these misjudgments and errors by listing the books under the right headings in the Subject Index. Users of the volume who wish to see a listing of a considerable number of associated titles on a given subject are advised to use the Table of Contents at the front of the volume while those who are looking for a single title, or a few on a specific topic will, in most instances, find it better to use the Subject Index at the end of the volume

The forms of bibliographical descriptions and abbreviations in previous volumes have drawn no complaints and, therefore, have been used again. In most cases no attention has been paid to preliminary matter included before the start of the main paging, hence the number of pages given represents the body of the book. However when two sets of pages are indicated, for example "143 21 p.," supplementary paging has been noted Illustrative material is described simply Any graphic or pictorial matter aside from printed text has been indicated by the phrase "illus" Colored illustrations have been indicated by the abbreviation "col d." Colored illustrations combined with black and white are indicated by "(part col d)" The only dimension included is height expressed in centimeters, abbreviated "cm." In our previous volumes, paper bindings were always indicated when it was known to the Editor that the books were supplied in paper covers As part of an over-all effort to control the mounting costs of preparing and printing the volume the information on paper covers has been dropped.

In most instances the information given on size pagination, imprint etc. was obtained by an examination of a copy of the book. The editor recognizes that publishers sometimes have other editions than the one described and that some of these will differ in pagination and other details of format. Imprints also were usually taken from the books and did not reflect changes in firm names location etc., that occurred after the book was printed. For this reason the places of publication and firm names given in the book descriptions sometimes differ from the information given in the Directory of Publishers at the end of the volume. In cases of discrepancy the Directory of Publishers should be followed as it was compiled later than the book descriptions.

All publishers were asked to supply the current prices of their books, and the prices listed in the book descriptions are those furnished except in a few cases where the publisher did not respond to our requests for this information or when a printer's deadline did not allow time to get it. In such cases the prices were taken from reliable sources such as the publishers own catalogs or the *Cumulative Book Index* In our earlier editions considerable attention was given to indicating special prices or additional charges made when books are sent to buyers outside the United States of America. In recognition of the fact that in these days of inflation, prices and extra charges change frequently little attention has been paid to this special price information. Most of the prices given are accurate but they are not guaranteed, and an inquiry should

and useful books rather than a list of "best" books.

Elementary and secondary school textbooks and books written on these educational levels have been excluded, but well written books for lay readers and a select number of vocational school textbooks have been included In these categories, preference has been given to books suitable for home reading and self instruction The policy on the inclusion of college textbooks has been liberalized somewhat in comparison to the policy followed in selecting titles for the original volume Again, preference has been given to the well-established texts and to those possessing useful or novel features but in selected fields such as physics, where educational interest in the subject is currently running high most of the college textbooks of merit have been included

Availability is a principal criterion for inclusion therefore books known to the Editor to be out of print or about to go out of print were not considered in making the selections Some publishers, however, supplied review copies without looking at their stocks In fact one firm wrote later that the copy supplied for review had turned out to be the last one in stock! Some books therefore, went out of print while the manuscript of this book was being prepared If the out-of print status was discovered during the "galley proof" stage of our list, the book was eliminated but if the discovery was not made until the pages had been made up the description was retained and an "o p" inserted in place of the price. A considerable number of the titles marked "o p" are publications of the United States National Government. In most instances microfilm copies of these can be obtained from the issuing agency or from the Library of Congress Washington 25 D C.

Although most American publishers cooperated wholeheartedly with the Committee and the Editor in the supplying of information and of copies of their books for examination, several ignored our requests or failed to supply examination copies. Since the editorial procedure required examination of the books a few titles are not listed because no copy was available to the editorial staff A few books were necessarily omitted because the review copy arrived too late

Selection of books for the present list began with consideration of those included in the previous volumes in our series. Publishers were queried as to whether the individual titles were in print, and if in print, whether there had been new editions. A book previously listed which was still in print was not retained as a matter of course, but it was not replaced with another title unless the other title was deemed a better book. In short, a listed title had a better chance of being retained than a title of similar age and quality not previously listed. Nevertheless the dropping of a previously listed title still in print does not necessarily signify that in the Editor's opinion it has ceased to be important or useful. Numerous titles described in the earlier volumes in our series are still in print and of value in their fields This is particularly true of the publications of learned societies Approximately 8000 titles are listed in the present volume, of which about 3500 are either new editions of titles previously listed or new titles As would be expected, books published in the 1953–1956 period predominate among the new titles

The process of selecting new titles for inclusion was essentially unchanged from our previous edition and supplements. As a first step, the Editor and his staff read the book listings and reviews in the 1953–1956 issues of the *Cumulative Book Index New Technical Books Science United States Quarterly Book List Journal of the American Medical Association* and other journals and made out slips for all of the books which appeared to be eligible These slips were arranged by publishers A statement of the purpose of the Committee's work and the general eligibility requirements was drawn up Each publisher represented in the preliminary lists was sent a copy of this statement together with the list of books published by him which appeared to be eligible The publishers were asked to eliminate any books which did not meet the Committee's general requirements for eligibility for example those by foreign authors and were asked to suggest additional titles which appeared to be eligible. Examination copies of all books to be considered were requested

When the books were received, they were examined by the Editor and his associates Books which were patently ineligible were eliminated at this stage Descriptions similar to and in many cases identical with the descriptions in the present book were prepared for the books which survived this preliminary test. Next, these descriptions were classified by subject, and many of the subject lists were sent to specialists in various fields who had agreed to act as consultants to the Committee.

Preface

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be made of the publisher in all cases where it is essential to have an accurate price

The headings listed under *Contents'* have been taken directly from the books When it was necessary to abridge the table of contents of a book, an effort was made to select headings which illustrate the book's scope and special features The *Note'* is designed to supplement the information obtainable from the title and table of contents, especially to bring out unusual features, to indicate uses and reader groups, and to outline the extent of changes in new editions The notes are not intended to stand alone as appraisals or descriptions but should be read in conjunction with the title and contents Some notes have been taken with little or no change from the New York Public Library's bimonthly *New Technical Books*

Various members of the Committee read and supervised long lists of tentative selections and gave valuable advice on revision of the tentative lists Prof Nathan L Drake assisted immeasurably in the selection of books on chemistry Ralph H Phelps and other members of the staff of the Engineering Societies Library revised the preliminary lists in engineering and made many valuable suggestions on titles to be added. Lt. Col Frank B Rogers and members of his staff at the National Medical Library, reviewed the entire section of medicine in its preliminary form—a fourteen pound manuscript! Mrs Henrietta T Perkins an associate of Dr John F Fulton at the Yale Medical Library is largely responsible for the new arrangement of the medical section

Equally valuable help was obtained from experts outside the Committee. Elizabeth C Hall Librarian Dr Harold W Ricketts and other members of the staff of the New York Botanical Garden applied their expert knowledge to the preliminary lists in botany and made many suggestions for deletions and additions Prof I Bernard Cohen editor of *Isis* helped—as he has done before—with the selection of books pertaining to general science and the history of science Dr David A. Jonah librarian of Brown University and Margaret E Drewett librarian in charge of the Physical Sciences Library of Brown University, reviewed the selection of titles in mathematics and are responsible for the inclusion of a number of books that had been overlooked by the Editor Prof Mark W Zemansky, Chairman of the Department of Physics of City College, gave very valuable help in preparing the section on physics. Harald Ostvold now Chief of the Reference Department of the New York Public Library and formerly librarian of the Agriculture Library of the University of Minnesota, reviewed the section on agriculture.

Jack E Brown, formerly my right hand man at the New York Public Library and now librarian of the National Research Council of Canada, aided in numerous ways in the early stages of preparing the book Of the numerous subeditorial and clerical workers who came and went during the course of preparing the book, Margaret Haas and Judith Golwyn deserve special mention for good work performed in the short time they were associated with the project Genevieve Winston was with the project for several months in its early stages and then returned toward its end to carry a major share of the office work. Throughout the life of the project Margaret Micklewright, secretary for the Science and Technology Division of the New York Public Library helped in the time she could spare from her regular duties Elizabeth Walton Hawkins served as the editor's unpaid but not unappreciated secretary and editorial assistant and, in addition, typed at least one-quarter of the manuscript.

Karl Brown formerly editor of the *Library Journal* and also of the publications of the New York Public Library carried out the task of marking copy for the printer and reading the page and galley proofs of the whole book Joseph C Borden of the University of Arkansas contributed at least five hundred descriptive notes

In an effort to reduce the time ordinarily required for preparing and printing a volume of this size, the manuscript was set in type bit by bit as it was got ready Finally the various galleys of type were combined The Lancaster Press performed a near miracle in carrying out the typesetting and combining operations with far fewer errors than were made in the editorial office where only paper had to be handled

R R HAWKINS

New York
June 1958

TABLE OF CONTENTS

Table of Contents

SCIENCE

GENERAL

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

Centennial collected papers presented at the centennial celebration, Washington D. C., September 13–17 1948. Washington, D. C. American Association for the Advancement of Science, 1950 313 p. illus 27 cm. $5.00 1

Contents: Sciences of society: Is economics necessary? by K. E. Boulding. Rare civilizations in history, by A. L. Kroeber. Sociology and the strategy of social science, by [illegible]. Science and the control of human population, by W. S. Thompson. Educational potentials: Growth potentials of the human infant, by A. Gesell. The social environment of the educational process, by T. Parsons. Educability and the schools, by R. W. Tyler. Human individuality: The human frontier, by R. J. Williams. Primary mental abilities, by L. L. Thurstone. The genetic approach to human individuality, by L. H. Snyder. The individual and the culture process, by L. A. White. Environment: Agriculture and the climatic pattern of soil development, by W. A. Albrecht. Seven decades of [illegible] research, by A. C. [illegible]. Cultural contexts of [illegible] patterns, by M. Mead. Housing: Housing—where the natural and social sciences meet, by R. J. [illegible]. The contributions of science to housing, by L. W. [illegible]. Housing in the redevelopment of American cities, by C. Woodbury. World health problems: The global concept of disease, by E. C. Faust. Public health in the international scene, by L. A. Scheele. Medical research—education frontiers, by A. C. Ivy. The relevance of modern developments in nuclear energy to public health problems, by S. L. Warren. Science, psychiatry, security, by K. E. Appel. Sources of energy: Solar energy, by F. Daniels. Energy from fossil fuels, by M. K. Hubbert. Atomic energy, by E. P. Wigner. The upper atmosphere: The sun and the earth, by D. H. Menzel. The circulation of the upper troposphere and lower stratosphere, by C. G. Rossby and H. C. Willett. The world's natural resources: On living in the biosphere, by G. E. Hutchinson. [illegible] and [illegible] of [illegible] resources, by S. A. Cain. Biological problems of the oceans, by D. Merriman. Wood in an industrial world, by J. A. Hall. The exploration of mineral resources, by T. S. Lovering. Genes and cytoplasm: Genes as determiners of cellular biochemistry, by D. M. Bonner. The role of cytoplasm in heredity, by T. M. Sonneborn. The effects of changes in quantity, combination, and position of genes, by C. Stern. High polymers: Polyelectrolytes, by R. M. Fuoss. Structure and behavior of rubberlike substances, by H. M. [illegible]. Interactions of matter and radiation: The elementary particles of physics, by C. D. Anderson. Oxygen isotopes in nature and in the laboratory, by H. C. Urey. New worlds for study, by J. [illegible]. Waves and rhythms: Rhythmic behavior of the nervous system, by H. Hoagland. Sound waves and rhythms, by V. O. Knudsen.

Note: Some of the papers in the volume were published previously elsewhere, but the majority are original.

AMERICAN MEN OF SCIENCE: A BIOGRAPHICAL DIRECTORY. Edited by Jaques Cattell. Ninth edition. New York R. R. Bowker Company 1955–56. 3 v. 29 cm. $20.00 per vol. 2

[illegible]: The standard biographical directory of contemporary American and Canadian scientists. Volume I, Physical sciences, covers living scientists working in physics, mathematics, chemistry (including biochemistry), meteorology, oceanography, optics, geography, and research engineering. Volume II, Biological sciences, covers scientists engaged in botany, bacteriology, entomology, forestry, genetics, anatomy, physiology, public health, and pharmacology. Medical practitioners are not included as such but are included if they are prominent in medical research. Volume III, Social and behavioral sciences, covers psychology, geography, anthropology, sociology, etc. The total number of biographies in the three volumes is approximately 90,000. In its ninth edition the work is characterized by the same high standards of selection and accuracy as in previous editions. A noteworthy new feature is the inclusion in the third volume of tabulations with meanings of the many abbreviations used throughout the set.

BAITSELL, GEORGE ALFRED editor

The centennial of the Sheffield Scientific School. New Haven Yale University Press, 1950 206 p illus 24 cm. (Yale University Mrs. Hepsa Ely Silliman Memorial Lectures) $3.00 3

Contents: High energy physics, by E. O. Lawrence. Chemical achievement and hope for the future, by L. Pauling. Virus research—achievement and promise, by W. M. Stanley. Genes and biochemical reactions, by G. W. Beadle. Changes by honorary degrees, by [illegible]. The Sheffield Scientific School from 1847 to 1947, by C. H. Warren. Science and the [illegible], by [illegible]. Benjamin Silliman in his [illegible] moments, by J. F. Fulton. Greetings, by C. Seymour. The relationship of the Sheffield School to [illegible], by [illegible]. Centennial greetings to the Sheffield Scientific School from Sigma Xi, by G. A. Baitsell.

Note: The first four papers in this volume constitute the twenty-sixth series of the Mrs. Hepsa Ely Silliman Memorial Lectures. They are addressed primarily to educated laymen, and they summarize significant recent advances in several scientific fields. The rest of the volume consists of special addresses on the occasion of the Centennial of the Sheffield Scientific School, the establishment of which in 1847 marked "the acceptance of science in America as an important and necessary part of education and of life in general."

BAITSELL, GEORGE ALFRED editor

Science in progress. First series. New Haven Yale University Press 1939 322 p. illus. 24 cm. (The Society of the Sigma Xi National lectureships 1937 and 1938) $5.00. 4

Contents: Foreword, by H. Shapley. Atoms, new and old, by E. O. Lawrence. The separation of isotopes and their use in chemistry and biology, by H. C. Urey. Recent advances in the study of viruses, by W. M. Stanley. New vistas in virus disease research, by L. O. Kunkel. Vitamins and hormones, by [illegible]. The essential use of vitamins in living things, by R. R. Williams. Internal secretions in reproduction, by E. Allen. Recent developments in our knowledge of chromosome structure and their application to genetics, by T. S. Painter. Electrical potentials of the human brain, by E. N. Harvey. Animal metabolism: From mouse to elephant, by F. G. Benedict. References. Index.

—— Science in progress. Second series. New Haven Yale University Press 1940. 317 p. illus. 24 cm. (The Society of the Sigma Xi. National lectureships, 1939 and 1940) $5.00 5

Contents: The experimental alteration of heredity, by L. J. Stadler. The regulation of plant growth, by F. W. Went. Experimental studies on the functions of the frontal lobes in monkeys, chimpanzees, and man, by J. F. Fulton. Mysterious craters of the Carolina coast: A study in methods of research, by D. Johnson. How the earth shows its age, by A. C. Lane. The expanding universe, by H. P. Robertson. Cosmic rays and new elementary particles of matter, by C. D. Anderson. The motions of ions and proteins in electric fields, by D. A. MacInnes. The ultra-centrifuge, by J. W. Beams. Recent advances in astronomy, by J. C. Hunsaker. References. Index.

—— Science in progress. Third series New Haven Yale University Press 1942 322 p illus 24 cm (The Society of the Sigma Xi National lectureships, 1941 and 1942) $5 00 6

Contents Foreword, by W R. Whitney Galaxies, by H. Shapley The problem of the expanding universe, by E. Hubble. Energy production in stars, by H. A. Bethe. Image formation by electrons, by V K. Zworykin. Recent work in the field of high pressures, by P W Bridgman. Recent developments in power generation by L. S. Marks. Some fundamental aspects of photosynthesis, by J Franck The structure of liquids, by J G Kirkwood. The mode of action of sulfanilamide, by P H. Long. Some scientific aspects of the synthetic rubber problem, by H. Mark. References. Index.

—— Science in progress Fourth series New Haven Yale University Press, 1945 331 p illus 24 cm. (The Society of the Sigma Xi. National lectureships, 1943 and 1944) $5 00 7

Contents Preface, by G. A. Baitsell. Foreword, by L. L. Woodruff Illustrations. Psychological aspects of military aviation, by W R. Miles. The physical structure and biological action of nerve cells, by D W Bronk. Energy and vision, by S. Hecht. Chemical transmission of nerve impulses, by O Loewi. The mathematical nature of physical theories, by G. D Birkhoff The magnetic approach to the absolute zero of temperature, by P Debye. The drift toward equilibrium by H. Eyring. Streams of atoms, by I. I. Rabi. Adventures in vacuum chemistry by K. C. D Hickman. Present status of the vitamin B complex, by C. A. Elvehjem. Blood and blood derivatives, by E. J Cohn. References. Index.

—— Science in progress Fifth series New Haven Yale University Press, 1947 353 p illus. 24 cm. (The Society of Sigma Xi National lectureships, 1945 and 1946) $5 00 8

Contents: Preface, by G. A. Baitsell. Illustrations. Introduction The future of scientific research in the postwar world, by F B. Jewett. The interior of the earth, by J B. Macelwane. Development of betatron and applications of high-energy radiations, by D W Kerst. Contact catalysis between two world wars, by H. S. Taylor Fundamentals of oxidation and respiration, by L. Michaelis. Complement Immunity intensifier diagnostic drudge, chemical curiosity by M. Heidelberger Genes and the chemistry of the organism by G. W Beadle. Concerning the cancer problem, by P Rous. Plant diseases are shifty enemies, by E. C. Stakman Living cells in action by C. C. Speidel. Recent advances in our knowledge of the anterior pituitary hormones, by H. M Evans. References. Index.

—— Science in progress Sixth series. New Haven Yale University Press, 1949 322 p illus 24 cm (The Society of the Sigma Xi National lectureships 1947 and 1948, and the Silliman lectures, 1947) $5 00 9

Contents Preface, by G. A. Baitsell. From X-rays to nuclear fission by H. D Smyth. Elementary particle physics, by J A. Wheeler High energy physics, by E. O. Lawrence. The eight new synthetic elements, by G. T Seaborg. Chemical achievement and hope for the future, by L. Pauling. Chromatography and spectroscopy in organic chemistry and stereochemistry by L. Zechmeister Virus research Achievement and promise, by W M Stanley The tubercle bacillus and tuberculosis, by R. J Dubos. Genes and biological enigmas, by G. W Beadle. The evolution and function of genes, by A. H. Sturtevant. Modern soil science, by C. E. Kellogg. References. Index.

—— Science in progress Seventh series New Haven Yale University Press 1951 512 p 26 cm (The Society of the Sigma Xi National lectureships, 1949 and 1950) $6 00 10

Contents The first heart beats and the beginning of embryonic circulation by B M. Patten. The reproductive cycle of the rhesus monkey by G. W Corner Human infancy and the embryology of behavior by A. Gesell. Radiation damage to the genetic material, by H. J Muller Beyond the gene—two years later by T M. Sonneborn The macromolecular structure of biological materials, by R. W G Wyckoff The elementary particles of physics, by C. D Anderson Atomic and solar energy by F Daniels. Atomic structure and energy by J R. Dunning. The theory of braids, by E. Artin. History of the fauna of Latin America, by G G. Simpson. The physical chemistry of polymers, by R. M. Fuoss. References. Index.

—— Science in progress Eighth series New Haven Yale University Press, 1953 285 p illus. 24 cm (The Society of the Sigma Xi National lectureships, 1951 and 1952) $6 00 11

Contents: Preface, by G. A. Baitsell. The origin and evolution of the universe, by G. Gamow Unsolved problems of the sun's atmosphere, by W O Roberts. The earth's atmosphere, by J Kaplan. The geological history and evolution of insects, by F M. Carpenter Africa and the origin of man, by D M. S. Watson. Sensory physiology and the orientation of animals, by D R. Griffin. Cooperation and conflict among primitive organisms, by Paul R. Burkholder Luminescent organisms, by E. N Harvey Microwave spectroscopy by C. H. Townes. Molecular interactions in protein solutions, by G. Scatchard. References. Index.

—— Science in progress Ninth series New Haven Yale University Press, 1955 343 p illus 24 cm (The Society of the Sigma Xi National lectureships, 1953 and 1954) $6.50 12

Contents Preface, by G A. Baitsell. Present knowledge of human heredity and its applications, by L. H. Snyder Two or three bristles, by C. Stern. The significance of auxins in agricultural practice, by E. J Kraus. The physiology of growth in plant tissues, by K. V Thimann. The molecular basis of visual excitation by G. Wald. The impact of nuclear science on medicine, by L. E. Farr Nuclear magnetism by F Bloch. Transistor physics, by W Shockley Suspension bridges—the aerodynamic problem and its solution by D B Steinman Color and chemical constitution, by W R. Brode. References. Index.

Note. Each volume of this series contains papers developed from lectures delivered under the sponsorship of the Society of the Sigma Xi at leading American universities. The purpose is to enable outstanding scientists to report on the progress being made in various fields of scientific research and to describe their own recent work. The topics are diversified, but there is some emphasis on the biological sciences. The authors have written primarily for audiences of trained scientists, but some of the papers have appeal for mature laymen who are versed in scientific terminology and basic concepts.

BENNETT, JESSE LEE

The diffusion of science. Baltimore The Johns Hopkins Press, 1942 141 p 22 cm. $2.25 13

Content The great and sudden world changes. The knowledge of the past and the agencies for diffusing it. The new scientific knowledge and the evolving agencies for diffusing it. The growing realization of the changed situation. The need for broad view scientific method, and definite plan. The possible aims of the education of the future. The possible material of the education of the future. The possible technique of the education of the future. Immediate possibilities. Notes.

Note A plan and program for the diffusion of scientific knowledge based upon a broad study of the world situation, of the existing educational philosophy and educational systems, of the new devices of intercommunication, and of possible methods of deliberate and conscious procedure in a field in which existing activities are, in the author's view largely empirical and pragmatic Emphasis is placed on the application of the scientific method to the problem of the advancement and diffusion of science.

BURCHARD, JOHN ELY editor

Mid-century—the social implications of scientific progress Verbatim account of the discussions held at the Massachusetts Institute of Technology on the occasion of its mid

century convocation March 31 April 1 and April 2 1949 Cambridge, Mass Published jointly by The Technology Press of the Massachusetts Institute of Technology and John Wiley & Sons, Inc., New York, 1950. 549 p 23 cm. $7.50. 14

Contents The state of science. The twentieth century. Man against nature. Man against man. Science, materialism and the human spirit. The role of the individual in a world of institutions. The problem of specialization in twentieth century education. The state, industry and the university. The shape of the future. The obligations and ideas of an institute of technology. Appendices. Biographical notes. Index.

Note In this book some 35 contemporaries who are famous for their work in science or in other fields, such as politics, discuss matters which are more or less related to the impact of science upon our society. There is some emphasis, but not an overwhelming amount, on the special contributions and problems of universities. The speeches themselves are copiously supplemented by comments from the editor and others.

BUSH VANNEVAR

Endless horizons. Introduction by Dr Frank B Jewett. Washington, D C. Public Affairs Press, 1946 182 p. 23 cm. $2.50 15

Contents The inscrutable past. As we may think. A program for tomorrow. The war against disease. The public welfare. Renewal of scientific talent. Reconversion opportunities. The means to the end. Research on military problems. The control of atomic energy. Research and the war effort. The teamwork of technicians. The qualities of a profession. Our tradition of opportunity. The need for patent reforms. Science for world service. The builders.

Note A collection of essays and addresses, most of which were published or delivered in 1945. Six of them are reprinted from the author's *Science, the endless frontier*, a report to the President, Washington, D C 1945. All of the volume is worth reading, but the most important parts deal with the role of research in the United States during World War II, and a proposed program for the support of scientific research by the national government in peacetime. The author was the Director of the Office of Scientific Research and Development during World War II.

CHRISTMAN RUTH C. editor

Soviet science. A symposium presented on December 27 1951 at the Philadelphia meeting of the American Association for the Advancement of Science Arranged by Conway Zirkle and Howard A. Meyerhoff Published with the aid of a grant from the National Science Foundation Washington D C. American Association for the Advancement of Science, 1952 108 p. 24 cm. $1 75 16

Contents Russian genetics, by T. Dobzhansky. Russian physiology and pathology, by W. H. Gantt. Russian psychology and psychiatry, by I. D. London. Scientific method and social science: East and West, by R. L. Ackoff. Russian contributions to soil science, by J. S. Joffe. Soviet physics and chemistry, by J. Turkevich. Soviet mathematics, by J. R. Kline. Science and intellectual freedom in Russia, by L. Volin. An appraisal of science in the USSR, by C. Zirkle.

Note The emphasis in this work is on Soviet science in our times; however, most of the papers include references to earlier times and especially to Russian scientists who made great contributions to their field. Relationships between Soviet politics and Soviet science today are discussed. Contemporary journals and scientific institutions are mentioned.

COHEN I BERNARD AND FLETCHER G WATSON editors

General education in science. With a foreword by James Bryant Conant. Cambridge Mass. Harvard University Press 1952 217 p. 22 cm. $4.00 17

Contents Science for the nonscientist: Science and the layman, by R. J. Dubos. General education and special education in the sciences, by A. J. French. The assimilation of science into general education, by P. B. Sears. The philosophy of science and the teaching of science: The role of philosophy in a general education course in physical science, by E. C. Kemble. What teachers of general education courses in the sciences should know about philosophy, by P. Frank. The history of science and the teaching of science: The history of science and the teaching of science, by I. B. Cohen. The use of historical cases in science teaching, by L. K. Nash. Acquiring a knowledge of the history of science, by F. G. Kilgour. The sciences in a technical civilization: Applications of science and the teaching of science, by P. Le Corbeiller. What the layman needs to know about science, by S. A. Goudsmit. Education for citizenship in a technical civilization, by E. C. Fuller. Some problems in the teaching of biology: An approach to the teaching of biology to nonscientists, by E. S. Castle. The general education course in biology—laboratory work and general objectives, by G. E. Erikson. The evaluation problem: Can general education courses in the sciences be evaluated? by H. S. Dyer. What the instructor can do about evaluation—techniques and examples, by F. G. Watson.

Note Papers which were originally presented at the Workshop in Science in General Education held at the Harvard Summer School in July 1950, are collected in this volume. Their purpose cannot be described better than in the words of Dr. Conant: A major educational problem that now confronts those concerned with teaching science is how to start the student down a road that will insure his arriving at some degree of scientific literacy even though he devotes his college years to the study of some nonscientific subject. This is the problem to which the papers collected in this volume are primarily addressed.

COHEN I. BERNARD

Science servant of man a layman's primer for the age of science. Boston Little Brown and Company, 1948 362 p illus 21 cm. $5 00 18

Contents (abridged) Part I, The nature of the scientific enterprise: Conditions of scientific discovery. The "happy accident" and its consequences. The spectrum of scientific activity. Part II, Practical applications of fundamental research: Atoms and agriculture. The electric current and radio. Synthetic rubber and nylon. Part III, Fundamental research in which a practical application seems likely: Blood groups and blood transfusion. The story of hybrid corn. The fortune at the rainbow's end. Part IV, Practical innovations based on existing fundamental knowledge: Microbiology and oil prospecting. The [illegible] camera and radar communication. Part V, Science, servant of man: How to get the most out of science. Bibliography. Index.

Note In this interesting and well-written book the "road" of fundamental scientific research is demonstrated by recounting the origins and development of some of the important applications of scientific knowledge that we now enjoy. In most of the cases it is shown that the original investigation was undertaken with no other motive than to add to the sum of human knowledge. Also, it is shown that considerable time usually elapses between the original discovery and its practical application, and that in this interval a number of scientists usually make contributions that increase the knowledge of the fundamental principles involved. The author's main purpose is to convince the general reader that pure science does eventually add to his well-being, and a collateral aim is to explain the methods of basic scientific research. The book can be read with profit by both laymen and scientists.

COLEMAN HARRY SHIPP editor

Laboratory design National Research Council report on design, construction, and equipment of laboratories. With an introduction by Roland Wank. New York Reinhold Publishing Corporation, 1951 393 p. illus. 30 cm. $15.00 19

Contents (abridged) Part I, Materials, facilities, services and equipment—general discussion: Introduction, by R. A. Wank. Interior construction materials, by E. M. Jenkins. Plumbing, by J. E. York. Laboratory lighting, by J. L. Tugman. Electric power, by J. M. Eaton. Laboratory ventilation, by W. C. L. Hemeon. Safety precautions, by F. A. Van Atta. Part II, Teaching laboratories: Site selection, design and construction, by H. F. Lewis. The general science building, by W. A. Morand. The analytical chemistry laboratory, by E. J. Meehan. The organic chemistry laboratory, by C. D. Hurd. The physical and electrochemical laboratory, by L. O. Case. Biochemical and related laboratories, by A. A. Christman. The chemical engineering laboratory, by C. C. Winding. The metallo-

graphic laboratory by R. C. Ernst and G. C. Williams. Part III, *Industrial laboratories* Details and description of an analytical control laboratory by B L. Clark and others. Metallurgical laboratories, by H. K. Work, Animal rooms and equipment, by C. F Carpenter Industrial laboratories for physical measurements, by H. P Klug. The design of laboratories for the safe handling of radioisotopes, by M. B Hawkins. Constant-temperature-humidity rooms, by M. E. Dunlap. High-pressure laboratories, by R. L. Savage. Pilot plant laboratories, by W L. Faith. Part IV Concise descriptions of some modern laboratories Illinois Institute of Technology Laboratory by M. Kilpatrick. Reed College Laboratory by A. F Scott. Battelle Memorial Institute research buildings, by W A. Welcker Jr M llon Institute research laboratories, by H. S. Coleman. Bell Telephone Laboratories, by C. S. Haines. Johns-Manville Research Center by E. M. Jenkins. Esso Research Center—Industrial Laboratory by W R. Hoot. B F Goodrich Research Center by D H. Cornell. Selected bibliography Index.

Note. An authoritative and comprehensive reference book on modern teaching and research laboratories. The book is of interest to all scientists whose work includes responsibility for laboratory organization or direction and t engineers and architects interested in the design and construction of laboratories. The descriptions of specific modern laboratories in the fourth part are brief but they are supplemented by many excellent pictures.

CONANT, JAMES BRYANT

Modern science and modern man New York Columbia University Press, 1952 111 p 21 cm (Bampton lectures in America. Number 5) $2.25 20

Content Science and technology in the last decade. The changing scientific scene, 1900–1950. Science and human conduct. Science and spiritual values.

Not A book presentation of the four Bampton lectures delivered at Columbia University in 1952 In it the author outlines the fundamental changes which have occurred in scientific knowledge since 1900, then discusses the philosophical and spiritual implications of this new insight into the nature of the universe. Although of interest to scientists, the book is addressed more to educated people in other fields.

CONANT, JAMES BRYANT

Science and common sense New Haven Yale University Press, 1951 271 p 21 cm. $5 00 21

Contents Science and the American citizen. What is science? Concerning the alleged scientific method. The development of the concept of atmospheric pressure. Some recurring patterns in experimental inquiry Geometrical reasoning and quantitative experimentation. The origin of conceptual scheme the chemical revolution. The study of living organisms; natural history and experimental biology Experiment and observation in biology Illustrations from the controversy concerning spontaneous generation. The study of the past. The impact of science on industry and medicine. Science, invention, and the state. Bibliography Index.

Note The author' *On understanding science*, 1947 was primarily proposal for new program of teaching the meaning of science to college students preparing for work in law journalism, and other nonscientific fields. The present book is addressed to the lay reader and, although some material from *On understanding science* has been included, the pedagogy has been left out. The subject is mainly "the tactics and strategy of science, and the discussion includes accounts of case histories, such as Boyle's experiments with atmospheric pressure, Roentgen's discovery of X-rays, etc. In the last two chapters the author turns to the social aspects of modern science showing that science is major and essential part of the present-day social fabric.

EMBERGER META RILEY, AND MARIAN ROSS HALL

Scientific writing General editor W Earl Britton New York Harcourt, Brace and Company, 1955 468 p illus 22 cm $4 50 22

Content Scientific method. The problem concept. Definition and terminology Collecting data. Analysis—methods and applications. Interpretation—applying the principles of logic. Directing the paper to the reader Scientific style. Techniques of exposition The research paper. The report. Special types of papers. The format of the scientific paper. Graphic and pictorial illustration. Appendixes. Index.

Note A textbook addressed primarily to college students. The first six chapters constitute an elementary introduction to the methods of science. The remaining chapters deal with problems that are fundamental to the preparation of good scientific reports and other types of scientific papers, including abstracts and book reviews. Selected examples of actual scientific writings of the various types discussed are included. Although organized primarily for formal instruction and study the book contains some reference features, including literature citations and a detailed index.

FORTUNE

The mighty force of research by the editors of *Fortune* New York McGraw Hill Book Company, Inc., 1956 308 p illus. 20 cm. $4 00 23

Content The strange state of American research, by E. Hodgins. The young scientists, by F Bello. Science for sale, by H. Solow The long-range planners, by M. M. Hunt. The inventor in eclipse, by E. L. Van Deusen. New light on the brain, by F Bello. How are we fixed for water? by F Bello. Tomorrow's weather by F Bello. Faraday's chemical art, by E. Hodgins. Power from the sun, by E. Hodgins. The peaceful atom, by F Bello. The new Metals Age, by L. P Lessing. The transistor by F Bello The automatic factory by F Bello. The information theory by F Bello. Index.

Note. These articles appeared originally in the journal, *Fortune*, between January 1953 and August, 1955 They were there printed and are here reprinted as description of the contemporary status of pure and applied research in the United States of America, where expenditures for the purpose have more than quadrupled in 15 years. The first five chapters provide general introduction to modern scientific research. The remaining 10 chapters focus upon specific problems and areas of inquiry Although written in popular style, the articles are based upon extensive researches and merit reading by industrialists and scientists.

GAMOW, GEORGE

One two three infinity facts & speculations of science. Illustrated by the author New York The Viking Press 1947 340 p illus 22 cm. $4 75 24

Contents: Part I, Playing with numbers: Big numbers. Natural and artificial numbers. Part II, Space, time & Einstein U usual properties of space. The world of four dimensions. Relativity of space and time. Part III, Microcosmos. Descending staircase. Modern alchemy The law of disorder The riddle of life. Part IV Macrocosmos Expanding horizons. The days of creation. Index.

Note At first glance this book appears to be a miscellany However the fact that the chapters could be easily classified as essays on topics in mathematics, physics, astronomy and biology is beside the point, for the purpose of the book is to impart knowledge about modern science as whole. It can be read either as supplement to the author's *The birth and death of the sun*, 1940, 238 p., and *Biography of the earth*, 1941 New York, The Viking Press, 242 p., or separately The author' style is intriguing, humorous and easy to understand. If some parts of the work (for example, "The law of disorder") require more concentrated thinking than one expects in a popular book, that is the fault of the subject rather than the diction. The author's own drawings contribute clarity and humor

HILLWAY TYRUS

Introduction to research. Boston Houghton Mifflin Company 1956 284 p 22 cm. $3 50 25

Contents: Part I, Research and graduate study The role of research in man's rise from barbarism. The graduate student and his opportunities. How the graduate school came into being. Part II The ways of scholarship The scholar as detective—the rules of evidence—the search for clues. The three types of research. Selecting the problem for investigation. The hypothesis—what is it? Part III, Investigative techniques Some common sense about techniques of research. Documentary research. Experiment. The survey The language of statistics. The case study The role of accident in research. Part IV Presenting the results of research. Preparing the written report. Publication—the ultimate goal. The question of originality Selected bibliography Index.

General

Note: Written primarily to orient first-year graduate students about to undertake their first research projects, this book provides a general, elementary introduction to the purposes and methods of scientific research. The beginnings of graduate study in the United States of America are outlined, then the problems and techniques of searching out information, evaluating it, and preparing it for publication are discussed at some length. Research in the biological and physical sciences is not emphasized. In fact, there is some bias toward the social sciences. However, students in the biological and physical sciences who are planning to do graduate study or research in the United States of America will find much that is helpful in the book.

HOUGH, JOHN N.

Scientific terminology. New York, Rinehart and Company Inc. 1953. 231 p. 21 cm. $3.75 26

Contents: Introduction. The Greek and Latin alphabets. Formation of English words—roots, stems, combining forms. Formation of English words—suffixes. Formation of English words—prefixes. General scientific vocabulary. Latin forms and Latin grammar in scientific nomenclature. Medical and pathological vocabulary. Bacteriological nomenclature. Pharmaceutical terminology. Biological terms. The Linnaean system of biological nomenclature. The reading and writing of Latin descriptions. Index.

Note: A helpful book for any student preparing for a scientific career and a useful reference book for libraries. It takes the mystery out of the Latin- and Greek-derived vocabulary of the medical and biological sciences and provides tools for understanding the Basic Nomina Anatomica. It is neither a dictionary nor a glossary but an exposition of the sources of scientific terms and of how the words are put together. Various word lists of considerable length are of course included. Although there is a chapter on scientific vocabulary, which the author says is applicable to all branches of science, the emphasis is on the biological and medical sciences, and the student of electrical engineering, for example, will get little help from the book.

KNAPP, ROBERT HENRY, AND H. B. GOODRICH

Origins of American scientists: a study made under the direction of a committee of the faculty of Wesleyan University. Chicago, The University of Chicago Press, 1952. 450 p. illus. 25 cm. o.p. 27

Contents (abridged): The undergraduate origins of American scientists. The indexes of production of scientists. The design of the statistical study. The analysis of the college sample. The analysis of the university sample. The design of the case study. Four institutions of broad intellectual emphasis: Reed, Swarthmore, Oberlin, and Antioch. Five men's liberal arts colleges: Amherst, Haverford, Wabash, Wesleyan, and Williams. Western liberal arts colleges of distinguished performance: Central, Colorado, Cornell, Earlham, Kalamazoo, Marietta, and Whitman. Two prosperous colleges of superior achievement: Pomona and DePauw. Two colleges of [illegible] constituency: Hope and St. Olaf. Two liberal arts colleges of special interest: Iowa Wesleyan and Linfield. The statistical analysis of departmental ratings. The distinguished teacher. Summary of findings. Speculations and interpretations. Conclusions. Appendices. General index. Index of institutions.

Note: The findings of a systematic study of the educational origins of American scientists and of other factors which led them to choose scientific careers are reported in this book. It is based on a statistical assessment of the records of 490 universities and colleges in the production of scientists. Twenty-two selected liberal arts colleges—named in the chapter titles—were the subjects of special study and firsthand investigation. The study was conducted under the joint sponsorship of the Carnegie Foundation and Wesleyan University under the direction of the Committee on Education of Scientists of Wesleyan.

LIFE

The world we live in. By the editorial staff of *Life* and Lincoln Barnett. New York, Time Inc., 1955. (Distributed by Simon & Schuster Inc., N. Y.) 304 p. illus. (part col. d) 35 cm. $13.50. 28

Contents: Introduction. The earth is born. The miracle of the sea. The face of the land. The canopy of air. The pageant of life. The age of mammals. Creatures of the sea. The coral reef. The land of the sun. The arctic barrens. The rain forest. The woods of home. The starry universe. List of illustrations. Bibliography. Index.

Note: Published in this volume is a work that appeared originally as a planned series of articles in the journal *Life* from December 8, 1952 to December 20, 1954. Preparation of the series was a collaborative effort of the various members of the journal's staff. The narrative text was written by Lincoln Barnett, and it is addressed to mature general readers. The text is supplemented by a remarkable series of illustrations, some of which are reproduced from photographs and others from original paintings. The majority of illustrations are reproduced in color. As the chapter titles indicate, the main topic is the surface of the earth, and the life that lives on it. However, the earth is presented as a member of the solar system, and in turn of the universe. The book is not a systematic coverage of either astronomy, geology or biology, but it does convey the majesty and variety of the earth as a planet, and it contains some very remarkable illustrations, some of which hold as much fascination for professional scientists as for laymen.

MEIER, RICHARD L.

Science and economic development: new patterns of living. New York, Published jointly by the Technology Press of Massachusetts Institute of Technology and John Wiley & Sons Inc., 1956. 266 p. illus. 24 cm. $6.00 29

Contents: The present world predicament. New foods. New fuels. New patterns of living. Recapitulation. Appendix: Problems in fundamental science. Problems in applied research. Index.

Note: A carefully prepared appraisal of the greater needs of the human population of the world and of the paths that should be followed in science and technology to fulfill them. It is based on the latest available information on such matters as the nutritional requirements of human beings, the economics of the direct utilization of solar energy, and rates of population increase. Neither catastrophic nor utopian conclusions are drawn, but drastic revisions in patterns of living and utilization of the earth's resources are foreshadowed. The theme of the book is more sociological than technological. Nevertheless, it contains much material of interest to engineers who are interested in the social potentials of science and engineering.

NATIONAL ACADEMY OF SCIENCES—NATIONAL RESEARCH COUNCIL

Scientific and technical societies of the United States and Canada. Sixth edition. Part I, Scientific and technical societies of the United States, compiled by the Library, National Academy of Sciences—National Research Council. Part II, Scientific and technical societies of Canada, compiled by John R. Kohr, National Research Council, Canada. Washington, D. C., National Academy of Sciences—National Research Council, 1955. 447 p. 26 cm. $7.50. 30

Contents: Part I, Scientific and technical societies of the United States. Part II, Scientific and technical societies of Canada. Indexes.

Note: In the 27 years since the publication of the first edition, this work has gained complete recognition as the standard directory and source of current information on the societies within its scope. It furnishes such information about each society as: official name, address, names of officers, history, purpose, number and classes of members, frequency of meetings, titles and subscription rates of publications. This information is supplied by officers of the societies themselves, and for this sixth edition was furnished between June and December 1954. Omission of the word "Institutions" from the title of this edition is significant. It reflects the fact that certain types of organizations, such as trade associations, formerly included if they carried on research activities, have been dropped. An example of such an omission is the Edison Electric Institute.

NATIONAL RESEARCH COUNCIL

International critical tables of numerical data, physics, chemistry and technology prepared under the auspices of the International Research Council and the National Academy of Sciences by the National Research Council of the United States of America, editor in chief Edward W Washburn, associate editors Clarence J West and N Ernest Dorsey New York Published for the National Research Council by the McGraw Hill Book Company, Inc, 1926–30 7 v illus 28 cm. Vol I, $17 00 vol. II, $21 00, vols III–VI, $17 00, vol VII, $18 00 Set with index, $130 00 31

—— Index. Volumes I–VII Compiled by Clarence J West, with the collaboration of Callie Hull. New York Published for the National Research Council by the McGraw Hill Book Company, Inc., 1933 321 p 28 cm $15 00 32

Note A compilation of tables collected and critically evaluated by some 300 experts, including chemists, physicists, and engineers of the United States of America, Canada, Great Britain Belgium France, Italy Austria, Germany Denmark, Switzerland, Holland, Australia and Japan. Briefly stated, the purpose of *International critical tables* is to present the most reliable available quantitative information f the following types (1) the mechanical thermal, chemical, thermodynamic, electric, magnetic, optical, and acoustical properties of pure substances and of solutions and mixtures both for the crystalline the liquid, and the gaseous stat and for combinations of two or more of these states, (2) the same and other properties for great variety of industrial products and natural materials, (3) various characteristics of the earth and the solar and sidereal system and its members, and (4) umerical data relating to instruments, apparatus, laboratory technique or operations, and control of laboratory or factory conditions.

NEWMAN, JAMES R, editor

What is science? Twelve eminent scientists and philosophers explain their various fields to the layman New York Simon and Schuster, Inc. 1955 493 p illus. 21 cm $4 95 33

Contents Introduction by J R. Newman. Science and human lif by B Russell. Mathematics and logic, by E. T Whittaker Astronomy and cosmology by H. Bondi. Physics, by E. U Condon. Chemistry by J Read. Biochemistry by E. Baldwin. Biology by W C. Allee. Evolution and genetics, by J Huxley Psychology by E. G. Boring. Anthropology by C. Kluckhohn. Psychoanalysis, by E. Fromm. Science as foresight, by J Bronowski. Bibliography Index.

Note A collection of original essays written specifically for this volume, rather than an anthology of previously published writings. Although addressed to lay readers, as indicated in the title the essays are not extreme popularizations. Technical terminology is used rather freely and the ideas discussed have not all been selected for simplicity Nevertheless, educated general readers curious about the implications of science find the book rewarding reading. The 11 essays or chapters are preceded by biographical sketches of the authors written by the editor

OPPENHEIMER, J ROBERT

Science and the common understanding New York Simon and Schuster 1954 120 p 21 cm $2 75 34

Contents: Newton—the path of light. Science as action—Rutherford's world. A science in change. Atom and void in the third millennium. Uncommon sense. *The sciences and man's community* Appendixes.

Note Six lectures delivered as the Reith Lectures in November and December 1953 over the Home Service of the British Broadcasting Corporation have been published in this book, along with the full texts of passages from noted works f science from which the author quoted briefly in the lectures, and a short list of books and monographs on atomic theory The author has described the lectures as an attempt to elucidate what there is new in atomic physics that is relevant and inspiriting for men to know In style devoid of mathematics, and in terminology comprehensible to most educated lay readers, he throws light on certain fundamental concepts and phenomena of atomic physics, and makes clear their significance in the structure f human knowledge.

PORTERFIELD, AUSTIN L.

Creative factors in scientific research a social psychology of scientific knowledge, studying the interplay of psychological and cultural factors in science with emphasis upon imagination. Durham, N C Duke University Press, 1941 282 p 24 cm. (Duke University Press. Sociological series No 3) $3.50 35

Contents Introduction Problem and perspective. Part I, Cultural factors in science: The emergence of science in the social process. Cultural factors in scientific concepts and methods. Part II, Psychological factors in science: The meaning and significance of imagination. Flashes of insight in artist, inventor and scientist, and grounds out of which new figures emerge. Imagination in scientific investigation. Part III, The interplay of psychological and cultural factors in some creative leaders in science A creative leader in physical science Galileo Galilei. A creative leader in the science of life Charles Darwin. Creative leaders in the science of society Auguste Comt and a century of his successors. Part IV Creative factors and trends in the study of personality and society—implications for social control: *Psychology and culture in the study of personality* Recent trends in sociology sociological insight, and social control. Index.

Note A critique of scientific methods, useful to social scientists in every field, and not without interest to biologists and physical scientists. The study develops social psychology of scientific endeavor by *studying the interplay of psychological and cultural factors in the development of science. It shows how the assumptions of the* scientist are related to his cultural backgrounds and demonstrates the dependence of his techniques upon his methodological assumptions, indicates "that culture itself is the product of creative insight, and requires the same mental processes for its study and interpretation as were originally required for its origination and development emphasizes the fact "that the dynamic factor in research consists in the creative control of observation, *experimentation, and reasoning.* It illuminates its principles by drawing them out of and applying them to concrete materials.

ROE, ANNE

The making of a scientist. New York Dodd, Mead & Company, 1953 244 p illus. 22 cm $3 75 36

Contents How this research study developed. How the study got under way The year's work with physical scientists. The year's work with social scientists. *Social description of the 64 subjects.* The family backgrounds. *Growing up.* Becoming biologist. Becoming physicist. Becoming social scientist. How scientists think. How smart are scientists? *What kind of stories do they tell? What do they see in inkblots? The subsidiary study* What does it mean for you?

Not A popular account of an intensive study by professional psychologist of group of 64 professional research scientists. It is written for reading by others than psychologists, and it explains in an elementary and introductory way the origin of the projects, its purpose, its technique, *and its findings.* It throws much light on the educational and environmental backgrounds of scientists, or at least of this group of scientists and it also introduces the reader to contemporary techniques of psychological testing. The presentation includes no mathematics, only few tables, and no *literature references.*

SCIENTIFIC AMERICAN

Scientific American reader New York Simon and Schuster 1953 626 p illus. 24 cm. $6 00 37

General

Contents: Evolution in space: Galaxies in flight, by G. Gamow. The milky way, by B. J. Bok. The universe from Palomar, by G. W. Gray. The dust cloud hypothesis, by F. L. Whipple. Radio stars, by A. C. B. Lovell. Structure of the earth: The crust of the earth, by W. H. Bucher. The earth's heat, by A. E. Benfield. Volcanoes, by H. Williams. Structure of matter: The ultimate particles, by G. W. Gray. The multiplicity of particles, by R. E. Marshak. The structure of the nucleus, by M. G. Mayer. Radio waves and matter, by H. M. Davis. The solid state, by G. H. Wannier. Atomic energy: Atomic power, by L. Ridenour. Reactors, by L. R. Hafstad. The energy of stars, by R. E. Marshak. The hydrogen bomb, by L. N. Ridenour and H. A. Bethe. Tracers, by M. D. Kamen. Origin of life: Photosynthesis, by E. I. Rabinowitch. Proteins, by J. S. Fruton. Enzymes, by J. E. Pfeiffer. Calcium and life, by L. V. Heilbrunn. Genetics: The genes of men and molds, by G. W. Beadle. The chemistry of heredity, by A. E. Mirsky. The genetic basis of evolution, by T. Dobzhansky. Cataclysmic evolution, by G. L. Stebbins, Jr. Lethal heredity, by W. F. Hollander. The mystery of corn, by P. C. Mangelsdorf. The virus: The virus, by F. M. Burnet. The multiplication of viruses, G. S. Stent. Natural history of a virus, by F. and E. Marriott. A new era in polio research, by J. L. Melnick. The common cold, by C. H. Andrewes. Stress: ACTH and cortisone, by G. W. Gray. The pituitary, by C. H. Li. The alarm reaction, by P. C. Constantinides and N. Carey. Schizophrenia and stress, by H. Hoagland. Animal behavior: The army ant, by T. C. Schneirla and G. Piel. The language of the bees, by A. Krogh. The spider and the wasp, by A. Petrunkevitch. The curious behavior of the stickleback, by N. Tinbergen. Experimental neuroses, by J. H. Masserman. Origin of man: The antiquity of modern man, by L. C. Eiseley. The ape-men, by R. Broom. The scale of evolution, by W. M. Krogman. Man's genetic future, by C. Stern. Is man here to stay? by L. C. Eiseley. The brain and the machine: The great ravelled knot, by G. W. Gray. Mathematical machines, by H. M. Davis. Feedback, by A. Tustin. A chess-playing machine, by C. Shannon. Imitation of life, by W. G. Walter. Sensation and perception: Eye and camera, by G. Wald. Smell and taste, by A. J. Haagen-Smit. Experiments in perception, by W. H. Ittelson and F. P. Kilpatrick. What is pain? by W. K. Livingston. Index.

Note: A selection of articles originally published in the periodical, *Scientific American*, during the years 1948–1952, is published in the book. The articles represent some of the best reporting and interpreting in the United States of America of the advance of science in the years covered. The parent periodical is edited for lay readers and scientists reading outside the fields of their own specialties. The collected articles are, of course, suitable for similar audiences. Readers of Scientific American know that one of its outstanding features is striking and scientifically accurate illustrations. However only a few of the illustrations that accompanied the articles in the original publication have been reproduced in the volume.

Shamos Morris H. and George M. Murphy editors

Recent advances in science, physics and applied mathematics. New York New York University Press, 1956 distributed by Inter science Publishers, New York. 384 p illus. 24 cm. $7.50. 38

Contents: Methods of applied mathematics, by R. Courant. The future of operations research, by P. M. Morse. Atomic structure, by I. I. Rabi. Microwave spectroscopy, by C. H. Townes. Nuclear structure and transmutations, by H. A. Bethe. Elementary particles, by V. F. Weisskopf. Electronuclear machines, by L. J. Haworth. Neutron physics, by N. F. Ramsey. Transistor physics, by W. Shockley. Ferromagnetism, by R. M. Bozorth. Cryogenics—very-low temperature physics and engineering, by F. G. Brickwedde. Physics and the engineer, by E. U. Condon. Index.

Note: Collected in this volume is a group of lectures delivered at the first Symposium on Recent Advances in Science, sponsored by New York University in 1954. The symposium was planned to convey the latest ideas in some of the newest and most active fields of study. As the names in the above contents show some of the most eminent scientists currently working in the U.S.A. wrote the lectures. They addressed audiences possessing scientific backgrounds but working in other fields. The book therefore amounts to a collection of papers by experts endeavoring to explain advances in their own fields to persons outside those fields but able to understand the terminology of physics and the concept of mathematical equations.

Shapley, Harlow and others, editors

A treasury of science. Edited by Harlow Shapley Samuel Rapport and Helen Wright. Third revised edition, with new material on electronics nuclear physics and contemporary medicine, and a new section on science and the future. New York Harper & Brothers 1954 724 p. 22 cm. $5 95 39

Contents (abridged) Part I, Introduction. Part II, Science and the scientist. Part III, The physical world: The heavens. The earth. Matter, energy, physical law. Part IV, The world of life: The riddle of life. The spectacle of life. The evolution of life. Part V, The world of man: From ape to civilization. The human machine. The conquest of disease. Man's mind. Part VI, Science and the future.

Note: An anthology of writings selected for general readers rather than for specialists or matriculated students. It contains biographical sketches of great scientists, classics of scientific writings, and recent essays and excerpts that illustrate the status and contributions of modern science. The present edition contains about 75 selections which are organized under the headings listed above. The names of authors are given. In comparison to the preceding edition, published in 1946, the material that appeared in the subsection, "Atomic fission," has been incorporated in other sections, and its place has been taken by a new section bearing the title, "Science and the future," and containing six selections, only two of which are devoted to nuclear energy.

Smithsonian Institution

Annual report of the Board of Regents of the Smithsonian Institution showing the operations, expenditures, and condition of the Institution for the Year Ended June 30 1955 Washington, D C. Government Printing Office 1956 537 p. illus. 23 cm $4 00 40

Contents (abridged) Summary of the yearly activities of the Institution. Reports of branches of the Institution: United States National Museum, Bureau of American Ethnology, Astrophysical Observatory, National Collection of Fine Arts, Freer Gallery of Art, National Air Museum, National Zoological Park, Canal Zone Biological Area, International Exchange Service, National Gallery of Art. Report on the library. Report on publications. Report of the Executive Committee of the Board of Regents. General appendix: Science serving the Nation, by L. A. DuBridge. The development of nuclear power for peaceful purposes, by H. D. Smyth. The time scale of our universe, by E. J. Öpik. Solar activity and its terrestrial effects, by H. S. Jones. Forty years of aeronautical research, by J. C. Hunsaker. A transatlantic telephone cable, by H. A. Affel. Genetics in the service of man, by B. Glass. Cultural status of the South African man-apes, by R. A. Dart. The history of the mechanical heart, by G. B. Griffenhagen and C. H. Hughes. Some chemical studies on viruses, by W. M. Stanley. The scent language of honey bees, by R. Ribbands. The army ants, by T. C. Schneirla. The hibernation of mammals, by L. H. Matthews. Parasites common to animals and man, by B. Schwartz. Some observations on the functional organization of the human brain, by W. Penfield. The place of tropical soils in feeding the world, by R. L. Pendleton. Tree rings and history in the western United States, by E. Schulman. New light on the dodo and its illustrators, by H. Friedmann. George Catlin, painter of Indians and the West, by J. C. Ewers.

Note: This annual publication is organized in two parts. The first and shorter part is essentially a business report of the Smithsonian Institution and of its branches for the year. The second part contains scientific papers, some of which are reprints and some of which are published for the first time. In the issue listed here, the second part runs to 344 pages and contains the papers whose authors and titles are given above. Other recent volumes in the series have been organized similarly.

Special Libraries Association Science Technology Division

Handbook of scientific and technical awards in the United States and Canada, 1900–1952 Edited by Margaret A. Firth. New York Special Libraries Association, 1956 491 p. 22 cm. $10.00 41

Content List of periodicals and abbreviations. Associations. American awards. Canadian awards. Index of recipients and award titles. Subject index.

Note A gap in science and technology reference books has been filled by the publication of this volume. It covers awards made in various fields of *science and technology* by scientific and technical associations in the United States of America and Canada. The arrangement is by name of association then name of award. The record of individual awards is arranged chronologically Each award is concisely described, and the names of the recipients are given. An additional helpful *feature is the inclusion of literature* references for individual presentations made since 1929

SPOEHR, HERMAN AUGUSTUS

Essays on science, a selection from his works With a foreword by C Stacy French, contributions by Alexander Spoehr, Hortense Spoehr Miller, and James H. C Smith, and a bibliography compiled by Wilbur A Pestell. Stanford Stanford University Press, 1956 220 p illus. 23 cm. $5 00 42

Contents Herman Augustus Spoehr A personal appreciation, by A. Spoehr and H.-S. Miller Herman Augustus Spoehr His scientific background and philosophy by J H. C. Smith. Essays on science, by H. A. Spoehr Science and society The growth of science. Science, plants, and man. Scientific *researches of Herman Augustus* Spoehr by J H. C. Smith. Bibliography of Herman Augustus Spoehr by W A. Pestell. Acknowledgments. Index.

Note Dr Spoehr at one time head of the Department of Plant Biology of the Carnegie Institution, and Director of Natural Sciences of the Rockefeller Foundation, is best known for his work in the fields of plant physiology and botany His wider scientific interests, particularly as regards the social significance of science are reflected in this selection *of his* writings on the philosophy of science. Each of the six papers appeared originally as periodical article or was given as a lecture or address. The book includes brief biographical sketch of Spoehr résumé of his scientific researches, and bibliography of his works.

UNITED STATES NATIONAL SCIENCE FOUNDATION

Organization of the Federal Government for scientific activities. Federal agencies and their organizational units engaged in conduct of research and development, planning and administration of research and development, expansion of research and development plant facilities, testing, evaluation and standardization training of scientific manpower, dissemination of scientific information collection of general purpose statistics in the natural and social sciences. Washington, D C Government Printing Office, 1956 349 p illus. 26 cm (National science studies NSF 56-17) $1 75 43

Contents Introduction. Part I, Development of the Federal organization for scientific activities Evolution and characteristics of the Federal organization for science to *1947* Major developments in the Federal organization for scientific activities since 1947 Part II, Directory of Federal organization for scientific activities. Prefatory notes. Department of Agriculture. Atomic Energy Commission. Civil Aeronautics Board. United States Civil Service Commission. Department of Commerce. Department of Defense. Executive Office of the President. Farm Credit Administration. Federal Civil Defense Administration. Federal Communications Commission. Federal Power Commission. Federal Reserve Board. Federal Trade Commission. General Services Administration. Department of Health, Education and Welfare. United States Information Agency Department of Interior Interstate Commerce Commission. Department of Justice Department of Labor National Advisory Committee for Aeronautics. National Science Foundation. Post Office Department. Railroad Retirement Board. Securities and Exchange Commission. Smithsonian Institution. Department of State. United States Tariff Commission. Tennessee Valley Authority Department of the Treasury Veterans Administration. Advisory Committee on Weather Control. Interdepartmental Committee on Scientific Research and Development. National Academy of Sciences—National Research Council. Appendices Glossary List of professional specialties used by Federal agencies for reporting employment of scientific professional personnel. Advisory and coordinating mechanisms for scientific activities. Index.

Note The scope of this *publication* is indicated in its title and subtitle. Its contents derive from study of Federal organizations made by the National Science Foundation during 1954 and *1955* It covers organization for basic, applied, and developmental research and for scientific data collection in the physical, biological, and social sciences. The major portion of the publication is devoted to the organization for scientific activities of each department and agency of the Federal Government for each are described general functions, scientific activities, funds and personnel, accompanied by full-page organization chart of the department, commission, or division described. One hundred thirty-one major and minor government organizations are thus pictured.

VISHER, STEPHEN SARGENT

Scientists starred 1903–1943, in "American men of science a study of collegiate and doctoral training birthplace, distribution, backgrounds, and developmental influences. Baltimore The Johns Hopkins Press 1947 556 p illus. 23 cm $4 50 44

Content Introduction. Summary chiefly graphical. Lists of the starred scientists. Collegiate training of the starred scientists. Doctoral training of starred scientists. Other academic training and extent of schooling. Age of scientists when starred. Birthplaces of starred scientists. Distribution of starred scientists by place of work. Some backgrounds and judgments deduced from questionnaire returns. Summary and conclusions. Index.

Note An analysis of data concerning some 1,600 men and women distinguished for notable research in certain fundamental sciences. The study covers 40-year period dating from 1903 when Professor Cattell in his *American men of science* introduced the practice of starring leading research workers in 12 sciences he had arbitrarily chosen. The scientists whose achievements have won this special recognition have been selected impartially by their professional colleagues. The author's long-standing interest in starred scientists has resulted in his writing numerous magazine articles from some of which he has incorporated material in the present study Here he has tabulated and analyzed major factors in the scientists' careers to discover what conditions correlate with their productivity His purpose has been to ascertain, if possible, methods by which young scientists can most adequately be helped to high achievement.

WILSON, EDGAR BRIGHT, JR.

An introduction to scientific research New York McGraw Hill Book Company Inc. 1952 375 p illus 24 cm. $6 00 45

Contents The choice and statement of research problem Searching the literature. Elementary scientific method. The design of experiments. The design of apparatus. The execution of experiments. Classification, sampling, and measurement. The analysis of experimental data. Errors of measurement. Probability randomness, and logic Mathematical work. Numerical computations. Reporting the results of research. Conclusion. Index.

Note The basic knowledge of research methods which research scientist must possess in order to use his time and experimental material efficiently is outlined in this book. Some of the chapters are very brief for example, that on searching the literature is only 11 pages long Some chapters are considerably longer the one on the design of apparatus being nearly 60 pages long. Even so, the reader is told how to go about designing apparatus rather than how to design it. All of the chapters are equipped with excellent selected bibliographies. The book is well organized and is written in style which is easy to read. Beginning research scientists will find it invaluable and experienced ones may profit from reading at least some sections.

HISTORY

BELL WHITFIELD, JR.

Early American science needs and opportunities for study Williamsburg Va. Institute of Early American History and Culture

distributed by the University of North Carolina Press 1955 85 p. 24 cm. $1.50 46

Contents: Early American science—a survey. Bibliography: General history of science. History of science in America. Periodicals. Fifty early American scientists—selected bibliographies. Index.

Note: This book is one of a series of volumes sponsored by the Institute of Early American History and Culture. Now that in the broadening of historical studies, into fields where little research has been done and where new approaches to old problems challenge investigators. It consists of two parts: a 34-page survey of the status of the history of early American science with special emphasis on research needed, and a four-part bibliography of published monographs, periodicals, and source materials on 50 early American scientists. The last-mentioned part accounts for 38 pages of the bibliographical section. It would be a logical starting point for anyone who is planning to undertake research on an early scientist of the American colonies and the United States of America.

BOYNTON HOLMES editor

The beginnings of modern science scientific writings of the 16th, 17th and 18th centuries New York Published for the Classics Club by Walter J Black, 1948. 634 p. illus. 19 cm. $3 12 47

Contents (abridged): Foreword, by H. B. Lemon. Matter and motion. Light, heat and fire. The study of air and of chemistry. Electricity. The earth and its waters. How plants grow. The structure of the human body. The science of healing. Scientists think about science. Index.

Note: A well-chosen anthology of significant writings in the development of the sciences. Within each of the sections the chosen selections are arranged chronologically. Most of the selections are short and in language that the interested layman can readily understand. Concise accounts of the influence of each author upon science are included.

CLAGETT MARSHALL

Greek science in antiquity New York Abelard-Schuman, Inc 1955 217 p. illus. 24 cm. $4 5 48

Contents: Part I. The origins of science in antiquity. Science in Egypt and Mesopotamia. Greek science. Origins and methods. Science and early natural philosophy. Greek medicine and biology—mathematics—physics—astronomy. Roman science. Part II. Science in late antiquity. Science and spiritual forces in late antiquity. Science and patristic literature. Latin science in late antiquity—in the early Middle Ages. Greek science in the age of Justinian. In the end the beginning. Appendices. Further readings. Index.

Note: This volume describes the development of scientific thought from its earliest manifestations in prehistoric times until about the period 600 A.D. As might be expected, the discussion of the prehistoric period constitutes only a small portion of the book. The majority of the chapters deal with the manner in which scientific principles and theories gradually evolved after the advent of written records. The book is thus more than a simple descriptive outline of the scientific achievements of the ancient Greeks. Written primarily for students and the interested layman lacking a scientific background, it will also be of value to the science historian. A bibliography of suggested readings is included.

COHEN I BERNARD

Franklin and Newton an inquiry into speculative Newtonian experimental science and Franklin's work in electricity as an example thereof. Philadelphia The American Philosophical Society 1956. 657 p. 23 cm. (American Philosophical Society Memoirs. Vol. 43) $6.00 49

Contents: Part I. Introduction—Franklin and Newton. The study of eighteenth-century Newtonian science. Franklin's scientific reputation. The scientific personality of Franklin and of Newton. Part II. Newton—the new natural philosophy. Physical theory in the age of Newton and Franklin. The two major sources of the Newtonian philosophy—the *Principia* and the *Opticks*. Experimental Newtonianism and the role of hypotheses—the exact corpuscular philosophy of the *Opticks*. Part III. Newton and Franklin—the new corpuscular philosophy. Experimental Newtonianism in eighteenth-century science. Franklin's introduction to science. Benjamin Franklin's contributions to the Newtonian natural philosophy. Part IV. Franklin—the rise of electricity as a Newtonian science. Electricity—the new natural philosophy of the eighteenth century. The Franklinian theory of electricity. The reception of the Franklin theory—atmospheric electricity and lightning rods. Further applications and development of the Franklin theory—the [illegible] need for the concept of some [illegible]. Appendices: Newton's use of the word *hypothesis*. "Mathematical principles" and "Natural philosophy." Originality in scientific discovery with special reference to Franklin's experiments and his concept of the electric field. Bibliography. Index.

Note: A major contribution to the history of experimental science. The author, an eminent authority on the history of science and editor of the journal, *Isis*, took as his aim the examination of [illegible] the nature of scientific thought by considering the interaction between the creative scientist and his scientific environment. He throws new light on the influence of Newton and particularly shows that the *Opticks* stimulated the development of speculative and experimental interest in science of which Franklin's scientific work was a product. The treatment is scholarly with careful citation of sources. The bibliography runs to almost 35 pages. One of the appendices is devoted to [illegible] *Lagrange* of the general problem of evaluating the degree of originality in scientific work.

COHEN I BERNARD

Some early tools of American science an account of the early scientific instruments and mineralogical and biological collections in Harvard University. With a foreword by Samuel Eliot Morison. Cambridge Mass. Harvard University Press 1950 201 p. illus. 25 cm. $4 5 50

Contents: Introduction. The history of science at Harvard. Note on the currency of Harvard College. Scientific instruments at Harvard before the fire of 1764. Instruments for the study of natural philosophy after the fire of 1764. The beginnings of chemistry at Harvard. The biological sciences, the Museum, and the Mineral cabinet. Conclusion. Appendices: Thomas Hollis' gift of philosophical apparatus. The philosophical apparatus in 1779. Some early instruments and specimens at Harvard University. The chemical laboratory in 1821. Bibliographical note. References and notes. Index.

Note: Harvard University maintains a notable collection of old scientific instruments, dating from about 1764. This volume is essentially an illustrated catalogue of these instruments as they, with some mineralogical and biological specimens, were exhibited in February 1949. It is more valuable, however, as a contribution to the history of science and science teaching in America. The actual description of the various pieces of apparatus is preceded by a discussion of how such instruments were obtained and the manner of their use in teaching and research during the colonial period.

CONANT JAMES BRYANT

On understanding science an historical approach. New Haven, Conn. Yale University Press, 1947 145 p. illus. 21 cm. (The Terry lectures) $2 00 51

Contents: The scientific education of the layman. Illustrations from the 17th century "Touching the spring of the air." Examples from the 18th century concerning electricity and combustion. Certain principles of the tactics and strategy of science. Notes and bibliographies. Index.

Note: The slow rate at which the methods and discoveries of modern science are assimilated into the cultural pattern of the nonscientist is a matter of deep concern to students of present-day society. In this book, the former President of Harvard College discusses a proposed college course that would be planned for students who will enter such professions as law, teaching, politics, writing and business, the purpose of the course being to give such students an understanding of the scientific method. Thus the work is addressed primarily to educators, but there is much in it for any reader interested in the social implications of science. The text was first delivered as lectures at Yale University on the Dwight Harrington Terry Foundation.

DE SANTILLANA, GIORGIO

The crime of Galileo Chicago University of Chicago Press, 1955 339 p illus. 23 cm. $5 75 52

Note A detailed and penetrating study of the first major conflict between social authority and modern science, based on fresh examination of the documentary sources. The author's primary thesis is that both Galileo and the Church were the victims of others who saw in Galileo's views on the Copernican universe a threat to basic theological philosophy He states "It has become a set piece in history to present Pope Urban VIII and his counselors as the bigoted oppressors of science. It would be possibly more accurate to say that they were the first bewildered victims of the scientific age. They had come into collision with forces of which they had not the faintest notion. The trial and the machinations that preceded it and revolved around it are the primary subjects. The author in his preface points out parallels in our times, but these are not carried over into the body of the book.

GUERLAC, HENRY

Science in western civilization a syllabus. New York The Ronald Press Company 1952 197 p 24 cm $3 00 53

Note This exemplary work contains an outline of the development of science in western civilization, set up under the head of 91 lectures. The lectures bear such titles as "The Mesopotamian civilization, Greek medical science, Alchemy and Arabic chemistry "The evolution of the calculus," "Development of the atomic theory and "Science in the United States. For each lecture, there are an outline of topics and list of suggestions for reading. A classified list of general references is placed at the end of the volume.

HARVARD CASE HISTORIES IN EXPERIMENTAL SCIENCE

Robert Boyle's experiments in pneumatics. Edited by James B Conant. Cambridge, Mass Harvard University Press, 1950 70 p illus. 23 cm (Case 1) $1 10 54

Content (abridged) The air pump or vacuum pump as new scientific instrument. The behavior of a Torricellian barometer in a vacuum Boyle's experiments on air as a medium for transmitting sound. The discovery of Boyle law Notes on the development of science in the middle of the seventeenth century

—— The overthrow of the phlogiston theory the chemical revolution of 1775–1789 Edited by James B Conant. Cambridge Mass. Harvard University Press 1950 59 p illus 23 cm. (Case 2) $1 00 55

Contents (abridged) The opening phase of the chemical revolution. English translation of the two versions of the Easter memoir of Lavoisier Priestley's comment on Lavoisier' Easter memoir The steps leading to Priestley's discovery of oxygen. The final collapse of the phlogiston theory

—— The early *development of the concept* of temperature and heat the rise and decline of the caloric theory Prepared by Duane Roller Cambridge Mass Harvard University Press 1950 106 p illus 23 cm (Case 3) $1 50 56

Contents (abridged) Evolution of the thermometer Joseph Black's discoveries of specific and latent heats. Count Rumford's investigation of the weight ascribed to heat Count Rumford's experiments on the sources of heat that is excited by friction. Humphrey Davy's early work on the production of heat by friction.

—— The atomic molecular theory By Leonard K. Nash. Cambridge, Mass. Harvard University Press, 1950 115 p 23 cm. (Case 4) $1.50 57

Contents (abridged) The application of the atomic theory to chemistry Gay-Lussac's law of combining volumes. The apparent inconsistency of the atomic theory and the law of combining volumes. Avogadro's reconciliation. Sources and references.

—— Plants and the atmosphere. By Leonard K. Nash. Cambridge, Mass. Harvard University Press, 1952 122 p. illus. 23 cm. (Case 5) $1 50 58

Contents (abridged) A problem emerges. The problem is brought to a sharp focus by discrediting the facile explanation. Priestley picks up the trail. Ingen-Housz assumes the lead. The evolution of Senebier's theoretical views, 1782 1792. The development of Ingen-Housz' ideas, 1779–1796. De Saussure revises the data and reconstructs the theories. Bibliography

—— Pasteur's study of fermentation. Edited by James Bryant Conant. Cambridge, Mass. Harvard University Press, 1952 57 p illus 23 cm (Case 6) $1 00 59

Content (abridged) Some elementary principles of biochemistry Pasteur's early work on optical activity which resulted in his study of fermentation. Translation of portions of Pasteur's memoir on lactic formation. Theories of fermentation from Liebig to the present day Tyndall's lecture on fermentation.

—— Pasteur's and Tyndall s study of *spontaneous* generation. Edited by James Bryant Conant. Cambridge, Mass. Harvard University Press, 1953 *61 p* illus. 23 cm (Case 7) $1 25 60

Contents: Translation of a portion of Pasteur's "Memoir on the organized corpuscles which exist in the atmosphere. Translation of excerpts from Redi's "Experiments on the generation of insects. Certain of Pasteur' experimental results as reported in Chapter IV of his "Memoir" of 1862 Translation of further portion of Pasteur's "Memoir" of 1861 Tyndall's article on spontaneous generation. Suggested reading.

—— The development of the concept of electric charge Electricity from the Greeks to Coulomb By Duane Roller and Duane H D Roller Cambridge Mass Harvard University Press, 1954 97 p illus 23 cm (Case 8) $1 60 61

Contents Electricity to 1600—the work of William Gilbert. The 17th century Francis Hauksbee's experiments Stephen Gray's experiments on conduction and electrification by influence. Dufay's experiments and discoveries. Some striking results of the popularization of science in the 18th century Benjamin Franklin's experiments, theories, and inventions. The introduction of quantitative methods into electrical science. Bibliography

Note. This series represents planned effort to make available materials from the history of modern science that illustrate the methods of science. The series is addressed particularly to undergraduate college students who are pursuing courses in the humanities and the social sciences, and its primary purpose is to give such students a "feeling" for science that will facilitate the appreciation of science and technology as segment of the social activity of civilized man. The series is also suitable for reading by laymen with mature interests in the methods and history of science. Each of the booklets in the series contains an analysis of major scientific development. Extensive use is made of excerpts from the scientists' own accounts of their experiments and hypotheses, but there is also much text written by the editor or author of each booklet. The series is not mere collection of excerpts or "readings. Some of the booklets contain lists of suggested readings; others, bibliographies of sources.

HINDLE, BROOKE

The pursuit of science in Revolutionary America, 1735–1789 Published for the Institute of Early American History and Culture Williamsburg Virginia. Chapel Hill University of North Carolina Press 1956 410 p. illus. 24 cm. $7.50. 62

Contents: Introduction. Part I, Colonial circles and ties, 1735–1765: The natural history circle. The doctors—naturalists and physicians. Scattered dreams and unexpected accomplishment. Teachers and preachers. Part II, Along the road to revolution, 1765–1775: Agitation and organization. The American Philosophical Society. The transit of Venus. The sciences. American improvement. Part III, The new nation, 1775–1789: The war. The prophets of glory and their temples of science. Medicine in the Republic. Natural history in the Republic. Natural philosophy in the Republic. Theory and practice. The American Revolution and the pursuit of science. Bibliographical note. Index.

Note: A study of the direct connection between social maturity and the capacity to advance science. The author shows how naturalists, physicians, and college teachers were the early recorders of scientific knowledge in colonial America, in lieu of the great libraries and other resources of Europe. He traces the evolution and the gradual maturing of the scientific interest in the colonies and early republic, and critically evaluates the stature and contributions of the leaders. The vital role of the American Philosophical Society is described. The treatment is a scholarly one, based on a lengthy examination of the source material. Sources of specific information are cited in the form of footnotes throughout the book. The [illegible]-page "bibliographical note" at the end of the volume is a narrative account of the principal published and manuscript sources available to scholars who are interested in the history of science in early America.

HORNBERGER, THEODORE

Scientific thought in the American colleges 1638–1800 Austin Texas The University of Texas Press, 1946 108 p. illus. 24 cm. (University Research Institute. Project no. 67) $1.50. 63

Contents: Values in the history of science. The first American colleges. Entrance requirements. The curriculum. Teachers, methods, and textbooks. Libraries. The effects. Notes. Index.

Note: A carefully documented study of the attitude of early American colleges toward science and scientific thought as based on a study of the extant records of eight colleges which were functioning before 1780. The colleges discussed are Harvard, Yale, Brown, Dartmouth, Columbia, Princeton, Pennsylvania, and William and Mary. The final chapter considers the opposition to science as it was voiced by [illegible] men of the period.

MCKEEHAN, LOUIS WILLIAMS

Yale science the first hundred years 1701–1801 Issued in connection with the centennial anniversary of the Sheffield Scientific School, Yale University 1847–1947 New York Henry Schuman, 1947 82 p. 19 cm. (Yale University School of Medicine. Historical Library Publication no. 18) $2.50 64

Contents. Preface, by Theodore Hornberger. [illegible], 1701–1778. [illegible], 1739–1799. [illegible], 1773–1801. Conclusion. Notes. Index.

Note: A brief, but carefully documented review of the rather halting scientific interests and activities at Yale College (now Yale University) during its first century. It serves well as background to J. F. Fulton and E. H. Thomson's *Benjamin Silliman, 1779–1864*, New York, 1947.

MEES, CHARLES EDWARD KENNETH

The path of science with the cooperation of John R. Baker New York, John Wiley & Sons Inc., 1946 250 p. illus. 22 cm. $3.90. 65

Contents: The interpretation of history. The birth of history. The method of science. The development of the scientific method. The growth of physical ideas. The growth of chemical ideas. The growth of biological ideas, by Dr. John R. Baker. The production of scientific knowledge. Applied science and industrial research. The path of science. Index.

Note: A thought-provoking outline of the beginnings and development of scientific knowledge and of its effects upon society. The main emphasis is upon biological, chemical, and physical knowledge, and no attempt is made to give accounts of all the sciences. The rate of scientific discoveries is compared to an autocatalytic reaction that proceeds faster and faster as more knowledge is accumulated. The author's position as Vice President in Charge of Research of the Eastman Kodak Company lends special interest to his views on the organization and importance of industrial research. Most of the book was delivered as lectures at the University of California in 1945.

MOULTON, FOREST RAY, AND JUSTUS J SCHIFFERES editors

The autobiography of science. Garden City Doubleday & Company Inc., 1950 666 p. 22 cm. $4.50. 66

Contents (abridged): Science is born—in antiquity. Science sleeps—in the Middle Ages. Science reawakens—in the Renaissance. Science grows up—in the seventeenth and early eighteenth centuries. Science comes of age—during the French, American, and industrial revolutions. Science seeks progress—in the early nineteenth century. Science [illegible]—in the age of evolution. Science [illegible] the twentieth century. Selected readings in the history of science. Acknowledgments. Index by topics and names.

Note: An anthology of writings in which the world's [illegible] scientists described or discussed their most important discoveries. All of the selections are in the English language; in other words, translations into English have been used, rather than original texts in other languages. The range in time is from the 4,000-year-old Edwin Smith Surgical Papyrus to *An almanac for moderns*, by Donald Culross Peattie, published in 1935. The editors have been exceptionally successful in finding passages that describe landmarks in the development of science and at the same time are suitable for reading by nonspecialists. The average length of a selection is under six pages, but some passages are considerably longer. The passages from an individual scientist's writing are preceded by a short essay on his life and work, written by the editors. The book can be read consecutively as a panorama of the development of science, or it can be used as a reference book of landmark documents in the literature of Western science.

OEHSER, PAUL HENRY

Sons of science the story of the Smithsonian Institution and its leaders. New York Abelard Schuman, Ltd., 1949 220 p. illus 22 cm. $4.00. 67

Contents: James Smithson and his will. Interlude: What to do with half a million dollars. Joseph Henry builds an institution. Baird and the National Museum. George Brown Goode, the young zealot. Samuel Pierpont Langley: A scientist takes the helm. Rounding out a century. Chronology of principal events in Smithsonian history. Selected bibliography. Index.

Note: By organizing his material around the lives and accomplishments of six men, Joseph Henry, Spencer Fullerton Baird, George Brown Goode, Samuel Pierpont Langley, Charles Walcott, and Charles Greeley Abbot, of whom all but Goode were secretaries of the Smithsonian Institution, the author of this book has produced a very readable outline of the history and development of the Smithsonian Institution from its beginning down to the year 1949. The biographical accounts include personal data, such as dates of birth and schools attended, but are largely devoted to activities in the Smithsonian Institution and its affiliated organizations. The textual material is supplemented by 39 well-chosen illustrations, a chronology of outstanding events in the history of the Smithsonian, and a selected bibliography.

PENNSYLVANIA UNIVERSITY BICENTENNIAL CONFERENCE

Studies in the history of science, by E. A. Speiser and others. Philadelphia University of Pennsylvania Press 1941 123 p. illus. 23 cm. $1.50. 68

Contents. Ancient Mesopotamia and the beginnings of science by E. A. Speiser Some fundamental concepts in ancient astronomy by O E. Neugebauer Medicine and surgery in ancient Egypt, by H. Ranke. Medieval medicine, by H. E. Sigerist. The rise of modern scientific medicine by R. H. Shryock. Two centuries of surgery by E. A. Graham. Logico-historical study f mechanism, vitalism, naturalism, by E. A. Singer The mathematical way of thinking, by H Weyl.

Note Although the subjects of these papers are scientific, the style is generally nontechnical and understandable to the lay man. "Two centuries of surgery" includes brief list of refer ences. In some of the other papers, footnotes refer to other liter ature on the subject.

PERSONS, STOW, editor

Evolutionary thought in America. New York George Braziller, 1956 462 p illus. 24 cm $5 00 69

Content Part I The theory of evolution The rise and impact of evolutionary ideas, by R. Scoon. Evolution in its relation to the philosophy f nature and the philosophy f culture by F S C. Northrop The genetic nature f differences among men by T Dobzhansky Part II, Evolutionary thought in America. Evolution and American sociology by R. E. L. Faris. The impact of the idea of evolution on the American political and constitutional tradition, by E. S Corwin Evolutionism in American economics, 1800–1946 by J J Spengler The influence of evolutionary theory upon American psychological thought, by E. G Boring. N turalism in American literature by M. Cowley The idea f organic expression and American architecture by D D Egbert. Evolution and moral theory in America, by W F Quillian, Jr. Evolution and theology in America, by S. Persons. Index.

Note. A collection of original papers which were prepared for delivery at Princeton University during the academic year 1945–46 as part of its special program in American civilization. Although the treatment is on an upperclass undergraduate level the book as a whole presents an authoritative and well-rounded picture of its subject and, therefore, it merits reading by persons outside of colleges who are interested in the impact f science on social thought or upon the history f organic evolution. Bibliographical citations and scholarly notes accompany most of the chapters. This edition is a re-issue of the original edition published by Yale University Press in 1950.

SARTON, GEORGE

Ancient science and modern civilization. Lincoln The University of Nebraska Press 1954 111 p 22 cm. $2 50 70

Content Preface, Euclid and his time. Ptolemy and his time. The end of Greek science and culture.

Note Three lectures delivered t the University of Nebraska in April, 1954 on the Montgomery Lectureship on Contemporary Civilization are published in this volume. The contribution of ancient science to modern civilization is the unifying theme of the lectures. However it is not over-emphasized and, quite aside from it, the lectures can be read profitably for the author's penetrating comments on the world of Hellenism.

SARTON, GEORGE

The appreciation of ancient and *medieval* science during the Renaissance (1450–1600) Philadelphia University of Pennsylvania Press 1955 233 p illus 23 cm (The A. S W Rosenbach Fellowship in Bibliography) $5 00 71

Content Introduction. Lecture I, Medicine. Lecture II Natural history Lecture III, Mathematics and astronomy Epilogue. Appendix The survival f ancient and medieval men f science in fourteenth and fifteenth centuries. Notes. General bibliography key to abbreviations. Index.

Note Four lectures, three of which were delivered on a Rosenbach Fellowship at the University of Pennsylvania in 1955 are published in this volume. Using printed books as the primary indicator f Renaissance awareness and knowledge f ancient and medieval science the author discusses the scientific books published in the second half of the fifteenth and the whole of the sixteenth century He lists titles and dates of ... the nature f the books themselves, and makes comments on the importance and influence f the authors. The texts of the lectures are supplemented by 40 pages of notes which contain much material of interest to students of the history of science.

SARTON, GEORGE

A guide to the history of science. A first guide for the study of the history of science with introductory essays on science and tradition. Waltham, Mass Chronica Botanica Company, 1952 316 p illus 23 cm. $7.50 72

Contents (abridged) Part I, Introductory essays Science and tradition. Part II A first guide for the study of the history of science. A. History Historical methods. Historical tables and summaries. Historical tlases. Gazetteers. Encyclopedias. Biographical collections. B Science Scientific methods and philosophy f science. Science and society Catalogues of scientific literature. Union lists of scientific periodicals. General scientific journals. Abstracting and review journals by C. F Mayer National academies and national scientific societies. C, History of science Chief reference books on the history of science. Treatises and handbooks on the history of science Scientific instruments. History f science in special countries. History f science in special cultural groups. History of special sciences. Journals and serials concerning the history and voted t the history of science. International organization of the study and teaching f the history of science National societies devoted to the history of science. International organization of the history of science The teaching of the history f science. Institutes, museums, libraries. I ternational congresses. Prizes. Index of proper names.

Note The first part of this book which contains lectures titled as indicated in the table f contents, occupies only 64 pages. The rest of the space is devoted to bibliographies f histories of science and related publications and to descriptions of societies, institutes, museums and libraries with special interests or collections of materials bearing on the history of science. Although the bibliographical and directory parts are valuable for reference, the special emphasis on the history f science has resulted in a certain weakness that is most apparent in the list of institutes, museums, and libraries Here a number of small institutions are fully described, but larger institutions which possess much more material that is valuable to historians f science are not listed because they do not emphasize the field above other fields of knowledge. The index covers personal names adequately but does not include the names of the congresses, societies, museums, etc., that are described in the book.

SARTON, GEORGE

A history of science ancient science through the golden age of Greece. Cambridge Mass Harvard University Press, 1952 646 p illus 25 cm. $10 00 73

Contents Part I, Oriental and Greek origins The dawn f science Egypt. Mesopotamia. Dark interlude. The dawn of Greek culture—Homer and Hesiod. Assyrian intermezzo. Ionian science in the sixth century Pythagoras. Part II The fifth century: Greece against Persia—the glory f Athens. Philosophy and science to the death f Socrates. Mathematics, astronomy and technology in the fifth century Geographers and historians of the fifth century Greek medicine of the fifth century chiefly Hippocratic. The Hippocratic corpus. Coan archaeology *Part III The fourth century:* Plato and the Academy Mathematics and astronomy in Plato's time. Xenophon. Aristotle and Alexander—the Lyceum. Mathematics, astronomy and physics in Aristotle's time. The natural sciences and medicine in Aristotle's time. Aristotelian humanities and historiography in the second half f the fourth century B. C. Other theories and end of knowledge—the garden and the porch. Epilogue The cycle. General bibliography Index.

In contrast to the author's well-known *Introduction to the history of science*, this work is designed for reading rather than for reference. Its scope is almost as broad as that of the *Introduction*, and the style is as erudite. The content of Greek science is examined in minute detail, and the author points out numerous unexpected relationships. The subject content of the work is such that it is of interest not only t students f the history f science but also to students of archaeology and anthropology Almost every page contains one or more footnotes which amplify or document points in the text. The general bibliography noted in the table is, however only short list of principal authorities.

SARTON GEORGE

The History of science and the New Humanism. Third edition. New York George Braziller Inc., 1956 196 p. 21 cm. (Colver Lectures in Brown University Elihu Root Lecture at the Carnegie Institution of Washington) $3.00. 74

Contents: Preface The faith of a humanist. The history of science and the history of civilization. East and West. The New Humanism. The history of science and the problems of today Index.

Note: Except for the Preface to the third edition, the text of the book is the same as that of the edition published at Cambridge, Massachusetts, in 1937 and described under No. 1 [illegible] 1932-44 volume. The first essay "The Faith of a humanist," was first published in Volume 3 of *Isis*. The other four [illegible] as lectures. The author's main theme is that it is not sufficient to popularize scientific education. It is necessary to educate the scientists themselves so that they know not only the [illegible] of today but also the beginnings and evolution of their knowledge.

SARTON GEORGE

Introduction to the history of science. Baltimore Published for the Carnegie Institution of Washington by the Williams & Wilkins Company 1931–48 3 v in 5 26 cm (Carnegie Institution of Washington. Publication no. 376) Vol. I, $10 00 vol. II (in two parts) $15.00 vol. III (in two parts) $20.00 75

Contents (abridged): Volume I From Homer to Omar Khayyam. Volume II From Rabbi Ben Ezra to Roger Bacon Volume III Science and learning in the fourteenth century

Note: A monumental reference work which gives for each epoch [illegible] condensed survey of the developments in the various branches of learning, brief biographical and critical sketches of the most important figures, references to the principal texts of their works and to the principal critical studies. The author has defined science as systematized positive knowledge and has included prophets, philosophers and others not usually included in [illegible] history of science.

SARTON GEORGE

The life of science essays in the history of civilization. Foreword by Max H Fisch. New York Abelard-Schuman Inc. 1948 197 p. 22 cm. $3.00. 76

Contents (abridged): Foreword, by M H Fisch Part [illegible] The [illegible] of understanding. The history of medicine versus the history of art. The history of science Part [illegible] Secret history Leonardo and the birth of modern science Evariste Galois. Ernest Renan. Herbert Spencer Part III East and West in the history of science Part IV Casting bread upon the face of the waters An institute for the history of science and civilization Casting bread upon the face of the waters. Editorial note acknowledgments, and [illegible]. Index.

Note: During his lifetime the author of this book gained an international reputation as an authority on the history of science. This collection of essays has been selected and adapted from his writings, which appeared in scholarly and scientific journals over a period of 30 years. They are written for the general reader and have one common purpose—to provide him with an understanding of the scope, purpose, and methods of the study of the history of science.

SEDGWICK WILLIAM THOMPSON AND H. W TYLER

A short history of science. Revised by H. W Tyler and R. P Bigelow Second edition. New York The Macmillan Company 1939 512 p. illus. 22 cm. $6 75 77

Contents: The dawn of civilization. Science begins in the East. The earliest Greek science. Science in the golden age of Greece Greek science in Alexandria. The decline of Alexandrian science. The Roman world—the dark ages. Hindu and Arabian science—the Moors in Spain. Progress of science to A.D. 1 [illegible]. A new astronomy and the beginnings of modern natural science. Mathematics and mechanics in the sixteenth and early seventeenth centuries. Natural and physical science in the seventeenth century. Beginnings of modern mathematical science. Natural and physical science in the eighteenth century Modern tendencies in mathematical science Some advances in the physical and chemical sciences during the nineteenth century Some advances of natural science in the nineteenth century Some [illegible] of the eighteenth and nineteenth centuries—applied science and engineering. Some important names, dates, and events in the history of science and civilization. A short list of reference books. Index.

Note: This book is partly based on Sedgwick and Tyler *Short history of science*, New York, 1 17 [illegible] useful, brief survey of the development of the sciences to about the end of the 19th century but its treatment of the important advances made in the 20th century is inadequate. About 130 titles are cited in the bibliography

THORNDIKE LYNN

A history of magic and experimental science New York Columbia University Press 1923–41 6 v 23 cm. $8.50 per vol. 78

Contents (abridged): The first thirteen centuries of our era. Volume [illegible] The Roman Empire Early Christian thought. The early Middle Ages. Volume [illegible] The twelfth century The thirteenth century Volume III The outlook at the opening of the fourteenth century John [illegible] and the occult arts. Alchemy of the later Middle Ages. Dante, Petrarch [illegible] and Lucretius Weather records. Oriciana and his influence. Petrarch Gentile da Foligno and fourteenth century medicine Calculator and the rise of mathematical physics. Oresme Works on [illegible]. Astrology Alchemy of the late fourteenth century Volume IV [illegible] of Forma. Astrological prediction. Surgery and medicine. Giovanni da Fontana. Michael Savonarola. Theology and astrology Censors of superstition. Two liberal inquisitors. Alchemy through the fifteenth century Conrad Heingarter Humanism in relation to natural and occult science Magic in dispute The attack on Pliny Volume V [illegible] conditions and characteristics of the sixteenth century Leonardo da Vinci, "the [illegible] of the Renaissance" Cycles and chiromancy [illegible] and dreams. Pomponazzi on incantations. Agrippa and occult philosophy Varied approaches to natural philosophy Astrology of the early century The aftermath of Regiomontanus. The Copernican theory German medicine Anatomy from Carpi to Vesalius. Cardan. The Paracelsian revival. Volume VI Post-Copernican astronomy The Catholic reaction Medicine after 1550 The sixteenth century naturalists. The lore of gems. Efforts towards Christian philosophy of nature Natural philosophy and natural magic. Mystic philosophy Demons. The literature of witchcraft and magic after Wier Summary and by-products.

[illegible] scholarly work presents a detailed and documented [illegible] of the [illegible] of scientific thought and knowledge during the first [illegible] centuries of the Christian era. The work is based on an examination of the original manuscripts and documents of the early writers, scientists, and historians in library collections throughout the world. The word "magic" as used in the title is understood in [illegible] broadest sense as including all occult arts and sciences, superstitions, and folklore The author shows that magic and experimental science have been connected in the history of science, that magicians are perhaps the first to experiment, and that the history of both subjects can best be understood by studying them together The development of mysticism and its effect upon the growth of religious thought is also [illegible], and the separate histories of many of the sciences, such as astronomy physics, medicine biology and mathematics, are interwoven in the general historical pattern. There are numerous abstracts of manuscripts and [illegible] hitherto inaccessible to most scholars and the large number of references cited in footnotes constitute an exhaustive bibliography The subject of [illegible] of magic, popular practice, witchcraft and persecution, have been excluded as outside the scope of the present work Each volume contains [illegible] general index and [illegible] bibliographic index. Two additional volumes are scheduled for publication in 1957

WILSON MITCHELL

American science and invention a pictorial history The fabulous story of how American dreamers wizards and inspired

Contents Ancient Mesopotamia and the beginnings of science, by E. A. Speiser Some fundamental concepts in ancient astronomy by O. E. Neugebauer Medicine and surgery in ancient Egypt, by H. Ranke. Medieval medicine by H. E. Sigerist. The rise of modern scientific medicine, by R. H. Shryock. Two centuries of surgery by E. A. Graham. Logico-historical study of mechanism, vitalism, naturalism, by E. A. Singer The mathematical way of thinking, by H Weyl.

Note Although the subjects of these papers are scientific, the style is generally nontechnical and understandable to the layman. "Two centuries of surgery" includes a brief list of references. In some of the other papers, footnotes refer to other literature on the subject.

PERSONS, STOW, editor

Evolutionary thought in America. New York George Braziller, 1956 462 p illus 24 cm $5 00 69

Content *Part I, The theory of evolution* The rise and impact of evolutionary ideas, by R. Scoon. Evolution in its relation to the philosophy of nature and the philosophy of culture by F S. C. Northrop. The genetic nature of differences among men by T Dobzhansky *Part II Evolutionary thought in America* Evolution and American sociology by R. E. L. Faris. The impact of the idea of evolution on the American political and constitutional tradition, by E. S. Corwin. Evolutionism in American economics, *1800–1946* by J J Spengler *The influence of evolutionary theory* upon American psychological thought, by E. G. Boring. Naturalism in American literature by M. Cowley The idea of organic expression and American architecture, by D D Egbert. Evolution *and moral theory in America,* by W F Quillian, Jr Evolution and theology in America, by S. Persons. Index.

Note A collection of original papers which were prepared for delivery at Princeton University during the academic year 1945–46 as part of its special program in American civilization. Although the treatment is on an upperclass undergraduate level, the book as a whole presents an authoritative and well-rounded picture of its subject and, therefore, it merits reading by persons outside of colleges who are interested in the impact of science on social thought or upon the history of organic evolution. Bibliographical citations and scholarly notes accompany most of the chapters. This edition is a re-issue of the original edition published by Yale *University Press in 1950.*

SARTON, GEORGE

Ancient science and modern civilization Lincoln The University of Nebraska Press 1954 111 p *22 cm $2 50* 70

Contents Preface, Euclid and his time. Ptolemy and his time. The end of Greek science and culture.

Note Three lectures delivered at the University of Nebraska in April, 1954 on the Montgomery Lectureship on Contemporary Civilization are published in this volume The contribution of ancient science to modern civilization is the unifying theme of the lectures. However it is not over-emphasized and, quite aside from it the lectures can be read profitably for the author's penetrating comments on the world of Hellenism.

SARTON GEORGE

The appreciation of ancient and medieval science during the Renaissance (1450–1600) Philadelphia University of Pennsylvania Press 1955 233 p illus 23 cm (The A S W Rosenbach *Fellowship in Bibliography*) $5 00 71

Contents Introduction. Lecture I, Medicine. Lecture II, Natural history *Lecture III Mathematics and astronomy* Epilogue. Appendix The survival of ancient and medieval ideas of science in the fourteenth and fifteenth centuries. Notes. General bibliography and key to abbreviations. Index

Note. Four lectures, three of which were *delivered as* Rosenbach Fellowship at the University of Pennsylvania in 1953 are published in this volume Using printed books as the primary indicator of Renaissance awareness and knowledge of ancient and medieval science the author *discusses* the scientific books published during the second half of the fifteenth and the whole of the sixteenth century He lists titles and dates of publication indicates the nature of the books themselves, and makes comments on the importance and influence of the authors. The texts of the lectures are supplemented by 40 pages of notes which contain much material of interest to students of the history of science.

SARTON, GEORGE

A guide to the history of science. A first guide for the study of the history of science with introductory essays on science and tradition Waltham, Mass Chronica Botanica Company, 1952 316 p illus 23 cm. $7 50 72

Content (*abridged*) Part I, Introductory essays Science and tradition. Part II A first guide for the study of the history of science. A History Historical methods. Historical tables and summaries. Historical atlases. Gazetteers. Encyclopedias. Biographical collections. B Science Scientific methods and philosophy of science. Science and society Catalogues of scientific literature. Union lists of scientific periodicals. General scientific journals. Abstracting and review journals, by C. F Mayer National academies and national scientific societies. C, History of science Chief reference books on the history of science. Treatises and handbooks on the history of science Scientific instruments. History of science in special countries. History of science in special cultural groups. History of special sciences. Journals and serials concerning the history and voted to the history of science International organization of the study and teaching of the history of science National societies devoted to the history of science. International organization of the history of science. The teaching of the history of science. Institutes, museums, libraries. International congresses. Prizes. Index of proper names.

Note The first part of this book, which contains lectures titled as indicated in the table of contents, occupies only 66 pages. The rest of the space is devoted to bibliographies of histories of science and related publications and to descriptions of societies, institutes, museums and libraries with special interests or collections of materials bearing on the history of science. Although the bibliographical and directory parts are valuable for reference, the special emphasis on the history of science has resulted in a certain weakness that is most apparent in the list of institutes, museums, and libraries. Here a number of small institutions are fully described, but larger institutions which possess much more material that is valuable to historians of science are not listed because they do not emphasize the field above other fields of knowledge The index covers personal names adequately but does not include the names of the congresses, societies, museums, etc., that are described in the book

SARTON GEORGE

A history of science ancient science *through the golden age of Greece.* Cambridge Mass Harvard University Press 1952 646 p illus 25 cm. $10 00 73

Content Part I Oriental and Greek origins The dawn of science Egypt Mesopotamia. Dark interlude. The dawn of Greek culture—Homer and Hesiod Assyrian intermezzo. Ionian science in the sixth century Pythagoras. *Part II* The fifth century Greece against Persia—the glory of Athens. Philosophy and science to the death of Socrates. Mathematics astronomy and technology in the fifth century Geographers and historians of the fifth century Greek medicine of the fifth century chiefly Hippocratic. The Hippocratic corpus. Coan archaeology *Part III The fourth century Plato and* the Academy Mathematics and astronomy in Plato's time. Xenophon. Aristotle and Alexander—the Lyceum. Mathematics, astronomy and physics in Aristotle's time The natural sciences and *medicine in Aristotle's time. Aristotelian humanities and* historiography in the second half of the fourth century B. C. Other theories of life and of knowledge—the garden and the porch. Epilogue The end of a cycle General bibliography Index.

Note In contrast to the author's well-known *Introduction to the history of science,* this work is designed for reading rather than for reference. Its scope is almost as broad as that of the *Introduction* and the style is as erudite The content of Greek science is examined in minute detail, and the author points out numerous unexpected relationships. The subject content of the work is such that it is of interest not only to students of the history of science but also to students of archeology and anthropology Almost every page contains one or more footnotes which amplify or document points made in the main text. The general bibliography noted in the table of contents is, however only a short list of principal authorities.

TEXTBOOKS

BAWDEN, ARTHUR TALBOT

Man's physical universe a survey of physical science for colleges. Third edition. New York The Macmillan Company 1950. 822 p. illus. 22 cm. 86

Contents (abridged) The intelligent solution of problems as they arise is the price of liberty. The universe is a vast system of parts moving and changing under the influence of ... forms of energy. Continuous changes in the earth's surface have brought about conditions which make possible the life of modern man. Man has applied his knowledge of physical properties and physical changes to overcome many physical limitations. Man has discovered and harnessed different forms of energy. Energy may be propagated through the ether and through matter by means of vibrations. The applications of magnetism and electricity have greatly modified the activities of mankind. Man is conquering his material world through an ever increasing understanding of its nature. Creative chemistry has contributed greatly to man's physical progress. Man's physical welfare is the most important problem of physical science.

Note One of the more successful of the "cultural" type of introduction to science. Descriptions of applications of physics and chemistry make up most of the text, but a fair amount of space is given to geology, astronomy and other sciences. There is practically no use of mathematics, and numerous headings in bold face type, short paragraphs, readable style, and over 300 illustrations have been used to lure the unwilling student. A new edition was published in 1957 $6.25.

CHERONIS NICHOLAS D., AND OTHERS

The study of the physical world. Second edition. By Nicholas D Cheronis, James B Parsons and Conrad E. Ronneberg. Boston Houghton Mifflin Company 1950 907 p. illus. 24 cm. $6.50 87

Contents (abridged) Prelude to science. The relation of mathematics to science. The concept of time. The crumbling rocks. The water over the stones. Motion and force. The earth returns. Universal force. The moon. The planets. The sun—the agent of change. The conservation of energy. Heat engines. The electrical nature of matter. The architecture of the atom. Periodic classification of the elements. A study of chemical reactions. Carbon—the energy carrier of life. Magnetism—a manifestation of electricity. The distribution and use of electric power. The nature of sound. What is light? Messages from the stars—spectra. Theories of cosmogony. The five volumes of geological history. Index.

Note An established textbook used in college survey courses as part of ... general education program. The methods of science are stressed, and there is equal emphasis on the significance of science in the contemporary world. Most of the space is devoted to the elementary concepts and principles of physics. However the student is afforded views also of meteorology, astronomy, geology, chemistry and mathematics. In none of these fields of science being presented as having precise and fixed boundaries. The first edition was published in 1942. In this second edition, the purpose of the book is the same. However several chapters have been rearranged and revised. These include the discussions of atomic structure and of chemistry. The number of figures in the second edition is 467.

GRAY, DWIGHT E

Man and his physical world. Second edition. Princeton D Van Nostrand Company Inc., 1946 699 p. illus. 23 cm. $6.00 88

Contents (abridged) Science and the scientific method. Man and the universe. The solar system. The universe beyond the solar system. Astronomical measurements. Man and the history of the earth. Forces which change the surface of the earth. Geological history. Man and the tools of science. Units of measurement. Man and materials: The nature of matter. Air and water. Metals and alloys. Synthetics. Man and energy: Force, work, and power. Heat engines. Magnetism. Electricity and the atom. Electronics. Wave motion. Sound. Light. Man applies science: Communication. Illumination. Reading list. Index.

Note A textbook intended for use in "science survey" courses offered to college students who do not plan to study further in a scientific field. Like other books of the type, it is intended to give the student an appreciation of the basic principles, the methods, and some of the applications of the physical sciences. No previous knowledge of mathematics or science is assumed, hence the book can be understood by interested lay readers as well.

KRAUSKOPF KONRAD BATES

Fundamentals of physical science an introduction to the physical sciences. Third edition. New York McGraw Hill Book Company Inc., 1953 694 p. illus. (part col d) 23 cm. $6.25 89

Contents (abridged) The solar system. Matter and energy. The structure of matter. Fundamental processes. The biography of the earth. Stars and galaxies. Appendix. Index.

Note A standard college textbook, the first edition of which was published in 1941 and the second edition in 1948. In scope it is broader than the traditional introductory physics course as taught in American universities, and it is more representative of general science courses. One of its major parts deals with the solar system, another with stars and galaxies, and another with earth history and geology. These topics, along with the fundamentals of physics and chemistry, are presented as a unified field of knowledge. The language is simple, with a minimum of technical terms. The discussion of advanced topics, for example the quantum theory, are set in smaller type to indicate that they may be skipped in shortened courses and by readers studying the book without the guidance of an instructor. The author, a geologist, is Professor of Geochemistry in Stanford University.

tinkerers converted a wilderness into the wonder of the world New York Simon and Schuster, Inc., 1954 437 p illus 30 cm. $10 00 79

Content (abridged) Part I, Giants in the wilderness: Trades in America. The natural philosophers. Benjamin Franklin. The honest heretic, Joseph Priestley Part II, The shock of freedom Surveyors of a continent. Surveyor of the sea. The atmospheric steam engine Oliver Evans. Robert Fulton. The Erie Canal. Eli Whitney The Lowell mills. Part III, Bright dream—dark fulfillment: The naturalists. William Beaumont. Anesthesia. Joseph Henry Yankee invention and the American myth. The sewing machine. The reaper and the singing plow The steam engine rail road. Clipper ships. The Atlantic cable. Part IV The tools of war· The war telegraph. Ordnance. Iron ships of war. Part V The new era: George Mortimer Pullman. The refrigerator car George Westinghouse. Photography Astronomy Alexander Graham Bell. The wizard of Menlo Park. Part VI, The last individualists A. A. Michelson. The horseless carriage. Robert A. Millikan. The Wright brothers. Lee de Forest. The chemical industry Part VII, The new dimension: Electronics. Nucleonics. Bibliography Index.

Note A panoramic view of the development of science and technology in the United States of America is presented in this book As indicated in the title pictures are a primary feature. The number of pictures is somewhat greater than the number of pages, and they include not only pictures of machines and portraits of scientists and engineers but also cartoons, travel scenes, and a few reproductions of patents. Each picture is explained in an accompanying caption. A broad though superficial view of the development of American science and invention can be obtained by simply looking at the pictures and reading the captions. However the pictures are supplemented by biographical sketches and short essays on major trends and developments, all written in a light style designed for easy reading. The treatment is popular rather than scholarly but the sources of pictures are given, and there is a two-page bibliography of sources of textual information.

DICTIONARIES

BRAY, ALEXANDER, compiler and editor

Russian English scientific technical dictionary New York International Universities Press, 1945 550 p 24 cm $10 00 80

Note The English equivalents of approximately twenty-five thousand Russian scientific and technical words and phrases are given in this dictionary New terms and older basic terms are both included. Definitions are extremely brief and no examples of usage in sentences are included. The book is included here not for its excellence but because the scarcity of such dictionaries gives usefulness to practically any such work that includes more than a few terms.

DE VRIES, LOUIS

French English science dictionary for students in agricultural biological and physical sciences with a supplement of terms in aeronautics electronics radar, radio television Second edition New York McGraw Hill Book Company, Inc , 1951 596 p 19 cm $8 00 81

Note A standard reference book in which is contained a well-chosen selection of terms from several scientific fields and also some terms from the literary language The first edition appeared in 1940. Except for the correction of a few errors, the text of the present edition is the same to the end of page 553 However a supplement of aeronautical, electronic and communications terms—which runs from page 555 to page 584—has been added.

DE VRIES, LOUIS

German English science dictionary for students in chemistry physics biology, agriculture and related sciences with the collaboration of members of the Graduate Faculty Second edition, revised and enlarged New York McGraw Hill Book Company, Inc 1946 558 p 18 cm $6 50 82

Note. The first edition of this compilation is well known to science librarians and translators. In this second edition, the dictionary proper has been enlarged by 64 pages, representing approximately 6,000 additional terms. Other new material includes a list of geographical names and terms derived from them, tables of the elements, measurements and conversion factors. Both the list of reference works and the list of abbreviations have been expanded and improved. As the change in the title indicates, more chemical terms have been included, but the work still contains a well-rounded list of scientific and technical terms without marked specialization in any one branch.

INTERNATIONAL ENCYCLOPEDIA OF UNIFIED SCIENCE. Edited by Otto Neurath, Rudolf Carnap, and Charles Morris Chicago University of Chicago Press, 1938–55 1 vol in 2 pts 23 cm. Vol I, pt. I, vol. I, pt. II, $6 00 each part, $11 00 the set. 83

Contents Part I, Encyclopedia and unified science by O. Neurath and others. Foundations of the theory of signs, by C. W Morris. Foundations of logic and mathematics, by R. Carnap. Linguistic aspects of science, by L. Bloomfield. Procedures of empirical science, by V F Lenzen. Part II, Principles of the theory of probability by E. Nagel. Foundations of physics, by P Frank. Cosmology by E. Finlay-Freundlich. Foundations of biology by F Mainx. The conceptual framework of psychology by E. Brunswik. Bibliographical notes.

—— Vol 2, Nos. 1, 4–5, 7–9 24 cm. Nos. 1, 4 5, $1 25 each part, no 7, $2 00, no 8, $1 25, no 9, $2 00 84

Content Foundations of the social sciences, by O Neurath. Theory of valuation, by J Dewey The technique of theory construction, by J H. Woodger Fundamentals of concept formation in empirical science by C. G. Hempel. The development of rationalism and Empiricism, by G de Santillana and E. Zilsel. The development of logical empiricism, by J Joergensen.

Note Conceived as a "model of science this still incomplete work has as its purpose the bringing together of "material pertaining to the scientific enterprise as a whole. Its stated aim is "to integrate the scientific disciplines, so to unify them, so to dovetail them together that advances in one will bring about advances in the others." It will consist of individual monographs written for it but constituting individual studies of particular problems or groups of problems. Eventually a detailed analytical index will be published. The monographs listed above have been published up to the time of the writing of this note Volume I was complete, and is offered in two permanently bound parts. Volume II, the second of two planned introductory volumes, was still incomplete as noted.

VAN NOSTRAND S SCIENTIFIC ENCYCLOPEDIA aeronautics astronomy botany, chemical engineering chemistry, civil engineering, electrical engineering electronics & radio geology mathematics mechanical engineering medicine, metallurgy meteorology, mineralogy, navigation photography physics statistics zoology Second edition Princeton D Van Nostrand Company Inc. 1947 1,600 p illus. 26 cm 85

Note More than 11,000 terms selected from the fields of science and technology named in the subtitles given above are defined in this standard reference work. Definitions range from only a few lines for such terms as "mole cricket to two or more pages on such topics as "radar Definitions and articles are signed. A fair amount of illustrative matter and tabular data is included. A third edition was published early in 1958, $30.00.

Contents: Points of view. Mathematical truth. Breaking bounds. The same, yet not the same. The art of abstraction. Odds from evens. Personal thinking. Landmarks old and new. Groups. A natural universe. The queen of mathematics. Abstraction and generation. From Cyclops to Neptune. Two kinds of picture. The chief instrument of applied mathematics. Further excursions. Waves and ripples. Order and chance. Pursuing the heavens. Retrospect. Index.

Note: A lively popular account of the history and basic concepts of mathematics. It is not a "mathematics-made-easy" popularization, but it is designed for general reading and is so planned and written that the general reader who has no mathematical bent will be inclined to read it to the end. The author has used material from his *The queen of the sciences*, 1931 and *The handmaiden of the sciences* (1937) but by revision and amplification, together with reorganization, he has produced what is essentially a new work.

BELL, ERIC TEMPLE

Men of mathematics. New York Simon and Schuster 1937 592 p. illus 24 cm. $6 50 96

Contents: Introduction. Modern minds in ancient bodies: Zeno (fifth century B.C.) Eudoxus (408–355 B.C.) Archimedes (287?–212 B.C.) Gentleman, soldier and mathematician: Descartes (1596–1650). The prince of amateurs: Fermat (1601–1665) Greatness and misery of man: Pascal (1623–1662) On the seashore: Newton (1642–1727) Master of all trades: Leibniz (1646–1716) Nature or nurture?—the Bernoullis (seventeenth and eighteenth centuries) Analysis incarnate: Euler (1707–1783) A lofty pyramid: Lagrange (1736–1813) From peasant to snob: Laplace (1749–1827) Friends of an emperor: Monge (1746–1818) Fourier (1768–1830) The day of glory: Poncelet (1788–1867) The prince of mathematicians: Gauss (1777–1855) Mathematics and windmills: Cauchy (1789–1857) The Copernicus of geometry: Lobatchewsky (1793–1856) Genius and poverty: Abel (1802–1829) The great algorist: Jacobi (1804–1851) An Irish tragedy: Hamilton (1805–1865) Genius and stupidity: Galois (1811–1832) Invariant twins: Sylvester (1814–1897) Cayley (1821–1895) Master and pupil: Weierstrass (1815–1897) Sonja Kowalewski (1850–1891) Complete independence: Boole (1815–1864) The man, not the method: Hermite (1822–1901) The doubter: Kronecker (1823–1891) Anima candida: Riemann (1826–1866) Arithmetic the second: Kummer (1810–1893) Dedekind (1831–1916) The last universalist: Poincaré (1854–1912) Paradise lost? Cantor (1845–1918) Index.

Note: The chapters of this book are essentially independent sketches of the mathematicians whose names are given in the chapter titles. The book becomes a kind of history of mathematics by virtue of its chronological arrangement. Details of the personal lives of the subjects and explanations and interpretations of their work are combined in the individual essays. There is somewhat more emphasis on a man's mathematical contributions than on his personal life but the latter is not neglected. The author's style is lively and eminently readable, and his interpretations of mathematical advances are sound.

BENTLEY, ARTHUR FISHER

Linguistic analysis of mathematics. Evanston Principia Press of Illinois 1932 315 p. illus 22 cm. $3.00. 97

Contents: Part I, Problem and postulates. The problem. Semantic postulation. Linguistic materials and control. Part II, Examination of mathematics as language. Character and symbol. Word-clusters lacking consistency. The semantic M-T and M-O. Kasner and [illegible]. The semantic number sequences. Brouwer. Relations and operations. Hermann Weyl. A Postulation for geometry. The denumerability of decimals. Null as "Zahl." Part III, Knowledge and logic. Semantic analysis. Reconstructions of logic. Conclusion.

Note: A study in the semantics of mathematics and logic for the advanced reader. The three great historic branches of mathematics, algebra, geometry, and analysis, are explored as semantic fields, and an analysis made of symbols and their meanings.

BIRKHOFF, GEORGE DAVID

Collected mathematical papers. New York American Mathematical Society 1950. 3 v 24 cm. $18.00 98

Note: Professor G. D. Birkhoff, one of the great mathematicians of the first half of the 20th century, published his research papers widely in journals in all parts of the world. These three volumes contain all of his published mathematical work except his published books and certain articles, such as reviews and others, which do not have permanent interest.

BOYER, CARL B

History of analytic geometry New York Scripta Mathematica, Yeshiva University 1956 291 p. illus 25 cm (The Scripta Mathematica studies. Nos. 6 and 7) $6 00. 99

Contents: The earliest contributions. The Alexandrian age. The medieval period. The early modern prelude. Fermat and Descartes. The age of commentaries. From Newton to Euler. Definitive formulation. The Golden Age. Analytical bibliography. Index.

Note: In this history of analytic, or coordinate, geometry the author has paid most attention to tracing the development of concepts. Essentially no information is given on the personalities of the mathematicians themselves, although the influence of the work of individuals is indicated in such passages as the following: "The work of Euler may be said to mark a turning point in the development of analytic geometry in several respects," and, "Descartes and Fermat had invented the methods, but Wallis gave the first systematic application of them to the study of the conic sections." Literature references are given in the form of footnotes throughout the text and also in the bibliography at the end of the volume. The latter list includes brief explanatory annotations. The book is a readable and adequate history of analytic geometry to approximately the close of the 18th century. The great developments of the 19th century are outlined but not presented in detail in the chapter entitled "The Golden Age."

COURANT, RICHARD AND HERBERT ROBBINS

What is mathematics? an elementary approach to ideas and methods New York Oxford University Press, 1941 521 p illus 23 cm. $7.50 100

Contents (abridged): What is mathematics? The natural numbers. The theory of numbers. The number system of mathematics. The algebra of sets. Geometrical constructions. The algebra of number fields. Projective geometry. Axiomatics. Non-Euclidean geometries. Topology. Functions and limits. Maxima and minima. The calculus. Appendix. Suggestions for further reading. Index.

Note: A simplified approach to the theory and appreciation of mathematics which avoids the usual textbook presentation. It is intended for teachers as well as general readers and college students.

EVES, HOWARD

An introduction to the history of mathematics New York Rinehart and Company Inc., 1956 422 p. illus 23 cm. $6.00 101

Contents: Part I, Before the seventeenth century: Number systems. Babylonian and Egyptian mathematics. Pythagorean mathematics. Duplication, trisection, and quadrature. Euclid's elements. Greek mathematics after Euclid. Hindu and Arabian mathematics. European mathematics, 500 to 1600. Part II, Later European mathematics, with especial emphasis on the seventeenth century: The dawn of modern mathematics. Analytic geometry and other pre-calculus developments. The calculus and related concepts. Transition to the twentieth century. Appendix. General bibliography. A chronological table. Answers and suggestions for the solution of the problem studies. Index.

Note: A history of elementary mathematics—that is, mathematics up to and including calculus—designed as a text for the lower years of undergraduate college students. The primary emphasis is on concepts and techniques rather than on personalities of mathematicians. However, some biographical information is included. An unexpected feature is the inclusion of problems for students to solve. References to books are included at the ends of chapters. The book is not written in a style that invites straightforward reading, and therefore its uses are limited to organized instruction and to reference.

GALOIS INSTITUTE OF MATHEMATICS, LONG ISLAND UNIVERSITY

Galois lectures. Addresses delivered by Jesse Douglas, Philip Franklin, Cassius Jackson Keyser, Leopold Infeld at the Galois In-

MATHEMATICS

GENERAL AND POPULAR WORKS

ANDERSON, RAYMOND W

Romping through mathematics Illustrated by Harry Zarchy New York Alfred A Knopf, 1948 152 p illus 21 cm $3 00 90

Contents As easy as one, two, three—arithmetic. The weighing balances—algebra. Egyptian rope-stretchers—geometry Long distance if you please—logarithms. The parable of "nickels in the gutter"—probabilities. A three-cornered tale—trigonometry Mathematics on the checkerboard—analytic geometry Flying off on calculated tangent—differential calculus. The ticking hair flipper—integral calculus. The rompers' timetable—review

Note An entertaining account of the development of mathematics through the ages to the present day From arithmetic to calculus the elements of mathematics are carefully presented in manner easily understood by the layman. Sketches, diagrams, charts, and numerous worked examples are included, but there are no problems for the reader to solve.

ARCHIBALD, RAYMOND CLARE

Mathematical table makers portraits, paintings, busts, monuments bio-bibliographical notes New York Scripta Mathematica Yeshiva University 1948 82 p illus 25 cm (The Scripta Mathematica studies Number three) $2 00 91

Note For each of the 53 men listed in this reference book the following information is given condensed biographical sketch directory of the known portraits, paintings, busts, monuments, or reproductions of them bibliography of biographical articles and books and list of his published mathematical tables. Portraits, reproduced from photographs of 20 men, are included.

ARCHIBALD, RAYMOND CLARE

A semicentennial history of the American Mathematical Society 1888–1938 With biographies and bibliographies of the past presidents New York American Mathematical Society 1938 2 v illus 26 cm v 1 $3 00 v 2, $4 50 92

Contents Volume I, History Introductory The Society 1888 1920 1921 1938 Financial affairs Special funds. The *Bulletin*, *Transactions*, *Colloquium lectures* and *Colloquium publications*. The Chicago group and the Chicago section Annual meetings Summer meetings Josiah Willard Gibbs lectureship. The library The council and board of trustees The secretaries The vice-presidents The presidents. Index Volume II, Addresses Fifty years of algebra in America 1888 1938 by E T Bell Algebraic aspects of the theory of differential equations, by J F Ritt The historical background of harmonic analysis, by Norbert Wiener Recent developments in the calculus of variations, by E J McShane Recent trends in geometry by T Y Thomas The sphere in topology by R. L Wilder Dirichlet problems, by G C Evans. Hydrodynamical stability by J L Synge. Fifty years of American mathematics, by G. D Birkhoff

Note In order to give definite suggestion as to the mathematical research of the outstanding men of the period 1888–1938 and to present background for the history of the Society condensed biographies and complete bibliographies are brought together for the group of past presidents of the Society in Volume I, together with brief history of the Society activities in the period indicated. Volume II contains brief treatises on eight representative subjects and historical summary of American contributions to mathematics during the same period, some of the papers being purely chronological and others concerned chiefly with recent developments. The work is intended to reveal what has been accomplished in America since the founding of the Society and to acquaint mathematicians with current problems and research in many fields. Lists of references follow most of the papers in Volume II, and there are portraits of former presidents of the Society in the first volume.

BAKST, AARON

Mathematics, its magic and mastery Second edition Princeton D Van Nostrand Company, Inc., 1952 790 p illus. 24 cm. $7 50 93

Contents (abridged) Numerals and numeration. Systems of numeration. Some remarkable properties of numbers. The arithmetic of measurement. Simple calculating devices. Problems and puzzles. How the number magician does it. The algebra of number giants and pygmies. Algebra, boss of arithmetic. Streamlining everyday computation. How to have fun with lady luck. The thinking machines The triangle—man's master Circles, angles, and an age-old problem. The mathematics of seeing. The shape of things. The size of things How algebra serves geometry Cork-screw geometry Mathematics, interpreter of the universe. Of math and magic. Appendix Algebra. Geometry Trigonometry Tables. Approximate formulas for simplified computation Index.

Note. An informal treatment of the science of mathematics designed to appeal to the intelligent layman. Although intended mainly for the reader's amusement it is sufficiently inclusive to stimulate the interest of some readers in mathematical fundamentals Proofs in the mathematical sense of the term are not included The book is replete with the kind of applications of mathematics often referred to as mathematical recreations. In many instances these are used not only to entertain but also to teach mathematical principle or illustrate an application. The first edition was published in 1941 In this second edition, discovered errors have been corrected and there are few other revisions, but the chapter titles and pagination are identical with the first edition

BELL, ERIC TEMPLE

The development of mathematics Second edition. New York McGraw Hill Book Company Inc 1945 637 p 23 cm. $8 00 94

Contents General prospectus. The age of empiricism. Firmly established. The European depression. Detour through India, Arabia, and Spain *Four centuries of transition, 1202 1603.* The beginning of modern mathematics, 1637 1687 Extensions of number Toward mathematical structure. Arithmetic generalized. Emergence of structural analysis Cardinal and ordinal to 1902 From intuition to absolute rigor 1700–1900. Rational arithmetic after Fermat. Contributions from geometry The impulse from science. From mechanics to generalized variables. From applications to abstractions. Differential and difference equations. Invariance. Certain major theories of functions. Through physics to general analysis and abstractness Uncertainties and probabilities. Notes. Index.

Note. A broad account of the main principles, methods, and theories of mathematics that have survived and are still considered vital in the science It is written not for general reading but for persons who have studied mathematics at least through calculus, and its appeal is chiefly to advanced students and graduates who seek perspective view of the growth of the science. Although this edition is some fifty pages longer than the first the chapter titles are unchanged and the revisions are found chiefly in expanded discussions of variety of topics scattered throughout the book.

BELL ERIC TEMPLE

Mathematics queen and servant of science New York McGraw Hill Book Company Inc 1951 437 p illus 21 cm. $5 75 95

KERSHNER, RICHARD B., AND L. R. WILCOX

The anatomy of mathematics. New York. The Ronald Press Company 1 [illegible] 41[illegible] p. illus. [illegible] cm. $[illegible].00 [illegible]

Contents (abridged) [illegible]

Note [illegible]

KEYSER, CASSIUS JACKSON

Mathematics as a culture clue, and other essays. The collected works. Volume [illegible] New York. Scripta Mathematica, Yeshiva University 194[illegible] [illegible] p. illus. 2[illegible] cm. $[illegible] [illegible]

Contents [illegible]

Note [illegible]

KEYSER, CASSIUS JACKSON

Mathematics and the question of cosmic mind, with other essays. New York. Published by Scripta Mathematica, Yeshiva College. [illegible] p. illus. [illegible] cm. (The Scripta Mathematica library [illegible]) [illegible]

Contents [illegible]

Note [illegible]

KLINE, MORRIS

Mathematics in western culture. New York. Oxford University Press. [illegible] 484 p. illus. [illegible]3 cm. $7.50. 112

Contents (abridged) [illegible]

Note [illegible]

KOKOMOOR, FRANKLIN WESLEY

Mathematics in human affairs. New York Prentice-Hall, Inc., 194[illegible] [illegible]54 p. illus. 23 cm (Prentice-Hall mathematics series A. A. Bennett, editor) $5.25 113

Contents [illegible]

Note [illegible]

KRAITCHIK, MAURICE

Mathematical recreations. Second revised edition. New York. Dover Publications, Inc., 1[illegible]53 3[illegible]0 p. illus. 22 cm $1.75 114

Contents [illegible]

Note [illegible]

KRAMER, EDNA ERNESTINE

The main stream of mathematics. New York. Oxford University Press 1951 321 p. illus. 22 cm. $5.00. 115

Contents [illegible]

Note [illegible]

LIEBER, LILLIAN (ROSANOFF)

Infinity. With drawings by Hugh Gray Lieber. New York. Rinehart & Company, Inc., 1953 359 p. illus. 20 cm. $5.00 116

Contents [illegible]

stitute of Mathematics, Long Island University, Brooklyn, N Y New York Scripta Mathematica, Yeshiva College, 1941 124 p illus. 20 cm (The Scripta Mathematica library No 5) $1 25 102

Contents *Survey of the theory of integration* by Jesse Douglas. The four color problem, by Philip Franklin. Charles Sanders Peirce as pioneer by Cassius Jackson Keyser The fourth dimension and relativity by Leopold Infeld.

Note The first paper in this collection covers the Riemann integral, the Stieltjes integral, the Lebesgue integral and the *Denjoy* integral. The four color problem is study in combinatorial topology which concludes that since the problem has not been solved it is not known whether it is true or not in mathematical sense. The biographical sketch of Peirce (1839–1914) the American logician, mathematician and philosopher deals briefly with some of his accomplishments. The final paper is a transcript of radio broadcast which attempts to explain to the layman the concept of a static picture of motion existing in a four-dimensional continuum.

JAMES, GLENN, AND ROBERT C JAMES, editors

Mathematics dictionary, by Armen A Alchian, Edwin F Beckenbach, Clifford Bell, Homer V Craig Glenn James, Robert C. James, Aristotle D Michal, and Ivan S Sokolnikoff Princeton D Van Nostrand Company, Inc., 1949 432 p illus 24 cm. $10 00 103

Note A standard reference book for mathematicians, students, engineers, and others who use mathematics in their professions. The older editions provided definitions of words and terms in the range beginning with arithmetic and extending through calculus. The new edition adds definitions of the basic terms in the following fields metric differential geometry theory of functions of real and complex variables, advanced calculus, differential equations, theory of groups, theory of matrices, theory of summability point-set topology general analysis, analytic mechanics, and theory of potential. Also included is an extensive coverage of statistical terms. Generally speaking, *definitions are expressed in technical terminology not intended* for the uninitiated layman.

JONES, BURTON WADSWORTH

Elementary concepts of mathematics New York The Macmillan Company 1947 294 p illus 22 cm $4.85 104

Contents Logic. The positive integers and zero. Negative integers, rational and irrational numbers. Algebra. Graphs and averages. Permutations, combinations, and probability Mirror geometry Lorentz geometry Topology Bibliography Index.

Note The reader of this book is introduced to a considerable variety of mathematical concepts, which are explained clearly and even entertainingly The book was originally prepared for freshman classes in Cornell University but it is also suitable for self-instruction purposes. There are numerous puzzles, games, and exercises to be worked, as well as bibliography of books for further study The only prerequisite demanded is knowledge of arithmetic and plane geometry

JONES, SAMUEL ISAAC

Mathematical clubs and recreations Nashville S I Jones Company, 1940 236 p illus. 19 cm $3 00 105

Contents Part I, Mathematical clubs Their purpose. History and development. Organization Results obtained. Stimulating interest. A mathematical atmosphere necessary Aids in creating this atmosphere. Club or classroom. Neatness. The math teacher's aim. The appreciation of beauty in the geometric forms of nature and art. Nature and preparation of program. Suggestive programs. Recreations and their use. Social activities. Constitution. Books for club libraries. Part II, Recreations Amusements in mathematics. Brain teasers. Brain nuts. Curious tables. Multiplication oddities. Number rhymes. Games. List of games. Puzzles and riddles. Fallacies. Perpetual calendar Calendar magic. Magic squares. Producing cubes by addition. Bible tests. Part III, Solutions to recreations Solutions to amusements in mathematics. Solutions to brain teasers. Solutions to brain nuts. Solutions to puzzles and riddles. Solutions to Bible tests. Index.

Note. A manual for the organizing and conduct of mathematics clubs, and a collection of mathematical recreations. It is the aim of the author to stimulate interest in the recreational and curious aspects of mathematics which are not included in the elementary courses in the subject. Puzzles, brain teasers, and mathematical stunts of various kinds are included.

JONES, SAMUEL ISAAC

Mathematical nuts for lovers of mathematics Nashville Samuel I Jones, *1932* 340 p illus 20 cm $3.50 106

Contents Nuts for young and old. Nuts for the fireside. Nuts for the classroom. Nuts for the math club. Nuts for the magician. Nuts for the professor *Nuts for the doctor* *Nuts cracked for the weary* Nut kernels. Index.

Note. An extensive collection of mathematical problems and puzzles of various kinds, designed for teachers, students, and mathematical hobbyists. The author has also compiled *Mathematical wrinkles*, Nashville, 1939 376 p., $3.50.

KARPINSKI, LOUIS CHARLES

Bibliography of mathematical works printed in America through 1850, with the cooperation for Washington libraries of Walter F Shenton Ann Arbor The University of Michigan Press, *1940* *697 p* illus. 28 *cm* $10 00 107

Contents Preface. List of illustrations. Introduction The British background. Mathematics in the Americas—the present bibliography Previous bibliographical lists. Methods employed in the present list. Abbreviations of names of libraries and of other sources represented in the location of copies. Bibliographical list of books, pamphlets, and broadsides. Sixteenth-century publications. Seventeenth-century publications. Eighteenth-century publications. Publications from 1801 to 1850, inclusive. Entry titles—Works whose publication is problematical. Encyclopedias and encyclopedic reference works. Journals and newspapers with mathematical articles. Appendix Native American mathematical developments. Works consulted. Indexes: General index. Topical indexes. Works dealing with algebra. Works dealing with analytic geometry and conic sections. Works dealing with arithmetic. Works dealing with calculus. Games and puzzles. Works dealing with geometry and mensuration. Historical, biographical, and philosophical works. Works dealing with mechanics and optics. Practical navigators. Works dealing with surveying. Works dealing with trigonometry Tables, ready reckoners, and works dealing with logarithms, the slide rule, and mathematical instruments. General works on mathematics. Index of non-English and Canadian works: Choctaw Dutch. French. German. Hawaiian. Portuguese. Spanish and Latin. Canadian. Index of printers and publishers.

Note Over 1,000 titles and about 3,000 editions are listed in chronological order and about 900 cuts of title and specimen pages illustrate the text. The compiler aims to make complete the list of Spanish-American books to 1800 and of those published in the United States and Canada to 1850. There is also record of entry titles submitted to the U S. Copyright Office, the actual publication of which is problematical.

KASNER, EDWARD, AND JAMES NEWMAN

Mathematics and the imagination With drawings and diagrams by Rufus Isaacs. New York Simon and Schuster, 1940 380 p illus. 21 cm. $3 95 108

Contents New names for old. Beyond the googol. π, (Pie) Assorted geometries—plain and fancy Pastimes of past and present times. Paradox lost and paradox regained. Chance and chanceability Rubber-sheet geometry Change and changeability Epilogue. Mathematics and the imagination. Bibliography Index.

Note A stimulating discussion of some of the more unusual aspects of mathematics, including some of the classic paradoxes as well as some of the problems proposed by modern mathematics, involving the postulates of topology or analysis situs. The presentation is not oversimplified although there are no formal theories developed, and many of the mathematical ideas involved are illustrated with pictorial drawings. Footnotes to each chapter give additional references, further explanations where needed, and related problems. No formal knowledge of mathematics is required, but an interest in the subject is assumed.

KERSHNER, RICHARD B., AND L. R. WILCOX

The anatomy of mathematics. New York The Ronald Press Company 1950 416 p illus. 23 cm. $7.00. 109

Contents (abridged) Language. The development of mathematics. The primitive materials of mathematics. Further materials of mathematics. The postulational method. Groups. The positive integers. Fundamental relations on the positive integers. Extended operations and applications. Infinite sets. Isomorphism and categorical systems of axioms. Equivalence and order relations. The positive rational numbers. One-dimensional continua. Fields. Conclusion. Appendix. Suggestions and answers for the projects. Index.

Note The authors describe this book as "a treatise on the axiomatic method." The hint in the title should also be noted. The two ideas can be combined by stating that in the book certain concepts and methods of proof of abstract mathematics are dissected, and axioms are thereby revealed to be the true anatomy of mathematics. The first six chapters are largely "non-mathematical" and can be read by any interested person who can follow mature prose. Beginning with chapter seven, the going becomes more strenuous. The readers of the book include advanced students who are preparing to specialize in mathematics and lay readers who pursue mathematics for the pleasure of it.

KEYSER, CASSIUS JACKSON

Mathematics as a culture clue, and other essays. The collected works. Volume 1. New York Scripta Mathematica, Yeshiva University 1947 277 p illus. 21 cm. $3.75 110

Contents The meaning of mathematics. The bearings of mathematics. Mathematics as a culture clue. Scientific teach laymen. The nature of the doctrinal function and its role in rational thought. Mathematics and the science of semantics. A glance at some of the ideas of Charles Sanders Peirce. William Benjamin Smith. Mathematics and the dance of life. Three great synonyms: Relation—transformation—function. Vilfredo Federico Damaso Pareto. Mathematics [illegible]. Panthetica.

Note A series of essays dealing informally and lucidly with the philosophical, historical, biographical, didactic and disciplinary aspects of mathematics. The writings were assembled by the author's friends both as tribute to him and in order to make them available for the use and enjoyment of larger groups of readers.

KEYSER, CASSIUS JACKSON

Mathematics and the question of cosmic mind, with other essays. New York Published by Scripta Mathematica, Yeshiva College, 1935 121 p illus. 19 cm. (The Scripta Mathematica library No. 2) $1.25 111

Contents The meaning of mathematics. The bearings of mathematics. Mathematics and the question of the cosmic mind. Mitigating the tragedy of our modern culture. On the study of legal science. William Benjamin Smith. Index.

Note A series of six essays reprinted with alterations from *The American scholar*, *Scripta mathematica*, and the *Yale Law Journal*. The first three essays constitute a logical sequence, and should be read in order. Logical acumen, rather than mathematical knowledge or aptitude, is required for their understanding.

KLINE, MORRIS

Mathematics in western culture. New York Oxford University Press, 1953 484 p. illus. 23 cm. $7.50. 112

Contents (abridged) Introduction. True and false conceptions. The birth of the mathematical spirit. Placing a yardstick to the stars. Renewal of the mathematical spirit. Science born of art—perspective geometry. The deduction of universal laws. Grasping the fleeting instant—the calculus. The Newtonian influence—science and philosophy—religion—literature and aesthetics. Mastery of the ether waves. The science of human nature. Prediction and probability. Our disorderly universe—the statistical view of nature. The theory of relativity. Selected references. Index.

Note An interpretation of mathematics as one of the primary elements in the culture of the Western World. As shown by the chapter titles, the organization is primarily chronological in accordance with the development of mathematics, and the book can be read as an informal history of the chief landmarks in mathematical thought. However, the primary thesis is the influence of this thought on not only religion, philosophy, art, etc., but on the whole culture. The author's views are interesting, and his style is not difficult to read. The book is for educated laymen, students of the history of civilization, and mathematicians who are interested in the general implications of their science.

KOKOMOOR, FRANKLIN WESLEY

Mathematics in human affairs. New York Prentice-Hall, Inc., 1942 754 p. illus. 23 cm. (Prentice-Hall mathematics series A. A. Bennett, editor) $6.25 113

Contents The social function of mathematics. A world of approximations. Shape and size. Arithmetic comes of age. Widening the system and its symbolism. Equations on duty. Families of equations. Problems of dependence. Calculating the inaccessible. Interrelations of angles and sides. Sidestepping clumsy calculations. Chains of related numbers. Pocketbook mathematics. Yardsticks of chance. Picturing functional relation. Rules and tools of geometry. Handling statistical data. Changeable rates of change. The notion of integration. The way ahead. Appendix (tables). Glossary of symbols. Index.

Note This book is designed for the layman and beginning college student. The treatment combines discussions of the history and cultural aspects of mathematics with expositions of mathematical principles, study guides, and exercises for self-instruction.

KRAITCHIK, MAURICE

Mathematical recreations. Second revised edition. New York Dover Publications Inc., 1953 330 p. illus. 22 cm. $1.75 114

Contents Preface. Mathematics without numbers. Ancient and curious problems. Numerical pastimes. Arithmetico-geometrical questions. The calendar. Probabilities. Magic squares. Geometric recreations. Permutational problems. The problem of the queens. The problem of the knight. Games. Index.

Note This book brings together a great variety of the most famous and many of the least-known of mathematical games, riddles, and puzzles. It is based on a course of lectures given at the New School for Social Research, New York, in 1941 and may be regarded as a revised edition of the author's *La Mathématique des Jeux*, Brussels, 1930. This edition is essentially a reprint of the original edition, New York, Norton, 1942.

KRAMER, EDNA ERNESTINE

The main stream of mathematics. New York Oxford University Press, 1951 321 p. illus. 22 cm. $5.00 115

Contents Mathematical genesis. Nature, art, and geometry. The binding energy of thought. The mathematics of the forbidden. The human equation. Ascent without modern. The father of modern mathematics and his legacy. Science and the sweepstakes. The distaff side. A world in flux. From Alice to Einstein. The realm of relativity. The paradise of mathematicians.

Note The first several pages of this excellent book for lay readers are devoted to the Hindu legend about Lilavati, daughter of Bhaskara, whose name is attached to the Hindu mathematical work in which our number system is first clearly set forth. The last pages are devoted to Zeno's famous paradoxes on motion and the concept of infinity. In between, there is considerably more narrative than mathematical equations; nevertheless, the development of mathematics is skillfully outlined, and some of its major concepts are made as clear as they can be made to the nonmathematical mind.

LIEBER, LILLIAN (ROSANOFF)

Infinity With drawings by Hugh Gray Lieber New York Rinehart & Company Inc., 1953 359 p illus. 20 cm. $5.00. 116

Contents Our good friend SAM. Infinity in the physical world—in mathematics. More about "potential" infinity. Non-Euclidean geometries. Actual infinity. A still greater "actual" infinity! The continuum of real numbers. How to go from $\aleph_0$ to c. Operations on transfinites. Higher dimensions. A hierarchy of infinities! A brief summary. Is it legitimate? Some very interesting infinite sets. Applications—Zeno et al. The calculus of Newton and Leibniz. Areas. The fundamental theorem of the integral calculus.

stitute of Mathematics Long Island University, Brooklyn, N Y New York Scripta Mathematica, Yeshiva College, 1941 124 p. illus 20 cm (The Scripta Mathematica library No. 5) $1.25 102

Contents Survey of the theory of integration, by Jesse Douglas. The four color problem, by Philip Franklin. Charles Sanders Peirce as pioneer by Cassius Jackson Keyser The fourth dimension and relativity by Leopold Infeld.

Note The first paper in this collection covers the Riemann integral, the Stieltjes integral, the Lebesgue integral, and the Denjoy integral. "The four color problem" is a study in combinatorial topology which concludes that since the problem has not been solved it is not known whether it is true or not in a mathematical sense. The biographical sketch of Peirce (1839–1914) the American logician, mathematician, and philosopher deals briefly with some of his accomplishments. The final paper is a transcript of a radio broadcast which attempts to explain to the layman the concept of a static picture of motion existing in a four-dimensional continuum.

James, Glenn, and Robert C James, editors

Mathematics dictionary, by Armen A Alchian, Edwin F Beckenbach, Clifford Bell, Homer V Craig Glenn James Robert C James Aristotle D Michal and Ivan S Sokolnikoff Princeton D Van Nostrand Company Inc., 1949 432 p illus 24 cm $10 00 103

Note. A standard reference book for mathematicians, students, engineers, and others who use mathematics in their professions. The older editions provided definitions of words and terms in the range beginning with arithmetic and extending through calculus. The new edition adds definitions of the basic terms in the following fields: metric differential geometry theory of functions of real and complex variables, advanced calculus, differential equations, theory of groups, theory of matrices, theory of summability point-set topology general analysis, analytic mechanics, and theory of potential. Also included is an extensive coverage of statistical terms. Generally speaking, definitions are expressed in technical terminology not intended for the uninitiated layman.

Jones, Burton Wadsworth

Elementary concepts of mathematics New York The Macmillan Company, 1947 294 p illus 22 cm. $4 85 104

Contents Logic. The positive integers and zero. Negative integers, rational and irrational numbers. Algebra. Graphs and averages. Permutations, combinations, and probability Mirror geometry Lorentz geometry Topology Bibliography Index.

Note The reader of this book is introduced to a considerable variety of mathematical concepts, which are explained clearly and even entertainingly The book was originally prepared for freshman classes in Cornell University but it is also suitable for self-instruction purposes. There are numerous puzzles, games, and exercises to be worked, as well as a bibliography of books for further study. The only prerequisite demanded is a knowledge of arithmetic and plane geometry

Jones, Samuel Isaac

Mathematical clubs and recreations. Nashville S I Jones Company, 1940 236 p illus. 19 cm. $3 00 105

Contents Part I, Mathematical clubs. Their purpose. History and development. Organization. Results obtained. Stimulating interest. A mathematical atmosphere necessary Aids in creating this atmosphere. Club or classroom. Neatness. The math teacher's aim. The appreciation of beauty in the geometric forms of nature and art. Nature and preparation of program. Suggestive programs. Recreations and their use. Social activities. Constitution. Books for club libraries. Part II Recreations Amusements in mathematics. Brain teasers. Brain nuts. Curious tables. Multiplication oddities. Number rhymes. Gems. List of games. Puzzles and riddles. Fallacies. Perpetual calendar Calendar magic. Magic squares. Producing cubes by addition. Bible tests. Part III, Solutions to recreations Solutions to amusements in mathematics. Solutions to brain teasers. Solutions to brain nuts. Solutions to puzzles and riddles. Solutions to Bible tests. Index.

Note A manual for the organizing and conduct of mathematics clubs, and a collection of mathematical recreations. It is the aim of the author to stimulate interest in the recreational and curious aspects of mathematics which are not included in the elementary courses in the subject. Puzzles, brain teasers, and mathematical stunts of various kinds are included.

Jones, Samuel Isaac

Mathematical nuts for lovers of mathematics Nashville Samuel I Jones, 1932 340 p illus 20 cm $3.50 106

Content Nuts for young and old. Nuts for the fireside. Nuts for the classroom. Nuts for the math club. Nuts for the magician. Nuts for the professor Nuts for the doctor Nuts cracked for the weary Nut kernels. Index.

Note An extensive collection of mathematical problems and puzzles of various kinds, designed for teachers, students, and mathematical hobbyists. The author has also compiled *Mathematical wrinkles, Nashville, 1929 374 p., $3.50.*

Karpinski, Louis Charles

Bibliography of mathematical works printed in America through 1850, with the cooperation for Washington libraries of Walter F Shenton Ann Arbor The University of Michigan Press, 1940 697 p illus. 28 cm. $10 00 107

Contents Preface. List of illustrations. Introduction The British background. Mathematics in the Americas—the present bibliography Previous bibliographical lists. Methods employed in the present list. Abbreviations of names of libraries and of other sources represented in the location of copies. Bibliographical list of books, pamphlets, and broadsides. Sixteenth-century publications. Seventeenth-century publications. Eighteenth-century publications. Publications from 1801 to 1850, inclusive. Entry titles—Works whose publication is problematical. Encyclopedias and encyclopedic reference works. Journals and newspapers with mathematical articles. Appendix Native American mathematical developments. Works consulted. Indexes General index. Topical indexes. Works dealing with algebra. Works dealing with analytic geometry and conic sections. Works dealing with arithmetic. Works dealing with calculus. Games and puzzles. Works dealing with geometry and mensuration. Historical, biographical, and philosophical works. Works dealing with mechanics and optics. Practical navigators. Works dealing with surveying. Works dealing with trigonometry Tables, ready reckoners, and works dealing with logarithms, the slide rule, and mathematical instruments. General works on mathematics. Index of non-English and Canadian works Choctaw Dutch. French. German. Hawaiian Portuguese. Spanish and Latin. Canadian. Index of printers and publishers.

Note Over 1,000 titles and about 3,000 editions are listed in chronological order and about 900 cuts of title and specimen pages illustrate the text. The compiler aims to make complete the list of Spanish-American books to 1800 and of those published in the United States and Canada to 1850. There is also a record of entry titles submitted to the U S. Copyright Office, the actual publication of which is problematical.

Kasner, Edward, and James Newman

Mathematics and the imagination With drawings and diagrams by Rufus Isaacs. New York Simon and Schuster, 1940 380 p illus 21 cm. $3 95 108

Contents. New names for old. Beyond the googol. π, i, (Pie) Assorted geometries—plain and fancy Pastimes of past and present times. Paradox lost and paradox regained. Chance and chanceability Rubber-sheet geometry Change and changeability Epilogue. Mathematics and the imagination. Bibliography Index.

Note A stimulating discussion of some of the more unusual aspects of mathematics, including some of the classic paradoxes as well as some of the problems proposed by modern mathematics, involving the postulates of topology or analysis situs The presentation is not oversimplified although there are no formal theories developed, and many of the mathematical ideas involved are illustrated with pictorial drawings. Footnotes to each chapter give additional references, further explanations where needed, and related problems. No formal knowledge of mathematics is required, but an interest in the subject is assumed.

KERSHNER, RICHARD B., AND L. R. WILCOX

The anatomy of mathematics. New York The Ronald Press Company 1950 416 p. illus. 23 cm. $7.00. 109

Contents (abridged) Language. The development of mathematics. The primitive materials of mathematics. Further materials of mathematics. The postulational method. Groups. The positive integers. Fundamental relations on the positive integers. Extended operations and applications. *Infinite sets.* Isomorphism and categorical systems of axioms. Equivalence and order relations. The positive rational numbers. One-dimensional continua. *Fields.* Conclusion. Appendix: Suggestions and answers for the problems. Index.

Note: The authors describe this book as "a treatise on the axiomatic method." The hint in the title should also be noted. The two ideas can be combined by stating that in the book certain concepts and methods of proof of abstract mathematics are dissected, and means are thereby revealed to be the true anatomy of mathematics. The first six chapters are largely "non-mathematical" and can be read by any interested person who can follow mature prose. Beginning with chapter seven, the going becomes more strenuous. The readers of the book include advanced students who are preparing to specialize in mathematics and lay readers who pursue mathematics for the pleasure of it.

KEYSER, CASSIUS JACKSON

Mathematics as a culture clue, and other essays. The collected works. Volume 1 New York Scripta Mathematica, Yeshiva University 1947 277 p. illus. 21 cm. $3 75 110

Contents: The meaning of mathematics. The bearings of mathematics. Mathematics as a culture clue. Scientists teach laymen. The nature of the doctrinal function and its role in rational thought. Mathematics and the science of semantics. A glance at some of *the ideas of Charles Sanders Peirce. William Benjamin Smith.* Mathematics and the dance of life. Three great *synonyms*: Relation—transformation—function. Vilfredo Federico Damaso Pareto: Mathematician—economist—sociologist. Panthetics.

Note. A series of essays dealing intimately and lucidly with the philosophical, historical, biographical, didactic and disciplinary aspects of mathematics. The writings were assembled by the author's friends both as a tribute to him and in order to make them available for the use and enjoyment of larger groups of readers.

KEYSER, CASSIUS JACKSON

Mathematics and the question of cosmic mind with other essays. New York Published by Scripta Mathematica, Yeshiva College, 1935 121 p. illus. 19 cm. (The Scripta Mathematica library No. 2) $1.25 111

Contents: The meaning of mathematics. The bearings of mathematics. Mathematics and the question of the cosmic mind. Mitigating the tragedy of our modern culture. On the study of legal science. William Benjamin Smith. Index.

Note: A series of six essays reprinted with alterations from *The American scholar, Scripta mathematica,* and the *Yale law journal.* The first three essays constitute a logical sequence and should be read in order. Logical acumen, rather than mathematical knowledge or aptitude, is required for their understanding.

KLINE, MORRIS

Mathematics in western culture. New York Oxford University Press, 1953 484 p. illus. 23 cm. $7.50 112

Contents (abridged) Introduction. True and false conceptions. The birth of the mathematical spirit. Placing a yardstick to the stars. Renewal of the mathematical spirit. Science born of art—projective geometry. The deduction of universal laws. Grasping the fleeting instant—the calculus. The Newtonian influence—science and philosophy—religion—literature and aesthetics. Mastery of the ether waves. The science of human nature. Prediction and probability. Our disorderly universe—the statistical view of nature. The theory of relativity. Selected references. Index.

Note: An interpretation of mathematics as one of the primary elements in the culture of the Western World. As shown by the chapter titles, the organization is primarily chronological in accordance with the development of mathematics, and the book can be read as an informal history of the chief landmarks in mathematical thought. However, the primary thesis is the influence of this thought on not only religion, philosophy, art, etc., but on the whole culture. The author's views are interesting, and his style is not difficult to read. The book is for educated laymen, students of the history of civilization, and mathematicians who are interested in the general implications of their science.

KOKOMOOR, FRANKLIN WESLEY

Mathematics in human affairs. New York Prentice-Hall, Inc., 1942 754 p. illus. 23 cm. (Prentice-Hall mathematics series A. A. Bennett, editor) $6.25 113

Contents: The social function of mathematics. A world of approximations. Shape and size. Arithmetic comes of age. Widening the system and its symbolism. Equations on duty. Families of equations. Problems of dependence. Calculating the inaccessible. Interrelations of angles and sides. Steppingstones to calculations. Chains of related numbers. Pocketbook mathematics. Yardsticks of chance. Picturing functional relations. Rules and tools of geometry. Handling statistical data. Changeable rates of change. The notion of integration. The way ahead. Appendix (tables). *Glossary of symbols.* Index.

Note: This book is designed for the layman and beginning college student. The treatment combines discussions of the history and cultural aspects of mathematics with expositions of mathematical principles, study guides, and exercises for self-instruction.

KRAITCHIK, MAURICE

Mathematical recreations. Second revised edition. New York Dover Publications Inc. 1953 330 p. illus. 22 cm. $1 75 114

Contents: Preface. Mathematics without numbers. Ancient and curious problems. Numerical pastimes. Arithmetico-geometrical questions. The calendar. Probabilities. Magic squares. Geometric recreations. Permutational problems. The problem of the queens. The problem of the knight. Games. Index.

Note: This book brings together a great variety of the most famous and many of the least-known of mathematical games, riddles, and puzzles. It is based on a course of lectures given at the New School for Social Research, New York, in 1941, and may be regarded as a revised edition of the author's *La Mathématique des jeux*, Brussels, 1930. This edition is essentially a reprint of the original edition, New York, Norton, 1942.

KRAMER, EDNA ERNESTINE

The main *stream of mathematics.* New York Oxford University Press 1951 321 p. illus. 22 cm. $5.00 115

Contents: Mathematical giants. Nature, art, and geometry. The binding energy of thought. The mathematics of the forbidden. The human equation. Ascent without rockets. The father of modern mathematics and his legacy. Science and the scrapmaker. The dotted side. A world in flux. From Alice to Einstein. The realm of relativity. The paradise of mathematicians.

Note: The first several pages of this excellent book for lay readers are devoted to the Hindu legend about *Lilavati*, daughter of Bhaskara, whose name is attached to the Hindu mathematical work in which our number system is first clearly set forth. The last pages are devoted to Zeno's famous paradoxes on motion and the concept of infinity. In between, there is considerably more narrative than mathematical exposition; nevertheless, the development of mathematics is skillfully outlined, and many of its major concepts are made as clear as they can be made to the nonmathematical mind.

LIEBER, LILLIAN (ROSANOFF)

Infinity With drawings by Hugh Gray Lieber New York Rinehart & Company Inc., 1953 359 p. illus. 20 cm. $5.00. 116

Contents: Our good *friend* Σ.M. Infinity in the physical world—in mathematics. More about "potential" infinity. Non-Euclidean geometries. "Actual" infinity. A still greater "actual" infinity! The continuum of real numbers. How to go from $\aleph_0$ to c. Operations on transfinites. Higher dimensions. A hierarchy of infinities! A brief summary. Is it legitimate? Some very interesting infinite sets. Applications—Dane et al. The calculus of Newton and Leibniz. Areas. The fundamental theorem of the integral calculus.

Modern integration. Concluding chapter on modern integration. Paradoxes—in the theory of transfinites and how they have been conquered. The moral. Appendixes.

Note Although built around the idea of explaining the concept of infinity this book is essentially a popular exposition of segments of geometry number theory calculus, and modern techniques of integration. It is written in an informal style developed by the author and employed in several other popular books written by her. In the volume the text is set in short lines of varying length to facilitate reading by phrases. Illustrations include not only conventional geometric figures but also cartoon-type drawings.

LIEBER, LILLIAN (ROSANOFF)

Take a number, mathematics for the two billion Drawings by Hugh Gray Lieber New York The Ronald Press Company, 1946 221 p illus. 21 cm $3 25 117

Co tent (abridged) The equipment. The rules of the game Addition. Subtraction. Rapid progress. Multiplication and division with letters. Zero. Some practical problems. Algebra and geometry help each other) Formulas. Answers.

Note In this primer of mathematics the authors have again employed the original techniques of their other popular expositions. The diction is simple and lively and reading of the text has been facilitated by breaking it up into short lines of varying length. The text is further enlivened by the cartoon-like drawings. The book is intended for self-instruction but some adults read it for entertainment.

LOGSDON, MAYME (IRWIN)

A mathematician explains Decorative drawings by Chichi Lasley Second edition Chicago The University of Chicago Press, 1936 189 p illus 23 cm $3 00 118

Co tent (abridged) Chronological list of mathematicians. Nature of mathematics, arithmetic, algebra, geometry and trigonometry Analytical geometry The differential calculus. The integral calculus Mathematical interpretations of geometrical and physical phenomena, by G. A. Bliss. Mathematics and life.

Note Tells informally hat a student or average educated person should know about mathematics its development to meet human need from primitiv to modern times what it is what it does and how Stresses the relation f mathematics to the physical sciences, its meanings and the uses f deductiv logic in everyday life A "new plan text of the U iversity of Chicago.

MAZIARZ, EDWARD A

The philosophy of mathematics New York Philosophical Library 1950 286 p 21 cm. $4 00 119

Contents Introduction The problem f the philosophy of mathematics. Part 1, The history of the philosophy of mathematics The historical relation between mathematics and philosophy Ancient conceptions. The Cartesian era. British empiricism. Idealism and positivism. Contemporary directions. Part II, The philosophy of mathematics The distinction of speculativ sciences The nature of mathematical abstraction Mathematical abstraction and contemporary mathematics. Conclusion. Bibliography Index.

Not A critical study of the origins and purposes of mathematical thinking in relation to man other activities In the first part, which occupies about half f the volume the views of great mathematicians and philosophers on the subject are digested and discussed. In the second part th uthor attempts philosophy f mathematics f his own The book is of interest chiefly to students of the philosophy of mathematics and the philosophy f science in general It as prepared originally as doctoral thesis, and it is liberally equipped ith literature citations and supplementary notes.

MEYERS, LESTER

High speed math New York D Van Nostrand Company Inc 1947 554 p illus 21 cm $6 95 120

Content There is short-cut for irtually every multiplica ion problem. The break-down method of multiplication The double-and-halve method of multiplication More tricks in mental arithmetic. More short-cuts in multiplication Aliquot parts. Percentages and discounts. Preparing and checking bills. Dealing with parts of the gross, the ton and the yard. Checking results in multiplication Simple interest. Avoiding errors in addition. Avoiding errors in subtraction. Division can be as simple as multiplication. The "double-and-double method of division. Short-cutting the short-cuts or how to save pencil-and-paper work even with short-cuts. Slide rules and calculating machines they are ingenious and necessary devices, but why be slav to them? Averages and proportions. Profit ratios. Partial payments and interest on unpaid balances. Compound interest and annuities. Stocks and bonds. Decimals and fractions. Glossary

Note This book deals chiefly with short-cuts that may be employed to increase the range of computations that can be made without benefit of pencil and paper (or machines) and to shorten the paper work in problems too complicated to do mentally It contains also much material on methods of checking computations for errors. As books on rapid methods go, it is good one with unusually full treatments of calculations in such fields as annuities, interest, partial payments, and profit ratios.

MILLER, GEORGE ABRAM

The collected works of George Abram Miller Urbana University of Illinois, 1935–55 4 v 28 cm. $7 50 per vol. 121

Note Collected in these volumes are selected writings of George Abram Miller (1863–1951) an eminent mathematician who was for many years associated with the Department of Mathematics f the University of Illinois. The articles originally appeared in professional journals published in the United States of America and in other countries of the world. A majority of the papers pertain to the theory of finit groups and represent a definite contribution to the mathematical knowledge of this field. Papers on some other topics are included, also, for example, "The function of mathematics in scientific research. References to the original publications are given in all cases. The most recent paper included in the fourth volume was published in 1929 More volumes are scheduled for publication.

NEWMAN, JAMES R , compiler

The world of mathematics A small library of the literature of mathematics from A'h-mosé the scribe to Albert Einstein, presented with commentaries and notes by James R. Newman New York Simon and Schuster 1956 4 v illus 22 cm. $20 00 122

Contents (abridged) Volume I, Part General survey Part II Historical and biographical. Part III Arithmetic, numbers and the art f counting. Part IV Mathematics f space and motion. Volume II, Part Mathematics and the physical world. Part VI Mathematics and social science. Part VII The laws of chance. Volume III, Part VIII Statistics and the design of experiments. Part IX The supreme art f abstraction—group theory Part Mathematics of infinity Part XI Mathematical truth and the structure f mathematics. Part XII The mathematical way of thinking Part XIII Mathematics and logic. Part XIV The unreasonableness of mathematics. Part XV How to solve it. Part XVI The vocabulary f mathematics. Part XVII Mathematics as an art. Volume IV Part XVIII The mathematician. Part XIX Mathematical machines—can machine think? Part XX Mathematics in warfare. Part XXI A mathematical theory of art. Part XXII Mathematics of the good. Part XXIII, Mathematics in literature. Part XXIV Mathematics and music. Part XXV Mathematics as a culture clue. Part XXVI Amusements, puzzles, fancies. Index.

Note A well-selected general anthology of mathematical writing. It is addressed to general readers rather than to specialists. Consequently there is a predominance of narrative writing about mathematical topics and mathematicians, and relatively few mathematical papers written by mathematicians for mathematicians. Even so most of the selections have been taken from the works of eminent mathematicians Included are short commentaries written by the editor on the lif and work of the mathematicians represented in the collection. Because it conveys fair idea of the richness and range of mathematics viewed as a segment of human culture the collection is of interest to mathematicians and other scientists, as well as t laymen

NORTHROP EUGENE PURDY

Riddles in mathematics a book of paradoxes Princeton D Van Nostrand Company Inc. 1944 262 p illus 22 cm $4 50 123

Contents: What is a paradox? A few simple brain-teasers. The mighty midget 2 and other miracles (paradoxes in arithmetic). Now you see it—now you don't (paradoxes in geometry). Thou shalt not divide by zero (algebraic fallacies). Seeing is believing—perhaps (geometric fallacies). Outward bound (paradoxes of the infinite). What are the chances? (paradoxes in probability). Vicious circles (paradoxes in logic). Not for the novice (paradoxes in higher mathematics). Appendix.

Note: This popular treatment of various mathematical paradoxes has been designed for instruction as well as entertainment. The explanations of the reasons for the apparent inconsistencies give the reader a broader understanding of the fundamentals of mathematics and the logic of mathematical reasoning. At the same time, many of the important methods in elementary mathematics are shown in new and refreshing perspective.

OGILVY C. STANLEY

Through the mathescope. New York Oxford University Press 1956 162 p. illus. 21 cm. $4.00 124

Contents: What do mathematicians do? Number theory: Advanced arithmetic. Algebra. What are the chances? Algebraic oddities. Geometry. Geometry plane and fancy. Cones and conic sections. Wheels within wheels. Analysis: What's going on here? All shapes and sizes. Pi and pi-makers. Topology and typology. Notes. Index.

Note: The essential nature of mathematics, and particularly of some of its subdivisions, such as algebra and analysis, are explained in a light and entertaining style in this book for general readers. Its flavor is conveyed by the following passage: "It turns out, after a couple of millennia of unsatisfactory attempts, that the point is best left undefined. It is something like trying to define the number 1. Everybody knows what 1 means. To define anything so basic is not only unnecessary but probably impossible." Though light reading, the nature of the book is such that it will lead many readers to more advanced reading in mathematics.

POLYA, G

Induction and analogy in mathematics. Volume I of *Mathematics and plausible reasoning* Princeton Princeton University Press, 1954 280 p. illus. 24 cm. $5.50 125

Contents: Induction. Generalization, specialization, analogy. Induction in solid geometry. Induction in the theory of numbers. Miscellaneous examples of induction. A more general statement. Mathematical induction. Maxima and minima. Physical mathematics. The isoperimetric problem. Further kinds of plausible reasons. Final remark. Solutions to problems. Bibliography

—— Patterns of plausible inference. Volume II of *Mathematics and plausible reasoning* Princeton Princeton University Press, 1954 190 p illus. 24 cm. $4.50 the set, $9.00. 126

Contents: Some conspicuous patterns. Further patterns and first links. Chance, the ever-present rival conjecture. The calculus of probability and the logic of plausible reasoning. Plausible reasoning in invention and instruction. Solutions to problems. Bibliography

Note: The key to this work can be found in the author's phrase, "... certainly let us learn proving, but also let us learn guessing." The topic is plausible reasoning or, in other words, disciplined guessing with a purpose. The author defines terms, shows how the processes of plausible reasoning have been used by some of the great mathematicians and presents numerous criteria for the testing of conjectures. The writing is in the spirit of his well-known *How to solve it*, and this work might be viewed as a continuation of that one.

REID CONSTANCE

From zero to infinity what makes numbers interesting. New York Thomas Y Crowell Company 1955 145 p. illus. 21 cm. $3.00. 127

Contents: Zero. One. Two. Three. Four. Five. Six. Seven. Eight. Nine.

Note: In this book the history and special features of each of the ten numbers are interestingly presented for the general reader. Exercises and puzzles based on numbers are included.

RIDER, PAUL REECE

First year mathematics for colleges New York The Macmillan Company 1949 714 p. illus. 22 cm. $5.25 128

Contents: Review of elementary algebra. Factoring. Fractions. Rectangular coordinates. Functions and graphs. Linear equations. Exponents and radicals. Quadratic equations. Inequalities. Systems of equations involving quadratics. Proportion and variation. Mathematical induction and the binomial formula. Progressions. Approximate numbers and computation. Logarithms. Logarithmic and exponential curves. Power functions and their graphs. Mathematics of investment. Trigonometric functions of acute angles. Solution of right triangles. Logarithmic solution of right triangles. Trigonometric functions of any angle. Solution of oblique triangles. Trigonometric formulas and identities. Radian and mil. Trigonometric curves. Inverse trigonometric functions and curves. Trigonometric equations. Complex numbers. Polynomials. Theory of equations. Equation and locus. Straight line. Circle. Parabola, ellipse, hyperbola. Curve sketching. Parametric equations. Polar coordinates. Curve fitting. Permutations and combinations. Probability. Determinants. Partial fractions. Infinite series. Rectangular coordinates and directions in space. Plane and line. Surfaces and curves. Tables. Index. Answers to odd-numbered exercises.

Note: The wide scope of this book is obvious from the chapter titles. The author has designed it for use by both liberal arts and engineering students. An exceptionally full index makes the book useful for occasional reference and personal and public library collections. The author is Professor of Mathematics in Washington University

SANFORD VERA

A short history of mathematics. Under the editorship of John Wesley Young with an introduction by David Eugene Smith. Boston Houghton Mifflin Company 1930. 402 p illus. 20 cm. $5.25 129

Contents: Men who made mathematics. Arithmetic. Commercial mathematics. Algebra. Verbal problems. Practical geometry. Demonstrative geometry. Trigonometry. Analytic geometry. Calculus. Theory of numbers. Calculating devices. Weights and measures. The place of mathematics in the school curriculum. General histories of mathematics. Chronological outline. Index.

Note: A brief history for teachers, advanced students, and others familiar with the subject matter of mathematics. It outlines in chronological order the development of mathematics from Babylonian and Egyptian times to the beginning of the 19th century. Important theories are presented in simplified form, and their evolution from prior investigations is studied. Summaries follow each chapter and there are numerous illustrations from contemporary drawings and title pages. The bibliography is slight.

SCRIPTA MATHEMATICA FORUM LECTURES

addresses by Cassius Jackson Keyser David Eugene Smith Edward Kasner and Walter Rautenstrauch. New York Yeshiva College 1937 94 p. illus. 19 cm. (The Scripta Mathematica library No. 3) $1.25 130

Contents: Mind, the maker by Cassius Jackson Keyser. The story of mathematics, by David Eugene Smith. New names in mathematics, by Edward Kasner. Science in relation to social growth and economic development, by Walter Rautenstrauch.

Note: Addresses delivered at the meeting of the Forum of the Friends of *Scripta Mathematica* at Teachers College, Columbia University December 10, 1934. The first address, "Mind, the maker" represents an outline of a quite original and luminous theory of reality and the world, which was developed by William Benjamin Smith in his essay *Recent physics and world theory*. It was read at the Forum by Cassius Jackson Keyser. The second essay deals with the history of mathematics, the third with the use of new terms in mathematics, and the fourth with the relationships between science and social growth and economic development.

SIMONS, LAO GENEVRA

Fabre and mathematics, and other essays New York Scripta Mathematica, Yeshiva College, 1939 101 p 20 cm (The Scripta Mathematica library No 4) $1 25 131

Contents Fabre and mathematics. The interest f Alexander von Humboldt in mathematics. The influence of French mathematicians at the end of the eighteenth century Short stories in colonial geometry

Note This collection f essays is partly biographical and partly historical. The biographical sketches relate to scientists outside the realm of mathematics, while the historical sketches deal with the early history of mathematics in the United States of America. The book is intended for teachers, scientists, and interested laymen.

STRUIK, DIRK J

A concise history of mathematics. Second revised edition. New York Dover Publications, Inc., 1948 299 p illus 19 cm. (The Dover series in mathematics & physics W Prager, consulting editor) $1 75 132

Contents The beginnings. The Ancient Orient. Greece. The Orient after the decline of Greek society The beginnings in Western Europe. The seventeenth century The eighteenth century The nineteenth century Index.

Note. This summary of the development of mathematics is not only brief but readable. The latter quality is achieved partly by minimizing technical details and stressing trends, schools, and persons. The exposition is addressed to persons with serious and fairly mature interests in the science hence, there are frequent references to other works in which fuller treatments of specific topics are available.

STUDIES IN MATHEMATICS AND MECHANICS

Presented to Richard von Mises by friends, colleagues, and pupils. New York Academic Press Inc, 1954 353 p illus 24 cm $9 00 133

Contents (abridged) Introduction, by P Frank. Algebra and number theory—geometry Analysis. Theoretical mechanics. Applied mechanics. Probability and statistics.

Note A memorial volume containing 42 papers on range of topics which reflect the wide range of scientific interest of the late Richard von Mises. Preceding the contributed papers in the book are short estimation f von Mises' ideas and work, a bibliography of his writings on science and philosophy and bibliography of his writing on Rainer Maria Rilke. The last reflects von Mises' interest in German literature and in the work of this poet in particular The contributed papers (none f which is related to German literature) are the work of outstanding scientists of the United States f America and Europe and generally speaking, they describe new studies and advances in theoretical and applied mathematics.

GENERAL TABLES

BECKER GEORGE F, AND C E VAN ORSTRAND

Hyperbolic functions Sixth reprint. Washington D C. Smithsonian Institution 1949 321 p 23 cm. (Smithsonian mathematical tables) $3 00 134

Contents Introduction Definitions and formulas. Geometrical illustrations. Methods of interpolation. Description of tables. Historical note. Table Five place values of log sinh *u*, log cosh *u*, log tanh and log coth *u*. Table II Five place values of sinh cosh tanh and *coth u*. Table III *Five place values of sin u*, cos log sin and log cos *u*, being expressed in radians and their angular equivalents. Table IV The ascending and descending exponential to seven significant figures with $\log_{10}e^{u}$ to seven places. Nine place values of the same with ten place *logarithms from* −1 to −100. Auxiliary table of multiples of $\log_{10}e$ *for interpolation* of $\log_{10}e^{u}$ Table VI Five place values of natural logarithms. Interpolation coefficients for derivative formula. Table VII: The gudermannian of *u* to seven places in radians and to the same order of accuracy in degrees, minutes, and seconds. Table VIII: The anti-gudermannian to hundredths of a minute in terms of the gudermannian expressed in degrees and minutes from 0°0' to 89°59' (This table is otherwise known as table of meridional parts for spherical globe.) Table VIII Table for conversion of radians into angular measure and vice versa. Numerical constants.

Note First published in 1909 this useful handbook has since been reprinted six times. In the course *of the* reprintings minor errors detected have been corrected. Also, in this sixth reprint notes were added on recently published tables, and bibliographies of mathematical tables.

BURINGTON, RICHARD STEVENS, compiler

Handbook of mathematical tables and formulas Third edition Sandusky, O Handbook Publishers, Inc, 1956 296 p illus 20 cm. $1 75 135

Contents (abridged) Part one, Formulas and theorems from elementary mathematics. Part two, Tables. Index.

Note. A comparatively small but useful compilation of formulas, theorems, and tables frequently used by scientists and other workers in such fields as applied mathematics, engineering, physics, chemistry and insurance, and by college students of science and engineering. It includes tables of logarithms, trigonometric functions, squares, cubes, square roots and cube roots, annuity tables, probability functions, factors for computing probable errors and many others. The number of tables in Part two is 38. The first edition was published in 1933 and the third edition in 1949 In preparing the third edition, rather extensive revision and some additions were made and the book was printed from re-set type. Corrected reprints were made in 1953 1954 1955 and 1956. The copy examined for the purpose of this note was of the 1956 printing.

DWIGHT, HERBERT BRISTOL

Tables of integrals and other mathematical data. Revised edition New York The Macmillan Company 1947 250 p illus. 21 cm. $3 00 136

Contents Algebraic functions. Trigonometric functions. Inverse trigonometric functions. Exponential functions. Probability integrals. Logarithmic functions. Hyperbolic functions. Inverse hyperbolic functions. Elliptic functions. Bessel functions. Surface zonal harmonics. Definite integrals. Differential equations. Tables of numerical values. References. Index.

Note The first edition of this work established it firmly as standard mathematical tool. I this edition, number of new tables and data have been added. These include material on Bessel functions, inverse functions of complex quantities, probability integral table, and groups of integrals involving $(ax^2 + bx + \ )1/2$, $\frac{1}{+ b \sin}$ and $\frac{1}{+ b \cos}$ A third edition was published early in 1957

HODGMAN, CHARLES D, editor in-chief

C R. C. standard mathematical tables Tenth edition. Formerly *Mathematical tables from Handbook of chemistry and physics* Associate editor in charge of chemistry Robert C. Weast associate editor in charge of mathematics Samuel M Selby Cleveland Chemical Rubber Publishing Company, 1956 441 p 20 cm $3 00 137

Contents (abridged) Numerical constants Logarithms. Natural trigonometric functions. Natural or naperian logarithms. Exponential functions. Hyperbolic functions. Numerical tables. Probability of occurrence of deviations. Chi square table. Bessel functions *J* (*x*) and *J* (*x*). Laplace transforms. Algebra. Series. Mensuration formulae. Hyperbolic functions. Elliptic functions. Interest tables Moment of inertia for various bodies. Abbreviations and symbols of mathematics. Index.

Note As indicated in the title, this book was originally reprint of the section on mathematical tables of the widely used *Handbook of chemistry and physics*. However with the publication of the tenth edition, the contents were considerably expanded, and the status of the work changed to an independent one. Many of the tables are still

[illegible] with those in the present *Handbook*, but also there is substantial number which are not to be found there. Only [illegible] of the table of contents is quoted above. In the full contents there are approximately 140 tables, most of which represent mathematical tables. In comparison to the ninth edition of the separate published in 1948 under the title *Mathematical tables*, several tables have been revised, others have been extended and there is [illegible] number of new tables. The length of the volume has been increased by approximately 30 pages.

LARSEN HAROLD D., compiler

Rinehart mathematical tables formulas and curves. Enlarged edition. New York Rinehart and Company Inc., 1953 280 p. 21 cm. $2.50. 138

Contents (abridged) Part one Five-place common logarithms of numbers. Natural trigonometric functions. Common logarithms of trigonometric functions. Powers, roots, and reciprocals. Degrees, minutes, and seconds to radians. Natural values of the trigonometric functions for angles in radians. Radians to degrees, minutes and seconds. Common logarithms of the trigonometric functions for angles in radians. Common logarithms of factorials. Four place natural logarithms. Values and logarithms of exponential functions. Values of hyperbolic functions. American experience table of mortality. Commissioners 1941 standard ordinary mortality table. Amount of 1 at compound interest. Amount of 1 per annum at compound interest. Ordinates of the normal probability curve. Areas of the normal probability curve. [illegible] probability scale. Values of Bessel functions $J_0(x)$ and $J_1(x)$. Values of the complete elliptic integrals. Square root divisors. Part two Greek alphabet. Weights and measures. Miscellaneous physical constants. Important mathematical constants. Formulas from algebra. Formulas from geometry. Formulas from trigonometry. Hyperbolic functions. Curves for reference. Derivatives. Indefinite integrals. Definite integrals. Series. Index.

Note A well-selected compilation of tables and formulas for general use by college students and applied mathematicians. Particular attention has been given to layout and typography in the interest of legibility. The first edition was published in 1948. Seven tables, including the table of square root divisors, have been added in this edition.

SPENCELEY GEORGE WELLINGTON AND OTHERS

Smithsonian logarithmic tables to base e and base 10 Prepared by George Wellington Spenceley, Rheba Murray Spenceley and Eugene Rhodes Epperson. Washington, D C. The Smithsonian Institution, 1952 402 p. 24 cm. (Smithsonian miscellaneous collections. Vol 118 (whole volume) Publication 4054) $4.50 139

Contents Preface by G. W. and R. M. Spenceley. Introduction by E. R. Epperson. Logarithms of powers of 10. Table 1 Natural logarithms (to base e). Table 2 Common logarithms (to base 10).

Note These logarithmic tables represent an adaptation of [illegible] method of computing logarithms. A 20-place [illegible] table of natural logarithms was used by the compilers in the preparation of their [illegible] tables [illegible] and these tables are an outgrowth of the preparation of the earlier work. Table [illegible] presents 23-decimal-place values of the natural logarithms. Table 2 presents 23-decimal-place values of the common logarithms of XXXX, 1.0XXXX, and 1.0XXXXX, the range of XXXX being from 1 to 10,000. The computations of the tables was carried out at Miami University and funds for the publication were granted by the Research Corporation of New York.

UHLER, HORACE SCUDDER

A new table of reciprocals of factorials and some derived numbers. New Haven The Connecticut Academy of Arts and Sciences 1937 51 p 24 cm. (Connecticut Academy of Arts and Sciences. Transactions. Vol. 32 January 1937 p 381–434) $1.25 140

Note The main table consists of two parts, the first giving the reciprocals of factorials from 14 to 314 complete to 475 decimal places, and the second giving reciprocals of factorials from 315 to 399 to 70 significant figures following several hundred zeros after the decimal point. All of the values here given were computed in two different ways, one by long division by hand work, the other by means of an electrically driven, 10-place Monroe calculating machine and the results were then checked one against the other. There is [illegible] bibliography of 17 related tables referred to in the Introduction.

UNITED STATES. NATIONAL BUREAU OF STANDARDS

Table of natural logarithms for arguments between zero and five to sixteen decimal places. (A reissue of Mathematical table 10) Washington, D C. Government Printing Office, 1953 501 p. 27 cm. (United States. National Bureau of Standards Applied mathematics series no. 31) $4.75 141

Contents Introduction, by A. N. Lowan. Constants. Table of natural logarithms, [illegible] 16D.

Note This volume republishes a work which was originally published in 1941 as Volume 3 of [illegible] 4-volume work now out of print. The table is especially useful to engineers and other practical computers who have frequent use for natural logarithms and wish to obtain them quickly. The table is not intended to take the place of common logarithms as [illegible] multiplying and dividing tool, but rather to furnish values of natural logarithms where directly needed. There has been some rearrangement of the introductory material in the new edition, but the table is without change, no errors in it having been reported.

UNITED STATES NATIONAL BUREAU OF STANDARDS

Table of sines and cosines to fifteen decimal places at hundredths of a degree. Issued May 2 1949 Washington, D C. Government Printing Office 1949 95 p. 26 cm. (United States. National Bureau of Standards. Applied mathematics series 5) $0.50 142

Contents Introduction. Table of sine and cosine [illegible] 15D. Supplementary table I, of sine and cosine [illegible] 30D. Reprinted from Hermann, "[illegible] der trigonometrischen Functionen von den Winkeln und der Winkel aus den Functionen, bis zu einer beliebigen Grenze der Genauigkeit. *Kaiserliche Akademie der Wissenschaften, Wien, Mathematisch-naturwissenschaftliche Classe, Sitzungsberichte* 1, pt. IV p. 164–180 (1848). Supplementary table II, table of $E(\theta)$ and $F(\theta)$ [illegible] 30D.

Note Trigonometric tables with decimal subdivision of the degree are of great convenience in numerous problems of applied mathematics. The present volume is to meet the need for such tables, provides tabulation of the sine and cosine to 15 decimal places at intervals of one-hundredth of a degree. The work was done with the financial support of the Office of Naval Research of the Navy Department.

UNITED STATES NATIONAL BUREAU OF STANDARDS

Tables of 10^x (antilogarithms to the base 10) Washington, D C. Government Printing Office, 1953 543 p illus. 27 cm. (United States. National Bureau of Standards. Applied mathematics series no. 27) $3.50 143

Contents Introduction, by H. E. Salzer. Table I, prepared under the direction of M. Abramowitz. Table of 10^x [illegible] 10D. Table II, prepared under the direction of H. E. Salzer. Table of [illegible] 15D.

Note Computation of the first and larger table in this volume, the table of antilogarithms to the base 10, to 10 decimal places, was undertaken because of certain inadequacies in the table of antilogarithms in J. Dodson, London, 1742, which, although correct had become scarce, had not been superseded for over 200 years. The

SIMONS, LAO GENEVRA

Fabre and mathematics, and other essays New York Scripta Mathematica, Yeshiva College, 1939 101 p 20 cm (The Scripta Mathematica library No 4) $1 25 131

[illegible]

[illegible]

STRUIK, DIRK J

A concise history of mathematics Second revised edition New York Dover Publications, Inc , 1948 299 p illus 19 cm (The Dover series in mathematics & physics, W Prager, consulting editor) $1 75 132

Contents: The beginnings. The Ancient Orient. Greece. The Orient after the decline of Greek society. The beginnings in Western Europe. The seventeenth century. The eighteenth century. The nineteenth century. Index.

Note: This summary of the development of mathematics is not only brief but readable. [illegible] and trends [illegible] with persons and [illegible] in the [illegible] there are frequent references in which further treatments of specific topics are available.

STUDIES IN MATHEMATICS AND MECHANICS

Presented to Richard von Mises by friends, colleagues, and pupils New York: Academic Press, Inc , 1954 353 p illus 24 cm $9 00 133

Contents (abridged): Introduction, by P. Frank. Algebra and number theory. Geometry. Analysis. Theoretical mechanics. Applied mechanics. Probability and statistics.

Note: A memorial volume containing 41 papers on a range of topics which reflect the wide range of scientific interest of the late Richard von Mises. [illegible] the contributed papers, in the book are a brief estimation of von Mises' ideas and work, a bibliography of his writings on science and philosophy, and a bibliography of his writings on Rainer Maria Rilke. [illegible] interest in [illegible] and in the work of this poet in particular. The contributed papers, some of which are related to [illegible] material, are the work of outstanding scientists of the United States of America and Europe, and generally speaking, they describe new studies and advances in theoretical and applied mathematics.

GENERAL TABLES

BECKER, GEORGE F , AND C E VAN ORSTRAND

Hyperbolic functions Sixth reprint Washington, D C Smithsonian Institution 1949 321 p 24 cm (Smithsonian mathematical tables) $4 00 134

[illegible]

The [illegible] of π to seven places in radians and to the same order of accuracy in degrees, minutes, and seconds. Table VII. The anti-gudermannian to hundredths of a minute in terms of the gudermannian [illegible] expressed in degrees and minutes from 0°0' to 89°59'. (This table is otherwise known as a table of meridional parts for a spherical globe.) Table VIII. Table for conversion of radians into angular measure and vice versa. Numerical constants.

Note: First published in 1909, this useful handbook has since been reprinted several times. In the course of the reprintings errors [illegible] detected have been corrected. Also, in this sixth reprint notes were added on recently published tables, and bibliographies of mathematical tables.

BURINGTON, RICHARD STEVENS, compiler

Handbook of mathematical tables and formulas Third edition Sandusky, O Handbook Publishers, Inc , 1956 296 p illus. 20 cm $1 75 135

Contents (abridged): Part one, Formulas and theorems from elementary mathematics. Part two, Tables. Index.

Note: A comparatively small but useful compilation of formulas, theorems, and tables frequently used by scientists and other workers in such fields as applied mathematics, engineering, physics, chemistry, and [illegible], and by college students of science and engineering. It includes tables of logarithms, trigonometric functions, squares, cubes, square roots and cube roots, annuity tables, probability functions, factors for computing probable errors and many others. The number of tables in Part two is 38. The first edition was published in 1933 and the third edition in 1949. In preparing the third edition, [illegible] extensive revision and some additions were made and the book was printed from new type. Corrected reprints were made in 1951, 1954, 1955, and 1956. The copy examined for the purposes of this note was of the 1956 printing.

DWIGHT, HERBERT BRISTOL

Tables of integrals and other mathematical data Revised edition New York The Macmillan Company, 1947 250 p illus 21 cm $3 00 136

Contents: Algebraic functions. Trigonometric functions. Inverse trigonometric functions. Exponential functions. Probability integrals. Logarithmic functions. Hyperbolic functions. Inverse hyperbolic functions. Elliptic functions. Bessel functions. Surface zonal harmonics. Definite integrals. Differential equations. Tables of numerical values. References. Index.

Note: The first edition of this work established it firmly as [illegible] mathematical [illegible]. In this edition, a number of new tables and [illegible] have been added. These include material on Bessel functions, inverse functions of complex quantities, a probability integral table and groups of integrals involving $(ax^2 + bx + c)^{1/2}$, $\frac{1}{a + b \sin x}$ and $\frac{1}{a + b \cos x}$. A third edition was published early in 1957.

HODGMAN, CHARLES D , editor-in-chief

C. R. C. standard mathematical tables. Tenth edition Formerly *Mathematical tables from Handbook of chemistry and physics* Associate editor in charge of chemistry, Robert C. Weast, associate editor in charge of mathematics, Samuel M. Selby Cleveland Chemical Rubber Publishing Company 1956. 441 p. [illegible] cm $3 00 137

Contents (abridged): Numerical constants. Logarithms. Natural trigonometric functions. Natural logarithms. Exponential functions. Hyperbolic functions. Numerical tables. Probability functions. [illegible] Bessel functions [illegible] Laplace transforms. Algebra. Series. Moments of inertia [illegible] Interest tables. [illegible] mathematics. Index.

Note: As indicated by the title, this book was originally a reprint of the section on mathematical tables of the widely used *Handbook of chemistry and physics*. However, with the publication of the tenth edition, the contents were considerably expanded, and the status of [illegible] changed to an independent one. Many of the tables are still [illegible]

identical with those in the parent *Handbook*, but also there is a substantial number which are not to be found there. Only [illegible] of the table of contents is quoted above. In the full contents, there are approximately 140 titles, most of which represent mathematical tables. In comparison to the ninth edition of the separate published in 1948 under the title *Mathematical tables*, several tables have been revised, others have been extended and there is a fair number of new tables. The length of the volume has been increased by approximately 50 pages.

LARSEN HAROLD D., compiler

Rinehart mathematical tables, formulas and curves. Enlarged edition. New York Rinehart and Company Inc., 1953 280 p. 21 cm. $2.50 138

Contents (abridged). Part one: Five-place common logarithms of numbers. Natural trigonometric functions. Common logarithms of trigonometric functions. Powers, roots, and reciprocals. Degrees, minutes, and seconds to radians. Natural values of the trigonometric functions for angles in radians. Radians to degrees, minutes, and seconds. Common logarithms of the trigonometric functions for angles in radians. Common logarithms of factorials. Four-place natural logarithms. Values and logarithms of exponential functions. Values of hyperbolic functions. American experience table of mortality. Commissioners 1941 standard ordinary mortality table. Amount of 1 at compound interest. Amount of 1 per annum at compound interest. Ordinates of the normal probability curve. Areas of the normal probability curve. χ^2 probability scale. Values of Bessel functions $J_0(x)$ and $J_1(x)$. Values of the complete elliptic integrals. Square root division. Part two: Greek alphabet. Weights and measures. Miscellaneous physical constants. Important mathematical constants. Formulas from algebra. Formulas from geometry. Formulas from trigonometry. Hyperbolic functions. Curves for reference. Derivatives. Indefinite integrals. Definite integrals. Series. Index.

Note: A well-selected compilation of tables and formulas for general use by college students and applied mathematicians. Particular attention has been given to layout and typography in the interest of legibility. The first edition was published in 1948. Seven tables, including the table of square root division, have been added in this edition.

SPENCELEY GEORGE WELLINGTON AND OTHERS

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Contents: Preface, by G. W. and R. M. Spenceley. Introduction by E. R. Epperson. Logarithms of powers of 10. Table 1. Natural logarithms (to base e). Table 2. Common logarithms (to base 10).

Note: These logarithmic tables represent an adaptation of Hoüel's factorization method of computing logarithms. A 20-place Hoüel table of natural logarithms was used by the compilers in the preparation of their Smithsonian elliptic functions tables, 1947, and these tables are an outgrowth of the preparation of the earlier work. Table 1 presents 23-decimal-place values of the natural logarithms, Table 2 presents 23-decimal-place values of the common logarithms, of XXXX, 0XXXXX, and 1 0XXXXX, the range of XXXX being from 1 to 10 000. The compilation of the tables was carried out at Miami University and funds for the publication were granted by the Research Corporation of New York.

UHLER, HORACE SCUDDER

A new table of reciprocals of factorials and some derived numbers. New Haven The Connecticut Academy of Arts and Sciences, 1937 51 p. 24 cm. (Connecticut Academy of Arts and Sciences. Transactions. Vol. 32 January 1937 p. 381–434) $1.25 140

Note: The main table consists of two parts, the first giving the reciprocals of factorials from 14 to 314, complete to 411 decimal places, and the second giving reciprocals of factorials from 315 to 369 to 70 significant figures following several hundred zeros after the decimal point. All of the values here given were computed in two different ways, one by long division by hand work, the other by means of an electrically driven, 10-place Monroe calculating machine, and the results were then checked one against the other. There is a bibliography of 17 printed tables referred to in the Introduction.

UNITED STATES NATIONAL BUREAU OF STANDARDS

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Contents: Introduction, by A. N. Lowan. Constants. Table of natural logarithms, x = 0(.0001)5 16D.

Note: This volume republishes a work which was originally published in 1941 as Volume 3 of a 4-volume work now out of print. The table is especially useful to engineers and other practical computers who have frequent use for natural logarithms and wish to obtain them quickly. The table is not intended to take the place of common logarithms as a multiplying and dividing tool, but rather to furnish values of natural logarithms where directly needed. There has been some rearrangement of the introductory material in the new edition, but the table is without change, no errors in it having been reported.

UNITED STATES. NATIONAL BUREAU OF STANDARDS

Table of sines and cosines to fifteen decimal places at hundredths of a degree. Issued May 2 1949 Washington, D C. Government Printing Office 1949 95 p. 26 cm. (United States. National Bureau of Standards Applied mathematics series 5) $0.50 142

Contents: Introduction. Table of sines and cosines x = [0°(0.01°)90°, 15D]. Supplementary table of sines and cosines x = [1°(1°)89°, 30D]. Reprinted from Herrmann, "Bestimmungen der trigonometrischen Funktionen aus den Winkeln und der Winkel aus den Funktionen, bis zu einer beliebigen Grenze der Genauigkeit," Kaiserliche Akademie der Wissenschaften, Wien. *Mathematisch-naturwissenschaftliche Classe. Sitzungsberichte* [illegible] (1848). Supplementary table II, table of $K(p)$ and $F(p)$, $p = D(.001)1$ 8D.

Note: Trigonometric tables with decimal subdivision of the degree are of great convenience in numerous problems of applied mathematics. The present volume, to meet the need for such tables, provides a tabulation of the sine and cosine to 15 decimal places at intervals of one-hundredth of a degree. The work was done with the financial support of the Office of Naval Research of the Navy Department.

UNITED STATES NATIONAL BUREAU OF STANDARDS

Tables of 10^x (antilogarithms to the base 10) Washington, D C. Government Printing Office, 1953 543 p illus. 27 cm. (United States. National Bureau of Standards. Applied mathematics series no. 27) $3.50. 143

Contents: Introduction, by H. E. Salzer. Table I, prepared under the direction of M. Abramowitz, Table of 10^x, x = 0(.00001)1.00000, 10D. Table II, prepared under the direction of H. E. Salzer. Table of [illegible] (1)999; p = .1, .4 [illegible] .12,.13 15D.

Note: Compilation of the first and longer table in this volume, the table of antilogarithms to the base 10, to 10 decimal places, was undertaken because of certain inadequacies in the table of antilogarithms in J. Dodson, London, 1742, which, although copies had become scarce, had not been superseded for over 200 years. The

SIMONS, LAO GENEVRA

Fabre and mathematics and other essays New York Scripta Mathematica, Yeshiva College, 1939 101 p 20 cm. (The Scripta Mathematica library No 4) $1 25 131

Contents. Fabre and mathematics. The interest of Alexander von Humboldt in mathematics. The influence of French mathematicians at the end of the eighteenth century Short stories in colonial geometry

Note. This collection f essays is partly biographical and partly historical. The biographical sketches relat to scientists outside the realm f mathematics, while the historical sketches deal with the early history of mathematics in the U ited States of America. The book is intended for teachers, scientists, and interested laymen.

STRUIK, DIRK J

A concise history of mathematics Second revised edition New York Dover Publications, Inc 1948 299 p illus. 19 cm. (The Dover series in mathematics & physics W Prager, consulting editor) $1 75 132

Contents· The beginnings. The Ancient Orient. Greece. The Orient after the decline of Greek society The beginnings in Western Europe. The seventeenth century The eighteenth century The nineteenth century Index.

Note. This summary of the development of mathematics is not only brief but readable. The latter quality is achieved partly by minimizing technical details and stressing trends, schools, and persons. The exposition is addressed to persons with serious and fairly mature interests in the science hence there are frequent references to other works in which fuller treatments of specific topics are available.

STUDIES IN MATHEMATICS AND MECHANICS

Presented to Richard von Mises by friends, colleagues, and pupils. New York Academic Press, Inc., 1954 353 p illus 24 cm $9 00 133

Contents (abridged) Introduction, by P Frank. Algebra and number theory—geometry *Analysis. Theoretical mechanics. Applied* mechanics. Probability and statistics.

Note. A memorial volume containing 42 papers on a range of topics which reflect the wide range f scientific interest of the late Richard von Mises. Preceding the contributed papers in the book are short estimation f von Mises' ideas and work, bibliography f his writings on science and philosophy and bibliography of his writing on Rainer Maria Rilke. The last reflects von Mises' interest in German literature and in the work of this poet in particular The contributed papers (none f which is related to German literature) are the work of outstanding scientists of the United States f America and Europe and generally speaking, they describe new studies and advances in theoretical and applied mathematics.

GENERAL TABLES

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Note First published in 1909 this useful handbook has since been reprinted six times. In the course of the reprintings minor errors detected have been corrected. Also, in this sixth reprint notes were added on recently published tables, and bibliographies of mathematical tables.

BURINGTON, RICHARD STEVENS, compiler

Handbook of mathematical tables and formulas Third edition. Sandusky, O Hand book Publishers, Inc., 1956 296 p illus. 20 cm. $1 75 135

Contents (abridged): Part one, Formulas and theorems from elementary mathematics. Part two, Tables. Index.

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DWIGHT, HERBERT BRISTOL

Tables of integrals and other mathematical data. Revised edition. New York The Macmillan Company, 1947 250 p illus. 21 cm. $3 00 136

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Note The first edition of this work established it firmly as standard mathematical tool. In this edition, number of new tables and data have been added. These include material on Bessel functions, inverse functions of complex quantities, probability integral table, and groups of integrals involving $(ax^2 + bx + \ )1/2$, $\frac{1}{\ + b\sin}$ and $\frac{1}{\ + b\cos}$ *A third edition was published early in 1957*

HODGMAN, CHARLES D, editor in-chief

C. R. C. standard mathematical tables Tenth edition Formerly *Mathematical tables from Handbook of chemistry and physics* Associate editor in charge of chemistry Robert C. Weast associate editor in charge of mathematics Samuel M Selby Cleveland Chemical Rubber Publishing Company 1956 441 p 20 cm $3 00 137

Contents (abridged) Numerical constants. Logarithms. Natural trigonometric functions. N tural or naperian logarithms. Exponential functions. Hyperbolic functions. Numerical tables. Probability of occurrence of deviations. Chi square table. Bessel functions J ( ) and J (x). Laplace transforms. Algebra. Series. Mensuration formulae Hyperbolic functions. *Elliptic functions.* Interest tables. Moment of inertia for various bodies Abbreviations and symbols of mathematics. Index.

Note As indicated in the title, this book was originally reprint of the section on mathematical tables of the widely used *Handbook of chemistry and physics.* However with the publication of the tenth edition, the contents were considerably expanded, and the status of the work changed to an independent one. Many of the tables are still

presentation. Highlights in the development of mathematics and exposition of principles and techniques are integrated throughout the work. Many problems for the student to solve are included.

HILL, M. A., JR. AND J BURTON LINKER

Introduction to college mathematics. Revised edition. New York Henry Holt and Company 1955 428 p. illus. 22 cm. $5.50 150

Contents: Part 1, Algebra and trigonometry: Introduction. Functions. Graphical representation of functions. Factoring and fractions. Exponents and radicals. Logarithms. Solution of right triangles by logarithms. Linear equations. Quadratic functions and equations. Equations of higher degree. Functions of multiple angles. Oblique triangles. Complex numbers. Permutations, combinations, and probability. Frequency distributions. Part 2, Elements of analytic geometry and calculus: The straight line. The circle. The conics. Polar and parametric forms. Differentiation. Integration. Answers to odd-numbered problems. Index.

Note. A well-organized introduction to the traditional contents of first-year mathematics courses. The first edition was published in 1951. In the revised edition, the topics treated in the original edition have been retained, and two chapters have been added on frequency distributions and permutations, combinations, and probability. The authors are members of the faculty of the University of North Carolina.

STABLER, E. R.

An introduction to mathematical thought. Reading Mass. Addison-Wesley Publishing Company Inc., 1953 268 p. illus. 21 cm. $6.00 151

Contents: Part 1, Mathematical thought in relation to logic and science: The nature of mathematical knowledge. The origin and influence of logical systems. Essentials of logical reasoning—fundamental concepts, implication, rules of inference—propositional functions, general propositions, classes. Scientific method and scientific knowledge. Part 2, Some significant postulational systems, concepts, and methods: Elementary algebra as a logical system. An abstract geometric system. Postulational concepts and methods—fields. Groups, rings, Boolean algebras. Relations, order systems, lattices. Survey of mathematical foundations. Bibliography. Index.

Note: An introduction to the foundations of mathematics, designed primarily for college use but written in a style that makes it readable also to mature general readers.

UNDERWOOD RALPH S AND FRED W SPARKS

Living mathematics. Second edition. New York McGraw Hill Book Company Inc., 1949 374 p. illus 23 cm. $5.50 152

Contents: Part 1, Algebra: The haphazard beginning. Onward to algebra. A sentence and what comes of it. Now we picture it. Putting exponents to work. A toy becomes a tool. Part 2, A look over the field. Measuring the inaccessible. New life in old figures. W[illegible] creep up on solutions. Variables caught in action. Our results grow prophetic. A ladder without a top. Fun with figures. Extended analytic geometry: a new field of mathematics. Appendix. Index. Answers.

Note: The first regularly published edition of this book bore the subtitle, A first year college course. In its second edition, the book is still designed primarily for use in college courses. However the authors have also aimed at the audience of amateur mathematicians. The contents of the book are the traditional algebra, trigonometry, calculus, and analytic geometry of first-year college texts. However, the expository text is written out with unusual fullness, thus making the book to home reading and self instruction. Furthermore, it is written in a light vein, and there is even an occasional anecdote. The chapter titled "Fun with figures" deals frankly with mathematical recreations. The first edition was published in 1940. The terminal chapter is new in this edition. Numerous revisions have been made in other chapters to improve them in one way or another. The style has been toned down somewhat and is less flippant. The authors are members of the faculty of Texas Technological College.

ALGEBRA

ALBERT ABRAHAM ADRIAN

Fundamental concepts of higher algebra. Chicago The University of Chicago Press 1956 165 p. 24 cm. (The University of Chicago Committee on Publications in the Physical Sciences A. Adrian Albert and others) $6.50 153

Contents: Groups, Rings and fields. Vector spaces and matrices. Theory of algebraic extensions. Finite fields. Appendixes. Index.

Note: A compact exposition "of the fundamental concepts of modern algebra which are needed for a clear understanding of the place of finite field theory in modern mathematics." It is designed for use in organized classes but is suitable also as a refresher or introduction for professional mathematicians. A new proof for the normal basis theorem for cyclic fields is included in one chapter and the final chapter on finite fields makes use of Galois theory and group theory. The bibliography contains 70 references "to other papers on equations in several variables over a finite field."

ALBERT, ABRAHAM ADRIAN

Introduction to algebraic theories. Chicago The University of Chicago Press, 1941 137 p. 23 cm. $3.00 154

Contents (abridged): Polynomials. Rectangular matrices and elementary transformations. Equivalence of matrices and of forms. Linear spaces. Polynomials with matric coefficients. Fundamental concepts.

Note: This book is a text for a course making the appropriate transition from the intuitive to the abstract. It can be used to give training in the theory of matrices to the beginner, but with modern algebraic proofs. Its only prerequisite material is a knowledge of that part of the theory of equations given as a chapter of ordinary texts in college algebra as well as a reasonably complete knowledge of the theory of determinants.

ALBERT ABRAHAM ADRIAN

Modern higher algebra. Chicago The University of Chicago Press, 1937 319 p. 25 cm. (The University of Chicago science series) $6.50 155

Contents (abridged): Groups and rings. Rings with a unity element. Matrices. Similarity of square matrices. Symmetric and skew matrices. Finite groups. Fields over $\mathfrak{J}$. The Galois theory. Cyclic fields. Algebra of matrices. Introduction to the transcendental theory of fields. V[illegible] functions. Glossary. Index.

Note: This is the first exposition of the theory of matrices over a general field. The modern viewpoint of automorphism groups is used to teach the Galois theory. The text is the first in English on algebra providing adequate foundation for the study of linear associative algebras and gives the only exposition in English of the theory of fields with valuation, and consequently of p-adic numbers. Proofs of the theorems are exceptionally short, and algebraic technique is emphasized throughout the text.

ALBERT ABRAHAM ADRIAN

Structure of algebras. New York American Mathematical Society 1939 210 p. 26 cm. (American Mathematical Society Colloquium publications. Vol. XXIV) $4.00 156

Contents: Fundamental concepts. Ideals and nilpotent algebras. The structure theorems of Wedderburn. Simple algebras. Crossed products and exponents. Cyclic semi-fields. Cyclic algebras and p-algebras. Representations and Riemann matrices. Rational division algebras. Involutions of algebras. Special results. Bibliography. Index.

Note: This volume is divided roughly into two parts, the first being concerned with the general theory of algebras, the second containing applications to related problems. In the general theory of algebras, there are two main topics of discussion, the first the reduction to simple algebras and the second the discussion of the simple algebras themselves. Among the applications of the theory of algebras treated are the theory of representations, the arithmetic-

second table is table in convenient format, permitting the user to obtain in few steps the antilogarithm of any 15-decimal number to about 15 decimals or about 13 significant figures. Preparation of the tables was sponsored by the Office of Naval Research of the Department of the Navy and by the Flight Research Laboratory of the United States Air Force.

FOUNDATIONS, MATHEMATICAL LOGIC

CHURCH, ALONZO

Introduction to mathematical logic. Volume I. Princeton Princeton University Press, 1956 376 p 24 cm (Princeton mathematical series, editors Marston Morse and A W Tucker) $7 50 144

Content Introduction The propositional calculus. Functional calculi of first order The pure functional calculus of first order Functional calculi of second order Index of definitions. Index of authors cited.

Note. A new graduate-level textbook to be complete in two volumes. Though not labeled as a second edition, it is based on the author's *Introduction to mathematical logic*, Part I Princeton, 1944 and in fact is described in the preface as a revised and much enlarged edition of that work. Volume one contains the chapters whose titles are given above. A tentative table of contents for volume two lists the following chapter titles "Functional calculi of higher order Second order arithmetic (The logistic system A²) Gödel's incompleteness theorems. Recursive arithmetic. An alternative formulation of the simple theory of types. Axiomatic set theory Mathematical intuitionism. When complete, the work will afford an introductory but very substantial exposition of mathematical logic. It *contains in addition to the expository matter* large *selection of* exercises ranging from elementary to difficult. The author is a member of the faculty of Princeton University and editor of the *Journal of symbolic logic*

ROSENBLOOM, PAUL C

The elements of mathematical logic. New York Dover Publications Inc., 1950 214 p illus 21 cm. $1 45 145

Contents The logic of classes. The logic of propositions. The logic of propositional functions. The general syntax of language. Appendixes. Bibliographical and other remarks. Index.

Note An introduction to the logic of mathematics, addressed to readers with considerable mathematical sophistication who have not previously studied mathematical logic. Boolean algebra is discussed in the first chapter and the methods of Russell, Quine, Zermelo, Curry and Church are discussed in the third chapter In the fourth chapter the methods of mathematical logic are applied to study of the general syntax of language, and the author concludes, As the matter stands today we must close this book sitting squarely and painfully on the horns of the dilemma the only known adequate languages are incomplete and not provably consistent by the modes of reasoning which they express, and the only ones (i.e. provably consistent) ones are inadequate. The bibliography is helpful feature, in that it combines citations of sources with the author' *comments* on their significance, historical and otherwise.

ROSSER, J BARKLEY

Logic for mathematicians New York Mc Graw Hill Book Company, Inc. 1953 530 p illus. 24 cm (International series in pure and applied mathematics William Ted Martin, consulting editor) $10 50 146

Contents What is symbolic logic? The statement calculus. The use of names. Axiomatic treatment of the statement calculus. Clarification. The restricted predicate calculus. Equality Descriptions. Class membership. Relations and functions. Cardinal numbers. Ordinal numbers. Counting. The axiom of choice. W rest our case. Bibliography Index.

Note In this work logic, particularly *symbolic logic, is presented* from the viewpoint of mathematicians who are interested in the applications of logic to mathematical reasoning. The author acknowledges his *indebtedness* to Whitehead and Russell's famous *Principia mathematica* and states that "by using techniques invented since its writing, we have succeeded in condensing most of *Principia mathematica*' three large volumes into the present text. The difficulties presented by Skolem's paradox and other paradoxes such as the Russell, Cantor and Burali-Forti are discussed at some length. In the final chapter, the author discusses in a helpful, critical manner a selection of texts in which the proofs have been *constructed on logical* principles, even though the books are not concerned with mathematical logic.

WILDER, RAYMOND L

Introduction to the foundations of mathematics. New York John Wiley & Sons Inc., 1952 385 p illus 24 cm $5 75 147

Content Part I, Fundamental concepts and methods of mathematics The axiomatic method. Analysis of the axiomatic method. Theory of sets. Infinite sets. Well-ordered *sets ordinal* numbers. The linear continuum and the real number system. Groups and their significance for the foundations. Part II, Development of various viewpoints on foundations The early developments. The Frege-Russell thesis—mathematics an extension of logic. Intuitionism. Formalism. The cultural setting of mathematics. Bibliography Index of symbols. Index of topics and technical terms. Index of names.

Note Essentially this is a book about the nature of modern mathematics. The first part is devoted to the fundamental methods, such as the axiomatic method, and to fundamental concepts, such as that of "set. The second part is study mainly philosophical, of the nature of this foundation material. Here, the more significant contributions to this aspect of mathematics are reviewed succinctly and critically The book is development of a course given by the author at the University of Michigan, and is designed primarily as text. Laymen who pursue the study of mathematics for its cultural value and others who are *interested in the meaning of science* to society will be interested in at least the final chapters.

GENERAL TEXTBOOKS

ALLENDOERFER, C B , AND C O OAKLEY

Principles of mathematics. New York Mc Graw Hill Book Company Inc., 1955 448 p. illus. 24 cm. $5 00 148

Contents Logic. The number system. Groups. Fields. Sets and Boolean algebra. Functions. Algebraic functions. Trigonometric functions. Exponential and logarithmic functions. Analytic geometry Limits. The calculus. Statistics and probability Answers to selected exercises. Index.

Note. The modern viewpoint of this introduction to mathematics for college students is its chief distinguishing feature. The range of topics is indicated by the chapter titles listed above. Throughout the book, but especially in the first four chapters, the emphasis is on fundamental principles and basic concepts of mathematics. The chapters on functions, analytic geometry calculus, etc., introduce the reader to the main ideas of these areas and to typical problems. Each chapter includes list of references to books in which more extended treatments are to be found, and also to pertinent articles in the *American mathematical monthly*

BOYER, LEE EMERSON

Mathematics, a historical development. New York Henry Holt and Company 1956 478 p illus 22 cm $5 25 149

Contents (abridged) Part I, Arithmetic The growth of number—its systematization. Fundamental operations. Fractions. Decimals. The influence of measuring upon the use of numbers. *The slide rule.* Denominate numbers. Arithmetic bibliography Part II, Algebra The nature and meaning of algebra. Exponents and radicals. Algebra as the language of science. Some characteristics *of* the language of science. Algebra in highly generalized and abstract form. Graphs and several special types of equations. Functions as equations. Algebra bibliography *Part III*, Geometry A historical approach to geometry Two kinds of geometry—informal and demonstrative. On *the educational value of* demonstrative plane geometry Geometry bibliography Part IV Trigonometry Historical introduction. Solution *of* triangles. Logarithms. Appendix. Answers to odd-numbered problems. Index

Note An exposition of fundamental mathematics for such college students as prospective teachers, who will require a general knowledge *of elementary mathematical* principles and perspective view of the significance of the science, but who will not use mathematics in

novelty is the organization of the material and the bringing together of five fundamental theorems in Chapter II and in giving the proofs of these as rapidly as possible for the beginning student. More than 750 exercises are included. This edition is a reprint of the original edition, Boston, Ginn and Company 1937.

CARTAN HENRI AND SAMUEL EILENBERG

Homological algebra. Princeton Princeton University Press 1956 390 p. 24 cm. (Princeton mathematical series. Editors Marston Morse and A. W Tucker) $7.50. 164

Contents Rings and modules. Additive functors. Satellites. Homology. Derived functors. Derived functors of ⊗ and Hom. Integral domains. Augmented rings. Associative algebras. Supplemented algebras. Products. Finite groups. Lie algebras. Extensions. Spectral sequences. Applications of spectral sequences. Hyperhomology. Appendix. Exact categories, by D. A. Buchsbaum. List of symbols. Index of terminology.

Note Though organized as a textbook and containing exercises for students, this book is also a contribution to pure algebra. The authors state, "During the last decade, the methods of algebraic topology have invaded extensively the domain of pure algebra, and initiated a number of internal revolutions. The purpose of this book is to present a unified account of these developments and to lay the foundations of a full-fledged theory. The invasion of algebra has occurred on three fronts through the construction of cohomology theories for groups, Lie algebras, and associative algebras. The three subjects have been given independent but parallel developments. We present herein a single cohomology (and also a homology) theory which embodies all three; each is obtained from it by a suitable specialization.

CHEVALLEY CLAUDE

The algebraic theory of spinors. New York Columbia University Press, 1954 131 p. 24 cm. $3 75 165

Contents Introduction. Preliminaries. Quadratic forms. The Clifford algebra. Forms of maximal index. The principle of triality. Acknowledgments. Index.

Note. In the introduction to this book, the author has stated that "the construction of the notion of spinors given by Cartan was rather complicated. . . . R. Brauer and H. Weyl gave a much simpler presentation of the theory based on the use of Clifford algebras. We follow their method in the present book, but we complete it by a simple construction of the pure spinors and of their relation with linear varieties on the cone Q = 0. In particular, we obtain a parametric representation of the pure spinors which is valid for all basic fields, while their characterization by the quadratic equations of Cartan breaks down for fields of characteristic 2." Basic material on quadratic forms is developed in the first chapter, thus making the book essentially self-contained. Selected geometric and algebraic applications of the theory of spinors are illustrated, but there are no applications to physical theory.

CHEVALLEY CLAUDE

Fundamental concepts of algebra. New York Academic Press, Inc., 1956 241 p. illus. 23 cm. (Pure and applied mathematics, a series of monographs and textbooks edited by Paul A. Smith and Samuel Eilenberg) $6.80. 166

Contents. Monoids. Groups. Rings and modules. Algebras. Associative algebras. Index.

Note A graduate-level text in selected topics of modern algebra, addressed to readers familiar with the concepts of set theory. It was developed in courses taught by the author at Columbia University. Considerable prominence is given to the theory of modules and to operations on it. On the latter point, the author states, "The operations from the general theory of modules which are considered here are essentially the construction of the group of linear mappings of a module into another one and the construction of the tensor product of two modules. These concepts are not . . . the only useful ones; but we believe that they encircle what everybody must know from the theory of modules." In the fourth and fifth chapters the student is introduced to the general concept of algebras and to the associative algebras. Taken together, these chapters account for 100 of the volume's pages. Throughout the book, the exposition is mathematically rigorous.

COWLES WILLIAM H. H. AND JAMES E. THOMPSON

Algebra for colleges and engineering schools. Second edition. Princeton D Van Nostrand Company Inc., 1947 275 p illus. 23 cm. $4.00. 167

Contents Algebraic laws and linear equations. Graphical methods and quadratic equations. Systems of quadratic equations. Complex numbers. Proportion, variation and functional relations. Sequences, progressions, and series. Binomial, exponential, and logarithmic series. Permutations, combinations, and probability. Theory of equations. Cubic, quartic, and higher equations. Partial fractions. Appendix. Index.

Note A successful textbook in which algebra is expounded for engineering college students. Although the level of treatment assumes completion of courses in secondary school algebra, elementary algebra is reviewed. A special feature is the early introduction of graphic methods. The exposition is written out fully and includes many worked examples, features which suit the book to use in self-instruction and home study. The first edition was published in 1931. In preparing this second edition, the authors reorganized the material of the first edition, revised the treatment of a number of topics, deleted the chapters on logarithms and the slide rule, and added the chapter on partial fractions.

JACOBSON, NATHAN

Lectures in abstract algebra. Princeton D Van Nostrand Company Inc., 1951–52 2 v 24 cm. (The university series in higher mathematics M H. Stone chairman) Vol. I $6.00 vol. II $6 75 168

Contents: Volume I, Basic concepts Introduction—Concepts from set theory, the system of natural numbers. Semi-groups and groups. Rings, integral domains and fields. Extensions of rings and fields. Elementary factorization theory. Groups with operators. Modules and ideals. Lattices. Index. Volume II, Linear algebra. Finite dimensional vector spaces. Linear transformations. The theory of a single linear transformation. Sets of linear transformations. Bilinear forms. Euclidean and unitary spaces. Products of vector spaces. The ring of linear transformations. Infinite dimensional vector spaces. Index.

Note: These are two volumes of a planned three-volume series on abstract algebra. As indicated in the title, the pattern of organization is that of lectures in a university course; the pattern is carried out with the inclusion of exercises for students. It is, of course, addressed to graduate students with considerable mathematical maturity and interest in abstract mathematics. The two volumes are essentially independent, although the treatment in Volume II assumes that the reader will have a knowledge of the basic concepts covered in Volume I. Generally speaking, the author has used an axiomatic approach; however, in the second volume he has included some calculational methods applicable to numerical problems, and has indicated occasional shortcuts in footnotes.

JACOBSON, NATHAN

Structure of rings. Providence American Mathematical Society 1956. 263 p. illus. 26 cm. (American Mathematical Society Colloquium publications. Vol. XXXVII) $7 70 169

Contents: The radical and semi-simplicity. Irreducible modules and primitive rings. Rings with minimum condition. Primitive rings having minimal one-sided ideals. Kronecker products. Completely reducible modules. Galois theory for the ring of linear transformations. Division rings. PI rings and prime ideals. Structure spaces. Applications. Bibliography. Index.

Note A mathematically rigorous account of the structure theory of rings without finiteness assumptions. The author, Professor of Mathematics at Yale University is a noted contributor to this field of mathematics. He has included the results of his own studies and also the studies of others working in the same area. References to original papers are appended to the individual chapters and are collected again in the bibliography at the end of the volume. This bibliography is comprehensive for papers appearing since 1942. For a listing of earlier publications, reference is made to the author's Theory of rings, New York, 1943, now out of print.

tion of the normal simple algebras over finite algebraic fields, cyclic systems, and the modern theory of Riemann matrices. This book is founded on the author's *Modern higher algebra*, described above.

ARTIN, EMIL, AND OTHERS

Rings with minimum condition by Emil Artin, Cecil J Nesbitt, Robert M Thrall Ann Arbor University of Michigan Press, 1944 123 p 23 cm. (University of Michigan Publications in mathematics No 1) $2 50 157

Content Rings and vector spaces. Minimum condition. Matrix representations. Semisimple rings. Simple rings. Kronecker products of spaces and rings. Splitting fields and crossed products. Nonsemisimple rings with minimum condition. Index.

Note This work is mainly study f simple rings and their representation theory It is partly based on material used for lectures at the University of Michigan and Indiana University and is designed primarily for readers who are unfamiliar with algebraic methods.

BEAUMONT, ROSS A., AND RICHARD W BALL

Introduction to modern algebra and matrix theory New York Rinehart & Company, Inc 1954 331 p 23 cm $6 00 158

Contents Matrices and determinants. Groups of transformations. Vector spaces. Groups. Properties of number systems. Polynomials and the algebraic theory of fields. Matrices with polynomial elements. Canonical forms for groups of matrix transformations. Index.

Note The authors of this book are members of the faculty of the University f Washington and the book is based in part on their teaching experience. It is intended as an introduction to modern algebra for advanced undergraduate students and first year graduate students who are interested in the subject from the standpoint f its applications in science and other fields. Although the concepts and methods f modern algebra are definitely emphasized, certain classical results are included as a background. Definitions are precise, and proofs are rigorous. Numerous exercises for the student are included.

BIRKOFF, GARRETT, AND SAUNDERS MAC LANE

A survey of modern algebra. Revised edition New York The Macmillan Company 1953 472 p 22 cm $6 50 159

Content The integers Rational numbers and fields. Polynomials Real umbers. Complex umbers. Group theory Vectors and vector spaces. The algebra f matrices. Linear groups. Determinants and canonical forms. Algebra f classes. Transfinite arithmetic. Rings and ideals. Algebraic umber fields. Galois theory Bibliography Index Index f special symbols.

Note A standard, introductory text for college students studying modern algebra at the senior and graduate levels. The treatment emphasizes basic concepts and is designed for both the mathematics major and the student concerned with the application f these concepts to such related fields as physics and statistics. In this edition, such new topics as equations of stable type dual spaces, and the projective group have been added. The umber of review exercises has been increased, and the bibliography has been brought up to date A shorter ersion entitled, *A brief survey f modern algebra*, 1953 276 p $4 75 is available from the same publisher

BOROFSKY, SAMUEL

Elementary theory of equations New York The Macmillan Company 1950 302 p 22 cm. $5 00 160

Contents The complex number system. Polynomials in one variable. Polynomials in the complex domain. Derivatives and multiple roots. Polynomials with real coefficients. Theorems of Budan and Sturm. Approximations to real roots. Cubic and quartic equations. Ruler and compass constructions. Algebraic umber fields. Symmetric polynomials. Determinants. Linear equations. Elimination. Appendixes. Numerical answers. Index.

Note An introductory work designed to be studied after the student has mastered elementary algebra. The notions of field and polynomial over a field are used throughout the exposition, and to simplify the grasp of these concepts, polynomials are defined as functions rather than as elements of rings. The author is member of the faculty of Brooklyn College.

BRINK, RAYMOND WOODWARD

College algebra. Second edition New York Appleton Century Crofts, Inc., 1951 495 p illus 22 cm. (The Appleton Century mathematics series Raymond W Brink, editor) $4 00 161

Contents (abridged) The fundamental operations. Factoring. Linear equations in one unknown. Functions and their graphs. Exponents and radicals. Quadratic equations. Variation, ratio and proportion. Progressions. Logarithms. The binomial theorem. Complex umbers. Theory f equations. Permutations and combinations. Determinants. Infinite series. The mathematics of investment. Curv fitting and least squares. Index.

Not A standard text designed to meet the needs of college students who have completed at least one course in algebra in secondary school. The first edition was published in 1933 This edition has been extensively revised, and new chapters have been added on real umbers and curve fitting. The uthor is Professor of Mathematics in the University of Minnesota.

BRITTON, JACK R., AND L CLIFTON SNIVELY

Algebra for college students Revised edition New York Rinehart & Company, Inc. 1954 537 p illus 22 cm. $4 50 162

Contents Fundamental ideas from arithmetic. Signed numbers. The language of algebra. Simple equations, formulas, and statement problems. Special products and factoring. Fractions. Graphical representation and functional notation Linear equations in more than one variable. Exponents and radicals. Operations with radicals. Quadratic equations in one unknown. Ratio, proportion, and variation. Approximat umbers. Logarithms. The binomial theorem and mathematical induction. Progressions. Complex numbers. Inequalities. Theory of equations. Systems involving quadratic equations. Determinants. Permutations, combinations, and probability Partial fractions. Tables. Answers to odd-numbered problems. Index.

Note A successful textbook the first edition of which was published in 1947 It is designed for students who did not master algebra in secondary school. The exposition begins with review of arithmetic, then proceeds to elementary algebra. Algebra is developed as logical and consistent body of mathematical knowledge. The first 12 chapters are devoted to topics customarily taught at the beginning and intermediat levels, and the remaining chapters deal with topics normally covered in college courses. The first edition was published in 1947 Without changing the general plan of the book, some reorganization and considerable revision was made for this second edition. Changes are made in both the expository text and in the exercises for students, and the chapter on partial fractions was added.

CARMICHAEL ROBERT DANIEL

Introduction to the theory of groups of finite order New York Dover Publications Inc. 1956 447 p 21 cm (Textbooks in mathematics edited by R. D Carmichael) $3 95 163

Content Introduction. Five fundamental theorems. Additional properties of groups in general. Abelian groups. Prime-power groups. Permutation groups. Defining relations for abstract groups. Groups of linear transformations. Galois fields. Groups f isomorphisms of Abelian groups or order p^m and type (1 1 1) Finit geometries. Collineation groups in the finite geometries. Algebras of doubly transitive groups of degree p^n and order p^n (p^n — 1) Tactical configurations. Index.

Note: An introduction to the subject for the serious student of advanced mathematics. The author establishes important connections of the theory f finite groups with other domains of mathematics, and brings the reader to the boundary of present knowledge with an outlook on the fields yet to be explored. The material is based largely on existing expositions f the theory, including the works by Burnside, Hilton, Miller Blichfeldt, and Dickson. The main

novelty in the organization of the material is the bringing together of five fundamental theorems in Chapter [illegible] and in giving the proofs of these as rapidly as possible for the beginning student. More than 750 exercises are included. This edition is [illegible] reprint of the original edition, Boston, Ginn and Company 1937

CARTAN HENRI, AND SAMUEL EILENBERG

Homological algebra. Princeton Princeton University Press 1956 390 p. 24 cm. (Princeton mathematical series. Editors Marston Morse and A. W Tucker) $7.50. 164

Contents: Rings and modules. Additive functors. Satellites. Homology. Derived functors. Derived functors of ⊗ and Hom. Integral domains. Augmented rings. Associative algebras. Supplemented algebras. Products. Finite groups. Lie algebras. Extensions. Spectral sequences. Applications of spectral sequences. Hyperhomology. Appendix: Exact categories, by D. A. Buchsbaum. List of symbols. Index of terminology

Note: Though organized as [illegible] textbook and containing exercises for students, this book is also [illegible] contribution to pure algebra. The authors state, "During the last decade, the methods of algebraic topology have invaded extensively the domain of pure algebra, and initiated [illegible] number of internal revolutions. The purpose of this book is to present [illegible] unified account of these developments and to lay the foundations of [illegible] full-fledged theory The invasion of algebra has occurred on three fronts through the construction of cohomology theories for groups, Lie algebras, and associative algebras. The three subjects have been given independent but parallel developments. W[illegible] present herein [illegible] single cohomology (and also [illegible] homology) theory [illegible]hich embodies all three; each is obtained from it by [illegible] suitable specialization.

CHEVALLEY CLAUDE

The algebraic theory of spinors. New York Columbia University Press 1954 131 p. 24 cm. $3 75 165

Contents: Introduction. Preliminaries. Quadratic forms. The Clifford algebra. Forms of maximal index. The principle of triality Acknowledgments. Index.

Note: In the introduction to this book, the author has [illegible] stated that "the construction of the notion of spinors given by Cartan was rather complicated. [illegible] R. Brauer and H. Weyl gave much simpler presentations of the theory based on the use of Clifford algebras. W[illegible] follow their method in the present book, but we complete it by [illegible] simple construction of the pure spinors and of their relation with linear varieties on the cone $Q = 0$. In particular we obtain [illegible] parametric representation of the pure spinors which is valid for all basic fields. [illegible] like their characterization by the quadratic equations of Cartan breaks down for fields of characteristic 2. Basic material on quadratic forms is developed in the first chapter, thus making the book essentially self-contained. Selected geometric and algebraic applications of the theory of spinors are illustrated, but there are no applications to physical theory

CHEVALLEY CLAUDE

Fundamental *concepts* of algebra. New York Academic Press, Inc., 1956 241 p. illus. 23 cm. (Pure and applied mathematics, a series of monographs and textbooks edited by Paul A. Smith and Samuel Eilenberg) $6.50. 166

Contents: Monoids. Groups. Rings and modules. Algebras. Associative algebras. Index.

Note: A graduate-level text in selected topics of modern algebra, addressed to readers familiar with the concepts of set theory It was developed in [illegible] course taught by the author at Columbia University Considerable prominence is given to the theory of modules and to operations on it. On the latter point, the author states, "The operations from the general theory of modules which are considered here are essentially the construction of the group of linear mappings of [illegible] module into another one and the construction of the tensor product of two modules. These concepts are not [illegible] the only useful ones, but we believe that they contain what everybody would know from the theory of modules. In the fourth and fifth chapters the student is introduced to the general concept of algebras and to the associative algebras. Taken together, these chapters account for 100 of the volume's pages. Throughout the book, the exposition is mathematically rigorous.

COWLES WILLIAM H. H. AND JAMES E. THOMPSON

Algebra for colleges and engineering schools. Second edition. Princeton D Van Nostrand Company Inc., 1947 275 p. illus 23 cm. $4.00 167

Contents: Algebraic laws and linear equations. Graphical methods and quadratic equations. Systems of quadratic equations. Complex numbers. Proportion, variation and functional relations. Sequences, progressions, and series. Binomial, exponential, and logarithmic series. Permutations, combinations, and probability. Theory of equations. Cubic, quartic, and higher equations. Partial fractions. Appendix. Index.

Note: A successful textbook in [illegible]hich algebra is expounded for engineering college students. Although the level of treatment assumes completion of courses in secondary school algebra, elementary algebra is reviewed. A special feature is the early introduction of graphic methods. The exposition is written out fully and includes many worked examples, features which suit the book to use in self-instruction and home study The first edition was published in 1939. In preparing this second edition, the authors reorganized the material of the first edition, revised the treatment of [illegible] number of topics, deleted the chapters on logarithms and the slide rule, and added the chapter on partial fractions.

JACOBSON, NATHAN

Lectures in abstract algebra. Princeton D Van Nostrand Company, Inc., 1951–52 2 v 24 cm. (The university series in higher mathematics M H. Stone chairman) Vol. I $6 00 vol. II, $6 75 168

Contents: Volume I, Basic concepts Introduction—Concepts from set theory the system of natural [illegible] numbers. Semi-groups and groups. Rings, integral domains and fields. Extensions of rings and fields. Elementary factorization theory Groups with operators. Modules and ideals. Lattices. Index. Volume II, Linear algebra: Finite dimensional vector spaces. Linear transformations. The theory of [illegible] single linear transformation. Sets of linear transformations. Bilinear forms. Euclidean and unitary spaces. Products of vector spaces. The ring of linear transformations. Infinite dimensional vector spaces. Index.

Note: These are two volumes of [illegible] planned three-volume series on abstract algebra. As indicated in the title, the pattern of organization is that of lectures in [illegible] university course the pattern is carried out with the inclusion of exercises for students. It is, of course, addressed to graduate students with considerable mathematical maturity and interest in abstract mathematics. The two volumes are essentially independent, although the treatment in *Volume II assumes that the reader will have* [illegible] knowledge of the basic concepts covered in Volume I. Generally speaking, the author has used an axiomatic approach however in the second volume he has included some calculational methods applicable to numerical problems, and has indicated occasional shortcuts in footnotes.

JACOBSON NATHAN

Structure of rings. Providence American Mathematical Society 1956 263 p. illus. 26 cm. (American Mathematical Society Colloquium publications. Vol. XXXVII) $7 70 169

Contents: The radical and semi-simplicity Irreducible modules and primitive rings. Rings with minimum condition. Primitive rings having minimal one-sided ideals. Kronecker *products*. Completely reducible modules. Galois theory for the ring of linear transformations. Division rings. Nil ideals and prime ideals. Structure spaces. Applications. Bibliography Index.

Note: A mathematically rigorous account of the structure theory of rings without finiteness assumptions. The author Professor of Mathematics at Yale University is [illegible] noted contributor to this field of mathematics. He has included the results of his own studies and also the studies of others working in the same area. References to original papers are appended to the individual chapters and are collected again in the bibliography at the end of the volume. This bibliography is comprehensive for papers appearing since 1943. For [illegible] listing of earlier publications, reference is made to the author's *Theory of rings*, New York, 1943, now out of print.

KAPLANSKY, IRVING

Infinite Abelian groups Ann Arbor University of Michigan Press, 1954 91 p 23 cm $2 00 170

Contents Introduction. Examples of Abelian groups. Torsion groups. Zorn's lemma. Divisible groups. Three test problems. Pure subgroups. Groups of bounded order. Height. Direct sums of cyclic groups. Ulm's theorem. Modules and linear *transformations. Banach* spaces. Valuation rings. Torsion-free modules. Complete modules. The algebraic structure of compact Abelian groups. Characteristic submodules. The ring of endomorphisms. Guide to the literature. Bibliography Index.

Note: Based on course of lectures which the author gave at the University of Chicago in 1950, this book is both an introductory exposition of the theory of infinite groups for the restricted class of Abelian groups and a summary of the state of the theory and especially l the results pertaining to it published in the last two decades. Expository matter is somewhat less formal and more detailed than it might be in book designed for professional mathematicians alone on the other hand, the treatment is fully rigorous. The expository text is supplemented by a seven-page "Guide to the literature, in which the author comments historically and critically on the chief publications, and by a conventional bibliography of books and papers.

KELLER, MARION WILES

College algebra. Boston Houghton Mifflin Company, 1946 471 p illus. 22 cm $4 00 171

Contents *Review of fundamental operations.* Linear equations. Type products—factoring—equations. Fractions and fractional equations. Exponents and radicals. Quadratic equations. Systems of equations involving quadratics. Ratio—proportion—variation. Progressions. *Mathematical induction and the binomial theorem.* Logarithms. Complex numbers. Theory of equations. Inequalities. Determinants. Elements of the mathematics of finance. Permutations and combinations. Probability and insurance. Partial fractions. Infinite series. Tables. Answers to odd-numbered problems. Index.

Note. A well-organized introductory textbook. The presentation of elementary topics in the early chapters is sufficiently advanced over high-school algebra to benefit even those students who have had one or more courses in secondary school. Problems have been designed not only to provide drill but to illustrate variations in theory Also, a considerable number of the problems illustrate applications of algebra in various sciences and engineering. The publisher has provided an attractive format.

LEVI, HOWARD

Elements of algebra. Second edition New York Chelsea Publishing Company, 1956 160 p 21 cm $3.25 172

Contents *Sets, statements, and variables.* Cardinal numbers. Expressions. Polynomials. Number systems in general. Construction of the integers. Properties of the integers. The rational number system. Equations. Order The real number system. Appendix. Index.

Note An unconventional *introductory text* developed in course given by the author for number of years in the School of General Studies of Columbia University Although no previous training in algebra is presupposed, the topics taken up and the manner of treating them require concentration and mature attitude on the part of the student or reader The formal construction of the natural number system is carried out, and the associated algebra is developed. Although the treatment is mathematically rigorous, certain proofs are postponed to the appendix. The book is suitable not only for enrolled students but also for serious readers he pursue mathematics outside of organized courses It contains no whimsey or mathematical recreation rather its appeal is that of a challenge.

LOVITT, WILLIAM VERNON

Elementary theory of equations. New York Prentice-Hall, Inc. 1939 237 p illus 23 cm. (Prentice-Hall mathematical series Albert A Bennett editor) $4 50 173

Contents *Introduction.* Simultaneous linear equations in two and three variables. Solution of binomial equations. Properties of polynomials. Elementary theorems on the roots of an equation. Transformation of equations. Cubic and *quartic equations.* Bounds for the roots of an equation. Separation of the roots. Solution of numerical equations. Determinants. Symmetric functions of the roots. Resultants, discriminants, eliminants. Ruler and compass constructions. Answers. Index.

Note. Although the theory of equations is usually presented in a form suitable mainly for graduat and advanced undergraduate students, the present text makes the subject available to those who have completed a one-semester course in analytic geometry and have not had calculus. The material deals with algebraic equations and with sets of linear equations, plus a few simple transcendental equations to show the generality and power of Newton's method of solution. Simultaneous algebraic equations of degree higher than the first are not considered. Simple methods are given for isolating the real roots of an equation as preparatory step in determining their values by methods of approximation Graeff 's method of determining all real and complex roots without preliminary determination of their approximate values is included for the first time in a text of this kind.

McCOY, NEAL HENRY

Rings and ideals LaSalle, Ill Open Court Publishing Company, *1948* 216 p 18 7 cm. (The Carus mathematical monographs Number eight) $3 00 174

Contents. Definitions and fundamental properties. Polynomial rings. Ideals and homomorphisms. Some imbedding theorems. Prime ideals in commutative rings. Direct and subdirect sums. Boolean rings and some generalizations. Rings of matrices. Further theory of ideals in commutative rings. Bibliography Index.

Note. A treatise on abstract algebra which introduces the fundamental theory of *rings* and the *role* of ideals in the theory A knowledge of advanced college algebra should enable the reader to follow the text without difficulty In addition to the bibliography at the end of the volume, reference lists are provided with each chapter

MACDUFFEE, CYRUS COLTON

An introduction to abstract algebra. New York John Wiley and Sons Inc., 1940 303 p 23 cm $5 50 175

Contents The theory of numbers. Finite groups. Algebraic fields. Integral algebraic domains. Rings and fields. Perfect fields. Matrices. Linear associative algebras. Index. Symbols.

Note This textbook *for graduate students presupposes* course in theory of equations. The abstract point of few is developed gradually with discussions of special cases, and concrete instances of abstract ideas when they are presented. The author endeavors to give to the student a selected body of facts from number theory group theory etc., which will serve as background for understanding and appreciating the generalized results.

MACDUFFEE, CYRUS COLTON

Vectors and matrices La Salle Ill , Open Court Publishing Company 1943 192 p illus. *19 cm* (The Carus *mathematical monographs* No 7) $3 00 176

Contents Systems of linear equations. Vector spaces. Determinants. Matric polynomials. *Union and* intersection. Rational canonical form. Elementary divisors. Orthogonal transformations. Endomorphisms. Bibliography Index.

Note. A presentation of the technique in matric theory which has been *developed* during the *present* century by writers on the rational reduction of matrix. Intended primarily for teachers and students specializing in mathematics. There is brief bibliography

MESERVE, BRUCE E

Fundamental concepts of algebra. Reading *Mass Addison-Wesley* Publishing Company Inc. 1953 294 p illus 22 cm (Addison Wesley mathematics series Eric Reissner consulting *editor) $7 50* 177

Contents Our number system. Theory of numbers. Theory of polynomials. Theory of equations. Determinants and matrices. Constructions. Graphical representations. Bibliography Symbols and notations. Index.

Note: This book is an introductory exposition of selection of basic concepts in algebra and analysis. It explains such fundamental

such as "set," "space," "field," and "Euclidean complex space." These concepts are not only defined carefully but are illustrated by examples. The level of treatment is that of senior undergraduate or first-year graduate college courses. In addition to its use as a text in organized courses, the book is suitable as a self-instruction aid for readers who have achieved a moderate degree of mathematical maturity.

MIDDLEMISS, ROSS RAYMOND

College algebra. New York McGraw Hill Book Company Inc., 1952 344 p. illus. 24 cm. $4.00. 178

Contents: Real numbers. Fundamental operations. Operations with polynomials and rational fractional expressions. Equations. Functions and graphs. Systems of equations. Inequalities. Negative and fractional exponents. The exponential function. Logarithms. Variation. Progressions. Mathematical induction. The binomial theorem. Compound interest and annuities. Theory of equations. Determinants. Complex numbers. Permutations and combinations. Probability. Tables. Answers. Index.

Note: A modern introductory text intended for both science majors and liberal arts students. Considerable emphasis is placed on precision in stating hypotheses. The author is Professor of Mathematics in Washington University.

MILLER, EARLE BRENNEMAN AND ROBERT M THRALL

College algebra. New York The Ronald Press Company 1950 493 p. illus. 21 cm. $4 75 179

Contents (abridged): Part I. Introductory topics: The number system of algebra. Review topics. Part II, Functions of real variables, solution of equations. Linear functions and equations. Quadratic functions and equations. Functions and equations of the third and fourth degrees. Functions and equations of the nth degree. Rational functions. Exponential functions and logarithms. Part III, Functions of integers: Sequences and series. Arithmetic, harmonic, and geometric progressions. Mathematical induction. The binomial theorem. Part IV Other topics: Permutations and combinations. Probability. Matrices, determinants, and systems of linear equations. Complex numbers. Appendix. Index.

Note: A college textbook of intermediate level. It is designed for students who have had a course of elementary algebra and are planning to major in mathematics or in some branch of science where algebra is used at more than an elementary level. The first-named author is Professor of Mathematics in the Illinois College, and the second-named author is Associate Professor of Mathematics in the University of Michigan.

MURNAGHAN FRANCIS DOMINIC

The theory of group representations. Baltimore The Johns Hopkins Press, 1938 369 p. 23 cm. $5.00. 180

Contents: Groups and matrices. Reducibility. Group characters. The symmetric group. The characters of the symmetric group. The alternating group. Linear groups. Group integration. The orthogonal group. Spin representations of the rotation group. The crystallographic groups. The Lorentz group.

Note: This book gives an elementary and self-contained account of the theory of group representations with special attention to those groups, particularly the symmetric group and the rotation group, which have turned out to be of fundamental significance for nuclear physics. The theory of group integration is presented in a simple manner. Among the topics treated in detail are the analysis of the direct product of irreducible representations of the symmetric group, the Clebsch-Gordan series, the theory of two-valued or spin representations, the representations of the crystallographic groups and the analysis of their symmetrized Kronecker squares, the representations of the Lorentz group, and the theory of semi-vectors.

PERLIS SAM

Theory of matrices. Reading, Mass. Addison-Wesley Publishing Company Inc., 1952 237 p. 23 cm. (Addison-Wesley mathematics series Eric Reissner consulting editor) $6.50. 181

Contents: Introductory concepts. Vector spaces. Equivalence, rank, and inverses. Determinants. Congruence and Hermitian congruence. Polynomials over a field. Matrices with polynomial elements. Similarity. Characteristic roots. Linear transformations. References. Index.

Note: An introductory textbook written particularly for students of engineering and other fields who are mainly interested in matrix theory for its potential practical applications. However, as the author points out, it is suitable also for mathematics majors who are taking their first course in the subject. Basic ideas and techniques are emphasized, and each point and manipulation is carefully and fully discussed when first introduced. The author is Associate Professor of Mathematics in Purdue University.

PETERSON THURMAN S

Intermediate algebra for college students. Revised edition. New York Harper & Brothers, 1954 369 p. illus. 21 cm. (Harper's mathematics series Charles A. Hutchinson, editor) $3 75 182

Contents: Introduction. Signed numbers—addition and subtraction. Multiplication and division. Equations and stated problems. Factoring. Fractions. Equations of the first degree in two unknowns. Exponents, roots, and radicals. Graphical methods. Quadratic equations. Systems involving quadratic equations. Ratio, variation, and binomial theorem. Logarithms. Progressions. Answers. Index.

Note: A textbook specifically designed for the instruction of college students who have had no course or not more than a one-year course of algebra in secondary school. In its previous edition, it was entitled *Elements of algebra*, and it is still suitable for use as an introductory text. The ground covered is apparent from the chapter titles. Among the special pedagogical features are a high number of worked examples included in the expository text, a large number of exercises for the student to solve, and typography that calls special attention to important rules and formulas.

REAGAN LEWIS M AND OTHERS

College algebra. Revised edition. By Lewis M Reagan Ellis R. Ott, Daniel T Sigley New York Rinehart & Company Inc. 1948 447 p. illus. 21 cm. $4.50 183

Contents: Introduction—Fundamental operations. Functions and graphical representation. Fractions and linear equations. Applied problems. Ratio, proportion, and variation. Exponents and radicals. Logarithmic computation. Logarithmic and exponential equations. Complex numbers. Factors of polynomials. Quadratic equations. Theory of equations. Systems of equations of higher degree. Sequences and series. Interest and annuities. Choice. Probability. Topics in statistics. Determinants. Partial fractions. Inequalities. Selected topics. Fundamental topics and proofs. Tables. Index.

Note: A textbook for introductory college courses offered to students who have had one or more years of algebra in secondary school. The emphasis is on the mathematics without question. However applications are illustrated in the problems and in sections included for science and engineering students. The first edition was published in 1940. The chapter entitled "Topics in statistics" is new in this second edition. Exercises for students remain a special feature, and they have been revised and increased in number.

REES PAUL K., AND FRED W SPARKS

College algebra. Third edition. New York McGraw Hill Book Company Inc., 1954 460 p. 23 cm. $4.50. 184

Contents: The four fundamental operations. Special products and factoring. Fractions. Linear and fractional equations. Functions and graphs. Simultaneous linear equations. Exponents and radicals. Quadratic equations. Simultaneous quadratic equations. Ratio, proportion, and variation. Complex numbers. Higher-degree equations. Inequalities. Logarithms. The progressions. Mathematical induction. The binomial theorem. Compound interest and annuities. Permutations and combinations. Probability. Determinants. Partial fractions. Appendix. Answers. Index.

Note: A standard text book used in introductory courses in algebra at the college level. The treatment assumes that the student will have had a course in algebra in high school or preparatory school. However the basic concepts and operations of elementary algebra are reviewed in the first chapter. The style of the book is informal and readable, and the authors have made special efforts to aid the

beginning student in comprehension. The expository matter includes large number of worked examples. The second edition was published in 1945 The book was rather extensively rewritten for this third edition.

RICHARDSON, MOSES

College algebra. New York Prentice-Hall Inc., 1947 472 p illus 24 cm (Prentice Hall mathematics series, Albert A Bennett, editor) $5 75 185

Contents Preface for the student. The number system of algebra. What is algebra? Algebraic expressions. Functions and graphs. Elementary operations with polynomials. Factoring of polynomials. Elementary operations with fractional expressions. Linear equations and linear functions. Integral and fractional exponents. Radicals. Quadratic equations and quadratic functions. Systems of equations in t unknowns involving quadratics. Ratio, proportion, and variation. Complex numbers. Theory of equations. Determinants and elimination theory Permutations and combinations. Probability Mathematical induction. The binomial theorem. Progressions. Inequalities. Logarithms. Mathematics of investment. The Euclidean algorithm. Partial fractions. Infinite series. Interpolation and curve fitting. Answers to odd-numbered exercises. Tables. Index.

Note Topics usually covered in a first-year college algebra course are presented in this text. The introductory chapters provide a review f high-school algebra, but presented at a level consistent with the attainments of college students. Fundamental concepts are explained in detail. The treatment is such that various indicated hapters may be omitted to fit in with the requirements of shorter courses. Review exercises are interspersed at appropriat points throughout the textual material.

RIDER, PAUL R

College algebra. Revised edition. New York The Macmillan Company, 1955 397 p illus 21 cm $4 25 186

Contents Review f elementary algebra. Linear equations. Factoring. Fractions. Exponents and radicals. Quadratic equations. Systems of equations involving quadratics. Inequalities. Variation. Mathematical induction and the binomial formula. Progressions. Complex numbers. Theory f equations. Logarithms. Compound interest and annuities. Permutations and combinations. Probability Determinants. Partial fractions Infinite series. Tables. Index. Answers to odd-numbered exercises.

Note A standard textbook used in introductory college courses in algebra. A review of elementary algebra is contained in the first chapter Succeeding chapters deal with more advanced topics, as their titles show This edition differs from the preceding one published in 1947 chiefly in the first chapter which has been rewritten to improv it for students whose knowledge of elementary algebra is meager and in the exercises, all of which are new

RIETZ, HENRY L, AND ARTHUR R CRATHORNE

College algebra. Fifth edition. Revised by J William Peters New York Henry Holt and Company 1951 387 p illus. 21 cm $4.25 187

Content The umber system. Polynomials. Rational fractions Functions and their graphs. Equations and their solutions Systems of linear equations. Exponents and radicals Logarithms Quadratic equations. Systems of equations involving quadratics. Inequalities Mathematical induction and the binomial theorem. Complex numbers. Theory f equations. Ratio, proportion and variation. Progressions. Interest and annuities. Permutations and combinations Relative frequency and probability Determinants. Partial fractions. Limits. Infinite series. Series of positive terms. Series with both positive and negative terms. Tables. Answers Index.

Not A textbook widely used in the United States of America in introductory courses in colleges and technical institutes. In this first revision since 1939 the general objectives remain unaltered from the earlier editions However more extended review of the topics of secondary-school algebra is given, and there have been other modifications, including changes in most of the exercises and problems.

STOLL, ROBERT R

Linear algebra and matrix theory New York McGraw Hill Book Company, Inc. 1952 272 p 23 cm. (International series in pure and applied mathematics William Ted Martin, consulting editor) $6 00 188

Content Systems of linear equations. Vector spaces. Basic operations for matrices. Determinants. Bilinear and quadratic functions and forms. Linear transformations on a vector space. Canonical representations of a linear transformation. Unitary and euclidean vector spaces. References. Index of special symbols. Index.

Note In this book, matrix theory is presented against back ground of modern algebra. The first five chapters are devoted to topics in the basic theory of algebra and matrices. The comprehensive treatment f vector spaces in the second chapter is noteworthy In the fifth chapter bilinear and quadratic functions and forms are studied as representations of functions on a linear vector space. The two chapters on linear transformations are related to the preceding material on vector spaces and also to matrices, and the relatively long terminal chapter is devoted to unitary and Euclidean vector spaces, including transformations of vector spaces to normal forms. The author is Professor of Mathematics at Oberlin College, and the book is designed for use in courses offered to advanced undergraduate and first-year graduate students who are preparing for careers in mathematics or engineering

TARSKI, ALFRED

A decision method for elementary algebra and geometry Prepared for publication with the assistance of J C. C. McKinsey Second edition revised. Berkeley University of California Press, 1951 63 p illus 28 cm $2 75 189

Contents. Introduction. The system of elementary algebra. Decision method for elementary algebra. Extensions to related systems. Notes. Bibliography Supplementary notes.

Note In this monograph, a decision method is presented for elementary algebra which is comparable to the decision methods available for certain other areas of mathematics. The author described it as follows "The first, essential part consists in procedure by means of which, given any formula φ one can always find in mechanical way an equivalent formula which involves no quantifiers, and no free variables besides those already occurring in φ in particular this procedure enables us, given any sentence t find an equivalent sentence ithout quantifiers. The second part consists in procedure by means of which, given any sentence φ without quantifiers, one can always decide in mechanical way whether φ is true. It is obvious that these t o procedures together provide the desired decision method. The first edition was published by the Rand Corporation. This second edition, which is the first one to be made generally available is photographic reprint of the first, except for corrections of errors and the addition of supplementary notes and new references to the literature.

THEORY OF NUMBERS

DANTZIG, TOBIAS

Number the language of science. A critical survey written for the cultured non-mathematician Fourth edition revised and augmented. New York The Macmillan Company, 1954 340 p. illus 21 cm $5 00 190

Contents. Part I, Evolution of the umber concept Fingerprints. The empty column. Number-lore. The last umber Symbols. The unutterable. This flowing world. The act f becoming. Filling the gaps. The domain of umber The anatomy of the infinite. The two realities—milestones in the evolution of the number concept. Part II, Problems old and new On the recording of umbers. Topics in integers. On roots and radicals. On principles and arguments. Index of names. Index of subjects.

Note. First published in 1930, this book has long been recognized as successful account for mature general readers of the science of numbers, in which the emphasis is on symbol, form,

and the ideas which underlie them. The third edition was published in 1939. In this fourth edition, the first part—which runs to 179 pages—is essentially unchanged. The second part, which is 80 pages long, is new. It is more technical than the first part, and it affords the reader a view of some of the more advanced ideas in the theory of numbers, particularly methods and arguments.

DICKSON, LEONARD EUGENE

Modern elementary theory of numbers. Chicago The University of Chicago Press, 1939 309 p. illus. 20 cm. o.p. 191

Contents: Foundations of the theory of numbers. Theory of congruences. Quadratic residues and reciprocity law. Binary quadratic forms. Positive ternary quadratic forms. Universal theorems involving cubes. Sums of nine values of a cubic function. Indefinite ternary quadratic forms and universal and zero forms. Representation, quadratic, diophantine equations. Generalizations of Cauchy's lemma. Sums of values of a quadratic or quartic function. Conditions for solution of $F = O$ where F is an indefinite quadratic form in four or more variables. Waring's problem. Positive quadratic forms in variables. Appendix. Individuals of primes in an arithmetical progression. Appendix. Individuals of primes in an arithmetical progression. Index.

Note: An approach to the first principles of number theory, giving an elementary account of the essentials of the classic theory and of interesting topics of modern number theory. It provides brief course for beginners and supplementary course. Various new results are demonstrated.

DUBISCH ROY

The nature of number an approach to basic ideas of modern mathematics. New York The Ronald Press Company 1952 159 p. illus. 22 cm. $4.00. 192

Contents: Counting from one to a googol. Writing numbers from one to a googol. God made the integers. Creation completed. Zero again—and last. Fractions are easy now. The unspeakable. The great I solves all. A shot in the arm for complacent algebraists of the nineteenth century. How lasting was the shot? Last-minute edition of the *Algebra gazette*. The author's lament. Appendix. Suggestions for further reading. Answers to problems. Index.

Note: A refreshing exposition of the nature or ideas of present-day mathematics. The author begins it by showing that the mathematics of common knowledge, particularly arithmetic, is based on the acceptance of abstractions. After this he takes up the basic concepts of mathematics, such as matrix algebra and function theory. The book is written for laymen, and it should be useful to anyone who desires to learn what professional mathematicians concern themselves with.

GRIFFIN HARRIET

Elementary theory of numbers. New York McGraw Hill Book Company Inc., 1954 203 p. 24 cm. (International series in pure and applied mathematics William Ted Martin, consulting editor) $5.00 193

Contents: The fundamental laws. The linear diophantine equation. Properties of integers. Properties of congruences. The solution of congruences. The theorems of Fermat and Wilson and the Möbius function. On belonging to an exponent. Indices. Quadratic residues. Some famous problems. Polynomials. Partitions. Bibliography. Index.

Note: An introduction to the theory of numbers, written for the instruction of undergraduate college students who have knowledge of algebra. It is characterized by a careful selection of topics, by detailed proofs, and selected references to papers, journals, and passages in books in which specific topics are treated at greater length, or in which significant advances in the theory of numbers were first published. The author is a member of the faculty of Brooklyn College.

HANCOCK HARRIS

Foundations of the theory of algebraic numbers. New York The Macmillan Company 1931 2 v illus. 20 cm. $12.00 per vol. 194

Contents (abridged): Volume 1, Introduction to the general theory: The general notion of realms of rationality. Algebraic integers. The moduls of Dedekind. Divisibility. Generalized notions of division. Finite moduls. Algebraic moduls. The modular systems of Kronecker. The quadratic law of reciprocity. Application of the theory of ideals of quadratic realms to a discussion of Fermat's theorem. Geometric presentation of ideals. The cubic realms. Index. Volume II, The general theory: Theory of ideals. The Kronecker theory of forms. The divisors of the discriminant. Algebraic units. Extracts from Minkowski's *Geometry of numbers*. The number of ideal. Composite forms. Relative realms. Sub-realms. Super-realms. The Galois theory. Relations of a realm to its divisors. Development of algebraic numbers in series. Index.

Note: The purpose of this treatise for advanced students of mathematics is to offer an approach to a higher and more generalized arithmetic through a systematic study of the algebraic numbers. An attempt is made to show how the field of rational numbers is broadened by the introduction of the algebraic numbers and how thereby the realm of rationality is extended. The work follows the method of the Dedekind theory and compares that treatment with the fundamental forms and equations of Kronecker, the discriminant and order-moduli being taken as common ground.

JONES BURTON WADSWORTH

The arithmetic theory of quadratic forms. New York The Mathematical Association of America. Distributed by John Wiley & Sons Inc., 1950 212 p 19 cm. (The Carus mathematical monographs. No 10) $3.00 195

Contents: Forms with real coefficients. Forms with *P*-adic coefficients. Forms with rational coefficients. Forms with coefficients in $R(p)$. Genera and semi-equivalence. Representations by forms. Binary forms. Ternary quadratic forms. Bibliography. Problems. Theorem index. Index.

Note: A self-contained presentation of this mathematical topic. The author has assumed that his readers will be familiar with matrix theory and the theory of numbers. The work is of interest to graduate students specializing in mathematics, and to professional mathematicians. It used as introduction to this special subject. The author is a member of the faculty of the University of Colorado.

JONES BURTON WADSWORTH

The theory of numbers. New York Rinehart & Company Inc., 1955 143 p illus. 22 cm. $3 75 196

Contents: The development of the number system. Repeating decimals and congruences. Diophantine equations. Continued fractions. Nonlinear congruences. Quadratic residues. Bibliography. Index.

Note: This book is an introduction to the theory of numbers written at the level of undergraduate college students. It is designed to teach not only the elements of the theory of numbers but also how to think as a mathematician. The author has included features that adapt the book to the instruction of students preparing to teach mathematics in secondary schools and also those preparing for advanced work in mathematics. The pace of the exposition is leisurely and many exercises to be worked by the reader are included. These features, together with the many unexpected facts about the properties of numbers, give the book considerable appeal for amateur mathematicians, especially those who delight in mathematical recreations.

LARSEN HAROLD DANIEL

Arithmetic for colleges. New York The Macmillan Company 1950 275 p. illus. 21 cm. $4.35 197

Contents: Number. Casting out nines and elevens. Addition. Subtraction. Multiplication. Division. Common fractions. Decimal fractions. Percentage. Units of measure and dimensional relations. Approximate numbers and computation. Square root. Introduction to the slide rule. References. Appendix. Index. Answers.

Note: An unusual treatment of arithmetic because it is designed primarily for college students. Rather than a review of principles and techniques usually studied in elementary school, it is a fresh treatment suitable for persons who will teach arithmetic in elementary schools and for others who desire a treatment for mature readers. The bibliography is selective but includes outstanding "popular" treatments of mathematics, books on mathematical recreation, standard treatises on such topics as numbers, and books and articles on the teaching of arithmetic.

LeVeque, William Judson

Topics in number theory Reading, Mass Addison Wesley Publishing Company, Inc., 1956 2 v 22 cm. (Addison Wesley mathematics series Eric Reissner, consulting editor) Vol. I, $5 50 vol. II, $6 50 198

Contents Volume I Introduction The euclidean algorithm and its consequences. Congruences. Primitive roots and indices. Quadratic residues. Number-theoretic functions and the distribution of primes. Sums of squares. Pell's equation and some applications. Rational approximations to real numbers. Supplementary reading. List of symbols. Index. Volume II Binary quadratic forms. Algebraic numbers. Applications to rational number theory The Thue-Siegel-Roth theorem. Irrationality and transcendence. Dirichlet's theorem. The prime number theorem. Supplementary reading. List of symbols. Index.

Note Volume one of this work is elementary and is designed primarily for the instruction of advanced undergraduate and first year graduate college students. It introduces the reader to those topics in number theory named in the chapter titles. There are several features of pedagogic interest, such as a purposeful selection of proofs to instruct rather than to exhibit the elegance of number theory Volume two is somewhat independent of Volume one and covers more advanced topics. The treatment assumes considerable mathematical maturity on the part of the student and knowledge of the theory of symmetric polynomials, as well as the rule for multiplying determinants. " It contains some material of potential interest to graduate mathematicians with interests in number theory

Mueller, Francis J

Arithmetic its structure and concepts Englewood Cliffs, N J Prentice Hall, Inc. 1956 279 p 24 cm $6 00 199

Contents Number Synthesis. Analysis. Comparison. Fractions. Approximate numbers. Answers to problems. Index.

Note Written by the chairman of the Department of Mathematics of Maryland State Teachers College, this book will probably be used chiefly as a text for students preparing for careers as mathematics teachers. However its approach to arithmetic and its full discussions of basic concepts make it potentially of interest to other classes of readers as well, particularly general readers who feel the need of more fundamental understanding of arithmetic than they acquired in school. Considerable historical material is included on such topics as systems of notation. For the general reader the book's main value lies in its mature and illuminating discussions of such concepts as analysis, fractions, and approximate numbers.

Niven, Ivan

Irrational numbers New York Mathematical Association of America distributed by John Wiley and Sons Inc. 1956 164 p. 19 cm. $3 00 200

Contents Rationals and irrationals. Simple irrationalities. Certain algebraic numbers. The approximation of irrationals by rationals. Continued fractions. Further diophantine approximations. Algebraic and transcendental numbers. Normal numbers. The generalized Lindemann theorem. The Gelfond-Schneider theorem. List of notation. Glossary Reference books. Index of topics. Index of names.

Note An introductory exposition of irrational numbers which is addressed to such readers as teachers of mathematics and students preparing for careers in mathematics. The author has stated "Our general intention in this book is to characterize, classify and exhibit irrational numbers in various ways, not only in the framework of real numbers, but also in the larger setting of complex numbers W do not examine the axiomatic foundation of our subject. Each chapter includes section of "Notes, in which the author mentions related studies of other mathematicians and offers other information of interest to readers of the book.

Ore, Oystein

Number theory and its history New York McGraw Hill Book Company Inc. 1948 370 p illus 21 cm. $6 00 201

Content Counting and recording of numbers. Properties of numbers—division. Euclid's algorism. Prime numbers. The aliquot parts. Indeterminate problems. Theory of linear indeterminate problems. Diophantine problems. Congruences. Analysis of congruences. Wilson theorem and its consequences. Euler's theorem and its consequences. Theory of decimal expansions. The converse of Fermat's theorem. The classical construction problems. Bibliography General name index. Subject index.

Note Numbers and number theory have fascination for laymen as well as for professional mathematicians. This book is suitable for both groups even though it is based on an introductory course given at Yale University The greater part of it is elementary and requires only a knowledge of simple algebra for comprehension. On the other hand, the author's treatment of many topics is original and will appeal to mathematicians. History and exposition are skillfully interwoven, and the result is a clear and interesting book.

Pollard, Harry

The theory of algebraic numbers New York The Mathematical Association of America. Distributed by John Wiley and Sons, Inc. 1950 142 p 19 cm. (The Carus mathematical monographs No 9) $3 00 202

Content Divisibility The Gaussian primes. Polynomials over field. Algebraic number fields. Bases. Algebraic integers and integral bases. Arithmetic in algebraic number fields. The fundamental theorem of ideal theory Consequences of the fundamental theorem. Class-numbers and Fermat problem. Minkowski's lemma and the theory of units. References. Index.

Note An introductory presentation of classical algebraic number theory In general, theorems are proved, but in the case of Gelfond and Schneider' theorem for the transcendence of algebraic numbers, the reader is referred to a paper in a mathematical journal for the proof. The book is of interest to advanced students who are majoring in mathematics, to mathematicians who have specialized in other fields but with some knowledge of this one, and to lay readers who are mathematically mature and pursue mathematics as recreation

Siegel, Carl Ludwig

Transcendental numbers. Princeton Princeton University Press 1949 102 p 23 cm. (Annals of mathematics studies Emil Artin and Marston Morse editors Number 16) $2 00 203

Content The exponential function. Solutions of linear differential equations. The transcendency of a^b for irrational algebraic b and algebraic $a \neq 0,1$ Elliptic functions Bibliography

Note By exploiting some special transcendency problems, it is attempted in this study to evolve method of investigation which will be useful in the search for more general results and the formulation of a theory of transcendental numbers. Rather than one continuous argument, the work is a collection of essays originally presented as lectures at Princeton University in 1946.

Stewart, B M

Theory of numbers New York The Macmillan Company 1952 261 p illus. 22 cm $5 75 204

Content (abridged) Preliminary considerations. Mathematical induction. Representation of the integers. The fundamental theorem of arithmetic. Prime and composite integers. The bracket function. Groups of transformations—matrices and determinants. Diophantine equations of the first degree. Pythagorean triplets. Fermat's method of descent. Euler's phi-function. Introduction to the congruence notation. Linear congruences. Exponents, primitive roots, and indices. The quadratic reciprocity law Sums of four squares. Introduction to quadratic forms. Peano's axioms for the natural integers. Rational numbers. Decimal representation of rational numbers. The fundamental theorem reconsidered.

Note A textbook developed in courses given by the author at Michigan State University and designed as an introduction to number theory The treatment assumes that the reader will be familiar with the body of mathematical knowledge commonly referred to as "college algebra. The book is organized in 53 chapters, corresponding to as many 50-minute lectures. Each chapter ends with exercises for the reader to solve. Proofs are given for theorems.

THURSTON H. A.

The number-system. New York Interscience Publishers, Inc., 1956 134 p. 23 cm. $2.50. 205

Contents (abridged) Part I, Explanatory treatment. Counting. The laws of arithmetic. Fractions. Negative numbers. Fields. Irrational numbers. Powers. Complex numbers. Part II, Systematic treatment: Whole numbers. Half-groups and groups. Integers. Fields. Rational numbers. Exponentiation. Cauchy numbers. Real numbers. Complex numbers. Bibliography. Index.

Note An analytical interpretation and exposition of the number system is presented in this book. The first part is essentially descriptive. In it concepts are carefully defined and relations among them made clear. The second part is a formal treatment written mainly as theorems, lemmas and proofs. The book is addressed primarily to college students, however, the directness and simplicity of the author's style, together with his brevity, give it appeal for readers who desire to study the number system without the aid of an instructor.

USPENSKY JAMES VICTOR, AND M. A. HEASLET

Elementary number theory New York McGraw Hill Book Company Inc., 1939 484 p. illus. 21 cm. $7.00. 206

Contents Elementary properties of integers. Divisibility and related topics. Euclid's algorithm. Diophantine equations of the first degree. On prime numbers. A general combinatorial theorem and its applications. On the congruence of numbers. Congruences with one unknown. Lagrange's theorem and its applications. Residues of powers. Arithmetical properties of Bernoulli's numbers. Quadratic residues. Some problems connected with quadratic forms. Some Diophantine problems. Liouville's methods. Index.

Note An elementary textbook on number theory for the college student majoring in mathematics or for the interested undergraduate, covering the field of arithmetical investigation and the properties of numbers. The deep relations existing between polynomial numbers and integers in general are shown by means of several of Fermat's theorems. There is an extensive treatment on the congruence of numbers and quadratic residues, and many applications, such as magic squares, card shuffling, calendar calculations, and the like. No knowledge of mathematics higher than college algebra is required.

WEYL, HERMAN

Algebraic theory of numbers. Princeton Princeton University Press, 1940. 223 p. 22 cm. (Annals of mathematics studies. No 1) $3.00. 207

Contents Algebraic fields. Theory of divisibility (Kronecker Dedekind). Local p-adic analysis (Kummer Hensel). Algebraic number fields. Amendments.

Note This research is based on the notes of a course on theory of numbers given at Princeton University by the author. The work presents an outline of the fundamental arithmetic concepts and facts concerning algebraic fields. The author has subordinated Kronecker's approach to the problem of divisibility and has introduced the Kummer-Hensel p-adic theory as a method for penetrating more deeply into the subject. Hilbert's theory of Galois fields, Minkowski's geometric principle, finite Abelian groups, zeta function and related Dedekind sums, and the general theory of class fields are among the topics discussed. There is a selected bibliography of [illegible] books.

WRIGHT HARRY NOBLE

First course in theory of numbers. New York John Wiley & Sons Inc., 1939 108 p. illus. 22 cm. $2.90. 208

Contents Divisibility. Simple continued fractions. Congruences. Quadratic residues. Diophantine equations. Table of primes. Index.

Note A textbook for a one-semester course, prepared in connection with the course offered at City College, New York. The author has endeavored to make [illegible] relatively easy reading for the student, without loss of completeness. Exercises are provided, and the arrangement is designed to meet the needs of classroom use. Power residues and indices are used in the chapter on congruences to make possible relatively simple and interesting solutions of certain problems, and to form a natural introduction to the chapter on quadratic residues.

ANALYSIS

ADAMS EDWIN PLIMPTON, AND OTHERS

Smithsonian mathematical formulæ and tables of elliptic functions mathematical formulae prepared by Edwin P Adams. Tables of elliptic functions prepared under the direction of Sir George Greenhill, bart., by Col. R. L. Hippisley First reprint. Washington, D C. The Smithsonian Institution 1939 314 p. illus. 23 cm. (Smithsonian miscellaneous collections. Vol. 74 no. 1 Publication no. 2672) $3.00 209

Contents Symbols. Algebra. Geometry. Trigonometry. Vector analysis. Curvilinear coordinates. Infinite series. Special applications of analysis. Differential equations. Numerical solution of differential equations. Elliptic functions. Index.

Note A collection of the more useful results of mathematical analysis in formula form, designed for physicists, engineers, and others who regard mathematics as a tool and not as an end in itself. The formulae range from elementary to considerably advanced, and special applications of various theorems are also presented. The treatment of differential equations is particularly extensive and includes many special forms. The table of elliptic functions is preceded by a detailed explanation and description of their use. The first reprint contains corrections, but no new material.

AGNEW RALPH PALMER

Differential equations. New York McGraw Hill Book Company Inc., 1942 341 p. illus. 23 cm. $5.50. 210

Contents Introduction to differential equations. The differential equation $y' = f(x)$. Linear equations of first order. Families of curves; trajectories. Differential equations of first order and first degree. Linear differential equations. Use of series. Linear differential equations with constant coefficients. Mechanical problems. Electric circuits. Newton's equation $my'' = f(y)$ and the pendulum problem. Eigenvalues, Fourier series, and partial differential equations. Exact equations of first order. Integrating factors. Special methods of solving $f(x, y, y') = 0$; singular solutions. Picard's method of approximating solutions $y' = f(x, y)$; existence theorems. Approximations to solutions and existence theorems for equations of higher order and for systems of equations. Appendix. Bending of beams. Index.

Note An unusually thorough text designed to facilitate the mastery of those techniques by which differential equations are obtained and solved and by which the solutions are used in pure and applied mathematics.

AHLFORS LARS V

Complex analysis an introduction to the theory of analytic functions of one complex variable. New York McGraw Hill Book Company Inc., 1953 247 p. illus. 23 cm. (International series in pure and applied mathematics William Ted Martin consulting editor) $6.00. 211

Contents Complex numbers. Complex functions. Complex integration. Infinite sequences. The Dirichlet problem. Multiple-valued functions. Index.

Note An introduction to function theory designed for the instruction of university students in their first year of graduate study. The level of treatment assumes that the reader will have basic knowledge of real numbers and calculus. Classical methods are definitely emphasized; on the other hand, there are some novelties, such as the use of the concept of winding number in deriving a rigorous proof of Cauchy's integral theorem.

BACON, HAROLD MAILE

Differential and integral calculus Second edition New York McGraw Hill Book Company, Inc., 1955 547 p illus 24 cm $6 00 212

Contents Preface. Introduction. Functions and limits. The derivative. General rules for differentiation of algebraic functions. Simple applications of the derivative. Differentiation of trigonometric and inverse trigonometric functions. Differentiation of logarithmic and exponential functions. The differential. Further applications of derivatives and differentials. Polar coordinates. Theorem of the mean, indeterminate forms, and Taylor's theorem. Integration, standard forms. Methods of integration. The definite integral. Geometric applications of the definite integral. Physical applications of the definite integral. Partial differentiation. Multiple integrals. Infinite series. Introduction to differential equations. Brief table of integrals. Answers to odd-numbered problems. Index.

Note. The standard topics of an introductory undergraduate course in calculus as taught in colleges and universities in the United States of America are covered in this book. The treatment is not mathematically rigorous. Difficult proofs are omitted however special attention is given to explicit and carefully phrased definitions. A special feature is a detailed expository text, written so the student can read and understand it without constant assistance from an instructor The first edition was published in 1942 Various revisions in text and problems have been made in this second edition; however the scope and purpose of the book are unchanged. The author is Professor of Mathematics in Stanford University

BATEMAN MANUSCRIPT PROJECT

Higher transcendental functions Based, in part, on notes left by Harry Bateman. And compiled by the staff of the Bateman Manuscript Project. New York McGraw Hill Book Company, Inc 1953–55 3 v 24 cm. (California Institute of Technology Bateman Manuscript Project, A Erdélyi, editor) Vol. I, $6 50, vol II $7 50 vol. III, $6 50 213

Contents. Volume I The gamma function. The hypergeometric function. Legendre functions. The generalized hypergeometric series. Further generalizations of the hypergeometric function. The confluent hypergeometric function. Subject index. Index of notations. Volume II Bessel functions. Functions of the parabolic cylinder and of the paraboloid of revolution. The incomplete gamma function and related functions. Orthogonal polynomials. Spherical and hyperspherical harmonic polynomials. Orthogonal polynomials in several variables. Elliptic functions and integrals. Subject index. Index of notations. Volume III Automorphic functions. Lamé functions. Mathieu functions, spheroidal and ellipsoidal wave functions. Introduction to the functions of number theory. Miscellaneous functions. Generating functions. Subject index. Index of notations.

Note. A voluminous collection of notes made by Professor Harry Bateman of the California Institute of Technology in preparation for comprehensive work on special functions was the starting point of this work. When death cut short Professor Bateman's ork on the project, the California Institute of Technology and the United States Office of Naval Research organized group of mathematicians headed by Professor Arthur Erdélyi, to continue it. This treatise is product of the group. Organized into chapters whose titles are given above, it presents wide range of information on the transcendental functions The chapters vary in organization and scope but, generally speaking each is a condensed survey intended for reading or reference by graduate pure and applied mathematicians, of a specific class of transcendental functions and designed to orient the reader in the subject. The principal literature is mentioned, often with an evaluatory comment typical computations are illustrated, and proof are demonstrated.

BATEMAN MANUSCRIPT PROJECT

Tables of integral transforms. Based in part, on notes left by Harry Bateman. New York McGraw Hill Book Company Inc. 1954 2 v (California Institute of Technology Bateman Manuscript Project, A Erdélyi, editor) Vol I $7 50, vol. II, $8 00 214

Contents: Volume I Part I, Fourier transforms Fourier cosine transforms. Fourier sine transforms. Exponential Fourier transforms. Part II, LaPlace transforms. Inverse LaPlace transforms. Part III, Mellin transforms: Inverse Mellin transforms. Appendix. Index of notations. Volume II Part IV Bessel transforms. Hankel transforms of order Y-transforms. K-transforms. H-transforms. Kontorovich-Lebedev transforms. Part V Miscellaneous transforms Fractional integrals. Stieltjes transforms. Hilbert transforms. Part VI, I tegrals of higher transcendental functions: Orthogonal polynomials. Gamma function, incomplete gamma functions and related functions. Legendre functions. Bessel functions. Hypergeometric functions. Appendix. Index of notations.

Note. A complementary work to Bateman Memorial Project, *Higher transcendental functions*, described in the preceding entry It presents in tabular form wide range of integral transforms, classified under the headings listed above and, in addition, a smaller collection of integrals of higher transcendental functions, most of which can not be written as transforms. It was based partly on the manuscript collections of the late Professor Bateman but contains also transforms and integrals from the periodical literature and some not previously published. In some instances, the material presented in specific sections supplements other books in others, there is no similar material in book form. Literature references are included.

BELLMAN, RICHARD

Stability theory of differential equations. New York McGraw Hill Book Company, Inc., 1953 166 p 23 cm. $5 50 (International series in pure and applied mathematics, William Ted Martin, consulting editor) $5 50 215

Contents. Properties of linear systems. Stability boundedness, and asymptotic behavior of solutions of linear systems. The existence and uniqueness of solutions of nonlinear systems. The stability of solutions of nonlinear differential equations. The asymptotic behavior of the solutions of some nonlinear equations of the first order The second-order linear differential equation. The Emden-Fowler equation. Index.

Note. An introduction at the first-year graduate level to the modern theory of stability and asymptotic behavior of solutions f real equations. The material presented has been carefully selected. The author states that "no attempt has been made to be encyclopedic and to catalogue every result that possibly falls within our scope. This is neither feasible nor desirable in an introductory volume. A selected number of powerful techniques are presented, and bibliographical references are given to books and journal articles in which others may be found.

BERGMAN, STEFAN

The kernel function and conformal mapping New York American Mathematical Society, 1950 161 p 26 cm. (American Mathematical Society Mathematical surveys. No. v) $4 00 216

Contents. Orthogonal functions. The kernel function and associated minimum problems. The invariant metric and the method of the minimum integral. Kernel functions and Hilbert space. Representation of the classical domain functions. Canonical conformal transformations. Orthogonalization over the boundary Variational methods. Existence proofs. Partial differential equations Functions of two complex variables and pseudo-conformal mapping. Bibliography Index.

Note This survey presents a number of methods and principles which are of wide applicability in such branches of analysis as function theory partial differential equations, differential geometry etc. The special emphasis here, however is on conformal mappings. The underlying idea is to consider those classes of functions in which a norm can be introduced and the notion of orthogonality defined. For each complete system of orthonormal functions in the class kernel function is defined. The classical domain functions, such as Green's and Neumann harmonic measures, etc are shown to be intimately related to the kernel function. Since the latter is defined in terms of an orthonormal system, it is possible to solve many conformal mapping problems numerically To read this volume a considerable mathematical background is required.

Bers, L. and others, editors

Contributions to the theory of partial differential equations. Edited by L. Bers S Bochner and F John. The papers in this volume were read at the Conference on Partial Differential Equations sponsored by the National Academy of Sciences—National Research Council, October 1952 Princeton Princeton University Press, 1954 257 p. 26 cm. (Annals of mathematics studies edited by Emil Artin and Marston Morse. No. 33) $4 00. 217

Contents: Green formula and analytic continuation, by S. Bochner. Strongly elliptic systems of differential equations, by F. E. Browder. Derivatives of solutions of linear elliptic partial differential equations, by F John. On multi-valued solutions of linear partial differential equations, by S. Bergman. Function-theoretical properties of solutions of partial differential equations of elliptic type, by L. Bers. On a generalization of quasi-conformal mappings and its application to elliptic partial differential equations, by L. Nirenberg. Second order elliptic systems of differential equations, by C. B. Morrey. Conservation laws of certain systems of partial differential equations and associated mappings, by C. Loewner. Parabolic equations, by P D Lax and A. N. Milgram. Linear equations of parabolic type with constant coefficients, by P. C. Rosenbloom. On linear hyperbolic differential equations with variable coefficients on a vector space, by J. Leray. The initial value problem for non-linear hyperbolic equations in two independent variables, by P D Lax. A geometric treatment of linear hyperbolic equations of second order, by A. Douglis. On Cauchy's problem and fundamental solutions, by J. B. Diaz. A boundary value problem for the wave equation and mean value theorems, by M. H Protter.

Note: Papers read at the Conference on Partial Differential Equations organized and sponsored by the National Academy of Sciences—National Research Council, and held at Arden House, New York, in October 1952, are published in this volume. The authors and titles are listed above. Generally speaking, the papers report original research, and are addressed to graduate mathematicians who are interested in the study of the theory of partial differential equations. As printed in this volume, most of the papers include bibliographies.

Bliss, Gilbert Ames

Lectures on the calculus of variations. Chicago University of Chicago Press, 1946 296 p. illus. 23 cm. $6.00 218

Contents: Part I, Simpler problems of the calculus of variations: The calculus of variations in three-space. Sufficient conditions for minima. Fields and the Hamilton-Jacobi theory. Problems in the plane and in higher spaces. Problems in parametric form. Problems with variable end-points. Part II, The problem of Bolza. The multiplier rule. Further necessary conditions for a minimum. Sufficient conditions for a minimum. Appendix. Existence theorems for implicit functions and differential equations. A bibliography for the problem of Bolza. Index.

Note: The first part of this work introduces the reader to the modern theories of the calculus of variations. The second and more advanced part embodies the results of studies by the author and his pupils of the problem of Bolza. The book contains material of interest to professional mathematicians, particularly in the second part. It is also used as a text in graduate mathematics and physics courses. The bibliography of the problem of Bolza cites 77 books and periodical articles.

Bernstein, Dorothy Lewis

Existence theorems in partial differential equations. Princeton Princeton University Press 1950. 228 p illus. 25 cm. (Annals of mathematics studies Emil Artin and Marston Morse, editors. No. 23) $2.50 219

Contents: Introduction. The initial value problem and the problem of Cauchy for first order differential equations. Second order differential equations. Partial differential equations of order > 2. Bibliography.

Note: This study is intended to list the existence theorems used in solving partial differential equations, with special emphasis on those which may be utilized in the solution of such equations by means of digital computing machines. Two opposite approaches to the use of computing machines in problems involving partial differential equations are illustrated by (1) those persons who believe that computing machines can be used to solve all such problems if the equations are set up correctly and (2) those who will not attempt to use them in solving a partial differential equation unless it can be shown to have at least one unique solution. In this book an attempt has been made to reach a compromise by providing the reader with an opportunity to draw an analogy between his problem and the ones the author has worked out. This should enable him to see if a solution exists for his problem. The author is Professor of Mathematics in the University of Rochester.

Boas, Ralph Philip jr.

Entire functions. New York Academic Press Inc., 1954 276 p. illus. 24 cm. (Pure and applied mathematics a series of monographs and textbooks edited by Paul A. Smith and Samuel Eilenberg) $7.00 220

Contents: Introduction. General properties of entire functions of finite order. The minimum modulus. Functions with real negative zeros. General properties of functions of exponential type. Functions of exponential type, restricted on a line—theorems on the large—asymptotic behavior in a half plane. Functions of exponential type—connections between growth and distribution of zeros. Uniqueness theorems. Growth theorems. Operators and their extremal properties. Applications. Bibliography. Index. Index of notations.

Note: The greater part of this book is devoted to functions of exponential type. The author explains the title thus: "My chief aim has been to give an account of the extensive modern theory of functions of exponential type the natural domain for these functions is often a half plane or an angle rather than the whole plane. Thus this book is not a comprehensive treatise on entire functions and is not concerned exclusively with entire functions. However a short and reasonably accurate title seemed preferable to a longer and more descriptive one." Proofs are given for most theorems but in a few instances the theorems are only stated and are marked with asterisks to indicate that the proofs are not included. The last chapter is a survey of applications of entire functions of exponential type to attacking problems in other areas of mathematics. The bibliography though limited to books and papers referred to in the text, is an extensive one.

Bochner, Salomon and K. Chandrasekharan

Fourier transforms. Princeton Princeton University Press 1949 219 p. 23 cm. (Annals of mathematics studies. No. 19) $3.50 221

Contents: Fourier transforms in L_1 (one variable). Fourier transforms in L_1 (several variables). L_2-spaces. Fourier transforms in L_2. General transforms in L_2. General Tauberian theorem. Notes. Glossary.

Note. A series of studies of interest to advanced graduate students and professional mathematicians. Altogether, 93 theorems are stated and proved.

Bochner, Salomon and William Ted Martin

Several complex variables. Princeton Princeton University Press, 1948 216 p. illus. 23 cm. (Princeton mathematical series Marston Morse and others, editors) $4.00 222

Contents: Groups of transformations by formal power-series. Basic facts about analytic functions of real and complex variables. Analytic mappings with a fixed point. Analytic completion. Singularities at boundary points. Inequalities, bounds and norms. The theory of Hartogs—subharmonic functions. Removable singularities. Algebraic theorems. Local analytic varieties. Index.

Note: An introductory presentation for graduate students and mathematicians. The authors have assumed that the reader will have studied advanced calculus and will be familiar with the elementary concepts associated with the Lebesgue integral.

BACON, HAROLD MAILE

Differential and integral calculus Second edition New York McGraw Hill Book Company, Inc., 1955 547 p illus 24 cm $6 00 212

Content Preface. Introduction. Functions and limits. The derivative. General rules for differentiation of algebraic functions. Simple applications of the derivative. Differentiation of trigonometric and inverse trigonometric functions. Differentiation of logarithmic and exponential functions. The differential. Further applications of derivatives and differentials. Polar coordinates. Theorem of the mean, indeterminate forms, and Taylor's theorem. Integration, standard forms. Methods of integration. The definite integral. Geometric applications of the definite integral. Physical applications of the definite integral. Partial differentiation. Multiple integrals. Infinite series. Introduction to differential equations. Brief table of integrals. Answers to odd-numbered problems. Index.

Note The standard topics of an introductory undergraduate course in calculus as taught in colleges and universities in the United States of America are covered in this book. The treatment is not mathematically rigorous. Difficult proof are omitted however special attention is given to explicit and carefully phrased definitions. A special feature is a detailed expository text, ritten so the student can read and understand it without constant assistance from an instructor The first edition was published in 1942 Various revisions in text and problems have been made in this second edition; however the scope and purpose of the book are unchanged. The author is Professor of Mathematics in Stanford University

BATEMAN MANUSCRIPT PROJECT

Higher transcendental functions Based in part, on notes left by Harry Bateman And compiled by the staff of the Bateman Manuscript Project. New York McGraw Hill Book Company Inc., 1953–55 3 v 24 cm. (California Institute of Technology Bateman Manuscript Project, A. Erdélyi editor) Vol. I, $6 50 vol II, $7 50 vol. III, $6 50 213

Contents Volume I The gamma function. The hypergeometric function. Legendre functions. The generalized hypergeometric series. Further generalizations of the hypergeometric function. The confluent hypergeometric function. Subject index. Index of notations. Volume II Bessel functions. Functions f the parabolic cylinder and of the paraboloid of revolution The incomplete gamma functions and related functions. Orthogonal polynomials. Spherical and hyperspherical harmonic polynomials. Orthogonal polynomials in several variables. Elliptic functions and integrals. Subject index. Index of notations. Volume III Automorphic functions. Lamé functions. Mathieu functions, spheroidal and ellipsoidal wave functions. Introduction to the functions of umber theory Miscellaneous functions. Generating functions. Subject index. Index of notations.

Note A voluminous collection f notes made by Professor Harry Bateman f the California Institute of Technology in preparation for comprehensive work on special functions was the starting point f this work. When death cut short Professor Bateman's work on the project, the California Institute of Technology and the United States Office of N val Research organized group of mathematicians headed by Professor Arthur Erdélyi, to continue it. This treatise is product of the group. Organized into chapters whose titles are given above, it presents wide range of information on the transcendental functions. The chapters vary in organization and scope but, generally speaking each is condensed survey intended for reading or reference by graduate pure and applied mathematicians, of a specific class of transcendental functions and designed to orient the reader in the subject. The principal literature is mentioned, ften with an evaluatory comment typical computations are illustrated, and proof are demonstrated.

BATEMAN MANUSCRIPT PROJECT

Tables of integral transforms Based in part, on notes left by Harry Bateman. New York McGraw Hill Book Company Inc. 1954 2 v (California Institute of Technology Bateman Manuscript Project A Erdélyi, editor) Vol I, $7 50 vol. II $8 00 214

Contents Volume I Part I, Fourier transforms Fourier cosine transforms. Fourier sine transforms. Exponential Fourier transforms. Part II, LaPlace transforms In erse LaPlace transforms. Part III, Mellin transforms Inverse Mellin transforms. Appendix. Index of notations. Volume II Part IV Bessel transforms Hankel transforms of order Y-transforms. K-transforms. H-transforms. Kontorovich-Lebedev transforms. Part V Miscellaneous transforms Fractional integrals. Stieltjes transforms. Hilbert transforms. Part VI, Integrals of higher transcendental functions Orthogonal polynomials. Gamma function, incomplete gamma functions and related functions. Legendr functions. Bessel functions. Hypergeometric functions. Appendix. Index of notations.

Note A complementary work to Bateman Memorial Project, *Higher transcendental functions*, described in the preceding entry It presents in tabular form wide range of integral transforms, classified under the headings listed above and, in addition a smaller collection of integrals f higher transcendental functions, most of which can not be written as transforms. It was based partly on the manuscript collections of the late Professor Bateman but contains also transforms and integrals from the periodical literature and some not previously published. In some instances, the material presented in specific sections supplements other books In others, there is no similar material in book form. Literature references are included.

BELLMAN, RICHARD

Stability theory of differential equations New York McGraw Hill Book Company Inc. 1953 166 p 23 cm. $5 50 (International series in pure and applied mathematics, William Ted Martin consulting editor) $5.50 215

Content Properties of linear systems. Stability boundedness, and asymptotic beha ior f solutions of linear systems. The existence and uniqueness of solutions of nonlinear systems. The stability of solutions of nonlinear differential equations. The asymptotic behavior of the solutions of some nonlinear equations f the first order The second-order linear differential equation. The Emden-Fowler equation. Index.

Note An introduction at the first-year gradut level to the modern theory f stability and asymptotic behavior f solutions f real equations. The material presented has been carefully selected. The author states that "no attempt has been made to be encyclopedic and to catalogue every result that possibly falls within our scope. This is neither feasibl nor desirable in an introductory volume. A selected umber of powerful techniques are presented, and bibliographical references are given to books and journal articles in which others may be found.

BERGMAN, STEFAN

The kernel function and conformal mapping New York American Mathematical Society 1950 161 p. 26 cm. (American Mathematical Society Mathematical surveys. No V) $4 00 216

Content Orthogonal functions. The kernel function and associated minimum problems The invariant metric and the method of the minimum integral. Kernel functions and Hilbert space. Representation of the classical domain functions. Canonical conformal transformations. Orthogonalization over the boundary Variational methods. Existence proofs. Partial differential equations. Functions of two complex variables and pseudo-conformal mapping. Bibliography Index.

Note This survey presents number f methods and principles which are f wide applicability in such branches of analysis as function theory partial differential equations, differential geometry etc. The special emphasis here, however is on conformal mappings The underlying idea is to consider linear classes of functions in which norm can be introduced and the notion of orthogonality defined. For each complete system of orthonormal functions in the class kernel function is defined. The classical domain functions, such as Green's and Neumann harmonic measures, etc., are shown to be intimately related to the kernel function. Since the latter is defined in terms f an orthonormal system, it is possible to solve many conformal mapping problems numerically T read this volume considerable mathematical background is required.

CODDINGTON, EARL A. AND NORMAN LEVINSON

Theory of ordinary differential equations. New York McGraw Hill Book Company Inc., 1955 429 p. illus. 24 cm (International series in pure and applied mathematics W T Martin, consulting editor) $8.50 230

Contents: Existence and uniqueness of solutions. Linear differential equations. Linear systems with isolated singularities—singularities of the first kind—singularities of the second kind. Asymptotic behavior of linear systems containing a large parameter. Self-adjoint eigenvalue problems on a finite interval. Oscillation and comparison theorems for second-order linear equations and applications. Singular self-adjoint boundary-value problems for second-order equations. Singular self-adjoint boundary-value problems for nth-order equations. Algebraic properties of linear boundary-value problems on a finite interval. Non-self-adjoint boundary-value problems. Asymptotic behavior of nonlinear systems—stability. Perturbation of systems having a periodic solution. Perturbation theory of two-dimensional real autonomous systems. The Poincaré-Bendixson theory of two-dimensional autonomous systems. Differential equations on a torus. References. Index.

Note: Although organized for use as a text, this book is a broad and rigorous treatment of the theory of ordinary differential equations. It contains original results developed by the authors, in addition to material taken from the published literature. It is of interest to graduate mathematicians as well as to graduate students.

COURANT, RICHARD

Differential and integral calculus. Translated by E. J. McShane. New York Interscience Publishers, Inc. 1936–37 2 vols. 22 cm. illus. Vol. i, $6.00 vol. ii, $7.50 231

Contents (abridged): Volume i: The fundamental ideas of the integral differential calculus. Differentiation and integration of the elementary functions. Further development of the integral calculus. Applications. Taylor's theorem and the approximate expression of functions by polynomials. Numerical methods. Infinite series and other limiting processes. Fourier series. A sketch of the theory of functions of several variables. The differential equations for the simplest types of vibration. Summary of important theorems and formulas. Miscellaneous examples. Answers and hints. Index. Volume ii: Preliminary remarks on analytical geometry and vector analysis. Functions of several variables and their derivatives. Developments and applications of the differential calculus. Multiple integrals. Integration over regions of several dimensions. Differential equations. Calculus of variations. Functions of a complex variable. Supplement: Real numbers and the concept of limit. Miscellaneous examples. Summary of important theorems and formulas. Answers and hints. Index.

Note: This work has achieved the status of a classic exposition of the calculus. First published in the German language, the translation was made by an eminent American mathematician after Professor Courant took up residence in the United States of America. The English translation is arranged somewhat differently and contains matter not in the German original, these alterations having been made in collaboration between the author and translator. The presentation is concise and mathematically rigorous, but the author incorporated several features to make the work attractive rather than formidable. The discussions, especially those in the first volume, are written out fully and certain fundamental though difficult concepts and techniques are segregated in appendices to the separate chapters where they can be skipped at first reading if necessary. A considerable number of worked examples are included as well as problems for the reader. A current set consists of Volume i, second edition, 1937 and Volume ii, first edition, 1936.

DOUGLASS, RAYMOND DONALD AND SAMUEL D ZELDIN

Calculus and its applications. New York Prentice-Hall Inc., 1947 568 p. illus 21 cm. (Prentice Hall mathematics series Albert A. Bennett, editor) $5 75 232

Contents: Functions and limits. Differentiation. Applications; maxima and minima, rates. Differential and integral. Differentiation and integration of trigonometric and exponential functions. Summation and definite integration. Methods of integration. Geometrical applications and parametric equations. Polar coordinates. Centroid and moment of inertia. Partial differentiation. Double integration. Infinite series. Ordinary differential equations. Vectors. Mathematical tables. Answers to exercises. Index.

Note: In this college text the authors have made an effort to adapt their subject to meet the special needs of students of the physical and engineering sciences. The form of presentation is concise, with proofs of formulas and explanatory discussions reduced to a minimum. Numerous worked-out examples and review problems are used to illustrate the applications of calculus to the solution of scientific and engineering problems. The authors are Professors of Mathematics at Massachusetts Institute of Technology

DWYER, PAUL SUMNER

Linear computations. New York John Wiley & Sons Inc., 1951 344 p 24 cm. (Wiley publications in statistics Walter A. Shewhart, editor) $7.00 233

Contents (abridged): Computation with approximate numbers. The principles of computational design. The solution of simultaneous equations with the method of multiplication and subtraction. The method of multiplication and subtraction with (exact) division—method of determinants. The solution of equations with approximate methods. Relations between the coefficients. The evaluation of determinants and determinantal ratios. The evaluation of linear forms. An introduction to the algebra of matrices. The inverse matrix and its calculation with approximate methods. The calculation of the adjoint and inverse with the method of determinants. Other methods. The errors of linear computations. Application to statistics. Author references. Index.

Note: The author has published many papers on problems pertaining to the solution of simultaneous linear equations. In this book, he has synthesized the material and presented it especially for those who are not specialists in mathematics. In his words, "special emphasis is given to solutions with direct pivotal condensation methods that are particularly applicable to the modern desk calculator." The first chapter contains a concise discussion of certain fundamental operations of modern computing machines and a helpful bibliography. The book is of interest to scientific workers in many fields, including statistics.

ERDÉLYI, A.

Asymptotic expansions. New York Dover Publications, Inc., 1956 108 p. illus 21 cm. $1.35 234

Contents: Asymptotic series. Integrals. Singularities of differential equations. Differential equations with a large parameter.

Note: As pointed out in the introduction to this book, asymptotic series are also called "semi-convergent series" and "convergently beginning series." The book is an introduction to various methods for the asymptotical evaluation of integrals containing a large parameter and to the study of solutions of ordinary linear differential equations by asymptotic expansion techniques. The first chapter deals rather briefly with the general theory. The second chapter is a presentation of important methods, such as Laplace's method, the method of steepest descent, and the method of stationary phase. In the last two chapters, the theory and techniques are applied to the solution of ordinary differential equations having an independent variable or a parameter as the "large" quantity. The book was first published as an Office of Naval Research report. This edition, which contains the unaltered text of the ONR report, is the first trade edition.

FLUGGE, W

Four-place tables of transcendental functions. New York Pergamon Press Inc., 1954 136 p. 23 cm. $3 00. 235

Contents: Instructions for the use of the tables. Trigonometric and hyperbolic functions. Exponential function and logarithm. Bessel functions. Theta functions. Elliptic integrals. Miscellaneous transcendental functions. Transcendental constants.

Note: This book of tables of transcendental functions is designed as a working tool for the engineer and the physicist. It has been compiled from many large volumes of multi-digit mathematical tables, in order to make a selection of the most useful tables available in handy form for frequent use. Prepared for use with the slide rule, it contains values of functions commonly used with and also a collection of those formulas which are needed to handle the functions.

BRAND, LOUIS

Advanced calculus an introduction to classical analysis New York John Wiley & Sons, Inc., 1955 574 p 24 cm $8 50 223

Contents The number system. Sequences and series. Functions of a real variable. Functions of several variables. Vectors. The definite integral. Improper integrals. Line integrals. Multiple integrals. Uniform convergence. Functions of a complex variable. Fourier series. Appendixes. Comprehensive text. Answers to problems. Index.

Note: A systematic exposition of classical analysis, that is, of the functions of a real variable. The chapter on functions of a complex variable has been included only because it is essential to a full understanding of real variable theory The presentation is mathematically rigorous however the uthor has made use of several devices to facilitate comprehension on the part of the reader These include numerous examples in the expository text problems for the reader inserted close to the exposition on which they are based, rather than at the end of the chapter; and concise chapter summaries. The uthor is Head of the Department of Mathematics f the University of Cincinnati.

BRITTON, JACK R.

Calculus. New York Rinehart and Company, Inc., 1956 584 p illus 23 cm (C. V Newsom, consulting editor) $6 50 224

Contents The velocity and the tangent problems. Some fundamental notions. The derivative and its direct interpretations. The derivative of a power and of polynomial additional applications. The limit concept and continuity Theorems on derivatives. Maximum and minimum value problems. Differentials. The definite integral. The exponential and logarithmic functions. The trigonometric and inverse trigonometric functions. Methods of integration. Rate problems; curvilinear motion. Further applications of integration. The mean value theorem. Infinite series. Power series and expansion of functions. Hyperbolic functions. Approximate integration. Partial differentiation. Applications of partial differentiation. Multiple integrals. Differential equations. The use of table of integrals. Appendixes Some infinite series for reference. Curves for reference. Numerical tables. Answers to odd-numbered problems. Index.

Note A textbook designed for use in full-length introductory college courses. Its principal features include good organization and full, readable explanations which do not sacrifice mathematical rigor The author is Professor of Applied Mathematics in the University of Colorado.

BUCK, R CREIGHTON

Advanced calculus New York McGraw Hill Book Company Inc., 1956 423 p illus. 23 cm. (International series in pure and applied mathematics, William Ted Martin, consulting editor) $8 50 225

Content Elementary topology Functions. Integration. Convergence. Differentiation. Applications to geometry and analysis. Elements of differential geometry Appendix Foundations of the number system. Answers and hints. List of symbols. Index.

Note. A college text designed for the instruction of students who have completed courses in elementary calculus. It is devoted primarily to the differential and integral calculus of functions and transformations. In most sections the treatment is mathematically rigorous, *but occasionally the reader is referred to other* books for proofs. Several hundred exercises for the reader to solve are included, and answers are furnished for most of them.

CAMP, E J

Mathematical analysis, an introduction for college students Boston D C Heath and Company 1956 610 p illus 24 cm. $6 50 226

Contents Coordinates, graphs, and functions. Sequences, series, and limits. Derivatives. Antiderivatives. Polynomials and equations of first degree. Extension of the number system. Polynomials and equations of second degree—of higher degree. Exponents and radicals. Algebraic functions, rational and irrational. Exponential and logarithmic functions. Trigonometric functions and applications. Radian measure—graphs of the trigonometric functions. Fundamental identities—trigonometric equations. Solution of oblique triangles. Inverse trigonometric functions—trigonometric equations. Systems of first-degree equations—determinants. Equations of geometric loci—the circle. The conic sections. Polar coordinates. Transformation of coordinates. Parametric equations. Analytic geometry of points, lines, and planes in three dimensions. Quadric surfaces. Permutations, combinations, and probability Tables. Answers. Index.

Note. A well-organized, modern text designed for use in courses at the beginning undergraduate level which are offered to students who have studied algebra in secondary school. The author is Chairman of the Department of Mathematics of Macalester College.

CHEVALLEY, CLAUDE

Introduction to the theory of algebraic functions of one variable. New York American Mathematical Society, 1951 188 p 26 cm. (American Mathematical Society Mathematical surveys No VI) $4 00 227

Contents Places and divisors. The theorem of Riemann-Roch. The *p*-adic completions. Extensions of fields of algebraic functions of one variable. Extensions of the field of constants. Exact differentials. The Riemann surface. Index.

Note Expositions of the theory of algebraic functions of one variable are more or less bound to lay more emphasis either on the algebraico-arithmetic aspect of the subject or the geometric aspect. This book favors the algebraico-arithmetic approach as originally advanced by Dedekind and Weber and later developed by Hensel and Landsberg. The main difference between the present treatment and earlier ones is that the constants of the fields of algebraic functions to be considered are not necessarily the complex numbers but the elements of a completely arbitrary field. This book includes only the elementary part of the theory More advanced topics, such as class field theory and the theory f correspondences, have been omitted. However a suitable background of knowledge for the study of these more advanced topics has been provided.

CHURCHILL, RUEL VANCE

Fourier series and boundary value problems New York McGraw Hill Book Company, Inc., 1941 206 p illus 23 cm $4 50 228

Contents Introduction. Partial differential equations of physics. Orthogonal sets of functions. Fourier series. Further properties of Fourier series Fourier integrals. Solution f boundary value problems by the use of Fourier series and integrals. Uniqueness of solutions. Bessel functions and applications. Legendre polynomials and applications. Index.

Note Presents an introductory treatment of Fourier series and their application to the solution f boundary value problems in the partial differential equations of physics and engineering. The book seeks first to equip the student with that part of the theory of orthogonal sets of functions which is essential to the usual applications arising in the physical sciences and second, to give him thorough knowledge of the classical process of solving boundary value problems in partial differential equations, with the aid of those expansions in series of orthogonal functions.

CHURCHILL, RUEL VANCE

Introduction to complex variables and applications. New York McGraw Hill Book Company Inc., 1948 216 p illus. 23 cm $5.50 229

Contents Complex numbers. Analytic functions. Elementary functions. The geometry of elementary functions. Integrals. Power series. Residues and poles. Conformal mapping. Applications of conformal mapping. The Schwarz-Christoffel transformation. Analytic continuation. Riemann surfaces. Appendices Bibliography Table of transformations of regions. Index.

Note. The major portion f this text outlines the basic concepts and theory of complex variables as utilized in solving linear boundary value problems. Particular emphasis is placed on the theory of residues and conformal mapping The practical application of these methods to problems in potentials, steady temperatures, and flow of fields is covered briefly in the four final chapters. The treatment is concise and intended for the use of graduate students in physics, engineering, and mathematics.

CODDINGTON, EARL A. AND NORMAN LEVINSON

Theory of ordinary differential equations. New York McGraw Hill Book Company Inc., 1955 429 p. illus. 24 cm. (International series in pure and applied mathematics W T Martin, consulting editor) $8.50 230

Contents: Existence and uniqueness of solutions. Linear differential equations. Linear systems with isolated singularities—singularities of the first kind—singularities of the second kind. Asymptotic behavior of linear systems containing a large parameter. Self-adjoint eigenvalue problems on a finite interval. Oscillation and comparison theorems for second-order linear equations and applications. Singular self-adjoint boundary-value problems for second-order equations. Singular self-adjoint boundary-value problems for nth-order equations. Algebraic properties of linear boundary-value problems on a finite interval. Non-self-adjoint boundary-value problems. Asymptotic behavior of nonlinear systems—stability. Perturbation of systems having a periodic solution. Perturbation theory of two-dimensional real autonomous systems. The Poincaré-Bendixson theory of two-dimensional autonomous systems. Differential equations on a torus. References. Index.

Note: Although organized for use as a text, this book is a broad and rigorous treatment of the theory of ordinary differential equations. It contains original results developed by the authors, in addition to material taken from the published literature. It is of interest to graduate mathematicians as well as to graduate students.

COURANT RICHARD

Differential and integral calculus. Translated by E. J McShane. New York Interscience Publishers Inc., 1936–37 2 vols. 22 cm. illus. Vol. i, $6.00 vol. ii, $7.50 231

Contents (abridged): Volume i: The fundamental ideas of the integral differential calculus. Differentiation and integration of the elementary functions. Further development of the integral calculus. Applications. Taylor's theorem and the approximate expression of functions by polynomials. Numerical methods. Infinite series and other limiting processes. Fourier series. A sketch of the theory of functions of several variables. The differential equations for the simplest types of vibration. Summary of important theorems and formulae. Miscellaneous examples. Answers and hints. Index. Volume ii: Preliminary remarks on analytical geometry and vector analysis. Functions of several variables and their derivatives. Developments and applications of the differential calculus. Multiple integrals. Integration over regions of several dimensions. Differential equations. Calculus of variations. Functions of a complex variable. Supplement: Real numbers and the concept of limit. Miscellaneous examples. Summary of important theorems and formulae. Answers and hints. Index.

Note: This work has achieved the status of a classic exposition of the calculus. First published in the German language, the translation was made by an eminent American mathematician after Professor Courant took up residence in the United States of America. The English translation is arranged somewhat differently and contains matter not in the German original, these alterations having been made in collaboration between the author and translator. The presentation is mature and mathematically rigorous, but the author has incorporated several features to make the work attractive rather than formidable. The discussions, especially those in the first volume, are written out fully and certain fundamental though difficult concepts and techniques are segregated in appendices to the separate chapters where they can be skipped at first reading if necessary. A considerable number of worked examples are included as well as problems for the reader. A current set consists of Volume i, second edition, 1937 and Volume ii, first edition, 1936.

DOUGLASS RAYMOND DONALD AND SAMUEL D ZELDIN

Calculus and its applications. New York Prentice-Hall Inc., 1947 568 p. illus. 21 cm. (Prentice-Hall mathematics series Albert A. Bennett, editor) $5 75 232

Contents: Functions and limits. Differentiation. Applications. Maxima and minima, rates. Differential and integral. Differentiation and integration of trigonometric and exponential functions. Summation and definite integration. Methods of integration. Geometrical applications and parametric equations. Polar coordinates. Centroid and moment of inertia. Partial differentiation. Double integration. Infinite series. Ordinary differential equations. Vectors. Mathematical tables. Answers to exercises. Index.

Note: In this college text the authors have made an effort to adapt their subject to meet the special needs of students of the physical and engineering sciences. The form of presentation is concise, with proofs of formulas and explanatory discussions reduced to a minimum. Numerous worked-out examples and review problems are used to illustrate the applications of calculus to the solution of scientific and engineering problems. The authors are Professors of Mathematics at Massachusetts Institute of Technology.

DWYER PAUL SUMNER

Linear computations. New York John Wiley & Sons Inc., 1951 344 p. 24 cm. (Wiley publications in statistics Walter A. Shewhart, editor) $7.00 233

Contents (abridged): Computation with approximate numbers. The principles of computational design. The solution of simultaneous equations with the method of multiplication and subtraction. The method of multiplication and subtraction with (exact) division—method of determinants. The solution of equations with approximate methods. Relations between the coefficients. The evaluation of determinants and determinantal ratios. The evaluation of linear forms. An introduction to the algebra of matrices. The inverse matrix and its calculation with approximate methods. The calculation of the adjoint and inverse with the method of determinants. Other methods. The errors of linear computations. Applications to statistics. Author references. Index.

Note: The author has published many papers on problems pertaining to the solution of simultaneous linear equations. In this book, he has synthesized the material and presented it especially for those who are not specialists in mathematics. In his words, "special emphasis is given to solutions with direct pivotal condensation methods that are particularly applicable to the modern desk calculator." The first chapter contains a concise discussion of certain fundamental operations of modern computing machines and a helpful bibliography. The book is of interest to scientific workers in many fields, including statistics.

ERDÉLYI, A.

Asymptotic expansions. New York Dover Publications Inc., 1956 108 p. illus. 21 cm. $1.35 234

Contents: Asymptotic series. Integrals. Singularities of differential equations. Differential equations with a large parameter.

Note: As pointed out in the introduction to this book, asymptotic series are also called "semi-convergent series" and "convergently beginning series." The book is an introduction to various methods for the asymptotical evaluation of integrals containing a large parameter and to the study of solutions of ordinary linear differential equations by asymptotic expansion techniques. The first chapter deals rather briefly with the general theory. The second chapter is a presentation of important methods, such as Laplace's method, the method of steepest descent, and the method of stationary phase. In the last two chapters, the theory and techniques are applied to the solution of ordinary differential equations having an independent variable or a parameter as the "large" quantity. The book was first published as an Office of Naval Research report. This edition, which contains the unaltered text of the ONR report, is the first trade edition.

FLÜGGE, W

Four-place tables of transcendental functions. New York Pergamon Press Inc., 1954 136 p. 23 cm. $5.00 235

Contents: Instructions for the use of the tables. Trigonometric and hyperbolic functions. Exponential function and logarithm. Bessel functions. Thomson functions. Elliptic integrals. Miscellaneous transcendental functions. Transcendental constants.

Note: This book of tables of transcendental functions is designed as a working tool for the engineer and the physicist. It has been compiled from many large volumes of multi-digit mathematical tables, in order to make a selection of the most useful tables available in handy form for frequent use. Prepared for use with the slide rule, it contains values of functions commonly met with and also a collection of those formulas which are needed to handle the functions.

BRAND, LOUIS

Advanced calculus, an introduction to classical analysis New York John Wiley & Sons, Inc., 1955 574 p 24 cm. $8 50 223

Contents: The number system. Sequences and series. Functions of a real variable. Functions of several variables. Vectors. The definite integral. Improper integrals. Line integrals. Multiple integrals. Uniform convergence. Functions of a complex variable. Fourier series. Appendixes. Comprehensive test. Answers to problems. Index.

Note: A systematic exposition of classical analysis, that is, of the functions of a real variable. The chapter on functions of a complex variable has been included only because it is essential to full understanding of real variable theory The presentation is mathematically rigorous however the author has made use of several devices to facilitate comprehension on the part of the reader These include numerous examples in the expository text problems for the reader inserted close to the exposition on which they are based, rather than at the end of the chapter and concise chapter summaries. The author is Head of the Department of Mathematics of the University of Cincinnati.

BRITTON, JACK R.

Calculus New York Rinehart and Company, Inc., 1956 584 p illus 23 cm. (C. V Newsom, consulting editor) $6 50 224

Contents The velocity and the tangent problems. Some fundamental notions. The derivative and its direct interpretations. The derivative of a power and of a polynomial additional applications. The limit concept and continuity Theorems on derivatives. Maximum and minimum value problems. Differentials. The definite integral. The exponential and logarithmic functions. The trigonometric and inverse trigonometric functions. Methods of integration. Rate problems, curvilinear motion Further applications of integration. The mean value theorem. Infinite series. Power series and expansion of functions. Hyperbolic functions. Approximate integration. Partial differentiation. Applications of partial differentiation. Multiple integrals. Differential equations. The use of a table of integrals. Appendixes: Some infinite series for reference. Curves for reference. Numerical tables. Answers to odd-numbered problems. Index.

Note A textbook designed for use in full-length introductory college courses. Its principal features include good organization and full, readable explanations which do not sacrifice mathematical rigor The author is Professor of Applied Mathematics in the University of Colorado.

BUCK, R. CREIGHTON

Advanced calculus New York McGraw Hill Book Company, Inc., 1956 423 p illus 23 cm. (International series in pure and applied mathematics, William Ted Martin, consulting editor) $8 50 225

Contents Elementary topology Functions. Integration. Convergence. Differentiation. Applications to geometry and analysis. Elements of differential geometry Appendix Foundations of the number system. Answers and hints. List of symbols. Index.

Note: A college text designed for the instruction of students who have completed courses in elementary calculus. It is devoted primarily to the differential and integral calculus f functions and transformations. In most sections the treatment is mathematically rigorous, but occasionally the reader is referred to other books for proofs. Several hundred exercises for the reader to solve are included, and answers are furnished for most of them.

CAMP, E J

Mathematical analysis an introduction for college students. Boston D C. Heath and Company, 1956 610 p illus. 24 cm. $6.50. 226

Contents Coordinates, graphs, and functions. Sequences, series, and limits. Derivatives. Antiderivatives. Polynomials and equations of first degree. Extension of the number system. Polynomials and equations of second degree—of higher degree. Exponents and radicals. Algebraic functions, rational and irrational. Exponential and logarithmic functions. Trigonometric functions and applications. Radian measure—graphs of the trigonometric functions. Fundamental identities—trigonometric equations. Solution of oblique triangles. Inverse trigonometric functions—trigonometric equations. Systems of first-degree equations—determinants. Equations of geometric loci—the circle. The conic sections. Polar coordinates. Transformation of coordinates. Parametric equations. Analytic geometry of points, lines, and planes in three dimensions. Quadric surfaces. Permutations, combinations, and probability Tables. Answers. Index.

Note. A well-organized, modern text designed for use in courses at the beginning undergraduate level which are offered to students who have studied algebra in secondary school. The author is Chairman of the Department of Mathematics of Macalester College.

CHEVALLEY, CLAUDE

Introduction to the theory of algebraic functions of one variable. New York American Mathematical Society, 1951 188 p 26 cm. (American Mathematical Society Mathematical surveys. No vi) $4 00 227

Contents Places and divisors. The theorem of Riemann-Roch. The *p*-adic completions. Extensions of fields of algebraic functions of one variable. Extensions of the field of constants. Exact differentials. The Riemann surface. Index.

Note. Expositions of the theory of algebraic functions of one variable are more or less bound to lay more emphasis either on the algebraico-arithmetic aspect of the subject or the geometric aspect. This book favors the algebraico-arithmetic approach as originally advanced by Dedekind and Weber and later developed by Hasse and Landsberg. The main difference between the present treatment and earlier ones is that the constants of the fields of algebraic functions to be considered are not necessarily the complex numbers but the elements of completely arbitrary field. This book includes only the elementary part of the theory More advanced topics, such as class field theory and the theory of correspondences, have been omitted. However a suitable background of knowledge for the study of these more advanced topics has been provided.

CHURCHILL, RUEL VANCE

Fourier series and boundary value problems New York McGraw Hill Book Company, Inc., 1941 206 p illus 23 cm $4 50 228

Contents. Introduction. Partial differential equations of physics. Orthogonal sets of functions. Fourier series. Further properties of Fourier series Fourier integrals. Solution of boundary value problems by the use of Fourier series and integrals. Uniqueness of solutions. Bessel functions and applications. Legendre polynomials and applications. Index.

Note. Presents an introductory treatment of Fourier series and their application to the solution of boundary value problems in the partial differential equations of physics and engineering. The book seeks first to equip the student with that part of the theory f orthogonal sets f functions which is essential to the usual applications arising in the physical sciences and second, to give him thorough knowledge of the classical process of solving boundary value problems in partial differential equations, with the aid of these expansions in series of orthogonal functions.

CHURCHILL, RUEL VANCE

Introduction to complex variables and applications. New York McGraw Hill Book Company, Inc., 1948 216 p illus. 23 cm. $5 50 229

Contents. Complex numbers. Analytic functions. Elementary functions. The geometry of elementary functions. Integrals. Power series. Residues and poles. Conformal mapping. Applications f conformal mapping. The Schwarz-Christoffel transformation. Analytic continuation. Riemann surfaces. Appendixes Bibliography Table of transformations of regions. Index.

Note The major portion of this text outlines the basic concepts and theory of complex variables as utilized in solving linear boundary value problems. Particular emphasis is placed on the theory of residues and conformal mapping. The practical application of these methods to problems in potentials, steady temperatures, and flow of fluids is covered briefly in the four final chapters. The treatment is concise and intended for the use of graduate students in physics, engineering, and mathematics.

HALMOS PAUL RICHARD

Measure theory Princeton D Van Nostrand Company Inc., 1950 304 p illus. 24 cm. (The university series in higher mathematics editorial board, M H. Stone chairman) $6.25 243

Contents: Sets and classes. Measures and outer measures. Extension of measures. Measurable functions. Integration. General set functions. Product spaces. Transformations and functions. Probability. Locally compact spaces. Haar measure. Measure and topology in groups. References. Bibliography. List of frequently used symbols. Index.

Note: This work is both a textbook for graduate students of mathematics and a treatise of interest to professional mathematicians who are working in the more advanced areas of analysis and topology. The text proper is limited more or less to the fundamentals of measure theory but in certain of the exercises the author has assumed on the part of the reader knowledge of advanced concepts in topology, etc. Thus he has made the book of interest both to beginners and to those who have done previous work in the field. He is Associate Professor of Mathematics at the University of Chicago.

HART WILLIAM L.

Calculus. Boston D C. Heath and Company 1955 626 p. illus. 24 cm. $6.50 244

Contents: Rates of change. Limits. The derivative. Differentiation of algebraic functions. [illegible] Applications of derivatives. Differentials and parametric form. Differentiation of transcendental functions. Applications to polar coordinates. Mean value theorem. Introduction to definite integrals. Integration by standard forms. Integration by special methods. Applications of definite integrals. Advanced integration. Length of arc and curvature. Solid analytic geometry. Introduction to partial differentiation. Double integrals. Moments in a plane. Triple integrals. Infinite series. Expansion of functions. Advanced topics in partial differentiation. Envelopes, space curves, and surfaces. Advanced applications of partial derivatives. Hyperbolic functions. Differential equations. Appendix. Answers to exercises. Index.

Note: A substantial introductory designed for instruction of college students who are taking their first course in calculus. It has a number of interesting pedagogical features and is published in an attractive format. The author is a member of the faculty of the University of Minnesota.

HARVARD UNIVERSITY COMPUTATION LABORATORY

Tables of the Bessel functions of the first kind of orders zero and one. Cambridge, Mass. Harvard University Press, 1947 650 p. 28 cm. (Harvard University Computation Laboratory Annals. Vol. III) $8.00. 245

—— Tables of the Bessel functions of the first kind of orders two and three. Cambridge, Mass. Harvard University Press 1947 650 p. 27 cm. (Harvard University Computation Laboratory Annals. Vol. IV) $8.00. 246

—— Tables of the Bessel functions of the first kind of orders four five and six. Cambridge, Mass Harvard University Press 1947 650 p. 27 cm. (Harvard University Computation Laboratory Annals Vol. V) $8.00 247

—— Tables of the Bessel functions of the first kind of orders seven, eight, and nine. Cambridge Mass Harvard University Press 1946. 644 p. 27 cm. (Harvard University Computation Laboratory Annals Vol. VI) $8.00 248

—— Tables of the Bessel functions of the first kind of orders ten, eleven, and twelve. Cambridge Mass. Harvard University Press 1947 656 p. 28 cm (Harvard University Computation Laboratory Annals. Vol. VII) $8.00 249

—— Tables of the Bessel functions of the first kind of orders thirteen, fourteen, and fifteen. Cambridge Mass. Harvard University Press 1947 617 p. 27 cm. (Harvard University Computation Laboratory Annals Vol. VIII) $8.00 250

—— Tables of the Bessel functions of the first kind of orders sixteen, through twenty seven. Cambridge Mass Harvard University Press 1948 764 p 27 cm. (Harvard University Computation Laboratory Annals Vol. IX) $8.00 251

—— Tables of the Bessel functions of the first kind of orders twenty-eight through thirty nine. Cambridge Mass Harvard University Press, 1948 694 p 27 cm. (Harvard University Computation Laboratory Annals. Vol. X) $8.00 252

—— Tables of the Bessel functions of the first kind of orders forty through fifty-one. Cambridge Mass. Harvard University Press 1948 6?0 p. 27 cm. (Harvard University Computation Laboratory Annals. Vol. XI) $8.00. 253

—— Tables of the Bessel functions of the first kind of orders fifty two through sixty three. Cambridge Mass. Harvard University Press, 1949 544 p. 27 cm. (Harvard University Computation Laboratory Annals Vol. XII) $8.00 254

—— Tables of the Bessel functions of the first kind of orders sixty four through seventy-eight. Cambridge Mass Harvard University Press, 1949 566 p. 27 cm. (Harvard University Computation Laboratory Annals Vol. XIII) o.p. 255

—— Tables of the Bessel functions of the first kind of orders seventy-nine through one hundred thirty-five. Cambridge Mass Harvard University Press, 1951 614 p. 27 cm. (Harvard University Computation Laboratory Annals. Vol. XIV) o.p. 256

FORD, LESTER R

Differential equations Second edition. New York McGraw Hill Book Company, Inc., 1955 291 p illus 24 cm. $5 00 236

Contents Introduction to differential equations. Special methods for the equation of the first order Linear equations of the second order General linear equations. The method of successive approximations. Systems of ordinary equations. Certain classical equations. Interpolation and numerical integration The numerical solution of differential equations. Partial differential equations of the first order Partial differential equations of the second order Index.

Note A long-established college textbook, the first edition of which was published in 1933 In the introductory material and in connection with equations of the first order geometrical and intuitive aspects are emphasized, and use is made of graphical elements to give the student a pictorial view of problems. In chapters that follow the introductory one, the treatment is more rigorous and makes less use of graphical representation. Although the level and general scope of the book have not been changed in this second edition important revisions and additions have been made in both the text and problems. Expository matter now includes more fully worked examples. Also added are several topics, including Riccati's equation and the Laplace transform. Answers are not included for all the problems.

FRANKLIN, PHILIP

Methods of advanced calculus. New York *McGraw Hill Book Company, Inc., 1944* 486 p illus 21 cm $7 00 237

Contents (abridged) Elementary functions for complex values and Taylor's series. Partial differentiation and implicit functions. Vectors, curves, and surfaces in space. Integration. The definite integral. Multiple integrals. Line integrals. Complex variables. The gamma function and related definite integrals. Elliptic integrals. Vector analysis. Differential equations. Legendre polynomials and Bessel functions. Fourier series and partial differential equations. The calculus of variations and LaGrange's equations. Bibliography Answers. Index.

Note A standard exposition designed primarily for the instruction of advanced students of science and engineering. Elementary calculus is reviewed in the first chapter then follow treatments of the topics named in the chapter titles listed above.

FRANKLIN, PHILIP

A treatise on advanced calculus including *those parts of the theory of functions of real* and complex variables which form the logical basis of the infinitesimal calculus and its applications to geometry and physics. New York John Wiley & Sons Inc. 1940 595 p *illus 23 cm. $7 50* 238

Content Real numbers. Limits of functions Exponential, logarithmic, and trigonometric functions. Differentiation. Complex numbers. Integration. Integrable functions. Extensions and applications of integration. Infinite series and infinite products. Partial differentiation. Multiple integration Sequences of functions. Functions of complex variables. Fourier series and integrals Differential equations. The gamma function and other definite integrals. Bibliography Index.

Note A textbook for students majoring in mathematics and for graduate students who desire more logical treatment of the subject than is feasible in first course. The Taylor series is studied at length and derived by the use of analytic functions, and an existence theorem for implicit functions is established in connection with partial differentiation. Elliptic integrals, Reimann integration of bounded functions, and the Stieltjes integral are also discussed.

GOLOMB, MICHAEL, AND MERRILL SHANKS

Elements of ordinary differential equations New York *McGraw Hill Book Company* Inc., 1950 356 p 24 cm. (International series in pure and applied mathematics William Ted Martin, consulting editor) $5 00 239

Contents Review and collection of formulas. Geometric fundamentals for first-order differential equations. Techniques for solving first-order equations applications. Second-order differential equations. Linear differential equations of higher order: constant coefficients. Algebra of inverse operators systems of linear differential equations. Linear equations with variable coefficients. Solution in power series some classical equations. Appendices. Bibliography Answers. Index.

Note An introductory textbook designed for use in courses offered to college students who have completed a course in elementary calculus. Special pedagogical features listed by the authors in the preface are early emphasis on geometric and numerical methods, use of the superposition principle, use of the existence theorems in development of techniques, elementary but mathematically sound development of operational calculus, systems of equations treated carefully without use of matrices, use of Green's functions and elementary but precise treatment of power series. The authors are members of the faculty of Purdue University

GRAVES, LAWRENCE M

The theory of functions of real variables Second edition New York McGraw Hill Book Company, Inc. 1956 375 p 23 cm. (International series in pure and applied mathematics, William Ted Martin, consulting editor) $7 50 240

Content Introduction. The real number system. Point sets. Functions and their limits properties of continuous functions. Fundamental theorems on differentiation The Riemann integral. Uniform convergence Functions defined implicitly Ordinary differential equations The Lebesgue integral. The Stieltjes integral. The theory of sets and transfinite numbers. Metric spaces. Index.

Note. A textbook designed as an introduction to the theory of functions of real variables. In addition to the customary introduction and treatment of this subject by development of the necessary principles of formal logic followed by study of function behavior some of the more general theorems on implicit functions, differential equations, and the Lebesgue and Stieltjes integrals also are included. The first edition was published in 1946. The major change in this second edition is the addition of the two terminal chapters. The chapters carried over have been revised to the extent that errors have been corrected, and some proofs have been simplified.

GRIFFITHS, LOIS WILFRED

Introduction to the theory of equations. Second edition. New York John Wiley & Sons, Inc. 1947 278 p illus 22 cm $4 00 241

Contents. Binomial equations. Cubic and quartic equations. General theorems on roots of polynomial equations Isolation and computation of real roots of real polynomial equations. Introduction to determinants. Determinants. Systems of linear equations and determinants. Complex numbers and the fundamental theorem of algebra. Symmetric functions. Bibliography Answers. Index.

Note. A textbook intended principally for college students who are planning to major in mathematics. Plane trigonometry plane analytic geometry and differential calculus are prerequisites. Inductive reasoning is used in the development of theorems for example, third, fourth and fifth order determinants are defined first, and in manner that clarifies the more complicated definition of the nth order which follows. Restatement is constantly used to help the student through *difficult proofs. De Moivre's* theorem, Sturm theorem, Descartes' rule, and Horner's method are discussed. The work was first published in 1945 under the title of *Determinants and systems of linear equations.*

HAHN, HANS, AND ARTHUR ROSENTHAL

Set functions Albuquerque The University of New Mexico Press 1948 324 p 26 cm $12 50 242

Content Introduction *Additive and totally* additive set functions. Measure. Measurable functions. Integration. Differentiation Bibliography (list of books quoted) List of symbols and signs. Index

Note. This book is based on the senior authors' two-volume work *Reelle Funktionen* (volume 1, Leipzig, *Akademische* Verlagsgesellschaft, 1932) The systematic manner of presentation and the inclusion of detailed proofs make the book of value as text to graduate students in mathematics. Bibliographies are given at the end of each main section.

Ives Howard Chapin

Natural trigonometric functions to seven decimal places for every ten seconds of arc, together with miscellaneous tables. Second edition. New York John Wiley & Sons Inc., 1942 351 p. 25 cm. $12.00 263

Contents: Table 1A, Tangents and cotangents from 0° to 3°. Table 1B, Sines, cosines, tangents and cotangents. Table 2 Length of arc to radius unity. Table 3, Coefficient K for central angles of certain curves. Table 4 Radii from arc definition. Table 5, Radii from chord definition. Table 6, Curves with even foot radii. Table 7 Functions of 1° curve. Table 8 Corrections to tangent distances. Table 9 Corrections to external distances. Table 10, Trigonometric functions: formulas and solution of triangles. Table 11 Minutes in decimals of a degree. Table 12, Units of length and of surface. Table 13, Secants and cosecants. Definitions and theory. Use of tables.

Note: Of value in engineering offices, particularly where calculating machines are used. The book gives tables of proportionate parts. The tables are printed on larger than usual pages and so arranged that reading them is made easy. In this edition, Part I has been expanded to include an entirely new table on the tangents and cotangents of 0° to 3°0' to single seconds. In addition, there is a table of sines, cosines, tangents and cotangents. Part II offers a variety of miscellaneous tables, information, and examples especially adapted to subdivision work.

Jackson Dunham

Fourier series and orthogonal polynomials. La Salle Ill. Open Court Publishing Company 1941 234 p. illus 19 cm. (The Carus mathematical monographs. No 6) $3.00 264

Contents: Fourier series. Legendre polynomials. Bessel functions. Boundary value problems. Double series—Laplace series. The Fourier frequency function. Orthogonal polynomials. Jacobi polynomials. Hermite polynomials. Laguerre polynomials. Convergence. Exercises. Bibliography. Index.

Note: Based on a course given by the author at the University of Minnesota. The treatment is for advanced mathematical students and other readers with a knowledge of calculus and familiarity with mathematical concepts.

John Fritz

Plane waves and spherical means applied to partial differential equations. New York Interscience Publishers Inc. 1955 172 p. illus. 24 cm (Interscience tracts in pure and applied mathematics edited by L. Bers and others) $4.50 265

Contents: Introduction. Decomposition of an arbitrary function into plane waves. The initial value problem for hyperbolic homogeneous equations with constant coefficients. The fundamental solution of a linear elliptic differential equation with analytic coefficients. Identities for spherical means. The theorems of Asgeirsson and Howard. Determination of a function from its integrals over spheres of fixed radius. Differentiability properties of solutions of elliptic systems. Regularity properties for integrals of solutions over time-like lines. Bibliography. Index.

Note: "This tract contains a somewhat heterogeneous collection of results on partial differential equations. The unifying element is the use of certain elementary identities for plane and spherical integrals of an arbitrary function. It is the aim of the author to show how a variety of results of fairly general differential equations follows from these identities."

Kaplan Wilfred

Advanced calculus. Reading, Mass. Addison-Wesley Publishing Company Inc., 1952 679 p. 24 cm. (Addison Wesley mathematics series Eric Reissner consulting editor) $9.00 266

Contents: Introduction. Vectors. Differential calculus of functions of several variables. Vector differential calculus. Integral calculus of functions of several variables. Vector integral calculus. Infinite series. Fourier series and orthogonal functions. Ordinary differential equations. Functions of a complex variable. Partial differential equations. Index.

Note: A college textbook for students who have completed courses in introductory algebra at the college level, analytic geometry and elementary calculus. Although fairly frequent discussions of applications—for instance the application of conformal mapping in hydrodynamics—indicate that the book is designed for engineering students rather than for mathematicians, the treatment is rigorous. Literature references accompany the chapters. The author is Associate Professor of Mathematics in the University of Michigan.

Kaplan, Wilfred, editor

Lectures on functions of a complex variable. Edited by Wilfred Kaplan with the assistance of Maxwell O Reade and Gail S Young. Ann Arbor University of Michigan Press 1955 435 p 24 cm. $10.00 267

Contents: Introductory topological analysis, by G. T. Whyburn. Potential theory and almost-complex manifolds, by D. C. Spencer. Remarks on Riemann surfaces, by L. V. Ahlfors. Univalent functions and linear differential equations, by Z. Nehari. Countability of Riemann surfaces, by R. Kuramochi. Polygonal representation of Riemann surfaces, by K. Kuratowski. Rings of analytic functions, by S. Kakutani. Topologies on the boundary and harmonic measure, by M. Brelot. Topology of R. S. Martin, and Green lines, by M. Brelot. Conjugate nets on an open Riemann surface, by J. Jenkins and M. Morse. The growth of entire and subharmonic functions, by W. K. Hayman. Uniformly normal families, by W. K. Hayman. Local theory of pseudoanalytic functions, by L. Bers. Functionals on Riemann surfaces, by L. Sario. Positive harmonic functions, by L. Sario. Distribution of zeros of polynomials, by P. C. Rosenbloom. Approximation by polynomials, by P. C. Rosenbloom and S. E. Warschawski. Boundary components of abstract Riemann surfaces, by M. Ohtsuka. Conformal deformation, by H. L. Royden. Functions in one complex variable as viewed from the theory of functions in several variables, by S. Bochner. Function-theoretic properties of certain elliptic systems of first-order linear equations, by A. Douglis. Modular functions defined by perturbation mappings, by H. Cohn. Holomorphic continuation of the kernel function and the Bergman metric in several complex variables, by H. J. Bremermann. Regularity criteria in potential theory, by J. L. Ullman. Analytic functions of class H_p, by W. Rudin. Applications of normed linear spaces to function-theoretic extremal problems, by H. S. Shapiro. A topological problem originating in the theory of Riemann surfaces, by W. Rosen. Expansion theorems for analytic functions, by R. C. Buck. Entire functions as limits of polynomials, by J. Korevaar. Curve families and Riemann surfaces, by W. Kaplan. The image of the boundary under a local homeomorphism, by C. J. Titus.

Note: Papers presented at the Conference on Functions of a Complex Variable, held at the University of Michigan, June 17 July 1 1953 are published in this volume. The authors are among the leading mathematicians of the world, and they addressed themselves to graduate mathematicians. In many instances, the results of recent research and study were reported. The wide range of topics covered is obvious from the chapter titles. Some lectures given at the Conference are not printed in the volume because arrangements had been made to publish them elsewhere. The authors and titles of these are listed in the volume's foreword.

Kellogg, Oliver Dimon

Foundations of potential theory. With 30 figures. New York Dover Publications Inc., 1953 384 p. illus. 21 cm. $1.98 268

Contents: The force of gravity. Fields of force. The potential. The divergence theorem. Properties of Newtonian potentials at points of free space—at points occupied by masses. Potentials as solutions of Laplace's equation; electrostatics. Harmonic functions. Electric images; Green's function. Sequences of harmonic functions. Fundamental existence theorems. The logarithmic potential. Bibliographical notes. Index.

Note: A standard systematic account of potential functions. The first three chapters are relatively elementary and are designed for students and other readers making their first study of the subject. The other chapters are more advanced and are mathematically rigorous. The two chapters at the end of the book constitute a critical historical account of the many attempts to prove the fundamental existence theorem. The book was first published in 1929. This edition is an unaltered and unabridged reprint.

Note The above entries represent the complete set of these notable tables of Bessel functions of the first kind. The computations were made on Harvard University's Automatic Sequence Controlled Calculator under contract with the United States Navy For orders zero to three, the calculations are carried to 18 decimal places, and for the other orders to 10 decimal places, with wide range of argument and order five-argument intervals, and a high degree of accuracy previously unobtainable. The tables are reproduced by offset lithography directly from pages typed by typewriters controlled by the calculating machine, thus avoiding errors that might occur in typesetting. Methods of computation are described and directions for interpolating are given in the first volume of the series.

HARVARD UNIVERSITY COMPUTATION LABORATORY

Tables of the function arc sin Z By the staff of the Computation Laboratory Cambridge, Mass Harvard University Press 1956 586 p 27 cm (Harvard University Computation Laboratory Annals Vol. XL) $12 50 257

Contents: The inverse trigonometric and hyperbolic functions in the complex domain. Composition of the tables. Interpolation in the tables. Tables of the function arc sin Z.

Note: The tables published in this volume were computed on Harvard University's Mark IV calculator at the request of the Aeronautical Research Laboratory of the United States Air Force. Both the argument and the function are given in Cartesian form, and the computation is to six decimal places. Pseudo-differences (or alternative methods) are given so as to provide interpolation to within an error of 2×10^{-6} by second order interpolation. The prefatory material includes description of the properties of the trigonometric and hyperbolic functions in the complex domain, discussion of the arrangement and the method of computation of the tables, and a discussion of interpolation methods applicable to the tables, all written by Theodore Singer

HARVARD UNIVERSITY COMPUTATION LABORATORY

Tables of inverse hyperbolic functions By the staff of the Computation Laboratory Cambridge, Mass. Harvard University Press 1949 290 p 27 cm. (Harvard University Computation Laboratory Annals Vol. XX) $8 00 258

Contents Introduction Contents of the tables. Computation of the tables. Interpolation in the tables. Bibliography of tables of inverse hyperbolic functions Table I The inverse hyperbolic tangent $\tanh^{-1}$ for $0 \leq \ < 1$ Table II The inverse hyperbolic sine $\sinh^{-1} x$ for $0 \leq x < 3.5$ Table III The inverse hyperbolic cosine $\cosh^{-1}$ for $1 \leq \ < 3.5$ Table IV The inverse hyperbolic sine and cosine $\sinh^{-1} x$, $\cosh^{-1} x$ for $3.5 \leq x \leq 22{,}980$.

Note The tables in this volume were calculated on the Automatic Sequence Controlled Calculator at Harvard University and are tabulated to nine decimal places with possible error in the ninth place of not more than 0.6 unit.

HARVARD UNIVERSITY COMPUTATION LABORATORY

Tables of the modified Hankel functions of order one-third and of their derivatives Cambridge, Mass Harvard University Press 1945 235 p. illus. 27 cm (Harvard University Computation Laboratory Annals Vol. II) $8 00 259

Contents Introduction Part I, The modified Hankel functions and their properties. Part II, The method of computation of the functions. Bibliography Tables The coefficients of the Maclaurin's series for $f(z)$, $g(z)$ $f'(z)$, and $g'(z)$. The coefficients in the asymptotic series for $h_1(z)$ and $h_2(z)$. Useful constants. The zeros of $h_1(z)$ and $h_1'(z)$. The functions $h(z)$ and $h_1(z)$ for $\Delta x = \Delta y = 0.1$ and $| \ + iy| \leq 6$. The functions $h(z)$ and $h_1'(z)$ for $\Delta x = \Delta y = 0.1$ and $| \ + iy| \leq 6$.

Note A book of mathematical tables for use and convenience in the solution of Stokes' equation in the complex plane. A form of differential equation used in describing simple cases of wave refraction and diffraction. The work was sponsored by the Bureau of Ships of the U S. Navy and was accomplished during World War II on the I B. M. automatic sequence controlled calculator belonging to Harvard University

HIRSCHMAN, I I, AND D V WIDDER

The convolution transform. Princeton Princeton University Press, 1955 268 p 24 cm. (Princeton mathematical series, editors Marston Morse and A W Tucker) $5 50 260

Contents Introduction. The finite kernels. The non-finite kernels. Variation diminishing transforms. Asymptotic behavior of kernels. Real inversion theory. Representation theory The Weierstrass transform. Complex inversion theory Miscellaneous topics. Bibliography Symbols and notations. Index.

Note. An important contribution to mathematical analysis. It presents general theory designed to unify the study of integral transforms. The authors state, most of the classical integral transforms involve integrals which define convolutions. For the present authors the convolution transform came as a natural generalization of the Laplace transform. It was early recognized that the now familiar real inversion of the latter is essentially accomplished by a particular differential operator of infinite order (in which translations are allowed) This relation between differential operators and integral transforms is the basic theme of the present study The book is addressed to graduate mathematicians possessing a knowledge of real and complex variable theory

HOLMES, CECIL THOMAS

Calculus and analytic geometry New York McGraw Hill Book Company, Inc., 1950 416 p illus 24 cm. $6 75 261

Contents Algebra and geometry in cooperation Elements of the differential calculus. The conic sections. Maxima, minima, and inflections. First notions of the integral calculus. Algebraic functions. Curvilinear motion—vectors—parametric equations—arc length—area of a surface of revolution. The logarithmic and the exponential functions—integration by parts. The trigonometric functions. Calculus with the trigonometric functions—applications. Infinite series—expansion of functions. Ordinary differential equations Solid analytic geometry Differential calculus for functions of more than one variable. Integral calculus with functions of more than one variable. Formulas for reference. Answers to exercises. Index.

Note An introductory textbook developed at Bowdoin College, where the author is Professor of Mathematics. It is organized so that the student who stays with the course only through the fifth chapter will have been presented with a survey of the main concepts and techniques of plane geometry and of calculus, while the student who takes the whole course will in addition acquire considerable practice in the use of the calculus. Most theorems are proved.

HUNTINGTON EDWARD V

The continuum and other types of serial order, with an introduction to Cantor's *Transfinite numbers* Second edition. New York Dover Publications Inc. 1955 82 p illus. 20 cm $1 00 262

Contents Introduction. On classes in general. On simply ordered classes, or series. Discrete series—especially the type ω of the natural numbers. Dense series—especially the type η of the rational numbers. Continuous series—especially the type θ of the real numbers. Continuous series of more than one dimension, with note on multiply ordered classes. Well-ordered series, with an introduction to Cantor Transfinite numbers. Index of technical terms.

Note A reprint without textual changes of book published by Harvard University Press in 1917 Its original purpose was to give systematic elementary account of the modern theory of the continuum as type of serial order and it still has value for those students and graduate mathematicians who are interested in series, irrational numbers, the real number system of algebra, and mathematical logic.

and numerous small revisions have been made in chapters carried over from the preceding edition. Professor Reinville, who revised the book for the fifth edition, is Professor of Mathematics in the University of Michigan.

LOVITT, WILLIAM VERNON

Linear integral equations. New York Dover Publications Inc., 1950. 253 p. illus. 21 cm. $1.60 276

Contents: Introductory. Solution of integral equation of second kind by successive substitutions. Solution of Fredholm's equation expressed as ratio of two integral series in λ. Applications of the Fredholm's theory. Free vibrations of an elastic string. Constrained [illegible] of an elastic string. Auxiliary theorems on harmonic functions. Logarithmic potential of a double layer. Fredholm's solution of Dirichlet problem. Logarithmic potential of a simple layer. Fredholm's solution of Neumann's problem. Hilbert-Schmidt theory of integral equations with symmetric kernels. Solution expressed in terms of a set of fundamental functions. Existence of at least one characteristic constant. Orthogonality. Auxiliary theorems. Solution of the integral equation. Applications of the Hilbert-Schmidt theory. Boundary problems for ordinary linear differential equations. Applications to some problems of the calculus of variations. Vibration problems. Applications of the Hilbert-Schmidt theory to the flow of heat in a bar. Index.

Note: A reprint without textual changes of a book first published in New York in 1924. It is devoted entirely to the general theory of linear equations with a single integration. Applications to physics are illustrated, but the primary emphasis is on the mathematical theory.

MACDUFFEE, CYRUS COLTON

Theory of equations. New York John Wiley & Sons Inc., 1954 120 p illus. 24 cm. $3 75 277

Contents: Linear systems. Rational solutions. Polynomials. Real roots. Complex roots. Relations among the roots. Systems of higher degree. Answers to exercises. Index.

Note: A relatively brief text designed for short, introductory courses. There is some bias towards the needs of students who are preparing for scientific careers in such fields as physics, chemistry, and agriculture. The theory of polynomials is emphasized. A feature of particular value to readers who attempt the study of the subject by themselves or use the book for review is the inclusion of many examples of computations. The author is Chairman of the Department of Mathematics of the University of Wisconsin.

MCKELVEY JOSEPH VANCE

Calculus Revised edition. New York The Macmillan Company 1951 405 p. illus. 22 cm. $5.25 278

Contents (abridged): Differential calculus: Functions. Limits and continuity. Increments—derivatives. Differentiation of algebraic functions. Transcendental functions. Differentials. Parametric equations. Rolle's theorem—mean value theorem—indeterminate forms. Functions of more than one variable. Curvature. Singular points. Integral calculus: Integration by parts—substitutions—rational fractions. The definite integral. Length of arc—area of surface of revolution. Improper integrals. Multiple integrals. Fluid pressure—moments—work. Infinite series. Differential equations. Theory of limits—continuity. Answers to exercises. Table of integrals. Index.

Note: An established introductory text in which the author has followed the pedagogical principle of illustrating new ideas first and giving definitions, terminology and theorems afterwards. The present edition represents a moderate amount of revision with one newly added chapter, many new problems, and numerous minor changes. The author is Professor of Mathematics in Iowa State College.

MCSHANE, EDWARD JAMES

Integration. Princeton Princeton University Press, 1944 394 p. illus. 23 cm. (Princeton mathematical series editors Marston Morse and A. W Tucker) $2 95 279

Contents: Some theorems on real-valued functions. The Lebesgue integral. Measurable sets and measurable functions. The integral as a function of sets, convergence theorems. Differentiability. Continuity properties of measurable functions. The Lebesgue-Stieltjes integral. The Perron integral. Differential equations. Differentiation of multiple integrals. Appendix. Index.

Note: This book was written to introduce beginning graduate students of mathematics to the theory of integration. The method of development of the theory is a modification of that devised by Daniell, the Lebesgue integral appearing as the result of two-stage extension of the classical integral of a continuous function. The proofs are so arranged that the Lebesgue-Stieltjes integral is obtained with little additional discussion. The Perron integral is also studied. Ordinary differential equations are treated in considerable detail, in order that the theorems obtained will be suited to the needs of the calculus of variations.

MCSHANE EDWARD JAMES

Order-preserving maps and integration processes. Princeton Princeton University Press 1953 136 p. 25 cm. (Annals of mathematics studies. No. 31) $2 75 280

Contents: Introduction. Partially ordered sets and systems. Definition of the mapping. Lattice properties, convergence and measurability. Algebraic operations. Real-valued functions. Applications. Bibliography.

Note: An advanced study for mathematicians interested in algebra and calculus and concerned with the Lebesgue integral and Daniell development of the integral. It is devoted to the problem set out as follows. "We are given two partially ordered sets F and G, and an order-preserving mapping L of a subset E of F into G. We seek conditions on E, L, F and G that will enable us to extend the domain of definition of L, producing say a mapping I of F into G, in such a way that the enlarged domain F shall have some useful closure properties and the extended mapping I shall have some useful kind of continuity property on its domain." The study is an exploitation of the order properties almost exclusively; consequently the territory covered differs in part from that covered by the integration theories based largely on norms.

MARDEN MORRIS

The geometry of the zeros of a polynomial in a complex variable New York American Mathematical Society 1949 183 p. 26 cm. (American Mathematical Society Mathematical surveys. No III) $5.00 281

Contents: Introduction. The critical points of a polynomial and some of their generalizations. Involutions. [illegible] Composite polynomials. The critical points of a rational function which has its zeros and poles in prescribed circular regions. The critical points of a polynomial which has only some prescribed zeros. Bounds for the zeros as functions of all coefficients. Bounds for p zeros as functions of p + 1 coefficients. The number of zeros in a half-plane or sector. The number of zeros in a given circle. Bibliography. Index.

Note: The problems treated here center about the study of the zeros of a polynomial as functions of various parameters, usually the coefficients of the polynomial. The first contributors to this subject were Gauss and Cauchy. This survey is a detailed exposition bringing together, unifying, and simplifying the many results at present scattered throughout the mathematical journals.

MARTIN WILLIAM TED AND ERIC REISSNER

Elementary differential equations. Reading Mass. Addison Wesley Publishing Company Inc., 1956 260 p. illus. 24 cm. (Addison Wesley mathematics series Eric Reissner consulting editor) $5.50. 282

Contents: Nature and origin of differential equations. The differential equation of first order. Second order differential equations. Higher order differential equations. Systems of first order differential equations. Approximate solution of first order differential equations and Picard' theorem. Finite difference equations. Partial differential equations. Answers. Index.

Note: A well-organized text, written by two members of the faculty of Massachusetts Institute of Technology. Although biased toward the interests of students preparing for careers in engineering or some field of science other than mathematics, the bias is manifested chiefly in the book's wide scope and in the exercises included for the reader.

KELLS, LYMAN M , AND OTHERS

Plane and spherical trigonometry Third edition. By Lyman M Kells, Willis F Kern and James R Bland. New York McGraw Hill Book Company, Inc , 1951 290 p illus. 23 cm $4 50 269

Contents Plane trigonometry Trigonometric functions of an acute angle. Fundamental relations among the trigonometric functions. The right triangle. Generalized trigonometric functions. Vectors. Graphs of trigonometric functions. General formulas. Oblique triangles. Inverse functions and trigonometric equations. Complex numbers. Logarithms. Spherical trigonometry Basic ideas and formulas of spherical trigonometry Solution of spherical triangles by computation. Applications relating to celestial bodies and the astronomical triangle. Classical methods of solving spherical triangles. Appendixes. Index. Answers.

Note The authors of this text are all present or former members of the faculty of the United States Naval Academy As would be expected, applications of plane and spherical trigonometry in navigation and other phases of naval science figure largely in the exercises and are occasionally mentioned in the expository text. However the book's purpose is to teach trigonometry rather than navigation The fundamentals of the subject are well covered, and the material is logically organized. The first edition was published in 1935 and the second edition in 1940. The third edition is the result of rather extensive revision. Features include new problems, numerous examples of concise forms of computation in addition to traditional forms, a short chapter on vectors, etc. The type was reset, and the book has a new format.

LASS, HARRY

Vector and tensor analysis New York McGraw Hill Book Company, Inc 1950 347 p 24 cm (International series in pure and applied mathematics William T Martin, consulting editor) $6 50 270

Contents. The algebra of vectors. Differential vector calculus. Differential geometry Integration. Static and dynamic electricity Mechanics. Hydrodynamics and elasticity Tensor analysis and Riemannian geometry Further applications of tensor analysis. References. Index.

Note An introductory textbook in which considerable attention is given to indicating the applications of vector and tensor analysis Numerous fully worked examples form part of the exposition. The applications discussed in the final chapter include Einstein's law of gravitation.

LEFSCHETZ, SOLOMON, editor

Contributions to the theory of nonlinear oscillations Volume I Princeton Princeton University Press, 1950 350 p illus. 26 cm (Annals of mathematics studies Emil Artin and Marston Morse editors No 20) $4 00 271

Contents On systems of ordinary differential equations, by S. P Diliberto. Oscillation of third order nonlinear autonomous system, by L. L. Rauch. Nonlinear difference-differential equations, by F H. Brownell. Forced oscillations in nonlinear systems, by M L Cartwright. Singular perturbations of Van der Pol equation, by J G Wendel The existence of forced periodic solutions of second order differential equations near certain equilibrium points of the unforced equation, by C. E. Langenhop and A B Farnell. The construction of periodic solutions of singular perturbation problems, by W Wasow

—— Volume II Princeton Princeton University Press 1952 122 p 26 cm (Annals of mathematics studies, Emil Artin and Marston Morse, editors. No 29) $1 50 272

Contents Van der Pol's equation for relaxation oscillations, by M. L. Cartwright. Perturbations of linear systems with constant coefficients possessing periodic solutions, by E. A. Coddington and N Levinson. Dynamical systems with stable structures, by H. F DeBaggis. Notes on differential equations, by S. Lefschetz. A method for the calculation of limit cycles by successive approximation, by J McCarthy Asymptotic expansions of solutions of systems of ordinary linear differential equations containing a parameter by *H. L. Turrittin.*

—— Volume III Princeton Princeton University Press, 1956 285 p illus 26 cm. (Annals of mathematics studies, Emil Artin and Marston Morse editors No 36) $4 00 273

Contents A rotated vector approach to the problem of stability of solutions of pendulum-type equations, by G. Seifert. Asymptotically autonomous differential systems, by L. Markus. Nonlinear differential equations systems, by E. Pinney On a nonlinear differential equation containing a small parameter by V B. Haas Critical points at infinity and forced oscillation, by R. E. Gomory On certain critical points of differential system in the plane, by S. Barocio. On the total number of singular points and limit cycles of differential equation, by F Haas. Banach spaces and the perturbation of ordinary differential equations, by G. Hufford. A fixed point theorem by W T Kyner Perturbation theorems for nonlinear ordinary differential equations, by S. P Diliberto and G. Hufford. A note on the existence of periodic solutions of differential equations, by S. P Diliberto and M. D. Marcus. An invariant surface theorem for nondegenerate system, by M. D Marcus. An application of periodic surfaces (solution of a small divisor problem) by S. P Diliberto. Repeating solutions for degenerate system, by M. D Marcus. Bounds for periods of periodic solutions, by S. P Diliberto. One-dimensional repeating curves in the nondegenerate case, by P Kenoh.

Note Three collections of original papers bearing on the mathematical analysis of nonlinear oscillations. Many of the papers have engineering as well as mathematical interest.

LEHMANN, CHARLES H

Analytic geometry New York John Wiley & Sons, Inc., 1942 425 p illus 23 cm $4 75 274

Contents. Plane analytic geometry: The point in the plane. Equation and locus. The straight line. The circle. Transformation of coordinates. The parabola. The ellipse. The hyperbola. The general equation of the second degree. Polar coordinates. Parametric equations. Higher plane curves. Solid analytic geometry The point in space. The plane. The straight line in space. Surfaces. Curves in space. Appendixes. Answers to exercises. Index.

Note A first course in plane and solid analytic geometry for college students. It assumes on the part of the student only the usual preliminary preparation in elementary geometry plane trigonometry and the essential parts of college algebra. The work is longer than the usual textbook in this field, and the emphasis is upon the acquiring of a sound knowledge of analytic methods rather than upon the geometric facts alone.

LOVE, CLYDE E , AND EARL D RAINVILLE

Differential and integral calculus Fifth edition New York The Macmillan Company 1954 526 p illus 24 cm. $4 00 275

Contents Functions, limits, continuity The derivative slope rate of change. Algebraic functions. Applications of the derivative. The differential. Integration. Discontinuities. Trigonometric functions. Inverse trigonometric functions Exponential and logarithmic functions. Hyperbolic functions. Curvature. Indeterminate forms. Curve tracing. Solution of equations—Newton's method. Fundamental integration formulas. Integration by substitution. Integration of rational fractions. Definite integrals Wallis' formula. Plane areas Improper integrals. Applications of integration. Centroids. Moments of inertia. Fluid pressure work. Series of constant terms. Power series. Operations with power series. Approximate integration. Partial differentiation. Double integrals. Triple integrals. Differential equations of the first order Linear differential equations. Rectilinear motion. Appendixes Definition of limit. Proof of theorem on limits. Tables. Index.

Note. The first edition of this college text was published in 1916 and the fourth edition in 1943. Integration is introduced early in the book, an arrangement that is now common to several successful textbooks in calculus. The treatment is introductory with no particular bias either towards the needs of students who are preparing for further work in mathematics or those who are preparing for science and engineering. An outstanding feature is the number and range of exercises included for the student to solve. In this fifth edition, there are about 3 900 exercises, of which the majority are new Aside from the exercises, there has been some reorganization,

Note: Designed for students [illegible] mathematical preparation for the course does not go beyond introductory calculus, this book offers an elementary but [illegible] mathematically rigorous view of ordinary and partial differential equations. Many of the problems, including those solved in the text as part of the exposition, illustrate applications in engineering. It was first published in 1933 and the second edition was published in 1941.

MORSE, MARSTON

The calculus of variations in the large New York The American Mathematical Society 1934 368 p 16 cm. (American Mathematical Society Colloquium publications. Vol. XVIII) $5.35 291

Contents: The fixed end point problem in non-parametric form. General end conditions. The index form. Self-adjoint systems. The functional on [illegible] Riemannian space. The critical sets of functions. The boundary problem in the large. Closed extremals. Solution of the Poincaré continuation problem. Bibliography. Index.

Note: The background for the theory in this volume lies in two rather distinct fields of mathematics. W[illegible] have on the one hand the theory of critical points of functions of [illegible] real variables. In the author's earlier papers he established [illegible] simple set of relations between the numbers of critical points of various types and the connectivity numbers of the domain over which the function ranges. On the other hand we have the calculus of variations and its modern treatment as [illegible] part of the functional calculus. The calculus of variations in the large derives its interest in large part from the fact that it undertakes [illegible] study of the [illegible] to which [illegible] calculus of variations gives rise, namely the extremals, with respect to important properties apart from the question of whether or not they furnish extrema [illegible] integral. In classical calculus of variations only such arcs AB are considered which contain no point A' conjugate to A. The theory of this book reveals the importance of extremal arcs AB upon which there may be one or more points conjugate to A.

MORSE, MARSTON

Topological methods in the theory of functions of a complex variable. Princeton Princeton University Press, 1947 145 p. illus. 23 cm. (Annals of mathematics studies. No 15) $2.25 292

Contents: Pseudo-harmonic functions. Differentiable boundary values. Interior transformations. The general order theorem. Deformations of locally simple curves and of interior transformations.

Note. This volume contains the revised form of [illegible] set of mathematical lectures delivered at Princeton University in 1945. The material is based mainly on joint research by the author and Dr Maurice Heins. The advantages of geometric methods as [illegible] complements of other methods used in dealing with function theory are emphasized. The work is intended for graduate students in mathematics and for mathematicians.

MUNROE, M E.

Introduction to measure and integration. Reading, Mass. Addison-Wesley Publishing Company Inc., 1953 310 p. illus. 21 cm. (Addison-Wesley mathematics series Eric Reissner consulting editor) $8.50. 293

Contents: Point set theory. Measure—general theory—specific examples. Measurable functions. Integration. Convergence theorems. Differentiation. Bibliography. Index of postulates. Index of symbols. Index.

Note: An introductory textbook in measure theory addressed primarily to graduate students of mathematics. A few applications of measure theory to other mathematical concepts and techniques, such as Hausdorff measures, Banach spaces, and stochastic variables, are pointed out, but otherwise the book is limited to theory. Sections [illegible] which applications are discussed are distinguished with asterisks to enable the reader who is interested in theory only to skip them. Exercises designed as an integral part of the exposition are included. The book was developed in [illegible] courses given by the author at the University of Illinois.

MURRAY, FRANCIS J., AND KENNETH S MILLER

Existence theorems for ordinary differential equations New York New York University Press, 1954 154 p. 23 cm. $5.00. 294

Contents: Introduction. The fundamental existence theorem. General existence theorems. Uniqueness theorems. The Picard iterants. Properties of solutions. Linear differential equations. Index.

Note: A unified treatment of classical existence and uniqueness theorems and theorems concerning parameters. The material has been selected and the book published because of the availability of electronic differential analyzers [illegible] which greatly facilitate the techniques of mathematical analysis. The authors state, "It is believed that the mathematical theories here presented will continue to be of importance. [illegible] When analogue devices are used without [illegible] proper mathematical basis, the user appears to be groping in the dark and indeed much of the 'experience' acquired under these circumstances has precisely the unpleasant character associated with bumping one's shins on an unseen obstacle. The mathematical basis is precisely the illumination needed to map out the general situation."

NATHAN, DAVID SOLOMON AND OLAF HELMER

Analytic geometry New York Prentice-Hall Inc., 1947 402 p. illus. 24 cm. (Prentice-Hall mathematics series Albert A. Bennett editor) $4 75 295

Contents: Coordinates on [illegible] line. Rectangular coordinates in the plane. Angles. Loci. Lines. Circles. Coordinate transformations. Conic sections. Conic sections in arbitrary position. Higher plane curves. Families of curves. Parametric representation. Polar coordinates. Fitting of empirical data. Rectangular coordinates in space. Loci in space. Planes and lines. Formulas and tables for reference. Answers. Index.

Note: An introductory text designed for college students having background knowledge of [illegible] and elementary geometry. The authors have made [illegible] special effort to develop fully one idea at a time, and have organized their material around the themes of equations of loci and loci of equations. Each chapter includes [illegible] brief summary and numerous review problems, many of [illegible] which illustrate the application of analytic geometry to the solution of problems in the engineering and physical sciences.

NEHARI, ZEEV

Conformal mapping. New York McGraw Hill Book Company Inc., 1952 396 p. illus. 23 cm. (International series in pure and applied mathematics William Ted Martin consulting editor) $8.00 296

Contents: Harmonic functions. Analytic functions. The complex integral calculus. Families of analytic functions. Conformal mapping of simply-connected domains. Mapping properties of special functions. Conformal mapping of multiply-connected domains. Index.

Note: A graduate-level textbook addressed to students [illegible] knowledge of advanced calculus. The first four chapters cover the ground sometimes covered in introductory courses on functions of [illegible] complex variable. The remaining three chapters deal primarily with applications in the conformal mapping of [illegible] variety of geometric figures. Two of the chapters are of special interest aside from their textbook use, the one on mapping properties of special functions because of its scope and usefulness in applied mathematics, and that on the conformal mapping of multiply-connected domains because of the inclusion of topics not previously published in book form.

NELSON ALFRED L., AND KARL W FOLLEY

Plane trigonometry Third edition. New York Harper & Brothers, 1956 195 135 p. illus. 23 cm. (Harper's mathematics series Charles A. Hutchinson, editor) $3.50 297

Contents: Trigonometric functions of the general angle. Trigonometric functions of positive acute angles. Reduction formulas. Logarithms. Solution of triangles. Graphs of trigonometric functions. Trigonometric functions of any angles. Inverse trigonometric

MAY, KENNETH OWNSWORTH

Elementary analysis New York John Wiley & Sons, Inc., 1952 635 p illus. 22 cm. $5 00 *283*

Contents. Introduction. Logic. Numbers and elementary operations. Linear functions. The quadratic function. The power functions. The exponential and logarithmic functions. Circular functions. Analytic geometry The complex number system. Conic sections. Polynomials. Algebraic functions. Functions of two variables. Tables. Index.

Note An introductory textbook for beginning college students. It provides a unified treatment of concepts and techniques from logic, number theory algebra, analytic geometry trigonometry and introductory calculus. It is characterized by patient and clear explanations. The author is Chairman of the Department of Mathematics in Carleton College.

MENGER, KARL

Calculus, a modern approach. Boston Ginn and Company, 1955 354 p illus. 23 cm $5.25 284

Contents: The two basic problems of calculus and their solutions for straight lines. Graphical solutions of the two basic problems. Numerical solutions of the two basic problems. The idea and the use of functions. On limits. The basic concepts of calculus. The application of calculus to science. The calculus of derivatives. The calculus of antiderivatives. The mean value theorem and its consequences. Two-place functions. Appendix. Bibliography Topical index. Index of symbols.

Note The organization of this introductory textbook is unusual, as the chapter titles listed above indicate. Its contents are also unconventional. They are the result of a planned effort to simplify and clarify the teaching of calculus by eliminating conceptual obscurities. Furthermore the exposition is so explicit and detailed that the book is almost self-teaching. It was developed in evening courses given by the author at the Illinois Institute of Technology. The courses were offered to engineers and others who worked during the day in scientific and technical occupations consequently the book has a definite practical bias. Nevertheless, the mathematics is not skimped. Basic concepts, symbols and manipulations are all explained with great care. Improvements in notation and a "new theory of variable quantities" make the book of interest to teachers of mathematics and other graduate mathematicians as well as to students.

MIDDLEMISS, ROSS RAYMOND

Analytic geometry Second edition New York McGraw Hill Book Company, Inc. 1955 310 p 23 cm $4 25 285

Contents Introduction Review of essential definitions and formulas from algebra and trigonometry Plane analytic geometry: Rectangular coordinates, fundamental definitions and theorems. Functions and graphs. Equation of a locus. The line. Polynomials. Rational fractional functions. Transformation of coordinates. The circle. The parabola, ellipse and hyperbola. Algebraic curves of higher degree. The trigonometric curves. The exponential and logarithmic curves. Parametric equations. Polar coordinates. Curve fitting Solid analytic geometry: Preliminary definitions and formulas. Planes and lines. Surfaces and curves. Numerical tables. Answers. Index.

Note A textbook designed for the college students of science or engineering who will later take a course in calculus.

MIDDLEMISS, ROSS RAYMOND

Differential and integral calculus. Second edition New York McGraw Hill Book Company, Inc. 1946 497 p illus. 23 cm. $5 25 *286*

Content (abridged) Functions and their graphs. The limit of function. The derivative. Differentiation of algebraic functions. The second derivative. The trigonometric functions. The exponential and logarithmic functions Derivative f arc—curvature. Parametric equations. The differential. Integration. Trigonometric integrals. The definite integral. Approximate integration. First moment—centroid. Second moment—radius f gyration. Solid analytic geometry Partial derivatives. Multiple integrals. Infinite series. Differential equations. Table of integrals. Numerical tables. Index.

Note. An introduction for college students. The plan of the first edition has been retained, but many sections and several entire chapters have been rewritten. Among the revised chapters are those on multiple integrals and partial derivatives. The chapter on solid geometry has been added, and the problems in the first edition have been largely replaced with new ones.

MILLER, FREDERIC HOWELL

Analytic geometry and calculus, a unified treatment. New York John Wiley & Sons Inc, 1949 658 p illus. 22 cm $5 50 287

Contents Functional relations and loci. The straight line. Limits and the derivative concept. Differentiation of algebraic functions. The integral concept. Elementary applications of calculus. The circle. Coordinate transformations. The conic sections. Differentiation of transcendental functions. Integration processes. Parametric equations. Further applications of differential calculus. Further applications of integral calculus. Polar coordinates. Points, planes, and lines in space. Surfaces and curves in space. Partial differentiation. Multiple integrals. Infinite series. Appendixes. Answers to odd-numbered exercises. Index.

Note A distinctive feature of this college text is its integration of plane and solid analytic geometry with differential and integral calculus. The unified presentation is thought to have definite advantages over the study of analytic geometry and calculus as separate branches of mathematics. Numerous illustrative examples are worked out as part of the exposition. There are about 1,000 exercises for the student, and a fair number of these illustrate applications to physics or engineering. The author is Professor of Mathematics in the Cooper Union School of Engineering.

MILLER, FREDERIC HOWELL

Partial differential equations New York John Wiley and Sons, Inc., 1941 259 p illus. 23 cm $4 50 288

Contents (abridged) Ordinary differential equations. Partial differentiation and space geometry Origins f partial differential equations. Linear equations of first order. Non-linear equations of first order. Fourier series. Linear equations of second and higher orders. Non-linear equations of second order Answers to exercises. Index.

Note. Planned to fill the need of students of analysis, geometry and the physical sciences for an adequate treatment of partial differential equations similar to the usual course in ordinary differential equations.

MORRILL, WILLIAM K

Calculus Princeton D Van Nostrand Company, Inc. 1956 537 p. illus 23 cm $6 00 *289*

Contents Introduction. Variable, function infinitesimal or null. Limits, continuity and differentiability Formulas of differentiation. Maximum and minimum. Inverse functions. Differentiation of transcendental functions. Mean value theorem of differential calculus. Antidifferentiation. Further applications of the derivative. The definite integral. Methods of integration. Geometric applications of the definite integral. Physical applications of the integral. Infinite sequences and series. Functions of several variables. Geometric applications. Multiple integrals. Differential equations. Appendix. Answers. Index.

Note A rigorous and comprehensive introduction to calculus developed in course at the Johns Hopkins University One of its special pedagogical features is the early introduction of infinitesimal or null functions. Applications of calculus to the analysis of problems in science and engineering are illustrated both in the worked examples which are part of the expository text and in the problems included for students to solve.

MORRIS, MAX, AND ORLEY E BROWN

Differential equations. Third edition. Englewood Cliffs N J Prentice Hall Inc. *1952* 341 p *22* cm $6 00 *290*

Contents Introduction. Differential equations of the first order and first degree. Equations of the first order, but not of the first degree. Linear differential equations. Numerical approximation to solutions. Integration in series. Ordinary differential equations in more than two variables. Partial differential equations of the first order Linear partial differential equations with constant coefficients. Partial differential equations of order two. Table of integrals. Table of natural logarithms. Answers to exercises. Index.

Note A textbook designed for use in full-length, introductory courses in differential equations. Because particular attention is paid to methods of solving differential equations, it is especially suitable for students majoring in science or in engineering. However, direct applications to problems in physics and engineering are concentrated in two chapters. The first 13 chapters are reprints of the material published in the author's *Short course in differential equations*, New York, 1949 210 p., $3.00.

RAINVILLE, EARL DAVID

Intermediate course in differential equations. New York John Wiley & Sons, Inc., 1943 213 p. 21 cm. $5.25 304

Contents Linear equations of the second order. Riccati equations. Preliminary material on complex variables. Solution in series. Equations of Fuchsian type. The hypergeometric equation. Confluence of singularities. Whittaker's confluent hypergeometric equation. Some classical equations. Applications. Index.

Note This textbook for advanced students of mathematics, chemistry and physics is intended to bridge the gap between elementary courses and really advanced courses, and attempts to furnish the student with further tools for constructing computable solutions for specific differential equations, in particular for linear equations in the neighborhood of regular singular points. A knowledge of advanced calculus is assumed.

RANDOLPH, JOHN ADAM FITZ, AND MARK KAC

Analytic geometry and calculus. New York The Macmillan Company 1946 642 p. illus. 24 cm. $7.50. 305

Contents Coordinate systems. Functions, limits, derivatives. Derivatives and derivative systems. Applications of derivatives. Differentials, increments, and approximations. Definite integrals. Analytic geometry complemented by calculus. Trigonometric and inverse trigonometric functions. Logarithmic and exponential functions. Indefinite integration. Further applications of definite integrals. Applications of definite integrals. Parametric equations, curvature, polar coordinates. Law of the mean, Taylor's theorem, evaluation of limits. Solid analytic geometry and partial derivatives. Multiple integrals. Table of integrals. Selected answers to problems. Index.

Note By emphasizing graphs, the authors of this work have welded calculus and analytic geometry in a way that demonstrates the fundamental concepts of each and the complementary relationships between them. The book is designed as a college textbook. Its text is arranged so that it may be used either in a survey course or a thorough course. A generous number of examples and problems is furnished.

RANDOLPH JOHN ADAM FITZ

Calculus. New York The Macmillan Company 1952 483 p. 24 cm. $6.00. 306

Contents Functions, limits, derivatives. The definite integral. Applications of derivatives. Transcendental functions. Indefinite integration. Solid geometry. Partial derivatives. Multiple integrals. Further applications. Approximations. Series. Appendix. Table of integrals. Answers. Index.

Note An introductory college textbook with several interesting pedagogical features. The author believes in the gradual introduction of important concepts and techniques; hence, the exposition of ideas new to the student is usually foreshadowed by the introduction of material that demonstrates the necessity for it. The direct connection between analytic geometry and calculus is shown in the first part. The derivatives of sine and cosine functions are introduced early and definite integrals are taken up before indefinite integrals. The author is Chairman of the Department of Mathematics at the University of Rochester.

REDDICK, HARRY W AND DONALD E KIBBEY

Differential equations. Third edition. New York John Wiley & Sons, Inc. 1956 304 p. illus. 22 cm. $4 50 307

Contents Preliminary ideas. Differential equations of first order. Linear equations with constant coefficients. Some special higher order equations. Simultaneous equations. The linear equation of second order. Series solutions. Partial differential equations. Answers. Index.

Note A standard introductory textbook for undergraduate college courses. Although it is designed for use in both liberal arts and engineering schools, it is especially suited to the latter because of the preponderance of engineering problems. The solving of ordinary differential equations and the applications of such equations to engineering problems are the main subjects. However the student is introduced to partial differential equations in the last chapter. The second edition was published in 1949. In addition to the terminal chapter just mentioned, which was added in this edition, other changes in the series include revision and rewriting of the first three chapters and the addition of many new problems.

RICHARDSON, C. H.

An introduction to the calculus of finite differences. New York D Van Nostrand Company, Inc., 1954 142 p 24 cm. $5.50. 308

Contents Introduction. Finite integration and applications. Bernoulli and Euler polynomials. Interpolation. Approximate integration. Beta and gamma functions. Difference equations. Appendices: Mathematical induction. Hyperbolic functions. Index.

Note Planned specifically as a text for short courses at the advanced undergraduate level, this book is an elementary and simplified introduction to the finite calculus. It is intended for the instruction of students who are interested in the subject from the viewpoint of applied mathematics. The author is Professor of Mathematics in Bucknell University.

RIDER PAUL REECE

Analytic geometry New York The Macmillan Company 1947 383 p. illus. 21 cm. $4.00 309

Contents: Plane analytic geometry: Rectangular coordinates. Equation and locus. Straight line. Polynomial and power-function curves. Circle. Parabola, ellipse, hyperbola. Curve sketching. Exponential and logarithmic curves. Trigonometric curves. Parametric equations. Polar coordinates. Curve fitting. Space analytic geometry: Rectangular coordinates and directions in space. Plane and line. Surfaces and curves. Tables. Index. Answers to odd numbered exercises.

Note A mathematics text for university students in engineering and science. The book is planned for those who want a thorough preparation for later courses in calculus, and also for those who are studying analytic geometry simply for the educational and disciplinary values involved. The author's inclusion of a chapter on curve fitting is valuable and timely in view of modern demands from many fields for geometric representation of statistical data. Previous work in college algebra and trigonometry is required.

RITT JOSEPH FELS

Integration in finite terms Liouville's theory of elementary methods. New York Columbia University Press 1948 100 p. 22 cm. o.p. 310

Contents: Elementary functions of one variable. Algebraic functions with elementary integrals. Integration of transcendental functions. Further questions on the elementary functions. Series of fractional powers. Integration of differential equations by quadratures. Implicit and explicit elementary solutions of differential equations of the first order. Further implicit problems. References.

Note J. Liouville, a French mathematician of the 19th century, developed a theory of integration in finite terms and used it to prove among other things that elliptic integrals of the first and second kinds and the probability integral are not elementary. He proved also that Bessel's equation is not integrable by quadratures except for special values of the parameter. This monograph describes Liouville's work and that of some of his followers.

RITT, JOSEPH FELS

Theory of functions Revised edition. New York Columbia University Press, 1947 181 p. illus. 28 cm. $3.50. 311

Contents (abridged) The real number system. Linear point sets. Functions and continuity. Riemann integration. Infinite series of numbers. Sequences of functions. Functions of two variables. Complex and hypercomplex numbers. Curves and regions. Curvilinear integrals. Jordan curves. Analysis situs of the triangle. The Cauchy integral theorem for triangles. Extension of the Cauchy integral

functions. Trigonometric equations. Complex numbers. Table 11 Natural functions. Trigonometric formulas. Answers. Index. Mathematical tables.

Note. In this standard textbook, trigonometry is treated at the college level. The book is designed for the instruction of students who will do further work in mathematics. In addition to covering that aspect of trigonometry which is concerned with the solution of triangles, much space is given to the wider implications of trigonometric functions in physics, engineering, and in higher mathematics, particularly complex numbers. The *second edition* was published in 1943 and covered spherical trigonometry as well as plane trigonometry. Spherical trigonometry is not treated in this third edition. Other important changes include reversing the order of the first two chapters, so that the book now begins with a chapter on the general angle; thorough revision of the chapter on complex numbers, and the addition of many new exercises for the student to solve. The section of mathematical tables has not been changed.

NEWELL, HOMER E., JR.

Vector analysis. New York: McGraw-Hill Book Company, Inc., 1955. 216 p. 24 cm. (International series in pure and applied mathematics, William Ted Martin, consulting editor) $5.50 298

Contents: Part 1, Theory. Scalars and vectors. A review of some mathematical concepts. Differentiation of vectors. Divergence and curl. The operator ∇. Relationships involving ∇. Curvilinear coordinates. General theorems and potential theory. Part 11, Applications. Miscellaneous applications. Motions in space. A sketch of electromagnetic theory. Answers to exercises in Part 1. Index.

Note: A textbook developed specifically for students interested in vector analysis from the viewpoint of applied mathematics. The author encourages readers to think of vectors in terms of physical or geometric quantities in such passages as the following: "A force vector, for example, is followed and attached to the point of application of the physical force itself. Again, within a moving fluid, the velocity of flow can be represented by what is called a *field of vectors*. With each point in the region of flow may be associated a vector representing the speed and direction of flow. . . . Such vector fields are constantly met with in physics and engineering." Nevertheless the mathematical aspects are not neglected. The algebra of vectors is covered concisely in the first chapter and in the second chapter calculus is reviewed. The remaining six chapters in Part 1 are devoted to mathematical concepts and techniques pertinent to vector analysis. In Part 11 a wide variety of applications is covered.

OSGOOD, WILLIAM FOGG, AND WILLIAM C. GRAUSTEIN

Plane and solid analytic geometry. New York: The Macmillan Company, 1930. 614 p. illus. 18 cm. $6.50 299

Contents: Plane analytic geometry. Directed line-segments. Projections. Coordinates. Curves and equations. The straight line. Applications. The circle. Introductory problems in loci. Symmetry of curves. The parabola. The ellipse. The hyperbola. Certain general methods. Polar coordinates. Transformation of coordinates. The general equation of the second degree. Loci, auxiliary variables, inequalities. Diameters. Poles and polars. Transformations of the plane. Strain. Determinants and their applications. Solid analytic geometry. Projections. Coordinates. Direction cosines. Direction components. The plane. The straight line. The plane and the straight line, advanced methods. Spheres, cylinders, cones. Surfaces of revolution. Quadric surfaces. Spherical and cylindrical coordinates. Transformation of coordinates. Index.

Note: A text for use in elementary college courses in which algebraic difficulties are given special attention and numerous examples are used as illustrations. More material than is usual in introductory college courses is included.

PALEY, RAYMOND EDWARD ALAN CHRISTOPHER, AND NORBERT WIENER

Fourier transforms in the complex domain. New York: American Mathematical Society, 1934. 184 p. illus. 25 cm. (American Mathematical Society. Colloquium publications. Vol. XIX) $4.00 300

Contents. Quasi-analytic functions. Szász's theorem. Certain integral expansions. A class of singular integral equations. Entire functions of the exponential type. The closure of sets of complex exponential functions. Non-harmonic Fourier series and a gap theorem. Generalized harmonic analysis in the complex domain. Random functions. The harmonic analysis of random functions. Bibliography. Index.

Note. This volume covers a great variety of topics which are unified by the central idea of the application of the Fourier transform in the complex domain. The authors had long been convinced of the importance of the Fourier-Mellin transforms as a tool in analysis but knew of no systematic development of their use. Perhaps the nearest approach to such a development is found in the researches of H. Bohr, Jessen, and Besicovitch. With its aid, they were able to attack such diverse analytic questions as those of quasi-analytic functions, Mercer's theorem on summability, Milne's integral equation of radiative equilibrium, the theorems of Müntz and Szász concerning the closure of sets of powers, and Titchmarsh's theory of entire functions of semi-exponential type with real negative zeros.

PEIRCE, B. O.

A short table of integrals. Fourth edition. Revised by Ronald M. Foster. Boston: Ginn and Company, 1956. 189 p. 21 cm. $2.50 301

Contents (abridged): Introduction. Part 1, Indefinite integrals: Fundamental forms. Rational algebraic functions. Irrational algebraic functions. Miscellaneous algebraic expressions. Transcendental functions. Part 11, Definite integrals: Miscellaneous definite integrals. Elliptic integrals. Part 111, Auxiliary formulas: Trigonometric functions. Inverse trigonometric functions. Hyperbolic functions. Elliptic functions. Bessel functions. Series and products. Derivatives. General formulas of integration. Integrals useful in the theory of alternating currents. Part 1V, Numerical tables: The probability integral. The complete elliptic integrals, K and E. The gamma function. Common logarithm of the gamma function. Exponential and hyperbolic functions. Natural logarithms of numbers from 0.01 to 0.99. Natural logarithms of integers from 10 to 209. Four-place common logarithms. Natural and logarithmic trigonometric functions. Equivalents of radians in degrees, minutes, seconds. Squares, cubes, roots, reciprocals. Greek alphabet.

Note: A short but useful compilation of fundamental forms of integrals, and associated functions and formulas. The fourth part contains 14 useful tables. The first edition was published in 1929. Numerous additions had been made in succeeding editions, but in this fourth edition all have been inserted in their appropriate places; corrections have been made; the section on Bessel functions has been revised; one table has been added in the fourth part of the volume; and several tables have been much extended.

PHILLIPS, HENRY BAYARD

Differential equations. Third edition revised. New York: John Wiley & Sons, Inc., 1951. 149 p. illus. 22 cm. $3.25 302

Contents: Differential equations of the first order with variables separable. Other equations of the first order. Special types of second order equations. Linear equations with constant coefficients. Answers. Index.

Note: A standard textbook for use in undergraduate college courses. It is concisely and clearly written. Most of the examples worked out in the text illustrate applications in science and engineering. The author is a member (emeritus) of the faculty of Massachusetts Institute of Technology.

RAINVILLE, EARL DAVID

Elementary differential equations. New York: The Macmillan Company, 1952. 392 p. illus. 21 cm. $5.00 303

Contents: Definitions, elimination of arbitrary constants. Equations of the first order and first degree. Additional methods for equations of the first order and first degree. Orthogonal trajectories. Hyperbolic functions. Linear equations with constant coefficients. Nonhomogeneous equations: Undetermined coefficients—operational methods. Applications. Electric circuits and networks. Variation of parameters and other methods. Equations of order one and higher degree. Special equations of order two. The power series method. Solutions near regular singular points. Additional topics on power series solutions. The existence of solutions. Numerical methods. Partial differential equations. Fourier series. Boundary value problems. Supplements A, B, C. Index.

Analysis

Note: A textbook designed for use in full-length, introductory courses in differential equations. Because particular attention is paid to methods of solving differential equations, it is especially suitable for students majoring in science or in engineering. However, direct applications to problems in physics and engineering are concentrated in two chapters. The first 11 chapters are reprint of the material published in the author's Short course in differential equations, New York, 1949 210 p. $3.00.

RAINVILLE, EARL DAVID

Intermediate course in differential equations. New York John Wiley & Sons Inc., 1943 213 p. 21 cm. $5.25 304

Contents: Linear equations of the second order. Riccati equations. Preliminary material on complex variables. Solution in series. Equations of Fuchsian type. The hypergeometric equation. Confluence of singularities. Whittaker's confluent hypergeometric equation. Some classical equations. Applications. Index

Note: This textbook for advanced students of mathematics, chemistry and physics is intended to bridge the gap between elementary courses and really advanced courses, and attempts to furnish the student with further tools for constructing computable solutions for specific differential equations, in particular for linear equations in the neighborhood of regular singular points. A knowledge of advanced calculus is assumed.

RANDOLPH, JOHN ADAM FITZ, AND MARK KAC

Analytic geometry and calculus. New York The Macmillan Company 1946 642 p. illus. 24 cm. $7.50. 305

Contents: Coordinate systems. Functions, limits, derivatives. Derivatives and derivative systems. Applications of derivatives. Differentials, increments, and approximations. Definite integrals. Analytic geometry complemented by calculus. Trigonometric and inverse trigonometric functions. Logarithmic and exponential functions. Indefinite integration. Further applications of definite integrals. Approximations of definite integrals. Parametric equations, curvature, polar coordinates. Law of the mean, Taylor's theorem, evaluation of limits. Solid analytic geometry and partial derivatives. Multiple integrals. Table of integrals. Selected answers to problems. Index.

Note: By emphasizing graphs, the authors of this work have treated calculus and analytic geometry in a way that demonstrates the fundamental concepts of each and the complementary relationships between them. The book is designed as a college textbook. Its text is arranged so that it may be used either in a survey course or a thorough course. A generous number of examples and problems is furnished.

RANDOLPH JOHN ADAM FITZ

Calculus. New York The Macmillan Company 1952 483 p. 24 cm. $6.00 306

Contents: Functions, limits, derivatives. The definite integral. Applications of derivatives. Transcendental functions. Indefinite integration. Solid geometry. Partial derivatives. Multiple integrals. Further applications. Approximations. Series. Appendix. Table of integrals. Answers. Index.

Note: An introductory college textbook with several interesting pedagogical features. The author believes in the gradual introduction of important concepts and techniques; hence, the exposition of ideas new to the student is usually foreshadowed by the introduction of material that demonstrates the necessity for it. The direct connection between analytic geometry and calculus is shown in the first part. The derivatives of sine and cosine functions are introduced early and definite integrals are taken up before indefinite integrals. The author is Chairman of the Department of Mathematics of the University of Rochester

REDDICK, HARRY W AND DONALD E. KIBBEY

Differential equations. Third edition. New York John Wiley & Sons, Inc., 1956 304 p. illus. 22 cm. $4.50 307

Contents: Preliminary ideas. Differential equations of first order. Linear equations with constant coefficients. Some special higher order equations. Simultaneous equations. The linear equation of second order. Series solutions. Partial differential equations. Answers. Index.

Note: A standard introductory textbook for undergraduate college courses. Although it is designed for use in both liberal arts and engineering schools, it is especially suited to the latter because of the preponderance of engineering problems. The solving of ordinary differential equations and the applications of such equations to engineering problems are the main subjects. However the student is introduced to partial differential equations in the last chapter. The second edition was published in 1949. In addition to the terminal chapter just mentioned, which was added in this edition, other changes in the recent include revision and rewriting of the first three chapters and the addition of many new problems.

RICHARDSON, C. H

An introduction to the calculus of finite differences. New York D Van Nostrand Company Inc., 1954 142 p. 24 cm. $5.50 308

Contents: Introduction. Finite integration and applications. Bernoulli and Euler polynomials. Interpolation. Approximate integration. Beta and gamma functions. Difference equations. Appendix Mathematical induction. Hyperbolic functions. Index.

Note: Planned specifically as a text for short courses at the advanced undergraduate level, this book is an elementary and simplified introduction to the finite calculus. It is intended for the instruction of students who are interested in the subject from the viewpoint of applied mathematics. The author is Professor of Mathematics in Bucknell University

RIDER, PAUL REECE

Analytic geometry New York The Macmillan Company 1947 383 p. illus. 21 cm. $4.00 309

Contents: Plane analytic geometry. Rectangular coordinates. Equation and locus. Straight line. Polynomial and power function curves. Circle. Parabola, ellipse, hyperbola. Curve sketching. Exponential and logarithmic curves. Trigonometric curves. Parametric equations. Polar coordinates. Curve fitting. Space analytic geometry: Rectangular coordinates and directions in space. Plane and line. Surfaces and curves. Tables. Index. Answers to odd numbered exercises.

Note: A mathematics text for university students in engineering and science. The book is planned for those who want thorough preparation for later courses in calculus, and also for those who are studying analytic geometry mainly for the educational and disciplinary values involved. The author's inclusion of a chapter on curve fitting is valuable and timely in view of modern demands from many fields for geometric representation of statistical data. Previous work in college algebra and trigonometry is required.

RITT JOSEPH FELS

Integration in finite terms Liouville's theory of elementary methods. New York Columbia University Press 1948 100 p. 22 cm. o.p. 310

Contents: Elementary functions of one variable. Algebraic functions with elementary integrals. Integration of transcendental functions. Further questions on the elementary functions. Series of fractional powers. Integration of differential equations by quadratures. Implicit and explicit elementary solutions of differential equations of the first order. Further implicit problems. References.

Note: J. Liouville French mathematician of the 19th century developed a theory of integration in finite terms and used it to prove among other things that elliptic integrals of the first and second kinds and the probability integral are not elementary. He proved also that Bessel's equation is not integrable by quadratures except for special values of the parameter. This monograph describes Liouville's work and that of some of his followers.

RITT, JOSEPH FELS

Theory of functions. Revised edition. New York Columbia University Press, 1947 181 p illus. 28 cm. $3.50 311

Contents (abridged): The real number system. Linear point sets. Functions and continuity. Riemann integration. Infinite series of numbers. Sequences of functions. Functions of two variables. Complex and hypercomplex numbers. Curves and regions. Curvilinear integrals. Jordan curves. Analytic situs of the triangle. The Cauchy integral theorem for triangles. Extensions of the Cauchy integral

functions. Trigonometric equations. Complex numbers. Table II Natural functions. Trigonometric formulas. Answers. Index. Mathematical tables.

Note In this standard textbook, trigonometry is treated at the college level. The book is designed for the instruction of students who will do further work in mathematics. In addition to covering that aspect of trigonometry which is concerned with the solution of triangles, much space is given to the wider implications of trigonometric functions in physics, engineering, and in higher mathematics, particularly complex numbers. The second edition was published in 1943 and covered spherical trigonometry as well as plane trigonometry Spherical trigonometry is not treated in this third edition. Other important changes include reversing the order of the first two chapters, so that the book now begins with a chapter on the general angle, thorough revision of the chapter on complex numbers, and the addition of many new exercises for the student to solve. The section of mathematical tables has not been changed.

NEWELL, HOMER E , JR.

Vector analysis New York McGraw Hill Book Company, Inc., 1955 216 p 24 cm. (International series in pure and applied mathematics, William Ted Martin, consulting editor) $5 50 298

Contents Part I, Theory Scalars and vectors. A review of some mathematical concepts. Differentiation of vectors. Divergence and curl. The operator ∇ Relationships involving ∇ Curvilinear coordinates. General theorems and potential theory Part II, Applications: Miscellaneous applications. Motions in space. A sketch of electromagnetic theory Answers to exercises in Part I. Index.

Note A textbook developed specifically for students interested in vector analysis from the viewpoint of applied mathematics. The author encourages readers to think of vectors in terms of physical or geometric quantities in such passages as the following A force vector for example, is followed and attached to the point of application of the physical force itself. Again, within a moving fluid, the velocity of flow can be represented by what is called a *field of vectors* With each point in the region of flow may be associated a vector representing the speed and direction of flow such vector fields are constantly met with in physics and engineering. Nevertheless the mathematical aspects are not neglected. The algebra of vectors is covered concisely in the first chapter and in the second chapter calculus is reviewed. The remaining six chapters in Part are devoted to mathematical concepts and techniques pertinent to vector analysis. In Part II a wide variety of applications is covered.

OSGOOD, WILLIAM FOGG, AND WILLIAM C GRAUSTEIN

Plane and solid analytic geometry New York The Macmillan Company, 1930, 614 p illus 18 cm $6 50 299

Content Plane analytic geometry Directed line-segments. Projections. Coordinates. Curves and equations The straight line. Applications. The circle. Introductory problems in loci. Symmetry of curves. The parabola. The ellipse. The hyperbola. Certain general methods. Polar coordinates. Transformation of coordinates. The general equation of the second degree Loci, auxiliary variables, inequalities. Diameters. Poles and polars Transformations of the plane. Strain. Determinants and their applications. Solid analytic geometry Projections. Coordinates Direction cosines. Direction components. The plane The straight line. The plane and the straight line, advanced methods Spheres, cylinders, cones. Surfaces of revolution Quadric surfaces. Spherical and cylindrical coordinates Transformation of coordinates. Index.

Note. A text for use in elementary college courses in which algebraic difficulties are given special attention, and numerous examples are used as illustrations. More material than is usual in introductory college courses is included.

PALEY, RAYMOND EDWARD ALAN CHRISTOPHER, AND NORBERT WIENER

Fourier transforms in the complex domain New York American Mathematical Society 1934 184 p illus. 25 cm (American Mathematical Society Colloquium publications. Vol. XIX) $4 00 300

Contents Quasi-analytic functions. Szász's theorem. Certain integral expansions. A class of singular integral equations. Entire functions of the exponential type. The closure of sets of complex exponential functions. Non-harmonic Fourier series and a gap theorem. Generalized harmonic analysis in the complex domain. Random functions. The harmonic analysis of random functions. Bibliography Index.

Note: This volume covers a great variety of topics which are unified by the central idea of the application of the Fourier transform in the complex domain. The authors had long been convinced of the importance of the Fourier Mellin transforms as a tool in analysis but knew of no systematic development of their use. Perhaps the nearest approach to such a development is found in the researches of H Bohr Jessen, and Besicovitch. With its aid, they were able to attack such diverse analytic questions as those of quasi-analytic functions, Mercer's theorem on summability, Milne's integral equation of radiative equilibrium, the theorems of Müntz and Szász concerning the closure of sets of powers, and Titchmarsh's theory of entire functions of semi-exponential type with real negative zeros.

PEIRCE, B O

A short table of integrals Fourth edition Revised by Ronald M Foster Boston Ginn and Company, 1956 189 p 21 cm $2.50 301

Contents (abridged) Introduction. Part I, Indefinite integrals Fundamental forms. Rational algebraic functions. Irrational algebraic functions. Miscellaneous algebraic expressions. Transcendental functions. Part II, Definite integrals: Miscellaneous definite integrals. Elliptic integrals. Part III, Auxiliary formulas: Trigonometric functions. Inverse trigonometric functions. Hyperbolic functions. Elliptic functions. Bessel functions. Series and products. Derivatives. General formulas of integration. Integrals useful in the theory of alternating currents. Part IV Numerical tables The probability integral. The complete elliptic integrals, K and E. The gamma function. Common logarithm of the gamma function. Exponential and hyperbolic functions. Natural logarithms of numbers from 0.01 to 0.99 Natural logarithms of integers from 10 to 209 Four-place common logarithms. Natural and logarithmic trigonometric functions. Equivalents of radians in degrees, minutes, seconds. Squares, cubes, roots, reciprocals. Greek alphabet.

Note A short but useful compilation of fundamental forms of integrals, and associated functions and formulas. The fourth part contains 16 useful tables. The first edition was published in 1929 Numerous additions had been made in succeeding editions, but in this fourth edition all have been inserted in their appropriate places, corrections have been made the section on Bessel functions has been revised one table has been added in the fourth part of the volume and several tables have been much extended.

PHILLIPS, HENRY BAYARD

Differential equations. Third edition revised New York John Wiley & Sons, Inc. 1951 149 p illus 22 cm. $3.25 302

Contents. Differential equations of the first order with variables separable. Other equations of the first order Special types of second order equations. Linear equations with constant coefficients. Answers. Index.

Note. A standard textbook for use in undergraduate college courses. It is concisely and clearly written. Most of the examples worked out in the text illustrate applications in science and engineering. The author is member (emeritus) of the faculty of Massachusetts Institute of Technology

RAINVILLE, EARL DAVID

Elementary differential equations. New York The Macmillan Company, 1952 392 p illus. 21 cm $5 00 303

Content Definitions, elimination of arbitrary constants. Equations of the first order and first degree. Additional methods for equations of the first order and first degree Orthogonal trajectories. Hyperbolic functions. Linear equations with constant coefficients Nonhomogeneous equations Undetermined coefficients—operational methods. Applications. Electric circuits and networks. Variation of parameters and other methods. Equations of order one and higher degree. Special equations of order two. The power series method. Solutions near regular singular points. Additional topics on power series solutions. The existence of solutions. Numerical methods. Partial differential equations. Fourier series. Boundary value problems. Supplements A, B, C. Index.

Note: The subject of the problem of moments has extensive literature, but has not hitherto been treated in book form. The main attention is given to the classical moment problem, but a special chapter is devoted to the theory of approximate ("mechanical") quadratures, which is intimately related to the theory of moments.

SMITH EDWARD STAPLES AND OTHERS

Analytic geometry Second edition. By Edward S Smith Meyer Salkover and Howard K. Justice. New York John Wiley & Sons, Inc., 1954 306 p. illus. 22 cm. $4.00 318

Contents: Plane analytic geometry: Coordinates. Locus, equation, graph. The straight line. Conic sections. The circle. The parabola. The ellipse. The hyperbola. Transformation of coordinates. The general equation of the second degree. Tangents and normals. Higher plane curves. Polar coordinates. Parametric equations. Empirical equations. Solid analytic geometry: Cartesian coordinates in space. Space loci. The plane. The straight line. Surfaces. Appendix. Formulas for reference. Tables. Answers to odd-numbered problems. Index.

Note: A standard college text, written by members of the faculty of the University of Cincinnati. It is introductory to the study of analytic geometry and is designed to prepare the student for further work in science or engineering. To facilitate comprehension on the part of the student, the authors have included many worked examples and a large number of drawings. The first edition was published in 1941. The second edition is essentially the same, but does include revised problems and several improved treatments of specific topics.

SMITH EDWARD STAPLES AND OTHERS

Unified calculus, by Edward S Smith, Meyer Salkover and Howard K. Justice. New York John Wiley & Sons, Inc. 1947 534 p. illus. 22 cm. $5.50 319

Contents: Variables, functions, and limits. Differentiation and applications. Integration, area, volume. Centroid, moment of inertia, pressure, work. Differentiation of algebraic functions. Differentiation of transcendental functions. Further applications of derivatives. Plane curves—rectangular coordinates. Integration. Methods of integration. Further applications of integration. Approximate integration. Indeterminate forms. Infinite series. Expansion of functions. Hyperbolic functions. Partial differentiation. Multiple integrals. Differential equations. Table of integrals. Formulas for reference. Tables. Index.

Note: A revision of the authors' Calculus, New York, 1938. It is designed for introductory college classes. The arrangement of subject matter is intended to emphasize the basic unity of differential and integral calculus, and to make it possible for the student to make early use of the techniques of both. Throughout the work in this edition, there are a number of minor revisions, and the entire chapter on differential equations has been added. The authors are members of the faculty of the University of Cincinnati.

SOKOLNIKOFF IVAN STEPHEN

Advanced calculus New York McGraw Hill Book Company Inc., 1939 446 p. illus. 23 cm. $7.00. 320

Contents (abridged): Limits and continuity. Derivatives and differentials. Functions of several variables. Definite integrals. Multiple integrals. Line integrals. Infinite series. Power series. Applications of power series. Improper integrals. Fourier series. Implicit functions.

Note: This book, intended for the student with one year of preparation in calculus, seeks to develop a critical attitude toward analytical processes. The many rigorous arithmetic proofs are supplemented by further bibliographical references. There are numerous illustrative exercises and problems scattered throughout the text.

SPENCELEY GEORGE WELLINGTON AND R. M SPENCELEY

Smithsonian elliptic functions tables. Prepared by G W and R. M Spenceley (Publication 3863) Washington, D C. The Smithsonian Institution, 1947 366 p. 24 cm. (Smithsonian miscellaneous collections. Vol 109 whole volume) $4.50 321

Contents: Preface. Elliptic functions tables $\theta = 1°$ to $\theta = 89°$. Appendix. Hyperbolic functions. Circular functions.

Note: A series of tables printed to 12 decimal figures presenting values as follows for elliptic functions from $\theta = 1°$ to $\theta = 89°$ and from [illegible] = 0 to [illegible] = 90 [illegible] = (v/90)K = F(θ,1), [illegible] E(θ, 1), A(v), D(v).

SPRAGUE, ATHERTON HALL

Calculus. New York The Ronald Press Company 1952 576 p. illus. 24 cm. $6.50 322

Contents: Function—limit—continuous function. The derivative. Further derivative formulas and techniques. Maxima and minima—related rates. Inverse functions—parametric equations. The trigonometric functions. The exponential and logarithmic functions. Differentials. Polar coordinates. Curvature. Curvilinear motion. The mean value theorem. Curve tracing. Integration. The definite integral. Geometric applications of the definite integral. Physical applications of the definite integral. Infinite series. Solid analytic geometry. Partial differentiation. Curves and surfaces in space. Multiple integrals. Table of integrals. Formulas for reference. Answers to problems. Index.

Note: An introductory textbook for college students who have completed courses in plane trigonometry and plane analytic geometry. In the words of the author: "The purpose of this book is to present the elements of the calculus as simply as possible without sacrificing rigor. Hence analytic proofs which might cause difficulty are accompanied by detailed explanation." Applications of the material to geometry and physics are shown, and many illustrative problems are provided. The author is Professor of Mathematics in Amherst College.

STEEN FREDERICK H, AND DONALD H BALLOU

Analytic geometry Third edition. Boston Ginn and Company 1955 225 19 p. illus. 24 cm $3.75 323

Contents: Introduction. Curves and equations. The straight line. The circle. The parabola. The ellipse and the hyperbola. Rotation of axes. Higher plane curves. Parametric equations. Polar coordinates. Empirical equations and curve fitting. Coordinates in space. The plane. The straight line. Surfaces. Tables and formulas. Answers. Index.

Note: The figures, of which there are 211 in this third edition, are a special feature of this well-organized textbook for introductory courses in analytic geometry. The first edition was published in 1943 and the second edition in 1946. In comparison to the preceding edition, the scope and organization are unchanged, but several sections have been revised and many new exercises for the student have been added. The treatment, original with the authors, of the problem of finding the equation of a given locus, which was a feature of the first and second editions, has been retained, and several topics including division of a line segment and the normal form of the equation of a line are given new treatments in this edition.

STRATTON J A. AND OTHERS

Spheroidal wave functions including tables of separation constants and coefficients. By J A. Stratton, P M Morse, L. J Chu J D C. Little, and F J Corbató New York Published jointly by The Technology Press of M.I.T and John Wiley & Sons, Inc., 1956 613 p. illus 29 cm. $12.50. 324

Contents: Elliptic and spheroidal wave functions. Introduction to the tables. Tables.

Note: A reference book of primary importance to physicists and engineers working in such fields as radar and acoustics. It contains (1) a foreword in which the importance of the wave equation is pointed out and the present state of techniques and the availability of tables for solving the wave equation in various systems of coordinates are critically appraised; (2) a monograph by L. J Chu and J. A. Stratton entitled, "Elliptic and spheroidal wave functions," reprinted from the *Journal of mathematics and physics*, August, 1941; (3) an "Introduction to the tables," by J. D. C.

theory to polygons. Infinite sequences and infinite series of analytic functions. Power series. T ylor's expansion. Liouville's theorem and the fundamental theorem of algebra. Laurent series. *Singularities of analytic functions.* Periodic functions. The Weierstrass factorization theorem Meromorphic functions and Mittag-Leffler's theorem Theory of residues. Analytic continuation.

Note A textbook for advanced undergraduate and graduate students in mathematics. The work is designed as foundation for one-year course in the subject in which approximately 20 periods of 75 minutes each are devoted to discussion of the real variable and 36 periods of the same length are given to consideration of the complex variable. Completion of the course equips the student to deal effectively with almost any topic of mathematical analysis. In treat ing the real umber system, the author relies upon infinite decimals rather than upon the Dedekind or Cantor theories. All geometrical questions are formulated in arithmetic terms, and every topological assumption made is explicitly stated.

SALZER, HERBERT E

Table of coefficients for obtaining the first derivative without differences Washington, D C Government Printing Office 1948 20 p 27 cm. (United States National Bureau of Standards Applied mathematics series 2) $0 15 312

Note: The numerical data presented in these tables were obtained by differentiation of the Lagrangian interpolation formula $f'(x_0 + ph) \sim \frac{1}{hC(\ )} \sum C_i^{(n)}(p) f(x_0 + ih)$ [illegible]. They give the values of the polynomials $C_i^{(n)}(p)$ for p ranging from $-[(-1)/2]$ to $[/2]$. For $= 4$ 5 and 6, the polynomials are tabulated at intervals of 0.01; for $= 7$ they are tabulated t intervals of 0.1

SALZER, HERBERT E

Tables of coefficients for the numerical cal culation of Laplace transforms Washington D C Government Printing Office, 1953 36 p 26 cm (United States. National Bureau of *Standards Applied mathematics series.* No 30) $0.30 313

Contents Introduction. Schedule A, Lagrange interpolation coefficients, 2-point through 11 point. Schedule B, Laplace transforms of interpolation coefficients, 2 point through 11 point. Table Laplace transforms of Lagrange coefficients, 2-point through 11 point. T ble n, $1/p^{n+1}$ $= 0(1)10$ $p = 0\ 1(.1)10$.

Note The tables of coefficients published in this booklet are to facilitate the numerical evaluation of infinite integrals expressible in the form of Laplace transforms, such as arise in the theory of heat conduction and in variou branches of electrical engineering The author prepared the publication in the Computation Laboratory of the National Bureau of Standards.

SCHAEFFER, ALBERT CHARLES, AND DON ALD CLAYTON SPENCER

Coefficient regions for schlicht functions New York American Mathematical Society, 1950 311 p illus (part col d) 26 cm (American Mathematical Society Colloquium publi cations Vol xxxv) $6 00 314

Contents (abridged): History of schlicht functions nd elementary properties of the nth region. Variations of schlicht functions. The critical points of the differential equation. The Γ structure. Functions which are regular in $|z| < 1$ and satisfy the differential equation. The length-area principle. Löwner curves. Linear forms and the supporting surface. The portion of the boundary of V corresponding to single analytic arcs. Parametrization of the boundary of V_n. The region V A method for investigating the conjecture $|a_4| \leq 4$ The region of values of the derivative of schlicht function, by A. Grad. Appendix. Bibliography Index.

Note This monograph is presentation of the results of the investigations by the thors during the last few years of the family of extremal schlicht functions. Most of the material is new In the calculus of variations, there are two classical *approaches* (a) study of specific problems using local variations; (b) study of a whole class of extremal problems and the investigation of the structure of the class as a whole. I this monograph the authors have sought to *develop systematic* pproach to problems of type (b). In order to keep the treatment within manageable length the authors have confined themselves to extremal problems relating to finit number of the coefficients in the T ylor expansion of f nction which is regular *and schlicht inside the* nit circle. A chapter by Dr A. Grad in which he investigates the region of possible values of the derivative of schlicht function t fixed point inside the unit circle provides a further example of these methods.

SCOTT, E J

Transform calculus with an introduction to complex variables New York Harper & Brothers, 1955 330 p illus. 24 cm. (Harper's mathematics series, Charles A. Hutchinson, editor) $7 50 315

Contents Functions of a complex variable. The Laplace transformation and its inverse. Properties of the Laplace transformation. Ordinary linear differential equations with constant coefficients. Matrix algebra and systems of linear differential equations. Linear difference equations with constant coefficients. Linear partial differential equations. *Gamma, error* and Bessel functions. *Asymptotic series.* Non-elementary integrals. Integral equations. Further problems in partial differential equations. The finite Fourier sine, cosine and Hankel transforms. Appendixes References. Tables of operations. Table of Laplace transforms. Table of finit sine transforms. Table of finite cosine transforms. Index.

Note A textbook developed at the University of Illinois and addressed to graduate engineers and other readers who are primarily *interested in the applications* f mathematics. The greater part of the space is devoted to the Laplace transformation, which is taught from the standpoint of functions of a complex variable. Numerous worked problems are included in the expository matter Most of the problems solved and also the problems for the student to solve illustrate applications in science and engineering. The final chapter provides a quick view of other transforms, some of which have found applications in engineering.

SHERWOOD, G E F, AND ANGUS E TAYLOR

Calculus. Third edition Englewood Cliffs, N J Prentice-Hall, Inc., 1954 579 p illus. 23 cm. $7 25 316

Contents: Fundamental concepts. *Elementary techniques* and applications. General formulas of differentiation—algebraic functions. Applications. Differentiation of transcendental functions with applications. Differentials—the law of the mean. Further applications. The inverse of differentiation. *The definite integral.* The technique of integration. Geometrical applications of definite integrals. Physical applications of definite integrals. The hyperbolic functions. Further study of limits. Infinite series and Taylor's formula. Power series. *Analytical geometry of three dimensions.* Partial differentiation. Curves and surfaces in space—envelopes. Double integrals. Triple integrals. Appendix. Index.

Note A college textbook designed as an introduction for prospective *engineers, mathematicians,* and scientists. Particular attention is given to the applications of calculus in science and engineering, and numerous exercises and problems are provided for each topic. The first edition was published in 1942 and the second edition in 1946. Without changing the scope of the book, several chapters are extensively rewritten in preparing this third edition. Also, the order of some of the topics was revised.

SHOHAT, JAMES ALEXANDER, AND J D TAMARKIN

The problem of moments. New York American Mathematical Society 1943 140 p 26 cm (Mathematical surveys. No 1) $3.35 317

Contents: Brief historical review Distribution functions. Theorems of Helly Extension theorems for non-negative functionals. Stieltjes inversion formula. The Hamburger moment problem. The Stieltjes moment problem. The trigonometric moment problem. The Hausdorff one-dimensional moment problem. The Hausdorff two-dimensional moment problem. Theory of the Hamburger moment problem. Various modifications of the moment problem. Approximate quadratures. Bibliography Index.

tions. Precision, errors, and the slide rule. Coordinates and graphs. Useful tables.

Note: A comprehensive view of trigonometry appropriate to college study is presented in this text. No previous instruction in the subject is assumed. [illegible], the book begins with [illegible] chapter devoted to the elementary properties of angles and to their measurement. The two chapters on oblique triangles provide unusually full treatment of this subject [illegible] general text. Complex numbers, polar co-ordinates, and series expansions are presented as areas of trigonometry. The first edition was published in 1934. This second edition is identical in scope and organization; however, various sections of chapters have been rewritten, and revisions have been made in the exercises and problems.

THRON WOLFGANG J

Introduction to the theory of functions of a complex variable. New York John Wiley & Sons, Inc., 1953 230 p. 24 cm. $6 95 330

Contents: Fundamental concepts. Real numbers. Cardinal numbers. Complex numbers. Sums and products. Hausdorff spaces. Metric spaces. The plane of complex numbers. Limits, continuity, differentiability. Real functions of real variables. Curves and regions in the plane of complex numbers. Some combinatorial topology. Jordan curves. Rectifiable and directed curves. Integration. The Cauchy integral theorem. Sequences of functions. Infinite series. Power series. Function spaces. Elementary transcendental functions. Inverse functions. Analytic continuation and singular points. The extended plane. Classification of some single-valued analytic functions. Residues. Conformal maps. Linear fractional transformations and inversions. Simple functions and the Riemann mapping theorem. The elliptic modular function and Picard's theorems. Riemann surfaces. Index.

Note: A self-contained treatment of the theory of [illegible] complex variable. The author has avoided the familiar device—in introductory works—of referring the reader to other sources for difficult proofs, nor does he rely on intuition. All terms are precisely defined, and all results are rigorously derived from [illegible] simple set of axioms. Although an introduction as stated in the title, some advanced concepts, such as function spaces, are included.

TODD JOHN

Table of arctangents of rational numbers. Issued March 30 1951 Washington, D C. Government Printing Office, 1951 105 p. 27 cm. (United States. National Bureau of Standards. Applied mathematics series 11) $1.50. 331

Contents: Introduction. Table 1 arctan $\frac{m}{n}$ arccot $\frac{m}{n}$ and reductions of arctan $\frac{m}{n}$ [illegible] for [illegible] $< m <$ [illegible] $\leqslant$ 100. Table 2. Reductions of arctan n, for reducible [illegible] $\leqslant$ 2089

Note: [illegible] set of tables of arctangents with rational arguments prepared in response to need for the same especially in differential equations of importance in many atomic collision problems. Table 1, in addition to [illegible] + [illegible] and arctan (m [illegible]), also gives arccot (m [illegible]). The angles are expressed in radians to [illegible] decimals, and the complete reductions of arctan (m [illegible] are given for 0 < m < [illegible] $\leqslant$ 100. Table 2 gives [illegible] list of those integers [illegible] not exceeding 2089 for which arctan [illegible] is reducible and the corresponding complete reductions. The work was done in the Computation Laboratory of the National Bureau of Standards under the partial sponsorship of the Office of Naval Research of the Navy Department.

UNDERWOOD RALPH SYLVESTER, AND FRED W SPARKS

Analytic geometry Second edition. Boston Houghton Mifflin Company 1956 282 p. illus. 22 cm. $3.25 332

Contents: The co-ordinate system, with applications. The straight line. The circle. The conic sections. Simplification of equations. Transcendental curves. Rapid sketching. Polar co-ordinates. Parametric equations and special curves. Curve fitting. Applications to three dimensions. Fundamental formulas in space. The plane and the line in space. Special topics. Answers. Index.

Note: A short textbook for use in college courses. In spite of its brevity the exposition is enlivened by many comments on applications, stumbling blocks, and other points that are not found in more formal texts.

UNDERWOOD, RALPH SYLVESTER AND OTHERS

Intermediate algebra by Ralph S Underwood, Thomas R. Nelson and Samuel Selby New York The Macmillan Company 1947 283 p. illus. 21 cm. $3 60. 333

Contents: Algebra as [illegible] language and [illegible] tool. Type products and factoring. Fractions. Linear equations in one unknown. Functions and graphs. Simultaneous linear equations. Exponents and radicals. The number system. Quadratic equations. Special equations in one unknown. Simultaneous equations. Ratio, proportion, and variation. The binomial theorem. Progressions. Logarithms. Tables. Answers. Index.

Note: The authors have designed this text to meet the needs of first-year college students [illegible] who do not have [illegible] good grounding in elementary algebra. Because of its clear presentation of elementary principles, it can be used also in self-instruction by persons [illegible] who have had [illegible] high-school course.

UNITED STATES COAST AND GEODETIC SURVEY

Natural sines and cosines to eight decimal places. Washington, D C. Government Printing Office 1942 541 p. 28 cm. (United States. Coast and Geodetic Survey Special publication. No. 231) $3 75 334

Note: The tables in this volume are in steps of one degree

UNITED STATES NATIONAL BUREAU OF STANDARDS INSTITUTE FOR NUMERICAL ANALYSIS

Simultaneous linear equations and the determination of eigenvalues edited by L. J Paige and Olga Taussky Proceedings of a symposium held August 23–25 1951 in Los Angeles, California, under the sponsorship of the National Bureau of Standards in cooperation with the Office of Naval Research. Washington D C. Government Printing Office, 1953 126 p illus. 27 cm. (United States. National Bureau of Standards. Applied mathematics series. No. 29) $1.50. 335

Contents: Tentative classification of methods and bibliography on solving systems of linear equations, by G. E. Forsythe. Simultaneous systems of equations, by A. M. Ostrowski. The geometry of some iterative methods of solving linear systems, by A. S. Householder. Solutions of linear systems of equations on [illegible] relay machine, by C.-E. Fröberg. Some special methods of relaxation technique, by E. Stiefel. Errors of matrix computations, by P. S. Dwyer. Rapidly converging iterative methods for solving linear equations, by J. B. Rosser. Some problems in aerodynamics and structural engineering related to eigenvalues, by R. A. Frazer. Inclusion theorems for eigenvalues, by H. Wielandt. On general computation methods for eigenvalues and eigenfunctions, by G. Fichera. Variational methods for the approximation and exact computation of eigenvalues, by A. Weinstein. Determination of eigenvalues and eigenvectors of matrices, by M. R. Hestenes. New results in the perturbation theory of eigenvalue problems, by F. Rellich. Bounds for characteristic roots of matrices, by A. Brauer. Matrix inversion and solution of simultaneous linear algebraic equations with the IBM 604 electronic calculating punch, by G. W. Petrie, III. Experiments on the inversion of [illegible] 16 × 16 matrix, by J. Todd. A method of computing eigenvalues and eigenvectors suggested by classical results on symmetric matrices, by W. Givens. Computations relating to inverse matrices, by J. Sherman. Results of recent experiments in the analysis of periods carried out in the Istituto Nazionale per le Applicazioni del Calcolo, by G. Fichera.

Note: The development of high-speed automatic digital computing machines provided reasons for the re-examination of the methods of solution of systems of linear equations and the determination of eigenvalues. Selected mathematicians from several countries were invited to deliver papers on various aspects of the field at [illegible] symposium, and [illegible] majority of the papers are published in this volume.

Little and Fernando J Corbató, and (4) the tables proper The tables occupy 549 of the volume's pages. They were computed and typed on the Whirlwind digital computer at the Massachusetts Institute of Technology They give for both prolate and oblate spheroidal wave functions coefficients for the expansion of the radial function of the first kind in spherical Bessel functions and for the expansion of the angular function of the first kind in associated Legendre functions.

SYMPOSIUM ON PARTIAL DIFFERENTIAL EQUATIONS

Transactions of the Symposium on Partial Differential Equations held at the University of California, at Berkeley, June 20–July 1, 1955 Sponsored by the Office of Naval Research, University of California, Berkeley Calif, and American Mathematical Society Editorial committee N Aronszajn, A Douglis and C. B Morrey jr New York Interscience Publishers, Inc. 1956 334 p illus 26 cm. $6 50 325

Contents Some criteria for normality of families of continuous functions, by M. G. Arsove. Some hints on Huygens' principle and Hadamard' conjecture, by L. Asgeirsson. *Multivated harmonic functions in three variables*, by S. Bergman. Survey of local properties of solutions of elliptic partial differential equations, by L. Bers. *On the regularity properties of solutions of elliptic differential equations*, by F E. Browder On the calculus of variations in two variables, by L. Cesari. Discontinuity of solutions of quasi-linear differential equations in two variables, by Y W Chen. On singular and regular Cauchy problems, by J B Diaz. A criterion for the validity of Huygens' principle, by A. Douglis. Singularities of generalized axially symmetric potentials, by A. Erdélyi. Growth properties of solutions of non-linear elliptic equations, by R. Finn. Difference methods on digital computer for Laplacian boundary value and eigenvalue problems, by G. E. Forsythe. On the local behavior of solutions of $\Delta u = g(x, y, \ldots)$ by P Hartman. The scope and limitations of the method of Wiener and Hopf by A. E. Heins. On the existence problem for surfaces of constant mean curvature, by E. Heinz. On the reflection principle for polyharmonic functions, by A. Huber On linear differential equations in Banach spaces, by T Kato. An unsymmetric operator arising in the theory of neutron diffusion, by J Lehner A *variational method in the theory of* harmonic integrals, by C. B. Morrey jr Estimates and existence of solutions of elliptic equations, by L. Nirenberg. New isoperimetric *inequalities for eigenvalues and other physical quantities*, by J E. Payne. Remarks on Courant's nodal line theorem, by A. Pleijel. Remarks on the application of gradient mappings to the calculus of variations and the connected boundary value problems in partial differential equations, by E. H. Rothe. Mean values and continuity of Riesz potentials, by K. T Smith. On radiation conditions, by J J Stoker A direct approach to the problem of stability in the numerical solution of partial differential equations, by J Todd. Upper and lower bounds for eigenvalues by finite difference methods, by H. F Weinberger Some new methods in two-dimensional variational problems with special reference to minimal surfaces, by L. C. Young.

Note The papers published in this volume were written by *eminent mathematicians who are engaged in research in pure and* applied mathematics, and they were addressed to graduate scientists and engineers working at research and design levels that require keeping abreast of developments in the solution and applications of partial differential equations. Most of the papers include literature references.

TAUSSKY, OLGA, editor

Contributions to the solution of systems of linear equations and the determination of eigenvalues Edited by Olga Taussky Washington D C Government Printing Office 1954 139 p 27 cm (United States National Bureau of Standards. Applied mathematics series 39) $2 00 326

Contents Practical solution of *linear equations and inversion of* matrices, by L. Fox. Punched-card experiments with accelerated *gradient* methods for linear equations, by A. I. Forsythe and G. E. Forsythe. Iterative methods of solving linear problems on Hilbert space, by R. M. Hayes. Tables of inverses of finite segments of the *Hilbert* matrix, by I. R. Savage and E. Lukacs. The condition of the finite segments of the Hilbert matrix, by J Todd. Lower bounds for the rank and location of the eigenvalues of matrix, by K. *Fan and A. J Hoffman. Inequalities for eigenvalues of Hermitian* matrices, by K. Fan

Note. Most of the papers in this volume deal with aspects of the solution of simultaneous equations. The *preparation of the* papers was sponsored by various agencies of the U. S. Department of Defense. The volume serves as sequel to *Applied mathematics series 29* "Simultaneous linear equations and determination of eigenvalues, described below

THOMAS, GEORGE B, JR

Calculus Reading Mass Addison Wesley Publishing Company, Inc., 1953 616 p illus. 23 cm (Addison Wesley mathematics series, Eric Reissner, consulting editor) $8 50 327

Contents The rate of change of a function. Derivatives of algebraic functions. Applications Integration. Applications of integration to physics. Polar coordinates. Transcendental functions. Hyperbolic functions. Methods of integration. Vectors and parametric equations. Solid geometry and vectors. Partial differentiation. Multiple integrals. *Infinite series*. *Differential* equations. Appendix. Index.

Note. The chief difference between this college text and the author's *Calculus and analytic geometry* described in the next entry is that it is designed for students who have already studied analytic geometry Three chapters contained in the larger book and dealing with plane analytic geometry determinants and linear equations, and complex numbers and functions have been omitted from the present work. The chapters that are common to both works are essentially identical, but there are some variations, as, for example, in discussion of curvature and normal vectors in the chapter entitled "Vectors and parametric equations.

THOMAS, GEORGE B, JR.

Calculus and analytic geometry Second edition 1953 Reading Mass Addison Wesley Publishing Company Inc. 1953 731 p. illus 23 cm. (Addison Wesley mathematics series Eric Reissner consulting editor) $7 50 328

Contents The rate of change of function. Derivatives of *algebraic functions. Applications. Integration. Applications of integration* to physics Plane analytic geometry Polar coordinates. Transcendental functions. Hyperbolic functions. Methods of integration. Vectors and parametric equations. Determinants and linear equations. Solid geometry and vectors. Partial differentiation. Multiple integrals. Infinite series. Complex numbers and functions. Differential equations Answers to questions. Appendix. Index.

Note. An introductory textbook which was developed at the Massachusetts Institute of Technology where the author is Associate Professor of Mathematics. The exposition is slanted for students who are majoring in physics or engineering nevertheless, the treatment is thorough. The concept of the integral as limit of sum is introduced early and its fundamental nature is emphasized. *The close relations* between calculus and analytic geometry are also stressed. The first edition was published in 1931 and was printed by photolithographic process from typewritten copy The present edition has been printed from type and contains one additional chapter that on differential equations.

THOMPSON, JAMES E, AND WILLIAM H H COWLES

Trigonometry for colleges and engineering schools. Second edition. Princeton D Van Nostrand Company Inc. 1949 280 lxxiii p. illus. 23 cm $4 25 329

Contents Angles and angle measure. Trigonometric functions of angles. Functions of acute angles and trigonometric tables. Right triangles Applications and problems. Properties of *functions* of one angle. Functions of several angles Inverse trigonometric functions. Properties of oblique triangles. *Solution of oblique triangles*. Applications and problems. Polar coordinates and complex numbers. Series expansions and complex numbers. Index. Appendixes: Loga-

Note The tables presented in Volume give functional values to decimal places for $J_n(x)$ for $n = 1, 2, 3$, and 4. Methods of interpolation to obtain J (x) for other values of the index are described the introduction. The tables presented in Volume II give functional lues to 10 decimal places of $I_n(x)$ for n 1/4, 1/3, 2/3, 3/4. the range of 0 to 25 for x. The tabulations have value in the solution of problems in such fields as elasticity heat conductivity and hydrodynamics.

NITED STATES NATIONAL BUREAU OF TANDARDS

Table of the Bessel functions $J(z)$ and $J(z)$ for complex arguments Second edition. New York Columbia University Press 1947 403 p. 27 cm. $7.50 343

Contents Contour lines of $J(z)$ and $J(z)$. Contents. Introduction. Supplementary notes. Bibliography. Table of Bessel functions. Table of Lagrangian interpolation coefficients.

Note The functions of orders of zero and one, which are encountered in the general solution of boundary value problems arising in the theory of potential, heat conduction, and wave motion, are here tabulated for argument-points defined by polar coordinates. Along each of the rays at five-degree steps from 0° to 90° ten-place values of the real and imaginary parts of J ( ) and J (z) are given for moduli ranging from 0 to 10 at intervals of 0.01. The tables are useful for the evaluation of integrals involving Bessel functions, and for the solution of transcendental equations as well. The bibliography contains 64 references to the world literature relating to Bessel functions of orders zero and one.

UNITED STATES NATIONAL BUREAU OF STANDARDS

Tables of the Bessel functions Y_0 ( ) and $Y_1(z)$ for complex arguments. Prepared by the Computation Laboratory Conducted under the sponsorship of the National Bureau of Standards Arnold N Lowan, chief The Computation Laboratory New York Columbia University Press 1949 432 p. 27 cm. $7.50. 344

Note Most of the space in this reference work is devoted to the main table in which along each of the rays $\phi = 0°, 5°$ 90° ten-place values of the real and imaginary parts of Y (z) are given for values of (z) ranging from 0 to 10 at intervals of .01. The book is a companion volume to United States. National Bureau of Standards. Mathematical Tables Project. *Table of the Bessel functions J₀(z)* and *J* (z) *for complex arguments*, described above.

UNITED STATES. NATIONAL BUREAU OF STANDARDS

Tables of the Bessel functions Y (x) Y (x) K (x) K (x) $0 \leqq X \leqq 1$ Washington, D C Government Printing Office 1952 60 p. 26 cm. (United States National Bureau of Standards. Applied mathematics series 25) $0.45 345

Contents Introduction. Table of $Y_0(x)$ and Y with auxiliary functions. Values of $C_0(x)$ and $D_0(x)$ ... (0(.0001)0.010; 8D ...). Values of Y_0 and Y ... Table of K_0 and K_1 with auxiliary functions ... Values of K_0 and K_1 ... 7D). Values of K_0 and K_1 ...

Note These tables were compiled chiefly to be of assistance to nuclear technologists in calculating the multiplicative properties of chain reacting piles, neutron distributions, etc., involving cylinder functions. ... auxiliary functions are tabulated ... the Physicists and engineers in other fields also find them useful. ... Applied Mathematics Series ... with ... reviewed in the introduction.

UNITED STATES. NATIONAL BUREAU OF STANDARDS. NATIONAL APPLIED MATHEMATICS LABORATORIES

Tables of Bessel-Clifford functions of orders zero and one. Washington, D. C. Government Printing Office 1953 72 p 26 cm. (United States National Bureau of Standards. Applied mathematics series No. 28) $0.45 346

Contents Introduction, by M. Abramowitz Mathematical properties. Applications. Interpolation. Method of computation and accuracy of entries. References. Table I, $J_0(2\sqrt{x})$ and $J_1(2\sqrt{x})$ ... Table II, Y_0 ( ) and Y ... Table III, $I_0(2\sqrt{x})$ and $I_1(2\sqrt{x})$ ... Table IV ... Table V, $K_0(2\sqrt{x})$ and $K_1(2\sqrt{x})$ ... Table VI ... Auxiliary tables. Values of $E_0(y)$ and $F_0(y)$ ... Values of ...

Note The Bessel-Clifford functions, although obtainable from existing tables of Bessel functions, have been separately tabulated and here published as a convenience to those faced with frequent need to enter the tables with an irrational argument. A further reason for the separate publication is that the Bessel-Clifford functions arise as solutions of a class of differential equations occurring in various branches of applied physics and are therefore of importance in themselves. Tabulation of the functions of orders zero and one is carried up to a point where the asymptotic expansions can be used conveniently.

UNITED STATES. NATIONAL BUREAU OF STANDARDS

Tables of Chebyshev polynomials S (x) and C (x) Washington Government Printing Office 1952 161 p. 26 cm. (United States. National Bureau of Standards. Applied mathematics series 9) $1.75 347

Contents (abridged) Analytical properties of the Chebyshev polynomials. Algebraic properties of the Chebyshev polynomials. Arithmetical properties of the Chebyshev polynomials. Functional equations. Curve fitting by Chebyshev polynomials. Solution of linear differential equations with rational coefficients by Chebyshev polynomials—the τ-method. Use of the numerical tables of the Chebyshev polynomials. References. Tables of the Chebyshev polynomials $S_n(x)$ and $C_n(x)$ ...

Note The Chebyshev polynomials $S_n(x)$ and $C_n(x)$ are tabulated in this volume. Values of functions are rounded to 12 decimal places, except in the cases where exact values could be stored in fewer decimals. The tables are preceded by 27 pages of prefatory matter on the properties of Chebyshev polynomials, directions for use of the tables, etc.

UNITED STATES NATIONAL BUREAU OF STANDARDS

Tables of circular and hyperbolic sines and cosines for radian arguments. Washington, D C. Government Printing Office 1953 407 p. 26 cm. (National Bureau of Standards. Applied mathematics series. No. 36) $3.00. 348

Contents Introduction, by A. N. Lowan. Table I, Circular and hyperbolic sines and cosines ... 9D. Supplementary table. Table II, Circular and hyperbolic sines and cosines ... 9D. Table III, Conversion tables: degrees, minutes, seconds to radians. Table IV Multiples of ...

Note The tables presented in this volume are of value in many fields of pure and applied mathematics. Examples of applications include computations concerning the periodic flow of solar heat at given depth in the earth, the catenary curve assumed by cable suspended between two points, calculations involving use of the Fourier series, and computations on elasticity. This is the third edition of a set of tables originally published in 1940. Eight errors reported in the earlier editions are listed in the preface and have been

The reports on simultaneous linear equations are confined to finite systems, but those on the determination of eigenvalues deal with both discrete and continuous cases and include reports specifically on the determination of bounds for the eigenvalues.

UNITED STATES NATIONAL BUREAU OF STANDARDS

Table of arctan x (A reissue of Mathematical table 16) Washington, D C. Government Printing Office, 1953 170 p 27 cm. (National Bureau of Standards Applied mathematics series No 26) $1 75 336

Contents Introduction, by A. N Lowan Properties of the function Direct interpolation. *Approximate arguments.* Inverse interpolation. Method of computation. Method of checking the tables. Bibliography of tables. Table of arctan x: x = 0(.001)7(.01)50(.1)300(1)2000(10)10000, 12D Auxiliary tables. Values of E (p) and F (p) $E_2(p) = p(1-p^2)/6$; F (p) = q $(1-q^2)/6$; $p+q=1$ Values of $\frac{1}{4}p(1-p)$ Conversion table, radians ⇄ degrees.

Note In this volume, the intervals between successive arguments are such that interpolation t 12 decimal places is possible with the aid of the second central differences, which are tabulated alongside the entries. The tables are useful in computations involving complex numbers, natural logarithms, integrals of rational functions, and related mathematics. Between the original publication in 1943 and the reissue in 1953, no errors in the functional values were reported, but several misprints in the arguments were discovered and have been corrected in the reissue

UNITED STATES WORK PROJECTS ADMINISTRATION MATHEMATICAL TABLES PROJECT

Table of circular and hyperbolic tangents and cotangents for radian arguments Prepared by the Mathematical Tables Project, Work Projects Administration of the Federal Works Agency Conducted under the sponsorship of the National Bureau of Standards Lyman J Briggs, director, National Bureau of Standards, official sponsor Arnold N Lowan, technical director, Mathematical Tables Project. New York Columbia University Press, 1943 410 p 27 cm $7 50 337

Contents: Introduction, Bibliography Table I, Circular and hyperbolic tangents and cotangents. Table I Circular and hyperbolic tangents and cotangents. Conversion tables, radians to degrees, minutes, and seconds. Values of $\frac{1}{4}p(1-p)$. Values of $1/6p(1-p^2)$ and $1/6q(1-q^2)$ Multiples of $\frac{1}{2}\pi$

Note The main table in this volume is devoted to the circular and hyperbolic tangents and cotangents for radian arguments ranging from 0 to 2 t intervals of 0.0001 Supplementary tables for all four functions over the range of 0 to 10 at intervals of 0.1 are also included. These tables form companion volume to the Work Projects Administration *Tables of circular and hyperbolic sines and cosines* New York, 1939

UNITED STATES NATIONAL BUREAU OF STANDARDS

Table of the descending exponential x–2 5 to x–10 Washington D C Government Printing Office, 1955 76 p 26 cm (National Bureau of Standards Applied mathematics series. No 46) $0 50 338

Contents Introduction. Table of the descending exponential e^{-x} x = 2.5(.001)10, 20D

Note: This booklet is a supplement to *Tables of the exponential function* e^x (Applied mathematics series. No. 14), 3rd edition, 1951 described below In the earlier volume the descending or negative exponential e^{-x} is tabulated from x = 0 to x = 2.5 t intervals of .0001 in the argument and for x = 1 to x = 100 at intervals of 1 The present table gives the values in the range x = 2.5 to x = 10 at intervals of .001 to 20 decimal places. It facilitates interpolation and provides greater accuracy than previously available in this range.

UNITED STATES NATIONAL BUREAU OF STANDARDS

Table of the gamma function for complex arguments Washington, D C. Government Printing Office, 1954 105 p 27 cm. (United States. National Bureau of Standards. Applied mathematics series No 34) $2 00 339

Contents: Introduction, by H. E. Salzer; Purpose and scope of table. Important properties of the gamma function. Method of computation. Interpolation. Bibliography and notes. Table of log$_{10}$Γ($x+iy$), x = 0(.1)10, y = 0(.1)10, 12D. Auxiliary tables sin πx cos πx, sinh πx, cosh πx, = 0(.1)10, 15D or 15S.

Note: In both pure and applied mathematics the table of the complex gamma function is of fundamental importance, for it makes possible the cataloguing of the complex gamma function in the set of known mathematical functions. The tabulation was prompted to meet urgent and specific needs in the fields of atomic and nuclear research.

UNITED STATES NATIONAL BUREAU OF STANDARDS

Table of hyperbolic sines and cosines x–2 to x–10 Washington D C Government Printing Office, 1955 81 p. 26 cm (National Bureau of Standards Applied mathematics series. No 45) $0 55 340

Contents: Introduction. Table of sinh x and cosh for x = 2(.001)10 9s.

Note: This table has been prepared and published as an addition to the volume entitled *Tables of circular and hyperbolic sines and cosines for radian arguments* (Applied mathematics series, No. 36), which is noted below It makes vailable the hyperbolic sines and cosines in the extended range from 2 to 10. The table was computed on the National Bureau of Standards Eastern Automatic Computer (SEAC) by W F Cahill, and the results transferred to punched cards. These cards were differenced and prepared for printing by K. C. Nelson.

UNITED STATES NATIONAL BUREAU OF STANDARDS

Table of sine and cosine integrals for arguments from 10 to 100 Washington D C Government Printing Office, 1954 187 p. 27 cm. (National Bureau of Standards Applied mathematics series No 32) $2.25 341

Contents Introduction by A. N Lowan. Table of sine and cosine integrals $Si(x)$ and $Ci(x)$: x = 10(.01)100, 10D Auxiliary tables Multiples of $\pi/2$. Values of $1/2p(1-p)$. Values of E (p) and F (p). $E_2(p) = p(1-p^2)/6$; F (p) = $q(1-q^2)/6$; $p+q=1$.

Note The sine and cosine integrals tabulated in this volume are useful in the solution of many problems in electrical and radio engineering, such as the radiation resistance of directional antennas, of short-wave transmitters, in optical problems particularly relating to diffraction, and in other branches of physics. I the reissue, the bibliography has been brought up to date, and three new tables appear among the auxiliary tables.

UNITED STATES NATIONAL BUREAU OF STANDARDS

Tables of Bessel functions of fractional order New York Columbia University Press, 1948–49 2 v illus 27 cm V I $7 50 v II $10 00 342

Contents (abridged) Volume Note on modified differences. Bibliography Constants. Tables of J ( ). Tables of A ( ) nd $B_\nu(x)$ [25(1)50(1)300(10)3,000(100)10 000(200)30,000; 10D]. *Zeros of* $J_\nu(x)$. Tables of sines and cosines. Everett s interpolation coefficients. *Multiples of* $\pi/2$. *Table of* $L_\nu(x)$—for interpolating in the ν-direction. Volume II Introduction. Constants. Tables of I_ν( ). Tables of $e^{-x}I$ (x). Everett interpolation coefficients. Table of $L_\nu(x)$—for interpolating in the ν-direction.

Contents: Introduction, by A. N. Lowan. Table I, Sin [illegible] and cos x, [illegible] = 0(0.0001)2, 8D. Table II, Sin [illegible] and cos x, [illegible] = 0(.0001)1.5, 15D. Table III, Sin [illegible] and cos x, [illegible] × 10⁻⁹ [illegible] = 1(1)9, [illegible] = 1(1)10, 15D. Table IV, Sin [illegible] and cos x, [illegible] = 0(.00001)0.01000, 15D. Supplementary tables: Table [illegible] Conversion table. Degrees, minutes, second and radians. Table VI. Values of [illegible](1 − [illegible]), [illegible] = 0(.001)1, exact.

Note: This work is [illegible] reissue, with [illegible] new preface and minor corrections and minor changes, of *Mathematical table MT 4*, originally published in 1940, compiled by the New York Mathematical Tables Project, the predecessor of the Computation Laboratory of the National Bureau of Standards. The tables, consisting mainly of sines and cosines of angles expressed in radian argument, bring together in one place all such previous tables corrected to at least eight decimal places. The tables are of value in their application to the asymptotic expansion of transcendental functions, in machine and other computations.

UNITED STATES NATIONAL BUREAU OF STANDARDS

Tables of spherical Bessel functions. Prepared by the Mathematical Tables Project, National Bureau of Standards. New York Columbia University Press, 1947 2 v 27 cm. $7.50 per vol. 355

Contents (abridged): [illegible]

Note: The above volumes represent the continuation of [illegible] project begun in 1938 by the Work Projects Administration of the City of New York, and taken over by the United States National Bureau of Standards in 1943. Their purpose is to provide tabulations of mathematical functions which are of fundamental importance in pure and applied mathematics. They are of particular value to physicists and engineers concerned with the solution of complex problems relating to wave motion, analysis of atomic and molecular structure, electricity, heat conduction, hydrodynamics, etc. Each volume describes how the tables were computed, methods of use, and methods of interpolation. In the tables of contents the figures in the square brackets denote the range, the interval between consecutive arguments, and the number of decimal places or significant figures in the tabulated entries.

UNITED STATES. WORK PROJECTS ADMINISTRATION MATHEMATICAL TABLES PROJECT

Tables of Lagrangian interpolation coefficients. Prepared by the Mathematical Tables Project, Work Projects Administration of the Federal Works Agency. Conducted under the sponsorship of the National Bureau of Standards. Lyman J Briggs, director National Bureau of Standards official sponsor Arnold N Lowan, technical director Mathematical Tables Project. New York Columbia University Press, 1944 392 p. 27 cm. $7.50 356

Note: This reference volume extends the few existing tables of Lagrangian interpolation coefficients in polynomials of degree [illegible] for [illegible] 3, 4, [illegible] 11, by giving the entries at smaller intervals of the argument and by making adequate provisions for interpolation near the beginning and the end of the table. The first nine tables give the coefficients for the argument *p* in decimal form corresponding to [illegible] 3, 4 [illegible] 11. Table [illegible] gives interpolants for *p* at intervals of 0.1 for [illegible] 3, [illegible] 8. Table [illegible] contains the [illegible] coefficients for [illegible] 3, 4, [illegible] 8 for *p* in multiples of 1/12. [illegible] coefficients for [illegible] = 3, 4, [illegible] 11 are tabulated in table [illegible], and [illegible] of these coefficients together with further formulas is also included.

USPENSKY, JAMES VICTOR

Theory of equations. New York McGraw Hill Book Company Inc., 1948 353 p. illus. 24 cm. $5.50. 357

Contents: Complex numbers. Polynomials in one variable. Algebraic equations and their roots. Limits of roots—rational roots. Cubic and biquadratic equations. Separation of roots. The theorem of Sturm. Approximate evaluation of roots. Determinants and matrices. Solution of linear equations by determinants—some applications [illegible] determinants to geometry. Symmetric functions. Elimination. Appendices: The fundamental theorem [illegible] algebra. On the theorem of Vincent. On equations [illegible] roots have negative real part. Iterative solution of the frequency equation. Graeffe's method. Answers. Index.

Note: A distinguishing feature of this book is the fullness of the exposition. The method of separating real roots that is presented in the sixth chapter was originated by the author.

VON NEUMANN, JOHN

Functional operators. Princeton Princeton University Press, 1950 2 v 26 cm. (Annals of mathematics studies edited by Emil Artin and Marston Morse Vol. 21–22) $3.50 per vol. 358

Contents: Volume I, Measures and integrals: Point set theory. Outer measure. Measure. Inner measure. Invariance of measure under transformation. Covering theorems. Non-measurable sets. Lebesgue integral. Measurable functions. General measure functions and outer measures. Properties of the general integral. Volume II, The geometry of orthogonal spaces: Linear spaces. Linear operators. Commutativity. Reducibility.

Note: A notable contribution to operator theory. It is based on lectures that were given at the Institute for Advanced Study in the years 1933–34 and 1934–35 and is addressed to professional mathematicians and to other scientists with extensive mathematical experience.

WALL, HUBERT STANLEY

Analytic theory of continued fractions. Princeton D Van Nostrand Company Inc., 1948. 433 p. illus. 24 cm. (The university series in higher mathematics M H. Stone chairman, editorial board) $9.50 359

Contents: Part I, Convergence theory: The continued fraction as product of linear fractional transformations. Convergence theorems. Convergence of continued fractions whose partial denominators are equal to unity. Introduction to the theory of positive definite continued fractions. Some general convergence theorems. Stieltjes type continued fractions. Extensions of the parabola theorem. The value region problem. Part II, Function theory: J-fraction expansions for rational functions. Theory of equations. J-fraction expansions for power series. Matrix theory of continued fractions. Continued fractions and definite integrals. The moment problem for [illegible] finite interval. Bounded analytic functions. Hausdorff summability. The moment problem for an infinite interval. The continued fraction of Gauss. Stieltjes summability. The Padé table. Bibliography. Index.

Note: An important contribution to the theory of continued fractions. The author has endeavored to combine the results obtained by himself and earlier writers in the field, including Stieltjes, Van Vleck and Pringsheim, into [illegible] unified theory and to develop the theory as part of [illegible] larger analytical structure obtained by regarding the continued fraction as generated by an infinite sequence of linear fractional transformations in [illegible] single variable, and also as arising from [illegible] single linear transformation in infinitely many variables. The book is organized as [illegible] textbook, but it is of interest to any mathematician working in this field. A knowledge of elementary function theory is presupposed.

WALSH, JOSEPH LEONARD

The location of critical points of analytic and harmonic functions. New York American Mathematical Society 1950 384 p. 26 cm. (American Mathematical Society Colloquium publications. Vol. XXXIV) $6.00. 360

corrected in the tables. One of the supplementary tables has been expanded in the new edition. A supplement is published under the title, *Table of hyperbolic sines and cosines* (Applied mathematics series No. 45) and is noted above.

UNITED STATES NATIONAL BUREAU OF STANDARDS

Tables of the exponential function e^x, prepared by National Bureau of Standards Computation Laboratory Issued June 29, 1951 (supersedes MT2, second edition) Washington, D C Government Printing Office, 1951 537 p 27 cm. (United States. National Bureau of Standards Applied mathematics series 14) $3 75 349

Contents: Introduction. Bibliographic notes. Ascending exponentials [0.0000(0.0001)1.0000; 18D]. Ascending exponentials [1.0000(0.0001)2.5000; 15D]. *Ascending exponentials* [2.500(0.001)5.000; 15D]. Ascending exponentials [5.00(0.01)10.00; 12D]. Descending exponentials [0.0000(0.0001)2.5000; 18D]. Ascending and descending exponentials [0.000000(.000001)0.000100; 18D]. Ascending and descending exponentials [1(1)100; 19S]. Ascending and descending exponentials at decimal intervals from $1 \times 10_{-10}$ to $9 \times 10_{-1}$; 18D. Values of and 1 ; 2556D

Note: The third edition of set of tables useful to a range of computations in mechanics, the kinetic theory of matter quantum mechanics, electricity magnetism, statistical mechanics, chemical kinetics, theory of probability or mathematical statistics. The work is for the most part a page-for page reproduction of the tables given in the first and second editions. In this edition several misprints have been corrected, and the values of and of 1 to 2556 decimal places have been added.

UNITED STATES NATIONAL BUREAU OF STANDARDS

Tables of functions and of zeros of functions Collected short tables of the National Bureau of Standards Computation Laboratory Washington, D C. Government Printing Office 1954 211 p 27 cm (National Bureau of Standards Applied mathematics series. No 37) $2.25 350

Contents Introduction, by A. N Lowan. Table of functions On the function $H(m,a,x) = \exp(-ix) F(m+1-ia,2m+2,2ix)$ by A. N Lowan and W Horenstein. T bles of the integrals $\int e^t J(t)dt$ and $\int e^t Y(t)dt$, by A. N Lowan and M Abramowitz. Table of $Ji_0(x) = \int^\infty [J(t)/t]dt$ and related functions, by A. N Lowan and others. Table of $f(x) = (x/2)^{-n} J(x)$. The functions of $K_n(x) = \int^\infty e^{-x \cosh t} dt$ by G. Placzek. Table of the Struve functions $L_\nu(x)$ and $H_\nu(x)$ Table of Fourier coefficients, by A. N Lowan and J Laderman. Table of sines and cosines for radian arguments between 100 and 1,000 Radix tables for finding logarithms to 25 decimal places, by H. E. Salzer Table of $e^x/$ 1. Table of zeros of functions Table of the zeros of the Legendre polynomials of Order 1–16 and the weight coefficients for Gauss' mechanical quadrature formula, by A. N Lowan and others. Table of the zeros and weight factors of the first fifteen Laguerre polynomials, by H. E. Salzer and R. Zucker A short table of the first five zeros of the transcendental equation $J_0(x)Y(kx) - J(kx)Y(x) = 0$, by A. N Lowan and A. Hillman. Zeros of certain Bessel functions of fractional order by M. Abramowitz. More zeros of certain Bessel functions of fractional order Zeros of the derivative of Bessel functions of fractional order by H. E. Salzer Complex zeros of $Y(x)$ $Y'(x)$ and $Y''(x)$ by A. Hillman and J Sherman. Roots of sin = x, by A. P Hillman and H. E. Salzer

Note This volume brings together 18 short tables of functions and of zeros of functions. Fifteen are reprinted from various journals and other publications, and three of them are here published for the first time. It is the first of certain projected numbers in the Applied mathematics series t bear the subtitle, *Collected short tables of the National Bureau of Standards Computation Laboratory*.

UNITED STATES NATIONAL BUREAU OF STANDARDS

Tables of Lagrangian coefficients for sexagesimal interpolation. Washington, D C. Government Printing Office, 1954 157 p 27 cm. (United States. National Bureau of Standards Applied mathematics series 35) $2 00 351

Contents: Introduction, by H. E. Salzer: Scope of the tables. Illustrations of use of coefficients A_i. Use of coefficients A near beginning or end of table. Use of coefficients A in tables having differences. Method of computation. Table 1 Three-point interpolation coefficients. Table 2. Four-point interpolation coefficients. Table 3 Five point interpolation coefficients. Table 4. Six-point interpolation coefficients.

Note Other tables of Lagrangian interpolation coefficients are intended for use with decimal subdivisions of the argument. The tables in this collection make the convenience of Lagrangian interpolation readily available in situations involving interpolation in tables in which the arguments are expressed in sexagesimal measure, e. g., angles (or time) in degrees (hours), minutes, and seconds.

UNITED STATES NATIONAL BUREAU OF STANDARDS

Tables relating to Mathieu functions, characteristic values, coefficients, and joining factors. Prepared by the Computation Laboratory of the National Applied Mathematics Laboratories, National Bureau of Standards. New York Columbia University Press, 1951 278 p illus 27 cm $8.00 352

Contents Introduction. Graphs of be (s) and bo(s). Bibliography Constants. Table of characteristic values be(s). Table of characteristic values bo(s). Table of coefficients De(s). Table of coefficients Do(s). Table of joining factors. Values and $E_e(p)$ and $F(p)$. $p = [0(.001)1; 7D]$. Values of $\frac{1}{2}p(1-p)$. Sines and cosines [0(1°)90°]. Multiples of $\frac{1}{2}\pi$.

Note A reference book of tables compiled by the laboratory mentioned in the book' title. The tables are considerably more comprehensive than those vailable hitherto.

UNITED STATES NATIONAL BUREAU OF STANDARDS

Table of secants and cosecants to nine significant figures at hundredths of a degree. Washington, D C. Government Printing Office, 1954 46 p 26 cm. (National Bureau of Standards Applied mathematics series. No 40) $0.35 353

Contents: Introduction, by M. Abramowitz. Table of secants and cosecants.

Note This table of secants and cosecants was computed in 1948 on punched-card equipment in connection with the preparation of certain navigation tables. The table was suggested and its computation planned by M. Abramowitz. The punched-card computations were performed under the direction of A. H. Rosenthal. The preparation and checking of the final manuscript was done by K. C. Nelson. Publication was prompted by new demand for many-figure tables of the trigonometric functions with argument in decimal division of degree. The table is an outgrowth of and supplement to U S. National Bureau of Standards. Applied mathematics series 5 entitled *Tables of sines and cosines to fifteen decimal places at hundredths of degree.*

UNITED STATES NATIONAL BUREAU OF STANDARDS

Tables of sines and cosines for radian arguments Washington, D C. Government Printing Office, 1955 278 p. 27 cm (National Bureau of Standards Applied mathematics series. No 43) $3.00 354

WYLIE, C. R., JR.
Calculus. New York McGraw Hill Book Company Inc., 1953 565 p. 24 cm. $6.50 367

Contents: The calculus in perspective. Limits and continuity. Formal differentiation. Geometrical applications of differentiation. The theory of integration. Integration by formula. Formal integration by special devices. Related rates and motion. Geometrical applications of integration. Physical applications of integration. Hyperbolic functions. Partial differentiation. Infinite series. The expansion of functions. Multiple integration. Differential equations. Appendixes. Glossary. Index.

Note: A textbook designed for use in introductory college courses. Much material from physics and engineering is introduced, particularly in the exercises, however, considerable degree of mathematical rigor has been maintained. The author is Chairman of the Department of Mathematics in the University of Utah.

WYLIE, C. R., JR.
Plane trigonometry New York McGraw Hill Book Company Inc., 1955 381 p. illus. 23 cm. $4.00 368

Contents: The six trigonometric functions. Elementary identities and reduction formulas. The solution of right triangles. The graphs of the trigonometric functions. Functions of composite angles. The inverse trigonometric functions. Trigonometric equations. Logarithms. The solution of oblique triangles. Complex numbers and de Moivre's theorem. Trigonometric series. Hyperbolic functions. Appendix. Answers to odd numbered exercises. Index.

Note: A college-level treatment of plane trigonometry written by the Chairman of the Department of Mathematics of the University of Utah. Although the treatment is primarily geometric, the book is designed as preparation for courses in analytic geometry, calculus, etc., and the nature of plane trigonometry as an area of mathematical analysis is made clear. Some advanced topics are taken up in the latter chapters of the book. A [illegible]-page section of tables includes tables of powers and roots, natural trigonometric functions, logarithms of numbers and logarithms of trigonometric functions, exponential and hyperbolic functions, etc.

YOUNG, JOHN WESLEY
Projective geometry Chicago Published for the Mathematical Association of America by the Open Court Publishing Company 1930. 185 p. illus. 19 cm. (The Carus mathematical monographs. No. 4) $3.00 369

Contents: Introductory concepts. Projective space, the principle of duality. Desargues' theorem, harmonic sets. Projectivities in one-dimensional forms, the fundamental theorem. The Pascal and Brianchon theorems. Metric properties. Groups of projective transformations. The algebra of points and the introduction of analytic methods. Groups and geometries. Index.

Note: In the first five chapters of this introductory work, the author has provided a systematic and elementary treatment of fundamental propositions, culminating in the theorems of Pascal and Brianchon and the polar system of a conic. The remaining chapters deal with the relation of the subject to metric geometries and lay the foundations for the reader's use of analytic methods.

ZYGMUND, ANTONI, AND OTHERS
Contributions to Fourier analysis. By A. Zygmund, W. Transue, M. Morse, A. P. Calderón, and S. Bochner. Princeton Princeton University Press, 1950 191 p. 26 cm. (Annals of mathematics studies. No. 25) $3.00. 370

Contents: Localization of best approximation, by S. Bochner. Dirichlet problem for domains bounded by spheres, by S. Bochner. The Fréchet variation and Pringsheim convergence of double Fourier series, by M. Morse and W. Transue. Kernels of distribution functions associated with bimeasure functionals, by M. Morse and W. Transue. Note on the boundary values of functions of several complex variables, by A. P. Calderón and A. Zygmund. On the theorem of Hausdorff-Young and its extensions, by A. P. Calderón and A. Zygmund.

Note: The original papers named above are presented in this volume.

PROBABILITY

BOCHNER, SALOMON
Harmonic analysis and the theory of probability. Berkeley and Los Angeles University of California Press 1955 176 p. 22 cm. (California monographs in mathematical science board of editors Griffith C. Evans and others) $4.50 371

Contents: Approximations. Fourier expansions. Classes properties of Fourier transforms. Laplace and Mellin transforms. Stochastic processes and characteristic functionals. Analysis of stochastic processes. Notes and references. Index.

Note: The special value of this tract lies in its content of largely original work. Some of it has appeared in papers published elsewhere by the author, but much of it is here published for the first time. There are two topics, Fourier analysis and the theory of probability. The topics of the latter class are mostly applications of Fourier analysis. The "Notes and references" is a chapter-by-chapter arrangement of bibliographical citations and author notes, some of which are critical, some historical, in nature.

FELLER, WILLIAM
An introduction to probability theory and its applications. Volume one New York John Wiley & Sons, Inc., 1950 419 p. illus. 23 cm. (Wiley mathematical statistics series Walter A. Shewhart, editor) 372

Contents: Introduction. The nature of probability theory. The sample space. Elements of combinatorial analysis. Stirling's formula. The simplest occupancy and ordering problems. Combination of events. Conditional probability, statistical independence. The binomial and the Poisson distributions. The normal approximation to the binomial distribution. Unlimited sequences of Bernoulli trials. Random variables—expectation. Laws of large numbers. Integral valued variables—generating functions. Recurrent events—theory. Applications to runs and renewal theory. Random walk and ruin problems. Markov chains. Algebraic treatment of finite Markov chains. The simplest time-dependent stochastic processes. Answers to problems. Index.

Note: In this work probability theory is presented rigorously as a branch of mathematics. The discussions are confined to mathematical concepts, and theorems are proved. However, in order to increase the book's usefulness, material on practical applications has been inserted in various places and is distinctively marked so that readers who are interested only in the mathematical exposition can skip it. As the chapter titles indicate, elementary subjects are considered first, but rather advanced ones are taken up in the last chapters. The work is designed for use as a textbook in advanced college courses, but is also of interest to other persons in need of a grasp of probability. A second edition was published in 1957 461 p. $10.75.

GUMBEL, E. J. editor
Probability tables for the analysis of extreme value data. Washington D. C. Government Printing Office 1953 32 p. 26 cm. (United States. National Bureau of Standards. Applied mathematics series. No 22) $0.25 373

Contents: Introduction, by E. J. Gumbel. Explanation and use of the tables. List of functions tabulated. History of the tables. Method of computation. Interpolation. Symbols. Bibliography. Table 1. Cumulative probability function and density function of extremes. Table 2. Inverse of the cumulative probability function of extremes. Table 3. Probability density of extremes as a function of the cumulative probability. Table 4. Probability points x_n for nth extremes. Table 5. Cumulative probability function Ψ and density function ψ for the reduced range R. Table 6. Reduced range R as function of the cumulative probability Ψ.

Note: The need for the six tables published in this booklet arose from scientific and engineering problems depending on extreme-value data, such as the study of floods, droughts, extreme temperatures, extreme rainfalls, and the fracturing of metals, textiles, and other materials, under applied force, where the observed strength is determined by the weakest link. When it is recognized that these

Contents Fundamental results. Real polynomials. Rational functions. Rational functions with symmetry Analytic functions. Green's functions. Harmonic functions. Bibliography Index.

Note A classical problem is the study f the location of the zeros of the derivative (that is, the critical points) of polynomial $p( )$ relativ to the zeros (assumed given) of $p( )$ itself This book is concerned with the geometric problem in the plane f the complex variable, the determination of point sets depending on the zeros of $p( )$ which contain all critical points of $p(z)$ point sets preferably bounded by easily constructed lines, circles, and conics the book does not deal with the enumeration of critical points in an arbitrary region. The original theory was developed by *Gauss*, Lucas, *Laguerre*, Jensen, and others, was extended by Bocher to include the critical points of rational functions, and now the present comprehensive unified theory includes polynomials, rational functions, periodic functions, Green's functions, harmonic measure and various other harmonic functions. Cases in which symmetry occurs are emphasized. Many of the methods are elementary and require no previous knowledge of the topic. The results are presented in a form convenient for reference, and are of *significance* in connection with conformal mapping, level curves of analytic and harmonic *functions*, *extremal* polynomials, extremal problems in analytic functions, potential theory and hydrodynamics.

WALSH, JOSEPH LEONARD

Interpolation and approximation by rational functions in the complex domain New York American Mathematical Society, 1935 382 p illus 26 cm (American Mathematical Society Colloquium publications Vol xx) $7 00 361

Content Possibility of approximation analytic functions. Interpolation and lemniscates. Degree of convergence f polynomials. Overconvergence. Best approximation by polynomials. Orthogonality and least squares. Interpolation by polynomials. Interpolation by rational functions. Approximation by rational functions. Interpolation and functions analytic in the unit circle. Approximation with auxiliary conditions and to non-analytic functions. Existence and uniqueness of rational functions of best approximation. Bibliography Index.

Not This book deals primarily with infinite sequences or series ▪ polynomials and rational functions converging toward given analytic function and fulfilling certain additional conditions. The conditions are characterized either by the coincidence of the polynomial or rational function with the given analytic function in proper points (problem of interpolation) or lying close to it as possible (problem of approximation) The connection between the interpolative and approximate properties ▪ investigated.

WEINSTOCK, ROBERT

Calculus of variations, with applications to physics and engineering New York Mc Graw Hill Book Company, Inc 1952 326 p illus 24 cm. (International series in pure and applied mathematics William Ted Martin consulting editor) $6 50 362

Contents Introduction. Background preliminaries. Introductory problems. Isoperimetric problems. Geometrical optics—*Fermat'* principle. Dynamics f particles. Two independent variables—the vibrating string. The Sturm-Liouville eigenvalue-eigenfunction problem. Several independent variables—the vibrating membrane. *Theory of elasticity* Quantum mechanics *Electrostatics. Bibliography* Index.

Note. The calculus of variations is usually treated as an area f pure mathematics. Howev er it has wide applications in physics and engineering. This introductory book is devoted primarily to the basic concepts and techniques, but the examples that are worked out in the exposition and the problems that are included for the student to solv usually pertain to physics or engineering. For readers who are familiar with differential and integral calculus and basic physics, including the elements of modern physics.

WIDDER, DAVID VERNON

Advanced calculus. New York Prentice Hall, Inc., 1947 432 p illus 24 cm $6 50 363

Contents Partial differentiation. Vectors. Differential geometry Applications of partial differentiation. Stieltjes integral. Multiple integrals. Line and surface integrals. Limits and indeterminat forms. Infinite series. Convergence f improper integrals. The gamma function evaluation of definite integrals. Fourier series. The Laplace transform. Applications of the Laplace transform. Index of symbols. Index.

Note Manipulative problems with which the student is already familiar are treated first in this textbook, and these are followed gradually by discussions of calculus theory Each section consists of definitions, theorems, proofs, examples, and exercises an unusual feature is the inclusion of material dealing with the Stieltjes integral and the Laplace transform. Although there is more subject matter than can ordinarily be accommodated in standard two-semester college course, the relative independence of each chapter enables the book to be used with variety of advanced mathematics courses, several f which ar suggested by the author Mathematical maturity equivalent to that obtained from three or four semesters' work in elementary calculus, is required of the reader. The author is Professor of Mathematics at Harvard University

WIDDER, DAVID VERNON

The Laplace transform Princeton Princeton University Press 1941 406 p 23 cm. (Princeton mathematical series. 6) $7.50 364

Contents The Stieltjes integral. Fundamental formulas. The moment problem. Absolutely and completely monotonic functions Tauberian theorems. The bilateral Laplace transform. Inversion and representation problems for the Laplace transform. The Stieltjes transform. Bibliography Index.

Note. This book is designed for the student of advanced mathematics who has working knowledge of the theory of one complex and of one real variable, and who is particularly interested in analysis. The material on the Stieltjes integral, as well as that on the Stieltjes transform and on completely monotonic functions, has not hitherto appeared in book form. Several proofs of the prime number theorem are included, to introduce one of the most elegant illustrations f the analytic method. Effort has been made to insure that the book is complete in itself, and proofs have been included of results with which the student might not be familiar

WIENER, NORBERT

The Fourier integral and certain of its applications. New York Dover Publications Inc., 1954 201 p 21 cm. $3 95 365

Contents Introduction. Plancherel's theorem. The general Tauberian theorem. Special Tauberian theorems. Generalized harmonic analysis. Bibliography

Note: This book had its origin in course of lectures which the author gave at the University of Cambridge during the Lent Term of 1932 and it was first published in 1933. It was immediately recognized as an important publication, because it demonstrated the utility of the Fourier integral in mathematical analysis and certain areas of applied mathematics. Also, it contains ideas that were later more fully developed in the author's landmark, *Cybernetics* This edition is reprint without changes in the text.

WOODS, ROSCOE

Analytic geometry Revised edition. New York The Macmillan Company 1948 322 p illus 22 cm. $4 00 366

Contents. Part I, Plane analytic geometry: Fundamental concepts and formulas. The line. The circle. The parabola. The ellipse. The hyperbola. Transformation of coordinates. *Geometric properties* of locus Polar coordinates. Parametric equations. *Simple geometric* properties and constructions of conics. The second degree equation in rectangular coordinates. *Part II*, Solid analytic geometry: Fundamental concepts and formulas. The plane and the line. Surfaces and curves. Answers t *odd-numbered exercises.* Index.

Note. The first 10 chapters of this text are intended to contain all the material normally covered in short introductory course in analytic geometry. The remaining five chapters, which include the basic principle *of analytic geometry* of space, are designed for longer college courses. Minor revisions have been made in this edition, and some topics are explained at greater length, but the general scope and arrangement remain the same as in the 1939 edition.

Wylie C. R., jr.
Calculus. New York McGraw Hill Book Company Inc. 1953 565 p 24 cm. $6.50 367

Contents: The calculus in prospect. Limits and continuity. Formal differentiation. Geometrical applications of differentiation. The theory of integration. Integration by formula. Formal integration by special devices. Related rates and motion. Geometrical applications of integration. Physical applications of integration. Hyperbolic functions. Partial differentiation. Infinite series. The expansion of functions. Multiple integration. Differential equations. Appendices. Glossary. Index.

Note: A textbook designed for use in introductory college courses. Much material from physics and engineering is introduced, particularly in the exercises; however, a considerable degree of mathematical rigor has been maintained. The author is Chairman of the Department of Mathematics in the University of Utah.

Wylie C. R., jr.
Plane trigonometry New York McGraw Hill Book Company Inc., 1955 381 p. illus. 23 cm. $4.00. 368

Contents: The six trigonometric functions. Elementary identities and reduction formulas. The solution of right triangles. The graphs of the trigonometric functions. Functions of composite angles. The inverse trigonometric functions. Trigonometric equations. Logarithms. The solution of oblique triangles. Complex numbers and de Moivre's theorem. Trigonometric series. Hyperbolic functions. Appendix. Answers to odd-numbered exercises. Index.

Note: A college-level textbook of plane trigonometry written by the Chairman of the Department of Mathematics of the University of Utah. Although the treatment is primarily geometric, the book is designed as preparation for courses in analytic geometry, calculus, etc., and the nature of plane trigonometry as an area of mathematical analysis is made clear. Some advanced topics are taken up in the latter chapters of the book. A 70-page section of tables includes tables of powers and roots, natural trigonometric functions, logarithms of numbers and logarithms of trigonometric functions, exponential and hyperbolic functions, etc.

Young John Wesley
Projective geometry Chicago Published for the Mathematical Association of America by the Open Court Publishing Company 1930 185 p. illus. 19 cm. (The Carus mathematical monographs. No. 4) $3 00 369

Contents: Introductory concepts. Projective spaces, the principle of duality. Desargues' theorem, harmonic sets. Projectivities in one-dimensional forms, the fundamental theorem. The Pascal and Brianchon theorems. Metric properties. Groups of projective transformations. The algebra of points and the introduction of analytic methods. Groups and geometries. Index.

Note: In the first five chapters of this introductory work, the author has provided a systematic and elementary treatment of fundamental propositions, culminating in the theorems of Pascal and Brianchon and the polar system of a conic. The remaining chapters deal with the relations of the subject to metric geometries and lay the foundations for the reader's use of analytic methods.

Zygmund Antoni and others
Contributions to Fourier analysis. By A. Zygmund W Transue, M Morse, A. P Calderón, and S Bochner Princeton Princeton University Press, 1950 192 p 26 cm. (Annals of mathematics studies. No. 25) $3.00 370

Contents: Localization of best approximation, by S. Bochner. Dirichlet problem for domains bounded by spheres, by S. Bochner. The Fréchet variation and Pringsheim convergence of double Fourier series, by M. Morse and W. Transue. Norms of distribution functions associated with bilinear functionals, by M. Morse and W. Transue. Note on the boundary values of functions of several complex variables, by A. P. Calderón and A. Zygmund. On the theorem of Hausdorff-Young and its extensions, by A. P. Calderón and A. Zygmund.

Note: The original papers named above are presented in this volume.

PROBABILITY

Bochner, Salomon
Harmonic analysis and the theory of probability Berkeley and Los Angeles University of California Press 1955 176 p. 22 cm. (California monographs in mathematical science board of editors, Griffith C. Evans and others) $4.50 371

Contents: Approximations. Fourier expansions. Closure properties of Fourier transforms. Laplace and Mellin transforms. Stochastic processes and characteristic functionals. Analysis of stochastic processes. Notes and references. Index.

Note: The special value of this tract lies in its content of largely original work. Some of it has appeared in papers published elsewhere by the author but much of it is here published for the first time. There are two topics, Fourier analysis and the theory of probability. The topics of the latter class are mostly applications of Fourier analysis. The "Notes and references" is a chapter-by-chapter arrangement of bibliographical citations and author's notes, some of which are critical, some historical, in nature.

Feller William
An introduction to probability theory and its applications. Volume one. New York John Wiley & Sons, Inc., 1950 419 p. illus 23 cm. (Wiley mathematical statistics series Walter A. Shewhart editor) 372

Contents: Introduction. The nature of probability theory. The sample space. Elements of combinatorial analysis. Stirling's formula. The classical occupancy and ordering problems. Combination of events. Conditional probability, statistical independence. The binomial and the Poisson distributions. The normal approximation to the binomial distribution. Unlimited sequences of Bernoulli trials. Random variables—expectation. Laws of large numbers. Integral valued variables—generating functions. Recurrent events—theory. Applications to runs and renewal theory. Random walk and ruin problems. Markov chains. Algebraic treatment of finite Markov chains. The simplest time-dependent stochastic processes. Answers to problems. Index.

Note: In this work probability theory is presented rigorously as a branch of mathematics. The discussions are confined to mathematical concepts, and theorems are proved. However, in order to increase the book's usefulness, material on practical applications has been inserted in various places and is distinctively marked so that readers who are interested only in the mathematical exposition can skip it. As the chapter titles indicate, elementary subjects are considered first, but rather advanced ones are taken up in the last chapters. The work is designed for use as a textbook in advanced college courses, but is also of interest to other persons in need of [illegible] of probability. A second edition was published in 1957 461 p., $10.75.

Gumbel, E. J., editor
Probability tables for the analysis of extreme-value data. Washington, D C. Government Printing Office, 1953 32 p 26 cm. (United States. National Bureau of Standards. Applied mathematics series. No. 22) $0.25 373

Contents: Introduction, by E. J. Gumbel. Explanation and use of the tables. List of functions tabulated. History of the tables. Method of computation. Interpolation. Symbols. Bibliography. Table 1. Cumulative probability function and density function of extremes. Table 2. Inverse of the cumulative probability function of extremes. Table 3. Probability density of extremes as a function of the cumulative probability. Table 4. Probability points y_n for with extremes. Table 5. Cumulative probability function Φ and density function ϕ for the reduced range R. Table 6. Reduced range R as function of the cumulative probability Φ.

Note: The need for the six tables published in this booklet arose from scientific and engineering problems depending on extreme-value data, such as the study of floods, droughts, extreme temperatures, extreme rainfalls, and the fracturing of metals, textiles, and other materials under applied force, where the observed strength is determined by the weakest link. When it is recognized that these

phenomena are of a statistical nature, the solution of some of the problems connected with them is furnished by the asymptotic theory of extreme values of a statistical variable an explanation of which is found in the introduction to these tables. Three of the tables are based upon unpublished manuscripts of J Arthur Greenwood; one was prepared from an unpublished table computed by the Computation and Ballistics Laboratory Naval Proving Ground, Dahlgren, Virginia; fifth extends table by E. J Gumbel; and the sixth table was computed by the Computation Laboratory of the N tional Bureau of Standards, where all the tables were checked, edited, and prepared for publication.

HARVARD UNIVERSITY COMPUTATION LAB ORATORY

Tables of the cumulative binomial probability distribution By the staff of the Com putation Laboratory Cambridge Mass Har vard University Press, 1955 503 p 27 cm. (Harvard University Computation Labora tory Annals Vol xxxv) $8 00 374

Contents The cumulative binomial probability distribution. Preparation of the tables. Interpolation. Applications. Tables of the cumulative binomial $E(n,r,p) = \sum c_{n}p^{s}(1-p)^{n-s}$ for $= 0(1)n$ $n = 1(1)50(2)100(10)200(20)500(50)1000$. Appendix.

Note The tables in this volume provide computed values for the binomial probability distribution over a much more extensive range than had been tabulated up to the date of its publication. Intervals for p in Table I are 0.01 0.02, 0.03, 0.04 0.05 0.06 1/16 0.07 0.08 and 1/12; in Table II intervals for p are 0.09 0.10 0.11 0.12, 1/8 0.13, 0.14 0.15, 0.16, and 1/6; in Table III, 0.17 0.18, 3/16 0.19 0.20, 0.21 0.22, 0.23, 0.24, 0.25; in Table IV 0.26, 0.27 0.28, 0.29 0.30, 0.31 5/16 0.32, 0.33, and 1/3; in Table V 0.34 0.35 0.36 0.37 3/8 0.38, 0.39 0.40 0.41 and 5/12; in Table VI, 0.42, 0.43 7/16 0.44, 0.45 0.46, 0.47 0.48, 0.49 0.50. The computations were made on Harvard University s Mark IV calculator and the tables are reproduced from typed copy made by the Mark IV typewriters, thus voiding the possibility of error in the usual methods of typesetting. The second part of the introduction contains critical review of other vailable tabulations of the binomial probability distribution. A notable feature of the volume is the inclusion of comprehensive survey of applications, written by Professor Frederick Mosteller

LOÈVE, MICHEL

Probability theory Foundations Random sequences. Princeton D Van Nostrand Com pany, Inc , 1955 515 p 24 cm. $12 75 375

Contents. Introductory part—elementary probability theory Intuitive background. Axioms independence and the Bernoulli case. Dependence and chains. Part I, Notions of measure theory Sets, spaces, and measures. Sets, classes and functions. Measurable functions and integration. Part II, General concepts and tools of probability theory Probability concepts. Distribution functions and characteristic functions. Part III, Independence Sums of independent random variables. Central limit problem. Part IV Dependence Conditioning. From independence to dependence. Ergodic theorems. Second order properties. Bibliography Index.

Note A comprehensive, scholarly and up-to-date presentation of both the basic and advanced concepts of probability theory The author Professor of Mathematics at the University of California, is writing primarily for graduate students with a knowledge of mathematics through calculus. However an introductory section is included in which the subject is treated without the use of advanced mathematics, and which is suitable for use in undergraduate courses. The book is also designed as a reference tool for workers in the fields of probability and statistics. A selected bibliography of more than 40 references is included.

NEYMAN, JERZY

First course in probability and statistics New York Henry Holt and Company 1950 350 p. illus 24 cm. $5 75 376

Contents Introduction Scope of the theory of probability and statistics. Probability Probabilistic problems in genetics. Random variables and frequency distributions. Elements of the theory of testing statistical hypotheses. Appendix: Tables of the normal integral. Index f names. Index of terms.

Note. A college text designed to meet the needs of two types of students—those who study the subject as general education course and those planning to specialize in the subject or its fields of application. Most of the content is elementary and the treatment presumes only knowledge of high school mathematics. However some advanced material is included, which can be used or omitted at the instructor' discretion. The author is associated with the Statistical Laboratory of the University of California.

REICHENBACH, HANS

The theory of probability, an inquiry into the logical and mathematical foundations of the calculus of probability Second edition English translation by Ernest H Hutten and Maria Reichenbach. Berkeley and Los Angeles University of California Press, 1949 492 p illus 24 cm $12 50 377

Contents Introductory considerations. Introduction to symbolic logic. Elementary calculus f probability Theory of the order of probability sequences. Probability sequences with coordinated amounts. Continuous extensions of the concept of probability sequence. The frequency properties of probability sequences. Theory f probabilities of a higher level. The problem of application. Probability logic. Induction. Index.

Note The first English-language edition of notable work which appeared first as *Wahrscheinlichkeitslehre*, 1935 It presents a comprehensive system f probability based upon mathematical, philosophical, and logical methods of reasoning. One of the key notions is the replacement of classical induction by statistical induction which leads to predictions about sequences of events rather than individual events. The theory is important not only in mathematics but also in modern physics. In comparison to the original edition, this one embodies many revisions and rearrangements by the author

ROMIG, HARRY G

50–100 binomial tables New York John Wiley & Sons Inc., 1953 172 p 21 cm. (Wiley publications in statistics Walter A. Shewhart, editor) $4 25 378

Contents Introduction The binomial, general and restricted forms. Related distributions covered by these tables over a limited range. Notation for binomial. Description of these tables. Directions for use of these tables. Interpolation. References. 50–100 binomial tables: Individual terms and cumulative values. $= 50$ to 100, inclusive, in steps of 5 $p = .01$ to .50, inclusive in steps of .01

Note A reference book of tables in which are given the probabilities of 0, 1 2 occurrences in n independent trials of an event whose probability f occurrence in single trial is p It is complementary to the tables in United States National Bureau f Standards, *Tables f the binomial probability distribution* Washington, 1950 (Applied mathematics series, No. 6) which gives values for from 2 to 49 The tables which occupy 172 pages, are preceded by 27-page introduction covering their method of compilation and directions for their use and including list of references.

UNITED STATES ARMY ORDNANCE CORPS BALLISTIC RESEARCH LABORATORIES, ABER DEEN PROVING GROUND, MARYLAND COM PUTING LABORATORY

Tables of the cumulative binomial probabilities Edited by Leslie E Simon and Frank E Grubbs Washington D C Government Printing Office, 1953 577 p. 30 cm. United States Army Ordnance Corps. Ordnance Corps pamphlet ORDP 20–1) $6 00 (Order from the Office of Technical Services, Department of Commerce, Washington 25, D C) 379

Contents Introduction. Bibliography Tables.

Note Useful both in the theory of probability and in its applications, these tables had their origin in computations connected with the solution of certain military problems and have been published in

of practical value to scientists in general. Only the cumulative binomial probability for single changes of 0.1 or less is tabulated. Procedures for obtaining the probability values for the range 0.1 to 1.0 from the tabulated values of the lower half are explained in the introduction. The tabulation was carried out on IBM Relay Computers at the Ballistic Research Laboratories, Aberdeen Proving Ground, Md.

UNITED STATES NATIONAL BUREAU OF STANDARDS

Tables of the binomial probability distribution. Issued January 27 1950 Reprinted with corrections, October 1951 Washington, D C. Government Printing Office 1952 387 p 27 cm. (United States. National Bureau of Standards. Applied mathematics series 6) $2 75 380

Contents Introduction. Table 1 Individual terms [illegible] Table 2. Partial sums [illegible]

Note: The binomial (or Bernoulli) distribution, which gives the probability of 0, 1, 2, ... occurrences in ... independent trials of an event whose probability of occurrence in any single trial is p, is one of the most important discrete probability distributions, both in the theory of probability and in its applications, particularly in the biological sciences and engineering. The two tables tabulated to seven decimal places in this volume present this distribution in readily available form for the first time. They were prepared for restricted use in mimeographed form by ... branch of the United States Army just after the close of World War II. The present edition is ... photographic reproduction of the mimeographed tables, somewhat rearranged, with the addition of ... foreword and ... new introduction.

UNITED STATES. NATIONAL BUREAU OF STANDARDS

Tables of the error function and its derivative.

$$H(x) = \frac{2}{\sqrt{\pi}} \int_0^x e^{-\alpha^2} d\alpha \text{ and } H'(x) = \frac{2}{\sqrt{\pi}} e^{-x^2}$$

Washington, D C. Government Printing Office, 1954 302 p. 27 cm. (National Bureau of Standards. Applied mathematics series. No. 41) $3.25 381

Contents: Introduction, by A. N. Lowan. Table [illegible]. Constants.

Note: This work is ... reissue of Mathematical table 8, originally published in 194... and compiled by the New York Mathematical Tables Project, the predecessor of the Computation Laboratory of the National Bureau of Standards. The error function, or probability integral, has ... widespread application in many branches of science—from problems of refraction, the conduction of heat, and other fields of physics, to ... variety of problems in the theory of probability and mathematical statistics. In the new edition, those misprints in the earlier edition have been corrected, as noted in the preface. The companion volume under the title *Tables of normal probability functions* published as Applied mathematics series 23, is noted below.

UNITED STATES NATIONAL BUREAU OF STANDARDS

Tables of normal probability functions

$$\frac{1}{\sqrt{2\pi}} e^{-x^2/2} \text{ and } \frac{1}{\sqrt{2\pi}} \int e^{-\alpha^2/2} d\alpha$$

(A reissue of Mathematical table 14 with corrections.) Washington, D C. Government Printing Office, 1953 344 p. 27 cm. (National Bureau of Standards. Applied mathematics series. No 23) $3.25 382

Contents: Introduction, by A. N. Lowan. Direct interpolation. The problem of approximate arguments. Inverse interpolation. The asymptotic expansion of F(x). Method of computation. Bibliography of tables. Table I, [illegible]

Note: The principal practical use of these tables in statistics is in testing the significance of ... deviation in ... normally distributed variates and in fitting normal distributions to observations. Between the original publication in 1942 and the reissue and the second edition in 1948, no errors in the functional values were reported; but several misprints in the arguments were discovered, and these corrections appeared in the second edition and also appear in this reissue. Additions to the bibliography also appear in the reissue. The companion volume under the title, *Tables of the error function and its derivative* is published as Applied mathematics series 41 and is noted above.

USPENSKY, JAMES VICTOR

Introduction to mathematical probability New York McGraw Hill Book Company Inc., 1937 411 p. illus. 23 cm. $7.50. 383

Contents: Computation of probability by direct enumeration of cases. Theorems of total and compound probability. Repeated trials. Probabilities of hypotheses and Bayes' theorem. Use of difference equations in solving problems of probability. Bernoulli' theorem. Approximate evaluation of probabilities in Bernoullian case. Further considerations on games of chance. Mathematical expectation. The law of large numbers. Application of the law of large numbers. Probabilities in continuum. The general concept of distribution. Fundamental limit theorem. Normal distribution in two dimensions. Limit theorems for sums of independent vectors. Origin of normal correlation. Distribution of certain functions of normally distributed variables. Appendices: Euler's summation formula. Stirling' formula. Some definite integrals. Method of moments and its applications. On ... Gaussian problem. Table of probability integral. Index.

Note: Written for persons ... he desire to acquire ... fundamental knowledge of the methods and results of the mathematical theory of probability. Presents ... simple yet rigorous exposition, of which about one-half deals with elementary matters easily accessible to undergraduate students, while the other half is devoted to modern and more advanced research. Many problems of varying degrees of difficulty are included, with solutions for many of them indicated or given in full.

MATHEMATICAL STATISTICS

ADAMS JOE KENNEDY

Basic statistical concepts. New York Mc Graw Hill Book Company Inc., 1955 304 p. illus. 23 cm. $5.50. 384

Contents: Finite populations and their distributions. Sampling from ... finite population. Statistical inference. Parameters and statistics. Hypergeometric and binomial distributions. Poisson distributions. Discrete distribution. Continuous distributions. Normal distributions. Chi square. "Student's" ... distributions. Bivariate distributions. F distributions and the analysis of variance. Nonparametric statistics. Epilogue. Appendices. Glossary. Answers to odd-numbered exercises. Index.

Note: Basic theory, terminology and logic are emphasized in this introductory college textbook on statistics. Precisely worded definitions are ... special feature and, throughout the book, defined terms are printed in italics so as to call the reader's attention to them. The mathematical bases, including calculus, of statistical methods are given due attention; however, many theorems are not proved. Both topics are treated very compactly in line with the author's belief that the students must acquire facility in reading compact mathematical expressions. Though not ... "simplified" text it is nevertheless well suited to the instruction of students who are preparing for careers in science and will use statistical methods in the design of experiments and the interpretation of experimental results.

BERKELEY SYMPOSIUM ON MATHEMATICAL STATISTICS AND PROBABILITY

Proceedings of the second Berkeley Symposium on Mathematical Statistics and Probability, held at the Statistical Laboratory, Department of Mathematics University of California, July 31–August 12, 1950 Edited by Jerzy Neyman Berkeley University of California Press, 1951 666 p illus 26 cm $11 00 385

Content Part I Mathematical statistics Asymptotic minimax solutions of sequential point estimation problems, by A. Wald. Some applications of the Cramér-Rao inequality by J L. Hodges, Jr and E. L. Lehmann. A generalized T test and measure of multivariate dispersion, by H. Hotelling. Tolerance intervals for linear regression by W A. Wallis. Bayes and minimax estimates for quadratic loss functions, by M A. Girshick and L. J Savage. Confidence regions for linear regressions, by P G Hoel. "Optimum nonparametric tests, by W Hoeffding. Comparison of experiments, by D Blackwell. The asymptotic distribution of certain characteristic roots and vectors, by T W Anderson. Asymptotically subminimax solutions of compound statistical decision problems, by H. Robbins. Characterization of the minimal complete class of decision functions when the number of distributions and decisions is finite, by A. Wald and J Wolfowitz. On median tests for linear hypotheses, by G. W Brown and A. M Mood. Conditional expectation and convex functions, by E. W Barankin. Part II, Probability· Wiener' random function and other Laplacian random functions, by P Lévy On some connections between probability theory and differential and integral equations, by M. Kac. Recent suggestions for the reconciliation of theories of probability by B De Finetti. Diffusion processes in genetics, by W Feller Random ergodic theorems and Markoff processes with a stable distribution, by S Kakutani. A problem on random walk, by R. S. Lehman. Continuous parameter martingales, by J L. Doob. On almost sure convergence, by M. Loève. Some mathematical models for branching processes, by T E. Harris. A contribution to the theory of stochastic processes, by H. Cramér The strong law of large numbers, by K. L. Chung. Some problems on random walk in space, by A. Dvoretzky and P Erdös. A remark on characteristic functions, by A. Zygmund. Random functions from Poisson process, by R. Fortet. Part III Astronomy An approach to the dynamics of stellar systems, by B Lindblad. The problem of stellar evolution considered statistically by O Struve. Statistical studies relating to the distribution of the elements of spectroscopic binaries, by E. L. Scott. Correction of frequency functions for observational errors of the variables, by R. J Trumpler Hydrodynamical description of stellar motions, by L. G. Henyey Part IV Biometry Improvement by means of selection, by W G. Cochran. Relative precision of minimum chi-square and maximum likelihood estimates of regression coefficients, by J Berkson. Part V Econometrics Nonlinear programming, by H. W Kuhn and A. W Tucker Why "should" statisticians and businessmen maximize "moral expectation"? by J Marschak. An extension of the basic theorems of classical welfare economics, by K. J Arrow Part VI, Physics The concept of probability in quantum mechanics, by R. P Feynman. Statistical questions in meson theory by H. W Lewis. Statistical mechanics of continuous medium (vibrating string with fixed ends, by J Kampé de Fériet. Philosophical problems of the statistical interpretations of quantum mechanics, by V F Lenzen. Correlation of position for the ideal quantum gas, by G. Placzek. Part VII, Traffic engineering Distribution of vehicle speeds and travel times, by D. S. Berry and D M. Belmont. Statistical techniques in the field of traffic engineering and traffic research, by T W Forbes. Part VIII, Wave analysis Correlograms for Pacific Ocean waves, by P Rudnick. Experimental correlogram analyses of artificial time series (with special reference to analyses of oceanographic data) by H. R. Seiwell.

—— Proceedings of the third Berkeley Symposium on Mathematical Statistics and Probability, held at the Statistical Laboratory University of California, December 1954 July and August, 1955 Edited by Jerzy Neyman Berkeley University of California Press 1956 5 v illus. 26 cm Vol I $6 00, vol II $6 50 vol III $6 25 vol. IV v $5 75 per vol 385A

Contents· Volume I, Contributions to the theory of statistics. Estimation by least squares and by maximum likelihood, by J. Berkson. On a use of the Mann Whitney statistic, by Z. W Birnbaum. The estimation of the location of a discontinuity in density by H. Chernoff and H. Rubin. On stochastic approximation by A. Dvoretzky Complete class theorems in experimental design, by S. Ehrenfeld. Selection of nonrepeatable observations for estimation, by G. Elfving. Some problems in estimating the spectrum of a time series, by U Grenander and M. Rosenblatt. Two approximations to the Robbins-Monro process, by J L. Hodges, Jr and E. L. Lehmann. The role of assumption in statistical decisions, by W Hoeffding. Decision theory for Pólya type distributions, case of two actions, I, by S. Karlin. On the asymptotic theory of estimation and testing hypotheses, by L. Le Cam. An empirical Bayes approach to statistics, by H. Robbins. Some regression problems in time series analysis, by M. Rosenblatt. Efficient nonparametric testing and estimation, by C. Stein. Inadmissibility of the usual estimator for the mean of a multi-variate normal distribution, by C. Stein. The computation of the X-distribution, by B. L. van der Waerden. Volume II, Contributions to probability theory On a class of probability spaces, by D. Blackwell. Stationarity boundedness, almost periodicity of random-valued functions, by S. Bochner Foundations of the theory of continuous parameter Markov chains, by K. L. Chung. Probabilities, observations and predictions, by A. H. Copeland, Sr. Probability methods applied to the first boundary value problem, by J L. Doob. Random distributions with an application to telephone engineering, by R. M. Fortet. The zeros of random polynomial, by J M. Hammersley The existence of stationary measures for certain Markov processes, by T E. Harris. Isotropic random current, by K. Itô. A special problem of Brownian motion and general theory of Gaussian random functions, by P Lévy Ranking limit problem, by M. Loève. Characterization of populations by properties of suitable statistics, by E. Lukacs. Random variables from the point of view of general theory of variables, by K. Menger L-random elements and L-random elements in Banach spaces, by E. Mourier A note on random trigonometric polynomials, by R. Salem and A. Zygmund. Volume III, Contributions to astronomy and physics. I, Contributions to astronomy (I) Hertzsprung-Russell diagram The relationship between the color and the luminosity of stars near the sun, by O J. Eggen The spectra and other properties of stars lying below the normal main sequence, by J L. Greenstein. Photoelectric studies of stellar magnitudes and colors, by H. L. Johnson. Evidence for sequences in the color-luminosity for M-dwarfs, by G. E. Kron. The Hertzsprung Russell diagram, by B. Strömgren. (II) Spatial distribution of galaxies. Galaxies, statistics and relativity by G C. McVittie Statistics of images of galaxies with particular reference to clustering, by J Neyman and others. Statistics of clusters of galaxies distribution of centers, angular dimensions, structure, luminosity function of member galaxies, by F Zwicky II, Contributions to physics Statistical mechanics and probability theory by A. Blanc-Lapierre and A. Tortrat. Foundations of kinetic theory by M. Kac. Random solutions of partial differential equations, by J Kampé de Fériet. Theory of the vibration of simple cubic lattices with nearest neighbor interactions, by E. Montroll. Nonlinear prediction and dynamics, by N Wiener Volume IV Contributions to biology and problems of health. I, Contributions to biology Some genetic problems in natural populations, by J Crow and M. Kimura. Some genetic problems in controlled populations, by E. R Dempster Struggle for existence the Tribolium model, biological and statistical aspects. II, Contributions to problems of health Deterministic and stochastic models for recurrent epidemics, by M. S. Bartlett. On the stochastic theory of epidemics, by A. T Bharucha-Reid. Statistical studies in medical diagnoses, by C. L. Chiang and others. A statistical problem arising from retrospective studies, by J Cornfield. Deterministic and stochastic epidemics in closed populations, by D G. Kendall. Problems in contagion, by W F Taylor Volume V Contributions to econometrics, industrial research, and psychometry I, Contributions to econometrics Reduction of constrained maxima to saddle-point problems, by K. J Arrow and L. Hurwicz. Toward an objectivistic theory of probability by E. W Barankin. Problems of value measurement for theory of induction and decisions, by C. W Churchman. The role of subjective probability and utility in decision-making, by P Suppes. II, Contributions to industrial research Continuous sampling plans, by A. H. Bowker Fractional replication in industrial research, by C. Daniel Sequential procedures for selecting the best exponential population, by M. Sobel. III, Contributions to psychometry· Statistical inference in factor analysis, by T W Anderson and H. Rubin. Stochastic learning models, by F Mosteller Probability and statistics in psychometric research—item analysis and classification techniques, by H. Solomon.

Note Papers which were presented at the second and third Berkeley Symposia on Mathematical Statistics and Probability have been collected in these volumes. In most instances they are accompanied by literature references, but there are no transcripts or excerpts of discussions. Many of the papers represent the first publication of recent advances in statistical methods and probability

theory. The proceedings of the first symposium in the series, held in 1945-1946, and published in 1949 and of the second symposium held in 1950 and published in 1951, are now out of print.

CROXTON FREDERICK E. AND DUDLEY J COWDEN

Applied general statistics. Second edition. New York Prentice-Hall, Inc., 1955 843 p illus. 23 cm. $7.00 386

Contents (abridged) Introduction. Statistical data. Statistical tables. Graphic presentation—I. Curves using arithmetic scales—II. The semi-logarithmic or ratio chart—III. Other types of charts. Rates, ratios, and percentages. The frequency distribution. Measures of central tendency. Dispersion, skewness, and kurtosis. The problem of time series. Analysis of time series—Secular trend I. The straight line—Secular trend II. Non-linear trends—Periodic movements I. Constant seasonal patterns—Periodic movements II. Changing seasonal patterns—Cyclical movements, adjusting time series for trend, seasonal, and irregular movements. Fundamentals in index number construction. Index number theory and practice. Correlation—I. Two-variable linear correlation—II. Two-variable non-linear correlation—III. Multiple and partial correlation—IV. Correlation of time series. Describing a frequency distribution by a fitted curve. Statistical significance—I. Arithmetic means—II. Proportions and the chi-square test—III. Variances, analysis of variance, measures of skewness and kurtosis, and correlation coefficients. Appendices: Tables. Calendar of working days. Sums of the first six powers of the first 50 natural numbers. Sums of the first six powers of the first 50 odd natural numbers. Ordinates of the normal curve. Values of t. Values of χ^2. Squares, square roots, and reciprocals, 1–1,000. Rounding numbers. Selected list of readily available sources of data. Index.

Note A broad, comparatively elementary exposition of commonly used statistical methods. It is intended for the instruction of college students and persons outside of colleges who have need of an understanding of general statistical methods and their applications. As textbook it is designed for both short and full-length courses, with the chapters which may be omitted without destroying the continuity of treatment being distinctively marked. The material used as illustrations of applications has been drawn from the fields of economics, sociology and business. Some attention is given to exposing typical examples of misuse of statistics and faulty interpretation of statistical data. The book is complementary but quite independent of the authors' *Practical business statistics*. The first edition was published in 1939. In the second edition, the book has been considerably shortened and extensively rewritten.

DOOB J L.

Stochastic processes. New York John Wiley & Sons, 1953 654 p illus 24 cm. (Wiley publications in statistics Walter A. Shewhart, editor) $12 75 387

Contents Introduction and probability background. Definition of stochastic process—principal classes. Processes with mutually independent random variables. Processes with mutually uncorrelated or orthogonal random variables. Markov processes—discrete parameter—continuous parameter. Martingales. Processes with independent increments. Processes with orthogonal increments. Stationary processes—discrete parameter—continuous parameter. Linear least squares prediction—stationary (wide sense) processes. Supplement. Appendix. Bibliography. Index.

Note An advanced mathematical treatment of random or chance variables. About the phrase "stochastic processes," the author says, "Historically the term stochastic process has been reserved for families (usually infinite) of random variables with some simple relationship between the variables, and this book is devoted to the most important examples of such families." A good background in mathematical probability theory is required, and the author outlines this background in his first chapter, stating elementary definitions and theorems in detail. The mathematical basis for each stochastic process discussed is developed quite logically, and theorems are clearly stated and carefully proved. Entire chapters are given over to aspects of the subject which are treated in just a few paragraphs in other books on probability. Besides the coverage indicated by chapter headings, these topics (among many others) are discussed in some detail: Borel field, Brownian movements, Chapman-Kolmogorov equation, Fourier transforms, Gaussian process, large numbers law, Lebesgue-Stieltjes measure, Poisson process, and several types of transformations. Literature references and historical remarks are in the appendix. The bibliography is selective. The author is Professor of Mathematics in the University of Illinois.

HOEL PAUL G

Introduction to mathematical statistics. Second edition New York John Wiley & Sons, Inc. 1954 331 p illus. 23 cm. (Wiley publications in statistics Walter A. Shewhart, editor) $5.00 388

Contents Introduction. Probability. Nature of statistical methods. Empirical frequency distributions of one variable. Theoretical frequency distributions of one variable. Elementary sampling theory for one variable. Correlation and regression. Theoretical frequency distributions for correlation and regression. Testing goodness of fit. General principles for testing hypotheses and for estimation. Small sample distributions. Statistical design in experiments. Nonparametric methods. Tables. Index.

Note A college text designed as an introduction to standard concepts, basic theory and standard applications. The level of treatment presupposes a knowledge of elementary calculus. The formulas requiring advanced calculus for their derivation are used in the exposition but proofs are not given. However references to books in which the proofs may be found are given. Classical large-sample methods are the main topic of the chapters in the first half of the book, and readers who complete only these chapters will receive an introduction to classical concepts and methods. In general, the remaining chapters are devoted to small-sample methods; however other topics are introduced, as the chapter titles indicate. The first edition was published in 1947. Important and fairly extensive changes have been made in this second edition. They include the addition of a chapter on probability, one on the nature of statistical method, and one on nonparametric methods. Other chapters have been revised, so as to place somewhat more emphasis on theory; however the mathematical level of the book was not changed.

KENNEY, J F., AND E S KEEPING

Mathematics of statistics, Part one. Third edition. Princeton D Van Nostrand Company Inc. 1954 348 p. illus. 23 cm. $5.25 389

Contents Frequency distributions. Graphical representation. The median and other quantiles. The arithmetic mean and other averages. Index numbers. Standard deviation and other measures of dispersion. Moments; skewness and kurtosis. The normal curve. Probability. The binomial and Poisson distributions. Significance tests for binomial populations. Significance of means and variances. Nonparametric and order statistics. Time series. Linear regression and correlation. Further topics in correlation. Review questions and problems. Appendix. Additional answers. Index.

Note An introductory textbook designed for use in undergraduate courses offered to students who have not had college courses in mathematics. The first eight chapters are devoted to descriptive statistics. The chapters that follow deal with the somewhat more advanced concepts and techniques that are named in their titles. Some of the derivations in these later chapters assume a knowledge of elementary calculus on the part of the student, but the book is so arranged that these parts may be skipped if necessary. Any other advanced mathematical technics needed, for example, the elementary algebra of permutations and combinations, are taught in the book. Numerous worked examples are included as part of the exposition. The first edition was published in 1939 and the second edition in 1946. This third edition represents an extensive revision and augmentation, and the level of exposition has been raised somewhat. The chapter on index numbers has been added.

KENNEY J F., AND E S KEEPING

Mathematics of statistics, Part two. Second edition. Princeton D Van Nostrand Company Inc. 1951 429 p. illus. 23 cm. $5.50. 390

Contents Probability. The binomial distribution and the normal and Poisson approximations. Some useful integrals and functions. Distributions of two or more variables; moment-generating functions, the law of large numbers. The gamma, beta, and chi-square distributions; the Pearson and Gram-Charlier systems of curves; curve fitting. Fundamentals of sampling theory with special reference to the mean. Small or exact sampling theory. Linear regression, simple correlation, and contingency. Analysis of variance and covariance. Matrix algebra and the method of least squares. Curvilinear regression, multiple and partial correlation. Further considerations on statistical inference. Appendix tables. Index.

Note. Although complementary to the author's *Mathematics of statistics, Part one,* in the sense that students are assumed to have had an introduction to the mathematics of statistics equivalent to that provided by Part one, the two books are independent of one another. Part two, also, is designed for undergraduate use, but both the presupposed mathematical preparation and the mathematical level of the text itself are higher. A knowledge of advanced calculus is assumed. Statistical techniques useful in the interpretation of data derived from scientific experiments and observations are emphasized. As in Part one, worked examples are employed in the exposition. The first edition was published in 1939 and was pioneer text in the teaching of mathematical statistics at the undergraduate level. Although it has the same purpose, this second edition represents a very extensive revision and enlargement of the original work.

MANN, HENRY B

Introduction to the theory of stochastic processes *depending on a continuous* parameter Washington, D C Government Printing Office, 1953 45 p 26 cm. (United States. National Bureau of Standards. Applied *mathematics series No 24)* $0.35 391

Contents: Introduction. Fundamental concepts Random variables. Convergence. Stochastic processes. Convergence in the mean. Differentiation. Stochastic processes of second order Integration. Special processes The fundamental random process. Further properties of the F.R.P frictional effects. The Ornstein-Uhlenbeck process. Estimation of parameters Estimation of the parameter of the F.R.P F.R.P with mean value function. Estimation of parameters for the O U.P The general differential process. Differential processes modified by mechanical devices Filter effect. *Counter data. The Fourier analysis of stochastic processes* General theory Trigonometric expansion of the F.R.P Stationary processes. The mean ergodic theorem. Index.

Note To quote from the author's introduction the mathematical theory f stochastic processes has progressed rapidly during the last two decades. This rapid progress has resulted in a large diversification of notation and terminology which makes it difficult even *for a mathematician to inform himself* on the *subject.* It seemed, therefore, advisable to bring together under a unified terminology and notation some of the basic definitions and results of this theory The viewpoint taken was that of the mathematical statistician. It was one f the goals of the present monograph to develop the theory of stochastic processes from this viewpoint with as little appeal to abstract measure theory as possible.

MOOD, ALEXANDER MCFARLANE

Introduction to the theory of statistics New York McGraw Hill Book Company Inc., 1950 433 p illus *24 cm* $6.50 392

Contents Introduction. Probability and combinatorial methods. Discrete distributions. Distributions for continuous variates. Expected values and moments. Special continuous distributions. Sampling. Point estimation. The multivariate normal distribution. Sampling distributions. Interval estimation. Tests of hypotheses. Regression and linear hypotheses. Experimental designs and the *analysis of variance* Sequential tests *of hypotheses.* Distribution-free methods. Tables. Index.

Note Although theory rather than applications is covered in this college text, the book is addressed to student scientists who will be more concerned with applications. The review problems illustrate applications in several fields f science. A knowledge of elementary calculus is presumed, and the treatment is not mathematically rigorous. Discussions of essential points are full rather than concise and the author's style reads easily hence the book is suitable one for the graduate scientist in need f an introduction to be studied without an instructor The author is on the *staff* of the Rand Corporation.

SAVAGE, LEONARD J

The foundations of statistics New York John Wiley & Sons 1954 294 p illus. 24 cm. (Wiley publications in statistics W A Shewhart, editor) $6 95 393

Contents Introduction. Preliminary considerations on decision in the face of uncertainty Personal probability Critical comments on personal probability Utility Observation. Partition problems. Statistics proper Introduction to the minimax theory A personalistic reinterpretation of the minimax theory The parallelism between the minimax theory and the theory of two-person games. The mathematics of minimax problems. Objections to the minimax rules. The minimax theory applied to observations. Point estimation. Testing. Interval estimation and *related topics. Appendix. Technical* symbols. Author index. Subject index.

Note. It is perhaps unfortunate that many people who believe that the laws of probability are definite and immutable will not be able to understand this book. The indefinite and tentative current state of probability theory is indicated by the necessity f classifying the "views" regarding them into three classes which the author calls "objectivistic, "personalistic, and "necessary Of his *own* book, the author states that it presents a theory of the foundations of statistics which is based on a personalistic view of probability Numerous sections and paragraphs are written in the common language, but the greater part of the discussion is cast in the terms and symbols of mathematical logic, probability and statistical theory Essentially the book is addressed to specialists and to advanced students who are preparing to become specialists.

UNITED STATES NATIONAL BUREAU OF STANDARDS

Statistical theory of extreme values and some practical applications A series of lectures by Emil J Gumbel Prepared for publi*cation with the assistance of* Julius Lieblein Washington D C Government Printing Office, 1954 51 p 26 cm. (National Bureau of Standards Applied mathematics series No 33) $0 40 394

Contents Lecture I: Survey of practical applications of extreme-value theory Lecture II, Exceedances, return periods, and probability papers. Lecture III, Exact and asymptotic distributions of extremes. *Lecture IV* Applications. Conclusion. *Summary of procedures.* Bibliography

Note In this pamphlet are published four lectures on extreme value statistical theory The lectures were originally delivered before the National Bureau of Standards, and their publication was sponsored jointly by the Bureau and the National Advisory Committee for Aeronautics. The lectures are of interest to persons concerned *in any way with statistical* theory their aim being to make the statistical theory and techniques of extreme values readily available to scientists and engineers. The author summarizes the content of the lectures as follows "The first lecture outlines some of the practical problems to which the theory pertains. The second lecture introduces certain new statistical tools necessary for the theory which is developed in the third lecture, first in exact, then in asymptotic form. The fourth lecture shows a series of practical applications and gives all numerical details for enabling interested readers to apply the method to their own problems. Some understanding of basic statistical theory and the calculus of probabilities on the part of the reader is essential.

WALD, ABRAHAM

Selected papers in statistics and probability Edited for the Institute of Mathematical Statistics T W Anderson, committee chairman. New York McGraw Hill Book Company, Inc. *1955 702 p 27 cm* Now available from Stanford University Press $10 00 395

Contents (abridged) The life of Abraham Wald. Discussion of papers. The publications of Abraham Wald (bibliography reprinted from *Annals of mathematical statistics, 1952)* *Name index.* Subject index.

Note Abraham Wald's work in statistics and probability constitutes landmark in the development of mathematical statistics. During his lifetime he published only two books and one pamphlet all the rest of his writings appeared in professional journals. In this book the greater part of the journal contributions have been made available in book form. Preceding them in the volume are short biographical sketch, an 18-page discussion f the papers in the volume, and bibliography f Wald's publications reprinted from the *Annals of mathematical statistics,* issue of March, 1952 McGraw-Hill Book Company's edition, published in 1955 soon went out of print. The book was reprinted in 1957 by Stanford University Press and is available at the price noted above.

Wald Abraham

Statistical decision functions. New York John Wiley & Sons, Inc. 1950. 179 p. illus. 23 cm. (Wiley publications in statistics W. A. Shewhart, editor) $6.50. 396

Contents: The general statistical decision problem: definitions and preliminary discussion. Zero sum two-person games with infinitely many strategies. Development of a general theory of statistical decision functions. Properties of Bayes solutions when the chance variables are independently and identically distributed and the cost of experimentation is proportional to the number of observations. Application of the general theory to various special cases. Bibliography. Index.

Note: An important contribution to statistical theory. It contains the first full statement of a general theory of statistical decision functions. The work has particular application to multi-stage scientific experiments, quality control procedures, etc., where stages beyond the first are selected or modified on the basis of the results of the first experiment or sample. However it is written on the theoretical plane and is chiefly of interest to persons who are experts in statistics or who at least have a fair knowledge of basic statistical theory and techniques.

Wilks Samuel Stanley

Elementary statistical analysis. Princeton Princeton University Press 1948. 284 p. illus. 26 cm. $3.50 397

Contents: Introduction. Frequency distributions. Sample means and standard deviation. Elementary probability. Probability distributions. The binomial distribution. The Poisson distribution. The normal distribution. Elements of sampling. Confidence limits of population parameters. Statistical significance tests. Testing randomness in samples. Analysis of pairs of measurements. Index.

Note: A textbook that has been written for use in short introductory courses in the application of statistics. The treatment assumes that the student will have taken a course in elementary mathematical analysis. The first three chapters deal with terminology and with the description of samples. The remainder of the book is devoted to probability theory and to specific statistical techniques of wide application, especially in scientific work.

Wilks Samuel Stanley

Mathematical statistics. Princeton Princeton University Press, 1943 284 p. illus. 27 cm. $3.75 398

Contents: Introduction. Distribution functions. Some special distributions. Sampling theory. Sampling from a normal population. On the theory of statistical estimation. Tests of statistical hypotheses. Normal regression theory. Applications of normal regression theory to analysis of variance problems. On combinatorial statistical theory. An introduction to multivariate statistical analysis. Exercises for supplementary reading. Index.

Note: A treatment of the mathematical theory of statistics with special emphasis on modern developments in the field. The material has been used for several years in a two-semester advanced undergraduate course at Princeton University.

APPLIED STATISTICS AND GAME THEORY

American Society for Testing Materials

Symposium on bulk sampling. Presented at the fifty fourth annual meeting American Society for Testing Materials, Atlantic City N. J. June [redacted] 1951 Philadelphia American Society for Testing Materials, 1952 65 p illus. 23 cm. (Special technical publication no. 114) $1.75 399

Contents: Introduction, by W. E. Deming. Materials handling for bulk sampling, by J. Manuele. Economic accumulation of sampling data in connection with bulk sampling, by L. Tanner and M. Lerner. Two-stage acceptance sampling by attributes, by C. W. Dunnett and J. W. Hopkins. Coal sampling problems, by A. A. Orning. The analysis of variance in a sampling experiment, by W. M. Bertholf. The design of coal sampling procedures, by W. M. Bertholf.

Note: A collection of original papers dealing with the methods of determining the average quality of products handled in bulk. The practical problems connected with the selection of a true sample are discussed, but emphasis is placed on theory and on statistical methods. The discussions following each paper are a vital part of the symposium.

Anderson Richard Loree and T. A. Bancroft

Statistical theory in research. New York McGraw Hill Book Company Inc. 1952 399 p. illus. 24 cm. $7.00 400

Contents (abridged): Part I, Basic statistical theory: Probability. Univariate parent population distributions. Properties of univariate distribution functions. Bivariate and multivariate distributions and their properties. Derived sampling distributions and orthogonal linear functions. Derived sampling distributions—normal parent population. Introduction to point estimation and criteria of "goodness." Interval estimation. Tests of hypotheses. Special uses of chi-square. Part II, Analysis of experimental models by least squares. Regression analysis. General regression model with fixed variates. Computational methods and methods of analysis for a general regression model. Curvilinear regression—orthogonal polynomials. Least squares for experimental design models. The analysis of designs in complete block. The analysis of incomplete-blocks designs. Factorial experiments. The analysis of covariance. Analysis of data with both random and fixed effects (mixed model). The recovery of interblock information in incomplete-blocks designs. Summary of needed research. Appendix. Index.

Note: A book that is useful both as a text for college students and as a reference guide for scientists and other professional workers who make practical use of statistical theory and techniques, particularly in the design of experiments and the analysis of experimental results. The topics named in the chapter titles are treated in a clear, direct style and the authors have made frequent use of worked examples in their exposition of important points. The primary emphasis is on the basic theory but the treatment of this is definitely addressed to nonspecialists in statistics, and frequent mentions are made of applications. Selected literature references are included in the chapters.

Blackwell, David and M. A. Girshick

Theory of games and statistical decisions. New York John Wiley & Sons Inc., 1954 355 p. illus 24 cm. (Wiley publications in statistics Walter A. Shewhart editor) $7.75 401

Contents: Games in normal form. Values and optimal strategies in games. General structure of statistical games. Utility and principles of choice. Classes of optimal strategies. Fixed sample-size games with finite Ω. Fixed sample-size games with finite A. Sufficient statistics and the invariance principle in statistical games. Sequential games. Bayes and minimax sequential procedures when both Ω and A are finite. Estimation. Comparison of experiments. References. Index.

Note: In this graduate-level text, portions of the theory of games which are important to the theory of statistical decisions are explained and developed so as to constitute an introduction to statistical decision theory. The reader is assumed to be familiar with the basic concepts of statistics and of mathematical analysis. Proofs are supplied for all theorems. The bibliography runs to 150 citations.

Bross Irwin D. J.

Design for decision. New York The Macmillan Company 1953 276 p. illus. 21 cm. $4.25 402

Contents: History of decision. Nature of decision. Prediction. Probability. Values. Rules for action. Operating decision-maker. Sequential decision. Data. Models. Sampling. Measurement. Statistical inference. Statistical techniques. Design for decision. Further reading. Index.

Note: This book is an attempt to explain to non-specialists the nature, concepts and some of the uses of statistical decision. Using only a little mathematics and taking care to make this little as

clear as possible, the author has dissected the basic problems in making decisions, described the statistical tools and the raw material required. Speaking to such readers as scientists who are not mathematicians and businessmen, he shows how the ideas of statistical decision may point the way to making the best decisions in specific circumstances. The style is informal, almost breezy but the book's contents are based on sound knowledge of statistical methods on the part of the author

BURINGTON, RICHARD STEVENS, AND DONALD CURTIS MAY, JR

Handbook of probability and statistics with tables Sandusky Handbook Publishers Inc., 1953 332 p illus. 20 cm $4 50 403

Contents Introduction. Certain definitions used in statistics. Frequency distributions in one dimension. Combinations and permutations. Elementary probability theory Probability distributions in one dimension. Generating od characteristic functions. Binomial distribution. Poisson distribution Normal distribution. Probability distributions in two or more dimensions. Analysis of pairs of measurements, regression theory time series. Sampling distributions. Statistical inference. Significance tests and confidence intervals. Analysis of variance. Finite differences. Interpolation. Sequential analysis, sampling inspection, quality control. Short table of integrals. Some mathematical relationships. Tables. References. Index of names. Index of symbols. Index of Greek symbols. Index of subjects.

Note A reference handbook of probability and statistics. It contains theory working rules, and tabular material divided into two main parts: (1) summary of the more important formulas and definitions of elementary statistics and probability theory and (2) tables of distributions and other quantities of frequent use in statistical work. It is useful to students and workers in many fields statistics, probability engineering, physics, chemistry the various natural and social sciences, operations research and analysis, education business, and others.

BUROS, OSCAR KRISEN, editor

Research and statistical methodology books and reviews of 1933–1938 Arlington, Va. The Gryphon Press 1938 100 p 23 cm $1 50 404

Note An annotated bibliography of books and monographs published between January 1 1933 and November 15 1938. For each book full bibliographic information is given including both American and English prices and publishers. The most critical portions of the reviews which appeared in journals have been excerpted and printed after each entry giving each reviewer's name and title of publication. There is classified index and an index of titles.

—— The second yearbook of research and statistical methodology books and reviews Arlington, Va. The Gryphon Press, 1941 383 p 27 cm $5 00 405

Note. The excerpts presented in this volume are longer and more informative than those given in *Research and statistical methodology books and reviews of 1933–1938* described above. About one-third of the present vol me is devoted to new reviews of books listed in the earlier work. This second yearbook offers total of 1,652 review excerpts from 283 journals covering 346 books and monographs published between 1933 and 1941 Books on statistical methods, scientific method, social relations of science, collective biographies of scientists, and books on research methodology in specific fields make up the bulk of the compilation. Classes of books poorly represented in the first volume, such as mathematical economics, population studies, and general histories of science, are better represented in this volume Books on microscopy and the philosophy of science have been excluded.

—— Statistical methodology reviews 1941–1950 New York John Wiley & Sons Inc 1951 457 p 27 cm. $7 00 406

Note This third volume in the series is both guide to books on statistical method and application and digest of reviews of them. Entries are arranged alphabetically by names of authors of the books. Following each entry is an excerpt from one or more critical reviews published in professional journals. Many of the excerpts are some hundreds of words long. The work is useful aid t librarians, scientists, etc., in selecting books on statistical methodology It serves also to bring together books that are published in separate fields, for example, education, and medicine. The editor has addressed it also to book reviewers and editors of reviewing periodicals in the hope that it will lead to improvement of published reviews.

CATTELL, RAYMOND BERNARD

Factor analysis, an introduction and manual for the psychologist and social scientist. Under the editorship of Gardner Murphy New York Harper and Brothers, 1952 462 p illus 22 cm $6 00 407

Contents (abridged) Part I, Basic concepts in factor analysis The place of factor analysis in scientific method. Interpretation of correlations as clusters and factors. On obtaining factors from a correlation matrix. Rotation of factors for scientific meaning. Factor estimation and the specification equation. The covariation chart and the possibilities f obliqueness, order and efficacy Part II, Specific aims and working methods: The chief alternative designs in factorising matrix. Working methods for centroid extraction including communality estimation. The clustering methods of factor extraction. The elementary spatial computations in rotations. The special problems f oblique factors. General techniques and criteria f factor resolution. The basic art f rotation by graphs. Part III, General principles and problems The effects of errors. True factor resolution and the design of experiment. Structuring variables by combinations of factor analysis with controlled experiment. Strategy and tactics of economy in computing. Glossary Appendix: Essential steps in matrix multiplication by electronic digital calculators. Bibliography Index f names. Index f subjects.

Note In this book the techniques of factor analysis, statistical method of wide potential applications in psychology and the social sciences, are explained for the benefit of advanced college students and graduate research workers. As indicated in the title, the treatment is introductory but adequate material is included to make the book useful as practical guide for scientists interested in the use of factor analysis. References from statements in the text to citations of source articles in the bibliography are carefully given.

CHURCH, DONALD E

Speed methods of statistics, for use in business New York The Ronald Press Company 1940 97 p illus 22 cm $3 50 408

Contents Introduction. Interpretation of charts. Ratios. Scale adjustments. Trends. Seasonals. Cycles. Simple relationships. Multiple relationships. General comments regarding computation.

Note Simple methods are presented which reduce time and cost of analysis of statistical data, and avoid the mathematical difficulties usually involved in customary methods. For readers who are not trained statisticians, terms and statistical measures are explained. The fundamental theory follows orthodox statistical assumptions, particularly in graphic correlation and seasonal calculations. Use is made of simple, easily-made sliding device in conjunction with an illuminated glass by which the computations are made visually without resort to intermediate tables or calculations.

CLARK, CHARLES E

An introduction to statistics New York John Wiley & Sons Inc. 1953 266 p illus. 24 cm (Wiley publications in statistics Walter A Shewart editor) $5 25 409

Contents Introduction. Permutations and combinations. Probability Frequency and probability distributions. The reliability of sample means and probabilities. The significance of the difference between two sample means or percentages The analysis of variance. Inferences from chi square. Correlation. Answers and solutions for odd-numbered exercises. Tables. Index.

Note A textbook addressed to students without education in advanced mathematics and whose interest in statistics is due to the widespread use of statistical techniques in education, biology and other fields of science. Its chief purpose is to teach the principles and basic concepts of statistical inference but other topics, such as correlation of empirical data, also are explained There is considerable emphasis on sampling techniques and theory The organization and style of the book are such that it can be used in self-instruction as well as in organized courses. The author is Associate Professor of Mathematics at Emory University

COCHRAN WILLIAM GEMMEL, AND GERTRUDE M COX

Experimental designs. New York John Wiley & Sons, Inc., 1950 454 p. 24 cm. (Wiley mathematical series W A. Shewhart editor) 410

Contents: Introduction. Methods for increasing the accuracy of experiments. Notes on the statistical analysis of the results. Completely randomized, randomized block, and latin square designs. Factorial experiments. Confounding. Factorial experiments with main effects confounded split-plot designs. Factorial experiments confounded in quasi-latin squares. Balanced and partially balanced incomplete block designs. Lattice and cubic lattice designs. Balanced incomplete blocks. Lattice squares. Incomplete latin squares (Youden squares). Analysis of the results of series of experiments. Random permutations of 9 and 16 numbers. Selected bibliography. List of author references. Index.

Note. Interpretation of the mass of data obtained in series of experiments in problem (sometimes rather complex one) in statistics. In most cases more valid conclusions can be drawn from observed data if the experiment is planned so as to satisfy the demands of sound statistical theory. This book presents detailed plans for some hundreds of experiments designed for variety of conditions. The pertinent statistical theory is outlined, but the authors have assumed that their readers will have some familiarity with the basic principles of the analysis of variance. The book is of interest to research workers in many fields of science. A second edition was published in 1957 $10.25

COCHRAN WILLIAM GEMMEL

Sampling techniques. New York John Wiley & Sons, Inc., 1953 330 p. illus 24 cm. $7.00. 411

Contents: Introduction. Simple random sampling. Sampling for proportions and percentages. The estimation of sample size. Stratified random sampling. Ratio estimates. Regression estimates. Systematic sampling. Type of sampling unit. Subsampling with units of equal size. Subsampling with units of unequal size. Double sampling. Sources of error in surveys. Answers to exercises. Author index. Subject index.

Note. A thorough review of sampling theory with some discussion of current practice. A knowledge of calculus plus rather more than introductory statistics is assumed. Each chapter includes illustrations of possible applications of the theory presented, development of formulas used, selection of exercises for students, and useful references to collateral reading. Analysis of variance, bias, ratio estimates, regression estimates, standard error and stratified random sampling are treated in some detail. The author is Professor of Biostatistics at the Johns Hopkins University.

COLUMBIA UNIVERSITY STATISTICAL RESEARCH GROUP

Selected techniques of statistical analysis for scientific and industrial research and production and management engineering: by the Statistical Research Group, Columbia University Applied Mathematics Panel, Office of Scientific Research and Development. Edited by Churchill Eisenhart, Millard W Hastay and W Allen Wallis. New York McGraw Hill Book Company Inc., 1947 4 3 p. illus. 23 cm. $6.00. 412

Contents: Part Industrial statistics. Use of variables in acceptance inspection for percent defective, by W Allen Wallis. Tolerance limits for normal distributions, by Albert H. Bowker. Multivariate quality control, illustrated by the air testing of sample bombsights, by Harold Hotelling. Effects of rounding or grouping data, by Churchill Eisenhart. Acceptance inspection when lot quality is measured by the range, by the editors. Variability of amount of inspection for double, multiple, and sequential sampling, by the editors. Part II, Planning experiments. Planning and analyzing experiments for comparing two percentages, by Edward Paulson and W Allen Wallis. Planning and interpreting experiments for comparing two standard deviations, by Churchill Eisenhart. Utilization of limited experimental facilities when the cost of each measurement depends on its magnitude, by Milton Friedman. Experiments in which the independent variable is known only in terms of probability distribution, by the editors. Planning an experiment for estimating the mean and standard deviation of normal distribution from the observations on the cumulative distribution, by Milton Friedman. Abandoning an experiment prior to completion, by the editors. Planning experiments seeking maxima, by Milton Friedman. Part III, Techniques and tables. Probability that sample means are in opposite order to population means, by Churchill Eisenhart. Significance of the largest of set of sample estimates of variance, by Churchill Eisenhart. Inverse sine transformation of proportions, by Churchill Eisenhart. Elements of sequential analysis, by W Allen Wallis. Index.

Note. Written and edited by top-rank authorities, this work is designed for industrialists, engineers, and scientists who need statistical methods but have no time for thorough study of the theory. Although intended for nonspecialists, the book is far from popularization. In fact, working knowledge of calculus and differential equations is demanded and the authors have assumed that their readers will be accustomed to using technical publications. The 11-page index greatly enhances the work reference value.

COLUMBIA UNIVERSITY STATISTICAL RESEARCH GROUP

Sequential analysis of statistical data Applications. Prepared by the Statistical Research Group Columbia University for the Applied Mathematics Panel, National Defense Research Committee Office of Scientific Research and Development. New York Columbia University Press 1945 7 nos. in 1 v illus. 29 cm. $7 75 413

Contents: Sequential analysis in inspection and experimentation (introduction). Sequential analysis when the result of single observation is classification as good or bad and when the result of the test is acceptance or rejection (*binomial distribution*). Sequential analysis when the result of single observation is classification as good or bad and when the result of the test is decision between two methods or products (*double dichotomy*). Sequential analysis when the quality being tested is measured and when the question is whether standard is exceeded (or falls short of) (*mean of normal distribution, known standard deviation, one-sided alternative*). Sequential analysis when the quality being tested is measured and when the question is whether lot differs from standard (*mean of normal distribution, known standard deviation, two-sided alternative*). Sequential analysis of variability of quality about the average (*standard deviation of normal distribution, one-sided alternative*). Sequential analysis when quality is measured by the number of defects per unit and when the question is whether standard is exceeded (Poisson distribution). Appendices: Some properties and principles of sequential analysis.

Note. Sequential analysis proved to be so important in acceptance inspection of products manufactured for war that information about it was classified as Restricted until May 1945. The great value of the method in inspection as compared to standard sampling procedure is that the number of samples that must be tested (and destroyed in many cases) can be considerably reduced without adversely affecting the reliability of the test results. Sequential analysis is equally applicable to the interpretation of experimental data. These seven pamphlets trace the development of sequential analysis, explain the basic theory and show its application to several types of situations that occur in acceptance inspection and in experimentation. The pamphlets are bound in loose-leaf binder.

DEMING WILLIAM EDWARDS

Some theory of sampling New York John Wiley & Sons Inc., 1950 602 p. illus. 23 cm. $10.00. 414

Contents (abridged): Part The specification of the reliability required. The various errors of survey. Part II, Some elementary theory for design. Moments and expected values. Multistage sampling, with-recursion, and choice of sampling unit. Allocation in stratified sampling. Distinction between enumerative and analytic studies. Control of the risks in acceptance sampling. Part III, Some theory for analysis and estimation of precision. The sample as basis for action. Part IV Applications of some of the foregoing theory. Inventories by sampling. A population sample for Greece. Part Some further theory for design and analysis. Detailed study of some binomial and related distributions. The gamma and beta functions. Tests for hypotheses in normal theory. The distribution of the

clear as possible the author has directed the basic problems in making decisions, described the statistical tools and the raw material required. Speaking to such readers as scientists who are not mathematicians and businessmen he shows how the ideas of statistical decision may point the way to making the best decisions in specific circumstances. The style is informal, almost breezy but the book's contents are based on sound knowledge of statistical methods on the part of the author

BURINGTON, RICHARD STEVENS, AND DONALD CURTIS MAY, JR

Handbook of probability and statistics with tables Sandusky Handbook Publishers, Inc, 1953 332 p illus 20 cm $4 50 403

Contents. Introduction Certain definitions used in statistics. Frequency distributions in one dimension Combinations and permutations. Elementary probability theory Probability distributions in one dimension. Generating and characteristic functions. Binomial distribution. Poisson distribution. Normal distribution. Probability distributions in two or more dimensions. Analysis of pairs of measurements, regression theory time series. Sampling distributions. Statistical inference. Significance tests and confidence intervals. Analysis of variance. Finite differences. Interpolation. Sequential analysis, sampling inspection quality control. Short table of integrals. Some mathematical relationships. Tables. References. Index of names. Index of symbols. Index of Greek symbols. Index of subjects.

Not A reference handbook of probability and statistics. It contains theory working rules, and tabular material divided into two main parts (1) a summary of the more important formulas and definitions of elementary statistics and probability theory and (2) tables of distributions and other quantities of frequent use in statistical work. It is useful to students and workers in many fields statistics, probability engineering, physics, chemistry the various natural and social sciences, operations research and analysis, education, business, and others.

BUROS, OSCAR KRISEN, editor

Research and statistical methodology books and reviews of 1933–1938 Arlington, Va. The Gryphon Press 1938 100 p 23 cm $1 50 404

Note An annotated bibliography of books and monographs published between January 1 1933 and November 15, 1938. For each book full bibliographic information is given including both American and English prices and publishers. The most critical portions of the reviews which appeared in journals have been excerpted and printed after each entry giving each reviewer's name and title of publication. There is classified index and an index of titles.

—— The second yearbook of research and statistical methodology books and reviews. Arlington, Va. The Gryphon Press 1941 383 p 27 cm $5 00 405

Note The excerpts presented in this volume are longer and more informative than those given in *Research and statistical methodology books and reviews of 1933–1938* described above. About one-third of the present volume is devoted to new reviews of books listed in the earlier work. This second yearbook offers total of *1,652* review excerpts from 283 journals covering 340 books and monographs published between 1933 and 1941 Books on statistical methods, scientific method, social relations of science, collective biographies of scientists, and books on research methodology in specific fields make up the bulk of the compilation. Classes of books poorly represented in the first volume, such as mathematical economics, population studies, and general histories of science, are better represented in this volume. Books on microscopy and the philosophy of science have been excluded.

—— Statistical methodology reviews 1941–1950 New York John Wiley & Sons Inc 1951 457 p 27 cm $7 00 406

Note. This third volume in the series is both guide to books on statistical method and application and digest of reviews of them. Entries are arranged alphabetically by names of authors of the books. Following each entry is an excerpt from one or more critical reviews published in professional journals. Many of the excerpts are some hundreds of words long. The work is useful aid to librarians, scientists, etc., in selecting books on statistical methodology It serves also to bring together books that are published in separate fields, for example, education, and medicine. The editor has addressed it also to book reviewers and editors of reviewing periodicals in the hope that it will lead to improvement of published reviews.

CATTELL, RAYMOND BERNARD

Factor analysis, an introduction and manual for the psychologist and social scientist. Under the editorship of Gardner Murphy New York Harper and Brothers, 1952 462 p illus 22 cm $6 00 407

Contents (abridged) Part I, Basic concepts in factor analysis: The place of factor analysis in scientific method. Interpretation of correlations as clusters and factors. On obtaining factors from a correlation matrix. Rotation of factors for scientific meaning. Factor estimation and the specification equation. The covariation chart and the possibilities f obliqueness, order and efficacy Part II, Specific aims and working methods The chief alternative designs in factorizing a matrix. Working methods for centroid extraction including communality estimation. The clustering methods of factor extraction. The elementary spatial computations in rotations. The special problems of oblique factors. General techniques and criteria of factor resolution. The basic art f rotation by graphs. Part III, General principles and problems The effects of errors. True factor resolution and the design of experiment. Structuring variables by combinations f factor analysis with controlled experiment. Strategy and tactics of economy in computing. Glossary Appendix Essential steps in matrix multiplication by electronic digital calculators. Bibliography Index f names. Index f subjects.

Note In this book the techniques of factor analysis, statistical method of wide potential applications in psychology and the social sciences, are explained for the benefit of advanced college students and graduat research workers. As indicated in the title, the treatment is introductory but adequate material is included to make the book useful as practical guide for scientists interested in the use of factor analysis. References from statements in the text t citations f source articles in the bibliography are carefully given.

CHURCH, DONALD E

Speed methods of statistics for use in business New York The Ronald Press Company, 1940 97 p illus. 22 cm $3 50 408

Contents Introduction. Interpretation of charts. Ratios. Scale adjustments. Trends. Seasonals. Cycles. Simple relationships. Multiple relationships. General comments regarding computation.

Note Simple methods are presented which reduce time and cost of analysis of statistical data, and avoid the mathematical difficulties usually involved in customary methods. For readers who are not trained statisticians, terms and statistical measures are explained. The fundamental theory follows orthodox statistical assumptions, particularly in graphic correlation and seasonal calculations. Use is made of simple, easily-made sliding device in conjunction with an illuminated glass by which the computations are made visually without resort to intermediate tables or calculations.

CLARK, CHARLES E

An introduction to statistics. New York John Wiley & Sons Inc., 1953 266 p illus. 24 cm (Wiley publications in statistics Walter A Shewart, editor) $5.25 409

Contents Introduction. Permutations and combinations. Probability Frequency and probability distributions The reliability of sample means and probabilities. The significance of the difference between two sample means or percentages. The analysis of variance Inferences from chi square. Correlation. Answers and solutions for odd-numbered exercises. Tables. Index.

Not A textbook addressed t students without education in advanced mathematics and whose interest in statistics is due to the widespread use of statistical techniques in education, biology and other fields of science. Its chief purpose is to teach the principles and basic concepts of *statistical inference* but other topics, such as correlation of empirical data, also are explained. There is considerable emphasis on sampling techniques and theory The organization and style of the book are such that it can be used in self-instruction as well as in organized courses. The author is Associate Professor of Mathematics at *Emory University*

block designs. Balanced designs. Some additional designs. Covariance. Literature cited. Index. Problems.

Note: A college textbook of unusual comprehensiveness. It is addressed to students and others who are familiar with basic concepts, technology and terminology of statistical methods and it covers experimental design in a way that should prepare readers of the book to design experiments for most conditions encountered in scientific research. The expository matter includes a considerable number of examples fully worked out by the author. This feature, together with the extensive bibliography, detailed index, and separation at the end of the book of problems for the student, make the book especially useful as a reference tool for graduate scientists, especially those in biological fields.

FREEMAN, HAROLD ADOLPH

Industrial statistics statistical technique applied to problems in industrial research and quality control. New York John Wiley & Sons, Inc. 1942 178 p illus. 23 cm. $4.00. 421

Contents (abridged): The difference of two means. Difference among several means. Relationship among variables. Systematic quality control. Sampling and the risks of producers and buyers. References. Tables. Index.

Note: A text designed originally for courses in industrial statistics given at Massachusetts Institute of Technology giving examples of the uses of elementary statistical methods in the design and analysis of experiments carried out in industrial plants and scientific laboratories. It also deals with several of the statistical features of the problem of establishing a systematic program through which the quality of industrial output can be studied and controlled. Each chapter is divided into two parts, the first presenting the problem, examples, method, and results, while the second gives a mathematical exposition of theory. There are a list of 80 references and large number of useful tables.

FRUCHTER, BENJAMIN

Introduction to factor analysis. New York D Van Nostrand Company Inc., 1954 280 p. illus. 24 cm. $5.50. 422

Contents: Introduction. Cluster analysis. Mathematics essential for factor analysis. Basic assumptions of factor analysis. Diagonal and centroid methods of factoring. Multiple-group and principal-axes methods of factoring. Methods of rotation—orthogonal axes. Methods of rotation—oblique axes. Interpretation of factors. Applications in the literature. Some general considerations. Appendix: Calculation of the estimated factor loadings of a variable not included in the original analysis. Bibliography. Answers to problems. Index.

Note: A beginning textbook in which the author introduces and develops the basic concepts of factor analysis, including the mathematics, in such a way as to give the student the basic knowledge needed to apply factorial methods to any area of science in which he may need it. An extensive bibliography (14 pages) for the period 1940 through 1952 is included. In addition to use in organized classes, the book can be used for self instruction by readers, especially graduate scientists, who have the requisite knowledge of basic mathematics and statistics.

FRYER, H. C

Elements of statistics. New York John Wiley & Sons, Inc., 1954 262 p illus. 24 cm. (Wiley publications in statistics Walter A. Shewhart, editor) $4.75 423

Contents: History and introduction. The summarization of sets of data involving one type of measurement. Elementary probability. The binomial and normal frequency distributions. Sampling from binomial populations. Introductory sampling theory for a normal population involving only one variable. Linear regression and correlation. Tables. Index.

Note: A well-written, general introduction to statistical concepts and methods. Interest has been lent to the subject not only by the common technique of described applications but also by painstaking exposition and careful explanation of such notions as the "arithmetic mean," "standard deviation," and "population." The book is addressed to beginners, especially those who are interested in applying statistics in such fields as agricultural experimentation and are taking a course on the subject in college. It is not a popularization, although it is suitable also for reading outside of college by persons who have some familiarity with mathematics, including algebra and the interpretation of graphs. The author is Professor of Mathematics in Kansas State College.

GOULDEN, CYRIL HAROLD

Methods of statistical analysis Second edition. New York John Wiley & Sons, Inc. 1952 467 p 24 cm (Wiley publications in statistics Walter A. Shewhart, editor) $7.50 424

Contents: Introductory concepts. Variation, statistics, and the frequency table. Theoretical frequency distributions. Tests of significance. The analysis of variance. Linear regression analysis. Correlation. Partial and multiple regression and correlation. The analysis of covariance. Non-linear regression. Basic experimental designs. Factorial experiments. Incomplete block experiments. The treatment of non-orthogonal data. Goodness of fit. Tests of independence. The discriminant function. Probit analysis. Quality control and sampling for inspection and verification. Appendix. Index.

Note: A text and reference book designed for research workers in the sciences. There is some emphasis on experimental design in the fields of agriculture and biology. However this emphasis is not heavy enough to lessen the value of the book for students and graduate workers in other fields such as psychology. The first edition appeared in 1939. This edition represents a very extensive revision and a considerable increase in size. Each of the chapters is supplemented by a substantial list of the pertinent literature. The author is Chief of the Cereal Division of the Central Experimental Farm in Ottawa, Canada.

GUILFORD J P

Fundamental statistics in psychology and education. Third edition. New York McGraw Hill Book Company Inc., 1956 565 p illus. 23 cm. (McGraw Hill series in psychology Clifford T Morgan consulting editor) $6.25 425

Contents: Introduction for students. Counting and measuring. Frequency distributions. Measures of central value—of variability. Cumulative distributions and norms. The normal distribution curve. Correlation. The reliability and significance of statistics. Testing hypotheses. Chi-square and other statistical tests. Introduction to analysis of variance. Special correlation methods and problems. Prediction of attributes. Prediction of measurements. Multiple prediction. Reliability of measurements. Validity of measurements. Test scales and norms. Appendices. Index.

Note: A successful introductory text for students interested in the applications of statistics in the two fields mentioned in the title. The first edition was published in 1942, and the second edition in 1950. In each edition, there has been a significant change in the book's scope, although it remains addressed to the same type of audience. In this third edition, shorter than the second edition by approximately 30 pages, some older material on descriptive statistics has been eliminated or condensed, and more emphasis has been placed on hypothesis testing and statistical inference. In the treatment of these subjects, new developments in hypothesis testing and tests of significance are included among other topics. As was true of the second edition, enough reference material is included to make the book useful as a working manual in applied statistics in addition to its use as a text.

HANSEN MORRIS H., AND OTHERS

Sample survey methods and theory By Morris H. Hansen William N Hurwitz, and William G Madow New York John Wiley & Sons Inc., 1953 2 v illus. 24 cm. (Wiley publications in statistics Walter A. Shewhart, editor) Vol. 1 $8.75 vol. 2 $7.75 426

Contents: Volume 1, Methods and applications: Introduction. An elementary survey of sampling principles. Biases and nonsampling errors in survey results. Sample designs for some common sampling problems. Simple random sampling. Stratified simple random sampling. Simple one- or two-stage cluster sampling. Stratified single- or multi-stage cluster sampling. Control of variation in size of cluster in estimating totals, averages, or ratios. Multi-stage sampling with large primary sampling units. Estimating variances. Regression estimates, double sampling, sampling for time series, systematic

external and internal variances. Appendix A page of random numbers. Index.

Note This important contribution to the application of statistical theory deals with obtaining accurate information by counting or examining only a portion of the "population" about which information is desired. This technique is often used in opinion polls, consumer surveys, census estimates, etc. It has application also in the planning of scientific experiments and interpretation of the results obtained. The work is written strictly from the viewpoint of applied statistics and is intended for professional workers and graduate students who have already mastered the elements of general statistical theory

DEMING, WILLIAM EDWARDS

Statistical adjustment of data. New York John Wiley & Sons, Inc., 1943 261 p illus 21 cm. $6 00 415

Contents (abridged): On the meaning of adjustment. Simple illustrations of curve fitting. The propagation of error The general problem in least squares. Geometric conditions. Systematic computation for geometric conditions. Adjusting sample frequencies to expected marginal totals. Curve fitting in more complicated circumstances. Systematic computations for fitting curves by least squares. Exercise on fitting various functions. Four examples in curve fitting. Appendix. Index.

Note: A text and reference book for graduate and undergraduate engineering students, which deals mainly with scattered portions of the subject that may be difficult to find elsewhere. The book is intended as supplement to larger texts on statistical adjustment of data, and several topics relating to the theory of least squares and to the theories of Hotelling, Wald, and Eisenhart have been intentionally omitted. The book presents some basic statistical concepts and those methods of arriving at figures which can be used for a given application. Skeleton table forms for calculation are provided. A knowledge of differential calculus is helpful but not a necessary prerequisite.

DIXON, WILFRID JOSEPH, AND FRANK J MASSEY, JR.

Introduction to statistical analysis New York McGraw Hill Book Company, Inc, 1951 370 p illus 23 cm 416

Contents Introduction. Distributions. Introduction to measures of central value and dispersion. Universe and sample. The normal distribution. Various measures of central value and dispersion. Statistical inference. The variance estimation and tests of hypotheses. The mean estimation and tests of hypotheses. Analysis of variance. Regression and correlation. Analysis of covariance. Enumeration statistics. Probability of accepting a false hypothesis. Macrostatistics. Microstatistics. Nonparametric statistics. Sequential analysis. Sensitivity experiments. Appendix. Index.

Note In this book, statistics is viewed as "the science of experimentation. The work is a textbook written for basic statistics course to be taken by students from all fields in which statistics find application. The order and emphasis of topics are largely based upon the recommendations for a basic course in statistics stated by the Committee on Teaching of Statistics of the National Research Council. The appendix includes tables, etc., for reference work. A second edition was published in 1957 488 p., $6.00.

DORNBUSCH, SANFORD M, AND CALVIN F SCHMID

A primer of social statistics New York McGraw Hill Book Company, Inc. 1955 251 p illus 23 cm (McGraw Hill series in sociology and anthropology Richard T LaPiere consulting editor) $4 75 417

Contents. Some advice for the student. Tabular presentation. Graphic presentation. Basic rules of summation. Measures of central value. Measures of variability Ratios, proportions, and rates. Computations with grouped data. Universe and sample. Sampling distributions. Statistical inference. The binomial distribution. The normal distribution. Sampling distribution of proportions. Sampling distribution of means. Prediction and regression. Linear correlation. Contingency A taste of things to come. And few grains of salt. Appendix. Index.

Note An introduction to statistics for students with little preparation in mathematics. Mathematics beyond arithmetic is explained in the book. The presentation is slanted toward the interests of students of the social sciences only by the inclusion of examples from sociology Basic notions such as confidence limits and random sampling are fully discussed though in an elementary manner A considerabl number of statistical diagrams and charts are included and explained. The book's simplicity makes it a good one for readers outside of colleges who wish a simple book for self-instruction.

EDWARDS, ALLEN LOUIS

Experimental design in psychological research. New York Rinehart & Company Inc., 1950 446 p illus 22 cm $5.50 418

Contents. The nature of psychological research. Principles of experimental design. Probability and experimental design. The normal and X^2 approximations of the binomial probabilities. Experiments involving comparison of the difference between 2 frequencies or proportions. The application of the X^2 distribution to research problems involving more than 1 degree of freedom. Testing hypotheses about correlation coefficients. The t test and the significance of means and differences between means. Heterogeneity of variance and the t test. An introduction to the analysis of variance. Heterogeneity of variance and transformations of the scale. The 2^n factorial design for experiments in which variables are varied in only 2 ways. Complex factorial designs. Experimental designs involving matched groups. Experimental designs involving repeated measurements of the same subjects. The Latin square design in psychological research. Applications of the analysis of covariance. Bibliography List of formulas. Appendix. Index of names. Index of subjects.

Note. This book is concerned with the planning of experiments and with the analysis of experimental data, primarily in the fields of psychology sociology and education. It presents for students in these fields standard techniques and some of the newer developments in statistical analysis, particularly with respect to small-sample theory The reader or student needs a working knowledge of algebra and an elementary knowledge of applied statistics in order to understand this work.

EDWARDS, ALLEN LOUIS

Statistical methods for the behavioral sciences. New York Rinehart & Company, Inc. 1954 542 p illus 23 cm $6 50 419

Contents Introduction. Survey of rules and principles. Measures of central tendency and variability Simplifying statistical computations. Graphical representation of frequency distributions. Standard scores and normalizing distributions. Linear regression. The product moment correlation coefficient. Random errors of measurement. Point coefficients and other measures of association. Probability and the binomial distribution. The normal distribution. The t test for the means of independent samples. The difference between the means for paired observations and equated groups. The significance of correlation and regression coefficients. The analysis of variance. Further applications of the analysis of variance. The χ^2 test of significance. Significance tests for ranked data. Bibliography List of formulas. Appendix. Answers to examples. Index of names. Index of subjects.

Note An elementary text directed to college students who are interested in statistics and statistical methods from the standpoint of their uses in such fields as education, psychology and sociology The level of treatment does not assume high level of mathematical preparation on the part of the readers. Along with the more commonly used methods of statistical analysis wherein is assumed the normality of distribution, the author has also included methods free from the assumption on ormality of distribution, since these non-parametric methods are frequently found useful in the behavioral sciences. The author is Professor of Psychology in the University of Washington.

FEDERER, WALTER T

Experimental design theory and application. New York The Macmillan Company 1955 591 p illus 24 cm. $11 00 420

Contents Introduction. Some useful statistical tools and concepts. Plot or pen technique. The completely randomized design. Randomized complete block design. The latin square design. The choice of treatments and the factorial experiment—p^n series. Other factorial experiments. Confounding in factorial experiments. Factorial experiments with main effects confounded—split plot and split block designs with variations. Incomplete block designs—general considerations and the one-restrictional lattices with treatments in complete replicates. Lattice designs with more than one restriction on the allocation of treatments in the complete block. Other incomplete

631 p 24 cm. (Wiley publications in statistics W A. Shewhart, editor) $10 00. 431

Contents (abridged) The principles of experimental design. Elementary statistical notions. An introduction to the theory of least squares. The general linear hypothesis or multiple regression and the analysis of variance. The analysis of multiple classifications. Randomization. Latin squares. Plot technique. The analysis of randomized block and latin square experiments. Experiments involving several factors. Experiments involving factors with 3 levels. Split-plot experiments. Fractional replication. Quasifactorial or lattice and incomplete block designs. Lattice designs. Balanced incomplete block designs. Partially balanced incomplete block designs. Experiments on infinite populations and groups of experiments. Treatments applied in sequence. Appendix. Index.

Note This book complements *Experimental designs* by W G. Cochran and G. M. Cox, New York, 1950. It contains [illegible] much fuller exposition of theory and also discusses in more detail the bases of experimental design. However, it is intended primarily for the same audience, that is, advanced college students and other persons whose interest in statistics is based on their concern with experimental investigation in some field of science. For many years the author was engaged in statistical work at Rothamsted Experimental Station in England. He is now Professor of Statistics at Iowa State College.

KUHN H. W AND A. W TUCKER, editors
Linear inequalities and related systems. Princeton Princeton University Press, 1956 322 p illus. 25 cm. (Annals of mathematics studies edited by Emil Artin and Marston Morse. No. 38) $5 00. 432

Contents Dual systems of homogeneous linear relations, by A. W Tucker. Polyhedral convex cones, by A. J. Goldman and A. W Tucker. Resolution and separation theorems for polyhedral convex sets, by A. J Goldman. Theory of linear programming, by A J Goldman and A. W Tucker. On systems of linear inequalities, by K. Fan. Infinite programs, by R. J Duffin. A primal-dual algorithm for linear programs, by G. B Dantzig and others. Marginal values of matrix games and linear programs, by H. D. Mills. Determinateness of polyhedral games, by P Wolfe. On systems of distinct representatives, by A. J Hoffman and H. W Kuhn. Dilworth [illegible] theorem on partially ordered sets, by G. B. Dantzig and A. J. Hoffman. On the max-flow min-cut theorem of networks, by G. B. Dantzig and D R. Fulkerson. Integral boundary points of convex polyhedra, by A. J Hoffman and J G. Kruskal. An extension of [illegible] theorem of Dantzig, by I Heller and C. B. Tompkins. Neighboring vertices on [illegible] convex polyhedron, by D Gale. On [illegible] theorem of Wald, by H. W Kuhn. On the solution of [illegible] game-theoretic problems, by G. L. Thompson. The closed linear model of production, by D. Gale. Bibliography.

Note Certain of the papers in this collection deal with topics in the fundamental mathematics of the field, while others are devoted to problems on economic applications. All of the papers are written on an advanced mathematical level. Bibliographies for the individual papers are included. In addition, there is [illegible] general bibliography on "linear inequalities and related systems" that runs to 119 references. The collection is [illegible] contribution to linear programming and game theory.

KUHN HARRY WALDO AND ALBERT WILLIAM TUCKER, editors
Contributions to the theory of games. Princeton Princeton University Press, 1950 201 p. illus. 26 cm. (Annals of mathematics studies edited by Emil Artin and Marston Morse. Number 24) $3.00 433

Contents Part I, Finite games: The elementary theory of convex polyhedra, by H. Weyl. Elementary proof of [illegible] minimax theorem due to von Neumann, by H. Weyl. Basic solutions to discrete games, by L. S. Shapley and R. N. Snow. Solutions of finite two-person games, by D Gale and S. Sherman. Solutions of discrete two-person games, by H. F Bohnenblust and others. Solutions of games by differential equations, by G. W Brown and J. von Neumann. On symmetric games, by D Gale and others. Reduction of game matrices, by D. Gale and others. A simplified two-person poker, by H. W Kuhn. A simple three-person poker game, by J. F Nash and L. S. Shapley. Interpretation of games and strategic equivalence, by J. C. C. McKinsey. Part II, Infinite games: Operator treatment of minimax principle, by S. Karlin. On theorems of Ville, by H. F Bohnenblust and S. Karlin. Polynomial games, by M. Dresher and others. Games with continuous, convex pay-off, by H. F Bohnenblust and others. Bibliography.

—— Volume II. Princeton Princeton University Press 1953 395 p. illus. 26 cm. (Annals of mathematics studies edited by Emil Artin and Marston Morse Number 28) $4.00 434

Contents. Part I. Finite zero-sum two-person games. A certain zero-sum two-person game equivalent to the optimal assignment problem, by J. von Neumann. Two variants of poker by D B. Gillies and others. The double description method, by T S. Motzkin and others. Solutions of convex games as fixed-points, by M. Dresher and S. Karlin. Admissible points of convex sets, by K. J. Arrow and others. Part [illegible] Infinite zero-sum two-person games. Games of timing, by M. Shiffman. Reduction of certain classes of games to integral equations, by S. Karlin. On [illegible] class of games, by S. Karlin. Notes on games over the square by I. Glicksberg and O Gross. On randomization in statistical games with [illegible] terminal actions, by D Blackwell. Part III, Games in extensive form. Extensive games and the problem of information, by H. W Kuhn. Equivalence of information patterns and essentially determinate games, by N Dalkey. Infinite games with perfect information, by D. Gale and F M. Stewart. Signaling strategies in n-person games, by G. L. Thompson. Bridge and signaling, by G. L. Thompson. Sums of positional games, by J Milnor. Part IV General n-person games. A value for n-person games, by L. S. Shapley. Symmetric solutions to majority games, by R. Bott. Discriminatory and bargaining solutions to [illegible] class of symmetric n-person games, by D. B. Gillies. Quota solutions of n-person games, by L. S. Shapley. Arbitration schemes for generalized two-person games, by H. Raiffa. Bibliography.

Note Original contributions to the theory of games are published in this series. The first two volumes contain the papers whose authors and titles are listed above. The first volume contains [illegible] preface which serves as an introduction to the field, with particular regard to its status in 1950. A third volume in the series was published early in 1957

LACEY OLIVER L.
Statistical methods in experimentation, an introduction. New York The Macmillan Company 1953 249 p illus. 21 cm $4 90 435

Contents: The aim and problems of statistics in experimentation. Experimental design. Interpretation. *Probability*—The probability of discrete events—probability in [illegible] continuous. The normal distribution. Tests of significance of means and differences between means. Enumeration data. Correlation. Regression. Fiducial limits. Experimental design ( ) Appendix of tables. Index.

Note: An elementary introduction to the statistical design of experiments. It is designed for students who are interested in scientific experimentation rather than in statistical theory and those in some bias towards experimentation in the agricultural and biological sciences. The logic that underlies statistical methods is explained patiently and in elementary terms. In fact, the exposition of most points is so full and explicit that an alert reader can comprehend the book without the guidance of an instructor. Except for [illegible] note of acknowledgment to R. A. Fisher's *The design of experiments* in the preface, there are no literature references.

LEVINSON, HORACE C.
The science of chance from probability to statistics. New York Rinehart & Company 1950 348 p. illus. 20 cm. $3.50 436

Contents: Part I, Chance: Chance, luck and statistics. Gamblers and scientists. The world of superstition. Fallacies. The grammar of chance. "Heads or tails." Betting and expectation. Who is going to win? Chance and speculation. Poker chances. Poker chances and strategy. Roulette. Lotteries, craps, bridge. Part II, Statistics: From chance to statistics. Chance and statistics. Fallacies in statistics. Statistics at work. Advertising and statistics. Business and statistics. Index.

Note Elementary probability theory and applied statistics are made clear and interesting in this book for general readers. In part, this effect has been achieved by devoting [illegible] large part of the discussion to odds in gambling. Approximately half of the volume is devoted to the mathematics of chance in betting, poker, craps, etc.

sampling, and other sampling methods. Case studies—designs and results of some actual sample surveys. Appendix Table of areas under the normal curve. Index. Volume II, Theory: Introduction and definitions. Fundamental theory Operations, events and probability Random variables, expected values, variances, covariances, and convergence in probability Derivations, proofs, and some extensions of theory for corresponding chapters of Volume I Simple random sampling Stratified simple random sampling. Simple one- or more stage cluster sampling Stratified single or multi-stage cluster sampling. Control of variation in size of cluster in estimating totals, averages, or ratios. Multi-stage sampling with large primary sampling units. *Estimating variances, Regression estimates,* double sampling, sampling for time series, and other sampling methods. A theory for response errors Response errors in surveys. Index.

Note A work of major importance to anyone interested in contemporary methods of obtaining desired information by the sampling of populations. All of the authors have been associated with the Bureau of the Census of the United States Government, and two of them are still responsible for the development of sampling methods in that Bureau. The *early chapters of Volume I are a suitable* introduction to the aim, principles and problems of sampling. These can be read by anyone with an interest in the subject, whether or not he is acquainted with statistical principles and terminology The later chapters deal explicitly with practical sampling methods and are technical. This volume is concluded with detailed analysis of several sample surveys carried out by the Bureau of the Census. Mathematics is used freely in Volume I (except for the first three chapters) but the formulas are not derived and statements are not proved. The more advanced mathematical aspects of sampling are adequately covered in Volume II where derivations of formulas and proofs are rigorously given. The work is suitable for use both as textbook for advanced students who are preparing for careers in applied statistics and as a reference book and self-instruction guide for graduates already in the field.

HOLZINGER, KARL JOHN, AND HARRY H. HARMAN

Factor analysis, a synthesis of factorial methods. Chicago The University of Chicago Press 1941 417 p illus 24 cm $7.50 427

Contents Part I, Introduction Basic statistics. Geometric formulation of the factor problem. Determination of the common-factor space. Preferred types of orthogonal solutions. Part II Direct orthogonal solutions The bi-factor solution and sampling formulas. The principal-factor solution. The centroid solution. Part III, Derived solutions orthogonal and oblique Derived principal-factor solution. Orthogonal transformations and the multiple-factor solution. Oblique solution. Part IV Estimation of factors and relationships between factors *Estimation of factors.* Relationships between factor solutions. Appendixes. Bibliography Index.

Note. Concerned primarily with the exposition and synthesis of various procedures in factor analysis, this study is illustrated with examples from psychology biometry and political science. The volume is divided into five major parts th analytic and geometric foundations are first presented, leading to small number of factor solutions. Then the theory underlying each of these *types of solution is developed.* In particular the methods of Spearman, Holzinger Hotelling, Kelley and Thurstone are described. This is followed by comprehensive treatment of the methods for estimating factors, including the work of Thomson, Ledermann, and Burt. Finally in the appendixes, detailed steps are given for the calculation of any of the factor solutions described in the text.

HOUSEHOLDER, ALSTON S., AND OTHERS, editors

Monte Carlo method. Proceedings of a symposium held June 29, 30 and July 1 1949, in Los Angeles, California under the sponsorship of the *Rand Corporation* and the National Bureau of Standards with the co-operation of the Oak Ridge National Laboratory Edited by A S Householder with the assistance of G E Forsythe and H. H. Germond *Washington* D C Government Printing Office, 1951 42 p illus. 26 cm (United States National Bureau of Standards Applied mathematics series 12) $0.35 428

Content Showers produced by low-energy electrons and photons, by R. R. Wilson. An alignment chart for Monte Carlo solution of the transport problem, by B. I. Spinrad and others. Neutron age calculations in chains applied to particle transmission through matter by W C. De Marcus and L. Nelson. Stochastic methods in statistical mechanics, by G. W King. Report on a Monte Carlo calculation performed with the *Eniac*, by M Mayer Calculation of shielding properties of water for high energy neutrons, by P C. Hammer A Monte Carlo technique for estimating particle attenuation in bulk matter by B. A. Shoor and others. Estimation of particle transmission by random sampling, by H. Kahn and T E. Harris. History of RAND'S random digits—summary by G. W Brown. The mid-square method of generating digits, by P C. Hammer Generation and testing of random digits at the National Bureau of Standards, Los Angeles, by G E. Forsythe. Various techniques used in connection with random digits, by J von Neumann. Round table discussion summary by H. H. Germond.

Note Here are reprinted most of the papers presented by physicists and others at symposium held in 1949 at the University of California, Los Angeles. The audience for these papers included professional mathematical statisticians. The papers tell of initial efforts to apply the Monte Carlo method—which involves a combination of sampling theory and numerical analysis—made almost independently by number of different groups and individuals. The round-table discussion at the close of the symposium presented criticisms and suggestions and evaluation of the Monte Carlo method as contribution to the art of computing.

JOHNSON, PALMER OLIVER

Statistical methods in research New York Prentice-Hall, Inc., 1949, 377 p illus 24 cm $5 00 429

Content The realm of statistics. Probability and likelihood. Sampling distributions. The testing of statistical hypotheses. Current procedures in testing statistical hypotheses. The estimation of population parameters. Normal and normalized distributions in statistics. *Statistical analysis of data under nonnormal assumptions.* Sampling theory and practice. Analysis of variance and covariance. Applications of the analysis of variance and covariance method. The principles of experimentation. Applications of the principles of experimentation. Multiple regression problems. Appendix Table of normal distribution. *Table of t. Table of X^2 Table of F* Table of L_1 Index.

Note. An intermediate-level work designed to provide students in the biological and social sciences with the knowledge of statistical principles and techniques which are necessary in designing experiments and observational projects and in analyzing and interpreting the results. The author has assumed that the users of the book will have had a course in introductory or descriptive statistics.

KELLEY, TRUMAN LEE

The Kelley statistical tables. Revised 1948 Cambridge Mass Harvard University Press 1948 223 p illus 29 cm. $5 00 430

Contents Introductory section Bearing upon all the tables and including inverse interpolation. Table I *Eight-place normal distribution,* simple correlation, and probability functions. Table II Five-place three-point interpolation coefficients. Table III Ten-place four-point interpolation coefficients. Table IV Ten-place six-point interpolation coefficients Table *Eleven-place* eight-point interpolation coefficients. Table VI *Four-place X^2* functions. Table VII Eight-place square roots, cube roots, and natural logarithms. Table VIII Eight-place θ functions for normalizing *F* for the variance ratio. Table IX Constants frequently needed.

Note The chief object of this work is to provide statisticians with set of eight-place mathematical tables of usefulness in operations not readily accomplished with computing machines. Improvements in this edition are as follows. the original coefficient tables for direct interpolation have been replaced by more detailed tables, 3- and 4-point interpolation is now described, and complete 3x3 table of cube roots is now provided. The present volume contains approximately 100 more pages than the 1938 edition.

KEMPTHORNE, OSCAR

The design and analysis of experiments. New York John Wiley & Sons, Inc., 1952

OSTLE, BERNARD

Statistics in research basic concepts and techniques for research workers. Second edition. Ames Iowa State College Press 1954 437 p. illus. 23 cm. $6 95 442

Contents: The role of statistics in research. Basic statistical concepts. Measurement data—random sampling distributions. Attribute or enumeration data—chi-square and other methods of analysis. Mean and variance of normal populations—one or two populations. Regression analysis—I, One independent variable. Correlation methods. Regression analysis—II, Two or more independent variables. Analysis of variance—I, Completely randomized design —II, Randomized complete block and latin square designs—III. Factorials. Further applications of analysis of variance. Analysis of covariance. Other statistical techniques. Design of experimental investigations. Appendix. Bibliography. Index.

Note: An introductory textbook, developed at Iowa State College and Montana State College. It is written from a general viewpoint, with the purpose of teaching statistical methods applicable to areas of scientific research. The first two chapters are preliminary and are devoted to elementary discussions of research and scientific method, applications of statistics in research, definitions of basic statistical terms and concepts, etc. Presented as an appendix to the second chapter, so that it may be skipped by readers who lack the necessary mathematical preparation, is a compact statement of the mathematical theory that underlies frequency distributions. The majority of the chapters are devoted to describing and expounding standard statistical methods, most of which are named in the chapter titles. The final chapter is a very brief introduction to the statistical design of experiments.

PARADINE, C. G., AND B H P RIVETT

Statistics for technologists. Princeton D Van Nostrand Company Inc., 1954 285 p 23 cm. $6 75 443

Contents (abridged): Frequency distributions. Statistical parameters. Probability. The binomial distribution. Poisson distribution. The normal distribution. Sum of squares of normal variates. Continuation of it. Quality control. Sampling inspection schemes. Theory of errors. The method of least squares. Correlation. The analysis of variance. The principle of maximum likelihood. Probit analysis. Tables. Answers to examples. Index.

Note: A general introductory text for readers whose interest in statistics is practical. However, it is not limited to applications, but it covers also the basic theory and concepts. Applications in sampling, quality control, etc., are clearly explained.

RAND CORPORATION

A million random digits with 100,000 normal deviates. Glencoe, Ill. Free Press, 1955 400, 200 p. 28 cm. $10.00. 444

Note: A reference book for those who need large lists of random numbers or normal deviates for use in such techniques as the Monte Carlo method. The greater part of the space is taken up by two tables. The first one is the list of 1,000,000 random digits; the second is a list of 100,000 random normal deviates. The tables are preceded by an introduction describing the methods by which the tables were constructed to keep them free of bias and on methods of avoiding introduction of bias in using them.

SIEGEL, SIDNEY

Nonparametric statistics for the behavioral sciences. New York McGraw Hill Book Company Inc., 1956 312 p. illus. 24 cm. (McGraw Hill series in psychology Clifford T Morgan, consulting editor) $6.50. 445

Contents: Glossary of symbols. Introduction. The use of statistical tests in research. Choosing the appropriate statistical test. The one-sample case. The case of two related samples. The case of two independent samples. The case of k related samples. The case of k independent samples. Measures of correlation and their tests of significance. References. Appendix. Index.

Note: The author of this book regards the nonparametric techniques of hypothesis testing as uniquely suited to the data of the behavioral sciences. He presents the techniques in a form comprehensible by the scientist without special mathematical training and, in the appendix, includes the tables used in the application of the various tests. Of the nine chapters, six are devoted to the presentation of the nonparametric statistical tests. The first three chapters include an introduction, a discussion of the tests of hypotheses, and a discussion of the choice of the statistical technique best suited for analyzing a given batch of data, including a comparison of parametric and nonparametric statistical tests. Much space throughout the book is devoted to examples of the use of the tests. The author has assumed that the reader (1) have an understanding of elementary algebra and that he (2) have had introductory work in statistics, including descriptive statistics (means, medians, standard deviations, etc.) parametric correlational methods (including the Pearson product-moment correlation r) and the basic notions of statistical inference and their use in the t test and in the analysis of variance. The book is useful as a reference volume for psychologists, sociologists, and educators, in addition to its use in intermediate college courses.

SMITH, JAMES GERALD AND ACHESON J DUNCAN

Elementary statistics and applications. New York McGraw Hill Book Company Inc., 1944 720 p. illus. 21 cm. $6.50 446

Contents. Part I, Introduction: Statistics in the arts and sciences. Gathering statistics. Sources of statistics. Presentation of statistics. Statistics—a study of variation. Part II, Analysis of frequency distribution: Summarization and comparison. Illustration of frequency-distribution analysis. Part III, The normal frequency curve: Probability. Probability distributions. Probability calculus. Symmetrical binomial distribution and the normal curve. Use of the normal frequency curve in sampling analysis. Part IV, Study of bivariates and multivariates: Simple correlation. Computation of and other measures of correlation. Nonlinear correlation. Multiple and partial correlation. Analysis of multivariate frequency distributions illustrated. Normal frequency surface. Part V, Study of dynamic variability: Index numbers. Rational basis of the analysis of time series. Trend analysis. Orthogonal polynomial trends. Time-series analysis—seasonal variation. Determination of cycle. Part VI, Forecasting: The art of forecasting with statistics. Appendix. Tables. Author index. Subject index.

Note: A thorough and detailed treatment of the fundamentals, designed for a beginning college course. The developments of frequency-distribution, correlation, and time-series analysis are first completed in their simplest aspects, with elementary illustrations, enabling the student to visualize basic methods. More complex illustrations of practical application are then given in separate chapters or sections. Mathematical exposition is kept on a level with a practical knowledge of elementary algebra, although the concept of the differential is introduced in the latter third of the book.

SNEDECOR, GEORGE W

Statistical methods applied to experiments in agriculture and biology Fifth edition. Ames Iowa State College Press, 1956 534 p. illus. 23 cm. $7.50 447

Contents: Sampling of attributes—binomial distribution. Sampling from a normally distributed population—sampling distributions. The comparison of two randomized groups. Short cuts and approximations—less than fully efficient and non-parametric methods. Linear regression. Correlation. Large sample methods. Enumeration data with more than one degree of freedom. Two or more random samples of measurement data—analysis of variance. Two-way experiments—analysis of variance. Comparisons—factorial arrangements of treatments. Covariance. Multiple regression and covariance. Curvilinear regression. Binomial and Poisson distributions. Design and analysis of samplings, by W. G. Cochran. Index of mathematical tables. General index and index of symbols.

Note: A standard textbook and working manual, the first edition of which was published in 1937 and the fourth edition in 1946. It is addressed, as indicated in the title, to readers who are doing research in agriculture and biology or who are preparing for such research. It is organized for use as a textbook in organized college courses; however, because of such features as an explicit and full expository text, numerous worked examples, and a great variety of tables, practical research workers find it useful also. In this edition, among the more important changes are an extensive presentation of factorial experiments, a new chapter on the design and analysis of sampling written by William G. Cochran, and references to the recent literature.

The remainder is concerned with elementary statistical theory and the applications of statistics in business and other fields. The book is written in a simple, readable style, and contains much more narrative text than mathematical expression. The first edition, published in 1939 was entitled *Your chance to win*

McKinsey, J C C

Introduction to the theory of games The Rand Corporation New York McGraw Hill Book Company, Inc., 1952 571 p illus 24 cm. (The Rand series) $6 50 437

Content Rectangular games. The fundamental theorem for rectangular games. The solutions of a rectangular game. A method of approximating the value of game. Games in extensive form. Games in extensive form—general theory Games with infinitely many strategies. Distribution functions. Stieltjes integrals. The fundamental theorem for continuous games. Separable games. Games with convex payoff functions. Applications to statistical inference. Linear programming. Zero-sum *n*-person games. Solution of *n*-person games. Games without zero-sum restriction—the von Neumann-Morgenstern theory Some open problems. Bibliography Index.

Note. The subject f this work is the mathematical theory of games and strategy The theory has application not only to such games as chess and poker but also to military strategy certain problems related to business competition, etc. However applications are not stressed. The book is addressed to college students who have knowledge of introductory calculus and classical algebra. Other mathematical concepts, such as the properties of matrices and distribution functions, are explained in the book.

Mann, H B

Analysis and design of experiments, analysis of variance and analysis of variance designs New York Dover Publications, Inc., 1949 198 p 20 cm. (The Dover series in mathematics and physics, W Prager, consulting editor) $1 45 438

Contents. Chi-square distribution and analysis of variance distribution. Matrices, quadratic forms and the multivariate normal distribution. Analysis of variance in a one way classification. Likelihood ratio tests and tests of linear hypotheses. Analysis of variance in an *r*-way classification design. The power of analysis of variance tests. Latin squares and incomplete balanced block designs. Galois fields and orthogonal Latin squares. The construction of incomplete balanced block designs. Non-orthogonal data. Factorial experiments. Randomized designs, randomized blocks and quasifactorial designs. Analysis of covariance. Interblock estimates and interblock variance. Tables.

Note. A brief but good introduction to statistical methods which are applicable to the design of scientific experiments. The author had three groups of readers in mind mature mathematicians who wish to acquire an understanding of the analysis of variance and of variance designs, advanced undergraduates and graduate college students in need of short textbook, and practical experimenters and statisticians who wish to grasp the mathematical principles and methods underlying the statistical application. The exposition sticks closely to the bare essentials of the subject. Frequent references are made to other books in which fuller treatments of basic mathematical concepts and techniques are available.

Meyer, Herbert A., editor

Symposium on Monte Carlo methods held at the University of Florida, conducted by the Statistical Laboratory sponsored by Wright Air Development Center of the Air Research and Development Command, March 16 and 17, 1954 New York John Wiley & Sons Inc., 1956 382 p illus 29 cm (Wiley publications in statistics Walter A Shewhart and Samuel S Wilks editors) $7 50 439

Contents Part I, Papers in order of presentation An introductory note, by A. W Marshall. Generation of pseudo random numbers, by O. Taussky and J Todd. Phase shifts—middle squares—wave equation, by N Metropolis. A general theory of stochastic estimates of the Neumann series for the solution of certain Fredholm integral equations, by G E. Albert. Neighbor sets for random walks and difference equations, by T S. Motzkin. Monte Carlo computations, by N M. Dismuke. Applications of Monte Carlo methods to tactical games, by S. Ulam. Conditional Monte Carlo for normal samples, by H. F Trotter and J W Tukey Monte Carlo technique in complex problem about normal samples, by H. J Arnold and others. An application of the Monte Carlo method to a problem in gamma ray diffusion, by M. J Berger Stochastic calculations of gamma ray diffusion, by L. A. Beach and R. B. Theus. Application of multiple stage sampling procedures in Monte Carlo problems, by A. W Marshall. Questionable usefulness of variance for measuring estimate accuracy in Monte Carlo importance sampling problems, by J E. Walsh. Experimental determination of eigenvalues and dynamic influence coefficients for complex structures such as airplanes, by C. W Vickery Use f different Monte Carlo sampling techniques, by H. Kahn. A theoretical comparison of the efficiencies of two classical methods and a Monte Carlo method for computing one component of the solution of set of linear algebraic equations, by J H. Curtiss. A description of the generation and testing of set of random normal deviates, by E. J Lytle, Jr. Machine sampling from given probability distributions, by J W Butler A Monte Carlo technique for obtaining tests and confidence intervals for insurance mortality rates, by J. E. Walsh. Experiments and models for the Monte Carlo method, by A. Walther. Part II, Bibliography Name index. Source index. Other references. Subject index.

Note. The papers that have been collected in this volume were largely revised, following their original presentation and now incorporate the fruit of questions, remarks and discussions which followed the presentation. In some papers, therefore, developments later than 1954 are to be found, and citations to literature published as recently as 1956 are given. The authors are specialists and, generally speaking, they addressed themselves to other specialists. However considerable number of the papers deal with applications and are of potential value to engineers and applied mathematicians with practical interests in Monte Carlo methods. The introductory note by Marshall is an outline survey of the development of Monte Carlo methods and f the present state of the field. It includes helpful comments on papers in the volume. The bibliography is extensively annotated.

Molina, Edward Charles

Poisson s exponential binomial limit. Table I Individual terms Table II Cumulated terms New York D Van Nostrand Company, Inc., 1942 45 p 28 cm $3 50 440

Note The tables in this standard reference book were calculated in the Bell Telephone Laboratories for use in trunk line problems and quality control. Their primary use is to reduce the work of calculation in the probability study and analysis of data derived from inspection

Morse, Philip McCord, and George E Kimball

Methods of operations research. First edition revised New York Published jointly by The Technology Press of Massachusetts Institute of Technology and John Wiley & Sons, Inc. 1951 158 p illus 28 cm $5.50 441

Contents Introduction. Probability The use f measures of effectiveness. Strategical kinematics. Tactical analysis. Gunnery and bombardment problems. Operational experiments with equipment and tactics. Organizational and procedural problems. Tables. Bibliography Index.

Note. This book deals with the application of statistical techniques to the evaluation of specific alternative procedures in military strategy business operations, etc. During World War II the techniques explained were applied to such varied operations as the depth bombing of submarines and the protection of ships against Japanese suicide planes. Though most of the examples given in this book are drawn from military and naval applications, the general principles and the methods described are fully applicable to variety of problems in administration. From this standpoint the book is of interest to industrial engineers, business executives, and also to scientists concerned with the planning of experiments.

OSTLE BERNARD

Statistics in research basic concepts and techniques for research workers. Second edition. Ames Iowa State College Press, 1954 487 p. illus 23 cm. $6 95 442

Contents: The role of statistics in research. Basic statistical concepts. Measurement data—random sampling distributions. Attribute or enumeration data—chi-square and other methods of analysis. Mean and variance of normal populations—one or two populations. Regression analysis—I, One independent variable. Correlation methods. Regression analysis—II, Two or more independent variables. Analysis of variance—I, Completely randomized design—II, Randomized complete block and latin square designs—III, Factorials. Further applications of analysis of variance. Analysis of covariance. Other statistical techniques. Design of experimental investigations. Appendix. Bibliography Index.

Note: An introductory textbook, developed at Iowa State College and Montana State College. It is written from general viewpoint, with the purpose of teaching statistical methods applicable in areas of scientific research. The first two chapters are preliminary and are devoted to elementary discussions of research and scientific method, applications of statistics in research, definitions of basic statistical terms and concepts, etc. Presented as an appendix to the second chapter, so that it may be skipped by readers who lack the necessary mathematical preparation, is compact statement of the mathematical theory that underlies frequency distributions. The majority of the chapters are devoted to describing and expounding standard statistical methods, most of which are named in the chapter titles. The final chapter is very brief introduction to the statistical design of experiments.

PARADINE, C G AND B H. P RIVETT

Statistics for technologists. Princeton D Van Nostrand Company Inc., 1954 285 p. 23 cm. $6.75 443

Contents (abridged): Frequency distributions. Statistical parameters. Probability. The binomial distribution. Poisson's distribution. The normal distribution. Sum of squares of normal variates. Goodness of fit. Quality control. Sampling inspection schemes. Theory of errors. The method of least squares. Correlation. The analysis of variance. The principle of maximum likelihood. Probit analysis. Tables. Answers to examples. Index.

Note: A general introductory text for readers whose interest in statistics is practical. However, it is not limited to applications, but it covers also the basic theory and concepts. Applications in sampling, quality control, etc are clearly explained.

RAND CORPORATION

A million random digits with 100,000 normal deviates. Glencoe, Ill. Free Press, 1955 400 200 p. 28 cm. $10.00. 444

Note: A reference book for those who need large list of random numbers or normal deviates for use in such techniques as the Monte Carlo method. The greater part of the space is taken up by two tables. The first one is the list of 1,000,000 random digits; the second is list of 100,000 random normal deviates. The tables are preceded by an introduction describing the methods by which the tables were constructed to keep them free of bias and on methods of avoiding introduction of bias in using them.

SIEGEL, SIDNEY

Nonparametric statistics for the behavioral sciences. New York McGraw Hill Book Company Inc., 1956 312 p. illus. 24 cm. (McGraw Hill series in psychology Clifford T Morgan, consulting editor) $6.50. 445

Contents: Glossary of symbols. Introduction. The use of statistical tests in research. Choosing an appropriate statistical test. The one-sample case. The case of two related samples. The case of two independent samples. The case of k related samples. The case of k independent samples. Measures of correlation and their tests of significance. References. Appendix. Index.

Note: The author of this book regards the nonparametric techniques of hypothesis testing as uniquely suited to the data of the behavioral sciences. He presents the techniques in terms comprehensible by the scientist without special mathematical training and, in the appendix, includes the tables used in the application of the various tests. Of the nine chapters, six are devoted to the presentation of the nonparametric statistical tests. The first three chapters include an introduction, discussion of the tests of hypotheses, and discussion of the choice of the statistical technique best suited for analyzing given batch of data, including comparison of parametric and nonparametric statistical tests. Much space throughout the book is devoted to examples of the use of the tests. The author has assumed that the reader [illegible] have an understanding of elementary algebra and that he will have had introductory work in statistics, including descriptive statistics (means, medians, standard deviations, etc.) parametric correlational methods (including the Pearson product-moment correlation) and the basic notions of statistical inference and their use in the *t* test and in the analysis of variance. The book is useful as reference volume for psychologists, sociologists, and educators, in addition to its use in intermediate college courses.

SMITH, JAMES GERALD AND ACHESON J DUNCAN

Elementary statistics and applications. New York McGraw Hill Book Company, Inc., 1944 720 p illus. 21 cm. $6.50 446

Contents: Part I, Introduction. Statistics in the arts and sciences. Gathering statistics. Sources of statistics. Presentation of statistics. Statistics—a study of variation. Part II, Analysis of frequency distribution Summarization and comparison. Illustration of frequency-distribution analysis. Part III, The normal frequency curve: Probability Probability distributions. Probability calculus. Symmetrical binomial distribution and the normal curve. Use of the normal frequency curve in sampling analysis. Part IV, Study of bivariate and multivariate: Simple correlation. Computation of and other measures of correlation. Nonlinear correlation. Multiple and partial correlation. Analysis of multivariate frequency distribution. Continued. Normal frequency surface. Part [illegible] Study of dynamic variability: Index numbers. Rational basis of the analysis of time series. Trend analysis. Orthogonal-polynomial trends. Time-series analysis—seasonal variation. Determination of cycle. Part VI, Forecasting: The art of forecasting with statistics. Appendix. Tables. Author index. Subject index.

Note: A thorough and detailed treatment of the fundamentals, designed for beginning college course. The description of frequency-distribution, correlation, and time-series analysis are first completed in their simplest aspects, with elementary illustrations, enabling the student to visualize basic methods. More complex illustrations of practical application are then given in separate chapters or sections. Mathematical exposition is kept on level with practical knowledge of elementary algebra, although the concept of the differential is introduced in the latter third of the book.

SNEDECOR, GEORGE W

Statistical methods applied to experiments in agriculture and biology Fifth edition. Ames Iowa State College Press 1956. 534 p. illus. 23 cm. $7.50 447

Contents: Sampling of attributes—binomial distribution. Sampling from normally distributed population—sampling distributions. The comparison of two randomized groups. Short cuts and approximations—less than fully efficient and non-parametric methods. Linear regression. Correlation. Large sample methods. Enumeration data with more than one degree of freedom. Two or more random samples of measurement data—analysis of variance. Two-way arguments—analysis of variance. Comparisons—factorial arrangements of treatments. Covariance. Multiple regression and covariance. Curvilinear regression. Binomial and Poisson distributions. Design and analysis of samplings, by W G Cochran. Index of mathematical tables. General index and index of symbols.

Note: A standard textbook and working manual, the first edition of which was published in 1937 and the fourth edition in 1946. It is addressed, as indicated in the title, to readers who are doing research in agriculture and biology or who are preparing for such research. It is organized for use as textbook in organized college courses however, because of such features as its explicit and full expository text, numerous worked examples, and great variety of tables, practical research workers find it useful also. In this edition, among the more important changes, are an extensive presentation of factorial experiments, new chapter on the design and analysis of sampling written by William G. Cochran, and references to the recent literature.

SPEAR, MARY ELEANOR

Charting statistics New York McGraw Hill Book Company, Inc., 1952 253 p illus. 24 cm. $4 75 448

Contents Graphic presentation. Planning the chart. Line charts. The surface chart. Column charts. The bar chart. The map chart. Other types and their use. Exhibits. Duplicating, color, television. Index.

Note. Scientists, engineers, and their technicians are often faced with problems in the graphical presentation of data. In this useful book the various types of charts are described and illustrated, and the construction of each type is clearly explained. Also, there is helpful advice on selecting the type of chart, determining its size, etc.

THRALL, R M , AND OTHERS, editors

Decision processes Edited by R M. Thrall, C H Coombs and R. L Davis New York John Wiley & Sons, Inc., 1954 332 p illus 23 cm. $5 00 449

Contents Introduction, by R. L. Davis. Mathematical models and measurement theory by C. H. Coombs and others. Part I, Individual and social choice On methods of amalgamation, by L. A. Goodman Games against nature, by J Milnor Note on some proposed decision criteria, by R. Radner and J Marschak. Social choice and strength of preference, by C. H. Coombs. Alternative calculi of subjective probabilities, by S. Vail. Part II Learning theory: A formal structure for multiple-choice situations, by R. R. Bush and others. Individual behavior in uncertain situations—an interpretation in terms of statistical association theory by W K. Estes. Game-learning theory and some decision-making experiments, by M M Flood. Part III, Theory and applications of utility Representation of a preference ordering by a numerical function, by G. Debreu. Multidimensional utilities, by M. Hausner Applications of multidimensional utility theory by R. M Thrall. Towards an economic theory of organization and information by J Marschak. The logical structure of the utility concept, by H. G. Bohnert. Part IV Experimental studies. Tendencies toward group comparability in competitive bargaining, by P Hoffman and others. On decision-making under uncertainty by C. H. Coombs and D Beardslee. Environmental non-stationarity in a sequential decision-making experiment, by M. M. Flood. Some experimental n-person games, by G. Kalisch and others. Appendixes List of participants in the University of Michigan Summer Seminar at Santa Monica, California—Summer 1952 Papers presented.

Note: A collection of original papers directed at the "application of mathematics to behavioral sciences in general and at decision processes in particular The emphasis on the development of decision theory in matrix of the social sciences is obvious from the chapter titles. However in spit of this planned emphasis, many of the papers are purely mathematical in content, and the social applications are not explicitly delineated. The book is an outgrowth of a seminar sponsored by the University of Michigan and held at Santa Monica, California, in the summer of 1952 However it includes some papers not presented at the seminar and, according to the editors, many of the papers presented at the seminar have been extended to include research carried out since. The book is pic ture of research in progress and of theory undergoing formulation rather than a definitive treatise.

VON NEUMANN JOHN, AND OSKAR MORGENSTERN

Theory of games and economic behavior Third edition Princeton Princeton University Press 1953 641 p illus 24 cm $12 50 450

Contents Formulation of the economic problem. General formal description of games to strategy Zero-sum two-person games—theory—examples. Zero-sum three-person games. Formulation of the general theory—zero-sum n-person games. Zero-sum four person games. Some remarks concerning ≥ 5 participants. Composition and decomposition of games. Simple games. General non-zero-sum games. Extension of the concepts of domination and solution. Appendix. Index of figures. Index of names. Index of subjects.

Note This is the foundation book on the mathematical theory of games. It was first published in 1944 and second edition was published in 1947 The second edition differed from the first, largely in the addition of the appendix containing mathematical proof. The third edition differs from the second only in the correction of misprints and in the addition of selected bibliography of recent books on game theory

WALD, ABRAHAM

Sequential analysis New York John Wiley & Sons Inc , 1947 212 p. illus. 24 cm. $6 50 451

Contents. Part I, General theory: Elements of the current theory of testing statistical hypotheses. Sequential test of statistical hypothesis—*general discussion.* The sequential probability ratio test for testing simple hypothesis H_0 against a single alternative H Outline of a theory of sequential tests of simple and composite hypotheses against set of alternatives. Part II, Application of the general theory to special cases. Testing the mean of a binomial distribution (acceptance inspection of a lot where each unit is classified into one of two categories) Testing the difference between the means of two binomial distributions (double dichotomies) Testing that the mean of normal distribution with known standard deviation falls short of given value. Testing that the standard deviation f normal distribution does not exceed a given value. Testing that the mean of normal distribution with known variance is equal to specified value. *Part III,* The problem of multi-valued decisions and estimation The choice of a hypothesis from set of mutually exclusive hypotheses (multi-valued decision) The problem of sequential estimation. Appendices. Index.

Note. A presentation f the theory of the sequential probability ratio test, test which was devised by the author and first described in restricted report submitted by the Statistical Research Group of Columbia University to the National Defense Research Committee in September 1943 and which was subsequently the subject of further research by the Group and the basic content of several reports. The exposition here is intended for professional statisticians and for other persons concerned with statistical interpretation of samples and experimental data. Theory and application are discussed and, in the third part of the book, the possibility and problems of extending the theory to multi-valued decisions are explored briefly The book is written in technical language and rather advanced mathematics.

WALKER, HELEN M , AND JOSEPH LEV

Statistical inference. New York Henry Holt and Company 1953 510 p illus. 24 cm. $6 75 452

Contents Inferences based on simple experiments. Probability distributions. Inferences concerning proportions. Chi-square. Populations and samples on continuous variable. Sampling distributions. Inferences concerning the mean or the difference between two means. Inferences concerning variances and standard deviations of normal populations. Analysis of variance. Linear regression and correlation. Other measures of relationship. The statistics of measurement. Multiple regression and correlation. Analysis of variance with two or more variables of classification. Analysis of covariance. Percentiles. Transformation of scales Non-parametric methods, by L. Moses Tests for comparison of two samples. Comparison of *k* samples. Confidence intervals. Tests of independence. *Appendix* Tables and charts. Glossary of symbols. Answers to problems. Index to subject matter Index of authors.

Note. This is textbook for two-semester college course. The point-of view of the authors in the relation of sample to population thus, the work is especially applicable to the statistical problems met in sociology education and related fields. The concept of inference is introduced in the first chapter by the use of simple samples. Thereafter the student is gradually led to make his own inferences without complex mathematics or even tables. Elementary computations are brought into the text as needed. N previous college training in mathematics is required for an understanding of the text. Practice exercises and bibliographical references are included.

WALLIS, W ALLEN, AND HARRY V ROBERTS

Statistics a new approach Glencoe Ill. The Free Press 1956 646 p illus. 24 cm. $6 00 453

Contents. Part I, The nature of statistics The field of statistics. Effective uses of statistics. Misuses of statistics. Basic ideas. Observation and measurement. Part II, Statistical description The art of organizing data. Averages. Variability Association. Part III, Statistical inference. Randomness and probability Sampling distributions of the normal distribution Statistical tests and decision procedures. Further test procedures. Estimation. Part IV Special topics Design of investigations. Statistical quality control. Relationships between variables. Time series. Shortcuts. Appendix Squares and square roots. Random numbers. Index.

Note: A substantial descriptive treatment, designed to give the reader knowledge of the nature and general content of statistics rather than to prepare him to become [illegible] statistician. The mathematical level is about that of a good course in high-school algebra. A large number of examples drawn from many fields of application are included in the expository text and the problems for the student to solve represent [illegible] similar variety of applications. The style is not only readable but lively; even the problems appended to the chapters are entitled "Do it yourself."

WAX, NELSON, editor

Selected papers on noise and stochastic processes. New York Dover Publications, Inc., 1954 369 p. illus 24 cm. $2.25 454

Contents: Stochastic problems in physics and astronomy, by S. Chandrasekhar. On the theory of the Brownian motion, by G. E. Uhlenbeck and L. S. Ornstein. On the theory of the Brownian motion II, by M. C. Wang and G. E. Uhlenbeck. Mathematical analysis of random noise, by S. O. Rice. Wax and the theory of Brownian motion, by M. Kac. The Brownian movement and stochastic equations, by J. L. Doob.

Note: A collection of basic articles for graduate students of physics, graduate physicists, communications engineers, and other scientists and technologists [illegible] in the mathematical theory and analysis of random processes. All of the papers are reprints, and nothing new has been added except the preface which also contains [illegible] selected list of the literature pertaining to the field. There is no index.

WILLIAMS, J D

The compleat strategyst being a primer on the theory of games of strategy With pictorial illustrations by Charles Satterfield. New York McGraw-Hill Book Company Inc., 1954 234 p. illus. 24 cm. $4.75 455

Contents: Introduction. Two-strategy games. Three-strategy games. Four-strategy games and larger ones. Miscellany. Appendix. Table of random digits. Solutions to exercises. Index.

Note: [illegible]

WORTHING, ARCHIE GARFIELD AND JOSEPH GEFFNER

Treatment of experimental data. New York John Wiley and Sons Inc., 1943 342 p. illus. 23 cm. $6.00 456

Contents: Representation of data by tables. Representation of data by graphs. Representation of data by equations. Tabular and graphical differentiation and integration. Fourier series. The normal frequency distribution. [illegible]

Note: [illegible]

TOPOLOGY

BIRKHOFF, GARRETT

Lattice theory Revised edition. New York American Mathematical Society 1948. 283 p. 26 cm. (American Mathematical Society Colloquium publications Vol. XXV) $6.00 457

Contents: Partially ordered sets. Lattices. Chains and chain conditions. Complete lattices. Modular lattices. Applications to algebra. [illegible] Boolean algebras. Applications to set theory. Applications to logic and probability. [illegible] Vector lattices. Ergodic theory. Bibliography. Subject index. Author index.

Note: The first edition appeared in 1940. In the past [illegible] years the new subject of lattice theory has been undergoing rapid development. [illegible]

CHEVALLEY, CLAUDE

Theory of Lie groups I. Princeton Princeton University Press 1946 217 p illus. 23 cm. (Princeton mathematical series editors Marston Morse and A. W. Tucker) $2.75 458

Contents: The classical linear groups. Topological groups. Manifolds. Analytic groups. Lie groups. The differential calculus of Cartan. Compact Lie groups and their representations. Index.

Note: [illegible]

EILENBERG, SAMUEL, AND NORMAN STEENROD

Foundations of algebraic topology. Princeton Princeton University Press 1952 328 p. 24 cm. (Princeton mathematical series editors, Marston Morse and A. W. Tucker No. 15) $7.50. 459

Contents: [illegible] Index.

Note: [illegible]

GOTTSCHALK, WALTER HELBIG AND GUSTAV ARNOLD HEDLUND

Topological dynamics. Providence American Mathematical Society 1955 151 p. illus. 26 cm. (American Mathematical Society Colloquium publications Vol. XXXVI) $5.10 460

Contents Transformation groups. Orbit-closure partitions. Recursion. Almost periodicity Regular almost periodicity Replete semi-groups. Recurrence. Incompressibility Transitivity Asymptoticity Function spaces. Symbolic dynamics. Geodesic flows of manifolds of constant negative curvature. Cylinder flows and a planar flow Bibliography Index.

Note The authors of this book have defined its subject as follows " by *topological dynamics* we mean the study of transformation groups with respect t those topological properties whose prototype occurred in classical dynamics. Thus the word 'topological' in the phrase 'topological dynamics' has reference to mathematical content and the word dynamics in the phrase has primary reference to historical origin. The historical origin is of course the work of H. Poincaré, in solving problems in dynamics by the topological approach. The book is addressed to graduate mathematicians, including graduate students of mathematics, who have a basic knowledge of group theory topology and topological groups.

HALL, DICK WICK, AND GUILFORD L SPENCER II

Elementary topology New York John Wiley & Sons, Inc , 1955 303 p illus. 24 cm. $7 00 461

Contents, Introductory set theory The real line. Topological spaces. Metric spaces. Arcs and curves. Partitionable spaces. The axiom of choice. List of special symbols. Index.

Note A new college textbook specifically designed for undergraduate study Although elementary it is mathematically rigorous. Theorems are proved, and in most instances the proof is exceptionally detailed. The authors are members of the faculty of the University of Maryland.

HALMOS, PAUL R.

Finite dimensional vector spaces Princeton Princeton University Press, 1942 195 p 22 cm. (Annals of mathematics studies No 7) $3 00 462

Contents (abridged) Spaces Definition of vector space. Comments on notation and terminology Definition of linear dependence. Characterization of linear dependence. Dimension of vector space. Linear manifolds. Calculus of linear manifolds. Conjugate space. Direct sums. Transformations Definitions and examples of linear transformations. Definition of matrices. Isomorphism between matrices and operators. Reducibility Projections. Adjoint operators. Range and null space of linear transformation. Super diagonal form. Orthogonality Concept of an inner product. Formal definition of unitary space. Applications of Schwarz's inequality Projection theorem. Hermitian transformations. Cayley transform. Spectral theorem for Hermitian polar decomposition. Minimax principle. Ergodic theorem for unitary transformations. Power series. Appendices. Bibliography List of notations. Index of definitions.

Note Addressing the advanced undergraduate or beginning graduate student, the author treats linear transformations on finite dimensional vector spaces by the methods of more general theories than the Hilbert space theory and elementary matrix theory The purpose is to emphasize the simple geometric notions common to many parts of mathematics and their applications. The bibliography lists 14 books on the subject.

HUREWICZ, WITOLD, AND HENRY WALLMAN

Dimension theory Princeton Princeton University Press, 1941 165 p 23 cm (Princeton mathematical series 4) $3 75 463

Contents Introduction Dimension 0 Dimension n. Dimension of Euclidean spaces. Covering and imbedding theorems. Mappings in spheres and applications. Dimension and measure. Homology and dimension. Appendix Non-separable metric spaces. Index.

Note In this book it has been the aim of the authors to give a connected and simple account of the most essential parts of dimension theory Only those topics were chosen which are of interest to the general worker in advanced mathematics, as well as the specialist in topology Since the appearance of Karl Menger's *Dimensionstheorie* in 1928, there have occurred important advances in the theory in both content and method. These advances justify new treatment, and in the present book emphasis has been laid on the modern techniques of function spaces and mappings in spheres.

KELLEY, JOHN L

General topology Princeton D Van Nostrand Company, Inc., 1955 298 p. illus 24 cm (The university series in higher mathematics, editorial board, M H Stone and others) $8 75 464

Contents Preliminaries. Topological spaces. Moore-Smith convergence. Product and quotient spaces. Embedding and metrization. Compact spaces. Uniform spaces. Function spaces. Appendix Elementary set theory Bibliography Index.

Note. The title notwithstanding, this book is an introductory exposition of portions of topology selected for their relevance to modern analysis. The author himself has stated, "I have, with difficulty been prevented by my friends from labeling it What Every Young Analyst Should Know Considerable attention is given to recent contributions to topological theory The book is organized for use as a graduate-level text but is of interest also to mathematicians who have completed their formal academic study The first chapter entitled Preliminaries, covers number of basic definitions and theorems. The contents of the other chapters and of the appendix are indicated by their titles, listed above. The bibliography is 10 pages long. The author is Professor of Mathematics in the University of California.

LEFSCHETZ, SOLOMON

Algebraic topology New York American Mathematical Society, 1942 389 p 26 cm (American Mathematical Society Colloquium publications. Vol XXVII) $4 40 465

Contents Introduction to general topology Additive groups. Complexes. Complexes Products. Transformations. Subdivision. Complexes. Multiplications and intersections. Fixed elements. Manifolds. Nets of complexes. Homology theory l topological spaces. Topology of polyhedra and related questions. Appendices On homology groups of infinite complexes and compacta, by Samuel Eilenberg and Saunders MacLane. *Fixed points of periodic transformations*, by P A. Smith. Bibliography Indexes.

Note. This volume is intended as a modernized version of the author's *Topology* New York, 1930 out of print for some time. In line with recent progress, the foundations have grown from three pages to two chapters, and an extensive algebraic theory of complexes has largely displaced manifolds. The algebraic techniques thus made available is utilized first to unify the homology theories of topological spaces and then also in connection with the applications to polyhedra and related questions. The book concludes with appendices by Eilenberg-MacLane on their recent results on infinite complexes, and by Paul Smith on his theory of fixed points of periodic transformations.

LEFSCHETZ, SOLOMON

Introduction to topology Princeton Princeton University Press 1949 218 p illus. 24 cm. (Princeton mathematical series edited by Marston Morse and others) $4.50 466

Contents. Introduction. survey of some topological concepts Basic information about sets, spaces, vectors, groups. Two-dimensional polyhedral topology Theory of complexes. Transformations of complexes—simplicial approximations and related *questions. Further* properties of homotopy—fixed points—fundamental group—homotopy groups. Introduction to manifolds—duality theorems. Bibliography List of symbols. Index.

Note. A text designed for the use of graduate students of mathematics. The first three chapters survey the basic concepts of topology with emphasis on the principles of algebraic topology The remainder of the volume is concerned with the *fundamentals* f polyhedral topology Because of the introductory nature of the book the author has not attempted to include proofs for *all* propositions. Review problems are given in each chapter and the references cited in the bibliography are limited to those which will be f value to the beginner in topology

Lefschetz, Solomon

Topics in topology Princeton Princeton University Press, 1942 137 p. 22 cm. (Annals of mathematics studies No. 10) $2.00. 467

Contents: Polytopes. Singular complexes. Mapping and imbedding theorems. Retraction. Local connectedness and related topics. Special bibliography. General bibliography. Index.

Note: This monograph has been planned as a companion volume to Lefschetz's *Algebraic topology*, New York, 1942 (see above); the topics dealt with in both texts having for common denominator the relations between polytopes and general topology. The second chapter of the present work completes in certain important points the treatment of singular elements given in the volume referred to. In addition to a supplementary bibliography of general works, there is also given a fairly comprehensive bibliography on locally connected spaces and retraction, containing 48 references, mainly foreign.

Loomis, Lynn H.

An introduction to abstract harmonic analysis. Princeton D Van Nostrand Company Inc., 1953 190 p. 24 cm. (The university series in higher mathematics editorial board, M. H. Stone chairman) $5.50 468

Contents: Topology. Banach spaces. Integration. Banach algebras. Some special Banach algebras. The Haar integral. Locally compact Abelian groups. Compact groups and almost periodic functions. Some further developments. Bibliography. Index.

Note: Harmonic analysis of groups is presented as an application of Banach algebras in this work. The first three chapters—preliminary to the main part of the book—are concise though mathematically rigorous developments of selected ideas in topology, Banach space theory, etc. In the third and fourth chapters, the theory of Banach algebras, including some special Banach algebras, is developed, and in succeeding chapters, applications to groups are developed. The final chapter provides a brief view of certain interesting developments, and also of some of the field in need of further study. The author is Associate Professor of Mathematics at Harvard University.

Montgomery, Deane and Leo Zippin

Topological transformation groups. New York Interscience Publishers, Inc. 1955 282 p. 23 cm. $6.00 469

Contents: Topological spaces and groups. Locally compact groups. Groups with no small subgroups. Approximation by Lie groups. Transformation groups. Compact transformation groups. Bibliography. Index.

Note: The six chapters of this book fall into two rather distinct groups. The first four deal with the relation of locally compact groups to Lie groups. They cover the basic notions, the historical development through the classical period, and the new methods. As to the final chapter, the authors themselves have stated that "the last two chapters rely on material not expounded in the book, using a few basic results from homology theory, dimension theory and fibre mappings. . . . Since this part of the field is not near its final form, it is perhaps better to leave to a later date an attempt at a complete and detailed exposition." However, the reader is given a view of the state of affairs at the time the book was written and references to the significant papers.

Radó, Tibor

Length and area. New York American Mathematical Society 1948 572 p illus. 26 cm. (American Mathematical Society Colloquium publications. Vol. xxx) $6.75 470

Contents (abridged): Part i, Background material. Background in topology. Background in analysis. Part ii, Curves and surfaces. Continuous transformations of Fréchet spaces. Cyclic decomposition. The topological index. Part iii, Arc length and related topics. Interval functions. Bounded variation and absolute continuity. Arc length. Part iv, Plane transformations. Topological foundations. Metric foundations. Derivatives and Jacobians. Special classes of transformations. Part v, Surface area. The lower area $a(S)$. The Lebesgue area $A(S)$. Surfaces of the form $z = f(x, y)$. Bibliography. Index.

Note: A thorough study of the mathematical meaning of the terms "curve," "surface," "length," and "area." Its objects are to arrive at more precise definitions of these terms, to point out the problems for which solutions have not yet been found, and to explore the application to other mathematical fields of the concepts and formulas evolved. The author states that his theories are based on the fundamental ideas of Lebesgue and Geöcze. The treatise is of special interest to mathematicians working in analysis and in topology. The bibliography appears to cite all of the international literature which bears on the subject.

Schatten, Robert

A theory of cross-spaces. Princeton Princeton University Press 1950 153 p. 25 cm. (Annals of mathematics studies Emil Artin and Marston Morse editors. Number 26) $2.50 471

Contents: Introduction. Notations and conventions. The algebra of expressions $\sum f_i \otimes g_i$. Crossnorms. Cross-spaces of operators. Ideals of operators. Crossed unitary spaces. Appendix i. Reflexive crossnorms. Reflexive cross-spaces. "Limited" crossnorms. Appendix ii. A self-associate crossnorm. References.

Note: The problem attacked in this study is: Given two linear vector spaces L_1 and L_2, is it possible to construct a linear vector space, say denoted with the symbol $L_1 \otimes L_2$, of formal products $f \otimes g$, for which the distributive multiplication laws hold? The discussion is on an advanced mathematical level.

Schilling, Otto Francis George

The theory of valuations. New York American Mathematical Society, 1950 253 p. 26 cm. (American Mathematical Society Mathematical surveys. No iv) $6.00 472

Contents: General properties of valuations. Complete fields. The ramification theory of valuations. Special ideal theory. Arithmetic of simple algebras. Local class field theory. The structure of complete fields. The general Galois theory. Facts about linear algebras. Glossary.

Note: The theory of valuations is a branch of topological algebra. Valuation theory plays an important part in such fields of algebra as class field theory, the structure of commutative rings, and the foundations of algebraic geometry. This volume concentrates on the general significance of valuation theory for the algebraic and arithmetic structure of fields, division rings, and simple algebras. Each chapter has its own bibliography and a major part of the literature on valuations is covered.

Steenrod, Norman

The topology of fibre bundles. Princeton Princeton University Press, 1951 224 p. illus. 24 cm. (Princeton mathematical series editors, Marston Morse and A. W. Tucker No. 14) $5.00 473

Contents (abridged): Part i, The general theory of bundles. Coordinate bundles and fibre bundles. The product bundle. The Ehresmann-Feldbau definition of bundle. Factor spaces of groups. Associated bundles and relative bundles. Homotopies of maps of bundles. Covering spaces. Part ii, The homotopy theory of bundles. Homotopy groups. Universal bundles and the classification theorem. The fibering of spheres by spheres. The homotopy groups of spheres. The homotopy groups of miscellaneous manifolds. On the nonexistence of fiberings of spheres by spheres. Part iii, The cohomology theory of bundles. Bundles of coefficients. The obstruction cocycle. The primary difference of two cross-sections. The Whitney characteristic classes of a sphere bundle. Complex analytic manifolds and exterior forms of degree 2. Bibliography. Index.

Note: The concept of fibre bundles as a phase of algebraic topology was first enunciated in 1935. This treatise provides a systematic account of the development of the subject from then to the time of writing. It offers little that is new to mathematicians acquainted with the subject, but rather presents in organized form the theory as it then stood. The author is Professor of Mathematics at Princeton University.

WADE, THOMAS L

The algebra of vectors and matrices Reading, Mass Addison Wesley Publishing Company, Inc, 1951 189 p 22 cm. $5 50 474

Content Basic concepts. Vectors of two and three dimensions. Vector methods in geometry linear dependence of vectors. Vectors of n dimensions. Elementary properties of matrices. Related and special matrices. Groups, matrices, and transformations. The characteristic equation of a matrix. Rank of a matrix. Matrices and algebraic forms. Some applications of matrix algebra. Appendixes. Bibliography Index. Answers to exercises.

Note An introduction for students who desire only a working knowledge and will not pursue the subject any further than this book. On the other hand, the treatment is developed against the background of modern algebra hence, it can be used as an introduction to the whole field of modern algebra.

WEDDERBURN, JOSEPH HENRY MACLAGAN

Lectures on matrices New York American Mathematical Society, 1934 200 p illus. 26 cm (American Mathematical Society Colloquium publications Vol XVII) $3.35 475

Contents Matrices and vectors. Algebraic operations with matrices. The characteristic equation. Invariant factors and elementary divisors. Vector polynomials. Singular matric polynomials. Compound matrices. Symmetric, skew and Hermitian matrices. Commutative matrices. Functions of matrices. The automorphic transformation of a bilinear form. Linear associative algebras. Appendixes. Bibliography Index.

Note The fundamental nature of matric theory extends its roots under algebra, number theory geometry differential and integral equations, wave mechanics—a fairly representative cross-section of modern mathematics. In this volume, which is an outgrowth of the author's lectures given at Princeton since 1920, the entire subject has been completely reworked and the proofs recast.

WHYBURN, GORDON THOMAS

Analytic topology New York The American Mathematical Society 1942 278 p 26 cm (American Mathematical Society Colloquium publications Vol XXVIII) $4 75 476

Content I troductory topology Continuous transformations. Junction properties of locally connected sets. Cut points. Non-separated cuttings. Cyclic element theory Special types of continua. Plane continua. Semi-continuous decompositions and continuous transformations. General properties. Factorization. Applications of monotone and non-alternating transformations. Interior transformations. Existence theorems. Mappings onto the circle. Periodicity Fixed points. Bibliography Index.

Note This book has as its principal object the development of various phases of topology by methods in which continuous transformations play the essential role. Results on monotone, non-alternating, interior and periodic mappings are particularly stressed. Set-theoretic topology is built up from system of axioms, and the structure f locally connected and semi-locally connected continua is thoroughly studied in order to prepare the nontopological reader for the applications of transformations to these spaces which are given in the later sections of the book A large part of the material included represents recent developments in the field and new results obtained by the author are presented.

WILDER, RAYMOND LOUIS

Topology of manifolds New York American Mathematical Society 1949 395 p. 26 cm (American Mathematical Society Colloquium publications Vol. XXXII) $7 00 477

Contents Elementary concepts characterizations of E^2 and S^2 Locally connected spaces fundamental properties of the Euclidean sphere. Peano spaces characterizations of S^2 and the 2-manifolds. Non-metric LC spaces, with applications to subsets of the 2-sphere. Basic algebraic topology Local connectedness and local co-connectedness. Application of homology and cohomology theory to the theory of continua. Generalized manifolds dualities of the Poincaré and Alexander type. Further properties of n-GMS regular manifolds and generalized n-cells. Submanifolds of a manifold decomposition into cells. Lc^n subsets of an n-GM. Accessibility and its applications. Appendix Bibliography Index.

Note This is self-contained book which can serve as an introduction to topology Properties of general topological spaces, compact spaces and continua, homology and cohomology theory of general spaces are developed, with applications to Euclidean spaces, local connectedness and continua. Manifolds are characterized axiomatically among the general topological spaces, the classical manifolds forming special cases of the generalized types. Basic duality theorems of the Poincaré and Alexander-Pontrjagin type are established, and both the local and in-the-large properties of manifolds studied.

YOUNG, L C

On generalized surfaces of finite topological types Providence American Mathematical Society, 1955 63 p 26 cm (American Mathematical Society Memoirs. No 17) $1.30 478

Note A contribution to the theory of surfaces, to which theory the author has contributed other important studies. Concerning the scope of the present study the author has stated, "W are concerned with generalization of the notion of the surface in the *parametric form.* If one thinks of such a surface as somehow represented by function $x(u,)$ whose values lie in Euclidean m-space X while $(u,)$ ranges in the unit square $R(0 < \ < 1, 0 < \ < 1)$ the question arises as to when two such $x(u\ v)$ are to be regarded as defining a same surface. T this question conflicting answers have been given and every such answer gives rise to differ ent notion of parametric surface thus, a polyhedron, as defined in combinatory topology has representations $x(u, v)$ which are not equivalent in the sense of (say) *Fréchet.* The key to the present theory lies precisely in new specification of the equivalence of two $x(u,)$ specification which is closest to that of combinatory topology"

GEOMETRY

AHLFORS, LARS V, AND OTHERS, editors

Contributions to the theory of Riemann surfaces Centennial celebration of Riemann s dissertation. Edited by L Ahlfors, E Calabi, M Morse, L Sario D Spencer Princeton Princeton University Press, 1953 264 p illus 25 cm (Annals of mathematics studies edited by Emil Artin and Marston Morse No 30) 479

Contents Developments of the theory of conformal mapping and Riemann surfaces through a century by L. V Ahlfors. Variational methods in the theory of Riemann surfaces, by M. Schiffer Semigroups of transformations of Riemann surface into itself by P C. Rosenbloom. An extremal boundary problem, by A. C. Schaeffer On Dirichlet principle, by M. Schiffman. A problem concerning the continuation f Riemann surfaces, by M. Heins. Construction f functions with prescribed properties on Riemann surfaces, by L. Sario. Metric Riemann surfaces, by E. Calabi. Some results related to extremal length, by J A. Jenkins. Random walk and the type problem of Riemann surfaces, by S. Kakutani. Construction of parabolic Riemann surfaces by the general reflection principle, by W Kaplan. On the ideal boundary of a Riemann surface, by H. L. Royden. Topological methods on Riemann surfaces pseudoharmonic functions, by M. Morse and J A. Jenkins. Coverings of Riemann surfaces, by L. Fourès. Partial differential equations and pseudo-analytic functions on Riemann surfaces, by L. Bers. Dirichlet's principle and some inequalities in the theory of conformal mapping, by Z. Nehari. On the effective determination of conformal maps, by S. E. Warschawski. Structure f complex spaces, by S Bochner Real and complex operators on manifolds, by D C. Spencer Multivalued solutions of linear partial differential equations, by S. Bergman The theorem of Riemann-Roch for adjoint systems on Kählerian varieties, by K. Kodaira.

Note The volume contains the 21 papers presented at the Conference on Riemann Surfaces held December 14 15 1951 in Princeton, N J in commemoration of the centennial of the presentation by Bernhard Riemann of his inaugural dissertation. Authors and titles are given above. The authors, all eminent mathematicians, have addressed other graduate mathematicians. Bibliographical references are printed with each paper

Albert, Abraham Adrian
Solid analytic geometry. New York, McGraw Hill Book Company, Inc., 1949. 162 p. illus. 24 cm. $4.00 480

Contents: Coordinates and lines. Planes. Surfaces and curves. Spheres. Quadric surfaces. Theory of matrices. Rotations of axes and applications. Spherical coordinates. Elements of projective geometry. Index.

Note: A textbook in which the author has used the algebraic vector approach to the subject in order to tie it up with the theory of vectors and matrices. The book is designed for one-semester college courses. The author is Professor of Mathematics in the University of Chicago.

Brink, Raymond Woodward
Spherical trigonometry. New York, D. Appleton-Century Co., Inc., 1942. 62 p. illus. 21 cm. $1.25 481

Contents (abridged): The geometry of the sphere. The right spherical triangle. The oblique spherical triangle. The celestial sphere. Appendices. The sail. The heavens. Latitudes and longitudes. Index.

Note: This textbook on the fundamentals of spherical trigonometry is suited to college students. Answers to problems are included, making the book adaptable to home-study.

Busemann, Herbert
The geometry of geodesics. New York, Academic Press Inc., 1955. 422 p. illus. 24 cm. (Pure and applied mathematics, a series of monographs and textbooks, edited by Paul A. Smith and Samuel Eilenberg) $9.00 482

Contents: The basic concepts. Desarguesian spaces. Perpendiculars and parallels. Covering spaces. The influence of the sign of the curvature on the geodesics. Homogeneous spaces. Appendix: Problems and Comments. Notes to the text. Index.

Note: An important contribution to differential geometry. According to the author it [illegible] extends the method developed in the author's "Metric methods in Finsler spaces and in the foundations of geometry" (Princeton, 1942). In the earlier book the emphasis was on spaces in which the geodesic through two points is unique, whereas it is now on the general case in which the geodesics have only local uniqueness properties. Consequently the relations to the foundations of geometry are no longer very relevant and Finsler spaces are the principal subject.

Busemann, Herbert and Paul J. Kelly
Projective geometry and projective metrics. New York, Academic Press Inc., 1953. 332 p. illus. 24 cm. (Pure and applied mathematics, a series of monographs and textbooks, edited by Paul A. Smith and Samuel Eilenberg) $7.00. 483

Contents: The projective plane. Polarities and conic sections. Affine geometry. Projective metrics. Non-Euclidean geometry. Spatial geometry. Bibliography. Index.

Note: A college text in which selected topics in projective geometry are presented from the modern viewpoint. The reader needs a basic knowledge of the theory of equations and of matrix algebra.

Cell, John Wesley
Analytic geometry. Second edition. New York, John Wiley & Sons, Inc., 1951. 326 p. illus. 22 cm. $4.00 484

Contents: Elementary concepts of plane analytic geometry. The loci derivation and the straight line. Introduction to curve sketching. Conics. Transcendental curves. Polar coordinates. Parametric equations. Empirical equations. Planes and lines in solid analytic geometry. Surfaces in solid analytic geometry. General review. Appendix. Answers. Index.

Note: Throughout this college text for first courses in analytic geometry emphasis is placed on methods of constructing graphs from equations and on deriving equations from graphs. The treatment is particularly adapted to students majoring in the engineering and physical sciences, and each chapter includes numerous examples and problems having application in these fields.

Cesari, Lamberto
Surface area. Princeton, Princeton University Press, 1956. 595 p. 26 cm. (Annals of mathematics studies, edited by Emil Artin and Marston Morse) $8.50 485

Contents: Introductory considerations. Lebesgue area. The Geöcze areas V and U and the Peano area P. BV and AC plane mappings. The first theorem. The Cavalieri inequality. Identification of Lebesgue, Geöcze, Peano areas. Geometrical properties and the second theorem. The representation problem. The representation of general surfaces and the third theorem. Appendices: A direct proof of [illegible] property of continuous surfaces. Weierstrass integral over surfaces. Bibliography. Special [illegible] and abbreviations.

Note: A formal mathematical study of [illegible] the concepts connected with parametric surfaces and area and of the related main theorems with complete proof.

Courant, Richard
Dirichlet's principle, conformal mapping and minimal surfaces. With an appendix by M. Schiffer. New York, Interscience Publishers Inc., 1950. 330 p. illus. 23 cm. (Pure and applied mathematics, a series of texts and monographs, edited by H. Bohr, R. Courant and J. J. Stoker) $7.50 486

Contents: Dirichlet's principle and the boundary value problem of potential theory. Conformal mapping on parallel-slit domains. Plateau's problem. The general problem of Douglas. Conformal mapping of multiply connected domains. Minimal surfaces with free boundaries and unstable minimal surfaces. Bibliography. Appendix: Some recent developments in the theory of conformal mapping. Green's function and boundary value problems. Dirichlet integrals for harmonic functions. Variation of the Green's function. Bibliography to appendix. Index.

Note: Dirichlet's principle is of wide interest in analysis and higher geometry. In this book the author not only presents the principle and its proofs but illustrates the application of the concept to various problems in mathematics, especially problems of minimal surfaces. Though no applications to technology are indicated in the book, nevertheless the book's contents are applicable to such practical problems as the analysis of mapping of electromagnetic fields.

Davis, David Roy
Modern college geometry. Reading, Mass., Addison Wesley Publishing Company, Inc., 1949. 238 p. illus. 22 cm. $5.50 487

Contents: The fundamental framework of plane geometry. Loci of plane geometry. Fundamental theorems. Euclidean geometric figures. Auxiliary figures of the triangle. The harmonic range. Noteworthy lines and points. Systems of circles. Inversion. Constructions in Euclidean geometry. Bibliography. Index.

Note: An introductory textbook in modern (that is, post-Euclidean) geometry. The author, who is Professor of Mathematics at the State Teachers College, Montclair, N. J., had in mind as he prepared the book the needs of students preparing to teach secondary-school mathematics. However it is suitable generally as a first book in the subject and can even be used for self-instruction. Theorems are stated and rigorously proved except in the first and last chapters. In the last chapter the famous unsolved problems of the early Greek geometers, namely the trisection of the angle, the inscribing of a regular n-gon (polygon having n sides) in a circle, the construction of a cube having twice the volume of a given cube, and the squaring of the circle, are elucidated against the work of later mathematicians.

Donnay, Joseph Desire Hubert
Spherical trigonometry after the Cesàro method. New York, Interscience Publishers, Inc., 1945. 83 p. illus. 19 cm. $2.50. 488

WADE, THOMAS L.
The algebra of vectors and matrices Reading, Mass. Addison Wesley Publishing Company, Inc., 1951 189 p 22 cm $5 50 474

Contents Basic concepts. Vectors of two and three dimensions. Vector methods in geometry linear dependence of vectors. Vectors of n dimensions. Elementary properties of matrices. Related and special matrices. Groups, matrices, and transformations. The characteristic equation of a matrix. Rank of a matrix. Matrices and algebraic forms. Some applications of matrix algebra. Appendices. Bibliography Index. Answers to exercises.

Note An introduction for students who desire only a working knowledge and will not pursue the subject any further than this book. On the other hand, the treatment is developed against the background of modern algebra hence, it can be used as an introduction to the whole field of modern algebra.

WEDDERBURN, JOSEPH HENRY MACLAGAN
Lectures on matrices New York American Mathematical Society, 1934 200 p illus. 26 cm (American Mathematical Society Colloquium publications Vol XVII) $3.35 475

Contents Matrices and vectors. Algebraic operations with matrices. The characteristic equation. Invariant factors and elementary divisors. Vector polynomials. Singular matric polynomials. Compound matrices. Symmetric, skew and Hermitian matrices. Commutative matrices. Functions of matrices. The automorphic transformation of a bilinear form. Linear associative algebras. Appendices. Bibliography Index.

Note. The fundamental nature of matric theory extends its roots under algebra, number theory geometry differential and integral equations, wave mechanics—a fairly representative cross-section of modern mathematics. In this volume which is an outgrowth of the author's lectures given at Princeton since 1920, the entire subject has been completely reworked and the proofs recast.

WHYBURN, GORDON THOMAS
Analytic topology New York The American Mathematical Society 1942 278 p 26 cm (American Mathematical Society Colloquium publications Vol XXVIII) $4 75 476

Contents Introductory topology Continuous transformations. Junction properties of locally connected sets. Cut points. Non-separated cuttings. Cyclic element theory Special types of continua. Plane continua. Semi-continuous decompositions and continuous transformations. General properties. Factorization. Applications of monotone and non-alternating transformations. Interior transformations. Existence theorems. Mappings onto the circle. Periodicity Fixed points. Bibliography Index.

Note This book has as its principal object the development of various phases of topology by methods in which continuous transformations play the essential role Results on monotone, non-alternating, interior and periodic mappings are particularly stressed. Set-theoretic topology is built up from a system of axioms, and the structure of locally connected and semi-locally connected continua is thoroughly studied in order to prepare the nontopological reader for the applications of transformations to these spaces which are given in the later sections of the book. A large part of the material included represents recent developments in the field and new results obtained by the author are presented.

WILDER, RAYMOND LOUIS
Topology of manifolds New York American Mathematical Society 1949 395 p 26 cm (American Mathematical Society Colloquium publications Vol XXXII) $7 00 477

Contents Elementary concepts characterizations of E^2 and S^2 Locally connected spaces fundamental properties of the Euclidean n-sphere. Peano spaces characterizations of S^2 and the 1-manifolds. Non-metric LC spaces, with applications to subsets of the 2-sphere. Basic algebraic topology Local connectedness and local co-connectedness. Application of homology and cohomology theory to the theory of continua. Generalized manifolds dualities of the Poincaré and Alexander type Further properties of n-GMS, regular manifolds and generalized n-cells. Submanifolds of a manifold decomposition into cells. Lc^n subsets of an n-GM. Accessibility and its applications. Appendix. Bibliography Index.

Note This is a self-contained book which can serve as an introduction to topology Properties of general topological spaces, compact spaces and continua, homology and cohomology theory of general spaces are developed, with applications to Euclidean spaces, local connectedness and continua. Manifolds are characterized axiomatically among the general topological spaces, the classical manifolds forming special cases of the generalized types. Basic duality theorems of the Poincaré and Alexander-Pontrjagin type are established, and both the local and in-the-large properties of manifolds studied.

YOUNG, L C
On generalized surfaces of finite topological types *Providence* American Mathematical Society, 1955 63 p 26 cm (American Mathematical Society Memoirs No 17) $1.30 478

Note A contribution to the theory of surfaces, to which theory the author has contributed other important studies. Concerning the scope of the present study the author has stated, "We are concerned with a generalization of the notion of the surface in the *parametric* form. If one thinks of such a surface as somehow represented by a function x( ) whose values lie in Euclidean m-space X while (u,) ranges in the unit square R(0 < < 1, 0 < v < 1) the question arises as to when *two* such x(u, v) are to be regarded as defining same surface. T this question, conflicting answers have been given and every such answer gives rise to a different notion of parametric surface thus, a polyhedron, as defined in combinatory topology has representations x(v) which are not equivalent in the sense of (say) Fréchet. The key to the present theory lies precisely in a new specification of the equivalence of two x(u,) a specification which is closest to that of combinatory topology

GEOMETRY

AHLFORS, LARS V, AND OTHERS, editors
Contributions to the theory of Riemann surfaces Centennial celebration of Riemann's dissertation. Edited by L Ahlfors, E Calabi, M Morse, L Sario, D Spencer Princeton Princeton University Press, 1953 264 p illus 25 cm (Annals of mathematics studies edited by Emil Artin and Marston Morse. No 30) 479

Contents Developments of the theory of conformal mapping and Riemann surfaces through a century by L. V Ahlfors. Variational methods in the theory of Riemann surfaces, by M. Schiffer Semi-groups of transformations of a Riemann surface into itself, by P C. Rosenbloom. An extremal boundary problem, by A. C. Schaeffer On Dirichlet's principle by M. Schiffman. A problem concerning the continuation of Riemann surfaces, by M. Heins. Construction of functions with prescribed properties on Riemann surfaces, by L. Sario. Metric Riemann surfaces, by E. Calabi. Some results related to extremal length, by J A Jenkins Random walk and the type problem of Riemann surfaces, by S. Kakutani. Construction of parabolic Riemann surfaces by the general reflection principle, by W Kaplan. On the ideal boundary of a Riemann surface, by H. L. Royden. Topological methods on Riemann surfaces pseudoharmonic functions, by M. Morse and J A. Jenkins. Coverings of Riemann surfaces, by L. Fourès Partial differential equations and pseudo-analytic functions on Riemann surfaces, by L. Bers. Dirichlet's principle and some inequalities in the theory of conformal mapping, by Z. Nehari. On the effective determination of conformal maps, by S. E. Warschawski. Structure of complex spaces, by S. Bochner Real and complex operators on manifolds, by D C. Spencer Multivalued solutions of linear partial differential equations, by S. Bergman The theorem of Riemann-Roch for adjoint systems on Kählerian varieties, by K. Kodaira.

Note. The volume contains the 21 papers presented at the Conference on Riemann Surfaces held December 14, 15, 1951 in Princeton, N J., in commemoration of the centennial of the presentation by Bernhard Riemann of his inaugural dissertation. Authors and titles are given above. The authors, all eminent mathematicians, have addressed other graduate mathematicians. Bibliographical references are printed with each paper

MANNING HENRY PARKER

Geometry of four dimensions. New York Dover Publications, Inc., 1955 348 p. illus. 21 cm. $1 95 496

Contents (abridged) The foundations of four-dimensional geometry Perpendicularity and simple angles. Angles of two planes and angles of higher order. Symmetry order, and motion. Hyperpyramids, hypercones, and the hyper sphere. Euclidean geometry, figures with parallel elements. Measurement of volume and hypervolume in hyperspace. The regular polyhedroids. Technical terms. Index.

Note. A reprint without change in the text of book that was first published in 1914. It is an elementary introduction to the geometry of hyperspace of four dimensions and is still useful as first book to study on the geometry of hyperspaces of dimensions.

MESERVE, BRUCE E

Fundamental concepts of geometry Reading, Mass. Addison-Wesley Publishing Company, Inc., 1955 321 p. illus. 22 cm. (Addison-Wesley mathematics series Eric Reissner consulting editor) $7.50 497

Contents: Foundations of geometry Synthetic projective geometry Coordinate systems. Analytic projective geometry Affine geometry Euclidean plane geometry The evolution of geometry Non-Euclidean geometry Topology Bibliography Index.

Note: This book can well be described as an introduction to the structure and rules of mathematics as exemplified in geometry Primarily it deals with euclidean geometry as system built up according to the rules of logic upon elements and postulates. The relations of euclidean geometry to other geometries are also made clear The book was developed for students who have completed standard introductory courses in college mathematics and, because they have planned to teach mathematics or for some other reason, are in need of basic understanding of mathematics as an area of human thought. It should have also considerable appeal for sophisticated lay readers interested in mathematics

SCHIFFER, MENAHEM AND DONALD C SPENCER

Functionals of finite Riemann surfaces. Princeton Princeton University Press 1954 451 p. illus. 24 cm. (Princeton mathematical series editors Marston Morse and A. P Tucker) $8.00. 498

Contents. Geometrical and physical considerations Existence theorems for finite Riemann surfaces Relations between differentials. Linear differentials Surfaces imbedded in given surface. Integral operators Variations of surfaces and of their functionals Applications of the variational method. Remarks on generalization to higher dimensional Kähler manifolds. Index.

Note "The main purpose of [this] monograph is the investigation of finite Riemann surfaces from the point of view of functional analysis, that is, the study of the various Abelian differentials of the surface in their dependence on the surface itself. Riemann surfaces with boundary are closed by the doubling process and their theory is then reduced to that of closed surfaces. Attention is centered on the differentials of the third kind in terms of which the other differentials may be expressed. The relations between the functionals of two Riemann surfaces one of which is imbedded in the other are studied, and series developments are given for the functionals of the smaller surface in terms of those of the larger. In final chapter some aspects of the generalization of the theory to Kähler manifolds of higher dimension are discussed.

SIGLEY DANIEL T AND WILLIAM T STRATTON

Solid geometry Revised edition. New York The Dryden Press Inc. 1956 197 p illus. 21 cm. $2.60 499

Contents. Review of plane geometry. Planes in space Loci. Angles. Polyhedrons and prisms. Pyramids. Cylinders and cones. Cavalieri's theorem and prismoids. Spheres. Spherical geometry Symmetry and solids of revolution. Miscellaneous exercises. Appendix. Answers to exercises. Index.

Note: A textbook designed for use in colleges rather than in secondary schools. Plane geometry is reviewed in the first chapter. The chapters that follow are devoted to the concepts and techniques of solid geometry and they emphasize practical applications to problems in mensuration. The emphasis is particularly marked in the exercises. The book is well organized and adequately illustrated. The first edition was published in 1941. The chapter "Symmetry and solids of revolution" is new in this revised edition, and new and better illustrations are used throughout. The exercises included for students to solve have been revised, and answers for all of them are now provided.

STRUIK, DIRK JAN

Lectures on classical differential geometry Reading Mass. Addison Wesley Publishing Company Inc., 1950 221 p. illus. 23 cm. (Addison Wesley mathematics series Eric Reissner consulting editor) $7.50 500

Contents: Preface. Bibliography Curves. Elementary theory of surfaces. The fundamental equations. Geometry on surface. Some special subjects. Some problems and propositions. Answers to problems. Index.

Note: A college textbook based on material used by the author in one-semester course offered to advanced undergraduate students and graduate students at the Massachusetts Institute of Technology Lucid discussions are supplemented by exceptionally good illustrations and liberal sprinkling of biographical and bibliographical notes.

TAYLOR, EDSON HOMER, AND GROVER CLEVELAND BARTOO

An introduction to college geometry New York The Macmillan Company, 1949 143 p illus. 21 cm. $3 75 501

Contents: Directed lines and angles. Points at infinity Similar figures. Loci. Properties of the triangle. Harmonic ranges and pencils. Inversion. Pole and polar. Orthogonal circles. Radical axis—coaxal circles. Cross ratio. Principle of duality Appendix. Index.

Note: Consisting of exercises and 90 theorems in plane geometry most of which are not usually presented in high-school courses, this book provides an introduction to advanced study for students [illegible] majoring in mathematics. The first edition was published in 1939. In this revision the historical notes have been expanded, new material has been added, and minor changes have been made in the proofs of theorems for purposes of clarity

TURRELL FRANKLIN MARION

Tables of surfaces and volumes of spheres and of prolate and oblate spheroids and spheroidal coefficients. Berkeley and Los Angeles University of California Press 1946 153 p illus. 22 cm. $2.00 502

Contents: Preface. Introduction: Definitions. Symbols used in tables. Surfaces and volumes of spheres. Surfaces and volumes of spheroids. Surface coefficients for prolate spheroids. Surface coefficients for oblate spheroids. Volume coefficients for prolate spheroids. Volume coefficients for oblate spheroids. Appendices: Derivations of formulas. Curves of and coefficients. Approximate per cent errors for tables 3, 4, 5, and 6. Index.

Note: The original tables in this book were designed particularly for use in calculating the surfaces and volumes of citrus fruits, but they can be applied also to other fruits, to melons and nuts, and to other geometrically regular bodies approximating these shapes. The tables are constructed so as to facilitate very rapid approximations of the areas and volumes [illegible] the necessity for using interpolation and with very small consequent error

UNITED STATES NATIONAL BUREAU OF STANDARDS

Experiments in the computation of conformal maps. Edited by John Todd. Washington, D C. Government Printing Office 1955

Contents Introduction. The stereographic projection. Cesàro's key-triangles. How the key-triangles are put to work. Relations between four parts of a spherical triangle. Right-angled triangles. Examples of calculations. Problems. Exercises. Appendices: Spherical areas. Formulae of plane trigonometry Index.

Note A brief text designed to provide a practical knowledge of spherical triangles for use in such sciences as geodesy astronomy crystallography and navigation. The book employs a time-saving method of deriving formulas by means of key-triangles, developed by Giuseppe Cesàro (1849–1939) professor at the University of Liège. It includes a selection of problems completely worked out, and a number of exercises, with answers. The treatment is based on the author's experience in teaching the subject at Johns Hopkins University and Laval University

EISENHART, LUTHER PFAHLER

An introduction to differential geometry, with use of the tensor calculus. Princeton Princeton University Press, 1940 304 p illus. 23 cm. (Princeton mathematical series 3) $6 00 489

Contents Curves in space. Transformation of coordinates. Tensor calculus. Intrinsic geometry of a surface. Surfaces in space. Bibliography Index.

Note. In this book for advanced students of mathematics, the tensor calculus of Euclidean 3-space is developed and then generalized so as to apply to a Riemannian space of any number of dimensions. The tensor calculus as here developed is applied to the study of differential geometry f surfaces in 3-space. With knowledge of the methods used in this book and the subjects treated, student will be prepared for work in the theory of relativity and for the study of Riemannian geometry and its generalizations.

EISENHART, LUTHER PFAHLER

Riemannian geometry Princeton Princeton University Press, 1949 306 p 24 cm. $5 00 490

Contents. Tensor analysis. Introduction of a metric. Orthogonal examples. The geometry of sub-spaces. Sub-spaces of a flat space. Groups of motions. Appendices: Bibliography Additional bibliography Index.

Note. A notable presentation of the modern theory f Riemannian geometry It was first published in 1926. In this edition (called second printing by the publisher) errors in the previous edition have been corrected, and developments down to 1949 are presented in the appendices which occupy 37 pages. The "additional bibliography" lists mainly publications of 1926–1949

GRAUSTEIN, WILLIAM CASPAR

Introduction to higher geometry New York The Macmillan Company, 1930 486 p illus. 22 cm (A series of mathematical texts edited by E R Hedrick) $6 50 491

Contents (abridged) Linear equations and linear dependence. Geometrical introduction. Homogeneous Cartesian coordinates. Linear dependence of points and lines. Harmonic divisions. Line coordinates. Cross ratio. Transformations. Metric geometry of the complex plane. One-dimensional projective geometry Projective coordinates in the plane. Geometries. Point conics and line conics. Point curves and line curves. Projective affine and metric properties f conics. Projective theory of conics. Pairs and pencils of conics. Applications of transformations. The circle. Space geometry Supplementary reading. Index.

Note. This is textbook designed to initiate the student in the basic ideas and methods, and to furnish an adequate background for further geometrical studies. A few fields only are developed thoroughly with special emphasis laid on fundamentals common to all geometry The geometries associated with the projective group and the group of circular transformations, of the groups of geometrical transformations, are selected for intensive study The systematic method f exposition, rather than the problem method, is used.

GRAUSTEIN, WILLIAM CASPAR

Differential geometry New York The Macmillan Company, 1935 230 p illus 22 cm. $5.50 492

Contents Introduction. Space curves. Curves and surfaces associated with a space curve. Fundamentals of the theory of surfaces. Curvature Important systems of curves. The fundamental theorem. Geodesic curvature. Geodesics. Mapping of surfaces. Absolute geometry of surface. Surface of special type. Index.

Note: An account of the fundamentals of metric differential geometry of curves and surfaces in a euclidean space of three dimensions, expressed in terms of vector notation. Intended for advanced students with a working knowledge of solid analytic geometry and the calculus who are specializing in mathematics or physics. Differential equations are used rather frequently in explaining theory The fundamental properties of curves and surfaces are discussed, together with the mapping of surfaces, the absolute geometry on surface, and an introduction to Riemannian geometry and its generalizations.

KERN, WILLIS FREDERICK, AND JAMES R. BLAND

Solid mensuration, with proofs. Second edition New York John Wiley & Sons, Inc., 1938 172 p illus $3.25 493

Contents Plane figures. Lines—planes—angles. Solids for which $V = Bh$. Solids for which $V = 1/3\ Bh$. Solids for which $V = (\text{mean } B)h$ The sphere. Volumes and surfaces of revolution—polyhedrons. The general prismatoid. Summary and review Appendix. Tables. Answers. Index.

Note An analysis of the fundamental, practical essentials of solid geometry In this revision, simple proofs of the volume and surface formulas are given. By basing the proof of each volume formula on Cavalieri's theorem, the conventional treatment is greatly simplified. Further simplification is obtained by considering the elementary and most familiar solids first and by separating the solids into natural groups.

LANE, ERNEST PRESTON

Metric differential geometry of curves and surfaces. Chicago The University of Chicago Press, *1940 216 p illus. 23 cm. $4 00* 494

Contents (abridged) Curves. The moving trihedron. Surfaces. Curves on surfaces. Curvature. Transformation of surfaces.

Note An exposition of the fundamentals of the metric differential geometry of curves and surfaces in ordinary three-dimensional space. The treatment is elementary since the book is designed for beginners in the subject. Vectors are not used. The definitions of those configurations hich admit of projective definitions are stated in projective form and, whenever possible, definitions are stated in such a way as to be valid in hyperspace as well as in ordinary space. This manner of approach smooths the way for those readers who go on to study projective and hyperspacial geometries.

LEFSCHETZ, SOLOMON

Algebraic geometry Princeton Princeton University Press, 1953 233 p 24 cm. (Princeton mathematical series editors Marston Morse and A W Tucker No 18) $5.00 495

Contents. Algebraic foundations. Algebraic varieties—fundamental concepts. Transformations of algebraic varieties. Formal power series. Algebraic curves, their places and transformations. Linear series. Abelian differentials. Abel's theorem algebraic series and correspondences. Systems f curves on surface. Appendix. Bibliography Index.

Note This survey of modern algebraic geometry reflects the major revolutions in this field which have resulted in the application of rigorous algebraic methods in place of the older intuitive methods. The first three chapters are devoted to fundamental concepts and techniques. In the fourth chapter formal power series are introduced, and are used in later chapters to translate essential parts of the classical theory of functions of a complex variable into local algebraic theory In most of the chapters in the latter part of the book, "the ground field is prudently taken to be algebraically closed and especially of characteristic zero." The fifth and sixth chapters, on algebraic curves, conclude with proof of the theorem of Riemann-Roch.

introduction to the subject and is written for professional engineers, scientists, business men, and students. Emphasis is placed on actual constructional problems, and several full-scale charts illustrating their application in science and business are included.

HEACOCK, FRANK A.

Graphic methods for solving problems Princeton Princeton University Store 1952 113 p. 28 cm. $1 90 510

Contents: Simple graphs and charts. The hydrograph. Geometric diagrams. Network charts. Vectors and mechanics. Descriptive geometry. Nomographs and computing devices. Graphic analysis. General bibliography. Index.

Note: Primarily this book is an annotated, bibliographical guide to the articles and books on graphic methods that have been published from 1837 through 1950. However each of the chapters begins with section in which particular type of graphic device or method is carefully defined and illustrated. The main emphasis is on engineering uses of graphic methods, but some material is included on pictorial charts and other devices that are used in number of fields. The book is development of research undertaken for committee of the American Society for Engineering Education.

HILDEBRAND F B

Introduction to numerical analysis. New York McGraw Hill Book Company Inc., 1956 511 p 24 cm (International series in pure and applied mathematics William Ted Martin, consulting editor) $8.50 511

Contents: Introduction. Interpolation with divided differences. Lagrangian methods. Finite-difference interpolation. Operations with finite differences. Numerical solution of differential equations. Least-squares polynomial approximation. Gaussian quadrature and related topics. Approximations of various types. Numerical solution of equations. Appendixes: Justification of the Crout reduction. Bibliography. Directory of methods. Index.

Note: A textbook developed at the Massachusetts Institute of Technology where the author is Associate Professor of Mathematics. A major aim of the work is to prepare the reader to use computers, both desk calculators and electronic machines; however the emphasis is on basic concepts and techniques, such as approximation, interpolation, numerical solution of equations, smoothing of data, and the numerical summation of series. Programming for electronic computers is not covered. Included are wide range of problems, many of which are designed for computation on desk calculators.

HOELSCHER, RANDOLPH PHILIP AND OTHERS

Graphic aids in engineering computation by Randolph P Hoelscher Joseph Norman Arnold, and Stanley H. Pierce. New York McGraw Hill Book Company Inc. 1952 197 p. illus. 24 cm. $4.50 512

Contents: Standard slide rules. Empirical equations from engineering data. Alignment charts. Graphical calculus. Alignment charts with determinants. Special slide rules. Movable-scale nomographs. Index.

Note: An introduction for engineering college students. The construction of alignment charts is covered with exceptional thoroughness. Slide rules are discussed more briefly but the most essential information is given and the discussion of special slide rules is related to that of alignment charts. The first-named author is head of the Department of Engineering Drawing of the University of Illinois.

HOUSEHOLDER, ALSTON S

Principles of numerical analysis. New York McGraw Hill Book Company Inc., 1953 274 p. 24 cm. (International series in pure and applied mathematics William Ted Martin, consulting editor) $6.00 513

Contents: The art of computation. Matrices and linear equations. Nonlinear equations and systems. The proper values and vectors of a matrix. Interpolation. More general methods of approximation. Numerical integration and differentiation. The Monte Carlo method. Bibliography. Problems. Index.

Note: Although this book is addressed to graduate students and graduate mathematicians who are concerned with devising methods for modern calculating machines, particularly electronic computers, background knowledge rather than computational techniques, is the primary subject. A considerable part of the space is devoted to methods of inversion and decomposition of matrices. The account of the Monte Carlo method is very short one, which is, however supplemented by reference to the literature published through 1952. The author is Senior Mathematician on the staff of the Oak Ridge National Laboratory

JOHNSON, LEE H

Nomography and empirical equations. New York John Wiley & Sons Inc., 1952 152 p. illus. 23 cm. $4.00 514

Contents. Part I, Nomography: Introduction. Parallel scale nomographs. Z-charts. Parallel and perpendicular index lines. Concurrent scales. Recurrent variables. Combined nomographs. Part II, Empirical equations: Methods of curve fitting. Curves with two constants. Curves with three constants. Curves with four constants. Index.

Note. A useful book directed to physicists, engineers, and others who wish to make use of graphic methods in computation. It is well arranged, and its explanations are written out fully in lucid style. Numerous examples of nomograph construction and of curve fitting are included. Readers need only mathematical knowledge covering logarithms, plane geometry and analytical geometry

KOPAL, ZDENEK

Numerical analysis with emphasis on the application of numerical techniques to problems of infinitesimal calculus in single variable. New York John Wiley & Sons, Inc., 1955 556 p. illus. 23 cm $12 00 515

Contents. Introduction. Polynomial interpolation. Numerical differentiation. Integration of ordinary differential equations. Boundary value problems—algebraic methods—variational, iterative, and other methods. Mechanical quadratures. Numerical solution of integral and integro-differential equations. Appendices. Name index. Subject index.

Note. Several factors, not the least of which is the availability of electronic computers, have combined to make an understanding of the techniques of numerical analysis essential to present-day physicists and engineers. This book, which is at the same time thorough and practical, is help to physicists and engineers in acquiring this knowledge. In the introductory chapter the author states, the essence of numerical analysis [is] namely to use the methods of the infinitesimal calculus when they represent short cut, but to avoid them by recourse to algebra when they become unmanageable. The chapter titles quoted above indicate the arrangement and scope of the work. The appendices contain variety of auxiliary material that complements the main body of the work and in some instances is more difficult mathematically. The matter in the book was first delivered as lectures at the Massachusetts Institute of Technology and elsewhere.

KRAITCHIK, MAURICE

Alignment charts—construction and use. Princeton D Van Nostrand Company Inc., 1944 94 p. illus. 23 cm. $3.00. 516

Contents: The reader' preliminary introduction. Graduation of scales. Conversion scales. Alignment charts. Equidistant parallel scales. Parallel scales not equidistant. Two parallel scales. Functions of more than three variables. The choice among different representations. Special charts. The reader's prospect. Index.

Note: An introductory book on the construction of nomographic charts. The book is intended mainly for scientists, engineers, and others who have practical use for such charts in the solving of equations.

LEVENS ALEXANDER SANDER

Nomography New York John Wiley & Sons Inc., 1948 176 p. illus. 23 cm. $3.00 517

61 p 26 cm. (National Bureau of Standards Applied mathematics series No 42) $0 40 503

Contents Conformal mapping of a special ellipse, on the unit circle, by A. M. Ostrowski. Theodorsen's and Garrick method for conformal mapping of the unit circle into an ellipse, by A. M. Ostrowski. On the solution of the Lichtenstein-Gershgorin integral equation in conformal mapping: I, Theory by S. E. Warschawski—II, Computational experiments, by J Todd and S. E. Warschawski. Two numerical methods in conformal mapping, by L. Ahlfors. Computation of harmonic measure by L. Ahlfors' method, by G. Blanch and L. K. Jackson.

Note: This collection of six papers is a sequel to *Construction and applications of conformal maps* (Applied mathematics series, 18) now out of print. It contains descriptions and evaluations of three computational experiments in the general field of conformal mapping. One of these was carried out by desk calculation, one by punched card equipment, and one on the National Bureau of Standards Eastern Automatic Computer (SEAC) Literature references are included.

WALKER, ROBERT JOHN

Algebraic curves. Princeton Princeton University Press, 1950 201 p 24 cm (Princeton mathematical series, edited by Marston Morse and A. W Tucker, No 13) $4 00 504

Contents Algebraic preliminaries. Projective spaces. Plane algebraic curves. Formal power series. Transformations of curve. Linear series. Index.

Note. An introductory text in algebraic geometry In order to keep the presentation simple, the book has been limited to the theory of curves. All theorems are proved, and exercises are included in the text for students to work. The study is carried as far as the theorem of Riemann-Roch.

WOLFE, HAROLD E

Introduction to non Euclidean geometry New York The Dryden Press, 1945 247 p illus 21 cm (The Dryden Press mathematics publications, Edwin R. Smith, general editor) $5 00 505

Contents The foundation of Euclidean geometry The fifth postulate. The discovery of non-Euclidean geometry Hyperbolic plane geometry Hyperbolic plane trigonometry Applications of calculus to the solutions of some problems in hyperbolic geometry Elliptic plane geometry and trigonometry The consistency of the non-Euclidean geometries. Appendices The foundation of Euclidean geometry Circular and hyperbolic functions. The theory of orthogonal circles and allied topics. The elements of inversion. Index.

Note Although intended for college students and secondary school teachers of geometry this introductory text contains considerable material that is of interest to those who study mathematics by themselves. The history of non-euclidean geometry is given at some length and a large number of problems has been supplied, not merely as practice material but as means of presenting important concepts. Mathematically rigorous treatment of the subject is not intended. However the reader should be familiar with euclidean geometry and, preferably also with calculus. A preliminary edition was issued in 1941

YANO, K., AND S BOCHNER

Curvature and Betti numbers Princeton Princeton University Press 1953 190 p 26 cm. (Annals of mathematics studies edited by Emil Artin and Marston Morse. No 32) $3.00 506

Contents Riemannian manifold. Harmonic and killing vectors. Harmonic and killing tensors. *Harmonic and killing tensors in* flat manifolds. Deviation from flatness. Semi-simple group spaces. Pseudo-harmonic tensors and pseudo-killing tensors in metric manifolds with torsion. Kaehler manifold. Supplements (written by S. Bochner) Bibliography

Note An important contribution to differential geometry concerned with the relations between the Betti numbers of a compact Riemannian manifold and the Riemann-Christoffel curvature tensor of the manifold. It is based largely on the studies of Professor Bochner The final chapter included to afford the reader a few of the wider aspects of the topic, was written by Professor Bochner himself.

NUMERICAL ANALYSIS AND GRAPHIC METHODS

BOOTH, ANDREW D

Numerical methods New York Academic Press, Inc., 1955 195 p illus 23 cm 507

Content The nature and purpose of numerical analysis. Tabulations and differences. Interpolation. Numerical differentiation and integration. The summation of series. The solution of ordinary differential equations. Simultaneous linear equations. Partial differential equations. Non-linear algebraic equations. Approximating functions. Fourier synthesis and analysis. Integral equations. Select bibliography Name index. Subject index.

Note A brief but useful review of numerical techniques of mathematical analysis. Principles rather than computational exercises are emphasized, hence, such techniques as Monte Carlo methods are explained in about two pages, and even Fourier synthesis and analysis is given only 10 pages. However literature references are supplied for readers who need more detail. The material was first prepared for delivery as lectures, and the lecture style is still obvious in the short chapters and compact organization of the book. Although of potential interest to any scientist in need of survey of numerical methods, it is addressed particularly to advanced students of mathematics and graduate mathematicians who are concerned with programming for electronic digital computers. A second edition was published in 1957 $6.50.

DAVIS, DALE S

Nomography and empirical equations New York Reinhold Publishing Corporation, 1955 236 p illus 24 cm. $6 75 508

Contents. Part I, Empirical equations Common linear logarithmic, and semilogarithmic forms. Two-variable correlation—less common forms. Two-variable correlation—special methods. Three-variable correlation. Part II, Nomography Addition charts. Logarithmic charts. Nonlogarithmic multiplication charts. Recurrent variable charts. Combination charts. *Line coordinate* charts. Graphical anamorphosis. Appendix. Index.

Note A successor to the author's *Empirical equations and nomography* New York McGraw-Hill, 1943 Since publication of the first edition, the book has been widely used both for the instruction of engineering students and as refresher and reference book for working engineers. The scope is unchanged in this new edition. However numerous useful changes have been made, changes designed to facilitate understanding of the book and to enhance its usefulness. The quantity of matter in the book has been substantially increased however considerable fraction of the increase is due to the inclusion of more problems for the reader to solve.

DOUGLASS, *RAYMOND DONALD, AND* DOUGLAS P ADAMS

Elements of nomography New York Mc Graw Hill Book Company Inc. 1947 209 p. illus 23 cm $5 00 509

Contents Definition and reading of scales *Scale equations.* Uniform and nonuniform scales. *Adjustment of scales to one. Adjustment of* scale to zero point. Drafting the scale. Stationary adjacent scales. Simple alignment diagrams. The basic parallel-line diagram for the equation $U + V = W$ Substitutions. The use of printed forms. Dependent and independent variables—limits. Simple variations in chart form. *Multiplication by the Type II diagram. A diagram based* on two parallel lines and third slanting line. The hexagonal alignment diagram for the equation $\frac{1}{U} + \frac{1}{V} = \frac{1}{W}$. The circular nomogram for the equation $U\ V = W$ Compound alignment diagrams—graphical devices—analytic geometry diagrams. Index.

Note Nomographs, popularly known as alignment diagrams, are widely used in all branches of engineering, science, and industry for the graphic presentation of mathematical laws and relationships. This volume outlines the theory behind such charts and describes the techniques of their construction. The book is intended to serve as an

introduction to the subject and is written for professional engineers, scientists, business men, and students. Emphasis is placed on actual constructional problems, and several full-scale charts illustrating their application in science and business are included.

HEACOCK, FRANK A.

Graphic methods for solving problems. Princeton Princeton University Store, 1952 113 p. 28 cm. $1 90 510

Contents: Simple graphs and charts. The hydrograph. Geometric diagrams. Network charts. Vectors and mechanics. Descriptive geometry. Nomographs and computing devices. Graphic analysis. General bibliography. Index.

Note: Primarily this book is an annotated, bibliographical guide to the articles and books on graphic methods that have been published from 1937 through 1952. However, each of the chapters begins with a section in which a particular type of graphic device or method is carefully defined and illustrated. The main emphasis is on engineering uses of graphic methods, but some material is included on pictorial charts and other devices that are used in a number of fields. The book is a development of research undertaken for a committee of the American Society for Engineering Education.

HILDEBRAND F B

Introduction to numerical analysis. New York McGraw Hill Book Company Inc., 1956 511 p 24 cm. (International series in pure and applied mathematics William Ted Martin, consulting editor) $8.50 511

Contents: Introduction. Interpolation with divided differences. Lagrangian methods. Finite-difference interpolation. Operations with finite differences. Numerical solution of differential equations. Least-squares polynomial approximation. Gaussian quadrature and related topics. Approximations of various types. Numerical solution of equations. Appendixes: Justification of the Crout reduction. Bibliography. Directory of methods. Index.

Note: A textbook developed at the Massachusetts Institute of Technology where the author is Associate Professor of Mathematics. A major aim of the work is to prepare the reader to use computers, both desk calculators and electronic machines; however the emphasis is on basic concepts and techniques, such as approximation, interpolation, numerical solutions of equations, smoothing of data, and the numerical summation of series. Programming for electronic computation is not covered. Included are a wide range of problems, many of which are designed for computation on desk calculators.

HOELSCHER, RANDOLPH PHILIP AND OTHERS

Graphic aids in engineering computation, by Randolph P Hoelscher Joseph Norman Arnold, and Stanley H. Pierce. New York McGraw Hill Book Company Inc., 1952 197 p. illus. 24 cm. $4.50 512

Contents: Standard slide rules. Empirical equations from engineering data. Alignment charts. Graphical calculus. Alignment charts with determinants. Special slide rules. Movable-scale nomographs. Index.

Note: An introduction for engineering college students. The construction of alignment charts is covered with exceptional thoroughness. Slide rules are discussed more briefly but the most essential information is given and the formation of special slide rules is related to that of alignment charts. The first-named author is head of the Department of Engineering Drawing of the University of Illinois.

HOUSEHOLDER, ALSTON S

Principles of numerical analysis. New York. McGraw Hill Book Company Inc., 1953 274 p. 24 cm. (International series in pure and applied mathematics William Ted Martin, consulting editor) $6.00. 513

Contents: The art of computation. Matrices and linear equations. Nonlinear equations and systems. The proper values and vectors of a matrix. Interpolation. More general methods of approximation. Numerical integration and differentiation. The Monte Carlo method. Bibliography. Problems. Index.

Note: Although this book is addressed to graduate students and graduate mathematicians who are concerned with devising routines for modern calculating machines, particularly electronic computers, background knowledge, rather than computational techniques, is the primary subject. A considerable part of the space is devoted to methods of inversion and decomposition of matrices. The account of the Monte Carlo method is a very short one, which is, however supplemented by references to the literature published through 1952. The author is Senior Mathematician on the staff of the Oak Ridge National Laboratory.

JOHNSON LEE H

Nomography and empirical equations. New York John Wiley & Sons, Inc., 1952 152 p. illus. 23 cm. $4.00 514

Contents: Part I, Nomography: Introduction. Parallel scale nomographs. Z-charts. Parallel and perpendicular index lines. Concurrent scales. Recurrent variables. Combined nomographs. Part II, Empirical equations: Methods of curve fitting. Curves with two constants. Curves with three constants. Curves with four constants. Index.

Note: A useful book directed to physicists, engineers, and others who wish to make use of graphic methods in computation. It is well arranged, and its explanations are written out fully in a lucid style. Numerous examples of nomograph construction and of curve fitting are included. Readers need only a mathematical knowledge covering logarithms, plane geometry and analytical geometry.

KOPAL, ZDENEK

Numerical analysis with emphasis on the application of numerical techniques to problems of infinitesimal calculus in single variable. New York John Wiley & Sons Inc., 1955 556 p. illus. 23 cm. $12.00 515

Contents: Introduction. Polynomial interpolation. Numerical differentiation. Integration of ordinary differential equations. Boundary-value problems—algebraic methods—variational, iterative, and other methods. Mechanical quadratures. Numerical solution of integral and integro-differential equations. Appendices. Name index. Subject index.

Note: Several factors, not the least of which is the availability of electronic computers, have combined to make an understanding of the techniques of numerical analysis essential to present-day physicists and engineers. This book, which is at the same time thorough and practical, is a help to physicists and engineers in acquiring this knowledge. In the introductory chapter the author states, [illegible] the essence of numerical analysis [is] usually to use the methods of the infinitesimal calculus when they represent a short cut, but to avoid them by recourse to algebra when they become unmanageable. The chapter titles quoted above indicate the arrangement and scope of the work. The appendices contain a variety of expository material that complements the main body of the work and in some instances is more difficult mathematically. The matter in the book was first delivered as lectures at the Massachusetts Institute of Technology and elsewhere.

KRAITCHIK, MAURICE

Alignment charts—construction and use Princeton D Van Nostrand Company Inc., 1944 94 p. illus 23 cm. $3.00. 516

Contents: The reader's preliminary introduction. Graduation of scales. Conversion scales. Alignment charts. Equidistant parallel scales. Parallel scales not equidistant. Two parallel scales. Functions of more than three variables. The choice among different representations. Special charts. The reader's prospect. Index.

Note: An introductory book on the construction of nomographic charts. The book is intended mainly for scientists, engineers, and others who have practical use for such charts in the solving of equations.

LEVENS ALEXANDER SANDER

Nomography New York John Wiley & Sons Inc., 1948 176 p. illus 23 cm. $5.00. 517

61 p 26 cm (National Bureau of Standards Applied mathematics series No 42) $0 40 503

Contents Conformal mapping of a special ellipse, on the unit circle, by A. M. Ostrowski. Theodorsen's and Garrick's method for conformal mapping of the unit circle into an ellipse, by A. M. Ostrowski. On the solution of the Lichtenstein-Gershgorin integral equation in conformal mapping: I, Theory by S. E. Warschawski —II, Computational experiments, by J Todd and S. E. Warschawski. Two numerical methods in conformal mapping, by L. Ahlfors. Computation of harmonic measure by L. Ahlfors' method, by G. Blanch and L. K. Jackson.

Note. This collection of six papers is a sequel to *Construction and applications of conformal maps* (Applied mathematics series, 18) now out of print. It contains descriptions and evaluations of three computational experiments in the general field of conformal mapping. One of these was carried out by desk calculation one by punched card equipment, and one on the National Bureau of Standards Eastern Automatic Computer (SEAC) Literature references are included.

WALKER, ROBERT JOHN

Algebraic curves Princeton Princeton University Press, 1950 201 p. 24 cm (Princeton mathematical series, edited by Marston Morse and A W Tucker, No 13) $4 00 504

Content Algebraic preliminaries. Projective spaces. Plane algebraic curves. Formal power series. Transformations of a curve. Linear series. Index.

Note An introductory text in algebraic geometry. In order to keep the presentation simple, the book has been limited to the theory of curves. All theorems are proved, and exercises are included in the text for students to work. The study is carried as far as the theorem of Riemann-Roch.

WOLFE, HAROLD E

Introduction to non Euclidean geometry New York The Dryden Press, 1945 247 p illus 21 cm. (The Dryden Press mathematics publications, Edwin R. Smith general editor) $5 00 505

Contents The foundation of Euclidean geometry The fifth postulate. The discovery of non-Euclidean geometry Hyperbolic plane geometry Hyperbolic plane trigonometry Applications of calculus to the solutions of some problems in hyperbolic geometry Elliptic plane geometry and trigonometry The consistency of the non-Euclidean geometries. Appendices The foundation of Euclidean geometry Circular and hyperbolic functions. The theory of orthogonal circles and allied topics. The elements of inversion. Index.

Note Although intended for college students and secondary-school teachers of geometry, this introductory text contains considerable material that is of interest to those who study mathematics by themselves. The history of non-euclidean geometry is given at some length and a large number of problems has been supplied, not merely as practice material but as a means of presenting important concepts. Mathematically rigorous treatment of the subject is not intended. However the reader should be familiar with euclidean geometry and, preferably also with calculus. A preliminary edition was issued in 1941

YANO, K., AND S BOCHNER

Curvature and Betti numbers Princeton Princeton University Press, 1953 190 p 26 cm. (Annals of mathematics studies edited by Emil Artin and Marston Morse. No 32) $3 00 506

Contents Riemannian manifold. Harmonic and killing vectors. Harmonic and killing tensors. Harmonic and killing tensors in flat manifolds. Deviation from flatness. Semi-simple group spaces. Pseudo-harmonic tensors and pseudo-killing tensors in metric manifolds with torsion. Kaehler manifold. *Supplements (written by S. Bochner)* Bibliography

Note An important contribution to differential geometry concerned with the relations between the Betti numbers of a compact Riemannian manifold and the Riemann-Christoffel curvature tensor of the manifold. It is based largely on the studies of Professor Bochner The final chapter included to afford the reader a view of the wider aspects of the topic, was written by Professor Bochner himself.

NUMERICAL ANALYSIS AND *GRAPHIC METHODS*

BOOTH, ANDREW D

Numerical methods New York Academic Press Inc., 1955 195 p illus. 23 cm. 507

Contents The nature and purpose of numerical analysis. Tabulations and differences. Interpolation. Numerical differentiation and integration. The summation of series. The solution of ordinary differential equations. Simultaneous linear equations. Partial differential equations. Non-linear algebraic equations. Approximating functions. Fourier synthesis and analysis. Integral equations. Select bibliography Name index. Subject index.

Note A brief but useful review of numerical techniques of mathematical analysis. Principles rather than computational exercises are emphasized hence, such techniques as *Monte Carlo* methods are explained in about two pages, and even Fourier synthesis and analysis is given only 10 pages. However literature references are supplied for readers who need more detail. The material was first prepared for delivery as lectures, and the lecture style is still obvious in the short chapters and compact organization of the book. Although of potential interest to any scientist in need of a survey of numerical methods, it is addressed particularly to advanced students of mathematics and graduate mathematicians who are concerned with programming for electronic digital computers. *A second edition was published in 1957 $6.50.*

DAVIS, DALE S

Nomography and empirical equations New York Reinhold Publishing Corporation, 1955 236 p illus. 24 cm. $6 75 508

Contents Part I, Empirical equations Common linear logarithmic, and semilogarithmic forms. Two-variable correlation—less common forms. Two-variable correlation—special methods. Three-variable correlation. Part II Nomography Addition charts. Logarithmic charts. Nonlogarithmic multiplication charts. Recurrent variable charts. Combination charts. *Line coordinate* charts. Graphical anamorphosis. Appendix. Index.

Note A successor to the author's *Empirical equations and nomography* New York, McGraw Hill, 1943 Since publication of the first edition, the book has been widely used both for the instruction of engineering students and as a refresher and reference book for working engineers. The scope is unchanged in this new edition. However numerous useful changes have been made changes designed to facilitate understanding of the book and to enhance its usefulness. The quantity of matter in the book has been substantially increased however a considerable fraction of the increase is due to the inclusion of more problems for the reader to solve.

DOUGLASS, RAYMOND DONALD AND DOUGLAS P ADAMS

Elements of nomography New York Mc Graw Hill Book Company, Inc 1947 209 p. illus 23 cm $5 00 509

Contents Definition and reading of scales. *Scale equations.* Uniform and nonuniform scales. *Adjustment of scales to size.* Adjustment of scale to zero point. Drafting the scale Stationary adjacent scales. Simple alignment diagrams. The basic parallel-line diagram for the equation $U + V = W$ Substitutions The use of printed forms. Dependent and independent variables—limits. Simple variations in chart form. Multiplication by the Type II diagram. A diagram based on two parallel lines and a third slanting line. The hexagonal alignment diagram for the equation $\frac{1}{U} + \frac{1}{V} = \frac{1}{W}$. The circular nomogram for the equation $U \cdot V = W$ Compound alignment diagrams—graphical devices—analytic geometry diagrams. Index.

Note Nomographs, popularly known as alignment diagrams, are widely used in all branches of engineering, science, and industry for the graphic presentation of mathematical laws and relationships This volume outlines the theory behind such charts and describes the techniques of their construction. The book is intended to serve as an

introduction to the subject and is written for professional engineers, executives, business men, and students. Emphasis is placed on actual constructional problems, and several full-scale charts illustrating their application in science and business are included.

Heacock, Frank A.

Graphic methods for solving problems. Princeton Princeton University Store 1952 113 p. 28 cm. $1 90 510

Contents: Simple graphs and charts. The hydrograph. Geometric diagrams. Network charts. Vectors and mechanics. Descriptive geometry. Nomographs and computing devices. Graphic analysis. General bibliography. Index.

Note: Primarily this book is an annotated, bibliographical guide to the articles and books on graphic methods that have been published from 1937 through 1950. However, each of the chapters begins with a section in which a particular type of graphic device or method is carefully defined and illustrated. The main emphasis is on engineering uses of graphic methods, but some material is included on pictorial charts and other devices that are used in a number of fields. The book is a development of research undertaken for a committee of the American Society for Engineering Education.

Hildebrand F B

Introduction to numerical analysis. New York McGraw Hill Book Company Inc., 1956 511 p. 24 cm (International series in pure and applied mathematics William Ted Martin, consulting editor) $8.50. 511

Contents: Introduction. Interpolation with divided differences. Lagrangian methods. Finite-difference interpolation. Operations with finite differences. Numerical solution of differential equations. Least-squares polynomial approximation. Gaussian quadrature and related topics. Approximations of various types. Numerical solution of equations. Appendixes: Justification of the Crout reduction. Bibliography. Directory of methods. Index.

Note: A textbook developed at the Massachusetts Institute of Technology where the author is Associate Professor of Mathematics. A major aim of the work is to prepare the reader to use computers, both desk calculators and electronic machines; however the emphasis is on basic concepts and techniques, such as approximation, interpolation, numerical solution of equations, smoothing of data, and the numerical summation of series. Programming for electronic computers is not covered. Included are a wide range of problems, many of which are designed for computation on desk calculators.

Hoelscher, Randolph Philip and others

Graphic aids in engineering computation by Randolph P Hoelscher Joseph Norman Arnold and Stanley H. Pierce. New York McGraw Hill Book Company Inc. 1952 197 p. illus. 24 cm. $4 50 512

Contents: Standard slide rules. Empirical equations from engineering data. Alignment charts. Graphical calculus. Alignment charts with determinants. Special slide rules. Movable-scale nomographs. Index.

Note: An introduction for engineering college students. The construction of alignment charts is covered with exceptional thoroughness. Slide rules are discussed more briefly but the most essential information is given and the discussion of special slide rules is related to that of alignment charts. The first-named author is head of the Department of Engineering Drawing of the University of Illinois.

Householder, Alston S

Principles of numerical analysis. New York McGraw Hill Book Company Inc., 1953 274 p. 24 cm. (International series in pure and applied mathematics William Ted Martin, consulting editor) $6.00 513

Contents: The art of computation. Matrices and linear equations. Nonlinear equations and systems. The proper values and vectors of matrix. Interpolation. More general methods of approximation. Numerical integration and differentiation. The Monte Carlo method. Bibliography. Problems. Index.

Note: Although this book is addressed to graduate students and graduate mathematicians who are concerned with devising routines for modern calculating machines, particularly electronic computers, background knowledge, rather than computational techniques, is the primary subject. A considerable part of the space is devoted to methods of inversion and decomposition of matrices. The account of the Monte Carlo method is a very short one, which is, however, supplemented by references to the literature published through 1952. The author is Senior Mathematician on the staff of the Oak Ridge National Laboratory.

Johnson Lee H

Nomography and empirical equations. New York John Wiley & Sons, Inc. 1952 152 p illus. 23 cm. $4.00. 514

Contents: Part I, Nomography: Introduction. Parallel scale nomographs. Z-charts. Parallel and perpendicular index lines. Concurrent scales. Recurrent variables. Combined nomographs. Part II, Empirical equations: Methods of curve fitting. Curves with two constants. Curves with three constants. Curves with four constants. Index.

Note: A useful book directed to physicists, engineers, and others who wish to make use of graphic methods in computation. It is well arranged, and its explanations are written out fully in a lucid style. Numerous examples of nomograph construction and of curve fitting are included. Readers need only a mathematical knowledge covering logarithms, plane geometry and analytical geometry.

Kopal, Zdenek

Numerical analysis with emphasis on the application of numerical techniques to problems of infinitesimal calculus in single variable. New York John Wiley & Sons, Inc., 1955 556 p. illus 23 cm. $12 00 515

Contents: Introduction. Polynomial interpolation. Numerical differentiation. Integration of ordinary differential equations. Boundary-value problems—algebraic methods—variational, iterative, and other methods. Mechanical quadratures. Numerical solution of integral and integro-differential equations. Appendices. Name index. Subject index.

Note: Several factors, not the least of which is the availability of electronic computers, have combined to make an understanding of the techniques of numerical analysis essential to present-day physicists and engineers. This book, which is at the same time thorough and practical, is a help to physicists and engineers in acquiring this knowledge. In the introductory chapter the author states, "... the essence of numerical analysis [is] namely to use the methods of the infinitesimal calculus when they represent short cut, but to avoid them by a recourse to algebra when they become unmanageable." The chapter titles quoted above indicate the arrangement and scope of the work. The appendices contain a variety of expository material that complements the main body of the work and in some instances is more difficult mathematically. The matter in the book was first delivered as lectures at the Massachusetts Institute of Technology and elsewhere.

Kraitchik Maurice

Alignment charts—construction and use Princeton D Van Nostrand Company Inc., 1944 94 p. illus. 23 cm. $3.00. 516

Contents: The reader's preliminary Introduction. Graduation of scales. Conversion scales. Alignment charts. Equidistant parallel scales. Parallel scales not equidistant. Two parallel scales. Functions of more than three variables. The choice among different representations. Special charts. The reader's prospect. Index.

Note: An introductory book on the construction of nomographic charts. The book is intended mainly for scientists, engineers, and others who have practical use for such charts in the solving of equations.

Levens Alexander Sander

Nomography New York John Wiley & Sons, Inc., 1948 176 p. illus. 23 cm. $5.00. 517

Contents Introduction. Functional scales. Alignment charts. Alignment charts (Z charts) for the solution of equations of the form $f_1(\ ) = f_2(v)\,f(w)$. Other forms of equations which can be solved by a Z chart: $f(\ ) + f(\ ) = \frac{f_1(\ )}{f(w)}$ Alignment chart for the solution of equations of the form: $\frac{1}{f(\ )} + \frac{1}{f_1(v)} = \frac{1}{f(w)}$ Alignment charts for equations of four or more variables of the form: $f(\ ) + f(\ ) + f(w) = f(q)$. Proportional charts of the form $\frac{f(\ )}{f_1(v)} = \frac{f_2(w)}{f(q)}$ Proportional charts of the form: $f(\ ) + f(\ ) = \frac{f(w)}{f(q)}$ Alignment charts for the solution of equations of the form: $f(\ ) + f(\ )\,f(w) = f(w)$. Miscellaneous forms. Practical short-cuts in the design of alignment charts. The use of determinants in the design and construction of alignment charts. Bibliography Index to ppendix alignment charts. Appendix. Index.

Note An excellent introduction to the construction and uses of nomograms or alignment charts. Based on material developed for use in senior elective courses at the University of Minnesota and the University of California, it is organized primarily as textbook. However it is suitable for self-instruction for engineers, scientists and others who make frequent use of mathematical equations. Many worked examples as well as problems for the student to work are incl ded. The fundamentals of the subject are stressed, but the practical applications are clearly indicated.

MILNE, WILLIAM EDMUND

Numerical calculus, approximations, interpolation, finite differences, numerical integration and curve fitting Princeton Princeton University Press 1949 393 p 24 cm. $4.50 518

Contents Simultaneous linear equations. Solution of equations by successive approximations. Interpolation. Numerical differentiation and integration. Numerical solution f differential equations. Finite differences. Divided differences. Reciprocal differences. Polynomial approximation by least squares. Other approximations by least squares. Simple difference equations. Appendices Notation and symbols. Texts, tables, and bibliographies. Classified guide to formulas and methods. Tables. Index.

Note The translation of theoretical analysis into numerical results is the basic theme in this book. Written for upperclass undergraduate college students who have some knowledge of calculus and differential equations, it points the way to practical applications of more advanced mathematical methods. The specific methods covered are named in the chapter titles. The bibliography which is annotated, lists books and pamphlets on related techniques not covered in this work.

MILNE, WILLIAM EDMUND

Numerical solution of differential equations New York John Wiley and Sons, Inc., 1953 275 p illus 24 cm (Applied mathematics series, edited by I S Sokolnikoff) $7 25 519

Contents Part I, Ordinary equations I troduction. Elementary numerical solution. Analytical foundations. Methods based on numerical integration. Methods of Runge Kutta. Methods based on higher derivatives. Systems of equations. Higher-order equations. Two-point boundary conditions. Part II, Partial equations Explicit methods. Parabolic and hyperbolic equations. Linear equations and matrices. Implicit methods. Elliptic equations. Characteristic numbers. Appendices. Bibliography Index.

Not An introduction to the use of numerical methods in the solution of ordinary and partial differential equations. It is addressed to students and readers who are primarily interested in numerical methods as practical means of obtaining solutions to problems in physics, engineering, etc. In the first part, among other things, the author explains 13 methods and particularly recommends two of them to the practical reader who is interested only in knowing a good up-to-date method The exposition is explicit and detailed and includes many examples of typical computations on computing machines of the desk type. However in an appendix the author discusses briefly the potentialities of electronic and other large-scale computing machines and their probable effects upon numerical methods in the near future. The bibliography includes more than 130 literature citations.

NIELSEN, KAJ L

Methods in numerical analysis. New York The Macmillan Company, 1956 382 p 22 cm. $6 90 520

Contents Fundamentals. Finite differences. Interpolation. Differentiation and integration. Lagrangian formulas. Ordinary equations and systems. Differential and difference equations. Least squares and their application. Periodic and exponential functions. Bibliography Tables. Answers to the exercises. Index.

Note. This text is designed to acquaint engineers, and others whose interests in mathematics are practical, with the basic methods of numerical analysis, particularly the analysis of tabulated data and numerical methods of finding the solutions to equations. The treatment, although introductory in nature, does require a knowledge of mathematics, at least through calculus. Particular attention is given to methods which may be used in solving problems on automatic desk calculators. Numerous exercises and illustrative examples, as well as tables required for the solution of problems, are included.

RUNNING, THEODORE RUDOLPH

Graphical calculus Ann Arbor George Wahr, 1937 83 p illus 23 cm. $1 90 521

Contents The principle of areas. Graphical differentiation. Graphical integration. Solution of equations. Graduation of unweighted data. Graphical interpolation. Graduation of weighted data. First kind. Second kind. Condition imposed upon derived curve. Graduation of data by means of the second derivative. Index.

Note This brief manual aims to make use of the graphical method as tool. It is planned for those who have had an elementary course in calculus and wish to make use of the graphical method in the treatment of data, particularly for students in applied science who deal with experimental data. The graduation of data is accomplished graphically without the use of formulas, moments, or least squares.

SCARBOROUGH, JAMES B

Numerical mathematical analysis. Third edition. Baltimore The Johns Hopkins Press 1955 554 p illus. 23 cm. $6.00 522

Contents The accuracy of approximate calculations. Interpolation *Differences—Newton's formulas of interpolation—Central-difference formulas—Lagrange's formula—Inverse interpolation.* The accuracy of interpolation formulas. Interpolation with two independent variables—trigonometric interpolation. Numerical differentiation and integration. *The accuracy of quadrature formulas.* The solution of numerical algebraic and transcendental equations Equations in one unknown. Simultaneous equations. Graeffe's root-squaring method for solving algebraic equations. The numerical solution of ordinary differential equations: *Equations of the first order* Equations of the second order and systems of simultaneous equations. The differential equations of exterior ballistics. Other methods of solving differential equations numerically The numerical solution of partial differential equations Difference quotients and difference equations. The method of iteration. The method of relaxation. The Rayleigh-Ritz method. The numerical solution of integral equations. The normal law of error and the principle of least squares. The precision of measurements Direct measurements Indirect measurements. Empirical formulas. Harmonic analysis of empirical functions. Numerical solution of the simultaneous linear equations Solution by determinants. Solution by successive elimination of the unknowns. Solution by inversion of matrices. Solution by iteration. Appendix—*Tables of the probability integral.* Index. Answers to exercises. Index.

Note. The principles of numerical analysis, methods for obtaining numerical results, and methods for checking the accuracy of these results are explicitly described in this outstanding work. Several methods are described for some operations. The exposition includes number of examples worked out in detail and—in some chapters—is also supplemented by full verbal discussions of the uses and limitations of the various methods. The first edition was published in 1930 and the second edition in 1950. In comparison with the second edition, this third edition has one new chapter that on the numerical solution of simultaneous linear equations.

SCHMID, CALVIN F

Handbook of graphic presentation New York The Ronald Press Company, 1954 316 p. illus. 24 cm. $6 00 523

Contents: Basic principles and techniques of chart design. Drafting techniques. Rectilinear coordinate charts. Bar and column charts. Semilogarithmic or ratio charts. Frequency graphs and related charts. Miscellaneous graphic forms. Statistical maps. Pictorial charts. Projection techniques in graphic presentation. Reproduction of graphs and charts. Index of names. Index of subjects.

Note: An eminently practical manual on the design and construction of charts and graphs for the presentation of statistical data. Although it contains much material useful to statisticians, it is primarily a book for the nonspecialist—such a person as a scientist who wishes to present the results of a series of experiments to readers outside his special field. The author himself is a sociologist, and there is some emphasis on the presentation of social and economic data. However the principles and most of the techniques described have general application. Most types of graphs and charts are discussed, as the chapter titles show. The chapter entitled "Miscellaneous graphic forms" is devoted to such varieties as pie charts and flow charts. Many typical charts are reproduced.

APPLIED MATHEMATICS

ALLEN EDWIN BROWN AND OTHERS

Vital mathematics by Edwin Brown Allen, Dis Maly and S Herbert Starkey jr New York The Macmillan Company 1944 456 p. illus. 22 cm. $4.84 524

Contents: Whole numbers. Common fractions. Decimal fractions. Percentage. Denominate numbers; ratio and proportion. Certain rudiments of statistics. Introduction to geometric figures. From arithmetic to algebra. Signed numbers. Fundamentals of algebraic operations. Graphs. Drawings and constructions. Areas of plane surfaces. Simple equations in one unknown. Relations existing within geometric figures. Locus. Relations between geometric figures. Trigonometry of the right triangle. Introduction to solid geometry. Some geometric solids. The sphere. Pairs of simultaneous equations. Exponents, logarithms, and the slide rule. The trigonometric ratios for angles greater than 90°. The solution of oblique triangles. Some spherical trigonometry. Appendix. Index. Answers.

Note: A review book intended for adults. No previous mathematical training is necessary. The book is directed toward military applications, with extensive use of vector diagrams and navigation problems.

AMERICAN MATHEMATICAL SOCIETY

Non-linear problems in mechanics of continua. Providence American Mathematical Society 1949 219 p. illus. 23 cm. (Symposia in Applied Mathematics Proceedings. Volume I) $5.25 525

Contents: Hydrodynamics: Non-linear problems in the theory of fluid motion with free boundaries, by A. Weinstein. Operator methods in the theory of compressible fluids, by S. Bergman. An existence theorem in two-dimensional gas dynamics, by L. Bers. Recent developments in free boundary theory, by G. Birkhoff. Theory and propagation of shock waves from cylindrical charges of explosives, by S. R. Brinkley jr and J. G. Kirkwood. The method of characteristics in the three-dimensional stationary supersonic flow of a compressible gas, by N. Coburn and C. L. Dolph. The numerical solution of the turbulence problem, by H. W. Emmons. On the stability of transonic flow, by Y. H. Kuo. Stability of the laminar boundary layer in a compressible fluid, by L. Lees. Remarks on the spectrum of turbulence, by C. C. Lin. Two-dimensional compressible flows, by I. Opatowski. Polygonal approximation method in the hodograph plane, by H. Poritsky. The boundary layer of yawed cylinders, by W. R. Sears. On shock-wave phenomena—interaction of shock waves and gases, by H. Polachek and R. J. Seeger. The breaking of waves in shallow water, by J. J. Stoker. On Hamilton's principle for perfect compressible fluids, by A. H. Taub. Elasticity and plasticity: The foundations of the theory of elasticity, by F. D. Murnaghan. On dynamic structural stability, by G. F. Carrier. Stress-strain relations for strain-hardening materials—discussion and proposed experiments, by D. C. Drucker. The edge effect in bending and buckling with large deflection, by K. O. Friedrichs. Numerical methods in the solution of problems of non-linear problems of elasticity, by W. Kaplan. Large deflection theory for rectangular plates, by S. Levy. Discontinuous solutions in the theory of plasticity, by W. Prager. On finite deflections in circular plates, by E. Reissner.

—— Electromagnetic theory Providence American Mathematical Society 1950 91 p. illus. 25 cm. (Symposia in Applied Mathematics. Proceedings. Volume II) $3.00 526

Contents: The new quantum electrodynamics, by H. Feshbach. A method of analytical continuation in the eigenvalue and scattering problems of quantum theory (abstract) by E. Feenberg. Electromagnetism without metric, by J. L. Synge. Discontinuity in electromagnetism, by W. H. Watson. The factorization method and its application to differential equations in theoretical physics, by L. Infeld. Nonlinear electrical networks, by R. J. Duffin. Ray theory vs. normal mode theory in wave propagation problems, by C. L. Pekeris. Systems of Wiener-Hopf integral equations and their application to some boundary value problems in electromagnetic theory by A. E. Heins. Orbits of charged particles in constant fields (abstract) by A. H. Taub. Reflections from bends and corners in electromagnetic wave guides (abstract) by S. O. Rice. Wave propagation in electromagnetic horns (abstract) by A. F. Stevenson. Problems related to measuring the field strength of high frequency electromagnetic fields (abstract) by R. Truell. Aberration correction with electron mirrors (abstract), by E. G. Ramberg. Distribution problems in the theory of random noise (abstract) by M. Kac. Entropy and information (abstract) by N. Wiener. The statistical theory of message transmission (abstract) by Y. W. Lee. Transient response in the central limit theorem of probability (abstract), by H. Wallman.

—— Elasticity New York McGraw Hill Book Company Inc., for the American Mathematical Society 1950 233 p. illus. 25 cm. (Symposia in Applied Mathematics. Proceedings Volume III) $6.00 527

Contents: Approximate methods of solution of two-dimensional problems in anisotropic elasticity by I. S. Sokolnikoff. Beams under concentrated loading, by O. E. Hay. On axisymmetrical deformations of thin shells of revolution, by D Reissner. On asymptotic integration in shell theory, by F. B. Hildebrand. Some recent applications of the theory of finite elastic deformation, by R. S. Rivlin. Elastic stability of the facings of sandwich columns, by H. W. March. Dynamic loads on thin plates on elastic foundations by Y A Hall. Kirchhoff's boundary conditions and the edge effect for elastic plates, by K. O. Friedrichs. Some problems in the bending of thin plates, by G. F. Carrier and F. S. Shaw. Prestressing a plane circular plate to stiffen it against buckling (abstract) by J. J. Stoker. The bending of thin elliptic plates, by C. L. Perry. New methods for the estimation of torsional rigidity by A. Weinstein. Stress fields of axially symmetric shafts in torsion and related fields, by H. Poritsky. Stress analysis in elastic-plastic structures, by W. Prager and P. S. Symonds. Elastic-plastic straining (abstract), by R. Southwell. A graphical method for solving problems in plane plasticity by N. Coburn. On stress discontinuities in plane plastic flow by E. H. Lee. Index.

—— Fluid dynamics. New York McGraw Hill Book Company Inc., for the American Mathematical Society 1953 186 [illegible] illus. 25 cm. (Symposia in Applied Mathematics. Proceedings. Volume IV) $7.00 528

Contents: Some aspects of the statistical theory of turbulence, by S. Chandrasekhar. A critical discussion of similarity concepts in isotropic turbulence, by C. C. Lin. The nonexistence of transonic potential flow, by A. Busemann. On waves of finite amplitude in ducts (abstract) by R. E. Meyer. On the problem of separation of supersonic flow from curved profiles, by T. Y. Thomas. On the construction of high-speed flows, by G. F. Carrier and K. T. Yen. An example of transonic flow for the Tricomi gas, by M. H. Martin and W. R. Thickstun. On gravity waves, by A. E. Heins. Hydrodynamics and thermodynamics, by S. R. De Groot. Nonuniform propagation of plane shock waves, by J. M. Burgers. Theory of propellers, by T. Theodorsen. Numerical methods in conformal mapping, by G. Birkhoff and others. Flow of viscous liquid through pipes and channels, by J. L. Synge. The method of singularities in the physical and in the hodograph plane, by A. Weinstein. Index.

—— Wave motion and vibration theory New York McGraw Hill Book Company Inc., for the American Mathematical Society

1954 169 p illus 26 cm. (Symposia in Applied Mathematics Proceedings. Volume v) $7 00 529

Contents Hydrodynamic stability by C. C. Lin. Examples of the instability of fluid motion in the presence of magnetic field, by S. Chandrasekhar On free surface flows, by P R. Garabedian. Review of significant observations on the mach reflection of shock waves, by W Bleakney On a nonlinear differential equation in hydraulics, by N W McLachlan. Acoustic radiation pressure on a circular disk, by H. Levine. Infinite matrices associated with diffraction problem (abstract) by W Magnus. On the coupling of two half planes, by A. E. Heins and H. Feshbach. On the diffusion of tides into permeable rock, by G. F Carrier and W H. Munk. Some remarks on radiation conditions, by J J Stoker On the theory of scattering of plane waves by soft obstacle, by E. W Montroll and J M. Greenberg. W ve propagation in helical compression springs, by E. H. Lee. On the wave equation and the equation of Euler Poisson, by A. Weinstein. On Lienard's differential equation, by S. Lefschetz. The effect of small constraints on natural vibrations, by R. J Duffin and A. Schild. Index.

—— *Numerical analysis. New York* Mc Graw Hill Book Company, Inc., for the American Mathematical Society, 1956 303 p illus. 25 cm. (Symposia in Applied Mathematics Proceedings Volume vi) $9 75 530

Contents Computational problems in the theory of dynamic programming, by R. Bellman. Some methods for the solution of boundary-value problems of linear partial differential equations, by S. Bergman. Computational aspects of certain combinatorial problems, by R. H. Bruck. N merical results on the shock configuration in mach reflection, by D R. Clutterham and A. H. Taub. Some applications of gradient methods, by J W Fischbach. Some qualitative comments on stability considerations in partial difference equations, by S. P Frankel. Approximations in numerical analysis—a report on study by C. Hastings, jr and others. The conjugate-gradient method for solving linear systems, by M. R. Hestenes. Number theory on the *SWAC*, by E. Lehmer The assignment problem, by T S. Motzkin. The method of steepest descent, by P C. Rosenbloom. Function spaces and approximation by A. Sard. Some computational problems in algebraic umber theory by O. Taussky Machine attacks on problems whose variables are permutations, by C. B Tompkins. Best-approximation polynomials of given degree, by J L. Walsh. Recent results in numerical methods of conformal mapping by S. E. Warschawski. On the asymptotic transformation of certain distributions into the normal distribution, by W Wasow Error bounds for eigenvalues of symmetric integral equations, by H. Wielandt. On the solution of linear systems by iteration, by D Young. Index.

Note. Participants in the *Symposia in Applied Mathematics* include many of the most eminent mathematicians currently working in the United States of America, and many of the papers in these volumes are the first presentations of the results of recent work. Literature references are often included

AMERICAN MATHEMATICAL SOCIETY

Transactions of the Symposium on Computing Mechanics Statistics and Partial Differential Equations held at the University of Chicago, April 29–30 1954 The Second Symposium on Applied Mathematics sponsored by The American Mathematical Society and Office of Ordnance Research U S Army Editorial committee F E Grubbs, F J Murray and J J Stoker New York Interscience Publishers 1955 216 p illus 26 cm $5 00 531

Contents Operations research, by P M Morse. The problem of inductive inference, by J Neyman. Some recent developments in analysis of variance, by H. O Hartley Two unsolved problems in statistical mechanics, by J E. Mayer Iterative computational methods, by M. R. Hestenes. Motivations for working in umerical analysis, by J Todd. Some umerical computations in ordnance problems, by A. A. Bennett. The simplest rat theory of pure elasticity by C. A. Truesdell. On the stability of mechanical systems, by J J Stoker Divergent integrals and partial differential equations, by F Bureau. On *differential operators* and boundary conditions, by W Feller.

Note. As their titles indicate, most of the papers in this volume would classify as applied mathematics at a high level. Several of the more important ones are reports f work sponsored by the Office of Ordnance Research. These represent advances in applied mathematics or in some instances, advances in pure mathematics which are probably capable of application in the solution of problems in *science and engineering*. In contrast, Morse's paper on operations research is only a generally informative account of the scope and methods of this field, and Bennett's paper on numerical computations in ordnance problems is brief informative account of the current work of the Computing Laboratory of the Ballistic Research Laboratories f the Ordnance Corps.

ANDRES, PAUL G , AND OTHERS

Basic mathematics for science and engineering By the late Paul G Andres, Hugh J Miser, and Haim Reingold New York John Wiley & Sons, Inc., *1955 846 p 24 cm $6 75* *532*

Contents Numerical computations. Simple algebraic operations. Functions and their graphs. Trigonometric functions. The graphs of the trigonometric functions. Simple properties of vectors. Algebraic operations. Exponents and radicals. Logarithms. The fundamental relations of trigonometry The oblique triangle. The *j* operator Linear equations and determinants. Quadratic equations and equations of higher degree. The straight line. Circles and loci. Equations of the second degree the conics. Elements of solid analytic geometry The elements of differential calculus. The elements of integral calculus. Appendix. Answers to the odd-numbered exercises. Index.

Note A revision of the author's *Basic mathematics for engineers*, New York, 1944 It is designed as a textbook for use in first courses in mathematics offered to college students who are majoring in *science or engineering The treatment assumes that the student* will have had courses in geometry and algebra in secondary school, but it does not assume an acquaintance with calculus. In fact, the two chapters on calculus are designed as preliminaries to later full-scale courses in the calculus. An abundance of exercises for the student to work is one of the features. In this new edition, the exercises have been selected to illustrate applications in science as well as in engineering. Other changes include an expansion of the treatment of analytic geometry *Essentially however* the contents, organization, and purpose of the book are unchanged from the preceding edition.

BRAND, LOUIS

Vector and tensor analysis. New York *John Wiley & Sons Inc., 1947 439 p* illus. 22 cm $6 50 533

Contents Vector algebra. Motor algebra. Vector functions of one variable. Linear vector functions. Differential invariants. Integral transformations. Hydrodynamics. Geometry on surface. Tensor analysis. Quaternions. Index.

Note The usefulness of a knowledge of vector and tensor analysis to scientists and *engineers who must deal with problems* in mechanics, hydrodynamics and electrodynamics is well established. This book is designed for students preparing to enter science or engineering, but it can also be used independently as survey of modern methods. In either case, sound knowledge of introductory college mathematics is prerequisite.

COBURN, NATHANIEL

Vector and tensor analysis New York The Macmillan Company 1955 341 p illus 24 cm. $7 00 534

Contents. Part I, Vector analysis. The fundamental operations. Differentiation theory Integration theory Vector analysis in applied *mathematics* Part II, Tensor analysis Tensors in Cartesian coordinates Tensors in general curvilinear coordinates. The theorems f Gauss and Stokes in *N*-dimensional euclidean space. Part III, Applications of tensor analysis The differential geometry of surfaces. Introduction to the theories f elasticity and viscous fluids. The theory of compressible fluids. The theory of homogeneous statistical turbulence Appendixes. Index.

Note An introduction to vector and tensor analysis intended for the instruction of senior and graduate college students. The treatment is slanted toward the interests of students, such as scientists and engineers who are interested in applications of vector and

tensor analysis techniques. Applications in fluid dynamics, rigid body dynamics and the study of turbulence are among those which are demonstrated. The author is Associate Professor of Mathematics in the University of Michigan.

Craig, Homer Vincent

Vector and tensor analysis. New York McGraw Hill Book Company Inc., 1943 434 p. illus. 23 cm. $6.50. 535

Contents (abridged): Preliminary remarks. Infinite sequences and functions. The calculus of functions of two variables. Generalized area and allied matters. Determinants, the n-systems, and certain transformation equations. The algebra of vectors. A simple N-dimensional space. The differential calculus of vectors. Integral transformations. The tensor concept. Extensors and the differential calculus of tensors. Classical dynamics. Special relativity. General relativity. Index.

Note: This textbook, based on a series of lectures, is intended to provide physics and engineering students with a working knowledge of advanced calculus. A background of general calculus is necessary. Four supplemental bibliographies are included.

Franklin, Philip

Fourier methods. New York McGraw Hill Book Company Inc., 1949 289 p. illus. 21 cm. $6.00 536

Contents: Complex quantities. Impedance. Fourier series and integrals. Partial differential equations. Boundary value problems. Laplace transforms. Transients. Bibliography. Index.

Note: A brief and general introduction to the use of Fourier series and Laplace transforms. Emphasis is on methods rather than theory, and the treatment assumes a knowledge of elementary calculus. The text is intended for college students majoring in applied mathematics, engineering, and physics, and the illustrative exercises and review problems have particular application in these fields.

Friedman, Bernard

Principles and techniques of applied mathematics. New York John Wiley & Sons, 1956 315 p. illus. 24 cm. $8.00. 537

Contents: Linear spaces. Spectral theory of operators. Green's functions. Eigenvalue problems of ordinary differential equations. Partial differential equations. Bibliography. Index.

Note: The purpose of this book is to introduce scientists and engineers who are interested in applied mathematics to some of the powerful methods of abstract mathematics which can be used in the applied fields. The first two chapters are devoted largely to an exposition of abstract linear spaces and operators defined on them. The final three chapters illustrate the applications of the theory and methods of linear spaces and operators to the solution of ordinary differential equations and partial differential equations. The book was developed during the author's teaching of graduate courses at the New York University and is consequently organized as a textbook. However, the expository text is full enough, and there are enough proofs of theorems and solutions of problems, to make the book useful to graduate scientists and engineers studying outside of organized courses.

Grazda, Edward E., editor

Handbook of applied mathematics. Third edition. Morris Brenner associate editor. Based on the original work by M. E. Jansson, H. D Harper and P L. Agnew. New York D Van Nostrand Company Inc., 1955 1,044 p. illus. 20 cm. $7.95 538

Contents: Introduction—key to use this book. Arithmetic—slide rule. Algebra. Geometry. Trigonometry. Differential calculus. Mechanics. Weights and measures. Excavation and foundations. Concrete. Brickwork. Carpentry and building. Lathing and plastering. Painting. Interlocking. Paving. Plumbing. Heating. Ventilating and air conditioning. Machine shop work. Sheet metal work. Electricity. Electronics. Print shop. Business mathematics. Accounting. Index of tables. Index.

Note: A reference book of the mathematics and computations of crafts and sciences. The early chapters deal generally with the symbols, conventions, and elementary computations of the fields of mathematics named in their titles. Most of the chapters are devoted, as their titles show, to the computational approaches to specific crafts, and in these chapters the main topic is mathematical computations; however, the fundamentals of the craft are also described. For example, in the chapter on plumbing, among the mathematical matter are descriptions of house plumbing systems, data on pipe sizes, and practical symbols used on building blueprints and related drawings. While basic, the book is thus suitable for instruction as well as for reference. The second edition was published in 1936 and appeared under the name of M. E. Jansson as author. Three new chapters have been added in this third edition, and revisions have been made in other chapters carried over from the second edition.

Hildebrand, Francis Begnaud

Methods of applied mathematics. New York Prentice-Hall Inc., 1952 523 p. illus. 22 cm. (Prentice Hall mathematics series Albert A. Bennett, editor) $9.00 539

Contents: Matrices, determinants, and linear equations. Calculus of variations and applications. Difference equations. Integral equations. Appendix. The Crout method for solving sets of linear algebraic equations. Answers to problems. Index.

Note: The author has stated that this book is designed to serve as an introduction to "four fields of mathematics which usually are not treated in courses of the 'advanced calculus' type but which are useful in varied fields of applications." The fields covered are named in the chapter titles. Although intended for readers whose main interests lie in such fields as physics and engineering, mathematics rather than applications are emphasized, and proofs are, generally speaking, included. It is suitable for use both as a text in graduate courses and for self-instruction material for graduate scientists and engineers. A feature which facilitates its use by the latter group is the independent treatment of each method and technique. In other words, it is not necessary to have mastered Chapter one in order to make use of Chapter three, for instance.

Klaf, A. Albert

Calculus refresher for technical men. New York Dover Publications Inc., 1944 431 p. illus. 20 cm. $1.95 540

Contents (abridged): Section I, Simple differential calculus: Constants—variables—functions—increments. Limits. Derivatives. Differentiation—elementary rules—algebraic—trigonometric. Differentiation by substitution. Maxima and minima. Splitting fractions to aid differentiation. Differentiation of logarithmic functions. Partial differentiation. Curvature of curves. Section II, Simple integral calculus: Integration—the inverse of differentiation. Integration by inspection. Integration by substitution. Integration by parts. Integration of fractions. Mean value. Successive and partial integration. Center of gravity. Moment of inertia. Introduction to differential equations. Section III, Applications of calculus. Appendix. Answers to problems. Index.

Note: A review book cast in question-and-answer form. As the title indicates, it is addressed primarily to readers who are interested in the applications of calculus. Nevertheless, 335 pages are devoted to basic aspects and only 33 pages to examples of applications. Answers are included for all problems to facilitate the use of the book in self-instruction. The book was originally published in 1944, and the present edition is a reprint without change in the text.

Klaf, A. Albert

Trigonometry refresher for technical men. New York Dover Publications Inc. 1946. 629 p. illus. 22 cm. $2.00 541

Contents (abridged): Section I, Plane trigonometry: Angles and their measurement. Cartesian coordinates—quadrants. Graphical representation of functions—periodicity. Interpolation. Trigonometric equations. Logarithms. Slide rule. Solution of triangles. Section II, Applications of plane trigonometry: Small angles. Vectors. Navigation. Polar coordinates—complex numbers—De Moivre's theorem—series. Section III, Spherical trigonometry: Spherical triangles. Applications. Appendix. Answers to odd-numbered problems. Index.

Note: In spite of the word "refresher" in the title this book is suitable for use in home-study by persons studying the subject for the first time. The exposition is entirely in question-and-answer form, and each topic is approached by easy stages. Tables of logarithms and trigonometric functions are given in the appendix. The above-listed edition is a 1956 reprint of the original edition.

MARGENAU, HENRY, AND GEORGE MOSELEY MURPHY

The mathematics of physics and chemistry Second edition New York D Van Nostrand Company, Inc., 1956 604 p illus 24 cm. $8 75 542

Contents The mathematics of thermodynamics. Ordinary differential equations. Special functions. Vector analysis. Coordinate systems, vectors, and curvilinear coordinates. Calculus of variations. Partial differential equations of classical physics. Eigenvalues and eigenfunctions. Mechanics of molecules. Matrices and matrix algebra. Quantum mechanics. Statistical mechanics. Numerical calculations. Linear integral equations. Group theory Index.

Note A successful presentation of mathematical concepts and techniques which are widely used in present-day physics and chemistry both pure and applied. The material presented in it has been selected from those areas of mathematics which are named in the chapter titles listed above In each, it provides definitions, explains the basic concepts, and furnishes examples of computations. Rigorous mathematical proofs are not included but references to books that do contain rigorous treatments are included in all chapters. The first edition was published in 1943 and was reprinted many times. This second edition is not an extensive revision however discovered errors in the first edition have been corrected, the presentation of a number of topics has been revised in the interest of clarity and a discussion of Laplace and related transformations has been added to the chapter on eigenvalues and eigenfunctions. The book is used as text in advanced college courses and as a desk reference book by graduate physicists and chemists.

PAGE, CHESTER H.

Physical mathematics. Princeton D Van Nostrand Company, Inc., 1955 329 p illus 24 cm. $7 50 543

Contents Introduction. Integration and differentiation. The vibrating string. The general problem in three dimensions. Eigenfunctions and eigenvalues. Geometrical interpretation of eigenfunctions. The separated equations. The nonhomogeneous problem. Integral equations. Methods of solving integral equations. The unbounded region. The Fourier integral. Passive physical systems. Viewpoints on Fourier transforms. The Laplace transform. Transient analysis. Difference equations. Partial differential equations. Index.

Note Addressed to graduate students of physics, this book is an attempt to teach mathematics to physicists in a manner which is in accord with physicist's way of thinking. The author states that "physicists do not generally appreciate all the implications of tersely stated theorems, but profit from looking at facts in several different ways. *My objective is to help physicists correlate their* smatterings of mathematical knowledge in such a way as to improve their feeling for the subject and increase its usefulness. It is emphasized that there are various ways of solving an equation, and that the physicist's problem is to select the one that will give the most useful solution. This theme runs through the chapters in which various mathematical techniques are expounded and applied to variety of physical problems. The book was developed in graduate courses given by the uthor at the National Bureau of Standards and the American University Washington, D C.

PHILLIPS, HENRY BAYARD

Analytic geometry and calculus. Second edition. New York John Wiley & Sons Inc. 1946 504 p illus 22 cm. $5 50 544

Contents Limits and continuity Derivative and differential. Integration and summation. Algebraic equations and graphs. Determinants. Trigonometric functions. Exponential and logarithmic functions. Parametric equations. Polar coördinates. Vectors. Formulas and methods of integration. Further applications of integration. Series with real terms. Complex umbers. Space coördinates and vectors. Partial differentiation. Multiple integration. Answers to problems. Tables. Index.

Note An introductory textbook for students of engineering and science. By relating the content of analytic geometry and calculus and thus combining two courses in one the author not only has emphasized the mutual dependence of the two subjects but also has made available valuable time for use elsewhere in crowded college curriculums. Early discussion of the differential and integral provides for the use f these important mathematical notions in accompanying science courses. Changes made in this second edition include minor rewriting and rearrangement, and a new smaller format which entailed complete resetting of the type.

PHILLIPS, HENRY BAYARD

Vector analysis. New York John Wiley & Sons, Inc., 1933 236 p illus. 22 cm $4.00 545

Contents Elementary operations. Partial differentiation. Integration. General coordinates. Irrotational and solenoidal vectors. Electrostatic fields. Harmonic functions. Scalar and vector potentials. Linear ector functions. Index.

Note. In this book vector analysis is presented in the form that is required for work in theoretical electricity and hydrodynamics. For these subjects the analysis of vector fields and the study of the quantities which characterize each type of field are of primary importance as the book brings out. The discussion of these matters separately rather than their introduction in connection with one of the typical fields enables the book to show which results follow from mathematics and which are dependent on physical hypothesis.

REEVE, WILLIAM D, AND CLARENCE E TUITES

Practical mathematics refresher New York McGraw Hill Book Company, Inc., 1955 376 p illus 24 cm. $5 75 546

Contents (abridged) Whole numbers. Fractions and mixed numbers. Decimals. Systems of measure. Introduction to algebra. Ratio and proportion percents. Problems of the home. Powers and roots. Additional problems and formulas. Measures of central tendency—averages. Graphs. Geometry of form—of size. Geometric drawing and construction—geometry of position. Navigation and aeronautics. Algebraic language. Solution of equations. Variation and proportion. Trigonometry Positive and negative numbers. Fundamental operations in algebra. Logarithms. The oblique triangle. Appendix. Index.

Note A concise review of the basic principles and processes of mathematics at the high-school level. The book is written primarily for readers whose daily work requires proficiency in elementary mathematics and who must refresh their knowledge of the subject. Throughout the text, emphasis is placed on the practical application of mathematical skills to the solution of problems in wide variety of vocations. The arrangement of the material and the inclusion f answers problems and review exercises make the volume suitable for home-study purposes and for use as text in vocational schools.

SMITH, LLOYD P

Mathematical methods for scientists and engineers New York Prentice Hall Inc., 1953 453 p. illus 23 cm. (Prentice-Hall physics series Donald H. Menzel, editor) $10 00 547

Contents: Elements of function theory Differential calculus. Integral calculus. Space geometry *Line, surface, and multiple* integrals. Theory of functions of a complex variable. Residues and complex integration. Representation of functions by infinite series of functions. Application of functions f complex variable to potential and flow problems. Algebra of linear equations, transformations and quadratic forms. Vector and tensor analysis. Orthonormal function systems. Orthonormal functions with continuous spectrum. Integral equations. Variational methods. Elements of probability theory Index.

Note Because it is written for students preparing for careers in such fields as physics and engineering, few proofs are given in this book. On the other hand, the author has taken pains to define clearly the various concepts that are introduced and to describe the conditions which must be satisfied in making valid use of a given technique. The principal subject is mathematical functions, and it is noteworthy that differential equations are not covered. The final chapter on *probability theory* was written by Professor Mark Kac. The author is Chairman of the Department of Physics at Cornell University

SOKOLNIKOFF, IVAN STEPHEN

Tensor analysis theory and applications. New York John Wiley & Sons Inc., 1951 335 p. 24 cm. (Applied mathematics series edited by I S. Sokolnikoff) $6.00. 548

Contents: Linear vector spaces—matrices. Tensor theory. Geometry. Analytical mechanics. Relativistic mechanics. Mechanics of continuous media. Bibliography. Index.

Note: An introduction to tensor analysis written on the graduate level and slanted for those interested in the applications of the subject rather than in its theory. No special field of application is emphasized, however; and in the words of the author "Perhaps the best evidence of the remarkable effectiveness of the tensor apparatus in the study of K[illegible] is in the fact that it was possible to include, between the covers of one small volume, a large amount of the material that is of interest to mathematicians, physicists, and engineers." The treatment of relativistic mechanics is intentionally brief because the author felt no need to duplicate the contents of available books on relativity of which Bergmann, *An introduction to the theory of relativity*, New York, 1942 and Rainich, *Mathematics of relativity*, New York, 1950, are mentioned in the bibliography.

MATHEMATICAL MACHINES

BERKELEY EDMUND CALLIS AND LAWRENCE WAINWRIGHT

Computers their operation and applications. New York Reinhold Publishing Corporation, 1956 366 p. illus. 23 cm. $8.00. 549

Contents (abridged): Section I. Machines that handle information: Computers. Types of automatic computers. Section II. Automatic digital computing machines: Storing information and the memory unit. Calculating and the arithmetic unit. Programming and the control unit. Reliability—checking and maintenance. The advantages and disadvantages of an automatic digital computer. Section III. Automatic analog computing machines: The analog principle and its use. The essential elements. Analog and digital computers compared. Examples of analog computers. Error control. Future prospects. Section IV. Other types of automatic computing machines: Types of automatic computing machines that are not digital or analog computers. The components of automatic computing machines. Section [illegible] Miniature computers and their use in training: Training for automatic computers. Simon—its history and uses [illegible]. Section VI. Some large-scale automatic digital computers: Univac. IBM types 701, 702, 705 and 704. ERA type 1103. Section VII. Applications of automatic computing machines: What work can automatic computers do? Applications of automatic computing machines in business. Military applications. Applications of automatic computing machines in other fields. Recognizing areas where automatic computing machines may apply. Section VIII. Miscellaneous: References—books and other sources of information. Roster of organizations making automatic computing machines. Glossary of terms and expressions. Index.

Note: A broad nontechnical account of automatic computers. It explains their principles and elements, compares the chief types, furnishes descriptions of some outstanding examples, and describes applications. Also, it includes useful reference features, such as the bibliography, list of organizations, and glossary. Neither a book for general readers nor a treatise for scientists and engineers interested in the design of computers, it will be of interest to scientists and engineers who desire a general knowledge of computers, to executives and managers of business organizations who want to know whether to look into the applicability of electronic computers in business routines, and to writers who feel the need of more solid information than is contained in the popular books.

BERKELEY EDMUND CALLIS

Giant brains or machines that think. New York John Wiley & Sons, Inc., 1949 270 p. illus. 22 cm. $5.00 550

Contents: Can machines think? Languages. A machine that will think. Counting holes. Measuring: Accuracy to 23 digits. Speed—1,000 additions a second. Reliability—no wrong results. Remembering: [illegible]. The future. Social control. Supplement. Index.

Note: A well-written popular book. Not only does it explain the principles of such bewildering machines as Harvard's IBM Automatic Sequence-Controlled Calculator, The Electronic Numerical Integrator and Calculator (ENIAC) and the Kalin-Burkhart Logical-Truth Calculator, but it conveys the general idea of the principles of calculation by machine and of what may be accomplished by machine calculation and by related ideas such as [illegible] and translators. It is written for general reading, but it is not a superficial popularization. To grasp all of it, the lay reader will have to apply himself about as vigorously as in comprehending a text in elementary algebra. A useful feature for serious students and librarians is an extensive, organized bibliography.

DETURK J E. AND OTHERS

Basic circuitry of the MIDAC and MIDSAC. By J E. DeTurk H. L. Garner J Kaufman H W Bethel, R. E. Hock. The work reported herein was supported by the Boeing Airplane Company under the sponsorship of the U S Air Force. May 1954 1947–2–T Ann Arbor University of Michigan Press, 1954 96 p illus 28 cm. (University of Michigan. Engineering Research Institute. Special publications Monographs) $2.00 551

Contents: Description of computer plug-in circuits. Assembly of standard packages to obtain functional units. Example of a computer subsystem—a serial arithmetic unit. Mechanical design. Appendices: Rules and data for using packages. Some design factors and effects of component tolerances. References. Distribution.

Note: A product of a program set up to investigate the development of electronic computing circuits which could be standardized and used as building blocks for computer design. These circuits and their components constitute the "packages" mentioned in the above contents. The program was related to the design of the Michigan Digital Automatic Computer (MIDAC) and the Michigan Digital Special Automatic Computer (MIDSAC). Each of the computers mentioned "uses more than one thousand of these packages to implement all computer functions with the exception of the memory and input-output functions." The packages themselves, the mechanical details of their unit assemblies, their assembly on racks or other holders in the complete machine, and the method of cooling are diagrammed and described. The illustrations include some pictures made from photographs of assembled units.

ENGINEERING RESEARCH ASSOCIATES, INC.

High-speed computing devices. Supervised by C. B Tompkins and J H. Wakelin. Edited by W W Stifler jr New York McGraw Hill Book Company Inc., 1950 451 p. illus. 24 cm. $8.00. 552

Contents: Part I. The basic elements of machine computation: Introduction. Preliminary considerations. Counters as elementary components. Switches and gates. A functional approach to machine design. Arithmetic systems. Numerical analysis. Part II. Computing systems: Desk calculators. Punched-card computing systems. Large-scale digital computing systems. Analog computing systems. The form of a digital computer. Part III. Physical components and methods: Arithmetic elements. Transfer mediums. Data-conversion equipment. Special techniques and equipment for possible use in computing systems. Factors affecting choice of equipment. Index.

Note: A survey of the principles, chief components, and applications of mechanical and electronic computing machines. It is written largely from the viewpoint of engineers and scientists interested in these machines from the standpoint of design or applications. The concise final chapter on choosing computing equipment is of potential interest to business and laboratory executives. The book is well organized and well written. A fair amount of familiarity with technical and mathematical concepts is essential to understanding it, but it is by no means a specialist's book. It was prepared originally under an Office of Naval Research contract.

HARRIS, CHARLES OVERTON

Slide rule simplified. Chicago American Technical Society 1943 250 p. illus. 21 cm. $3.00. 553

Contents: How to hold a slide rule. The action of the rule. Multiplication. Division. Combination of multiplication and di-

vision. The square and square root. The cube and cube root. Sines and cosines. The tangent of the angle. The log scale. The reciprocal scale. How to check slide rule. Summary of rules for locating the decimal point and rules for fundamental operations of the rule. Negative numbers. Answers to practice problems. Index.

Note Eight chapters, intended for the beginner deal clearly and fully with the simpler types of calculation. Additional chapters are designed for more advanced students. The text is liberally supplied with practice problems, and the answers are furnished.

HARTKEMEIER, HARRY P

Punch-card methods, how to use and operate punching, sorting, electronic statistical, tabulating, and accounting machines, including types 24, 26, 75, 80, 82 101, 402, 403, and 407 Dubuque Wm C Brown Company, 1952 360 p illus 28 cm $5 00 554

Contents (abridged) The printing card punch, type 26. Sorting machines. Tabulating machines, types 402–403 The electronic statistical machine, type 101 The printing machine, type 407 Index.

Note A complementary book to the author's *Principles of punch-card machine operation*, New York, 1942 now out of print. It deals with the use and operation of punch-card machines put on the market since the earlier textbook was written. Specifically it covers the International Business Machines Corporation's machines of the types named in the subtitle. Machines introduced since 1952 are, of course, not covered. Although written for the instruction of scientists and statisticians who are interested in punch-card machines from the viewpoint of their usefulness in applied statistics rather than in such fields as accounting and bookkeeping, applications and potential applications in statistics and science are not discussed. All of the space is devoted to descriptions of mechanical features, techniques of operating, and wiring for particular kinds of operations.

HARTREE, DOUGLAS RAYNER

Calculating instruments and machines Urbana University of Illinois Press, 1949 138 p illus. 27 cm. $4 50 555

Contents Introduction. The differential analyser The differential analyser and partial differential equations. Some other instruments. Introduction to large automatic digital machines. Charles Babbage and the analytical engine. The first stage of development. Projects and prospects. High-speed automatic digital machines and numerical analysis. References. Name index. Subject index.

Note Not as general in scope as the title indicates, this book is nevertheless a useful introduction to present-day automatic calculators. Desk machines and conventional punch-card devices are not included, but the principles of analog machines and digital computers are explained clearly The operating principles of the Harvard Mark I Calculator and of the Eniac are described in some detail. The book originated as a series of lectures delivered at the University of Illinois in the fall of 1948 There is a bibliography of 122 references.

HARVARD UNIVERSITY COMPUTATION LABORATORY

Description of a magnetic drum calculator By the staff of the Computation Laboratory Cambridge, Mass. Harvard University Press, 1952 318 p illus 27 cm. (Harvard University Computation Laboratory Annals. Vol. XXV) $8 00 556

Contents Organization of the calculator Basic circuits. Storage system. Arithmetic units. The elementary functions. Numerical input and output devices. Sequencing and control. Instructional tape preparation table. Operation of the calculator Problem preparation and solution of typical examples. Appendixes. Constants in fast storage. List of codes. Index.

Note. Various aspects of the construction, theory and operation of an electronic digital calculator employing magnetic drums and magnetic tape for the storage of numerical and instructional information are discussed in this work. The book is a rather specific description of the Mark III Calculator built by Harvard University for the Bureau of Ordnance of the United States Navy However it is of general interest to mathematicians and other scientists who are interested in either the construction or applications of such machines. There are numerous illustrations.

HARVARD UNIVERSITY COMPUTATION LABORATORY

A manual of operation for the automatic sequence controlled calculator With a foreword by James Bryant Conant. Cambridge, Mass Harvard University Press, 1946 561 p illus. 27 cm (Harvard University Computation Laboratory Annals. Vol. I) o p. 557

Contents Historical introduction. Description of the calculator Electrical circuits. Coding. Plugging instructions. Solution of examples. Bibliography Introduction to the Appendices. Sequence codes. Sequence circuits. Register circuits. Multiply unit circuits. Divide unit circuits. Relay list. Cam list. Fuse list. Index.

Note The official manual was prepared and published not only for the benefit of the staff of the laboratory who operate the automatic sequence controlled calculator but also for scientists and engineers in general who are interested in studying the potential applications of this machine. The bibliography is an extensive but not exhaustive record of the international literature of numerical analysis.

HARVARD UNIVERSITY COMPUTATION LABORATORY

Proceedings of a second symposium on large-scale digital calculating machinery Jointly sponsored by the Navy Department Bureau of Ordnance and Harvard University at the Computation Laboratory, 13–16 September 1949 Cambridge, Mass Harvard University Press, 1951 393 p illus. 27 cm. (Harvard University Computation Laboratory Annals Vol 26) $8 00 558

Contents (abridged) The Mark III calculator by B L. Moore. The Bell computer Model VI, by E. G. Andrews. An electrostatic memory system, by J P Eckert, Jr The Raytheon electronic digital computer by R. M. Bloch. Semiautomatic instruction on the Zephyr by H. D Huskey Static magnetic delay lines, by W D Woo. Coördinate tubes for use with electrostatic storage tubes, by R. S. Julian and A. L. Samuel. Electrochemical computing elements, by J R. Bowman. Logical syntax and transformation rules, by G. W Patterson. Mathematical methods in large-scale computing units, by D H. Lehmer. Numerical methods associated with Laplace's equation, by W E. Milne. An iteration method for the solution of the eigenvalue problem of linear differential and integral operators, by C. Lanczos. On the Monte Carlo method, by S. M. Ulam. Double refraction of flow and the dimensions of large asymmetric molecules, by H. A. Scheraga and others. Computational problems in nuclear physics, by H. Feshbach. Computing machines in aeronautical research, by R. D O'Neal. A statistical method for certain nonlinear dynamical systems, by G. R. Stibitz. Combustion aerodynamics, by H. W Emmons. Application of computing machinery to research in the oil industry by M. Muskat. Application of computing machinery to the solution of problems of the social sciences, by F Mosteller Computational aspects of certain econometric problems, by H. Chernoff. The selectron, by J Rajchman. Traits caractéristiques de la calculatrice de la machine à calculer universelle de l'Institut Blaise Pascal, by L. Couffignal. The future of computing machinery by L. N Ridenour

Note. Altogether there are in this volume 39 original papers, classified under such headings as "Recent developments in computing machinery "Numerical methods, "Computational problems in physics, and "The economic and social sciences. The authors are scientists and technologists who are closely associated with progress in the field. Most of the papers are short, but practically all of them contain valuable information for persons who are interested in either the development or applications of high-speed computers.

HARVARD UNIVERSITY COMPUTATION LABORATORY

Synthesis of electronic computing and control circuits. Cambridge, Mass. Harvard Uni

versity Press, 1951 278 p. 24 cm. (Harvard University Computation Laboratory Annals. Vol. XXVII) $8.00 559

Contents: Introduction. Vacuum-tube operators. Switching functions of two and three variables. Switching functions of [illegible] variables. Minimizing charts. Pyramids and rectangles. Multiple-output circuits. Triggers, rings, and digit counters. Three variables. Rectifiers. Coding systems. Adders and accumulators. Multipliers. Appendix: Switching functions of four variables.

Note: In this work the design of electronic circuits for use in computing and controlling mechanisms is treated from the standpoint of fundamental principles. The treatment leans heavily upon algebra, and there are many more mathematical symbols than electronic symbols in the text. However, the main viewpoint is practical. The book will be of primary interest to physicists, mathematicians, and engineers interested in the design of electronic computers. Electrical engineers not working in this field, but whose work includes the design of circuits for industrial electronic equipment, will find it of interest.

HASTINGS CECIL, JR.

Approximations for digital computers. By Cecil Hastings Jr., assisted by Jeanne T Hayward and James P Wong Jr Princeton Princeton University Press, 1955 201 p. illus. 24 cm. $4.00 560

Contents (abridged): Part I, Concerning best fit. Linear weights. An iterative procedure. Solution of equations. Chebyshev polynomials. Concerning weights. Function with [illegible] peak. Rates of convergence. Choice of form. A [illegible] problem. Part II [Approximations for digital computers] References for Part II.

Note: An unusual book, the contents of which are already fairly well known among mathematicians who use high-speed computing machines. The author's own description of its subject reads: "This monograph deals with the subject of best approximation in the sense of Chebyshev as applied to the problem of making univariate functional data available to the high-speed digital computing machines. Our investigation is of [illegible] numerical and empirical nature." The author's method is recognized as both original and useful, and the book is potentially of interest not only to mathematicians but also to other scientists who are concerned with using high-speed computers in interpreting experimental data and testing hypotheses. The first part of the book is organized in the form of frames from film strip. Each frame is reproduced in the style of [illegible] diagram, and [illegible] brief explanation is printed under it. This part serves as an introduction to the problem of approximation. The second part reproduces in much the same style 78 sheets which [illegible] best approximations in loose-leaf form. These sheets contain the approximations and are designed for reference use.

JOHNSON CLARENCE L.

Analog computer techniques. New York McGraw Hill Book Company Inc. 1956 264 p. illus. 23 cm. $6.00 561

Contents: Introduction. The linear computer components. Time and amplitude-scale factors. The synthesis of servomechanism systems. Multiplying and resolving servos. Additional computer techniques. The representation of nonlinear phenomena. Multipliers and function generators. Miscellaneous applications of the electronic analog computer. Analog computer components and computer control. The checking of computer results. Repetitive analog computers. The digital integrating differential analyzer. Appendixes. Index.

Note: This book is an introduction to the principles and uses of electronic analog computers (differential analyzers). The author states that it is intended for computer operators. It should be equally useful to engineers concerned with problems that may be solved on analog computers. The historical development of this class of mathematical instrument and related background information are outlined in the first chapter. Most of the succeeding chapters deal with the elements of analog computers and their mathematical uses and potentialities. In these there are numerous circuit diagrams, worked examples, and selected literature references. The final chapter outlines the principles and the main techniques of operation of the digital integrating differential analyzer and supplies a selected list of literature references pertaining to it.

JOHNSON, LEE H.

The slide rule. Princeton D Van Nostrand Company Inc., 1949 242 p illus. 24 cm. $4.25 562

Contents: Introduction. Multiplication and division. Squares, square roots, cubes, and cube roots. The log log scales. Trigonometric scales. Special operations. The Polyphase and Mannheim slide rules. Table of conversion factors. Answers to problems. Index.

Note: A comparatively full discussion of the use of modern slide rules in the solution of engineering problems. Most of the material has to do with the Duplex rule but there is also [illegible] fair amount of material on the Mannheim and Polyphase slide rules. The author's purpose is to teach students and practicing engineers to use their rules rapidly and expertly. He stresses correct handling of the rule, and describes in detail its manipulation in [illegible] variety of problems. There are 118 figures, and many of these consist of several illustrations.

JOINT ACM–AIEE–IRE COMPUTER CONFERENCE

Proceedings of the Western Joint Computer Conference papers presented at the Joint ACM–AIEE–IRE Computer Conference, San Francisco Calif., February 7–9, 1956 Sponsors The American Institute of Electrical Engineers, Committee on Computing Devices The Association for Computing Machinery The Institute of Radio Engineers, Professional Group on Electronic Computers. New York Published by the American Institute of Electrical Engineers for the Joint Computer Committee 1956. 142 p. illus. 28 cm. $3.00 563

Contents (abridged): Programming and coding. Auxiliary equipment. Machine design. Systems. Design, programming, and coding. Scientific application. Applications. Circuits. RCA BIZMAC system.

Note: The 24 papers presented at the sixth Joint Computer Conference are published in this volume. They are organized under the headings given above [illegible] which serve to indicate the scope of the conference and the papers. The authors are in the forefront of computer development and application, and [illegible] number of new developments are described in the papers.

KORN GRANINO A., AND THERESA M KORN

Electronic analog computers (D-c analog computers) Second edition. New York McGraw Hill Book Company Inc., 1956. 452 p. illus. 23 cm. $7.50 564

Contents: Introduction to D-c analog computers. Practical setup for practical problems. Theory and design of linear computing elements—Coefficient setting potentiometers and operational amplifiers. D-c amplifiers for computer applications. Multipliers and function generators. Auxiliary circuits and computer operation. The design of complete D-c analog-computer installations. Tables of special computer setups. Bibliography (to 1950) Bibliography (since 1950) Examples of differential analyzer computations. Author index. Subject index.

Note: A full-scale treatment that covers principles, uses and design of d-c analog computers. Though introductory in the sense that no previous acquaintance with these instruments is assumed, the field is covered thoroughly enough to make the book useful to scientists and engineers interested in it, either from the viewpoint of applications or design. Somewhat more attention is paid to design than to applications, however, the setting up of problems for solution on analog computers is adequately explained. The first edition was published in 1952. A fair amount of material, including information on new developments in applications and new developments in design, has been added in this second edition. A new bibliography covering literature published since 1950 down to some unspecified date in 1956 now supplements the original bibliography carried over from the first edition.

RICHARDS R. K.

Arithmetic operations in digital computers. Princeton D Van Nostrand Company Inc., 1955 397 p illus. 24 cm. $7.50 565

Contents: Symbolic representation of quantities. Boolean algebra applied to computer components. Switching networks. Binary add.

tion and subtraction. Binary multiplication and division. Decimal codes. Counting, binary and decimal. Decimal addition and subtraction. Decimal multiplication and division. Miscellaneous operations. Computer organization and control. Programming. Bibliography. Index.

Note. Developed under the auspices of the International Business Machines Corporation and used as a text in courses given by that organization to its beginning engineers, this book is a professional-level introduction to the use of digital computers. As the title indicates, the emphasis is on how arithmetic operations, such as addition, subtraction and division, are carried out on this class of computing machines. Both computations which can be represented by whole numbers and those involving decimals are explained in rather thorough detail. In the course of the exposition of these matters, frequent references are made to computer elements and their functions. In addition, there is a 40-page chapter on computer elements, their uses and interrelations. The bibliography is a selected one of books, periodicals and papers. An especially useful feature of it is the inclusion of references to literature on individual computers; for instance three references to papers on the "Whirlwind I" computer are listed.

SOROKA, WALTER W

Analog methods in computation and simulation New York McGraw Hill Book Company, Inc., 1954 390 p illus. 23 cm $7 50 566

Contents: Mechanical computing elements. Electromechanical, electrical, and electronic computing elements. Machines for simultaneous linear algebraic equations. Analog solution of nonlinear algebraic equations. The mechanical differential analyzer. Electronic analog computers (electronic differential analyzers). Dynamical analogies. Equivalent circuits for ordinary and partial differential equations in finite differences. Membrane and conducting-sheet analogies. Author index. Subject index.

Note. The main theme of this book is the use of analogs in engineering analysis and computations, the criteria for analogy being whether the operation of a familiar system and of the unfamiliar system to be studied can be expressed by similar differential or algebraic equations. Necessarily, however, much space is devoted to mechanisms. The elements of computing devices or systems are described in the first two chapters. Later chapters are devoted largely to the uses of these elements, and especially to combinations of them in dealing with specific types of problems in engineering analysis. Throughout, there is more emphasis on the properties of systems and on the mathematical applications than on mechanical and electrical details. The author is Professor of Engineering Design in the University of California, and the book is designed for use as a text by advanced engineering students. It is of interest also to graduate engineers and applied mathematicians.

THOMPSON, J E

The standard manual of the slide rule, its history, principle and operation. Second edition Princeton D Van Nostrand Company, Inc., 1952 216 p illus. 22 cm. $3 25 567

Contents. History of the slide rule. Theory and operation of the Mannheim slide rule. Modified forms of the Mannheim rule and their use. Typical problems and slide rule settings. Exercises and answers.

Note. In this long-established book, instructions are given in simple language for the use of all standard forms of the slide rule. The history of the slide rule is outlined as background material. Numerous worked examples are included in the other chapters, and a varied selection of exercises and problems, with the answers given, is included for the reader. The book is well suited to use as a self-instruction guide.

UNITED STATES NATIONAL BUREAU OF STANDARDS

Computer development (SEAC and DYSEAC) at the National Bureau of Standards, Washington, D C. Washington, D C Government Printing Office, 1955 146 p. illus. 27 cm (United States National Bureau of Standards Circular 551) $2 00 568

Contents: Introduction by S. N Alexander. SEAC, by S. Greenwald and others. Dynamic circuitry techniques used in SEAC and DYSEAC, by R. D Elbourn and R. P Witt. DYSEAC, by A. L. Leiner and others. System design of the SEAC and DYSEAC, by A. L. Leiner and others. High-speed memory development at the National Bureau of Standards, by R. J Slutz and others. Input output devices for NBS computers, by J L. Pike and E. F Ainsworth. Operational experience with SEAC, by J. H. Wright and others. SEAC—review of three years of operation by P. D. Shupe, Jr., and R. A. Kirsch.

Note. The first major contribution of the NBS to the development of electronic computing machinery came with the completion of the SEAC (Standard Eastern Automatic Computer) in May 1950. This circular tells of the historical development and the accomplishments to date of the SEAC and of the newer computer the DYSEAC. Development, design, construction, and maintenance of computer equipment are covered.

ASTRONOMY

GENERAL

ABBOT CHARLES GREELEY

The earth and the stars. Second edition. New York D Van Nostrand Company Inc., 1946. 288 p. illus. 24 cm. $5 75 569

Contents: Part I. The mighty universe. The heavenly bodies and their greatest enigma. The constellations. Numbering the stars. How far away are the stars? Motions of the heavenly bodies. What are the stars? Variable stars. Origin and future of the stars. Part II. Interesting astronomically related subjects. Atoms, spectra, and star radiations. The sun's family, the solar system. Our earth, and her neighbor the moon. Our star, the sun. The features of the sun and solar eclipses. Heat, weather, power and life from sun rays. The calendar, star places, and navigation. Some famous astronomers and famous instruments. Appendices. Index.

Note. One of the better examples of popularized scientific writing. Astronomy and the methods of astronomers are made fascinating for the intelligent general reader by judicious selection of topics and an avoidance of abstruse terminology rather than by devious "writing down."

ALTER, DINSMORE, AND CLARENCE H. CLEMINSHAW

Pictorial astronomy With recent advances. New York Thomas Y Crowell Company 1956 310 p. illus. 27 cm. $5 95 570

Contents (abridged): Section I. The sun. Section II. The earth. Section III. The moon. Section IV. Eclipses. Section V. The planets. Section VI. Comets and meteors. Section VII. Stars and nebulae. Section VIII. Miscellaneous. Revised and new data. Index.

Note. An outstanding popular introduction to astronomy written by the Director and Associate Director of the Griffith Observatory and based partly on articles which have been published in the *Griffith Observer.* Although illustrations are a feature, the volume is not primarily a collection of pictures, as the title might be taken to indicate. There is a considerable amount of informative text which is written in clear style. This text is supplemented by graphs and other line drawings printed on the text pages, and more than 30 plates. Most of the plates contain more than one illustration. The eighth section contains a chapter entitled "Recent astronomical advances," describing such new developments as radio astronomy.

BERNHARD HUBERT JAY AND OTHERS

New handbook of the heavens by Hubert J Bernhard, Dorothy A. Bennett, and Hugh S. Rice. Revised edition. New York Mc Graw Hill Book Company Inc., 1948 360 p illus. 21 cm. $4 95 571

Contents: Introduction to the heavens. Stars around the poles. Autumn and winter stars. Spring and summer skies. Stars of the southern sky. The planets. The moon. The sun. The comets. The meteors. The asteroids. Double and multiple stars. Variable stars. Star clusters and nebulae. Rainbows, aurorae, and other wonders. Units of the universe. Solar time. The art of navigation. Photography of the heavens. Use of the telescope. Astronomy for the traveler. Appendices. Glossary. Index.

Note. One of the better introductions to astronomy for young people and amateur astronomers. It is written in a clear, interesting style and is generously illustrated with diagrams and photographs. New in this edition, whose other chapters have been but very slightly revised, are the chapters on solar time, the art of navigation, and astronomy for the traveler. Five of the [illegible] appendices are newly added.

BOK BART JAN AND PRISCILLA F BOK

The Milky Way Second edition. Cambridge, Mass. Harvard University Press, 1945 224 p illus. 22 cm. (The Harvard books on astronomy edited by H. Shapley and B J Bok) 572

Contents: Presenting the Milky Way. How an astronomer attacks the problem. The sun's nearest neighbors. Reaching out—the system takes shape. The whirling galaxy. Bright and dark nebulae. The interstellar gas. The general haze. Men at work. Explorations in space. How old is the Milky Way? Postscript. Index.

Note: A semi-popular account of present-day knowledge regarding the Milky Way and of the methods and instruments which have made this knowledge possible. The dust and gas in the vast spaces between the stars, the compositions and dimensions of star clusters, and the problems related to the past and future of our galaxy are discussed. Among the many illustrations are two large-scale photographic maps of the Milky Way, second photographs made with Schmidt cameras, and portraits of the leading scientists in the field. A third edition, 269 p., $5.50, was published in 1957.

FROST GEORGE EDWIN

Planets stars and atoms. Caldwell, Idaho The Caxton Printers, Ltd. 1939 287 p illus. 23 cm. $3 75 573

Contents: Introductory. The universe. The telescope. The spectroscope. Photography. Our solar system. The sun. Mercury. Venus. The earth. The moon. The tides. Mars. Minor planets. Jupiter. Saturn. Uranus. Neptune. Pluto. Comets. The stars. The Milky Way. Distant nebulae. External galaxies. Space. Theory of the universe as an enclosed sphere. Do other planets exist? The microscopic universe. Molecules. Atoms. Matter and energy. Ether, empty space and gravitation. The theory of relativity. Radiation. Light. Color. Sound. Universal motion. Other worlds. The sky maps. Appendix: definitions and facts for handy reference. Index.

Note: A summary of the rudiments of astronomy and related sciences, intended as a handy reference book for the use of teachers of elementary schools, as well as a semi-popular account for the layman. Included are six maps of the northern sky for the months of January, March, May, July, September, and November, plus a glossary of facts and terms for readers not generally familiar with scientific terminology. There are 34 photographs and drawings.

HARVARD UNIVERSITY OBSERVATORY

Centennial symposia. December 1946 Cambridge Mass. Published by the Observatory 1948 385 p. illus. 23 cm. (Harvard Observatory monographs. No. 7) $5 00 574

Contents: Preface, by Harlow Shapley. I. Symposium on interstellar matter: Interstellar absorption in our own and other galaxies, by J. Stebbins. Color effects in reflection nebulae, by C. Schalén. Lines in diffuse nebulae, by J. L. Greenstein. Surface photometry of line emission in nebulosities, by J. G. Baker. Dimensions and masses of dark nebulae, by B. J. Bok. Evolution and physics of solid particles, by H. C. van de Hulst. The formation of cosmic clouds, by L. Spitzer Jr. Kinetics of cosmic clouds, by F. L. Whipple. II. Symposium on electronic and computational devices of interest to astronomers. The adaptation of photoelectric devices to the properties of the electron, by D. E. Kerr. Infrared detectors and their astronomical applications, by A. E. Whitford. Electronic and electromagnetic measuring, computing and recording devices, by W. J. Eckert. III. Symposium on eclipsing variables: The royal road of eclipses, by H. N. Russell. Spectrographic studies of eclipsing binaries, by O. Struve. The spectrophotometric determination of relative luminosities of components in two-spectra binary systems,

by E. M. Petrie. The relative frequency of low luminosity eclipsing binaries, by H. Shapley Some unsolved problems in the theory of eclipsing variables, by Z. Kopal. IV Symposium on the gaseous envelope of the earth: The solar corona and ultraviolet radiation by L. Goldberg and D H. Menzel. The sun and conditions in the upper atmosphere, by F L. Whipple. Solar activity the ozone layer and the lower atmosphere, by B Haurwitz. Solar activity and the general circulation of the lower atmosphere, by H. C. Willett. Index.

Note A collection of papers which were presented at four symposia held in honor of Harvard University's 100th year of active astronomical research. The symposia were held under the auspices of the American Astronomical Society Most of the papers were written by professional astronomers, and they are addressed to graduate workers in the science. They are accompanied by short lists of pertinent literature, and there is a general index to the entire volume.

Lee Oliver Justin

Measuring our universe, from the inner atom to outer space New York The Ronald Press Company 1950 170 p illus 22 cm. $3 25 575

Contents The romance of distances. How our units of distance developed. Precision measuring machines. The magic of light waves. Man lives by parallax. Distance to the sun—yardstick of the gods. Our little solar system. Accuracy is like the flavor of exotic wines. Private interviews with stars. Spectra yield the distances of stars. Michelson plays with light. Cepheid variables tell more secrets. The giant reflector of Palomar: the Hale telescope. Thinking it over Appendix. Index.

Note In this interesting book the author tells how units of measurement were evolved, conveys an idea of the importance of precision measurement, and describes the techniques that are used by scientists in making precise measurements. Most of his text pertains to measurement in astronomy but the book has appeal beyond the areas of this field. Lay readers of science should find it interesting, whether or not they are interested in astronomy The book replaces the author's *Beyond yonder* Boston 1930 and it contains much material not in that work.

Makemson, Maud (Worcester)

The morning star rises an account of Polynesian astronomy Published for Vassar College. New Haven Yale University Press, 1941 301 p illus 23 cm $5 00 576

Content List of illustrations. Foreword. Stars of the sea road. The origin of heaven and earth. The cycles of the stars and moon. Omens in the sky Myths of the sun and moon. The sky children. Stars of the south seas. The astronomical school. Table I, Identification of stars and constellations. Table II, Names of months. Bibliography Index.

Note This is an investigation of the astronomical practices, knowledge and beliefs of the Polynesians as expressed in their method of navigation calendrical system, ideas on cosmogony and myths of the sun, moon, and stars.

Mayall, Robert Newton, and Margaret L Mayall

Skyshooting hunting the stars with your camera. New York The Ronald Press Company 1949 174 p illus. 24 cm $4 00 577

Content Looking it over Star trails. Aurorae. Meteors. Stars. Variable stars—new stars—comets. Clusters and nebulae. The sun. The moon. The planets. *Fun for the family* Plates and films, developing, printing, enlarging. Sidereal (star) time. Mountings with mechanical drives. How to use the setting circles. Keeping records. Appendix. The library Index.

Note An excellent book on a subject which has seldom been treated from the standpoint of amateur photographers or astronomers. Considerable point is made of the fact that expensive photographic equipment is not essential. Only about 15 pages are devoted to discussions of cameras, film, and related photographic apparatus. The remainder of the book deals with the categories of astronomical objects which are available for photographing, and with the simpler techniques of star photography which are within the reach of most amateurs. The junior author is on the staff of the Harvard College Observatory

Olcott, William Tyler

Olcott's Field book of the skies. Revised by R. Newton Mayall and Margaret W Mayall. Fourth edition. New York G P Putnam s Sons, 1954 482 p illus 18 cm. $5.00 578

Content Why study astronomy? Fundamentals. How do we know? How to use this book. The constellations—of spring—of summer—of autumn—of winter The solar system. The Milky Way The small telescope. Historical events. The names of the stars and their meanings. Appendices. Index.

Note An elementary reference book designed particularly for the information and guidance of beginners and amateurs who are interested in the identification and observation of the planets and visible stars and in having a general basic knowledge of astronomy It is small enough to be carried conveniently in the field during observations. Considerable space is given to the sky charts and diagrams of the constellations and the face of the moon. Sky charts and constellation diagrams are based on Latitude 40 N for the four seasons of the year Separate diagrams are provided for observations with the unaided eye or field glass and for observations with a small telescope. A chronological table of developments in astronomy information on mythology of the heavenly bodies, and a list of variable stars are among the miscellaneous reference information included. The third edition was published in 1938. In this fourth edition, among other changes, the pages numbered "401A–405P" in the third edition have been deleted, the chronology has been carried through 1953 and diagrams have been re-drawn.

Pfeiffer, John

The changing universe, the story of the new astronomy New York Random House, 1956 243 p illus 23 cm. $4 75 579

Contents Broadcasts from space. Exploring the radio sky Tuning in on the stars. Listening to the solar system. The sun in action. Among the constellations. Beyond the Milky Way Mapping new skies. Mysterious signals. Raw material of the universe. Exploring our galaxy Inside the spiral arms. Radio astronomy The future. Index.

Note A well-written survey of radio astronomy for lay readers. Both the techniques and the potentialities of this new branch of astronomy are described. The author is an eminent science journalist, and the book is an outstanding example of popular yet authoritative science writing. It is based on interviews and correspondence with professional astronomers and visits to astronomical observatories, as well as the published literature. Unfortunately it contains no literature references or guides for persons whose interest in the subject is aroused to the point where they wish to read further

Pickering James Sayre

The stars are yours Revised edition New York The Macmillan Company 1953 298 p illus 21 cm. $3 95 580

Note A miscellany of information regarding the sun, planets, and other units of our solar system, and the stars. It is addressed to laymen and amateurs who are beginning the study of astronomy The greater part of the volume consists of 15 charts of those stars of the northern hemisphere which are visible to the naked eye. Each chart is accompanied by descriptions of the size and position of the constellations and the stars represented in them and an indication of the dates when they may be most readily observed. The appendix contains such information as the meanings of star names, tabulation of star magnitudes, a survey of the constellations of the southern skies, and a bibliography of books for further reading. The first edition was published in 1948

Rufus Will Carl, and Hsing-Chih Tien

The Soochow astronomical chart. Ann Arbor University of Michigan Press 1945 24 p illus. 29 × 28 cm. (obl) $5 00 581

Contents Introduction. Translation of the text. The star map. Tables I–IX, with translations and explanations.

Note The chart named in the title of this book is one of several stone engravings made in the 13th century in the Wen Miao temple (Confucian Temple of Literati) near Soochow Kiangsu, China. In

this volume, the chart and the accompanying text are reproduced from rubbings; translation of the text is given; and there is discussion of the star map, which is shown to have been devised for astrological rather than astronomical purposes.

STERNE MABEL

Directory of the astronomical observatories in the United States. Ann Arbor J W Edwards, 1947 162 p. illus. 21½ cm. $3.00. 582

Contents: Observatories other than those of astronomical societies. Observatories of astronomical societies. Addenda. Geographical list (index). Observatories of the near future.

Note: For each observatory college, university, group-owned, or private, the compiler gives the name, location, and ownership, plus brief statement, where possible, describing the equipment used, the type of housing, date of construction, and the principal uses of the observatory. Photographs of many of the observatories are included. The book is intended for both professional and amateur astronomers. A list of principal sources from which the compilation was derived is provided.

UNITED STATES. NAVAL OBSERVATORY NAUTICAL ALMANAC OFFICE

The American ephemeris and nautical almanac for the year 1958. Washington, D C. Government Printing Office 1956 593 p. 26 cm. $4.00. 583

Contents (abridged): Introduction. Calendar. Amplitudes and latitudes. Chronological eras and cycles. Astronomical constants. Sun, moon, planets. Stars. Eclipses and occultations. Physical ephemerides. Satellites. Miscellaneous tables. On the arrangement and use of *The American ephemeris and nautical almanac*. General index.

Note: As official compilations issued annually and comparable in scope and purpose to nautical almanacs issued by other leading nations of the world. The data presented are useful in navigation, survey astronomy etc.

WHIPPLE FRED L. editor

New horizons in astronomy Washington, D C. Government Printing Office 1956 181 p. illus. 26 cm. (Smithsonian Institution. Smithsonian contributions to astrophysics. Vol. 1 no. 1) $1.50 584

Contents: Techniques and instrumentation Optics, by J. S. Bowen. Solar instrumentation, by J W Evans and R. B. Dunn. Astronomical seeing and scintillation, by G. Keller. Spectroscopy by C. E. Moore. Radial velocities, by R. M. Petrie. Astrometry by K. A Strand. Photoelectric astronomy by A. E. Whitford. Interferometers in radio astronomy by B. F Burke and M. A. Tuve. Related sciences. Rocketry by R. Tousey. Computing machines in astronomy, by P Herget. Turbulence, by S. Chandrasekhar. Astroballistics, by R. N. Thomas. Electrodynamics of fluids and plasmas, by M. Krook. Hydromagnetic and plasma problems, by E. N. Parker. Solar system. Earth's magnetism, by W. M. Elsasser. Time, by W. Markowitz. Geographical positions, by J. A. O'Keefe. Celestial mechanics, by G. M. Clemence. Meteorites, by J. S. Rinehart. Meteors, by F. L. Whipple. Minor planets, by P Herget. Planets, satellites, and comets, by G. P. Kuiper. Airglow and aurora, by A B Meinel. Solar-terrestrial relationships: weather and communications, by W O Roberts. Solar physics, by L. Goldberg and D. H. Menzel. Stars and the galaxy. Spectral classification, by W. W. Morgan. Stellar atmospheres, by M. H. Wrubel. Aerodynamic problems in stellar atmospheres, by R. N. Thomas. Emission nebulae, by L. H. Aller. Double and multiple stars, by O Struve. Stellar dynamics, by D Van Woerkom. Variable stars, by C. Payne-Gaposchkin. Interstellar matter, by L. Spitzer, Jr. Hi astronomy research, by R. J. Bok. Some observational problems in galactic structure, by H. Weaver. Galactic clusters and associations, by A. Blaauw. Globular clusters observed through ... crystal ball, by W. A. Baum. Stellar structure and evolution, by M. Schwarzschild. Radio sources, by J. D. Kraus.

Note: A series of papers on the results of recent astronomical research published with two purposes in view: to provide material that might assist the National Science Foundation to support the research most likely to be productive; to help younger astronomers choose the most fertile fields for active research; to encourage established astronomers to pause and reflect on the most [illegible] progress in their own fields of research and to supply them with broader insight into the activities in other fields of astronomy possibly related to their own; and to encourage research in new or neglected fields of astronomy, particularly those that border on other areas of physical science such as geophysics, chemistry and fluid dynamics. The papers are accompanied by brief lists of references.

TEXTBOOKS

BAKER, ROBERT H

Astronomy a textbook for university and college students. Sixth edition. New York D Van Nostrand Company Inc., 1955 528 p. illus 24 cm $6.25 585

Contents: Introduction. Aspects of the sky. The earth in motion. Time and its uses. Light and the telescope. The moon. Eclipses of the moon and sun. The solar system. The other planets. The solar system. The sun. The stars. Variable stars. Binary stars. Stellar atmospheres and interiors. Star clusters. Interstellar dust and gas. The galactic system. The exterior systems. Reference books. Index.

Note: A standard textbook, the first edition of which was published in 1930 and the fifth edition in 1950. It is used primarily in introductory courses in colleges, and only an elementary knowledge of physics and mathematics is required for comprehension of it. Although the purpose, scope, and arrangement of this sixth edition are essentially the same as in recent previous editions, important revisions have been made in many of the chapters. These cover not only such relatively new developments as radio astronomy but also the revisions in the dimensions of the universe and other astronomical values made necessary by recent advances based on such new instruments as the 200-inch Hale telescope and the radio telescope. A few recent books have been added to the selected bibliography.

DUNCAN JOHN CHARLES

Astronomy a textbook. Fifth edition. New York Harper & Brothers, 1955 500 p. illus. (part col'd) 24 cm. $6.00 586

Contents: Introduction. The celestial sphere. Optics of the telescope. The earth and the sky. Celestial navigation. The orbital motion of the earth. The moon. Eclipses of the sun and moon. Spectroscopy. The sun. The scale of the planets. The law of gravitation. The planets. Meteors and comets. Theories of the evolution of the solar system. The stars—their classification, distances, and brightness. The motions of the stars. Physics of the stars. Stars of varying brightness. Star clusters and nebulae. The galactic system. Beyond the Milky Way. Tables. Index.

Note: Used in its various editions for more than 40 years as a textbook in college courses, this work provides a broad and informative introduction to descriptive astronomy. It conveys the principal scientific facts on the topics in astronomy named in the chapter titles listed above. In addition, the types of telescopes and their scientific principles are explained. The style in which it is written assumes on the part of the reader some acquaintance with basic physics and enough scientific maturity to enable the comprehension of a text in which technical terms are used freely. The little mathematics is elementary. The tables collected at the end of the volume contain basic data on such matters as the orbits of the planets; characteristics of the sun, moon, and planets; wave-lengths of spectral lines; and the brightest stars. The fourth edition was published in 1944. In this fifth edition the organization and scope are unchanged, but information has been added on such topics as radio astronomy.

FATH EDWARD ARTHUR

The elements of astronomy a nonmathematical textbook for use as an introduction to the subject in colleges, universities, etc., and for the general reader. Fifth edition. New York McGraw Hill Book Company Inc., 1955 369 p illus. 24 cm. $5.50 587

Contents: Introduction. The celestial sphere. The earth. Light. The telescope. The moon. Problems in practical astronomy—the calendar. Gravitational astronomy. The sun—our nearest star. Eclipses. The planetary system. The terrestrial planets and asteroids.

The major planets. Comets and meteors. The stars. Number and arrangement of the stars. Other members of the galactic system. Interstellar matter Structure of the galaxy Other galaxies. The structure of the visible universe. Cosmogony—a study of the origins. Appendix. Name index. Subject index. Star charts.

Note This book has been used for many years as an introductory text in colleges and as a reading and reference book for laymen. It covers in an interesting and lucid style a wide sweep of facts about astronomy Not all the facts presented are simple ones for instance, there is considerable discussion of the motion of the stars however all are discussed without resort to mathematics and in such a way that most readers will have little difficulty in understanding what the author says. The fourth edition was published in 1944 In this fifth edition the book has been given a new and more attractive format there are a new chapter many new illustrations, and very extensive revisions of several of the carried-over chapters.

Fisher, George Clyde, and Marian Lockwood

Astronomy New York John Wiley & Sons Inc., 1940 205 p illus 22 cm (The sciences a survey course for colleges edited by Gerald Wendt) $3 75 588

Contents The earth and the sky The moon. The sun. The other planets. Comets and meteors. Astronomical instruments. The stars. Variable stars, double stars, and clusters. Our Milky Way and other galaxies. The constellations. Bibliography Glossary Index.

Note A short informative survey of the earth as an astronomical body of the solar system and the relations of its members to each other and their places in the universe. The moon, sun, planets, comets, meteors, stars, and galaxies are all treated in easy informal style together with their motions and celestial events. Astronomical terms are defined in simple language Astronomical instruments are described to show their function in establishing facts. The book is understandable to the layman and gives him familiarity with the sky as well as an understanding of the structure of the universe.

Herget, Paul

The computation of orbits Cincinnati The author, 1948 177 p illus 28 cm $6 25 589

Content Introduction The calculus of finite differences. Problems in spherical astronomy The problem of two bodies. The method of Laplace. The methods of Gauss and Olbers. Improvement of the orbit. Special perturbations. Hansen method of general perturbations. Tables. Index.

Note Although designed as an introductory textbook, this work provides a detailed presentation of modern methods for the computation of orbits, especially the orbits of minor planets and, in addition seven useful tables, hich include an optimum interval" table which gives $1/r^3$ with the argument r^2 and has been made for use with calculating machine. In fact, throughout the book the uthor has assumed that the computations will be largely carried out on a calculating machine of the desk type. Readers are presumed to have had courses in differential and integral calculus. The chapter on the calculus of finite differences is introductory The uthor is Professor of Astronomy in the U iversity of Cincinnati and director of the Cincinnati Observatory

Kroogdahl Wasley Sven

The astronomical universe an introductory text in college astronomy New York The Macmillan Company 1952 599 p illus 24 cm $6 50 590

Content Introduction Part I, The solar system How the system behaves. Earth and sky The moon. The planets. The lesser bodies of the solar system. Part II, The anatomy of star The sun. Part III The stellar population How do we know? The vital statistics of the normal stars. The peculiar stars. Part IV The organization of the universe The Milky Way galaxy All else. Part V The evolution of the universe Beginnings and endings. Appendixes The constellations. The magnitude system. Telescopes and observatories. Bibliography Index. Star maps.

Note A textbook designed chiefly for college students who take a course in astronomy for its cultural rather than professional value. As might be expected, it contains no advanced mathematics. In fact, little mathematics of any kind. Nevertheless the author has succeeded well in describing the general content of astronomy showing how astronomers arrive at their principal deductions, and in conveying a picture of the nature and complexities of the universe. The 275 illustrations include reproductions of some remarkable photographs taken at the Mt. Wilson-Palomar Observatory and other observatories.

Payne Gaposchkin, Cecilia

Introduction to astronomy Englewood Cliffs N J Prentice Hall, Inc., 1954 508 p. illus 23 cm (Prentice Hall physics series Donald H Menzel, editor) $6 75 591

Contents Introduction—the dawn of astronomy The earth. Tools and methods. The sun. The moon. Eclipses and tides. The solar system. The planets. The lesser bodies of the solar system. Evolution of the solar system. Introduction to stellar astronomy Stars—geometrical properties. Physics of the stars. Variable stars. Stellar groups. Stellar systems. Systems of galaxies. Evolution. Appendixes Physical constants and units employed. The constellations. Problems. Index.

Note A well-written descriptive introduction to astronomy It is directed to lay readers and to college students making their first and possibly only contact with the subject. Although it is an "easy" text, it is packed ith information. There is somewhat more emphasis on the stars and somewhat less on the earth and solar system than in some cultural-type textbooks. There is an abundance of illustrations, but no literature references.

Russell, Henry Norris, and others

Astronomy a revision of Young's Manual of astronomy By Henry Norris Russell Raymond Smith Dugan, and John Quincy Stewart. Boston Ginn and Company, 1945–55 2 v illus. (part col d) 23 cm $6 00 per vol. 592

Content Volume I. The solar system Astronomical systems of measurement. Astronomical instruments. Problems of practical astronomy The earth as an astronomical body The orbital motion of the earth. The moon. The sun. Eclipses. The planets in general. Celestial mechanics. The terrestrial and minor planets. The major planets. Comets and meteors origin of the solar system. Appendix Numerical data. Index to names. Index to subjects. Volume II, Astrophysics and stellar astronomy The analysis of light. The solar spectrum. The sun's light and heat. Atomic theory and astrophysics. The stars. The motions of the stars. Double stars. The luminosities, temperatures, and diameters of the stars. Variable stars. Star clusters and the Milky Way The nebulae The constitution of the stars. The evolution of the stars. Supplement. Appendix. Name index. Subject index.

Note For many years standard textbook for college courses, although now out of date in part. It presents in lucid style a broad and fairly detailed view of accumulated knowledge, instruments and techniques before recent developments such as radio astronomy The revision of the first volume, published in 1945 was carefully done. Although the second volume bears 1955 copyright date this represents renewal of the original copyright. The latest revision of the second volume was published in 1938 even the new information was not incorporated in the text but, for the most part, was presented in supplementary pages

Skilling, William Thompson, and Robert S Richardson

Astronomy Revised edition New York Henry Holt and Company 1947 692 p illus (part col d) 22 cm. $6 50 593

Contents The purpose of astronomy The earth in astronomy Locating stars on the celestial sphere. Time and the calendar Celestial navigation. The astronomer's equipment and its use The solar system. The moon. Eclipses of the un and moon The tides. Light, atoms, and spectrum lines. The sun considered as star The terrestrial planets. The major planets. Comets and meteorites Star distances. Differences among the stars. The real motions of stars. The source of stellar energy Galactic nebulae and other interstellar material. Galaxies. Appendix Index Star maps.

Note A well-written and straightforward introduction to the elements of astronomy prepared for first-year college courses in

the subject whose purpose is cultural rather than technical. The extensive rearrangement and rewriting of much of the material in this edition is based on recommendations of teachers who have used the book. New chapters discussing the purpose of astronomy and the methods of celestial navigation have been included, the sections dealing with the physical nature of the sun and planets and the source of stellar energy have been expanded, and several star maps have been added.

TRUMPLER, ROBERT J AND HAROLD F WEAVER

Statistical astronomy Berkeley University of California Press, 1953 644 p. illus. 26 cm. $7.50 594

Contents (abridged) Part I: Elements of statistical theory. Univariate distributions. Bivariate and multivariate frequency functions. Integral equations of statistics. General theory of samples. Estimation of statistical parameters. Testing hypotheses. Part II. Statistical description of the galactic system—general analysis. Observational data. Partial solutions of the galactic distribution problem. Part III. Stellar motions in the vicinity of the sun. Sample population and co-ordinate systems. Principal hypotheses concerning local velocity distribution. Studies based on space velocities. Analysis of radial velocity data. Analysis of proper motion data. Statistical determination of stellar distances from proper motions and radial velocity data. Part IV. Luminosity—spectral type distribution. General studies of stellar populations. Luminosity law in the vicinity of the sun. Luminosity—spectral type distribution in the vicinity of the sun. Part V. Space distribution of stars. Determination of the space density law when interstellar light extinction is neglected. Extinction of light in interstellar space. Analysis of star counts according to apparent magnitude when interstellar extinction is present. Studies of the space distribution of stars based on magnitudes, spectral types, and color indices. Part VI. Galactic rotation. Differential effects of galactic rotation. Peculiar motions of stars in the solar neighborhood. Appendix: Tables A1—A10. Index of names. Index of subjects.

Note The first part of this work—which accounts for approximately one-third of the book's total length—is essentially an introduction to statistics for students who are preparing for careers in astronomy. The remaining parts illustrate the application of statistical techniques to the study of the structure, constitution, and dynamics of our galactic star system. In these parts, the data available in star catalogues and other publications for statistical analysis are indicated, and the applications of statistical techniques to various kinds of star studies are explained, with numerous specific examples worked out in detail. Helpful annotated bibliographies are included at each section. The authors are members of the faculty of the University of California.

VAN DE KAMP PETER

Basic astronomy New York Random House, Inc., 1952 400 p. illus. 21 cm. $3.75 595

Contents (abridged) Part I. A survey of the solar system. Sky and telescope. Matter and light. Sun, earth and moon. The planetary system. Part II. The mechanics of stars and planets. The earth as observational center of the universe. Motions of the planets as viewed from earth and sun. The motions of the stars. The mechanics of double stars. Kepler's laws of planetary motion. Newton's law of gravitation. The masses of earth, sun, moon, planets, and stars. Part III. The physical-chemical properties of sun and stars. The composition of starlight. The nearest stars. Atomic structure and radiation. The atmospheres of sun and stars. The interiors of sun and stars. The source of solar and stellar energy. Part IV. The Milky Way system and beyond: The arrangement of the stars—the galactic system. Interstellar matter and the dimming of starlight. Patterns of stellar motions. The galactocentric viewpoint. The rotation of the galactic system. The extragalactic objects. A selected bibliography. Index.

Note An introductory survey that is so written and organized that it may be used either as a text in college courses or as a source of information for general readers. Not a "popular" astronomy in the sense that the wonders of astronomy are stressed, it is nevertheless a book that can be used by mature readers without the aid of an instructor. The bibliography includes books only and is intended for students and general readers who wish to pursue the subject by themselves. The author is Professor of Astronomy at Swarthmore College and Director of the Sproul Observatory.

WILLIAMS KENNETH POWERS

The calculation of the orbits of asteroids and comets. Evanston The Principia Press of Illinois 1934 214 p. illus. 26 cm. $4.00. 596

Contents: Astronomical coordinates. Interpolation. The problem of two bodies. The position in the orbit. The equation of Gauss. Correction. Intermediate elements. The method of Laplace. The method of Gauss. The method of Olbers. The construction of an ephemeris. Appendix. Bibliography. Index.

Note A treatise intended to acquaint students of advanced college mathematics with the problem of orbit computation, which historically is one of the most important problems the mathematician has solved, having significance not only for astronomy but for science in general. The basic theory as developed by Euler, Lagrange, Laplace, and Gauss is outlined as simply as the material will permit, and only fundamental methods and procedures are considered. There are numerous exercises to give the student familiarity with the nature of the problem although the many questions which may arise in orbit work are not covered except briefly. References are however made to books and periodicals where more information can be found. Machine computation dominates the book, but logarithmic calculations are not needed. Intended mainly for the student of mathematics who has no expectation of specializing in the subject of orbit computation, but useful for the student of astronomy as well.

INSTRUMENTS

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

Astronomical photoelectric photometry A symposium presented on December 31 1951 at the Philadelphia meeting of the American Association for the Advancement of Science. Edited by Frank Bradshaw Wood. Washington, D C. American Association for the Advancement of Science 1953 141 p. illus 23 cm. $3.75 597

Contents: The use of direct-current techniques in photoelectric photometry of stars, by A. P. Linnell. Alternating-current techniques and sources of error in photoelectric photometry of stars, by J. S. Hall. The use of pulse-counting techniques in photoelectric photometry of stars, by W. Blitzstein. Photoelectric installation of the Observatoire de Haute Provence, by A. Lallemand. Photoelectric installation at the Observatoire de Haute Provence, by F. Lenouvel. The performance of two pulse-counting stellar photometers, by R. O. Redman and G. G. Yates. On the use of servomechanisms in photoelectric photometry of stars, by T. Walraven. Limits of sensitivity and precision attainable by photoelectric methods—critical summary and comparison of various techniques, by A. E. Whitford.

Note Problems of instrumentation and techniques of astronomical photoelectric photometry are discussed in this volume. The authors are members of the scientific staffs of various observatories in the United States of America and other countries and, generally speaking, they addressed themselves to graduate astronomers and other scientists with similar problems. The individual papers are very technical. All but one include bibliography references, and the bibliography appended to the first paper runs to [illegible] citations.

INGALLS ALBERT G., editor

Amateur telescope making. With contributions by R. W. Porter and others. With a foreword by Harlow Shapley New York Scientific American, Inc., 1935 499 p. illus. 20 cm. $5.00 598

Contents (abridged) Mirror making for reflectors. Making the mounting. 100-foot sun telescope. Finding celestial objects. Telescope housings. The prism or diagonal. Optical flats. The Cassegrainian. Making eyepieces. The amateur's workshop. Tools and materials—grinding. Foucault test. Polishing. Figuring. The paraboloid—zonal testing. Silvering. Mounting the mirror. Mounting the tube. The [illegible]. Motor drive. Grinding and polishing

machines. Telescope oculars. Astronomical oculars. Solar phenomena. Compound telescopes. Flotation systems—machine polishing. Making astronomical flats. Celestial photography Ronchi test. Simple clock drive. Index.

—— Amateur telescope making, advanced A sequel to Amateur telescope making New York Scientific American, Inc, 1944 650 p illus 20 cm $6 00 599

Contents (abridged) Part I, Having to do with the construction of optical instruments Mirror making. Metal mirrors and flats. Prisms, flats, mirrors. Small lenses. Metal parts. The refractor Telescope drives. Springfield mounting. The Schmidt camera. A precision clock. Micrometers. Part II, Having to do with some of the more practical aspects of observing· Uses for telescopes. Meteor photography Stellar photography Eclipse photography Atmosphere, telescope and observer The richest-field telescope. Index.

—— Amateur telescope making (Book three) A sequel to Amateur telescope making (Book one), and to Amateur telescope making advanced (Book two) Albert G Ingalls, editor Contributions to amateur precision optics by advanced amateurs and professionals. Revised edition. New York Scientific American, Inc., 1956 644 p illus 20 cm $7 00 600

Contents (abridged) Optical systems for astronomical photography High vacuum equipment. The design and construction of five-foot Wadsworth type grating spectrograph. Thermal effects of observatory paints. Optical flats. Lens production. A spherometer for measuring radii of curvature of small strongly curved surfaces. A reflecting autocollimator for precise measurement of prism angles. The separation of abrasives on a laboratory scale. Plates and films for astronomical photography Autocollimation test for Schmidt cameras. The construction of a Schmidt camera. The interference polarizing monochromator. Telescope eyepieces. On computing the radii of an achromatic objective. A Herschel telescope with correcting lens. Editor's chapter Index.

Note. Each of these books is essentially compilation of articles from journals and other short writings written by various persons and at various times. The first one was devoted entirely to telescope making and was addressed primarily to dedicated amateur astronomers. Although telescope making is the principal subject of the second and third collections, there has also been a shift toward the making f optical instruments in general. Together the books cover wide range of information on scientific principles, standard techniques, and ingenious methods and ideas. Some of the material is of interest to professional opticians as well as to amateurs.

ROSEN, EDWARD

The naming of the telescope. Foreword by Harlow Shapley New York Henry Schuman, 1947 110 p illus 19 cm $2 50 601

Contents: Foreword by H. Shapley The statement of the problem. The attribution to Cesi. First witness for Cesi John Baptist Della Porta. Della Porta's letter of attribution. Second witness for Cesi. John Faber The unveiling of the term telescope. Cesi's own testimony "Nostro telescopio." Jerome Sirturi. Julius Caesar Lagalla. The attribution to Demisiani. John Demisiani. Was Cesi the true author of Faber's attribution? Conclusions. The growth of the rival traditions. Joseph Biancani and the origin of the term cannocchiale. Abbreviations. Notes. Index.

Note When in 1610 Galileo was first writing about the newly invented device for viewing distant objects, he used the Latin terms organum instrumentum, perspicillum, or the Italian occhiale. Some of his countrymen employed the latter· others preferred cannone from which was evolved the combination cannocchiale But all these designations were promptly superseded by new and more distinctive word from the Greek, telescopio, which was adopted by Galileo and which has been variously attributed to him and to others. The question of who originated the word is the subject of the present study It is a story of conflicting claims which the author has evaluated by much research into books and correspondence dated three and one-half centuries ago.

WOODBURY, DAVID OAKES

The glass giant of Palomar With 50 drawings by the author and sketches by Russell W Porter Revised and enlarged edition New York Dodd, Mead and Company, 1953 385 p illus. 24 cm $5 00 602

Contents (abridged) Part I, Ancestry· Jules Verne becomes pilot Design for genius. The world's largest—1900. Mohammed to the mountain. The sun and the stars. Reflector or refractor? The 100-inch telescope. What next? Part II, The giant is born Another voyage begins. The men. What kind of mirror shall we have? Fused quartz. Faith, hope and Pyrex. Bringing up the rear Big glass. Anything may happen. Pyrex behaves. Part III, The giant is reared Paper telescopes. A million pounds of glass and steel. Palomar Westward ho! Fire and steel. On the mountain. Men after glass. Twenty-one men in white. In the optical shop. A martyr to the cause. Part IV The voyage begins. In the giant's bosom. Science and the citizen. Whither among the stars? Open seas ahead. Whither the reader?

Note A popular account of the construction of the 200-inch reflecting telescope from its inception and design in 1928 to the completion f the mount in 1939 including related discussions on the theory of telescope design, the difficulties encountered in pouring the mirror and the story of the men behind its construction. Told in journalistic style with a considerable amount of dialogue and anecdote. There is a list of 10 books for further reading for the layman.

WRIGHT, HELEN

Palomar, the world's largest telescope. With an introduction by Ira S Bowen. Illustrated by Milford Zornes. New York The Macmillan Company, 1952 188 p 20 cm. $3 75 603

Contents Prologue. Origin of the telescope. Birth of the telescope. Palomar Mountain. A 200-inch mirror. Telescope and dome. Dedication of the Hale telescope.

Note Described in this small book is the human adventure of designing and building the great Hale telescope of the Palomar Observatory The first chapter 32 pages long, outlines the history of the telescope in general. The remainder of the book is devoted exclusively to the Hale telescope. The story is covered from the conception of the telescope by the astronomer John E. Hale to the dedication of the completed instrument. It is told in personalized style in such sentences as the following· "Six months later as they prepared to cast the 200-inch, he wrote to Hale: 'The fact remains that this disk in all its details is whale! Every detail of the process is on a scale so much larger than anything heretofore attempted that the setup is already somewhat appalling to contemplate.' The book is designed for general reading, and scientific details are described insofar as is possible in the common language.

ASTROPHYSICS

ALLER, LAWRENCE H

Astrophysics the atmospheres of the sun and stars New York The Ronald Press Company, 1953 412 p illus 23 cm. $12 00 604

Contents. Survey of the basic data. Atomic and molecular spectra. The gas laws and the equations of state, turbulence. Excitation, ionization, and dissociation. The emission and absorption of radiation. The radiation of the stars. The continuous spectra of the sun and stars. The Fraunhofer spectrum. Solar phenomena. Index of names. Index of subjects.

—— Nuclear transformations stellar interiors, and nebulae New York The Ronald Press Company, 1954 291 p illus. 23 cm. $12 00 605

Contents. Stellar interiors and nuclear transformations. Model stars. The cepheids and long-period variables. Stars with extended

envelopes, novae, and supernovae. The planetary nebulae. The interstellar medium. Index of names. Index of subjects.

Note: A co-ordinated treatment of the astrophysical knowledge that pertains to the atmospheres and interiors of the stars and to nebulae, stellar envelopes, etc. Basic physics, accumulated data, techniques of investigation and measurement are all given due emphasis. Considerable attention is given to showing relationships among the basic principles and accepted interpretations of the phenomena of stellar radiation. The books are organized as texts, with problems for students to solve and literature references for further reading; however, the treatment is on a graduate level, and they are equally useful to graduate scientists working not only in astrophysics but also in such fields as the investigation of radio wave propagation. The expository text includes examples of computation that show the applications of formulas and the solving of equations. A wide range of reference data is presented in tables. The volumes are well indexed.

ALLER, LAWRENCE H.

Gaseous nebulae. New York John Wiley and Sons, Inc., 1956 322 p. illus. 24 cm. (The international astrophysics series general editors M. A. Ellison and A. C. B Lovell. Volume III) $11.00. 606

Contents: Types of gaseous nebulae. Methods of observation. The distances, dimensions, and masses of the gaseous nebulae. Physical processes in gaseous nebulae. The forbidden lines. The stars that illuminate the gaseous nebulae. Structure and internal motions of the planetary nebulae. The diffuse gaseous nebulae. Name index. Subject index.

Note: An advanced-level text for the instruction of college students majoring in astronomy. It is suitable also for use as a reference book in libraries on astronomy. Its scope is indicated by the chapter titles listed above. The author has assumed that his readers will be familiar with elementary physics and astronomy and with the terminology and symbols used in professional astronomy. Some mathematical sophistication is also assumed. The chapters are all documented with references to the periodical literature, and in some instances the reference lists are extensive. The subject index is a detailed one. The author index includes the names of authors of the cited literature and makes it possible to use the book as a guide to the journal articles and the books pertaining to gaseous nebulae.

GAMOW, GEORGE

The creation of the universe. New York The Viking Press, 1952 147 p. illus. 22 cm. $3 5 607

Contents: Introduction. Evolution versus permanence. The great expansion. The making of atoms. The hierarchy of condensations. The private lives of the stars. Conclusion. Appendix. Index.

Note: The history and evolution of the universe is discussed in this book, which rounds out the author's trilogy that began with *The birth and death of the sun,* which was followed by *Biography of the earth.* A lively style and easily understood analogies make the subjects available to all educated readers in spite of a rather liberal use of technical terms. The book is an extreme popularization of very advanced data and theory, but it is scientifically accurate and will appeal not only to lay readers but also to scientists working outside their own fields.

HALL, JOHN SCOVILLE, AND A. H. MIKESELL

Polarization of light in the galaxy as determined from observations *of 551* early-type stars. Washington, D C. Government Printing Office 1950 62 p. illus. 29 cm. (United States. Naval Observatory Publications. Second series vol. XVII, part I) 608

Contents: Introduction. Method of observation. [illegible] polarizing refractor. Accuracy. The observations. Earth's atmosphere. Color check. Systematic differences. External agreement. List of observations. Summary of data. Comparison with observations of W. A. Hiltner. Dependence of data. Space distribution. Apparent magnitude. Galactic latitude. Color excess. Intensities. Distance. Angular separation. Visual observation. Stars of special interest. Absorption regions.

Note: Data collected in 1,314 measurements of 551 stars are presented in this publication in two principal tables, the first of which is composed of the individual observations and the second a summary of the data. The first-mentioned table identifies the star by number, gives the date of the observation, the position angle and the percent of polarization. The following table includes further information on space distribution, magnitude, spectra type, color excess, etc. The tabulated data are discussed and compared with the results from other observers in the final 17 pages of the pamphlet. The work is of interest to professional workers in astronomy and astrophysics.

HYNEK, JOSEPH ALLEN, editor

Astrophysics. A topical symposium commemorating the fiftieth anniversary of the Yerkes Observatory and a half century of progress in astrophysics. New York McGraw Hill Book Company Inc., 1951 703 p. illus. 24 cm. $14.00 609

Contents: Introduction. On the development of astrophysics during the last half century, by B. Strömgren. Part one, Spectroscopic astrophysics. Classification of stellar spectra, by P. C. Keenan and W. W. Morgan. Interpretation of normal stellar spectra, by L. H. Aller. The analysis of peculiar stellar spectra, by O. Struve. Molecular spectra in cosmic sources, by P. Swings. The growth of our knowledge of the physics of the stars, by B. Strömgren. Part II, Physics of the solar system. The sun and stellar radiation, by E. Pettit. Comets, by N. T. Bobrovnikoff. On the origin of the solar system, by G. P. Kuiper. Part III, Physics of binary and variable stars. Visual binary stars and stellar parallaxes, by G. Van Biesbroeck. Spectroscopic binaries and stars with composite spectra, by J. A. Hynek. Eclipsing binaries, by N. L. Pierce. The intrinsic variable stars, by C. Payne-Gaposchkin. Part IV, Physics of cosmic matter. Interstellar matter, by J. L. Greenstein. The structure, the composition, and the source of energy of the stars, by S. Chandrasekhar. Name index. Star index. Subject index.

Note: Each of the papers in this outstanding collection is the work of one or more scientists of international reputation, most of whom have been associated with the Yerkes Observatory. Generally speaking, in each paper the development of a specific area of astrophysics during the last half-century is outlined, its present state is described, and there is some discussion of problems that still challenge the scientists. The papers are addressed essentially to graduate students and young scientists who are beginning work in astrophysics.

MERRILL, PAUL WILLARD

Lines of the chemical elements in astronomical spectra. Washington, D C. Carnegie Institution of Washington, 1956 167 p. illus 28 cm. (Carnegie Institution of Washington. Publication 610 Papers of the Mt. Wilson Observatory Vol. IX) $2.00. 610

Contents (abridged): Introduction. Hydrogen. Helium. Lithium. Beryllium. Boron. Carbon. Nitrogen. Oxygen. Fluorine. Neon. Sodium. Magnesium. Aluminum. Silicon. Phosphorus. Sulfur. Chlorine. Argon. Potassium. Calcium. Scandium. Titanium. Vanadium. Chromium. Manganese. Iron. Cobalt. Nickel. Copper. Zinc. Gallium. Elements with atomic numbers 32-100: Krypton. Strontium. Yttrium. Zirconium. Niobium (Columbium). Technetium. Indium. Barium. Rare earths. Lanthanum. Europium. Bibliography: Tables of wavelengths of lines in astronomical spectra. Photometric tracings of solar and stellar spectra. General bibliography. Appendixes: Partial Grotrian diagrams of astrophysical interest, by C. E. Moore and P. W. Merrill. Glossary of special astronomical terms.

Note: Essentially this book is a guide to the large amount of information on stellar spectra which is available in previously published scientific journals and monographs. The information found in these sources is carefully surveyed, and its gist is presented under the headings listed in the above contents. A typical paragraph reads as follows: "Bands of TiO. Absorption bands of TiO are present in spectra of the sun (P187) Pegasi, type gM3 (A45) and long-period variables (M00, A33). The strongest band head is at 6122.4," the symbols within the parentheses being references to the bibliography. In addition to these organized abstracts, there are three tables of chemical elements and wavelengths, about 60 pages of partial Grotrian diagrams and a two-page glossary. The general bibliography runs to 18 two-columned pages.

MOORE, CHARLOTTE E

A multiplet table of astrophysical interest Revised edition Princeton Published by the Observatory, 1945 2 v 30 cm. (Princeton University Observatory Contributions No 20) 611

Contents (abridged) Part I, Table of multiplets: Basis of selection. General arrangement of the multiplet table. Arrangement of the multiplets of each spectrum. Spectroscopic notation. Special notes on individual spectra. Spectra omitted from the R M T Forbidden lines. Bibliography Index by pages. Index by elements. Revised multiplet table: Body of table. Forbidden lines. Part II, Finding list: Introduction. Part A, Observed and permitted predicted lines. Blends. Scope. Part B Forbidden lines. Body of multiplet table. Forbidden lines.

Note A successor to the author's work of the same title published in 1933 It is compendium of carefully selected data pertaining roughly to the wavelengths from λ2950 to λ13000. Within these limits, only the lines thought to be useful in the interpretation of astronomical spectra are listed. These are selected from the elements sufficiently abundant to appear in stellar spectra, and from only those stages of ionization and types of excitation which are to be expected. References to sources of the data are cited. In addition to documenting the tables, the bibliography—which is arranged alphabetically by author and includes 410 citations—serves as guide to the international literature on groups of spectral lines and to sources of other tables of multiplets. Most of the space in both parts is devoted to the tables, and the Contents listed above indicate chiefly the titles of sections in the prefatory matter Aside from its usefulness in astrophysics, the work is of value in general spectroscopy An expansion of part of this work has been published, see the Author Inde t this bibliography

MOULTON, FOREST RAY

An introduction to celestial mechanics. Second revised edition New York The Macmillan Company, 1935 437 p illus 22 cm. $6 50 612

Contents Preliminary considerations. The constellations. Telescopes. The earth. The motions of the earth. Time. The moon. Eclipses. The law of gravitation. The solar system. The planets. Meteors and comets. The sun. Evolution of the solar system. Stars and nebulae. The sidereal structure. Table of constants. Index of names. Star and nebulae index. General index.

Note The author develops the subject from the familiar earth and evening constellations out to the galaxies and supergalaxies of stars. Useful star maps and tables of condensed statistical information are provided. Lists of questions and exercises have been supplied at frequent intervals throughout the book to add to its usefulness as a text for college students.

SMITHSONIAN INSTITUTION ASTROPHYSICAL OBSERVATORY

Annals of the Astrophysical Observatory of the Smithsonian Institution Volume 7 By L B Aldrich and W H Hoover Washington D C Smithsonian Institution, 1954 184 p illus 31 cm. (Smithsonian Institution Publication 4138) $1 75 613

Content *Annals, 1941 1952 The solar-constant program since 1939* Summary of solar constant data, October 1939 through December 1952 Pyrheliometry Other instruments. Special studies of global sun and sky radiation. Statistical studies of the solar-constant record. Ozone *Summary of Volume VII. Appendix Measurement* of ozone. Bibliography Index.

Note The latest of series which is published at 10-year intervals, each volume of which summarizes the researches and accomplishments of the scientific staff of the Astrophysical Observatory of the Smithsonian Institution during the preceding decade. The contents of the present volume are noted above. The third chapter devoted largely to a tabulation of the Observatory' determinations of solar constants and continuing similar records in earlier volumes, is noteworthy feature. The fourth chapter contains extensive tabulations of pyrheliometer data. The bibliography printed in the appendix, lists contributions of the staff of the Astrophysical Observatory published since the compilation of the bibliography that appeared in Volume v of the Annals.

STRUVE, OTTO

Stellar evolution, an exploration from the observatory Princeton Princeton University Press, 1950 266 p illus 24 cm $5 00 614

Contents. Probing the stars' chemical composition. Some problems of stellar evolution. The origin and development of close double stars. Index.

Note A substantial contribution to the literature of astrophysics. Essentially it is an exploratory survey for theory or hypothesis that will explain the evolution of the stars in terms of the accumulated observational data. Earlier hypotheses are examined critically The author gives special attention to the ideas of von Weizsaecker Unsöld, and Ambarzumian among others, and also puts forth some tentative conclusions of his own. The style of the book is rather technical but as the author points out, the work is not intended for astronomers but rather for such scientists as physicists and chemists who desire some insight into current astrophysical problems.

WINTNER, AUREL

The analytical foundations of celestial mechanics. Princeton Princeton University Press, 1941 448 p 23 cm (Princeton mathematical series 5) $7 50 615

Contents Dynamical operations. Local and non-local questions. Dynamical systems. The problem of two bodies. The problem of several bodies. Introduction to the restricted problem. Historical notes and references. Index.

Note Canonical systems, theory of phase space, perturbation theory dynamical systems are linked together in this volume for advanced students of mathematics. The historical problem of three bodies finds special emphasis. Beyond its technical solution the book serves as an introduction to the analytical treatment of theoretical dynamics. Both the formal aspects and the questions in the large are presented in the form in hich they are always applied, not only in the theory of the solar system, but also in quantum theory References are included.

SUN AND SOLAR SYSTEM

BABCOCK, HAROLD DELOS, AND CHARLOTTE E MOORE

The solar spectrum λ 6600 to λ 13495 Washington, D C Carnegie Institution of Washington, 1947 95 p 29 cm. (Carnegie Institution of Washington. Publication 579) $2 00 616

Content Introduction Instruments Wave lengths in table A. Intensities in the spectrum of the solar disk. Intensities of atmospheric lines. The segregation of atmospheric lines. Intensities of lines in sunspot spectra. Identification of solar lines. Excitation potentials. Fraction of background radiation removed by solar absorption lines. Comparison of table A with the Utrecht photometric atlas. Comparison of infrared solar data with the spectra of some other stars. Elements recognized in the solar spectrum. Suggestions for further work. Acknowledgments. Symbols, abbreviations, and definitions. Table A Infrared solar spectrum. Bibliography

Note A report of research and tabulation of spectrographic measurements made of the solar disk, spots, and chromosphere for the infrared wavelengths. Discussion of the methods used and results obtained as well as comparison f the work with that of other investigators is made. The uthors' aim has been to provide information which will assist scientists in clarifying the nature of the solar atmosphere, star spectra, and the behavior of atoms and molecules.

BROOKS CHARLES FRANKLIN, AND OTHERS

Eclipse meteorology with special reference to the total solar eclipse of August 31 1932 *By Charles F Brooks Sterling P Fergusson, Herbert H Kimball Bernard Haurwitz, Eleanor Stabler Brooks Jerome Namias, Charles H Pierce Harry Wexler and Ed*

ward M. Brooks. Cambridge, Mass., Harvard University Press, 1941. 100 p. illus. 25 cm. (Harvard meteorological studies, No. 5) $1.5[illegible] 617

Contents: Synopsis. Introduction. Program, method, ... and the weather for the eclipse of August 31, 1932. Solar radiation and its immediate effect on temperature. The temperature changes. Changes of pressure and wind at the surface. Humidity changes, shadow-bands. Free air data obtained during the eclipse of August 31, 1932. Suggestions for further study. Bibliography.

Note: A summary of the results obtained from detailed observations from seven hundred stations ... [illegible] ... The bibliography has 65 references to the world literature of the subject.

BROWN, HARRISON, AND OTHERS, editors

A bibliography on meteorites. Editor: Harrison Brown. Associate editors: Gunnar Kullerud and Walter Nichiporuk. Chicago, University of Chicago Press, 1953. 686 p. 28 cm. $1[illegible] 618

Note: A comprehensive bibliography of the international literature on meteorites ... [illegible]

BUDDHUE, JOHN DAVIS

Meteoritic dust. Albuquerque, The University of New Mexico Press, 1950. 102 p. illus. 23 cm. (University of New Mexico. Publications in meteoritics, No. two. A monograph of the Institute of Meteoritics of the University of New Mexico. Lincoln LaPaz and Frederick C. Leonard, editors) $1.50 619

Contents: Abridged: History ... [illegible] ... Bibliography.

Note: [illegible] ... A bibliography of 1[illegible] literature ... [illegible]

ECKERT, W. J., AND OTHERS

Coordinates of the five outer planets, 1653–2060. By W. J. Eckert, Dirk Brouwer and G. M. Clemence. Washington, D.C., Government Printing Office, 1951. [illegible] p. 29 cm. (U. S. Naval Observatory. Nautical Almanac Office. Astronomical papers prepared for the use of the American ephemeris and Nautical almanac. Vol. xii) o.p. 620

Contents: The ... [illegible]

Note: The volume gives the heliocentric ... rectangular coordinates for the five outer planets Jupiter, Saturn, Uranus, Neptune, and Pluto ... [illegible]

GAMOW, GEORGE

The birth and death of the sun; stellar evolution and subatomic energy. Illustrated by the author. New York, The Viking Press, 1945. [illegible] p. illus. [illegible] cm. $[illegible] 621

Contents: [illegible]

Note: An outstanding exposition of the ... [illegible]

HERGET, PAUL

Solar coordinates 1800–2000. Washington, D.C., Government Printing Office, 1953. [illegible] p. [illegible] cm. (U. S. Naval Observatory. Nautical Almanac Office. Astronomical papers prepared for the use of the American ephemeris and Nautical almanac. Vol. 14) $[illegible] 622

Note: Geocentric coordinates of the sun and the coordinates of ... [illegible]

HERGET, PAUL

Coordinates of Venus, 1800–2000. Washington, D.C., Government Printing Office, 1955. [illegible] p. [illegible] cm. (U. S. Naval Observatory. Nautical Almanac Office. Astronomical papers prepared for use of the American ephemeris and Nautical almanac. Vol. xv part iii) $[illegible] 623

Note: A companion work to the author's Solar coordinates, 1800–2000, described above. It provides in tabular form new values for

MOORE, CHARLOTTE E

A multiplet table of astrophysical interest. Revised edition Princeton Published by the Observatory, 1945 2 v 30 cm. (Princeton University Observatory Contributions No 20) 611

Contents (abridged) Part I, Table of multiplets Basis of selection. General arrangement of the multiplet table. Arrangement of the multiplets of each spectrum. Spectroscopic notation. Special notes on individual spectra. Spectra omitted from the R M T Forbidden lines. Bibliography Index by pages. Index by elements. Revised multiplet table Body of table. Forbidden lines. Part II, Finding list Introduction. Part A. Observed and permitted predicted lines. Blends. Scope. Part B Forbidden lines. Body of multiplet table. Forbidden lines.

Note. A successor to the author's work of the same title published in 1933 It is compendium of carefully selected data pertaining roughly to the wavelengths from λ2950 to λ13000. Within these limits, only the lines thought to be useful in the interpretation of astronomical spectra are listed. These are selected from the elements sufficiently abundant to appear in stellar spectra, and from only those stages of ionization and types of excitation which are to be expected. References to sources of the data are cited. In addition to documenting the tables, the bibliography—which is arranged alphabetically by author and includes 410 citations—serves as a guide to the international literature on groups of spectral lines and to sources of other tables of multiplets. Most of the space in both parts is devoted to the tables, and the Contents listed above indicate chiefly the titles of sections in the prefatory matter Aside from its usefulness in astrophysics, the work is of value in general spectroscopy An expansion of part of this work has been published, see the Author Index in this bibliography

MOULTON, FOREST RAY

An introduction to celestial mechanics Second revised edition. New York The Macmillan Company, 1935 437 p illus. 22 cm. $6 50 612

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SMITHSONIAN INSTITUTION ASTROPHYSICAL OBSERVATORY

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Contents Annals, 1941 1952 The solar-constant program since 1939 Summary of solar constant data, October 1939 through December 1952 Pyrheliometry Other instruments. Special studies of global sun and sky radiation. Statistical studies of the solar-constant record. Ozone. Summary of Volume VII. Appendix Measurement of ozone. Bibliography Index.

Note The latest of a series which is published at 10-year intervals, each volume of which summarizes the researches and accomplishments of the scientific staff of the Astrophysical Observatory of the Smithsonian Institution during the preceding decade. The contents of the present volume are noted above. The third chapter devoted largely to tabulation of the Observatory' determinations f solar constants and continuing similar records in earlier volumes, is noteworthy feature. The fourth chapter contains extensive tabulations of pyrheliometer data. The bibliography printed in the appendix, lists contributions of the staff of the Astrophysical Observatory published since the compilation of the bibliography that appeared in Volume of the Annals.

STRUVE, OTTO

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SUN AND SOLAR SYSTEM

BABCOCK, HAROLD DELOS, AND CHARLOTTE E MOORE

The solar spectrum, λ 6600 to λ 13495 Washington, D C Carnegie Institution of Washington, 1947 95 p 29 cm (Carnegie Institution of Washington Publication 579) $2 00 616

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BROOKS, CHARLES FRANKLIN, AND OTHERS

Eclipse meteorology with special reference to the total solar eclipse of August 31, 1932 By Charles F Brooks, Sterling P Fergusson, Herbert H Kimball Bernard Haurwitz, Eleanor Stabler Brooks Jerome Namias, Charles H. Pierce Harry Wexler and Ed

ward M Brooks. Cambridge, Mass. Harvard University Press, 1941 109 p. illus. 25 cm. (Harvard meteorological studies. No. 5) $1.25 617

Contents Synopsis. Introduction. Program, method, stations, and the weather, for the eclipse of August 31 1932 Solar radiation and its immediate effect on temperature. The temperature changes. Changes of pressure and wind at the surface. Humidity changes. Changes of pressure and wind at the surface. Humidity cloudiness, shadow bands. Free air data obtained during the eclipse of August 31 1932. Suggestions for further study Bibliography

Note A summary of the results obtained from detailed observations from several hundred stations concentrated in New England but extending over large part of the United States, to determine the effect upon weather of the temporary shutting off of the sun's radiant energy from the earth during an eclipse The work devotes considerable space to technical investigation of the main controversial point in eclipse meteorology i.e., the question of whether or not defînite system of pressure and winds develops around the chilled and contracted air of the eclipse shadow and thus creates what is referred to as "the eclipse cyclone. The bibliography has 95 references to the world literature of the subject.

BROWN HARRISON, AND OTHERS editors

A bibliography on meteorites. Editor Harrison Brown Associate editors Gunnar Kullerud and Walter Nichiporuk. Chicago University of Chicago Press 1953 686 p. 23 cm. $12.50 618

Note A comprehensive bibliography of the international literature on meteorites and closely related subjects. It is arranged chronologically and runs from 1491 to 1950. Gives for each entry the author' name ("author unknown" is noted for anonymous works) full title, and literature reference including full pagination. An author index and journal index are included. A complementary treatise under the title, *Meteorites and their properties*, is projected.

BUDDHUE JOHN DAVIS

Meteoritic dust. Albuquerque The University of New Mexico Press, 1950 102 p. illus. 23 cm. (University of New Mexico. Publications in meteoritics. No two A monograph of the Institute of Meteoritics of the University of New Mexico Lincoln LaPaz and Frederick C. Leonard editors) $1.50 619

Contents (abridged) Historical review Methods of collecting dust. Types of particles. Size of particles. Physical tests. Chemical tests. The natural deposit. Dust in hail and snow Interstellar matter. The origin of meteoritic dust. The rate of fall of meteoritic dust Appendices Details concerning cuboid particles. Localities where deep-sea spherules have been found. Bibliography

Note The brief historical review with which this study opens is summary with literature references of previous studies of meteoritic dust From page 11 to the end of the volume, the methods and results of the author' own studies are presented and are related to previous studies by other investigators. Detailed data on the aspects of the subject which are named in the contents above are presented and discussed A bibliography of 108 literature citations and plates containing 14 photographs of dust specimens are included.

ECKERT W J AND OTHERS

Coordinates of the five outer planets 1653–2060. By W J Eckert, Dirk Brouwer and G M Clemence. Washington, D C. Government Printing Office, 1951 327 p. 29 cm. (U S. Naval Observatory Nautical Almanac Office. Astronomical papers prepared for the use of the American ephemeris and Nautical almanac. Vol. XII) o.p. 620

Contents The differential equations. Method of integration. The machine calculation. Data recorded Accuracy of the integration. Comparison with observation and constants of integration. Arrangement of the printed coordinates. Tabular comparisons. Table of Everett coefficients. Coordinates of Jupiter—Saturn—Uranus—Neptune—Pluto. Basic data.

Note This volume gives the heliocentric equatorial rectangular coordinates for the five outer planets Jupiter Saturn, Uranus, Neptune, and Pluto, at 40-day intervals from 1653 to 2060 referred to the mean equinox and equator 1950.0 They were obtained by the numerical integration of the equations of motion in rectangular coordinates. All the forces involving the five planets and the sun were computed from Newton's inverse square law The masses of the four inner planets were added to that of the sun in computing the solar attractions. The attractions are computed to 14 decimals and integrated by modification of Cowell method. The computations were carried out by numerical integration on the IBM Selective Sequence Electronic Calculator The arithmetical computations are described in the introduction to the volume

GAMOW GEORGE

The birth and death of the sun stellar evolution and sub-atomic energy Illustrated by the author New York The Viking Press 1945 245 p. illus 21 cm. $4 75 621

Contents Note on units of measurement. The sun and its energy The anatomy of atoms. The transmutation of elements. Can subatomic energy be harnessed? The alchemy of the sun. The sun among the stars. Red giants and the youth of the sun. White dwarfs and the dying sun. Can our sun explode? The formation of stars and planets Island universes The birth of the universe. Conclusion. Chronology Appendix. Index.

Note An outstanding example of the interpretation of science for general readers. For readers who are not scientists but who have mature interests in science the author discusses the evolution of the universe—with particular reference to the sun—in the light of modern knowledge of atomic structure and energy The author style is vivid one that holds the reader' attention in spite of the fact that he makes rather free use of technical terms. The book was first published in 1940 listed here is version termed "Third printing with new preface and appendix, published in 1945 Outlined briefly in the new preface are some of the developments in physical and astrophysical theory bearing on the subject of the book and made since it was first written. The appendix is titled, Atomic bombs, but it deals mainly with the nuclear reactions that are the basis not only of the bomb but also of nuclear reactors for the production of power

HERGET PAUL

Solar coordinates 1800–2000 Washington D C. Government Printing Office 1953 735 p. 28 cm. (U S Naval Observatory Nautical Almanac Office Astronomical papers prepared for the use of the American ephemeris and Nautical almanac. Vol 14) $5.00 622

Note Geocentric coordinates of the sun and the coordinates of the barycenter of the earth moon system at intervals of four days for the entire 19th and 20th centuries are presented in this volume. The values given are based on new calculations made at the Cincinnati Observatory Also given are the Julian day numbers corresponding to the calendar dates of each entry How the computations were performed on punch-card machines and otherwise the starting values and increments, and the degree of accuracy of the tables are discussed in five-page introduction which precedes the tables.

HERGET PAUL

Coordinates of Venus 1800–2000 Washington D C. Government Printing Office, 1955 523 p. 29 cm. (U S Naval Observatory Nautical Almanac Office. Astronomical papers prepared for use of the American ephemeris and Nautical almanac. Vol. XV part III) $2.50. 623

Note A companion work to the author's *Solar coordinates, 1800–2000*, described below It provides in tabular form new values for

the heliocentric coordinates of Venus. These values are the result of new calculations carried out largely on punched card machines under grant from the International Business Machines Corporation. The basic and mathematical techniques of computation are described in the introduction. The tables contain the following information: date, year month, and day expressed in Greenwich mean time before 1925 January 1 and in Universal Time afterwards, Julian day corresponding to the Greenwich Mean Midnight throughout longitude and latitude referred to the mean equinox and ecliptic of date, and the reduction to the orbit longitude and latitude referred to the equinox and ecliptic of 1950.0 and the radius vector' rectangular coordinates referred to the equinox and equator of 1950.0 The interval used in the tables is four days, the same as in *Solar coordinates*.

KUIPER, GERARD P , editor

The solar system. Vols I II Chicago The University of Chicago Press, 1953–54 2 v illus 25 cm (The University of Chicago Committee on Publications in the Physical Sciences) $12 50 per vol. 624

Contents Vol. I, The sun Introduction by L. Goldberg. The sun as star by B. Strömgren The photosphere, by M. Minnaert. The identification of solar lines, by C. E. Moore. The chromosphere and the corona, by H. C. van de Hulst. Solar activity by K. O. Kiepenheuer Solar radio emission, by J L. Pawsey and S. F Smerd. Solar electrodynamics, by T G. Cowling. Empirical problems and equipment, by C. W Allen and others. Subject index. Index of definitions. Vol. II, The earth as a planet Dimensions and rotation, by Sir H. S. Jones. Dynamics of the earth-moon system, by Sir H. Jeffreys. The interior of the earth, by Sir E. Bullard. The development and structure of the crust, by J T Wilson. Oceanography by H. U Sverdrup. The geochemistry of the crust, by B Mason. The atmosphere up to 30 kilometers, by H. R. Byers. The biochemistry f the terrestrial atmosphere, by G. E. Hutchinson. The absorption spectrum of the atmosphere, by L. Goldberg. Density pressure, and temperature data above 30 kilometers, by F L. Whipple. Emission spectra of twilight, night sky and aurora, by J W Chamberlain and A. B. Meinel. The physics of the upper atmosphere, by D R. Bates. Dynamic effects in the high atmosphere, by M. Nicolet. The earth as seen from outside the atmosphere, by C. T Halliday Albedo, color, and polarization of the earth, by A. Danjon. Subject index. Index of definitions.

Note. Part of a projected treatise in four volumes, of which the latter two will be devoted to planets and comets. The purpose f the work is to give a systematic and comprehensive account of our present knowledge concerning the sun and the other members of the solar system. The various chapters are contributed by internationally known scientists working in astrophysics and related sciences. The level of treatment is that of graduate scientists working at the research level in astronomy and physics. The individual chapters are reasonably full surveys of basic theory mathematical equations and calculations, and accepted values and data. Their texts are supplemented by illustrations wherever illustrations seem to be required. For instance, the chapter entitled "Empirical problems and equipment —which, incidentally was written by 13 authors—contains 54 figures, many of which are reproductions of photographs of apparatus. Literature references are included in all chapters.

MITCHELL, SAMUEL ALFRED

Eclipses of the sun. Fifth edition New York Columbia University Press 1951 445 p illus. 23 cm. $8 50 625

Content The beginnings of astronomy Biblical and classical eclipses. The prediction f eclipses. The verification of eclipses. The spectroscope. Eclipses before the year 1900. Personal experiences in 1900, 1901 and 1905 Eclipses from 1918 to 1929 Eclipses since 1930 The structure of the atom. Series relationships in spectra. Photographing the flash spectrum. Ionization and the flash spectrum. Solar problems and their interpretation through heights The sun's reversing layer Coronal information obtained from eclipses. Our present knowledge of the corona. Solar problems solved and unsolved. *Index.*

Note. A standard nontechnical presentation of theory history and observational techniques. It is addressed to the nonspecialists, especially to general readers and to scientists outside the field of astronomy who want a reliable survey and book of reference. The fourth edition appeared in 1935 The work has been extensively revised in this edition. Although many pages shorter it contains much new information. The additional material is not limited accounts of recent eclipses but includes also recent advances the understanding of solar physics. Also, less space is given to observation of eclipses in ancient times and to details of the author's travels in connection with his own observations.

MOHLER, ORREN C , AND OTHERS

Photometric atlas of the near infra red solar spectrum λ 8465 to λ 25,242 By Orren C Mohler, A. Keith Pierce, Robert R. Mc Math and Leo Goldberg McMath Hulbert Observatory of the University of Michigan. Ann Arbor University of Michigan Press, 1950 7 p , 117 leaves. illus 48 × 32 cm. $10 00 626

Note. Except for an introduction in which instrumentation and recording techniques are described, this book consists entirely of graphs of tracings made at the Mount Wilson Observatory with an instrument set-up composed of a Snow telescope and recording spectrometer the sensitive element in the latter being lead-sulfide photoconductive cell. The graphs are photo offset reproductions of the original records. The work is complementary to M. Minnaert and others, *A photometric atlas f the solar spectrum*, Amsterdam, 1940.

MOHLER, ORREN C

A table of solar spectrum wave lengths 11984A to 25578A Ann Arbor University of Michigan Press 1955 83 p 29 cm. $10 00 627

Note The greater part of this volume (pages 13–83) is devoted to the principal table in which data are tabulated under the following heads. "Observed wave length, A, "Observed wave number K, "Predicted wave number K, "Observed intensity —mA, "Predicted intensity —mA, "Identification, "Wave number f lower state, K," and "Notes. This table is based on observations made with Pfund-type recording monochromators at the McMath-Hulbert and Mount Wilson observatories. The table is prefaced by several pages of comment and interpretation and list of literature references. It is designed to be used with O. C. Mohler and others, *Photometric atlas of the near infra-red solar spectrum λ 8465 to λ 25242* Ann Arbor 1950.

NININGER, HARVEY HARLOW, AND ADDIE D NININGER

The Nininger collection of meteorites, a catalog and a history Sedona, Ariz. American Meteorite Museum, 1950 144 p illus. 26 cm $3 00 628

Contents Introduction. Maps. Catalog. Field notes. Summary Supplement. Appendix. Explanation of plates. Plates.

Note Most of the space in this book is devoted to a detailed listing of the meteorites in the Nininger collection, which is now known as the American Meteorite Museum. The descriptions are arranged by locality in which the specimens were found. In most instances the year of the find is given and there is always mineralogical designation, a statement of the weight, and if more than one specimen is in the collection, statements of the weight of the various fragments. The word descriptions are supplemented by 33 plates of reproductions of photographs, most of which show several specimens. Although essentially a catalogue of museum collection, the book is also unique record of the results of planned program aimed at discovering meteorites.

NININGER, HARVEY HARLOW

Out of the sky an introduction to meteoritics. Denver The University of Denver Press 1952 336 p illus 24 cm. $5 00 629

Content (abridged) Early man and meteorites. Typical falls. The great meteor of March 24 1933. Sound from passing meteors. Fireball clusters and processions. A planned program of search. Composition of meteorites. Etching and preservation. Size of

meteorites. The great Greenland meteorites. Weathering of meteorites. Digging and shipping. Meteorite craters. An explosion crater [illegible]. Meteoritic clouds. Origin of meteorites. Cosmic hearing. Tektites. Great meteorite collections. Proposed National Institute of Meteoritics. Publications by H. H. Nininger. Index.

Note: Detailed reports of observations of meteorites and meteors are combined in this book with specific data on composition, structure, weights, etc., of meteorites. The author is widely known as pioneer investigator of meteor phenomena and as collector of meteorites. He formed the Nininger Collection. In one of the chapters of this book he proposes [illegible] national institute devoted to the study of meteorites. The illustrations include 52 plates, most of which are reproductions of photographs of meteorites.

STETSON HARLAN TRUE

Sunspots in action. With a foreword by Sir Edward V Appleton. New York The Ronald Press Company 1947 252 p. illus. 22 cm. (Humanizing science series edited by Jaques Cattell) $4.00 630

Contents (abridged) Atomic energy and the sun. The solar [illegible]. Measuring sunlight. Sunspots and radio communication. Sunspots, the earth's magnetism, and the northern lights. Radio, solar eclipses, and cosmic effects. The origin of sunspots. Predicting sunspots. Sunspots, weather and living things. Sunspots and the economic cycle. Sunspots, the radio industry and the F.C.C. Our solar terrestrial research. Appendices Bibliography Tables of relative sunspot numbers. Name index. Subject index.

Note: An easy-to-read book in which the current knowledge of the origin and nature of sunspots and of their effects upon the earth and its inhabitants is summarized and discussed. Some of the more plausible hypothetical material is included also. The book is intended for educated laymen, and is therefore written without mathematics and in only semitechnical terminology. However scientists, particularly those in other fields than astronomy will find it informative and perhaps useful. The bibliography is arranged by chapters and refers chiefly to scientific papers and other literature for scientists.

UREY HAROLD CLAYTON

The planets their origin and development. New Haven Yale University Press, 1952 245 p. 25 cm. $5.00 631

Contents The origin of the solar system. The moon. The terrestrial planets. Chemical processes during the formation of the planets. The heat balance of the earth. The abundances of the elements and the chemical composition of the solar system. Summary and conclusions. Appendices. Index.

Note: A new hypothesis pertaining to the formation of the earth and other solar planets is put forth in this book. The main points are in the author's words: "The earth and other terrestrial planets were formed at much lower temperatures than were generally thought to be the case up to the present time. [illegible] A more uniform distribution of iron throughout the silicate phases of the earth existed in the past than exists now and the iron core of the earth has been formed at least partly during geologic time. A considerable part of the book is written in the terminology and concepts of physical chemistry and the author has sought [illegible] theory that would accommodate such facts as the absence of dense cores in some planets and the widely varying chemical composition of the planets and satellites. The book is addressed to astrophysicists, physical chemists, and others with considerable education in the physical sciences.

WATSON FLETCHER G

Between the planets. Revised edition. Cambridge, Mass. Harvard University Press, 1956. 228 p illus. 24 cm. (The Harvard books on astronomy edited by Harlow Shapley and Bart J Bok) $5.00. 632

Contents: Surveying the solar system. The little planets. Whirling fragments. Comets in motion. Anatomy of [illegible] comet. Shooting stars. Meteor showers. Radio wakes [illegible] sound. A meteorite falls. Meteorites in the laboratory. The interplanetary material. Appendix. Index.

Note: Written for laymen, beginning students, amateur astronomers, and scientists working outside their own specialties, this book summarizes the accumulated knowledge on asteroids, comets, meteors, meteorites, and interplanetary dust. It is solidly based on the findings of the astronomers and is appreciated most by readers who have mature though not professional interests in astronomy. The style is semitechnical, but not formidable. There are some 90 graphs and other drawings in the text, and about 35 tables. In addition, 67 plates are collected at the end of the book. The first edition was published in 1941. There are two new chapters in this revised edition, and many revisions in those carried over.

WOOLARD, EDGAR W

Theory of the rotation of the earth around its center of mass. Washington, D C. Government Printing Office 1953 165 p 29 cm. (U S. Naval Observatory Nautical Almanac Office. Astronomical papers prepared for the use of the American ephemeris and Nautical almanac. Vol. xv part 1) $1.50 633

Contents Introduction, general equations of rigid motion. Kinematical equations. Dynamical equations. Form of the solution. Motion of the axis of figure. Motion of the axis of rotation. Motions of the earth relative to the axis of rotation. Kinematical nature of the motion. Precession and nutation of the axis of rotation. The disturbing forces. The forces in terms of the tabular coordinates. Coordinates of the moon. Coordinates of the sun. Development of the disturbing forces. Solution of Poisson's equations. The integrating factors. The integrations. Corrections for approximations in Poisson's equations. The diurnal [illegible]. The separated moments of inertia. Departures from rigid motion. Extension to great intervals of time. The luni-solar precession and nutation. Reduction to different constants of precession and nutation. Representation of the principal terms in literal form. Reduction to ecliptic of date and equator of date. True obliquity of date. Precession and nutation on ecliptic of date. Precession and nutation on equator of date. Motion of the axis of figure relative to the axis of rotation. Angular motion of the earth around the instantaneous axis.

Note: For approximately half [illegible] century astronomers have used the formulas for nutation and obliquity which were developed by Simon Newcomb and originally published in 1895. However these formulas are not accurate enough for present-day calculations of apparent positions of the stars. More precise [illegible] formulas have been constructed, based on [illegible] complete redevelopment of the dynamical theory of the motion of the earth about its center of mass. This volume is [illegible] detailed exposition of how this redevelopment was conceived and carried out. It is of interest to astronomers in general, and particularly to specialists in positional astronomy.

STARS

AITKEN ROBERT GRANT

New general catalogue of double stars within 120° of the North Pole. By Robert Grant Aitken, in succession to the late Eric Doolittle. Washington D C. Carnegie Institution of Washington 1932 2 v illus. 29 cm. (Carnegie Institution of Washington. Publication no. 417) $15.00. 634

Contents: Introduction. Abbreviations and references. Index. Table of [illegible]. List of corrections (1934)

Note: The catalogue gives the positions (for 1930 and for 1900) and all measures prior to 1927.0, except those listed or referred to in Burnham's *General catalogue of double stars within 121° of the North Pole, Washington, D.C., 1906*, for 17,184 stars. An eight-page pamphlet of additions and corrections was issued in 1934.

CAMPBELL, LEON AND LUIGI JACCHIA

The story of variable stars. Cambridge, Mass. Harvard University Press, 1941 226 p. illus. 22 cm. (The Harvard books on astronomy edited by Harlow Shapley and B J Bok) $3.50. 635

Contents How variables are found. Observing the variables. Using the observations. Pulsating stars. The red variables. Ex-

plosive stars. Erratic stars. Stellar eclipses. Epilogue. Addenda. Appendix. Index.

Note This book first introduces the reader to the technique of observation and then proceeds to analyze the present state of our knowledge about variable stars. Among the types of variable stars discussed are the explosive star or nova, the giant red variables, the "erratic" stars and eclipsing stars. The principles of spectroscopy and a few technical aspects of variable star astronomy are explained in the appendix which also includes a list of the brighter variables, Julian calendar and other useful tables.

CARNEGIE INSTITUTION OF WASHINGTON DEPARTMENT OF MERIDIAN ASTROMETRY

Albany catalogue of 20811 stars for the epoch 1910, prepared at the Dudley Observatory, Albany, New York, under the direction of Benjamin Boss director of the Department of Meridian Astrometry, Carnegie Institution of Washington Arthur J Roy, in charge of reductions of declinations and William B Varnum, in charge of reductions of right ascensions Washington, D C. Carnegie Institution of Washington, 1931 430 p 29 cm. (Carnegie Institution of Washington Publication no 419) $5 00 636

Contents Introduction. Right ascensions. Zenith distances. Catalogue. Appendix.

Note. This catalogue contains the positions of all stars brighter than magnitude 7.0 not observed at San Luis, supplemented by those stars fainter than magnitude 7.0 selected for inclusion in the *General catalogue of 33342 stars for the epoch 1950* Washington D.C., 1936–37 In addition, the observation of fundamental stars was extended southward to the zenith of San Luis to provide for an overlapping zone, common to Albany and San Luis, which might serve as a means of intercomparison.

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definitions.
Note Part of a projected treatise in 342 stars for the
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[illegible] R. Varnum and Ralph E. W[illegible]
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Washington 19[illegible] 0 cm. (Carne[illegible] 445
[illegible] of Washington. Publication no 25
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MURRAY, RAYMOND SMITH

Frank Bradshaw Wood Princeton Published by the Observatory, 1951 117 p 32 cm. (Contributions from the Princeton University Observatory No 25) $3 00 638

Contents Introduction. RT Andromedae. WZ Andromedae. XZ Andromedae. AA Andromedae. SU Aquarii. ZZ Aurigae. UW Bootis. SV Camelopardalis. TT Ceti. U Coronae Borealis. RW Coronae Borealis. GO Cygni. 46 Eridani. RU Eridani. RW Geminorum. UV Leonis. RW Mon. EW Orionis. TY Pegasi. RT Persei. Y Piscium. AN Tauri. RW Ursae Majoris. AG Virginis.

Note: In this publication observed variations in light intensities for 24 systems of eclipsing variable stars are tabulated. The observations were made with the 23½ inch refractor and polarizing photometer of the Princeton University Observatory

FLINT, ALBERT STOWELL

Madison catalogue of 2786 stars for the epoch 1910 from meridian observations Reductions by Arthur J Roy Washington, D C. The Carnegie Institution of Washington 1939 57 p 30 cm. (Carnegie Institution of Washington. Publication no 515) $1.50 639

Contents. Introduction. Observing practice. Calibration. The tangent term e. Refractions. Magnitude equation. Micrometer contact corrections. Inclination of the zenith-distance thread. Probable errors. Reduction constants. Catalogue.

Note A catalogue of observations made at the Madison Observatory from 1912 to 1919 At least two observations of each star were made, and the catalogue contains positions of 2,401 relative stars and 385 standard stars. Data given are serial number General Catalogue number magnitude taken from the Harvard Catalogues, right ascension for 1910, precession and secular variation in right ascension, declination for 1910 precession and secular variation in declination, mean epoch of observation number of observations.

JENKINS, LOUISE F , compiler

General catalogue of trigonometric stellar parallaxes Compiled at the Yale University Observatory Printed with financial aid from U.N.E.S.C.O New Haven Yale University Observatory 1952 253 p. illus. 30 cm. $4.00 640

Note: A new catalogue prepared at the request of the president of Commission 24 of the International Astronomical Union and designed to supersede for trigonometric parallaxes, F Schlesinger's *General catalogue of stellar parallaxes*, second edition, New Haven, 1935. It is limited to trigonometric parallaxes from photographic plates. In its preparation, the longer trigonometric series of parallaxes from various observatories were compared. The techniques of comparison and results are described and summarized in the introduction to the volume. Essentially the following information is given for each star in the main table serial number DM number numbers in the Albany general catalogue (GC) or the Cincinnati catalogues, right ascension and declination for 1900 the visual or photographic magnitude spectral type proper motion; adjusted trigonometric parallax and its adjusted probable error references to original parallax values and notes on sources.

KOPAL, ZDENĚK

An introduction to the study of eclipsing variables. Cambridge Mass. Harvard University Press, 1946 220 p illus 23 cm. (Harvard Observatory monograph No 6) $4.00 641

Contents: Foreword, by H. N Russell. Nature of the eclipses. [illegible] of the elements. Improvement of preliminary elements and determination of limb-darkening. Effects of orbital eccentricity. The equilibrium of distorted stars. The effects of ellipticity. Theoretical light curves of close eclipsing systems. Determination of elements of distorted eclipsing

Note: A critical review of the current theory of eclipsing variables. It is mainly concerned with the interpretation of data collected by photometric means, and the treatment is largely mathematical. In the early chapters a simplified binary system in which two spherical components revolve around a common center of gravity is assumed in order to simplify the problem. In later chapters the effects of deviations from this simplified model are considered. Each chapter is accompanied by a partial annotated list of the related literature.

Merrill, John Ellsworth

Tables for solution of light curves of eclipsing binaries. Princeton: Published by the Observatory, 1950–53. 374 p. 30 cm. (Contributions from the Princeton Observatory, No. 23) 642

Note: These tables represent an extension and refinement of an earlier work initiated and published in 1912 by Henry N. Russell in *Astrophysical journal*, Volume xxxv, June 1912. They are designed as an aid to astronomers and astrophysicists in computing the orbits of double stars which eclipse each other at every revolution. The volume is published in seven consecutively paged parts which are entitled as follows: Coefficient of Limb-darkening, X = 0.0, X = 0.2, X = 0.4, X = 0.6, X = 0.8, X = 1.0, and Auxiliary tables.

Mikesell, A. H.

The scintillation of starlight. Washington, D.C.: Government Printing Office, 1955. 191 p. illus. 29 cm. (United States Naval Observatory. Publications. Second series. Vol. xvii, part iv) 643

Contents: Introduction. Personnel and Acknowledgments. Equipment. Reduction of observations. The observations. Discussion of the results. Polaris number. Summary of the results. References.

Note: The results of a program of observation of scintillation of starlight undertaken to measure the effects of scintillation on the accuracy of stellar photometry and to determine the meteorological causes are reported and discussed in this report. The apparatus used in the observations is described.

Mitchell, Samuel Alfred and others

The trigonometric parallaxes of six hundred and fifty stars, by S. A. Mitchell, D. Reuyl, and others. University, Va.: Leander McCormick Observatory, 1940. 749 p. 25 cm. (University of Virginia. Leander McCormick Observatory. Publications. Vol. 8) 644

Contents: Description of methods and measures. Statistics of the observations. Central magnitudes plotted against spectral type. Details of the parallax determinations. Numbers, dependences and magnitudes of the comparison stars. Summary.

Note: The tabular statements of data for each star in this volume are preceded by an excellent short discussion of the parallax observing technique and program at this observatory. The basic plan is to calculate the parallax of [illegible] on the basis of 30 photographic plates, these being taken in five successive seasons. In many instances cloudy weather holds up the movement, and the plates were spread over many seasons. Two previous publications of trigonometric parallaxes have been issued by this observatory. The first one gave the parallaxes of 360 stars and appeared as its Publications, Volume iii, and also as Ernest Kempton Adams Fund for Physical Research, Publications, Volume iii, 1930. The second, containing 442 parallaxes, appeared as its Publications, Volume iv, and also as National Academy of Sciences. Memoirs, Volume xxvi, 1, 1937.

Moore, Joseph Haines

A general catalogue of the radial velocities of stars, nebulae and clusters. Berkeley: University of California Press, 1932. 220 p. 30 cm. (University of California. Lick Observatory. Publications. Vol. xviii) $3.00 645

Contents: Introduction. Stellar radial velocities. Radial velocities of the gaseous nebulae [illegible] nebulae [illegible] clouds. Radial velocities of the globular clusters. Apparent radial velocities of the non-galactic nebulae.

Note: The catalogue was compiled in order to make generally available the data published after the appearance of the First and Second catalogues of J. Voute in 1921 and 1928, respectively. The closing date for this catalogue was January 1, 1932. Within this period, data on radial velocity had [illegible] rapidly because of the [illegible] of the [illegible] extended programs of observation. The arrangement of the material is tabular and is in general form that of previous extended lists dealing with this subject.

Morgan, H. R.

Catalog of 5,268 standard stars, 1950.0, based on the normal system N30. Washington, D.C.: Government Printing Office, 1952. 371 p. illus. 29 cm. (United States. Naval Observatory. Nautical Almanac Office. Astronomical papers prepared for the use of the American ephemeris and Nautical almanac. Vol. xiii, part iii) o.p. 646

Note: The present catalog is the result of a research program which was designed to correct the fundamental star catalogs so long in use with more recent observations. The program was necessary because of errors in the fundamental catalogs. The [illegible] "Several discussions of the errors in these catalogs have been made, and among other things it has been shown that the errors in the proper motions seriously affect the determination of the precession and solar motion, and the galactic [illegible] and other cosmic questions, many of which are of the same order of magnitude as the errors in the catalogs. The new catalog is based on a new fundamental system, 'The normal system,' which it has been felt was desirable and necessary to make, as an early independent catalog upon the subject. For this it has been possible to form a fundamental normal position, complete, independent of all previous work, and for an epoch much later than 1900. The list of [illegible] stars includes the FK3 and N30 (Backlund-Hough) stars, and other standard stars in GC, and 711 fainter stars not in GC. The stars are spaced fairly uniformly over the sky and positions for them have been taken from over seventy recent catalogs with mean epochs ranging from 1912 to 1952. About forty of these catalogs depend upon independent, or fundamental, observations, and the normal system is based upon these fundamental series. New numbers are assigned to the stars; however, the numbers in GC (Boss's *General catalog*) and in FK3 (*Dritter Fundamentalkatalog des Berliner Astronomischen Jahrbuchs*) are given, except of course in those cases where the stars are not in these earlier catalogs.

Oliver, Charles Pollard and others

Magnitudes and coordinates of comparison stars in 53 regions of variable stars and magnitudes of 284 variables. Philadelphia: University of Pennsylvania Press, 1940. 66 p. 31 cm. (Publications of the University of Pennsylvania. Astronomical series. Vol. v, part iii) $1.50 647

Note: The measurements given in tabular form in this monograph were made with the 18-inch refracting telescope of the Flower Astronomical Observatory. In the tables, when available, are the photometric magnitude, the average deviation of the separate results, number of nights the star was measured, the visual magnitude and the adopted magnitude, the last being a weighted mean. Comparison stars are designated by letters rather than by numerical magnitudes.

—— Magnitudes and coordinates of comparison stars in 35 regions of variable stars and magnitudes of other variables. Philadelphia: University of Pennsylvania Press, 1952. 98 p. 28 cm. (Publications of the Uni

versity of Pennsylvania. Astronomical series Vol VII part II) $3 00 647A

Note. A complementary work to the authors' *Magnitudes and coordinates of comparison stars in 32 regions of variable stars and magnitudes of 284 variables*, published in 1940 as Volume V part III of the same series. It contains the data derived from a considerable range of additional observations. Data given include the photometric magnitude, visual magnitude, and an adopted magnitude for each of the comparison stars. In addition, the booklet in hand contains a section entitled "Naked-eye variables in which observations made by Olivier over long period of years of the magnitude of selected variable stars are tabulated.

OLIVIER, CHARLES POLLARD, AND OTHERS

Magnitudes and coordinates of comparison stars in 35 regions of variable stars and magnitudes of other variables. Philadelphia University of Pennsylvania Press, 1952 98 p 28 cm. (Publications of the University of Pennsylvania. Astronomical series Vol VII, part II) $3 00 648

Note A complementary work to the authors' *Magnitudes and coordinates of comparison stars in 32 regions of variable stars and magnitudes of 284 variables*, published in 1940 as Vol. V part III of the same series. It contains the data derived from a considerable range of additional observations. Data given include the photometric magnitude visual magnitude, and an adopted magnitude for each of the comparison stars. In addition, the booklet in hand contains section entitled "Naked-eye variables in which observations made by Olivier over long period of years of the magnitude of selected variable stars are tabulated.

PAYNE GAPOSCHKIN, CECILIA

Stars in the making Cambridge, Mass. Harvard University Press, 1952 160 p illus. 25 cm. (The Harvard books on astronomy, edited by Harlow Shapley and Bart J Bok) $4 25 649

Contents Introduction Cosmic evolution. Part I, The players. Stars. Dust and atoms. Part II, The scene Pairs of stars. Clusters of stars. Systems of stars. Part III, The drama. The ages of things. The evolution of galaxies. The evolution of the stars. Suggestions for further reading. Index.

Note This book by an internationally famous contemporary astronomer is addressed to general readers and others who have nonspecialist interest in the stars. It presents vivid picture of what astronomers know at the present time about the behavior of stars and their evolution. The narrative is supplemented by 67 plates of reproductions of photographs of stars and galaxies. The bibliography is short, edited list of books suitable for the further enlightenment of nonspecialist readers.

PAYNE GAPOSCHKIN, CECILIA, AND SERGEI GAPOSCHKIN

Variable stars Cambridge Mass Harvard Observatory 1938 382 p illus 23 cm (Harvard Observatory Monographs No 5) $3.25 650

Contents (abridged) Introductory Geometric variables. Intrinsic variables. The cataclysmic variables. Extrinsic variables. On technique. Index of stars.

Note A survey of our present observational knowledge of variable stars as of 1938 embracing all known types of variable stars, including some that lie outside the galactic system. Instead of segregating the stars list types, the work attempts to build the various parts into coherent whole so that the theoretical worker may grasp the broad implications of the phenomenon in which he is interested. Each chapter gives general picture of the state of knowledge concerning the particular subject treated. An important part of the work is the lists of the well-established members of the groups list which the authors have classified the different types of variables. A large number of references to original works are given in footnotes.

PIERCE, NEWTON LACY

A finding list for observers of eclipsing variables Princeton Princeton University Observatory, 1947 63 p 31 cm. (Contributions from the Princeton University Observatory No 22) $6 40 651

Note A revised and enlarged edition of list first prepared by Professor R. S. Dugan. It is prepared specifically for professional astronomers, and its purpose is to provide information necessary for planning a worthwhile observing program. The introduction discusses the nature of data supplied, the reasons for observing these stars, and the methods and problems of observation. In the list itself, the left-hand pages contain data on position, period and character of light variation, spectral type, etc., to aid in the selection of stars to observe and the right-hand pages give means of identification, information about comparison stars and close companions, light elements, lists of observations and solutions. Information is included about observations known to be in progress.

ROBERTSON, JAMES

Catalog of 3539 zodiacal stars for the equinox 1950 0 Washington, D C. Government Printing Office, 1940 130 p illus. 29 cm. (United States Naval Observatory Nautical Almanac Office. Astronomical papers prepared for the use of the American ephemeris and nautical almanac. Vol. X, part II) $0.30 652

Contents Introduction Formation of the catalog. Explanation of the catalog. Comparisons with other catalogs. Catalog of 3,539 *zodiacal stars for the equinox 1950 0.*

Note. This catalogue was undertaken to meet the need of astronomers for a list of zodiacal stars including more stars and better places than those contained in Bedrick's *Catalogue of zodiacal stars (Astronomical papers of the American ephemeris,* Volume VIII, part III) published in 1905 A total of 3,539 stars, all within 8 of the ecliptic, is included. Of these stars, 313 are fainter than 8.5 magnitude.

ROSSITER, RICHARD ALFRED

Catalogue of southern double stars. Ann Arbor Observatory of the University of Michigan 1955 285 p 28 cm. (University of Michigan Observatory Publication. Vol. XI) 653

Note. This catalogue is record of the observations made in a 24 year program of observing and measuring double stars conducted at the Lamont Hussey Observatory of the University of Michigan at Bloemfontein, South Africa. The sky was searched from declination north 1 to the south pole except for the band south 70° 75° for stars to catalogue magnitude 9.5. More than 7,300 new pairs were found, and their measures along with others are presented in this volume.

RUSSELL, HENRY NORRIS, AND JOHN ELLSWORTH MERRILL

The determination of the elements of eclipsing binaries. Princeton Published by the Observatory 1952 96 p illus. 31 cm. (Contributions from the Princeton University Observatory No 26) $5 00 654

Contents Introduction. *The spherical model. Chapter III,* Part I, Nomographic solution Part II, Determination of the solutions. The rectifiable model. Intermediary solutions. Miscellaneous notes. Precepts for the computer

Note A complementary work to Merrill, *Tables for solutions of light curves of eclipsing binaries,* described above, and to Merrill, *Nomographs for solution of light curves of eclipsing variables,* published in 1953 at Number XXIV of the same series. It is presentation of the theory and computational techniques useful in the analysis of eclipsing binary phenomena and in the compilation

of such aids as the tables and nomographs just mentioned. The third chapter on nomographic solutions is of special interest and this is the first publication of the method.

SCHLESINGER FRANK AND LOUISE F JENKINS

Catalogue of bright stars, containing all important data known to January 1940 relating to all stars brighter than 6.5 visual magnitude, and to some fainter ones. Second edition. With appendices containing galactic co-ordinates and indices to the constellations. New Haven Yale University Observatory 1940. 213 p. 31 cm. $3.00. 655

Note These tables give the following information relative to the bright stars of the indicated magnitude: current number, which is the Revised Harvard photometry number as well, the constellation name, with the Flamsteed number and the Bayer letter; the Durchmusterung number; the number of the star in Boss's *General catalogue of 33,342 stars for the epoch 1950* (Washington, D.C., Carnegie Institution of Washington Publication 468, 1937); the right ascension for 1900 and the annual variation in right ascension for 1950; the declination for 1900 and the precession in declination for 1950; the magnitude and the spectrum; the proper motions in right ascension and declination expressed in seconds of arc; the absolute parallax, the radial velocity and additional remarks relating mostly to characteristics of double stars. The second edition contains appendices giving the galactic longitude and latitude corresponding to given right ascension and declination; the intersectional limits of the constellations, modified so that every boundary is either [illegible] meridian or [illegible] circle of declination; abbreviations for constellation names in the three- and four-letter international symbols; an index to the right ascensions (1900) of stars given by their Bayer letters or Flamsteed numbers, and an index to the positions of stars having specific names.

SCHLESINGER, FRANK AND OTHERS

Catalogue of the positions and proper motions of 8359 stars. Re-observation by means of photography of the Astronomische Gesellschaft zone between declinations + 50 and + 55 With an appendix containing the position of 1070 comparison stars observed by R. H. Tucker with the Lick meridian circle. By Frank Schlesinger and Ida Barney New Haven Published by the Observatory 1925 183 p. 31 cm. (Yale University Astronomical Observatory Transactions. Vol. 4) $3.00 656

—— Catalogue of the positions and proper motions of 1275 stars. Re-observation by means of photography of the Astronomische Gesellschaft zone between declinations + 1 and + 2 by Frank Schlesinger C. J Hudson Louise Jenkins, and Ida Barney New Haven Published by the Observatory 1926 16 p. 31 cm. (Yale University Astronomical Observatory Transactions. Vol. 3 p. 135–151) $0.30 657

—— Catalogue of the positions and proper motions of 7727 stars. Re-observation by means of photography of the Astronomische Gesellschaft zone between declinations + 55 and + 60° reduced to 1875.0 without applying proper motions. With an appendix containing the positions of 396 stars in sparse regions, and an appendix containing the positions of 80 additional Gesellschaft stars near declination + 55 By Frank Schlesinger and Ida Barney New Haven Published by the Observatory 1930. 165 p. 31 cm. (Yale University Astronomical Observatory Transactions, Vol 7) $3.60 658

—— Catalogue of the positions and proper motions of 8101 stars. Re-observation by means of photography of the Astronomische Gesellschaft zone between declinations — 10 and — 14 reduced to 1950.0 without applying proper motions. By Frank Schlesinger and Ida Barney New Haven Published by the Observatory 1939 164 p 31 cm. (Yale University Astronomical Observatory Transactions. Vol. 11) $3 75 659

—— Catalogue of the positions and proper motions of 8563 stars. Re-observation by means of photography of the Astronomische Gesellschaft zone between declinations — 14 and — 18 reduced to 1950 0 without applying proper motions By Frank Schlesinger and Ida Barney New Haven Published by the Observatory 1940 173 p. 31 cm. (Yale University Astronomical Observatory Transactions Vol 12 part 1) $5 00 for Vol. 12 complete 660

—— Catalogue of the positions and proper motions of 4553 stars. Re-observation by means of photography of the Astronomische Gesellschaft zone between declinations — 18 and — 20 reduced to 1950.0 without applying proper motions. By Frank Schlesinger and Ida Barney New Haven Published by the Observatory 1940. 93 p. 31 cm. (Yale University Astronomical Observatory Transactions. Vol. 12 part 2) $5.00 for Vol. 12 complete. 661

—— Catalogue of the positions and proper motions of 4292 stars. Re-observation by means of photography of the Astronomische Gesellschaft zone between declinations — 20° and — 22 reduced to 1950.0 without applying proper motions. By Frank Schlesinger and Ida Barney New Haven Published by the Observatory 1943 87 p. 31 cm. (Yale University Astronomical Observatory Transactions. Vol. 13 part 1) $5.00 for Vol. 13 complete. 662

—— Catalogue of the positions and proper motions of 9455 stars Re-observation by means of photography of the Astronomische Gesellschaft zone between declinations — 27° and — 30°, reduced to 1950 0 without applying proper motions By Frank Schlesinger and Ida Barney New Haven Published by the Observatory, 1943 191 p 31 cm (Yale University Astronomical Observatory Transactions Vol 13, part 2) $5 50 for Vol 13 complete 663

—— Catalogue of the positions and proper motions of 15110 stars. Re-observation by means of photography of the Cordoba zone between declinations — 22° and — 27°, reduced to 1950 0 without applying proper motions By Frank Schlesinger and Ida Barney New Haven Published by the Observatory, 1943 304 p 31 cm (Yale University Astronomical Observatory Transactions Vol. 14) $5 50 664

—— Catalogue of the positions and proper motions of 8248 stars Re-observation by photography of the Astronomische Gesellschaft zone between declinations — 6° and — 10 , reduced to 1950 0 without applying proper motions By Ida Barney New Haven Published by the Observatory, 1945 169 p 31 cm (Yale University Astronomical Observatory Transactions. Vol 16) $3 50 665

—— Catalogue of the positions and proper motions of 8108 stars. Re-observation by photography of the Astronomische Gesellschaft zone between declinations — 2° and — 6° reduced to 1950 0 without applying proper motions By Ida Barney New Haven Published by the Observatory 1945 166 p 31 cm (Yale University Astronomical Observatory Transactions Vol 17) $3 50 666

—— Catalogue of the positions and proper motions of 9092 stars Re-observation by photography of the Astronomische Gesellschaft zone between declinations + 15° and + 20 , reduced to 1950 0 without applying proper motions By Ida Barney New Haven Published by the Observatory 1947 187 p 31 cm (Yale University Astronomical Observatory Transactions. Vol 18) $4 50 667

—— Catalogue of the positions and proper motions of 8967 stars Re-observation by photography of the Astronomische Gesellschaft zone between declinations + 10° and + 15°, reduced to 1950 0 without applying proper motions By Ida Barney New Haven Published by the Observatory, 1948 185 p 31 cm (Yale University Astronomical Observatory Transactions Vol 19) $4.50 668

—— Catalogue of the positions and proper motions of 7996 stars Re-observation by photography of the Astronomische Gesellschaft zone between declinations + 1° and + 5°, reduced to 1950 0 without applying proper motions By Ida Barney New Haven Published by the Observatory, 1949 164 p 31 cm. (Yale University Astronomical Observatory Transactions. Vol. 20) $3.50 669

—— Catalogue of the positions and proper motions of 5583 stars Re-observation by photography of the Astronomische Gesellschaft zone between declinations — 2° and + 1°, reduced to 1950 0 without applying proper motions By Ida Barney New Haven Published by the Observatory, 1950 116 p. 31 cm. (Yale University Astronomical Observatory Transactions. Vol 21) $2 50 670

—— Catalogue of the positions and proper motions of 9060 stars. Re-observation by photography of the Astronomische Gesellschaft zone between declinations + 5° and + 1°, reduced to 1950 0 without applying proper motions By Ida Barney New Haven Published by the Observatory 1950 185 p 31 cm (Yale University Astronomical Observatory Transactions Vol 22 part I) $5 40 for Vol 22 complete 671

—— Catalogue of the positions and proper motions of 1904 stars Re-observation by photography of the Astronomische Gesellschaft zone between declinations + 9 and + 10 reduced to 1950 0 without applying proper motions By Ida Barney New Haven Published by the Observatory 1950 41 p. 31 cm. (Yale University Astronomical observatory Transactions. Vol 22 part II) $5 40 for Vol 22 complete 672

—— Supplementary volume to the Yale zone catalogues — 30 to + 30 By Ida Barney New Haven Published by the Observatory 1951 106 p. 31 cm (Yale University Astronomical Observatory Transactions Vol. 23) $2 50 673

Contents Introduction. Section A Zone catalogue, —6 to —10° Supplementary to Volume XVI. Section B Zone catalogue, —2 to —6 Supplementary to Volume XVII. Section C Spectral types, +15 to +20 Supplementary to Volume XVIII Section D Spectral types, +10 to +15 Supplementary to Volume XIX. Section E. Proper motion for fundamental stars, —30 to +30 Section F Proper motions, +1 to +5 Supplementary to Volume XX.

Section 0. Comparison with the general Catalogues of Yale positions and proper motions, −30° to +30°. Comparison of positions and proper motions in overlapping regions. Section 11. Errata for Yale zone catalogues, −30° to +30°

—— Revised catalogue of the positions and proper motions of 10358 stars. Contained in the Astronomische Gesellschaft zone between declinations +25 and +30 on the system of the FK3 and reduced without applying proper motions to the equinox 1950.0. By Ida Barney. New Haven. Published by the Observatory. 1953. 209 p. 31 cm. (Yale University Astronomical Observatory. Transactions. Vol. 24) $5.00 674

—— Revised catalogue of the positions and proper motions of 8703 stars. Contained in the Astronomische Gesellschaft zone between declinations +20 and +25 on the system of the FK3 and reduced without applying proper motions to the equinox 1950.0. By Ida Barney. New Haven. Published by the Observatory. 1954. 176 p. 31 cm. (Yale University Astronomical Observatory. Transactions. Vol. 25) $4.25 675

—— Catalogue of the positions and proper motions of 1031 stars. Between declinations +85 and +90° reduced without applying proper motions to the equinox. By Ida Barney and A. J. J. Van Woerkom. New Haven. Published by the Observatory. 1954. 44 p. 30 cm. (Yale University Astronomical Observatory Transactions. Vol. 26 pt. 1) 676

Note: In 19[illegible] the late Dr. Frank Schlesinger started experiments at Allegheny Observatory on the use of photography in the making of star catalogs, and his results became interested in the compilation of zone catalogs on the pattern of those produced under the auspices of the Astronomische Gesellschaft. After he moved to the Yale University Observatory the work was continued, and publication of this monumental catalog was commenced. After Dr. Schlesinger's death in 1943, the work was carried on by his associate, Dr. Ida Barney. The original catalog +30° to −30° is complete with the part published in 1950. The supplementary volumes contain supplementary data to the particular volumes noted in the Contents listed above, and corrections of errors for all volumes of the original catalog. The last entry in the series represents a catalog of the zone +85° to +90° which was based on measurements of four plates taken on [illegible] of a new eight-inch Ross camera acquired by the Yale Observatory. It includes nearly all stars brighter than photographic magnitude 11.6 as well as some fainter stars in the region centered on the celestial north pole.

SEARES FREDERICK HANLEY AND OTHERS

Magnitudes and colors of stars north of +80 by Frederick H. Seares, Frank E. Ross and Mary C. Joyner. Washington, D. C. Carnegie Institution of Washington. 1941. 89 p. illus. 29 cm. (Carnegie Institution of Washington. Publication no. 532) $2.00 677

Contents: Introduction. Relation of various catalogues to international system. Provisional secondary standards. Recent photographic observations. Measurement and reduction of photographs. Tests and provisions of provisional secondary standards. Reduction of program photographs for Pg magnitudes. Reduction of program photographs for Pv magnitudes. Final reduction formulae for Pv catalogues. Uniformity of zero points. Relation of catalogue to international system. Description of the catalogue. Catalogue of magnitudes and colors. Notes to the catalogue.

Note: The catalogue provides an extension of the Polar sequence, for the most part comparable in precision with the international standards themselves. An introduction to the catalogue describes in detail the successive steps of the investigation.

SEARES FREDERICK HANLEY AND OTHERS

Mount Wilson catalogue of photographic magnitudes in selected areas 1–139 by F. H. Seares, J. C. Kapteyn and P. J. van Rhijn. Assisted by Mary C. Joyner and Myrtle L. Richmond. Washington D. C. Carnegie Institution of Washington. 1930. 276 p. 29 cm. (Carnegie Institution of Washington. Publication no. 402) $9.00. 678

Note: The catalogue gives magnitudes for stars in the 139 areas on and north of the declination parallel at −15° and is arranged in the serial order of the areas. The results for each area are divided between a main list, which gives mean magnitudes of all stars within the limits of the field adopted at Groningen, and a supplementary list, which includes all stars outside the Groningen field and hence measured only at Mount Wilson. The total number of stars in the main and supplementary lists is 44,926 and 23,015 respectively or 67,941 in all. The catalogue is based on 1,063 photographic plates made between 1909 and 1912. Right ascension and declination as of 1900 are given for each star.

SHAPLEY HARLOW

Galaxies. Cambridge Mass. Harvard University Press. 1943. 229 p. illus. 22 cm. (The Harvard books on astronomy, edited by Harlow Shapley and B. J. Bok) $3.50 679

Contents (abridged): Galactic explorations. The star clouds of Magellan. The astronomical yardstick. The Milky way as a galaxy. The neighboring galaxies. The metagalaxy. The expanding universe.

Note: A popularized scientific discussion which tells the story of the observation, interpretation, and measurement of those distant stellar organizations that lie beyond the Milky Way. There are numerous illustrations, including photographs of modern astronomers who have done outstanding work in this field. There is an index.

VAN BIESBROECK GEORGES VAN

Measurements of double stars. Chicago University of Chicago Press, 1936. 51 p. 30 cm. (Chicago University. Yerkes Observatory Publications. Vol. VIII, part II) o.p. 680

—— Measurements of double stars. Chicago University of Chicago Press, 1954. 223 p. 30 cm. (Chicago University. Yerkes Observatory Publications. Vol. VIII part VI) $10.00 680A

Note: These volumes constitute the most comprehensive record available of measurements of double stars. The author is among the world's most eminent authorities on double stars, and the measurements presented are the results of observations and measurements which have been conducted over three decades at Yerkes Observatory.

VAN DE KAMP P AND A. N. VYSSOTSKY

A study of the proper motions of 18,000 stars, derived at the Leander McCormick Observatory. Charlottesville. University of Virginia, 1937. 246 p. illus. 30 cm. (Publications

of the Leander McCormick Observatory of the University of Virginia. Vol VII) $1 00 681

Contents Material and measures. General solution for solar motion differential galactic rotation and precessional constants. Solar apex for separate magnitude and spectral groups. Distribution f total proper motions and absolute magnitudes density gradients relative to the galactic plane. Ellipsoidal distribution of stellar motions. Secular parallaxes, tau-components and mean parallaxes. Absorption f light within the galaxy Appendices. Explanation of the catalogue. Catalogue of proper motions.

Note The present work and that by Vyssotsky and Williams described below are complementary to one another See the listing f the second work for the descriptive note.

VYSSOTSKY, A N , AND EMMA T R. WILLIAMS

An investigation of stellar motions, together with second McCormick catalogue of proper motions Charlottesville Leander McCormick Observatory of the University of Virginia, 1948 214 p illus 28 cm. (Leander McCormick Observatory of the University of Virginia. Publications Vol x) $1 00 682

Content The McCormick proper motion catalogues, by A. N Vyssotsky and E. T R. Williams. The magnitudes f the second McCormick catalogue, by E. R. Dyer Jr Reduction of the Cape photographic proper motions to the FK3 system, by E. T R. Williams. The constants of solar motion, precession, and galactic rotation as derived from McCormick and Cape proper motions, by E. T R. Williams and A. N Vyssotsky On the systematic errors introduced by rejecting large motions, by E. T R. Williams. The constants of galactic rotation and precession, by E. T R. Williams and A. N Vyssotsky McCormick spectral statistics according to galactic longitude, by A. N Vyssotsky and E. T R. Williams. Secular parallaxes, luminosity distribution, and distances for stars of ninth to eleventh magnitudes, by A. N Vyssotsky and E. T R. Williams. The variation of the solar motion with spectral class, by A. N Vyssotsky and E. T R. Williams. Peculiar motions, by E. T R. Williams and A. N Vyssotsky Second catalogue of proper motions. Errata for first catalogue. Appendices.

Note. These two catalogues contain the proper motions and photovisual magnitudes of 29,000 stars in 782 small-sample regions of the sky scattered from the North Pole to declination −30° and covering about 400 square degrees in all. Spectral classification is given for 14,000 of the stars. The second catalogue contains more regions than the first and more stars with known spectra, whereas the first contains more stars fainter than 11 magnitude The accuracy of the motions is somewhat better in the second Catalogue. Corrections are given to reduce the motions in each region to the system of the FK3 Methods are described and errors evaluated in detail. Preceding the catalogue in Volume x of Publications are 10 papers whose uthors and titles are listed in the above Contents.

WILSON, RALPH ELMER

General catalogue of stellar radial velocities. Prepared at the Mount Wilson Observatory, Pasadena, California. Washington, D C Carnegie Institution of Washington 1953 344 p 28 cm. (Carnegie Institution of Washington Publication 601 Mount Wilson Observatory Papers Vol VIII.) $2.85 683

Contents Introduction. Catalogue. Notes. A partial bibliography of radial velocity stars.

Note. A successor to J H. Moore, *A general catalogue of the radial velocities f stars, nebulae and clusters*, Berkeley 1932 It gives the velocities of 15 107 stars, including the hitherto unpublished velocities of about 1,000 stars, and presents all the data available to the author up to January 1951 In the catalogue proper single best value f the radial velocity which is a weighted mean of all the observations reduced to a standard system, is presented. Separate, uncorrected values for all stars with two or more sets of observations are given in the "notes, together with identifications of the sources.

PHYSICS

GENERAL

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

The present state of physics. A symposium presented on December 30 1949 at the New York meeting of the American Association for the Advancement of Science. Arranged by Frederick S. Brackett. Washington D C. American Association for the Advancement of Science, 1954 265 p. illus. 23 cm. $6 75 634

Contents: Elementary particles. The magnetic moment of the electron, by P. Kusch. Cosmic ray experiments at high altitude, by E. P. Ney. Developments in cosmic radiation, 1945-1950, by J. C. Street. Physics of the solid state. The new dielectrics, by K. Lark-Horovitz. Flow of electrons and holes in semiconductors, by J. Bardeen. Nuclear theory [illegible], by A. von Hippel. Chemical physics. The structure of polymers, by P. J. W. Debye. Implications of the chemical kinetics of some biological systems, by R. Lumry and H. Eyring. Biophysics. Some physical and chemical properties of nerve related to conduction of nerve impulses, by F. Brink, Jr. Bioluminescence and the theory of reaction rate control in living systems, by F. H. Johnson. Index.

Note: In this book a group of eminent scientists review the progress made in several branches of physics up to 1949. The authors, all of whom have made substantial contributions in their respective fields, wrote primarily for scientific specialists in other fields. The papers range in length from the 10 pages on "The magnetic moment of the electron" to the 72-page paper "The new dielectrics," by Lark-Horovitz. In most cases, bibliographies are included.

BRIDGMAN PERCY WILLIAMS

The nature of physical theory. Published on the Louis Clark Vanuxem Foundation. New York Dover Publications, 1936 138 p. 21 cm. $1.25 685

Contents: Introductory. Operations. Thought, language, Logic. Mathematics. Mathematics in application. Reality. Mathematical models and probability. Wave mechanics. In conclusion. Index.

Note: A book of essays by an eminent American experimental physicist. It had its origin in Vanuxem lectures delivered at Princeton University in 1936; however, the lectures were revised and expanded for publication in the book. They deal with some of the concepts of physics that were current in the 1930's. These concepts are explained in simple terms, and their significance interpreted for the [illegible] by teachers and physicists interested in the methodology and philosophy of physics. The first edition was published by the Princeton University Press in 1936. The edition listed here is apparently a reprint with no changes in text.

BRIDGMAN PERCY WILLIAMS

Reflections of a physicist. New York Philosophical Library 1955 576 p. 22 cm. $6.00 686

Contents: General points of view: Operational analysis. Some general principles of operational analysis. Science—public or private. Freedom and the individual. On "Scientific method." Some implications of recent points of view in physics. The operational aspect of meaning. Science and common sense. Remarks on the present state of operationalism. Applications to scientific situations: The new vision of science. Permanent elements in the flux of present-day physics. The recent change of attitude toward the law of cause and effect. Statistical mechanics and the second law of thermodynamics. The time scale. On the nature and limitations of cosmical inquiries. Einstein's theories and the operational point of view. Impertinent reflections on history of science. Primarily social: The struggle for intellectual integrity. Society and the intelligent physicist. Science, and its changing social environment. Scientists and social responsibility. Science and freedom—reflections of a physicist. The strategy of the social sciences. Science, materialism and the human spirit. The dilemma of science. The task before us. Specific situations: "Manifesto" by a physicist. A challenge to physicists. Scientific freedom and national planning. Sentimental democracy and the forgotten physicist. Prophetic. The prospect for intelligence. New vistas for intelligence. Index.

Note: The first edition of this collection of nontechnical writings by a leading American physicist was published in 1950. The additions include several more essays on the operational method, an important concept in the philosophy of science. In some of the new papers the author explores the implications of operational analysis in fields of science other than physics.

CHASE CARL TRUEBLOOD

The evolution of modern physics. New York D Van Nostrand Company Inc., 1947 203 p. illus. 21 cm. $4.00. 687

Contents: Energy and atoms. Physics becomes experimental. Light waves. Heat and energy. Molecules. Magnetism and electricity. From Maxwell to radio. Cathode rays and X-rays. Radioactivity. The Rutherford atom. The quantum theory. Spectroscopy and the Bohr atom. The experimental basis of relativity. Michelson and the velocity of light. The electron. Protons. Electron waves. Wave mechanics. The atomic nucleus. The release of atomic energy. Index.

Note: This review of the highlights in the progress of physics from the time of Thales of Miletus to the present, will be of interest to the layman and the science student. The author has traced these developments by emphasizing researches and discoveries which are considered landmarks in the history of physics. He has based the book on his earlier work, *A history of experimental physics*, New York, 1932, but the original material has undergone much rewriting and some condensation. Although the arrangement is largely chronological, "continuity" has been obtained by grouping together related topics and discoveries. The book contains full-page plates illustrative of recent physical advances.

DONNAN FREDERICK GEORGE AND ARTHUR HAAS editors

A commentary on the scientific writings of J. Willard Gibbs, formerly Professor of Mathematical Physics in Yale University, edited by F G Donnan and Arthur Haas New Haven Yale University Press 1936 2 v illus. 23 cm. $12.00. 688

Contents (abridged): Volume 1: The general thermodynamic system of Gibbs, by J. A. V. Butler. Osmotic and membrane equilibria, including electrochemical systems, by F. A. Donnan. The phase rule and heterogeneous equilibrium, by G. W. Morey. The graphical representation of equilibria in binary systems by means of the zeta (free energy) function, by F. A. H. Schreinemakers. The conditions of equilibrium for heterogeneous masses under the influence of gravity, by D. H. Andrews. The thermodynamics of strained elastic solids, by J. Rice. The influence of surfaces of discontinuity upon the equilibrium of heterogeneous masses, by J. Rice. The general properties of perfect electrochemical apparatus, by H. S. Harned. Index. Volume II: The thermodynamic principles as extended and perfected by Gibbs, by Arthur Haas. Application of Gibbs' methods to modern problems of thermodynamics, by Paul S. Epstein. Gibbs' contributions to the theory of light, by Leigh Page. The contributions of Gibbs to vector analysis and multiple algebra, by Edwin B. Wilson. Gibbs and the statistical conception of physics, by Arthur Haas. The chief results of Gibbs' statistical mechanics, by Arthur Haas. Critical appreciation of Gibbs' statistical me-

chanics, by Paul S. Epstein. Gibbs' methods in quantum statistics, by Paul S. Epstein. Commentary on Gibbs' papers on dynamics, by Arthur Haas. Indexes.

Note The main purpose of these two volumes is to aid and supplement a careful study of the original text of Gibbs' writings and not to make such study unnecessary Each of the two volumes deals with the portion of Gibbs' writings contained in the *Collected works J J Willard Gibbs*, New York, 1928. Volume I of the present work is essentially interpretative and explanatory but includes a discussion of recent developments concerning Gibbs' thermodynamic principles and many examples, drawn from modern literature of their application to concrete problems. Volume II contains an analysis, appreciation, and interpretation of Gibbs work in the field of theoretical physics, especially his statistical mechanics and their relation to modern quantum statistics. The volumes are separately indexed and may be used independently

HEATHCOTE, NIELS H DE V

Nobel prize winners in physics 1901–1950 With a foreword by Prof Herbert Dingle. New York Abelard-Schuman, Ltd., 1953 437 p 23 cm. $8 50 689

Note Organized on the same pattern as E. Farber *Nobel prize winners in chemistry* New York, 1953 this volume provides elementary biographical information on the 57 scientists to whom Nobel prizes in physics were awarded in the half-century designated in the book's title. The descriptions of the scientists' discoveries for which the prizes were awarded are substantially longer than in the chemistry volume and there are accordingly many more entries in the indexes. These differences account for the greater length of this book.

THE INTERNATIONAL DICTIONARY OF PHYSICS AND ELECTRONICS Princeton D Van Nostrand Company, Inc., 1956 1 004 p 26 cm $20 00 690

Note A reference book of major importance. It covers the terms in both classical and modern physics, not only the single words but also a selection of the abbreviations and longer terms. An example of the last-mentioned is "Electrode of the second order" Definitions range in length from a few words to several columns and are written in the terminology of physics. Pictorial illustrations are not major feature, but there are several hundred of them. The work was prepared under the direction of 15 American and British scientists, with Walter C. Michels as senior editor

LINDSAY, ROBERT BRUCE, AND HENRY MARGENAU

Foundations of physics New York John Wiley & Sons, Inc, 1936 537 p illus 23 cm. 691

Contents The meaning of physical theory Space and time in physics. The foundations of mechanics. Probability and some of its applications. The statistical point of view The physics of continua. The electron theory and special relativity The general theory of relativity Quantum mechanics. The problem of causality Index.

Note A successful treatment of the basic concepts and methods of physics. It examines critically and in some detail such matters as the nature of physical laws, space the Newtonian postulates for mechanics, Hamilton's principle, physical applications of probability theory statistical mechanics, relativity the axiomatic foundation of quantum mechanics and Schrödinger's equation. Although mathematics is used in the exposition, physical concepts and reasoning are employed whenever possible. The first edition, 1937 listed above is out of print. A reprint of the first edition containing the original text with minor revisions and new selected list of books for further reading was published by Dover Publications, New York 1957 $2 45

MARGENAU, HENRY

The nature of physical reality a philosophy of modern physics. New York McGraw Hill Book Company, Inc., 1950 479 p. illus. 24 cm. $7 00 692

Contents (abridged) Ways of arriving at reality What is immediately given? Departure from the immediate—constructs. Metaphysical requirements of constructs. Empirical confirmation. Space and time. Systems, observables, and states. Physics of discrete systems. Physics of continua. Thermodynamics. The role of definitions in science. Probability Statistical mechanics. The breakdown of physical models. Basic ideas of quantum mechanics. Uncertainty and measurements. Causality The exclusion principle. The contours of reality Name index. Subject index.

Note A significant contribution to the philosophy of science The author states that he believes the attitudes of uncritical realism, unadorned operationalism and radical empiricism which pervade most of the discussion and much of the thinking on subjects of science, to be outmoded and in disharmony with the successful phases of contemporary physics. He defines reality in terms of "verifacts, which derive their validity from systems of experience rather than from the "pointer readings" of operationalism. The book is addressed more to physicists than to philosophers, but it does contain thought of interest to the latter group too. It is arranged for use as textbook in college courses, but it can be read independently by any reader who has a basic understanding of philosophical and physical terminology

RIDENOUR, LOUIS N , editor

Modern physics for the engineer New York McGraw Hill Book Company, Inc., 1954 499 p illus 23 cm. $8 00 693

Content Part 1 *The laws of nature* Relativity and the foundations of mechanics, by H. P Robertson. Atomic structure, by L. I Schiff Physics of the solid state, by F Seitz. Magnetism, by C. Kittel. Microwave spectroscopy by W D Hershberger Nuclear structure and transmutation by W A. Fowler Electronuclear machines, by R. V Langmuir The actinide elements and nuclear power by G. T Seaborg. Elementary particles, by W K. H. Panofsky Part 2 Man's physical environment Astrophysics, by J L. Greenstein. High-pressure phenomena with applications to geophysics, by D T Griggs. The earth beneath the sea—geophysical exploration under the ocean, by R. Revelle. Thunderstorms and lightning strokes, by L. B. Loeb Transient phenomena in supersonic flow by W Bleakney Part 3 Information and its communication. Electrons and waves, by S. Ramo. Semiconductor electronics, by J Bardeen. Communication theory and the transmission of information by J B. Wiesner Computing machines and the processing of information, by L. N Ridenour Name index. Subject index.

Note Lectures delivered in an extension course offered to graduate engineers in 1952–1953 by the University of California at Los Angeles have been published in this book. The titles and authors are listed above. The chapters are independent of one another except for having been prepared for the same audience. The book is, therefore, useful to readers in need of an authoritative survey of one or more of the topics covered. It can also be read as a panoramic, although not comprehensive, view of modern developments in theoretical and applied physics. The chapters are illustrated and equipped with references to the literature.

WHITFORD, ROBERT H.

Physics literature a reference manual. New York The Scarecrow Press 1954 228 p 22 cm $5 00 694

Content Introduction. Bibliographical approach. Historical approach. Biographical approach. Experimental approach. Mathematical approach. Educational approach. Terminological approach. Additional approaches. Topical approach. General summary General bibliography Author index. Subject index.

Note A useful bibliographical guide to physics literature, including bibliographies, indexes, reference books, and selected treatises and textbooks. The main arrangement is by "approach, or in other words, purpose. Thus books and other publications whose viewpoint is primarily bibliographical are covered in the chapter entitled, "Bibliographical approach, and compilations of *mathematical tables* and mathematical treatises are considered in the chapter entitled "Mathematical approach. The chapter entitled Additional approaches" covers books on lecture demonstrations, on the art of writing, guides to scientific films, etc. The chapters begin with short comments by the author and, in addition, brief annotations are attached to groups of entries and sometimes to individual entries. The volume is adequately indexed.

HISTORY

ABRO A. D

The rise of the new physics its mathematical and physical theories. Formerly titled "Decline of mechanism." In two volumes. New York Dover Publications Inc., 1951 982 p. illus. 23 cm. $1 95 per vol. 695

Contents Part I, General considerations. The historical background of the scientific method. Assumptions in science. The significance of theoretical physics. Two kinds of simplicity. Successful theories of mathematical physics and premature approximations. Conceptual changes in physical theories. Causality. Continuity. Mechanistic theories. Field theories. Phenomenological theories. A retrospect on the different kinds of theories. Psychological differences among physicists. Part II, Physical theories of the classical period. Mathematical preliminaries. Differential equations. The controversies on the nature of mathematics. Analytical mechanics. Maximal principles and principles of action. The undulatory theory of light. Transformations. Thermodynamics. The classical kinetic theory of gases. Part III, The quantum theory: The relativity and the quantum theories. Planck's original quantum theory. Generalities on the atom. Bohr's atom. Applications of Bohr's theory. De Broglie's wave-mechanics. Heisenberg uncertainty principle. Vibrations. Schrödinger's wave mechanics of the atom. Schrödinger's theory of radiation. Bohr' interpretation of Schrödinger' theory. The helium atom. Matrices. The matrix method. Dirac theory of the electron. The new statistics. Quantum mechanics and causality. Index.

Note A comprehensive account of the historical growth and present state of the new ideas and theories of mathematical physics. The mathematical side of the subject is covered at some length, but the author has arranged the book so that readers without mathematical education can omit certain chapters but [illegible] follow the argument. This [illegible] reprint of Decline of mechanism, New York, D Van Nostrand Company 1939 here issued in two volumes which are continuously paged.

CROSBY, H. LAMAR JR. editor

Thomas of Bradwardine his *Tractatus de proportionibus* its significance for the development of mathematical physics Edited and translated by H. Lamar Crosby jr Madison University of Wisconsin Press 1955 203 p. 24 cm. $3.50 696

Contents (abridged) Introduction. Editions and manuscripts. The general significance of the *De Proportionibus*. Description and critical analysis. Thomas Bradwardine *Tractatus proportionum seu de proportionibus velocitatum in motibus*. Sigla. Variant readings. Appendix. Notes. Bibliography. Index.

Note This book is one of [illegible] series of texts and critical studies in the history of the physical sciences being published by the University of Wisconsin Press. Seventy-eight of its pages are devoted to Latin text and an English translation of the *Tractatus de proportionibus* of Thomas of Bradwardine. Complementing these and occupying about 120 pages are [illegible] discussion by the editor of the general significance of the work in the stream of scientific thought, detailed description and critical analysis of it, notes and [illegible] bibliography

JAMMER, MAX

Concepts of space the history of theories of space in physics. Foreword by Albert Einstein. Cambridge, Mass. Harvard University Press 1954 196 p. 22 cm. $3 75 697

Contents Introduction. The concept of space in antiquity. Judeo-Christian ideas about space. The emancipation of the space concept from Aristotelianism. The concept of absolute space. The concept of space in modern science. Index.

Note A scholarly, well-documented account of the concept of space from the standpoint of physics rather than metaphysics. It traces the historical evolution of the physical concept of space, analyzes the leading theories and relates them to other areas of physics. Some attention is given also to relations to mathematics. Literary citations are printed as footnotes. The index includes authors' names only, both those mentioned in the text and those whose works are cited.

MAGIE, WILLIAM FRANCIS

A source book in physics. New York McGraw Hill Book Company Inc., 1935 620 p. illus. 23 cm. (Source books in the history of the sciences G D Walcott, general editor) $9.00 698

Contents (abridged): General editor' preface. Author's preface. Mechanics. Properties of matter. Sound. Heat. Light. Magnetism and electricity. Index.

Note This book makes accessible the most significant portions of the original papers in which scientific workers announced important discoveries or methods of thought in the field of physics. The period covered is the three centuries ending with the year 1900 A.D. Although these extracts are chiefly concerned with experimental work, mathematical papers are occasionally quoted. Brief biographical sketches of the authors are included.

MOODY, ERNEST A., AND MARSHALL CLAGETT

The medieval science of weights (Scientia de ponderibus) Treatises ascribed to Euclid Archimedes Thabit ibn Qurra Jordanus de Nemore and Blasius of Parma. Edited with introductions, English translations and notes by Ernest A. Moody and Marshall Clagett. Madison The University of Wisconsin Press 1952 438 p. illus. 24 cm. $5 00. 699

Contents General introduction, Part I, by M. Clagett—Part II, by E. A. Moody *Liber Euclidis de ponderoso et levi et comparatione corporum ad invicem*, edited by M. Clagett introduction, translation and notes by E. A. Moody. *Liber Archimenidis de insidentibus in humidum* (*Liber Archimenidis de ponderibus*) introduction by E. Moody and M. Clagett; text and translation by E. A. Moody, with additional variant readings by M. Clagett. *Liber de canonio*, edited, with introduction, translation and notes, by E. A. Moody *Liber karastonis*, edited, with introduction, translation and notes, by M. Clagett. *Elementa Jordani super demonstrationem ponderum*, edited, with introduction, translation and notes, by E. A. Moody *Liber Jordani de ponderibus*, with another commentary (version "P") edited, [illegible] introduction, translation and notes by E. A. Moody *Liber Jordani de ratione ponderis*, edited, with introduction, translation and notes by E. A. Moody; with the assistance of R. Clements, A. Ducat, and J. L. Saunders. *Tractatus Blasii de Parma de ponderibus*, edited, with introduction, translation and notes by M. Clagett. Appendices: A fragment of the Roman balance attributed to Euclid, edited by M. Clagett. Thomas Bradwardine's discussion of proposition one of the Liber de ponderibus, edited by E. A. Moody. A fourteenth century commentary on proposition one of the Liber de ponderibus, edited by E. A. Moody. A variant form of proposition eight of the Elementa Jordani, edited by M. Clagett. Variant readings. Sigla of manuscripts and editions. Critical notes. Bibliography. Index.

Note In this work the medieval treatises named in the table of contents have been collected and translated into English. The book is organized so that the Latin text is printed on the left-hand page and the English translation on the right-hand page. The significance of the texts is discussed in the general introduction and also in the introductions to the separate works. The book as [illegible] whole represents a real contribution to the history of classical physics.

WILSON CURTIS

William Heytesbury: medieval logic and the rise of mathematical physics. Madison University of Wisconsin Press 1956 219 p. 24 cm. $4.00 700

Contents: Introduction. *De incipit et desinit*. *De maximo et minimo*. *De tribus praedicamentis*. Conclusion. Appendix: List of abbreviations. The *Regulae* of William Heytesbury. The *Regulae* sets of Richard Kilvington. Notes. Bibliography: Heytesbury's works. Primary sources cited. Secondary works cited. Manuscripts cited. Index.

Note: One of [illegible] series of critical studies and texts in the history of science being published by the University of Wisconsin Press, this book is [illegible] study of the work and influence of William Heytesbury [illegible] Fellow of Merton College in the first half of the 14th century and later Chancellor of Oxford University. More specifically

It is a study of Heytesbury's *Regule solvendi sophismata*. The physical and mathematical content of this book are assessed from the viewpoint of the present, and its influence is traced in the works of authors who followed Heytesbury. The book is fully documented.

POPULAR WORKS

ASIMOV, ISAAC

Inside the atom. Illustrated by John Bradford. New York, Abelard-Schuman, Ltd., *1956. 176 p. illus. 21 cm. $2.75* *701*

Contents: Atomic contents. Atomic arrangements. Atomic twins. Atomic breakdowns. Atomic lifetimes. Atomic bullets. Atomic newcomers. Atomic energy. Atomic dangers. Atomic hope. Index.

Note. Although addressed to young people, this book is suitable for adult general readers. It explains the elements of atomic structure, the nature of atomic particles and atomic energy in simple terms. The style is eminently readable, and the illustrations, though few in number, add substantially to the exposition. The author is a graduate biochemist on the faculty of the Boston University School of Medicine.

DEAN, GORDON

Report on the atom; what you should know about the atomic energy program of the United States. New York, Alfred A. Knopf, 1953. 321 p. illus. 21 cm. 702

Note. Addressed primarily to the people of the United States of America, this book by a former chairman of the United States Atomic Energy Commission describes the methods and goals of this nation's atomic energy program. *It presents, further, the author's* views on the international aspects of atomic energy. Such matters as the mining and processing of uranium, the atomic bomb, radioisotopes, and the potentials of nuclear power are discussed authoritatively and in nontechnical terminology. A second edition containing an added chapter on national and international developments in 1953–56 was published in 1957. 359 p., $5.00.

EINSTEIN, ALBERT, AND LEOPOLD INFELD

The evolution of physics; the growth of *ideas from early concepts to relativity and* quanta. New York, Simon & Schuster, 1938. 319 p. illus. 21 cm. $3.95 703

Contents (abridged): The rise of the mechanical view. Vectors. The riddle of motion. Is heat a *substance?* The rate of exchange. The philosophical background. The kinetic theory of matter. The decline of the mechanical view. The two electric fluids. The magnetic fluids. The velocity of light. The riddle of color. The wave theory of light. Ether and the mechanical view. Field, relativity. The field as representation. The two pillars of the field theory. *Field and ether.* Ether and motion. Time, *distance, relativity.* The time-space continuum. General relativity. Quanta. Continuity, discontinuity. Elementary quanta of matter and electricity. The quanta of light. The waves of matter. Probability waves. Physics and reality. Index.

Note. The authors' intention in this volume is to sketch in broad outline the attempts of the human mind to find a connection between the world of ideas and the world of phenomena. The work is intended for the intelligent layman, and while there is *no attempt to present the theory of relativity so closely associated* with the senior author, there is nevertheless a brief outline of the major problems which the theory attempts to solve. The treatment, though nonmathematical, is not over-simplified, *and a fair ability to grasp difficult physical and philosophical* ideas is required of the reader.

GAMOW, GEORGE

Atomic energy in cosmic and human life, fifty years of radioactivity. New York, Cambridge *University Press, 1946. 161 p. illus. 21* cm. $3.00 *704*

Note. The purpose of this short book is to explain radioactivity and atomic energy *to the general reader. The atom bomb* occupies only a few pages, while the greater part of the book is devoted to a clearly written exposition of the properties and structure of atoms, atomic energy in the stars, and to a discussion of whether or not atomic energy will be used for peaceful purposes. The author has not hesitated to use graphs and mathematics where necessary, but both these and the rest of the writing are presented in a readily understandable manner.

HECHT, SELIG

Explaining the atom. Revised and with four additional chapters by Eugene Rabinowitch. New York, The Viking Press, 1954. 237 p. illus. 22 cm. $3.75 705

Contents: Prologue: Science, secrets, and the atomic bomb. The atom as a homogeneous ball. The atom becomes complex. The atom develops a structure. Atomic structure is completed. Atoms release *energy. Atomic bombs become possible. Atomic bombs can be made.* Atomic bombs are made. Atomic bombs become plentiful and varied. "Superbombs" are built. Attempts to outlaw atomic bombs fail. Atomic power emerges. Epilogue to the revised edition. Index.

Note. One of the most successful of the popular expositions of atomic structure and nuclear fission. It is clearly but not condescendingly written. About one-quarter of the book recounts the main events in the development of the atomic bomb. *The four chapters added in this edition outline developments after 1947,* such as the development of thermonuclear bombs and the failure of attempts to outlaw atomic bombs.

LAURENCE, WILLIAM LEONARD

Dawn over zero, the story of the atomic *bomb. Second edition, enlarged.* New York, Alfred A. Knopf, 1947. 289 p. illus. 22 cm. $4.50 706

Note. William L. Laurence was the only newspaper reporter present at the explosion of the first atomic bomb in a desert in New Mexico on July 16, 1945. Later at the Pacific bomb base on Tinian Island, he prepared the War Department's official press releases on the atomic bombing of Hiroshima and Nagasaki. This book contains accounts of what he saw and heard, and much more. The parts that contain the author's on-the-scene observations are unique and make exciting and awesome reading. The other parts of the book treat of more familiar aspects, including some of the same topics covered in the famous Smyth report and the usual speculations about future uses of atomic energy. The entire book, including the explanation of nuclear fission, is written in language that the layman can understand.

PIERCE, JOHN R.

Electrons, waves and messages. Drawings by Felix Cooper. Garden City, N. Y., Hanover House, *1956. 318 p. illus. 21 cm. $5.00* 707

Contents: Electronics and the world. The laws of motion. Electric fields and electrons. Magnetic fields, too. Waves. *Maxwell's* wonderful equations. Some vacuum-tube amplifiers. Signals, band width, traveling-wave tubes, and millimeter waves. Noise. Radiation. Microwave systems. *Picking up television.* About signals and noise. Communication theory. The unexpected. *Relativity* and quantum mechanics. The future. Appendix. Index.

Note. A well-written survey of modern electronics. The field has been interpreted broadly so as to include not only the phenomena of electron behavior but also the elements of information theory. The book is addressed to lay readers with some background in science, particularly physics, and to scientists reading outside their own specialties. The author has not avoided technical terms or mathematical computations, but he has surrounded them with so much readable text *that the book is not only informative but is* also a pleasure to read. In addition to affording an authoritative view of the principles of electronics and the importance of their applications in our modern world, it also illustrates some of the techniques *of present-day industrial research.* The author is Director of Electronics Research for the Bell Telephone Laboratories, Inc.

SACKS, JACOB

The atom at work. Revised printing. New *York.* The Ronald Press Company, 1956. 341 p. illus. 24 cm. $5.00 708

Contents: On the nature of matter. Natural radioactivity; the story of radium. Matter, energy and Einstein. Exploding the atom. Artificial radioactivity. Machines for modern alchemy. The neutron and the chain-reacting pile. How to trace the tracers. Isotopes in the chemical laboratory. Isotopes in the biology laboratory. Radioactive phosphorus, the ideal isotope. What radiation does to living beings. Radioactive isotopes in hospital and clinic. Isotopes in the world of plants. Isotopes go into business. Atomic warfare, past and future. Useful power as the ultimate goal. Index.

Note: A satisfactory popular account of progress in the understanding and application of atomic energy and artificial radioactivity. In the first three or four chapters the historical and scientific backgrounds are skillfully outlined, and the reader is provided with thumb-nail sketches of the contributions of Roentgen, Madame Curie, Bohr, Rutherford and many others. He is then introduced to atomic piles, radioactive isotopes, the atomic bomb and other potential radioactive weapons, and finally to atomic power.

MATHEMATICAL PHYSICS

BERGMAN, STEFAN AND M. SCHIFFER

Kernel functions and elliptic differential equations in mathematical physics. New York: Academic Press Inc., 1953. 432 p. 24 cm. (Pure and applied mathematics: a series of monographs and textbooks, edited by Paul A. Smith and Samuel Eilenberg) $8.00. 709

Contents: Part A. Boundary value problems for partial differential equations of elliptic type. Theory of heat conduction. Fluid dynamics. Electro- and magnetostatics. Elasticity. Part B. Kernel function methods in the theory of boundary value problems. Properties of solutions. The kernel functions and their properties. Variational and comparison theory. Existence theory. Dependence of kernels on boundary conditions and the differential equation. Conclusions. Author index. Subject index.

Note: An important contribution to the theory of boundary value problems in differential equations. In the first part, the authors present a variety of problems in physics, the analysis of which involves boundary-value problems. In the second part, they demonstrate the solution of boundary-value problems by kernel methods. The work is of interest to professional mathematicians, both theoretical and applied, and, of course, to mathematical physicists.

COURANT, R. AND D. HILBERT

Methods of mathematical physics. First English edition translated and revised from the German original. Volume 1. New York: Interscience Publishers, Inc., 1953. 561 p. illus. 23 cm. $9.50. 710

Contents: The algebra of linear transformations and quadratic forms. Series expansions of arbitrary functions. Linear integral equations. The calculus of variations. Vibration and eigenvalue problems. Application of the calculus of variations to eigenvalue problems. Special functions defined by eigenvalue problems. Additional bibliography. Index.

Note: First published in Berlin in the German language in the years between the two world wars, this work quickly gained an international reputation. The volume listed above is the first one published of an English translation being made under the author's direction. It is based on the German original but contains many revisions and additions made by the author. The "Additional bibliography" is presently a list of recent books in German and English pertinent to the subjects of the chapters of this volume. References to older literature, mostly articles and monographs in German, are included in the chapters. The second volume of the projected three-volume set is scheduled for publication in 1956.

FRIEDRICHS, K. O.

Mathematical aspects of quantum theory of fields. New York: Interscience Publishers, Inc., 1953. 272 p. illus. 26 cm. $6.00. 711

Contents (abridged): Field operators. Particle representation. Boson field in interaction with a given source distribution. Occupation number representation and fields of different kinds. Fields modified by linear homogeneous forms. Appendix: Lorentz invariant treatment of Boson fields. Comments and corrections. Supplementary bibliography.

Note: The author of this volume has stated: "Our primary object is to present basic sections of field quantum theory in a consistent mathematical language without carrying out all mathematical deductions with complete rigor." Although the treatment is not completely rigorous, the book is intended for mathematicians rather than physicists. The five parts were originally published as separate papers in *Communications on pure and applied mathematics*. Apparently they have been reprinted without change. However, the final section of comments and corrections, which contains changes and coordinates the notation, is new.

HOUSTON, WILLIAM VERMILLION

Principles of mathematical physics. Second edition. New York: McGraw-Hill Book Company, Inc., 1948. 363 p. illus. 23 cm. (International series in pure and applied physics, G. P. Harnwell, consulting editor) $7.00. 712

Contents: Elementary differential equations. The mechanics of particles. Linear equations of order higher than the first. Mechanics of vibrating particles. Calculus of variations. Hamilton's principle. Theory of vibrating systems. Vector analysis. Dynamics of rigid bodies. Thermodynamics. Statistical mechanics. The vector field. Electrostatics. Magnetostatics and the interaction of steady currents. The electromagnetic field. The restricted theory of relativity. Index.

Note: An introductory text designed for the use of college students who have studied elementary college physics and mathematics through calculus. The fundamental laws and theories of classical physics are of necessity introduced, but the emphasis is on the mathematical processes. Problems for the student to work form an integral part of the text. In this edition the chapters on electricity and magnetism have been expanded, and such topics as damped vibrations, forced vibrations, the pendulum, and non-homogeneous equations are treated at greater length. There are other changes, including the addition of a considerable number of diagrams.

LINDSAY, ROBERT BRUCE

An introduction to physical statistics. New York: John Wiley & Sons, Inc., 1941. 306 p. illus. 23 cm. $5.75. 713

Contents: Dynamical and statistical theories. Elementary probability and statistics. Review of thermodynamics. Classical Maxwell-Boltzmann statistics. The kinetic theory of gases. Classical statistical mechanics. Statistical mechanics by the method of Darwin and Fowler. Fundamentals of quantum statistics. Specific heats of gases and solids. Quantum statistical theory of electrical and thermal properties of metals. Emission of electrons from surfaces. Index.

Note: A brief survey of and introduction to the fundamental methods of statistical technique in use in physics, with careful analysis of how they are used. It is meant for use in courses in physical statistics and statistical mechanics for graduate students of the first or second year and may also be used by advanced undergraduate students who have sufficient background knowledge. The reader must have a knowledge of theoretical physics and advanced calculus if he is to follow the argument. Although the emphasis is on the methodological viewpoint, illustrations are provided for every topic introduced, and there are many practical applications to modern physics, particularly to the properties of gases and solids. A list of problems is given at the end of each chapter.

MENZEL, DONALD H., editor

Fundamental formulas of physics. New York: Prentice-Hall, Inc., 1955. 765 p. illus. 22 cm. $12.00. 714

Contents: Basic mathematical formulas, by P. Franklin. Statistics, by J. M. Cameron. Nomograms, by D. H. Menzel. Physical constants, by J. W. DuMond and E. R. Cohen. Classical mechanics, by H. Zatzkis. Special theory of relativity, by H. Zatzkis. The general theory of relativity, by H. Zatzkis. Hydrodynamics and aerodynamics, by M. M. Munk. Boundary value problems in mathematical physics, by H. Zatzkis. Heat and thermodynamics, by P. W. Bridgman. Statistical mechanics, by D. H. Menzel. Kinetic theory of gases—viscosity, thermal conduction, and diffusion, by S. Chapman. Electromagnetic theory, by N. H. Frank and W. Tobo-

man. Electronics, by E. L. Chaffee. Sound and acoustics, by P M. Morse. Geometrical optics, by J G Baker Physical optics, by F A. Jenkins. Electron optics, by E. G. Ramberg. Atomic spectra, by C. E. Moore. Molecular spectra, by L. Herzberg and G. Herzberg. Quantum mechanics, by L. I. Schiff. Nuclear theory by M. E. Rose. *Cosmic rays and high-energy phenomena*, by R. W Williams. Particle accelerators, by L. L. Foldy Solid state, by C. Herring The theory of magnetism, by J H. Van Vleck. Physical chemistry by R. E. Powell. Basic formulas of astrophysics, by L. H. Aller *Celestial mechanics*, by E. W Woolard. *Meteorology* by R. A. Craig. Biophysics, by J M. Reiner Index.

Note The wide scope of this book is roughly indicated by the chapter titles. Generally speaking, the elementary formulas such as are found in undergraduate texts and laboratory handbooks have been omitted. Also, the word "formula" has been given liberal interpretation for instance, under the subheading "Solutions of the Schrödinger equation for collision problems," in the chapter on quantum mechanics, there are two pages on compact exposition Formulas and equations are not "derived" in the mathematical sense, but most of them are explained. References to sources where, in most instances, more analysis and discussion are available are given. The book is designed as a *reference* tool for advanced *students of physics and graduate physicists*, it should soon become a standard fixture in every physics library

MORSE, PHILIP M , AND HERMAN FESHBACH

Methods of theoretical physics New York McGraw Hill Book Company, Inc., 1953 2 v illus 24 cm. (International series in pure and applied physics, Leonard I. Schiff, consulting editor) $15 00 per vol 715

Content Part I Types of fields. Equations governing fields. Fields and the variational principle. Functions of complex variable. Ordinary differential equations. Boundary conditions and eigenfunctions. Green's functions. Integral equations. Part II Approximate methods. Solutions of Laplace's and Poisson's equations. The wave equation. Diffusion, wave mechanics. Vector fields. *Appendix. Tables. Bibliography Index.*

Note A graduate-level treatise on a variety of mathematical techniques which are useful in analyzing and solving problems concerned with fields of theoretical physics. It is primarily concerned with methods for solving partial differential equations for various boundary conditions. As to its title, the authors have stated "Fifty years ago it might have been entitled 'Partial differential equations of physics' or 'Boundary value problems.' Today because of the spread of the field concept and technique, it is perhaps not inappropriate to use the more general title." Although developed in courses given by the authors at Massachusetts Institute of Technology and designed for the instruction of graduate students of physics, the work is so comprehensive and the methods *covered expounded so thoroughly that it is useful as a reference* by graduate physicists and applied mathematicians. Problems to be solved are included in most chapters, and selected literature references are given.

PAGE, LEIGH

Introduction to theoretical physics Third edition. Princeton D Van Nostrand Company Inc. 1952 701 p illus 23 cm $9 00 716

Contents Introduction Vector analysis. Part I, Dynamics Dynamics of particles. Dynamics of rigid bodies. Dynamics of deformable bodies. Advanced dynamics Part II, Hydrodynamics Hydrodynamics of perfect fluids—of viscous fluids. Part III, Thermodynamics Classical thermodynamics. Statistical mechanics. Kinetic theory of gases. Part IV Electromagnetism Electrostatics and magnetostatics. Electric currents. Electromagnetic theory Part Optics and spectroscopy Geometrical optics. Physical optics. Origin of spectra *Index.*

Note. A standard and relatively elementary introduction to classical theoretical physics. The mathematics has been kept as simple as possible by an extensive use of vector methods. The book is well organized and clearly written. It is designed for the instruction of advanced undergraduates and first-year graduate college students who are specializing in physics. The second edition was published in 1935 Although most of its text has been carried over to this third edition, important additions have been made in both the expository text and problems *and the length of the* volume has been increased by 40 pages.

PÓLYA, GYORGY, AND GABOR SZEGŐ

Isoperimetric inequalities in mathematical physics. Princeton Princeton University Press, 1951 279 p 25 cm (Annals of mathematics studies, Emil Artin and Marston *Morse, editors No 27)* $3 00 717

Content Definitions, methods and results. The principles of Dirichlet and Thomson. Applications of the principles of Dirichlet and Thomson to estimation of capacity Circular plate condenser Torsional rigidity and principal frequency *Nearly* circular and nearly spherical domains. On symmetrization. On ellipsoid and lens. Surface-area and Dirichlet's integral. On continuous symmetrization. On spherical symmetrization. On a generalization of Dirichlet' integral. *Heat*-conduction on a surface. On membranes and plates. Virtual mass and polarization. Tables for some set-functions of plane domains. Bibliography List of symbols.

Note The purpose of this book is to facilitate the estimation of physical quantities *on the basis of geometrical data, or the obtaining* of less accessible quantities in terms of more accessible ones. The authors show that whereas the area enclosed by a curve cannot be determined merely by knowing its perimeter the knowledge of the perimeter sets certain limits for the area. Other quantities such as the moment of inertia, with respect to the centroid, of homogeneous plate bounded by the curve, the torsional rigidity of an elastic beam the cross-section of which is bounded by the given curve, the principal frequency f a clamped plate of the same size *and shape, and the electrostatic* capacity can be determined from the size and shape of a curve. *The study is* product of project sponsored by the Office of Naval Research. An especially useful section is the tabular presentation of quantities in the final chapter

RAINICH, GEORGE YURI

Mathematics of relativity New York John Wiley & Sons Inc. 1950 173 p illus. 23 cm $4 75 718

Contents (abridged) I, Old physics Motion of a particle. The inverse square law Two pictures of matter Maxwell's equations. General equations of motion. The complet tensor II, New geometry Analytic geometry of four dimensions. Tensor analysis. Complications resulting from imaginary coordinate. *Are the equations of physics invariant?* Curves in the new geometry III, Special relativity Equations of motion. Addition of velocities. Light corpuscles or photons. The complete tensor. IV Curved space Generalizations. The Riemann tensor. Tensors in general coordinates. Riemann tensor in general coordinates. Equations f physics in general coordinates. V General relativity The law of geodesics. Solution of the field equations. Newtonian motion of planet. Relativity motion of planet. Deflection of light. Conclusion. Index.

Note An introductory exposition f the mathematical concepts and techniques necessary to a full comprehension of relativity The book is designed for upperclass and graduate college students majoring in mathematics or physics The author is Professor of Mathematics in the University of Michigan and the book is development of course hich he has taught there for more than twenty years.

WEBSTER, ARTHUR GORDON

Partial differential equations of mathematical physics Edited by Samuel J Plimpton. Second corrected edition New York Dover Publications, Inc. 1955 440 p illus. 21 cm. $1 98 719

Contents. Deduction of the differential equations. Equations of the first order Wave equation—vibrations and normal functions. *Fourier's series and integral—Cauchy's* method—initial data. Methods of Green—potentials—boundary problems. Method of Riemann-Volterra—characteristics. Spherical, cylindrical and ellipsoidal harmonics. Applications of spherical, cylindrical and ellipsoidal harmonics. Theory f integral equations. Appendix.

Note A major work written just before his death by one of the most eminent mathematical physicists of the United States of America. It was first published in 1927 and a slightly revised second edition was published in 1933 The edition listed here is reprint of the second edition without *changes in the text.*

TABLES

FORSYTHE, WILLIAM ELMER, compiler

Smithsonian physical tables. Ninth revised edition. Washington, D. C. The Smithsonian Institution 1956. 827 p. 24 cm. (Smithsonian miscellaneous collections. Vol. 120 (whole volume) Publication 4169) $10.00. 720

Contents (abridged): Some fundamental definitions. Fundamental standards. The new (1948) system of electrical units. Relative values of the three systems of electrical units. Treatment of experimental data. General physical constants. Thermometry. Emissivities of [illegible] of materials. Heat flow and thermal conductivity. Specific heat. Latent heat. Heats of combustion. Physical and mechanical properties of materials. Characteristics of plastics. Properties of [illegible] woods. Temperature, pressure, volume, and weight relations of gases and vapors. Compressibility. Densities. Acoustics. Viscosity of fluids and solids. Various electrical characteristics of materials. Some characteristics of dielectrics. Radio propagation data. Magnetic properties of materials. Geomagnetism. Reflection and absorption of radiation. Standard wavelengths and series relations in atomic spectra. Atmospheric electricity. Colloids. Kinetic theory of gases. Atomic and molecular dimensions. Radioactivity. Gravitation. Solar radiation. General conversion factors. Index.

Note: A standard reference work for the physicist, meteorologist, and astronomer as well as for the research engineer in any of the allied branches of physics. Most of the tables are accompanied by short descriptive paragraphs and additional references. Physical units and standards are defined in the introduction. The ninth revised edition has been enlarged by 30 tables and almost 200 pages, this because due primarily to the inclusion of new data on atomic physics. Many of the tables found in the earlier edition have been regrouped, and a more detailed index is provided.

KEENAN, JOSEPH HENRY, AND JOSEPH KAYE

Gas tables: thermodynamic properties of air, products of combustion and component gases, compressible flow functions including those of Ascher H. Shapiro and Gilbert M. Edelman. New York: John Wiley & Sons, Inc., 1948. 238 p. illus. 26 cm. $6.00 721

Contents (abridged): Tables. Sources and methods. Examples. Bibliography.

Note: This collection of 64 tables is intended primarily for engineers concerned with making calculations of gas-turbine processes. It supersedes an earlier work entitled *Thermodynamic properties of air*, New York, 1945. The tabulated properties of air found in the 1945 volume, have been expanded to cover air at lower temperatures, and a base temperature, for which enthalpy is zero on the absolute Fahrenheit scale, has now been used in making the calculations. The volume has been further enlarged to include the properties of products of combustion of hydrocarbons and tables of functions used in analyzing the flow of compressible fluids.

MARYOTT, ARTHUR A., AND FLOYD BUCKLEY

Table of dielectric constants and electric dipole moments of substances in the gaseous state. Washington, D. C. Government Printing Office, 1953. 29 p. illus. 26 cm. (United States. National Bureau of Standards. Circular 537) $0.20 722

Contents: Introduction. Reference units. Treatment of data. Table of dielectric constants of substances gases at 20°C and 1 atmosphere. Dipole moments. Treatment of data. Reliability of values of dipole moment. Explanation of table of dipole moments. Table of dipole moments: Inorganic gases. Organic substances. Bibliography.

Note: Values of the dipole moments and other pertinent information, are tabulated for approximately 310 substances in the vapor state. All values derived from measurements of dielectric constants have been recalculated by one of two systematic procedures in order to place the work of various investigators on a more comparable basis than exists in the literature. Values obtained independently from microwave spectroscopy and other methods are also included. Values of the dielectric constants recommended for reference purposes are listed for helium, hydrogen, oxygen, argon, air, nitrogen and carbon dioxide. These selected values were derived from a consideration of radio frequency, microwave, and optical data. The two tables were prepared in continuation of a program for the critical examination of the data of physics and chemistry sponsored by the National Bureau of Standards in cooperation with the Committee on Tables of Constants and Numerical Data of the National Research Council and the Commission on Tables of Constants of the International Union of Chemistry. The first table of the series, entitled "Table of dielectric constants of pure liquids," is published as Circular 514 of the National Bureau of Standards.

MARYOTT, ARTHUR A., AND EDGAR R. SMITH

Table of dielectric constants of pure liquids. Washington, D. C. Government Printing Office 1951. 44 p. 26 cm. (United States. National Bureau of Standards. Circular 514) $0.30 723

Contents: Introduction. Description of table. Table of dielectric constants: Standard liquids. Inorganic liquids. Organic liquids. Bibliography.

Note: This circular contains the "static" dielectric constants of more than 800 substances in the liquid state, the tables being divided into three sections: standard liquids, inorganic liquids, and organic liquids. Reference sources are given for the liquids in the inorganic and organic groups, and probable accuracy of the data is indicated. The tables are reproduced from typewritten copy. The work is part of a program for a critical examination of the data of physics and chemistry sponsored by the National Bureau of Standards in cooperation with the Committee on Tables of Constants and Numerical Data of the National Research Council and the Commission on Tables of Constants of the International Union of Chemistry.

WESSON, L. G.

Tables of electric dipole moments, compiled by L. G. Wesson. Cambridge, Mass. The Technology Press 1949. 90 p. 24 cm. $2.50. 724

Note: A tabulation of more than 1,500 compounds, from molecules as unsymmetrical and for which the dipole moment has been calculated. The inorganic compounds are listed alphabetically, the organic by formula, and each entry includes the solvent used, the temperature at which the substance was measured, the dipole moment value, and the literature reference. The values, which are important in determining the dielectric properties of gases, liquids, and solids, were compiled by the Laboratory for Insulation Research at Massachusetts Institute of Technology.

GENERAL TEXTBOOKS

ALBRIGHT, JOHN GROVER

College physics. New York: Ronald Press Company 1948. 735 p. illus. 23 cm. $5.00 725

Contents: Part I, Mechanics. Physical quantities and measurement. Motion—Velocity. Uniformly accelerated motion. Angular motion (rotational motion). Force and Newton's laws of motion. Gravitational forces. Torques and rotary motion. Equilibrium of static forces. Circular motion. Oscillatory motion. Work and energy. Power—Machines. Matter and properties of matter. General properties of matter. Hydrostatics. Surface tension. Fluids in motion. Mechanics of gases. Pneumatic appliances. Part II, Heat. Temperature and its measurement. Thermal expansion. Calorimetry. Change of state. Transfer of heat. Thermodynamics. Part III, Wave motion and sound. Wave motion. Production and transmission of sound. Sound reception. Physical basis of music. Part IV, Magnetism and electricity: Magnetism. Electrostatics. Electrodynamics. Electrochemical action. Heating effects of an electric current and thermoelectricity. Electromagnetism. Action between currents and magnets. Electromagnetic induction. Electric generators and motors. Alternat-

ing currents. Conduction of electricity through gases. Part v Light Nature and propagation of light. Reflection—Mirrors. Refraction—Prisms—Lenses. Photometry Spectroscopy and color Optical instruments. Interference—Diffraction—Polarization. Appendix. Answers to problems. Index.

Note A prominent feature of this introductory textbook is the clear and comparatively full treatment of fundamental principles and phenomena. The chapter on surface tension, for example, contains about 30 per cent more text than the average amount devoted to the subject in four other standard textbooks. The same chapter contains 12 illustrations. Somewhat more space is given to mechanics and somewhat less to electricity and magnetism than is usual in such books. Practical applications of fundamental principles are mentioned in passing, but the treatment does not lean on them. The book is eminently suitable for library use, in addition to its use in organized courses.

AVERY, MADALYN

Household physics, a textbook for college students in home economics Third edition. New York The Macmillan Company 1955 472 p illus 22 cm. $6.25 726

Contents (abridged) Mechanics Introduction to mechanics. Work, energy and power Simple machines. Density and specific gravity Mechanics of liquids and gases. Household water supply and sewage disposal. Heat Thermometers. Quantity of heat. Change of state. Fuels. Heat transfer. Refrigeration. Air conditioning the home. The weather Electricity Sources and uses of electricity Magnetism. Electrostatics. Simple electromagnetic generators. Electrical measurements. Electric heating devices. Electric motors. Chemical effects of a current. House wiring. Light. Reflection of light. Prisms, lenses, and gratings. Color Home illumination. The production and transmission of sound. Musical sounds and musical instruments. Electrical sound devices. Appendix. Index.

Note The special bias of this book is indicated by the subtitle. Essentially it is a simple introduction to classical physics in which basic principles and concepts are related to household equipment and practices. The exposition of the principle of the lever, for example, is supplemented by illustrations and descriptions of scissors, tongs, etc. The discussion of electrical principles is followed by whole chapters on electrical devices used in homes. The first edition was published in 1938 and the second edition in 1946. The level of treatment and the basic topics covered are essentially the same in this third edition. However new applications are described, such as hearing aids based on transistors.

BACHMAN, C H

Physics, a descriptive interpretation New York John Wiley & Sons, Inc., 1955 497 p illus. 23 cm $5.50 727

Contents (abridged) Introduction—some fundamental working knowledge. Microcosmic physics. Macrocosmic physics. Cosmic physics. Body applications of physical principles. Some practical applications of physics—engineering. The acceleration of scientific progress. Index.

Note As the subtitle implies, this book is an elementary and nonmathematical survey It is addressed primarily to college students who are preparing for fields which will not require a scientist's knowledge of physics, and it appeals also to some lay readers. The concepts of radiation and the electromagnetic spectrum are introduced very early thus, the account is made interesting from the beginning. Unlike some of the descriptive books on physics, little space is given to descriptions of applications. Only a few devices which are found in the average American home such as electric lights, telephones, television, heating system, and refrigerators are described.

BALLARD, STANLEY S , AND OTHERS

Physics principles By Stanley S Ballard Edgar P Slack, and Erich Hausmann Princeton D Van Nostrand Company Inc. 1954 743 p illus. (part col d) 23 cm $7 75 728

Contents (abridged) Mechanics. Heat. Electricity & magnetism. Wave motion & sound. Optics. Modern physics Quantum optics. Nuclear physics. Appendixes. Answers to odd-numbered problems. Index.

Note A textbook intended for use in introductory courses offered to students who are preparing for further study of physical science of careers in engineering. The level of exposition is more advanced than in introductory textbooks of the "cultural" type, and the book's scope is more comprehensive. Calculus is used in the exposition and problems, but is introductory in such a way that the book can be studied by students who are taking courses in calculus concurrently Although some paragraphs and sections are essentially identical with their counterparts in E. Hausmann and E. P Slack, *Physics*, described below, the discussions of most topics differ between the two books and are somewhat more advanced in *Physics principles*. The subject scope of the latter is somewhat broader and the problems included for students to solve are different.

BAYLEY, PAUL LEVERN, AND CHARLES CLARENCE BIDWELL

An advanced course in general college physics. New York The Macmillan Company, 1936 340 p illus. 22 cm. $6 00 729

Contents (abridged) Mechanics Fundamental concepts of position and motion. Equilibrium. Work and energy Elasticity Sliding friction. Impact. Wave motion and sound. Heat: Thermometry Expansion of gases. Heat as energy Properties of gases. Thermodynamics. The transfer of heat. Electricity and magnetism Electrostatics. Magnetism. Electrical measuring instruments. The ballistic galvanometer Light. The nature of light. Luminous intensity Illumination and brightness. Diffraction. Electron physics and the quantum theory: Electrons and their properties. The quantum theory Index.

Note This book has been designed for the second-year course in general college physics. A knowledge of calculus is essential, but the arrangement and treatment are such that calculus need not precede, but may be taken concurrently The problems have been selected to give practice in both the metric and English units.

BENNETT, CLARENCE E

First year college physics New York The Ronald Press Company 1954 526 p. illus. 23 cm $6 00 730

Contents (abridged) Introduction. Fundamental concepts—standards. Mechanics—study of forces and vectors. Kinematics of translation. Linear dynamics. Work and energy Kinematics of rotation. Dynamics of rotation. Elasticity Fluid phenomena. Wave motion. Heat transfer and thermodynamics. Electrostatics. Electric circuits. Magnetism. Alternating currents. Electronics. Nuclear physics. Nature of light photometry Regular reflection and refraction. The thin lens in air Optical instruments. Interference, diffraction, and polarized light. Index.

Note The author of this book is head of the Department of Physics of the University of Maine, and the book is designed for use in full-length college courses. It is largely devoted to the traditional contents of introductory courses in classical physics. Elementary algebra and trigonometry are the only mathematics used in the exposition. Due attention is given to careful definitions of terms and elucidation of basic concepts, and the descriptive material is limited to descriptions of instruments based on physical principles.

BERGMANN, PETER GABRIEL

Basic theories of physics mechanics and electrodynamics. New York Prentice-Hall Inc., 1949 280 p. illus. 22 cm (Prentice-Hall physics series Donald H Menzel editor) $6 00 731

Contents Part I Classical mechanics: Mechanics of mass points. Analytical mechanics. Matter in bulk. Summary of classical mechanics. Part II, Electrodynamics Electrostatics and magnetostatics. Electromagnetic interaction. The electromagnetic field. Waves. Relativity Optics. Conclusion. Further reading. Index.

Note A brief textbook presenting the theoretical foundations of classical physics, that is, Newton's mechanics and Maxwell's electrodynamics, and tracing the development of classical physics through to the special theory of relativity Attention is concentrated on physical ideas, and the mathematical techniques are considered as tools and discussed as needed. The work is intended for graduate students in theoretical physics.

BITTER, FRANCIS

Currents, fields, and particles. New York Published jointly by The Technology Press of Massachusetts Institute of Technology and John Wiley & Sons Inc., 1956 599 p. illus. 24 cm. $8.50 732

Contents: The basic electrical quantities and their measurement. Electric fields. The electrical properties of matter. Applied electricity. Magnetic fields. Induced electromotive force and inductance. Electromagnetic oscillations. The Poynting vector and electromagnetic waves. Optics: reflection and refraction—interference and diffraction. The experimental basis of atomic physics. Wave mechanics. Atoms and electrons. Atomic nuclei and nuclear radiations. Index.

Note: A new physics textbook in which the treatment is more quantitative, and there is more emphasis on abstract concepts, than are traditional in undergraduate texts. The chapter titles are listed above. Within the chapters occur such sub-topics as "Metals and semi-conductors," "Fields inside of polarized bodies," "Maxwell's equations," "Magnetic resonance phenomena," "The quantization of electromagnetic energy," and "The angular momentum of the hydrogen atom." Such topics are treated more briefly than they would be in a graduate-level text, but the reader is introduced to them. The book was planned as a text for second courses in physics offered to students majoring in science and engineering. The author is Professor of Physics on the faculty of the Massachusetts Institute of Technology.

BLACK, NEWTON HENRY AND ELBERT PAYSON LITTLE

An introductory course in college physics. Fourth edition. New York The Macmillan Company 1956 786 p. illus. 22 cm. $6.75 733

Contents (abridged): Mechanics: Simple machines, elementary torque. Power and efficiency. Pressure in liquids. Pressure of gases. Concurrent and nonparallel forces. Uniformly accelerated motion. Newton's laws and universal gravitation. Energy and momentum. Rotary motion. Simple vibratory motion. Heat: Temperature and expansion. Change of state. Physics of the atmosphere. Transmission of heat. Steam engines. Internal combustion engines. Magnetism and electricity: Electrostatics. Electric circuits. Electric power, heating, and lighting. Induction coils and transformers. Alternating currents. Electric waves. Vacuum tubes and transistors. Sound: Sound waves. Musical sounds. Optics: Lenses and illumination. Refraction of light. Lenses. Spectra and color. Polarized light. Structure of the atom. Appendix. Index.

Note: A long-established textbook for use in introductory college courses. The first edition was published in 1933 and the third edition in 1946. The level is more elementary than in most American physics textbooks also intended for the use of beginning students. The exposition of physical principles is supplemented by descriptions of applications, but these are not a predominant feature. The traditional topics of classical physics are covered, and atomic physics is given relatively little space. This fourth edition is the first to bear the name of a collaborator. In comparison to the preceding edition, there has been some reorganization of the material, the old problems have been deleted and new ones substituted, and paragraphs or sections have been added on a selected number of new topics and developments, such as nuclear fission and the transistor.

BLACKWOOD, OSWALD AND WILLIAM KELLY

General physics. Second edition. New York John Wiley & Sons Inc., 1955 704 p. illus. 23 cm. $6.75 734

Contents (abridged): Mechanics: Science and measurement. Pressure in liquids at rest. Resultants and components of forces. Work, power and machines. Rectilinear motion. Curvilinear motion. Energy and momentum. Fluids in motion. Rotary motion. Gravitation. Molecular physics and heat: Molecular forces. Molecular motion. Quantity of heat. Change of phase. Heat, work, and entropy. The physics of the weather. Vibrations, wave motion, and sound. Electricity and magnetism: Electric fields and potential difference. Electric circuits. Electrolysis and voltaic cells. Electrical power and heating effects. Magnetism. Generators and motors. Electronics. Light: Reflection and refraction. Lenses and curved mirrors. Optical instruments. Polarized light. The new physics: Gaseous conduction, X-rays, and isotopes. Photoelectricity, the Bohr atom, and matter waves. Radioactivity, nuclear energy, and cosmic rays. Appendices. Index.

Note: A textbook written for use in introductory courses in colleges. Wherever possible, the exposition of principles is related to a specific illustration or application, within the experience of average college students. Mathematics is introduced very gradually and calculus is not employed. Most of the space is devoted to the traditional topics of classical physics, but, as shown in the above contents, there are three terminal chapters on modern physics. The first edition was published in 1941. In this second edition, the level of treatment has been raised somewhat, but the book is still a relatively simple text. Many sections of the text have been revised, and the majority of illustrations are revised or newly added.

BLÜH, OTTO

Principles and applications of physics. By Otto Blüh in collaboration with Joseph Denison Elder New York Interscience Publishers Inc., 1955 866 p illus. 25 cm $7.00 735

Contents (abridged): The methods of physics. The basic concepts of physics (mechanics). Forms of energy. Fields of force. Oscillations and waves. Thermodynamics. The constitution of matter. Corpuscles and quanta. The constitution of the atom. Scope and importance of the physical sciences. Historical table. Index.

Note: A college textbook with certain uncommon qualities. It is introductory to the study of physics, but it contains more matter and carries the subject farther than is customary in texts for first courses. Furthermore, it seeks to give a rounded picture of present-day physics, including its significance and relation to the humanities. In most sections the exposition is written out rather fully as if the authors intended the reader to assimilate much of it without assistance from an instructor. Although not primarily a descriptive treatment, some of the chapters do contain extensive passages on applications. The first-named author is a member of the faculty of the University of British Columbia, and the second-named is Science Editor of the Harvard University Press.

BROWN, THOMAS BENJAMIN

Foundations of modern physics. Second edition. New York John Wiley & Sons Inc., 1949 391 p. illus. 24 cm. $6.50 736

Contents: The elementary electric charge and the electron. Dimensions of atoms. The wave character of light. Polarized light. Electrical oscillations and electromagnetic waves. The electromagnetic spectrum—infrared light, ultraviolet light, and X-rays. Light particles and electron waves. The hydrogen spectrum and the hydrogen atom. Optical spectra and atomic structure. X-ray spectra and many-electron atoms. Molecular motions. Molecular energy. Crystals. Black body radiation. Radioactivity. Nuclear [illegible]. Nuclear research. Nuclear energy. Cosmic rays. Epilogue. Appendices. Index.

Note: A textbook for college use in which the discoveries and theories of the past century that form the basis for present-day developments in physics are discussed. Emphasis is placed on experimental methods, and only elementary mathematics is employed. This edition has been revised in the light of recent developments in the field, and the chapter on nuclear theory has been expanded to form three new chapters covering nuclear energy and its applications. Review problems and suggested readings are again included at the end of each chapter.

BURTON, ELI FRANKLIN AND OTHERS

College physics by E. F. Burton, H. Grayson-Smith and F. M. Quinlan. New York Pitman Publishing Corporation, 1948. 724 p. illus. 24 cm. $4.50 737

Contents: Part I, Mechanics. Part II, Properties of matter. Part III, Wave motion. Part IV, Heat. Part V, Electricity and magnetism. Part VI, Sound. Part VII, Light. Index.

Note: In this well-written text, the material has been selected for the benefit of preprofessional students rather than for students who plan to specialize in physics. The section on electricity and magnetism is fuller than it is in most books, and in it the emphasis is on electrical measurements and measuring instruments, alternating-current motors, and radio reception and transmission. The discussion of sound and sound waves contains many interesting experiments to illustrate refraction phenomena and quality of sounds. The book ends with the quantum theory and with a [illegible] growing out of the experiment which indicates that cathode rays are particles.

Cable, Emmett James, and others

The physical sciences. By Emmett James Cable, Robert Ward Getchell, William Henry Kadesch, with chapters on astronomy by Harry E Crull. Third edition. New York Prentice Hall, Inc., 1951 496 p illus (part col d) 25 cm $6 00 738

Contents (abridged) The dawn of science. Weights and measures. Energy utilized. Energy wasted. Force and motion. Fluids and fluid pressure. Building stones of matter States of existence. The behavior of molecules. Heat as a form of energy Our atmosphere. Winds and weather Optical instruments. Spectra. Electrostatics and magnetism. Electric currents. Electrical communication. X-rays. Radioactivity Some fundamental chemical processes. Ionization and equilibrium. Nitrogen and its compounds. The halogens. The classification of the elements. Sulfur Some common metals. Organic and food chemistry The earth and its rocks. Ground water and its work. Diastrophism, an ever-working process. Earthquakes and volcanism. The earth as an astronomical body The moon and eclipses. Other members of the solar system. The sun and its radiation. The stars and nebulae. The Milky Way and extragalactic systems. Science and the world of to-morrow Questions. References. Index.

Note. A survey of the physical sciences in language as non technical as the subject matter permits. The book indicates the essential unity of the physical sciences and the pronounced effect they have had upon modern life. In the third edition the book has been given larger and more attractive format, and the number of illustrations has been increased from 319 to 345. The section on astronomy has been completely rewritten and the list of questions and problems has undergone revision. The work was particularly written for use in freshman survey courses in science in teachers colleges. It may also be used to advantage by non-academic readers interested in an introductory view of the physical sciences.

Constant, F Woodbridge

Theoretical physics, mechanics of particles, rigid and elastic bodies, fluids, and heat flow Reading, Mass Addison Wesley Publishing Company, 1954 281 p illus. 24 cm $7 50 739

Contents: Part I, Vector analysis The algebra of vectors. The calculus of vectors. Dyadics. Part II, Mechanics Velocity and acceleration. Newton's laws. The linear motion f particle. Motion of particle in two or more dimensions. Motion of group f particles. Rigid bodies. Advanced dynamics. Elastic media. Elastic waves and sound. Viscous media. General principles f fluid dynamics. Part III, Heat flow References. Index.

Note. A college textbook designed for senior and first-year graduate students who have completed standard introductory courses in physics and mathematics. It is an "easy" introduction to theoretical physics rather than a full-scale treatise and is characterized by careful selection of material and patient exposition. The scope and basic ideas of theoretical physics are delineated, concepts and terms are carefully defined, and selected mathematical techniques are expounded in detail. Many of the problems illustrate applications to common problems in physics.

Durbin, Frank M

Introduction to physics. New York Prentice Hall, Inc., 1955 780 p illus. 23 cm. $6 75 740

Contents (abridged) Measurement and problem solving. Scalar and vector quantities. Work and energy Machines. Mechanics of liquids and gases. Uniformly accelerated motion. Rotary motion. Periodic motion. Gravitation. Heat and temperature. Change f state. Heat transfer and radiation. Vibrations and waves. Audible sound. Electricity—some fundamental principles. Magnetic and chemical effects f currents. Generation, distribution and consumption of electrical energy The nature and measurement of light. Spectra. Interference and diffraction. Optical instruments. The physics of small particles. The electron. Electronic devices. The structure of the atom. Natural radioactivity Nuclear reactions. Appendix. Index.

Note. Although the topics in classical physics which are traditionally covered in introductory courses in colleges in the United States of America are all included in this book, the treatment of them has been shortened somewhat, so as to give m[illegible] necessary space to modern physics. The treatment begins with "The physics of small particles" and includes all the chapters whose titles are listed subsequently in the above table of contents. These topics are treated at an elementary level, but the student is afforded a fair view of the scope of modern physics and an explanation of some of its basic concepts. The book is offered for courses offered to students who are not preparing for engineering or the physical sciences. The author is Professor of Physics in Oklahoma Agricultural and Mechanical College.

Ference, Michael, Jr., and others

Analytical experimental physics. Third revised edition. By Michael Ference, Jr., Harvey B Lemon, and Reginald J Stephenson. Chicago University of Chicago Press, 1956. 623 p illus 26 cm $8 00 741

Contents Kinematics and statics of particle. Dynamics of particle—mass—force. Conservation of momentum. Work and energy Rigid bodies in equilibrium [illegible] Elasticity Simple harmonic [illegible] Surface tension. Temperature and its [illegible] heat—calorimetry Gas laws and the [illegible] and changes of phase. The transmission [illegible] and heat engines. Electrostatics. Ohm's law [illegible] of electricity through liquids—electric cells [illegible] plications f Ohm's law Electromagnetism [illegible] ments and measurements. Electromagnetic induction [illegible] properties of iron. Magnetostatics. Thermoelectricity [illegible] motors and generators. Alternating currents. [illegible] Instruments for varying currents. Electronics. [illegible] Musical sounds and the science of music. Light—[illegible] Physical optics. Polarized light. Spectra—quantum [illegible] state phenomena. The electron, isotopes, and [illegible] Appendix. Index.

Note When it was first published in 1943 this textbook attracted much attention because of its various devices to make physics attractive to beginners without oversimplifying it. Among the devices employed: free use of pictorial matter and an explicit easy-to-read [illegible] this second revised edition some of the pictorial [illegible] ticularly the sequences from moving pictures f laboratory experiments, has been deleted, but the book is still printed in the large-page format, two columns to the page the typography still attractive and of course the style is still readable. The principal emphasis is on basic principles; however there are some narrative accounts of famous experiments and also some references to engineering applications. The book has been extensively revised both in text and illustrations, and printed from reset type.

Freeman, Ira M

Modern introductory physics New York McGraw Hill Book Company Inc. 1949 49[illegible] p illus 23 cm. 74[illegible]

Contents The method f science. Physics as an exact science. Force and equilibrium. Motion. Force and motion. Mechanical energy Heat energy and molecules. Rotation and vibration. Waves. The nature of light. Ray optics. Dispersion and spectra. Diffraction, interference and polarization of light. Electrostatics. Electric currents. Electromagnetism. Electrons. Isotopes, X rays, and natural radioactivity Origin and early development of the quantum theory. Waves and corpuscles, the newer quantum theory Nuclear disintegration. The structure of the nucleus. Conclusion. Appendix. Index.

Note. A college textbook specifically written for students who do not study physics as foundation for further work in science or engineering. Fewer topics are covered than in conventional texts, and most of those included are treated at an elementary level and without the use of mathematics or with no mathematics advanced than elementary algebra. However the treatment is not superficial Basic concepts are clearly explained, and such landmark experiments as Millikan's oil-drop experiment are described and their significance made clear A second edition, 497 p was published in 1957

Frye, Royal M

Essentials of applied physics. In collaboration with Robert E Hodgdon Second ed[illegible] Englewood Cliffs, N J Prentice-Hall 1954 369 p illus. 23 cm. $4 75

Contents (abridged) Foundations of mechanics. Simple machines. Fluids. Elasticity Vectors. Complete equilibrium. Uniform acceleration. Newton's second law Dynamics of rotation. Vibratory motion. Properties of waves. Production and transmission of sound. Heat and temperature. Magnetism. Static electricity Electrons in motion. Cells and simple circuits. Electromagnetism. Alternating currents. Elementary electronics. Photometry reflection and refraction of light. Lenses, optical instruments. Appendices. Index.

Note A simplified and relatively short textbook intended for use in trade schools and technical institutes rather than in full-scale college courses. Topics have been selected for inclusion, partly on the basis of their obvious relation to the everyday world. Nevertheless, modern physics has been taken into account at appropriate places in the text. Relativity and quantum mechanics are discussed briefly and special attention is devoted to the importance and definition of dimensions. The principal author is Professor of Physics in Simmons College, Boston.

HAUSMANN ERICH AND EDGAR P SLACK

Physics. Third edition. New York D Van Nostrand Company Inc., 1948. 793 p. illus. 24 cm. 744

Contents (abridged) Mechanics. Heat. Electricity and magnetism. Sound. Light. Appendix. Answers to problems. Index.

Note A widely-used college textbook. In it principles are clearly presented and are then used to explain engineering processes and machines, as well as to devise formulas for solving practical problems. In this edition considerable material has been added on new developments such as radar the betatron, and the atomic bomb and the problems supplied in the second edition have been largely replaced with new ones. A fourth edition was published in 1957 772 p., $8.00.

HOLTON GERALD

Introduction to concepts and theories in physical science. Reading Mass. Addison-Wesley Publishing Company Inc., 1952 624 p. illus. 22 cm. $7.50 745

Contents (abridged) Part I. The study of motion. Galileo and the kinematics of free fall. Projectile motion. Part II. The study of forces: Newton's laws of motion. Rotational motion. Part III. The laws of planetary motion and universal gravitation. The astronomy of ancient Greece. Copernicus' heliocentric theory. The nature of scientific theory. Kepler's laws. Galileo contribution to astronomy Newton's law of universal gravitation. Part IV On structure and method in physical science. Concepts. The growth of science. Part V. The laws of conservation. The law of conservation of matter. The laws of conservation of momentum. The law of conservation of energy. Part VI. Origins of the atomic theory in physics and chemistry. The physics of gases and of heat. The atomic theory of chemistry. Part VII. Quantum theory and the nuclear atom. Electrostatics. Properties of light. The quantum theory of light. Radioactivity and the nuclear atom. Bohr's model ... Alphabetic list of the elements. Periodic table of the elements. Summary of some trigonometric relations. Natural trigonometric functions. Common logarithms. Index.

Note A textbook which is designed for use in introductory college courses. Its organization and content reflect the critical examination of college instruction in science which has been going on in recent years under the leadership of James Bryant Conant. As the chapter titles show, selected basic concepts from both classical and present-day physics are emphasized, and there is also considerable discussion of the history of science and of scientific methods. The author is Assistant Professor of Physics and of General Education in the Physical Sciences in Harvard University.

HOWE HARLEY EARL

Introduction to physics. Second edition. New York McGraw Hill Book Company Inc., 1948 599 p. illus. 24 cm. $6.00 746

Contents (abridged) Newton's laws of force and motion. Equilibrium of a particle. The effect of force on motion. Simple harmonic motion. Equilibrium of a rigid body. The behavior of spinning bodies. Machines and friction. Forces in liquids at rest. Forces in gases at rest. Vibrations and waves. Sound and hearing. Heat and temperature. Thermal properties of gases. Change of state. Transfer of heat: radiation. The nature of electric current. Electrical quantity and electrical potential. Electric currents and magnetic phenomena. Electromagnetic induction. Electric oscillations. Light phenomena in gases. The atomic nucleus. General properties of light. Lenses. Dispersion and spectra. Diffraction and interference. Polarization. Answers to problems. Index.

Note An established presentation of classical physics, written chiefly for use in courses offered to students who are not preparing for professions which require rigorous knowledge of physical principles and techniques. The author style is clear, and the various topics are presented so as to hold the interest of the typical nontechnical student. However not a great deal of the space is given to the applications of physics. Instead, the emphasis is on the fundamental laws and phenomena. In revising the work for this edition a considerable number of changes were made.

HULL GORDON FERRIE

Elementary modern physics A revision of *An elementary survey of modern physics* New York The Macmillan Company 1949 503 p. illus. 22 cm. $6.50 747

Contents Molecules. The electron, discovery Radiation. The photoelectric effect. Orbits. Atomic spectra and the Bohr theory X-rays. Electron tubes. Electric phenomena in gases and solids. The Zeeman and Raman effects. Radioactivity Rutherford discovery of transmutation of atoms. Cosmic rays, photons or particles Transmutation of the elements. Waves and particles. Limitations imposed by nature. Fission discovered by Hahn and Strassmann. Appendix. Index.

Note A well-written introduction to modern physics, suitable for students and other readers who have completed a course in basic physics. Such topics as light pressure how the mean free path of a molecule is calculated, and nuclear fission are discussed briefly and lucidly The present edition includes much material that was not in the original edition published in 1936.

JAUNCEY GEORGE ERIC MACDONNELL

Modern physics a second course in college physics. Third edition. Princeton D Van Nostrand Company Inc., 1948 561 p. illus. 22 cm. $7.00 748

Contents (abridged) Historical introduction. Some useful mathematics. Wave motion. Alternating currents. Electromagnetic theory of radiation. Properties of moving charged bodies. The electron. Kinetic theory of gases. Specific heats and heat radiation. Electrons in metals. The photoelectric effect. Electronics and radio. Relativity —special theory X-rays. Bohr theory of spectra. The quantum theory Critical potentials. Radioactivity and isotopes. Nuclear physics. Nuclear fission. Cosmic rays. Astrophysics. Relativity—general theory Philosophical implications. Appendices. Answers to problems. Index.

Note A text for college courses offered to students who have had one-year courses in classical physics and in college mathematics. It is valuable both for students who merely want an understanding of modern physics for cultural purposes and for those who are preparing for professional work in chemistry or physics. In the preparation of this edition, some parts of the work were rearranged, and some matter that appeared in the second edition was dropped. Many passages were rewritten, and material was added on nuclear fission and on other significant developments since 1937

KOLIN ALEXANDER

Physics its laws ideas and methods New York McGraw Hill Book Company Inc., 1950 890 p. illus. 24 cm. $8.00 749

Contents Part I, Phenomenological approach to physics: Mechanics of points and of rigid bodies. Mechanics of fluids. Vector fields. Heat as a form of energy Part II, Theoretical approach to physics using mechanical model theories: A mechanical explanation of heat phenomena. A mechanical explanation of electrical phenomena. A mechanical explanation of electromagnetic phenomena. Part III, Transition from a mechanical model theory to an electromagnetic field theory: Periodic motion of matter and wave propagation in material media. Wave propagation in the hypothetical ether. Periodic motion of electric charges and propagation of electromagnetic waves. Part IV The failure of the classical mechanical and electromagnetic theories and the revision of the fundamental assumptions of physics. Inability of classical electrodynamics to explain emission and absorption of light. Replacement of deterministic description by statistical laws. Modification of our ideas on the immutability of elements and on the permanence of mass and energy Revision of our concepts of space and time. Tables. References for further study Index.

CABLE, EMMETT JAMES, AND OTHERS

The physical sciences By Emmett James Cable, Robert Ward Getchell, William Henry Kadesch, with chapters on astronomy by Harry E Crull Third edition. New York Prentice-Hall, Inc., 1951 496 p illus (part col'd) 25 cm $6 00 738

Contents (abridged) The dawn of science. Weights and measures. Energy utilized. Energy wasted. Force and motion. Fluids and fluid pressure. Building stones of matter. States of existence. The behavior of molecules. Heat as a form of energy Our atmosphere. Winds and weather. Optical instruments. Spectra. Electrostatics and magnetism. Electric currents. Electrical communication. X-rays. Radioactivity Some fundamental chemical processes. Ionization and equilibrium. Nitrogen and its compounds. The halogens. The classification of the elements. Sulfur Some common metals. Organic and food chemistry The earth and its rocks. Ground water and its work. Diastrophism, an ever-working process. Earthquakes and volcanism. The earth as an astronomical body The moon and eclipses. Other members of the solar system. The sun and its radiation. The stars and nebulae. The Milky Way and extragalactic systems. Science and the world of tomorrow Questions. References. Index.

Note. A survey of the physical sciences in language as non-technical as the subject matter permits. The book indicates the essential unity of the physical sciences and the pronounced effect they have had upon modern life. In the third edition the book has been given a larger and more attractive format, and the number of illustrations has been increased from 329 to 345 The section on astronomy has been completely rewritten and the list of questions and problems has undergone revision. The work was particularly written for use in freshman survey courses in science in teachers colleges. It may also be used to advantage by non-academic readers interested in an introductory view of the physical sciences.

CONSTANT, F WOODBRIDGE

Theoretical physics mechanics of particles, rigid and elastic bodies, fluids, and heat flow Reading, Mass Addison Wesley Publishing Company, 1954 281 p illus. 24 cm $7 50 739

Contents Part I, Vector analysis. The algebra of vectors. The calculus of vectors. Dyadics. Part II, Mechanics Velocity and acceleration. Newton's laws. The linear motion of a particle. Motion of a particle in two or more dimensions. Motion of a group of particles. Rigid bodies. Advanced dynamics. Elastic media. Elastic waves and sound. Viscous media. General principles of fluid dynamics. Part III, Heat flow References. Index.

Note. A college textbook designed for senior and first-year graduate students who have completed standard introductory courses in physics and mathematics. It is an "easy" introduction to theoretical physics rather than a full-scale treatise and is characterized by careful selection of material and patient exposition. The scope and basic ideas of theoretical physics are delineated, concepts and terms are carefully defined, and selected mathematical techniques are expounded in detail. Many of the problems illustrate applications to common problems in physics.

DURBIN, FRANK M

Introduction to physics New York Prentice-Hall, Inc. 1955 780 p illus. 23 cm. $6 75 740

Contents (abridged) Measurement and problem solving. Scalar and vector quantities. Work and energy Machines. Mechanics of liquids and gases. Uniformly accelerated motion. Rotary motion. Periodic motion. Gravitation. Heat and temperature. Change of state. Heat transfer and radiation. Vibrations and waves. Audible sound. Electricity—some fundamental principles. Magnetic and chemical effects of currents. Generation, distribution, and consumption of electrical energy The nature and measurement of light. Spectra. Interference and diffraction. Optical instruments. The physics of small particles. The electron. Electronic devices. The structure of the atom. Natural radioactivity Nuclear reactions. Appendix. Index.

Note Although the topics in classical physics which are traditionally covered in introductory courses in colleges in the United States of America are all included in this book, the treatment of them has been shortened somewhat, so as to give more than the customary space to modern physics. The treatment of the latter begins with "The physics of small particles" and includes all the chapters whose titles are listed subsequently in the above table of contents. These topics are treated at an elementary level, but the student is afforded a fair view of the scope of modern physics and offered an explanation of some of its basic concepts. The book is designed for courses offered to students who are not preparing for engineering or the physical sciences. The author is Professor of Physics in Oklahoma Agricultural and Mechanical College.

FERENCE, MICHAEL, JR., AND OTHERS

Analytical experimental physics. Third revised edition. By Michael Ference, Jr., Harvey B Lemon, and Reginald J Stephenson. Chicago University of Chicago Press, 1956. 623 p illus 26 cm $8 00 741

Contents Kinematics and statics of a particle. Dynamics of a particle—mass—force. Conservation of momentum. Work and energy Rigid bodies in equilibrium [illegible] center of mass. Rotational motion. Mechanics of fluids and measurements. Quantity of [illegible]tion. Elasticity Simple harmonic motion [illegible] kinetic theory Latent heat. Surface tension. Temperature and its [illegible] of heat. Thermodynamics heat—calorimetry Gas laws and the [illegible] resistance. Conduction and changes of phase. The transmission [illegible] Circuit theory [illegible] and heat engines. Electrostatics. Ohm's law [illegible] Direct-current [illegible] of electricity through liquids—electric cells [illegible] The magnetic [illegible] plications of Ohm law Electromagnetism [illegible] Direct-current [illegible] ments and measurements. Electromagnetic induction [illegible] properties of iron. Magnetostatics. Thermoelectricity [illegible] motors and generators. Alternating currents. [illegible] instruments for varying currents. Electronics. [illegible] Musical sounds and the science of music. Light [illegible] Physical optics. Polarized light. Spectra—quantum [illegible] state phenomena. The electron, isotopes, and [illegible] Appendix. Index.

Note: When it was first published in 1943 this [illegible] textbook attracted much attention because of its [illegible] various devices to make physics attractive to beginners without oversimplifying it. Among the devices employed [illegible] free use of pictorial matter and an explicit easy-to-read [illegible] this second revised edition some of the pictorial matter [illegible] ticularly the sequences from moving pictures of laboratory experiments, has been deleted, but the book is still printed [illegible] large-page format, two columns to the page the typography [illegible] still attractive and of course the style is still readable. The principal emphasis is on basic principles however there are [illegible] narrative accounts of famous experiments and also some references to engineering applications. The book has been extensively [illegible] both in text and illustrations, and printed from reset type.

FREEMAN, IRA M

Modern introductory physics. New York McGraw Hill Book Company Inc. 1949 45[illegible] p illus 23 cm 74[illegible]

Contents: The method of science. Physics as an exact science Force and equilibrium. Motion. Force and motion. Mechanical energy Heat energy and molecules. Rotation and vibration. Waves The nature of light. Ray optics. Dispersion and spectra. Diffraction, interference, and polarization of light. Electrostatics. Electric currents. Electromagnetism. Electrons. Isotopes, X rays, and natural radioactivity Origin and early development of the quantum theory Waves and corpuscles, the newer quantum theory Nuclear disintegration. The structure of the nucleus. Conclusion. Appendix Index.

Note: A college textbook specifically written for students who do not study physics as a foundation for further work in science or engineering. Fewer topics are covered than in conventional texts and most of those included are treated at an elementary level and without the use of mathematics or with no mathematics more advanced than elementary algebra. However the treatment is not superficial. Basic concepts are clearly explained, and such landmark experiments as Millikan's oil-drop experiment are described and their significance made clear A second edition 497 p. was published in 1957

FRYE, ROYAL M

Essentials of applied physics. In collaboration with Robert E Hodgdon. Second edition. Englewood Cliffs N J Prentice-Hall Inc., 1954 369 p illus. 23 cm. $4 75 743

ton D. Van Nostrand Company, Inc., 1951 639 p. illus. 24 cm. $7.00. 755

Contents (abridged): Length and time. Linear motion. Mass, momentum, and force. Motion in space. Some properties of matter. Mechanical energy. Wave motion. Thermal energy. Radiation. Optical instruments. Rotation. Fields of force. Electric currents and potentials. Molecules and atoms. The behavior and theory of gases. Electromagnetic induction. Atomic and nuclear structure. The behavior and theory of liquids and solids. Oscillations. Electromagnetic waves. Waves and particles. Atomic theory. Appendixes. Index.

Note: A textbook for college courses in which the authors have made a special effort to treat introductory physics from the viewpoint of present-day physicists. The conventional division into mechanics and electricity has been abandoned. Physics is presented as a unified body of thought in which there is no fundamental cleavage between classical physics and "modern" physics or between introductory physics or advanced physics. As an instance of the method may be cited the discussion of the speed of protons and the experimental methods of measuring this speed in Chapter three. Throughout the book the authors use analogies which are very helpful in presenting physical concepts and laws as logical ideas.

PERKINS, HENRY AUGUSTUS

College physics. Third edition. New York Prentice-Hall Inc., 1948 786 p. illus. (part col'd) 24 cm. (Prentice-Hall physics series Donald H. Menzel editor) $6.75 756

Contents (abridged): Part i, Mechanics. Part ii, Heat. Part iii, Wave motion and sound. Part iv, Light. Part v, Electricity and magnetism. Part vi, Corpuscular physics. Appendix. Index.

Note: An established textbook which is particularly suitable for introductory courses taken by students who are going to pursue the subject of physics further or to specialize in some branch of science where sound knowledge of physical principles is necessary. Many topics are pursued further than is customary in introductory texts, and the discussion of some subjects, for example physical optics, is unexpectedly full. Some historical material is included. Although shorter in this edition than in the preceding one, there has been a fair amount of revision which includes the introduction of new topics, such as radar, and the inclusion of others, such as cosmic rays.

RICHTMYER, F. K., AND OTHERS

Introduction to modern physics, by F. K. Richtmyer, E. H. Kennard, and T. Lauritsen. Fifth edition. New York McGraw-Hill Book Company Inc., 1955 666 p. 23 cm. (International series in pure and applied physics Leonard I. Schiff consulting editor) $8.50. 757

Contents: Historical sketch. The theory of relativity. Electrons and the photoelectric effect. The origin of the quantum theory. The nuclear atom and the origin of spectral lines. Wave mechanics. Atomic structure and optical spectra. X-rays. Wave mechanics of matter in bulk. The nucleus. Cosmic rays and fundamental particles. Appendixes. Index.

Note: A standard work, first published in 1928, and published in fourth edition in 194[illegible]. It is addressed to fourth-year undergraduate or first-year graduate students who have completed basic college courses in mathematics and classical physics. As the chapter titles listed in the above Contents show, it provides a broad view of the field. Mathematical analysis and physical descriptions are combined in the exposition. Also, considerable attention is paid to the historical development of modern physics. In this fifth edition, the book is almost 100 pages shorter than in the preceding edition. This is due to deletion of some material and condensation of some of the material carried over. The shorter length notwithstanding, the chapter entitled "Wave mechanics of matter in bulk" is new in this edition, and new matter has been added to several other chapters which have been rewritten.

RUSK, ROGERS D.

Introduction to college physics. New York Appleton-Century-Crofts, Inc., 1954 816 p. illus. 23 cm. $6.50. 758

Contents: Mechanics—the concept of force. Mechanics—the concept of energy. Properties of matter. Heat and internal energy. Vibrations, waves, sound. Electric and magnetic forces, electric currents. Electric and magnetic energy. Electric power, electromagnetic [illegible]. Electrons and nuclear physics. Light, color, spectra. Applications. Answers to problems. Index.

Note: A broad introduction to classical physics, suitable as a first college course for students who are planning to pursue additional study of science is provided in this text. In addition, there is a long chapter on the physics of electrons and nuclei. Numerous applications of physics are described, but the main emphasis is on basic phenomena and concepts. The author's style is plain and easy to read. The book is well illustrated.

SAUNDERS, FREDERICK A., AND PAUL KIRKPATRICK

College physics. Fourth edition. New York Henry Holt and Company 1953 603 p. illus. (part col'd) 24 cm. $6.25 759

Contents (abridged): Mechanics. The nature of physics. Vector quantities. Force and acceleration. Work, energy and power. Rotation. Elasticity. Fluids at rest and in motion. Heat. Kinetic theory. Heat transfer. Change of state. Heat engines. Sound. Vibrations. Sound waves. Hearing. Electricity and magnetism. Currents and charges. Elementary electrostatics. Magnetism. Conductors and circuits. Induced currents. Generators and motors. Electron properties. Electric oscillations and waves. Light. Reflection and refraction of light. Lenses and curved reflectors. Dispersion and spectra. Color and interference. Polarization of light. Atomics. Relativity. Waves and particles. Atomic nuclei. Nuclear reactions. Appendix. Index.

Note: A standard textbook whose scope and organization is based on an extensive experience in teaching physics to college students. It presents an introductory exposition of classical physics and is written in a lucid style. It is a new and much revised edition of the senior author's *A survey of physics* of which the first edition was published in 1930 and a third edition in 1943. The 30-page terminal section on atomic physics is new in this edition. Most of the other sections also contain newly added material.

SEARS, FRANCIS WESTON, AND MARK W. ZEMANSKY

College physics. Second edition. Reading Mass. Addison-Wesley Publishing Company Inc. 1952 912 27 p. illus. (part col'd) 24 cm. (Addison-Wesley physics series Francis Weston Sears, consulting editor) $8.50 760

Contents (abridged): Composition and resolution of vectors. Friction. Rectilinear motion. Newton's second law. Motion of a particle. Work and energy. Impulse and momentum. Circular motion. Rotation. Elasticity. Harmonic motion. Hydrostatics. Hydrodynamics and viscosity. Temperature. Transfer of heat. The first law of thermodynamics. Thermal properties of matter. The second law of thermodynamics. Wave motion. Vibrating bodies. Acoustical phenomena. The electric field. Potential. Properties of dielectrics. Current and resistance. Principles of electrochemistry. The magnetic field. Induced electromotive force. Magnetic properties of matter. Capacitance and inductance. Alternating currents and electromagnetic waves. Electronics. The nature and propagation of light. Lenses and lens aberrations. Optical instruments. Illumination. Color. Interference and diffraction. Polarization. Spectra and atomic physics. Radioactivity and nuclear physics. Tables. Index. Answers to problems.

Note: A textbook for use in two-year courses. In it basic principles are developed with little attention to the practical applications or the historical background of the subject. Abridged from the authors' *Principles of Physics* which was developed for a two-year course in physics at the Massachusetts Institute of Technology; the first edition of this title was published in 1947. The present edition includes newly added material on surface tension, the kinetic theory of gases, convection coefficients, acoustical phenomena, electricity and light, and a new set of problems.

SEARS, FRANCIS WESTON

Mechanics, heat and sound. Second edition. Reading, Mass. Addison-Wesley Publishing Company Inc., 1950. 527 p. illus. 23 cm. $8.50 761

Contents: Composition and resolution of vectors. Statics. Moments—center of gravity. Linear motion. Newton's second law. Motion of

Note An introductory textbook developed at the University of Chicago. The basic phenomena and laws usually presented in a textbook for first college courses are covered, but the applications introduced are largely biological. This emphasis and the attention given to the scientific method suit the book to the needs of students whose main interest is biology or some area of science other than physics. However the physics content of the book has not been skimped, nor are physical ideas treated superficially

LEMON, HARVEY BRACE

From Galileo to the nuclear age, an introduction to physics Revised edition of "From Galileo to cosmic rays" Photographs by the author, drawings by Chichi Lasley Chicago The University of Chicago Press, 1946 451 p illus 23 cm $7 00 750

Contents (abridged) Part I, Mechanics Galileo and the principle of inertia. Newton's first two laws of motion. Paths of projectiles. Balanced forces and Newton third law of motion. Applications of the law of conservation of momentum. Energy potential and kinetic. Power Our two oceans—atmosphere and hydrosphere. Part II, Heat Temperature and expansion. Quantity of heat and temperature. The kinetic theory of heat. Part III Electricity and magnetism Conduction induction. Thunderstorms. Artificial production of charge. Magnetism. The energy of electric and magnetic fields. Part IV Electricity and matter Conductors, solid and liquid. The conduction of electricity by gases. Cathode rays. Electrons their mass and velocity Positive rays, protons, neutrons, and isotopes. Radioactivity and transmutation. Part V Waves and radiation About wave phenomena in general. On sound. Electromagnetic waves. Visible light. Radiation and atomic structure. Index.

Note Although planned primarily as a textbook, this work is also suitable for adult readers studying by themselves. Th style is light, almost conversational and it is supplemented by an abundance of ingeniously conceived illustrations. In comparison to the first edition, published in 1934 this one is not greatly changed except for about 20 inserted pages on new atomic particles and occasional paragraphs on new applications, such as radar

LINDSAY, ROBERT BRUCE

Concepts and methods of theoretical physics Princeton D Van Nostrand Company, Inc 1951 515 p 23 cm $7.25 751

Contents The nature of theoretical physics. Part I, Particle physics Kinematics—the geometry of motion. Concepts of the theory of mechanics—the principles of dynamics. Motion of particle in a straight line—oscillations. Motion of particle in a plane. Motion of collection of particles. Dynamics of a rigid body Minimal principles—Lagrange's equations. The transformation theory of mechanics—atomic structure. Statistical mechanics and thermodynamics. Quantum theory Part II, Field physics Scalar and vector fields. Deformable material media and tensor fields. Wave motion in solid and fluid media. The electromagnetic field. Electromagnetic radiation. Electron theory and relativity Problems. Index.

Note This book is a text for upperclass undergraduate college students who are majoring in physics. The author has assumed that his readers will have completed courses in advanced calculus and elementary partial differential equations. For readers with the necessary preparation the book provides an introductory and fairly simple treatment of some of th basic ideas and the chief mathematical techniques of present-day physics.

MCCUE, J J G

The world of atoms an introduction to physical science By J J G McCue, with the assistance of Kenneth W Sherk. New York The Ronald Press Company 1956 659 p illus 23 cm. $6 50 752

Content (abridged) Mechanics. Heat. Foundations of chemistry Some chemical reactions. Electricity Solutions. The classification of the elements. The structure of atoms. Chemical binding. The atomic nucleus. Appendix. Index.

Note A college textbook in physics. It covers the traditional ground of introductory courses in American colleges. However as the title is meant to indicate there is more than the usual emphasis on atomic physics. The arrangement is chronological but not rigidly so, and there is emphasis on the succession of experiments and ideas that led to the present body of basic physical knowledge. Some applications of physics are discussed, but they do not dominate the fundamental material. The author was formerly Associate Professor of Physics on the faculty of Smith College, and Professor Sherk is presently Professor of Chemistry in the same college.

MARGENAU, HENRY, AND OTHERS

Physics, principles and applications. By Henry Margenau, William W Watson and C G Montgomery Second edition New York McGraw Hill Book Company, Inc., 1953 714 p illus 23 cm $7 75 753

Contents (abridged) The methods of physics. Introduction to mechanics. Description of motion—kinematics. Force and acceleration—dynamics. Dynamics of a rigid body Motions under inverse-square laws of force. Oscillations. Hydrostatics. Hydrodynamics. Intermolecular forces. Temperature and thermal expansion. Calorimetry Change of state. Kinetic theory The laws of thermodynamics. Transfer of heat. Meteorology The electric field and potential. Electric currents. Chemical and thermal electromotive forces. Magnetic forces on currents. electrical instruments. The magnetic field produced by currents. The magnetic properties of matter Alternating currents. Electronics. Wave motion. Production and reception of sound. The nature of light. Optical instruments. Spectra and color Radiant energy Atomic structure. Nuclear physics. Appendixes. Index. Index of tables. Answers to problems.

Note A college textbook written by present and former members of the Department of Physics of Yale University The authors' purpose was to present an account of physics which is "rigorous, vital, and modern. The treatment of certain topics in the second edition has been simplified somewhat, but the book is still more comprehensive and advanced than the usual run of introductory texts. Calculus is employed freely in the exposition and is required for solving many of the problems. Except for instruments, there is little discussion of the applications of physics. The first edition was published in 1949 Various sections of the book were rewritten, some sections were deleted, and discussions of number of new topics, such as the Schmidt camera and the transistor, have been added in this edition. Also, changes have been made in the problems included for students to solve.

MENDENHALL, C E, AND OTHERS

College physics. Fourth edition By C. E Mendenhall A. S Eve, D A Keys, R. M Sutton Boston D C Heath and Company 1956 660 p illus 23 cm $6 75 754

Contents (abridged) Statics. Force and motion. Energy and power Friction and machines. Curvilinear motion. Rotation. Elasticity Gravitation. Hydrostatics. Mechanics of gases. Hydrodynamics. Vibrations and oscillations. Wave motion and sound. The measurement of temperature. Kinetic theory of gases. Mechanical equivalent of heat. Transfer of heat. Magnetism. Electrostatics. Condensers and capacitance. Current electricity Magnetic fields and motion. Electromagnetic induction. Conduction of electricity through gases. Radio. The nature of light and photometry Lenses. The eye and vision Optical instruments. Polarization of light. Photoelectricity Radioactivity Atomic structure. Nuclear physics and atomic energy Appendix. Answers to problems. Index to tables in text. Index to text.

Note A long-established (the first edition was published in 1935) textbook for introductory college courses The mathematical requirements are simple. The reader's interest is stimulated by the use of many pictures and by mentions of applications of physical principles in familiar machines and devices. The traditional topics of introductory courses in classical physics are discussed in somewhat more detail than in many textbooks of more recent origin. On the other hand, the concepts of atomic and nuclear physics are not introduced until the last three chapters and are then treated very briefly In comparison to the third edition, the fourth edition does not represent a major revision, although important changes have been made in various sections of the text and in the illustrations. The attractive format of the third edition has been retained.

MICHELS, WALTER CHRISTIAN, AND A L PATTERSON

Elements of modern physics Illustrations by Richard Barbera and George Berk. Prince

SLATER, JOHN C.

Modern physics. New York McGraw Hill Book Company 1955 332 p. illus. 24 cm. $6.00. 767

Contents: The atom in nineteenth-century physics. The electron theory and relativity. Beginning of the quantum theory. The nuclear atom. The Bohr atom. X-rays and crystal structure. Atomic spectra and the periodic system of the elements. Complex spectra and molecular spectra. Wave mechanics. Atoms, molecules, and solids. Nuclear physics and high-energy particles. Appendixes. Index.

Note: An elementary lucidly written account of the great development in physics in our century. The author himself describes it as [illegible] history of the development of ideas that together with only enough theory to make it comprehensible. Some mathematics is employed, but the book is written so that these parts may be skipped if necessary. It is organized as a textbook, and the intended audience includes college students, graduate and undergraduate, who are not physics majors but who recognize the need of some understanding of quantum mechanics, atomic particles, nuclear fission, etc. The author, a widely known mathematical physicist, is a member of the faculty of Massachusetts Institute of Technology.

SMITH, ALPHEUS WILSON

The elements of physics. Fifth edition. New York McGraw Hill Book Company, Inc., 1948 745 p. illus. (part col'd) 24 cm. $6.50 768

Contents (abridged): Part I, Mechanics. Part II, Wave motion and sound. Part III, Heat. Part IV, Magnetism and electricity. Part V, Electronics. Part VI, Physical and geometrical optics. Part VII, Radiation and atomic structure. Appendixes. Index.

Note: This textbook has been widely used in American universities and colleges since the publication of the first edition in 1923. The author's method is to impart a thorough understanding of the fundamental physical principles and phenomena by showing their many applications. Along with the basic theory are several descriptions and illustrations of interesting devices based on physics are included. A fair amount of new material has been added in the present edition. There are an entirely new chapter on [illegible] and numerous shorter articles on recent developments, particularly in atomic physics and electronics. There are now more than 900 illustrations.

SPROULL, ROBERT L.

Modern physics: a textbook for engineers. New York John Wiley & Sons, Inc., 1956 491 p. illus. 24 cm. $7.75 769

Contents: Fundamental particles. Assemblies of particles. Atoms and nuclei. Wave-particle experiments. Introductory quantum mechanics. Atomic structure and spectra. Molecules. Binding and energy bands in solids. Electrical, thermal, and magnetic properties of solids. Imperfections in solids. Semiconductors. Physical electronics. Applied nuclear physics. Appendixes. Index.

Note: Primarily a college text, this book consists of expositions of topics selected from atomic physics, nuclear physics, solid state physics, quantum mechanics, etc. It is addressed to such readers as last-year graduate students and graduate engineers, and a grasp of classical physics and college mathematics on the part of the reader has been assumed. The author's approach to most topics is analytical but without emphasis on mathematical analysis. Also, he has not hesitated to lighten the exposition with occasional descriptive passages. Selected literature references, most of them to books, are included.

SUTTON, RICHARD MANLIFFE, editor

Demonstration experiments in physics. New York McGraw Hill Book Company Inc., 1938. 545 p. illus. 23 cm. $7.50 770

Note: A collection of nearly 1,300 lecture experiments in physics prepared under the auspices of the American Association of Physics Teachers, with contributions from 200 physicists in 130 institutions. Contains many familiar experiments and many new ones designed to illustrate the principles of physics as taught in high school and college courses.

WATERMAN, ALAN T

Arthur L. Kimball's College textbook of physics. Sixth edition revised by Alan T Waterman. New York Henry Holt and Company 1954 942 p. illus 24 cm. $7.95 771

Contents (abridged): Aim and method of physical science. Fundamental conceptions. Units and measurements. Mechanics. Mechanics of liquids and gases. Properties of matter and its internal forces. Wave motion and sound. Heat. Magnetism. Electrostatics. Electric currents or electrodynamics. Light. Modern physics. Appendix. Index.

Note: First published in 1911, this textbook, under the name of the original author, was widely used in colleges and universities in the United States of America for approximately four decades. It held its place partly because of its logical organization, but primarily because of the author's clear and explicit style. The original style has been retained in this major revision done by the Director of the United States National Science Foundation, and the book is still primarily an exposition of classical physics with five chapters that serve as a preview of modern physics. However extensive revisions have been made in the text, illustrations, and problems.

WHITE, HARVEY E.

Descriptive college physics. Princeton D Van Nostrand Company Inc. 1955 485 p illus. (part col'd) 23 cm. $5.75 772

Contents (abridged): Mechanics: Units of measurements. Newton's laws of motion. Forces, vectors, and center of gravity. Conservation of energy and momentum. Properties of matter. The atomic theory of matter. Fluids in motion. Heat: Temperature and expansion. Heat transfer. Change of state and low temperatures. Sound: Vibrations and waves. Musical instruments. Light. Electricity and magnetism. Atomic physics: The discovery of electrons. The discovery of atoms. Atoms and their spectra. Nuclear Physics: Radioactivity. Atomic collisions and nuclear disintegrations. Cosmic rays. Atomic accelerators. Atomic energy. Appendices. Index.

Note: Specifically planned as an informative exposure to physics for college students who are not preparing for careers in the physical sciences, this book is a descriptive treatment, as stated in the title. The nature and scope of classical and modern physics is delineated in terms of physical concepts and by the use of well-described analogies. Almost no mathematics is used. The volume is thoroughly illustrated and many of the illustrations are [illegible] of lecture demonstrations. The section on atomic physics is 130 pages long and is one of the book's main features.

WHITE, HARVEY E.

Modern college physics. Third edition Princeton D Van Nostrand Company Inc., 1956 824 p. illus. (part col'd) 23 cm. $6.75 773

Contents (abridged): Mechanics. Properties of matter. Heat. Sound. Light. Electricity and magnetism. Atomic physics. Electronics. Quantum optics. Nuclear physics. Appendices. Index.

Note: A successful textbook used in full-length, introductory college courses. It is specifically designed for the instruction of students who are preparing to major in a physical or biological science. Among the chapters on conventional topics are interspersed chapters on such topics as aeronautical mechanics and optical instruments, and even the chapter on heat contains a tabulation of the "heat content of average servings of food." Nevertheless, the main emphasis is on the principles of classical physics and atomic physics. The first edition under this title was published in 1948, and the second edition in 1952. The main changes in this second edition are in the problems, of which many new ones have been added, and in the treatments of atomic and nuclear physics, which have been revised to bring them up to late 1955. The author is Professor of Physics in the University of California.

WHITE, MARSH W., AND OTHERS

Practical physics. By Marsh W White, Kenneth V Manning and Robert L. Weber Second edition. New York McGraw Hill Book Company Inc., 1955 484 p illus. (part col'd) 23 cm. $5.30 774

a projectile. Center of mass. Work and energy Impulse and momentum. Circular motion. Moment of inertia. Rotation and translation. Elasticity Harmonic motion. Gravitation. Hydrostatics and surface tension. Hydrodynamics and viscosity Temperature—expansion. Quantity of heat. Transfer of heat. Change of phase. Properties of gas—the ideal gas. Real gases. The second law of thermodynamics. Kinetic theory of gases. Wave motion. Vibration of strings and air columns. Sound waves. The ear and hearing. Index.

Note An outstanding textbook designed for use in first courses in physics offered to college students who are planning to specialize in a physical science or engineering. It is primarily concerned with principles, little space being given to practical applications. Many of the problems are identical with those used in examinations given in the course taught by the author at the Massachusetts Institute of Technology The volume is very well illustrated.

SEARS, FRANCIS WESTON, AND MARK W ZEMANSKY

University physics, complete edition Second edition with supplementary problems Reading, Mass Addison Wesley Publishing Company, Inc., 1955 1,031 p illus. (part col'd) 23 cm $9 50 762

Contents (abridged) Mechanics. Heat. Sound. Electricity and magnetism. Optics. Atomic physics. Answers to problems. Conversion factors. Index.

Note An introductory textbook of comprehensive scope designed for use in full-length courses offered to undergraduate college students who are preparing for further work in physics or in another physical science or in engineering. It is based on the author's three-volume *Principles of physics* but differs from that work largely in that the treatment does not assume that the reader has completed a course in calculus. Calculus is used in the exposition, but the book is so arranged that it can be studied concurrently with an introductory course in calculus. As in *Principles of physics*, the primary emphasis is on fully detailed exposition of fundamental principles. The first edition was published in 1949 A number of changes were made in its text in preparing the second edition. These included the addition of new topics and revised treatments of some others. New problems were appended to the chapters, but the long section of supplementary problems has been reprinted without change from the first edition.

SEMAT, HENRY

Fundamentals of physics. Revised edition. New York Rinehart & Company, Inc., 1951 849 p illus 24 cm. 763

Contents (abridged) Part I, Mechanics Forces and equilibrium. Motion of a particle. Periodic motion. Work and energy Fluids at rest. Fluids in motion. Properties of matter Rotational motion. Part II, Heat: Heat and work. Kinetic theory of matter Change of phase. Transfer of heat. Heat engines. Application to meteorology Part III, Wave motion and sound. Part IV Electricity and magnetism Magnetism. Electrostatics. The electric circuit. Electrochemical effects. Electromagnetic effects. Electromagnetic induction. Alternating currents. Electrical communication. Part V Light Photometry Reflection and refraction. Optical instruments. Light as a wave motion. Part VI, Atomic physics Charged particles. Spectra and atomic structure Nuclear physics. Appendices. Tables. Glossary Index.

Note. The first edition of this college textbook was the result of planned effort to produce small book in which brevity was achieved largely by selection of the topics to be discussed. In the present revision that idea has been abandoned, and the book is comparable in scope to other introductory texts intended for courses of standard length. The emphasis is on basic principles and phenomena and applications are mentioned only incidentally The author is Professor of Physics in the College of the City of New York. A third edition, 914 p., $9.00, was published in 1957

SEMAT, HENRY

Physics in the modern world New York Rinehart & Company Inc. 1949 434 p. illus 23 cm. $6 00 764

Contents: Part I, Motion and energy: Motion. Force and motion. Work and energy Fluids and motion. *Part II, Power Sources of power* Heat and work. Electric power Part III, Radiant energy Sources of radiant energy Utilizing light. Communication. Part IV The atomic world. Structure of the atom. Nuclear energy Appendices Suggestions to teachers and students. A list of books for supplementary reading Tables. *Glossary Answers to problems.* Index.

Note Planned specifically as a text for use in courses in physics offered to students *who are not preparing for careers in science*, this book contains the traditional descriptions and illustrations of applications of physics, portraits and biographical notes on physicists, and simple exercises of such texts. On the other hand, there is due emphasis on fundamental principles. A knowledge of elementary algebra is all the mathematics required. The author is Professor of Physics in the College of the City of New York.

SHORTLEY, GEORGE, AND DUDLEY WILLIAMS

Elements of physics for students of science and engineering Second edition New York Prentice-Hall, Inc., 1955 880 xviii p illus 23 cm $8 75 765

Contents (abridged) Part I, Mechanics Scalar and vector quantities displacement, force, torque. Statics. Kinematics of translational motion Dynamics of a particle. Work, energy and power Mechanics of fluids. Elasticity and strength of materials. Rotational motion. Mechanics of rigid bodies. Periodic motion. Part II Heat Calorimetry Heat transfer Properties of gases. Solids, liquids, and gases. Thermodynamics. Part III, Wave motion and sound. Part IV Light Illumination and photometry Reflection of light. Refraction of light. Physical optics. Dispersion and spectra. Part V Electricity and magnetism Electrostatics. Capacitance. Current electricity Electrochemistry—thermoelectricity Magnetic effects of electric currents. Alternating-current circuits. Part VI, Modern physics. Electromagnetic waves—photons—electrons. Nuclear physics. Appendix. Index.

Note. A carefully written, full-length introductory textbook. As *indicated in the subtitle, it is addressed to students who will do* further work in science or engineering, rather than to those who *are studying the subject for cultural reasons.* Much attention is given to definitions, which are stated in operational terms. Most of the space is devoted to classical physics, with a brief introductory view of modern physics at the end of the book. A large number of problems for students to solve is included. A first edition was published in 1953 Revisions and additions in this second edition are so numerous that it was printed from reset type.

SHORTLEY, GEORGE, AND DUDLEY WILLIAMS

Physics fundamental principles for students of science and engineering Englewood Cliffs, N J Prentice Hall Inc., 1950. 2 v illus. 23 cm Vol I $5 75, vol II $6 75 766

Contents. Volume I. Part I, Mechanics Scalar and vector quantities, displacement, force, torque. Statics. Statics of fluids. Kinematics. Dynamics. Work, energy and power Rotational motion. Elasticity and strength of materials. Impacts and conservation of momentum. Vibratory motion *Fluid dynamics. Gyroscopic motion.* Part II, Heat Temperature thermal expansion Calorimetry Heat transfer Properties of gases. Solids, liquids, and gases. Thermodynamics. *Appendix. Index. Volume II, Part III,* Sound Wave motion. Production of sound. Properties of sound waves. Part IV Light The nature of light and its propagation. Illumination and photometry Reflection and refraction of light. Optical instruments. Interference and diffraction of light. Dispersion, spectra, and color Polarization of light. Emission and absorption of radiation. Part V Electricity and magnetism Electrostatics. Condensers. Direct electric currents. Electrochemistry Thermoelectricity *Magnetic effects of electric currents. Ferromagnetism* permanent magnets the earth's field. Ideal magnetic materials the magnetic circuit real magnetic materials. Electromagnetic induction. Alternating-current circuits. The fundamental electrical units. Electrical measuring instruments. Part VI, Modern physics Electronics. Electromagnetic waves. Elementary particles. Appendix. Index.

Note A thorough and rigorous introduction to classical physics, designed for the instruction of college students who are preparing for careers in science or engineering. Although the main emphasis is on principles, applications in such basic devices as radio communications systems are described. Throughout both volumes, the discussions are exceptionally full. The authors are Professors of Physics in Ohio State University

Tubes densimeter (experimental model). Discussion. Interpretation of the results of the tests.

Note: Preface: At the request of the American Society for Testing Materials, a critical study was made (by the National Bureau of Standards) of the commercial instruments for the determination of the specific gravities of gases. Eleven different instruments were studied with the use of 15 test gases of known specific gravities. Determinations were made of the accuracy and reproducibility of the effects of changes of temperature, relative humidity and water content of the surrounding air, and of sources of error and applicable corrections. It is believed that the results herein presented will be of considerable value to those requiring accurate data on the specific gravity of gases.

STRONG, JOHN, AND OTHERS

Procedures in experimental physics, by John Strong in collaboration with H. Victor Neher, Albert E. Whitford, C. Hawley Cartwright, and Roger Hayward. Illustrated by Roger Hayward. New York, Prentice-Hall, Inc., 1938. 642 p. illus. 23 cm. (Prentice-Hall physics series, E. U. Condon, editor) $7.50. 781

Contents: Fundamental operations in laboratory glass blowing. Laboratory optical work. Technique of high vacuum. Coating of surfaces. Evaporation and sputtering. Use of fused silica. Electrometers and electroscopes. Geiger counters. Vacuum thermopiles and the measurement of radiant energy. Optics. Light sources, filters, and optical instruments. Photoelectric cells and amplifiers. Photography in the laboratory. Heat and high temperatures. Notes on the materials of research. Notes on the construction and design of instruments and apparatus. Molding and casting. Rubber and some index.

Note: The authors endeavored to bridge the gap between laboratory demonstrations and experiment, and theoretical teaching, by collecting and co-ordinating up-to-date methods of experimental procedure and presenting them in easy to follow form. Procedures, apparatus, and techniques are described, and the sources of supplies are given. Over 400 drawings present graphic demonstrations.

THOMAS, JAMES LOUIS

Precision resistors and their measurement. Washington, D. C., Government Printing Office, 1948. 32 p. illus. 26 cm. (United States. National Bureau of Standards. Circular 470) $0.20. 782

Contents: Introduction. Resistance materials and construction methods. Methods of comparison of resistors. Special apparatus for precision measurements. Calibration of precision bridges. Resistivity of solid conductors. References.

Note: The Wheatstone bridge in one or another of its several forms is almost universally used in scientific investigation when accurate measurement of electrical resistance is required. This circular supplies information on the use and practical limitations of resistance-measuring bridges for persons interested in accurate measurement of electrical resistance. It also presents methods for the direct-current calibration of such bridges, the methods described being those regularly used at the National Bureau of Standards when an accuracy of 0.01 percent or better is required.

WHITEHEAD, T. N.

The design and use of instruments and accurate mechanism: underlying principles. New York, Dover Publications, Inc., 1954. 283 p. illus. 21 cm. $1.95. 783

Contents: Instruments and their parts. Part 1, The theory of errors. Systematic errors (false elements). Probability as applied to errors. Short period errors (disturbed elements). Erratic errors (incomplete elements). Conclusions of Part 1, and an example. Part 2, Design. Precision—kinematic design—semikinematic design. Stiffness, balance, and protection of elements. Accuracy. The planning of an instrument. The human factor. Index.

Note: A classic work, first published in 1934, its primary subject is instrumental errors. The author's approach is both physical and mathematical; however, physical concepts and terms predominate. Hence, the book can be read with profit by instrument designers whose knowledge of mathematics is slight. Part 1 is devoted to analyses of the kinds of errors that occur in instruments and to their causes. In this part, the author states: "The central problem in design is first to try to eliminate errors; secondly to persuade such as remain to figure in measurements as systematic or unbiased errors; and thirdly to provide the necessary facilities to enable the observer to cope successfully with these two classes." In Part 2, the author has illustrated the application of the basic theory to typical mechanisms, not as a guide to actual design of mechanisms, but as further exposition of the basic thesis. Except for a new preface and revisions of minor errors, the text of this "second printing" is the same as that of the first edition.

WEIGHTS AND MEASURES

LASHOF, T. W., AND L. B. MACURDY

Precision laboratory standards of mass and laboratory weights. Washington, D. C., Government Printing Office, 1954. 24 p. illus. 26 cm. (United States. National Bureau of Standards. Circular 547, section 1) $0.25. 784

Contents: Introduction. Classification of weights. Requirements for precision laboratory standards of mass—classes J, M, S, and S-1. Requirements for laboratory weights—classes P, Q, and T. Weight calibration service of the National Bureau of Standards. Regulations governing the submission of weights to the National Bureau of Standards for test. Suggestions for the purchase of weights meeting this specification. Appendices: Conversion factors for units of mass. Units and abbreviations for marking weights.

Note: This publication presents the specifications of the National Bureau of Standards for precision laboratory standards and other laboratory weights. It also presents the regulations governing the submission of these weights to the Bureau for test, and outlines the weight calibration service of the Bureau. It supersedes parts of Circular 3, *Design and test of standards of mass*. Other parts of Circular 3 will be superseded by forthcoming sections of Circular 547.

NATIONAL CONFERENCE ON WEIGHTS AND MEASURES

Specifications, tolerances, and regulations for commercial weighing and measuring devices. Second edition. Washington, D. C., Government Printing Office, 1955. 196 p. 20 cm. (United States. National Bureau of Standards. Handbook 44) $2.00. 785

Contents (abridged): Introduction. Fundamental considerations associated with the enforcement of specifications, tolerances, and regulations. Specifications, tolerances, and regulations: General code. Scales. Weights. Liquid-measuring devices. Vehicle tanks. Farm milk tanks. Liquid measures. Graduates. Measure-containers. Milk bottles. Lubricating-oil bottles. Linear measures. Fabric-measuring devices. Cordage-measuring devices. Mileage-measuring devices. Definitions. Specifications. Tolerances. Regulations. Dry measures. Index of definitions. Appendix: Tables of United States customary weights and measures. Notes on British weights and measures tables. Tables of metric weights and measures. Tables of interrelation of units of measurement. Tables of equivalents.

Note: The specifications, tolerances, and regulations given in this handbook are recommended by the National Bureau of Standards for official promulgation in, and use by, the states of the United States of America in exercising their control of commercial weighing and measuring apparatus. The National Conference on Weights and Measures is a body made up of state and local weights-and-measures officials from all parts of the United States, which normally meets annually at the National Bureau of Standards, Washington, D. C. This second edition of Handbook 44 supersedes Handbook 44, published in 1949. It contains the codes adopted by the Conference in 1955. The publication is available in the cloth-bound edition listed above and also in a loose-leaf format, price $3.00. Replacement sheets showing amendments and additions are available for the latter.

Contents (abridged) Physics, the science of measurement. Heat. Properties of matter Mechanics. Sound. Electricity Light and modern physics. *Experiments. Appendix.* Index.

Note A concise, simplified treatment of general physics, designed primarily for use in courses in colleges, technical institutes, and other educational and training efforts directed towards students whose interests in physics are practical. Only elementary algebra and trigonometry are used, and even these mathematical concepts are introduced in such a way that the reader can review them concurrently with the study of the book. The first edition was published in 1943 Three chapters have been added, and many other changes important from the pedagogical standpoint have been made in this edition. The authors are members of the faculty of the University of Pennsylvania.

WINANS, JOHN GIBSON

Introductory general physics. New York Ginn and Company, 1952 *765 p illus 24 cm* $6.25 775

Contents (abridged) Words and measurements. The algebra and geometry of physics. Work and power. Efficiency of machines. Forces acting on liquids at rest. Gases. Molecular forces. Vectors. Vector equations and *projectile motion Newton's laws of motion.* Rotational motion. Combinations of rotational and translational motion. Sound waves and their sources. Heat. The molecular theory of matter Magnetism. Electricity in motion. Chemical effects of electricity Magnetic effects of electric currents. Electric waves. Radio. The conduction of electricity through gases. The intensity of light. The velocity of light. Optical instruments. Color and the spectrum. Atomic energy Appendix. Index.

Note The first edition of a college textbook which has a number of notable features. The concept of a vector is introduced early and is employed throughout most of the book. The numerous illustrations are well chosen. Outstanding are the numerous graphical demonstrations of physical principles and the reproductions of photographs of physical experiments. Discussions of recently developed devices such as the transistor are included. Although typical applications are described, the book is not a descriptive text in the usual sense of that term. However the mathematics is simple.

LABORATORY TECHNIQUES

DUSHMAN, SAUL

Scientific foundations of vacuum technique. New York John Wiley & Sons, Inc., 1949 882 p illus. 24 cm. $16 00 776

Contents Kinetic theory of gases. *Flow of gases through tubes* and orifices. Mechanical pumps. *Steam-jet ejectors* and mercury vapor pumps. Vapor pumps using *organic liquids. Manometers for* low gas pressures. Sorption of gases and vapors by solids. Sorption of gases by "active" charcoal, silicates (including glasses) and cellulose. Gases and metals. Chemical and electrical clean-up of gases at low pressures. Vapor pressures and rates of evaporation Dissociation pressures of oxides, hydrides, and nitrides and rates of oxidation *Significance of reference abbreviations. Name index* Subject index.

Note Although pumps and other apparatus used in the production and measurement of high vacua are thoroughly described as to principles, characteristics and limitations, this book is not primarily description of apparatus and its manipulation. Rather it is a presentation of fundamental information from the fields of physics, chemistry and metallurgy which has application to high vacuum technique. It is written on professional level and is intended for scientists and engineers. There are numerous footnote references to the pertinent literature. It contains much more material than was contained in the author's *Production and measurement of high vacuum,* Schenectady N Y 1922.

HELDMAN, JULIUS DAVID

Techniques of glass *manipulation* in scientific *research. New York* Prentice Hall, Inc. 1946 132 p. illus 23 cm $3 00 777

Contents Properties of glass. Flames and torches. Equipment Basic operations. Blowing *involving one piece of glass. End and T* seals. The triple, ring, or inner seal. The Dewar seal. Use of the hand torch. Other operations. *Glass-to-metal seals. Finished-equipment exercises.* Glossary Index.

Note This book is designed for workers in scientific laboratories who may need to repair chemical glassware or to construct simple pieces. The author has included very detailed instructions on how to cut, bend, shrink, bulge, flange, and polish glass tubing. The reader is shown, step by step, how to make elbows, ties, wyes, coils, condensers, aspirators, manometers, McLeod gauges, diffusion pumps, and other glass equipment. The glossary includes a page of information on the trade names and kinds of glass that should be used.

KORFF, SERGE A

Electron and nuclear counters, theory and use. With chapter on scintillation counters by H Kallmann *Second edition Princeton* D Van Nostrand Company, Inc., 1955 363 p. illus 22 cm $6 75 778

Contents Introduction. Ionization chambers. Proportional counters. *Geiger counters. Preparation* and construction of counters. Errors and corrections in counting. *Auxiliary* electronic circuits. Scintillation counters, by H. Kallmann. References. Appendices. Author index. Subject index.

Note An introduction to the subject and reference handbook for physicists and other persons with scientific or engineering training *who are interested in the use of electron* and nuclear counters in research work. It covers basic theory and phenomena, design and construction, auxiliary circuits and practical uses, including the important subject of corrections for errors. The first edition was published in 1946. In this second edition, the book has been extensively revised, and its length substantially increased. In addition *to the new chapter by H. Kallmann,* mentioned in the title, the chapter on errors and corrections contains a new 11-page discussion of errors on counting written by *Professor* Yardley Beers of New York University *Among* other changes, the literature references have been revised, and a list of suppliers of equipment in the United States of America and in England has been added.

ROSSI, BRUNO B , AND HANS H STAUB

Ionization chambers and counters, experimental techniques New York McGraw Hill Book Company, Inc 1949 243 p illus. 24 cm. (National nuclear energy series Manhattan Project technical sections. Division v— vol. 2) $3.25 779

Contents Behavior of free electrons and ions in gases. Operation of ionization chambers with constant ionization *Operation* of ionization chambers with variable ionization. Gas multiplication. Beta-ray Gamma-ray and X-ray detectors. *Alpha-particle* detectors. Detectors for neutron recoils. *Detection of (n,α) and (n,p) reactions. Fission* detectors. Appendix. Index.

Note Based on work done under the *Manhattan District Project* in connection with the development of the atomic bomb, this book presents—as do the others in the series—a selection of material which has potential nonmilitary uses and is of general scientific interest. The first four chapters deal with ionization phenomena and the general principles upon which detectors and counters are based. *The remainder is devoted to descriptions of specific types of counters* which were developed mainly at the Los Alamos Laboratory The volume is of interest to research chemists and physicists working with radio-active substances.

SMITH, FRANCIS ALBERT, AND OTHERS

Tests of instruments for the determination indication or recording of the specific gravities of gases by Francis A. Smith John H *Eiseman and E* Carroll Creitz. Washington, D C Government Printing Office, 1947 143 p. illus 24 cm (United States. National Bureau of Standards Miscellaneous publication *M177)* $1 00 780

Contents Introduction *History* of the project. Definitions. Equipment Laboratory facilities. Test gases. Instruments studied. Plan of the tests: *Methods.* Corrections applicable and their evaluation. Results of tests of individual instruments Pressure balances. Arndt portable gas balance *Ac Me recording gravitometer no. 111* Arndt recording gas gravitometer *Sigma recorder no. 1 for specific gravity* Metric indicating gravitometer Ranarex specific gravity recorder no. A2160 and portable specific gravity indicator no. P1184.

Mechanics

Contents. Hydrodynamical paradoxes. Recent progress in free boundary theory. Modelling and dimensional analysis. Group theory and fluid mechanics. Virtual mass and groups. Bibliography. Index.

Note: An unusual book in which the author examines a number of noted paradoxes in fluid mechanics, shows "plausible reasoning" is not applicable in many hydrodynamic situations, discusses theory and practice in the use of models and the application of symmetry concepts, and then explores the applications of group-theoretic ideas to flow problems. The discussions are predominantly mathematical, and many of the ideas are original. The book is of interest to advanced workers in fluid mechanics, aeronautical design, etc. This is a reprint of the title published by the Princeton University Press, 1950.

CAMPBELL, JOHN WILLIAM

An introduction to mechanics. New York Pitman Publishing Corporation 1947 372 p. illus. 24 cm. $4 75 792

Contents: Rectilinear kinematics. Vector quantities. Plane kinematics. Particle dynamics. Centers of mass. Plane statics. Some properties of matter. Miscellaneous topics. Moments of inertia. Plane motion of a rigid body. Flexure and torsion. Kinematics of plane motion of rigid bodies. Further conditions for equilibrium. Flexible chains and cables. The general motion of a rigid body. Gravitation. Lagrange's equations. Appendices: Principles of computation. Elementary calculus. Definite integrals. A useful reduction. The integral. Simpson's rule. Hyperbolic functions. Bracketing Tables. Answers. Index.

Note: A textbook suitable for use in rigorous courses offered to students in engineering colleges. Mathematical methods involving the use of ordinary and vector calculus are explained. Worked examples are incorporated in the text, and there are additional problems for the students to solve. The author is Professor of Mathematics at the University of Alberta.

CLEMENTS, GUY ROGER, AND LEVI THOMAS WILSON

Analytical and applied mechanics. Third edition. New York McGraw Hill Book Company Inc. 1951 463 p. illus. 24 cm. $7.00. 793

Contents: Vectors. Concurrent forces. Coplanar forces—resultant. Coplanar forces—equilibrium. Framed structures and trusses. Forces in space. Cables. Center of gravity. Kinematics. Kinetics of particles. Impulse and momentum. Dynamics of a body. Stress and strain. Beams. Struts and columns. Combined stress. Problems for review. Appendix. Answers to problems. Index.

Note: An introductory text for use in college courses offered to students who are preparing to specialize in mechanical engineering or another division of engineering that requires a sound fundamental knowledge of mechanics. A fairly rigorous exposition of the basic mathematics and physics is combined with numerous worked examples. Though essentially the same as the text of the second edition published in 1943, revisions and additions have been made in numerous places.

COE, CARL JENNESS

Theoretical mechanics a vectorial treatment. New York The Macmillan Company 1938. 555 p. 21 cm. $7.25 794

Contents: Introduction. Rectilinear motion of a particle. Introduction to vectors. Curvilinear motion of a particle. Displacement and motion of a rigid body. Sliding vectors. Statics of particles and of a rigid body. Statics of a flexible cord. Principles of virtual work. Kinetics of particles. Kinetics of a rigid body. General principles of mechanics. Vector calculus. Potential theory. Index.

Note: A textbook for students of mathematics and mathematical physics, presenting an introduction to classical mechanics, mathematical physics, and the postulates on which they rest, and at the same time explaining and applying immediately the basic principles of vector analysis. The book presents sufficient material for an introductory and an advanced course. A year's work in calculus is required mathematical background, and the last three chapters will be more readily understood by the student who has had a first course in differential equations. Selected exercises are offered both in application of the theory and in simple extensions of it. Answers are given to most of the problems.

CORBEN, HERBERT CHARLES, AND PHILIP STEHLE

Classical mechanics New York John Wiley & Sons Inc., 1950 388 p illus. 22 cm. $7.50 795

Contents: Kinematics of particles. The law of motion. Conservative systems with one degree of freedom. Miscellaneous theorems on systems of particles. Lagrange's equations of motion. Applications of Lagrange's equations. Linear vector spaces. Small oscillations of conservative systems. Rigid bodies. Hamiltonian theory. Contact transformations. Contact transformations which simplify the equations of motion. Poisson brackets. Infinitesimal contact transformations. Further development of transformation theory. Miscellaneous generalizations and analogies. Introduction to special relativity theory. The motion of particles in high energy accelerators. Index.

Note: A college textbook of interest to superior and graduate students who are majoring in physics. It presents the knowledge and concepts in classical mechanics which are valid and useful in present-day physics and afford a sound preparation for the understanding of quantum mechanics.

COURANT RICHARD AND K O FRIEDRICHS

Supersonic flow and shock waves New York Interscience Publishers, Inc., 1948 464 p. illus. 24 cm. (Pure and applied mathematics series H Bohr R. Courant and J J Stoker editors) $8.50 796

Contents: Compressible fluids. General equations of flow. Thermodynamic notions. Differential equations for specific types of flow. Appendix—wave motion in shallow water. Mathematical theory of hyperbolic flow equations for functions of two variables. Appendix. One-dimensional flow. Continuous flow. Rarefaction and compression waves—Appendix. Shocks. Interactions. Detonation and deflagration waves. Appendix—wave propagation in elastic plastic material. Isentropic irrotational steady plane flow. Hodograph method. Characteristics and simple waves. Oblique shock fronts. Interactions—shock reflection. Approximate treatments of interactions. Airfoil flow. Remarks about boundary value problems for steady flow. Flow in nozzles and jets. Flow in three dimensions. Steady flow with cylindrical symmetry. Conical flow. Spherical waves. Bibliography. Index of symbols. Subject index.

Note: The authors, professors of mathematics at the Institute for Mathematics and Physics at New York University, have based this volume on a report which they prepared for the Office of Scientific Research and Development in 1944. Intended as an advanced text for mathematicians, engineers and physicists, it presents in mathematical form the principles and theories regarding the behavior of fluids and gases when subjected to extremely high pressures. Particularly important is the detailed development of the theory of nonlinear wave motion. The extensive bibliography is limited to nonrestricted war-time reports and other readily available material.

DRYDEN HUGH L AND OTHERS

Hydrodynamics. By Hugh L. Dryden, Francis D Murnaghan H Bateman. New York Dover Publications, Inc., 1956 634 p illus. 21 cm. $2 75 797

Contents: Part I, The physics of fluids and classical hydrodynamics. General survey of experimental aerodynamics. The hydrodynamics of a perfect fluid. General physical properties of a viscous fluid. Part II, Motion of an incompressible viscous fluid. General analytical theory. Motion in one direction. Viscous fluid in rotation. Motion in two dimensions. Laminar motion in a boundary layer. Motion in three dimensions. Approximate methods of calculating the resistance to motion through a viscous fluid. Part III, Turbulent flow. General theory. The use of the idea of eddy viscosity. Hydraulic flow in channels of various shapes. Part IV, Compressible fluids. Dynamical equations of motion. Discharge of gases. Flow past an irregular boundary or obstacle. Appendix. Additional references. Author index. Subject index.

Note: This book is a reprint without changes in the text of work that was first published in 1932 as Bulletin 84 of the National Research Council. It was a report of the Council's Committee on Hydrodynamics. It is a cyclopedic survey of the field as of about 1930. The extensive literature references in the text itself and in the appendix of additional references constitute a comprehensive bibliography of the subject to approximately 1931.

THE NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS

Twentieth yearbook The metric system of weights and measures Compiled by the Committee on the Metric System Washington, D C National Council of Teachers of Mathematics, 1948 303 p illus 24 cm. $3 00 786

Contents (abridged) System in measures The metric system—what it is and why we need it, by C. J Arnold. Weights and measures through the ages, by J O. Monasterio Is all this really necessary? by C. Pollock. The early history of the metric system, by E. W Schreiber Later trends in metric usage, by J J Urbancek. The system at work The metric system in chemistry by H. W Baker The metric system in meteorology by C. F Brooks. The metric system in electrical engineering, by A. E. Kennelly The metric system in mechanical engineering, by L. Elliott. The metric system in automotive engineering. The metric system in metalworking, by T H. Miller The international system in research and development engineering, by A. B Smith. The metric system in merchandising, by H. I. Kleinhans. The metric system in medicine, by A. Smith. Metric and avoirdupois in the drug industry by E. V Smith. The metric system from the Pan-American standpoint, by W C. Wells. The metric system and the armed forces, by G. S. Martin, Jr The metric system—an Anglo-American opportunity by H. Allcock. An auxiliary system for the measurement of time, by F J Moles. Decimalization of English measures and computation with approximate data, by C. N Shuster The metric system in science education by P O Johnson. Appendix Relationship between the inch and millimeter by R. E. Hanson. Convenient ways to use equivalent tables.

Note An organized plea for adoption of the metric system of weights and measures in the United States of America. The volume contains original essays and reprints of magazine and newspaper articles by many contributors who describe advantages of the metric system and discuss ways of securing its official adoption.

SMITH, RALPH WEIR

Testing of measuring equipment A manual for weights and measures officials. Issued May 15 1951 Washington, D C. Government Printing Office, 1951 205 p illus 24 cm (United States National Bureau of Standards Handbook 45) $1.25 787

Contents Introduction. Inspection of measuring equipment. Adjustment, rejection and sealing of measuring equipment. Linear measures. Fabric-measuring devices. Taximeters. Odometers. Liquid measures. Graduates. Measure-containers. Milk bottles. Lubricating-oil bottles. Liquid-measuring devices. Grease-measuring devices. Vehicle tanks. Dry measures. Berry baskets and boxes. Water gas, and electricity meters.

Note A manual for state and local weights and measures officials in which various types of commercial measuring equipment, the principles of their operation, and methods for their inspection and test are described. It is devoted primarily to procedures recommended for use by officials when exercising their routine regulatory controls over measuring equipment of all kinds. Testing procedures recommended are in general the minimum requirements considered necessary to enable the official to determine whether or not equipment should be approved for commercial use This handbook is a companion volume to Handbook 37 1945 *Testing of weighing equipment.*

UNITED STATES NATIONAL BUREAU OF STANDARDS

Units of weight and measure (U S customary and metric), definitions and tables of equivalents Issued July 1, 1955 Washington D C. Government Printing Office 1955 64 p 25 cm (United States National Bureau of *Standards* Miscellaneous publication 214) $0 40 788

Contents Introduction. Fundamental equivalents. Definitions of units. Standards of measurement. Spelling and abbreviation of units. Tables of interrelation of units of measurement. Comparison of metric and customary units from 1 to 9. Special tables. Tables of equivalents from 1 to 999 units. Status of international metric system in the United States. Index.

Note In this publication, the units of length, area volume, capacity and mass as used in the United States of America are defined. Tables of interrelations and tables of equivalents for these units in the metric system and in the U S. Customary system are given. There is a section in which the fundamental equivalents are stated, one containing the approved spelling and abbreviation of each of the most common units of weight and measure, and one showing the current status of the metric system in the United States. The conversion tables are confined to simple units, excluding all compound units such as foot-pounds, pounds per cubic foot, and feet per second. This supersedes Miscellaneous publication 121.

ZIMMERMAN, O T, AND IRVIN LAVINE

Industrial Research Service's Conversion factors and tables. Second edition. Dover, N H. Industrial Pesearch Service, Inc., 1955 501 p 16 cm $5 00 789

Contents (abridged) Definitions and fundamental values. Physical constants. Conversion factors—U. S., British, metric. Foreign conversion factors. Foreign monetary equivalents. Conversion tables: mensuration. Temperature conversions. Thermocouple tables. Vapor pressure of water Hydrometer conversions. A.P.I. gravity factors. Viscosity conversions. Color scale conversions. Hardness conversions. Wire and sheet metal gages. Decimal equivalents. Five-place common logarithms. Index.

Note In technical libraries, scientific laboratories and on the desks of scientists and engineers, the first edition of this little book proved to be one of the most useful reference books of our times. In this second edition, the main section has been expanded, and the factors recalculated, so as to take into account new standards and new values for the pertinent physical constants. A new section of conversion factors for units used in foreign countries (other than Great Britain) has been added. This section is arranged by country and is 119 pages long. The section on foreign monetary equivalents is also new and there are a number of less prominent though equally useful additions.

MECHANICS

BECKER, ROBERT A

Introduction to theoretical mechanics New York McGraw Hill Book Company, Inc., 1954 420 p illus 24 cm $8 00 790

Contents: Fundamental principles. Statics of a particle. Statics of rigid bodies. Statics of the suspended string or cable. Work and the stability of equilibrium. Motion of a particle in a uniform field. Oscillatory motion of a particle in one dimension. Motion of systems of particles. Motion of a rigid body in a plane. Motion of a particle under the action of a central force. Accelerated reference systems and constrained motion of a particle. Motion of a rigid body in three dimensions. Generalized coordinates. Vibrating systems and normal coordinates. Vibrating strings and wave motion. Appendixes Area and volume elements in common coordinate systems. Elements of ordinary differential equations Note on hyperbolic functions. Commonly employed expressions involving partial derivatives. Note on Fourier series. Problems. Index.

Note. An advanced undergraduate- and graduate-level textbook developed in a course given by the author at the University of Illinois and designed for students who are preparing for careers in areas of science or engineering where a sound grasp of mechanics is essential. The subject matter is primarily classical Newtonian mechanics however the treatment has a definitely modern flavor In both the expository text and problems, there is emphasis on theory and methods useful in modern science and technology The final three chapters constitute an introduction to the use of coordinate methods in the study of motion.

BIRKHOFF, GARRETT

Hydrodynamics a study in logic, fact and similitude. Published with the Taft Fund of the *University of Cincinnati* New York Dover Publications, 1955 186 p illus 22 cm $1.85 791

Contents: Hydrodynamical paradoxes. Recent progress in free boundary theory. Modeling and dimensional analysis. Group theory and fluid mechanics. Virtual mass and groups. Bibliography. Index.

Note: An unusual book in which the author examines a number of noted paradoxes in fluid mechanics; shows "plausible reasoning" is not applicable in many hydrodynamic situations; discusses theory and practice in the use of models and the application of symmetry concepts; and then explores the applications of group-theoretic ideas to flow problems. The discussions are predominantly mathematical, and many of the ideas are original. The book is of interest to advanced workers in fluid mechanics, aeronautical design, etc. This is [illegible] reprint of the title published by the Princeton University Press, 1950.

CAMPBELL, JOHN WILLIAM

An introduction to mechanics. New York Pitman Publishing Corporation, 1947 372 p illus. 24 cm. $4 75 792

Contents: Rectilinear kinematics. Vector quantities. Plane kinematics. Particle dynamics. Centers of mass. Plane statics. Some properties of matter. Miscellaneous topics. Moments of inertia. Plane motion of [illegible] rigid body. Flexure and torsion. Kinematics of plane motion of rigid bodies. Further conditions for equilibrium. Flexible chains and cables. The general motion of [illegible] rigid body. Gyroscopes. Lagrange's equations. Appendices: Principles of computation. Elementary calculus. Definite integrals. A useful reduction integral. Simpson's rule. Hyperbolic functions. Reading Tables. Answers. Index.

Note: A textbook suitable for use in elementary courses offered to students in engineering colleges. Mathematical methods involving the use of ordinary and vector calculus are explained. Worked examples are incorporated in the text, and there are additional problems for students to solve. The author [illegible] Professor of Mathematics at the University of Alberta.

CLEMENTS GUY ROGER, AND LEVI THOMAS WILSON

Analytical and applied mechanics. Third edition. New York McGraw Hill Book Company Inc., 1951 463 p illus. 24 cm. $7.00 793

Contents: Vectors. Concurrent forces. Coplanar forces—resultant. Coplanar forces—equilibrium. Framed structures and trusses. Forces in space. Cables. Center of gravity. Kinematics. Kinetics of [illegible] particle. Impulse and momentum. Dynamics of [illegible] body. Stress and strain. Beams. Shafts and columns. Combined stress. Problems for review. Appendix. Answers to problems. Index.

Note: An introductory text for use in college courses offered to students who are preparing to specialize in mechanical engineering or another branch of engineering that requires [illegible] sound fundamental knowledge of mechanics. A fairly rigorous exposition of the basic mathematics and physics is combined with numerous worked examples. Though essentially the same as the text of the second edition published in 1943, revisions and additions have been made in numerous places.

COE CARL JENNESS

Theoretical mechanics a vectorial treatment. New York The Macmillan Company 1938 555 p. 21 cm. $7.25 794

Contents: Introduction. Rectilinear motion of [illegible] particle. Introduction to vectors. Curvilinear motion of [illegible] particle. Displacements and motion of [illegible] rigid body. Sliding vectors. Statics of particles and of [illegible] rigid body. Statics of [illegible] flexible cord. Principles of virtual work. Kinetics of particles. Kinetics of [illegible] rigid body. General principles of mechanics. Vector calculus. Potential theory. Index.

Note: A textbook for students of mathematics and mathematical physics, presenting an introduction to classical mechanics, mathematical physics, and the [illegible] to which they lead, and at the same time explaining and applying [illegible] the basic principles of vector analysis. The book presents sufficient material for an introductory and an advanced course. A [illegible] work in calculus is [illegible] required mathematical background, and the last three chapters will be more readily mastered by the student who has had [illegible] first course in differential equations. Selected exercises are offered both in application of the theory and in simple extensions of [illegible] Answers are given to most of the problems.

CORBEN HERBERT CHARLES AND PHILIP STEHLE

Classical mechanics New York John Wiley & Sons Inc., 1950 388 p. illus. 22 cm. $7.50 795

Content: Kinematics of particles. The laws of motion. Conservative systems with one degree of freedom. More general theorems on systems of particles. Lagrange equations of motion. Applications of Lagrange equations. Linear vector spaces. Small oscillations of conservative systems. Rigid bodies. Hamiltonian theory. Contact transformations. Contact transformations which simplify the equations of motion. Poisson brackets. Infinitesimal contact transformations. Further developments of transformation theory. More advanced generalizations and analogies. Introduction to special relativity theory. The motion of particles in high energy accelerators. Index.

Note: A college textbook of interest to upperclass and graduate students who are majoring in physics. It presents the knowledge and concepts in classical mechanics which are vital and useful in present-day physics and afford [illegible] sound preparation for the understanding of quantum mechanics.

COURANT RICHARD AND K O FRIEDRICHS

Supersonic flow and shock waves. New York Interscience Publishers Inc., 1948 464 p illus. 24 cm. (Pure and applied mathematics series H. Bohr R. Courant and J J Stoker editors) $8.50 796

Contents: Compressible fluids: General equations of flow. Thermodynamic notions. Differential equations for specific types of flow. Appendix—wave motion in shallow water. Mathematical theory of hyperbolic flow equations for functions of two variables. Appendix. One-dimensional flow: Continuous flow. Rarefaction and compression waves—Appendix. Shocks. Interactions. Detonation and deflagration waves. Appendix—wave propagation in elastic-plastic material. Isentropic irrotational steady plane flow. Hodograph method. Characteristics and simple waves. Oblique shock fronts. Interactions—shock reflection. Approximate treatments [illegible] interactions. Airfoil flow. Remarks about boundary value problems for steady flow. Flow in nozzles and jets. Flow in three dimensions. Steady flow with cylindrical symmetry. Conical flow. Spherical waves. Bibliography. Index of symbols. Subject index.

Note: The authors, professors of mathematics at the Institute for Mathematics and Physics at New York University, have based this volume on [illegible] report which they prepared for the Office of Scientific Research and Development in 1944. Intended as an advanced text for mathematicians, engineers and physicists, it presents in mathematical form the principles and theories regarding the behavior of fluids and gases when subjected to extremely high pressures. Particularly important is the detailed development of the theory of nonlinear wave motion. The extensive bibliography is limited to unrestricted war-time reports and other readily available material.

DRYDEN HUGH L., AND OTHERS

Hydrodynamics. By Hugh L. Dryden Francis D Murnaghan, H Bateman. New York Dover Publications, Inc., 1956. 634 p. illus. 21 cm. $2 75 797

Contents: Part I. The physics of fluids and classical hydrodynamics. General survey of experimental aerodynamics. The hydrodynamics of [illegible] perfect fluid. General physical properties of a viscous fluid. Part II. Motion of an incompressible viscous fluid. General analytical theory. Motion in one direction. Viscous fluid in rotation. Motion in two dimensions. Laminar motion in [illegible] boundary layer. Motion in three dimensions. Approximate methods of calculating the resistance to motion through [illegible] viscous fluid. Part III. Turbulent flow. General theory. The use of the idea of eddy viscosity. Hydraulic flow in channels of various shapes. Part IV. Compressible fluids: Dynamical equations of motion. Discharge of gases. Flow past an irregular boundary or obstacle. Appendix. Additional references. Author index. Subject index.

Note: This book is [illegible] reprint without changes in the text of [illegible] work that was first published in 1932 as Bulletin 84 of the National Research Council. It was [illegible] report of the Council Committee on Hydrodynamics. It is [illegible] encyclopedic survey of the field as of circa 1930. The extensive literature references in the text itself and in the appendix of additional references constitute [illegible] comprehensive bibliography of the subject to approximately 1931.

Authors of the cited literature are indexed in the author index. The page size of the original report has been reduced in this reprint but the text is still legible.

GIRVIN, HARVEY FRANK

A historical appraisal of mechanics Scranton International Textbook Company, 1948 275 p illus 23 cm $4 75 798

Contents Foreword, by A. A. Potter Part I, The creation of science and scientific thinking: Introduction. Early Greek philosophy Medieval period, 500–1500. Part II, Scientific thought begins to function: The Renaissance, 1400–1600. The beginning of the modern period. Dynamics, the science of motion. Period between Galileo and Newton Isaac Newton, 1642 1727 Work of Newton's contemporaries and followers. In retrospect. Part III, Mechanics of materials Pre-elastic development. Theory of elasticity Post Saint Venant period. Mechanics and engineering education in the United States. The nineteen-forties. Appendices. Index.

Note An easy-to-read account of the gradual development of man s knowledge of physical mechanics. It is intended to provide students and interested laymen with a critical survey and considerable part of the story is told in the form of résumés of the contributions of noted men. Because titles, dates and places of publication are cited for both periodical articles and books in which important advances were revealed, the work has considerable utility as reference book.

GOLDSTEIN, HERBERT

Classical mechanics. Reading, Mass. Addison Wesley Publishing Company, Inc., 1950 399 p illus 24 cm $8 50 799

Contents Survey of the elementary principles. Variational principles and Lagrange's equations. The two-body central force problem. The kinematics of rigid body motion. The rigid body equations of motion. Special relativity in classical mechanics. The Hamilton equations of motion. Canonical transformations. Hamilton-Jacobi theory Small oscillations. Introduction to the Lagrangian and Hamiltonian formulations for continuous systems and fields. Bibliography Index of symbols. Index.

Note A presentation f classical mechanics for graduate students in physics. Instead of following the traditional pattern for this science the author has selected those topics which are of greatest pertinence to modern physics. A further restriction is that such topics as elasticity which have already been thoroughly treated from the modern viewpoint in other books are not covered. The treatment assumes that the reader will have had courses in advanced calculus and analysis. The more difficult mathematical techniques such as matrix algebra are presented in the book itself.

INGLIS, DAVID RITTENHOUSE

Dynamic principles of mechanics New York McGraw Hill Book Company Inc. 1949 174 p illus 24 cm $4 50 800

Contents Kinematics of particle Dynamics of a particle. Coupled oscillators and normal coordinates. Inverse-square force and planetary motion. A dynamical system f several particles. Statics. Rotation of rigid body Impact. Index.

Note A well-organized presentation intended for course use by advanced undergraduates and also by graduates who did not have a specialized course in dynamics as undergraduates. Previous courses in general physics and in calculus are assumed. It is designed as preparation for professional work in modern physics and chemistry consequently although the subject matter is all from classical physics, the treatment is such that the student is prepared, in habits of thinking at least, for the study of quantum mechanics. The uthor is associate Professor of Physics at Johns Hopkins University

LINDSAY ROBERT BRUCE

Physical mechanics an intermediate text for students of the physical sciences. Second edition Princeton D Van Nostrand Company, Inc. 1951 451 p illus 22 cm (University physics series Walter C Michels consulting editor) $6 25 801

Contents The elemental concepts f mechanics. Rectilinear motion of particle. Curvilinear motion in plane Energy in particle dynamics. Statics of particle. Motion of system of particles. Mechanics of rigid body Constrained motion. Oscillations. Deformable bodies and wave motion. Mechanics of fluids. Advanced mechanics. Index.

Note A substantial presentation of classical mechanics. Its primary use is as a textbook in courses offered to college students who are preparing for careers in physics and who hav completed thorough courses in elementary physics and mathematics through calculus and introductory differential equations. The treatment is analytical, and considerable part of the exposition is expressed in mathematics. The first edition was published in 1933 In this edition discussions of several important topics hav been reorganized and rewritten, and new chapter designed to give the student some idea of the scope of advanced mechanics has been added.

SLATER, JOHN CLARKE, AND NATHANIEL H. FRANK

Mechanics New York McGraw Hill Book Company, Inc., 1947 297 p illus 23 cm. (International series in pure and applied physics, G P Harnwell, consulting editor) $5 00 802

Contents The linear motion of particle. The linear oscillator Motion in two and three dimensions. Lagrange's and Hamilton's equations. The motion of rigid bodies. The motion of symmetrical rigid body Coupled systems and normal coordinates. The vibrating string. Wave propagation in the string. The string with variable tension and density The vibrating membrane. Stresses, strains, and vibrations of an elastic solid. Flow of fluids. Appendices. Suggested references. Index.

Note A fuller and more rounded treatment of mechanics than was included in the authors' *Introduction to theoretical physics*, 1933 As in the original volume, emphasis is placed on the theoretical aspects of the subject, and the book is intended for use in rigorous courses in college physics. The general arrangement and form of presentation are similar to the chapters on mechanics in the 1933 work but such topics as linear motion and motion of rigid bodies are discussed in greater detail. In the appendix the mathematical background necessary for an understanding of the subjects discussed is summarized and reviewed.

STEPHENSON, REGINALD JOSEPH

Mechanics and properties of matter New York John Wiley & Sons, Inc. 1952 371 p illus 24 cm. $6 00 803

Contents Kinematics. Force and motion of particles. Work and energy of particles. Newton's law of gravitation and some of its consequences. Free and forced harmonic oscillations. Translational and rotational motion of rigid bodies. Elasticity Statics. Hydrostatics and hydrodynamics. Wave motion. Problems. Index.

Note. An intermediate-level textbook intended for college students who are majoring in physics or in engineering. More advanced aspects of mechanics are considered, and the treatment of them is more rigorous than in lementary texts. On the other hand, the author has taken special pains to mak the techniques and concepts clear Usually word explanation precedes the mathematical expression, and the expository material includes many fully worked examples.

STOKER, JAMES JOHN

Nonlinear vibrations in mechanical and electrical systems New York Interscience Publishers Inc., 1950 273 p 24 cm (Pure and applied mathematics Volume 2) $6 75 804

Contents (abridged) Linear vibrations. Free ibrations of undamped systems with nonlinear restoring forces. Free oscillations with damping and the geometry of integral curves. Forced oscillations of systems with nonlinear restoring force Self-sustained oscillations. Hill equation and its application to the study of the stability of nonlinear oscillation Appendices Mathematical justification of the perturbation method. Bibliography Index

Note Essentially this book is digest of the work done on linear vibrations from about the end of the 19th century when

the fundamental contributions of [illegible] [illegible] were published, to about the end of 1930, together with selections from the significant work since that year. Applications of the mathematical techniques are indicated constantly; thus the book is of interest both to physicists and engineers who have sufficient knowledge of mathematics to follow the exposition. It is also of interest to graduate students in mathematics and professional mathematicians who may wish to pursue research in the field.

STREETER, VICTOR LYLE

Fluid dynamics. New York McGraw Hill Book Company Inc., 1948. 263 p. illus. 23 cm. (McGraw Hill publications in aeronautical science Jerome C. Hunsaker consulting editor) $6.00. 805

Contents: Fluid flow concepts. Fundamentals of frictionless fluid flow. Theorems and basic flow definitions. Three-dimensional flow examples. Application of complex variables to two-dimensional fluid flow. Two-dimensional flow examples. Blasius theorem—flow around cylinders and airfoils. Schwarz-Christoffel theorem—free streamlines. Vortex motion. Equations for viscous flow. Examples of viscous flow. The boundary layer. Index.

Note: An introduction to the general theory of fluid flow intended primarily for use in graduate courses in fluid mechanics. The treatment centers largely on the development and solution of equations which express the behavior of fluids under varying conditions. It is assumed that the reader has a working knowledge of elementary and differential calculus. More advanced mathematical concepts, such as the theories of complex variables and conformal mapping, are explained in the text as the need arises. The illustrative matter includes many original graphic representations of field nets and patterns.

SYMON KEITH R.

Mechanics. Reading, Mass. Addison-Wesley Publishing Company Inc., 1953 358 p. illus. 23 cm. $8.50 806

Contents: Elements of Newtonian mechanics. Motion of a particle in one dimension. Motion of a particle in two or three dimensions. The motion of a system of particles. Rigid bodies—statics. Gravitation. Moving coordinate systems. Introduction to the mechanics of continuous media. Lagrange's equations. Answers to problems. List of symbols. Index.

Note: The most distinctive feature of this textbook treatment of mechanics is that it is written from the viewpoint of physics rather than of engineering. It is a rigorous and rather detailed treatment designed for advanced undergraduate students who have completed courses in basic physics and elementary calculus. Differential equations and vector analysis are employed in the exposition, but it is not essential that readers have familiarity with them before undertaking this text. The bibliography is a well selected list of books.

SYNGE, JOHN L. AND BYRON A. GRIFFITH

Principles of mechanics Second edition. New York McGraw Hill Book Company Inc., 1949 530 p. illus. 24 cm. $7 75 807

Contents: Part I. Plane mechanics. Foundations of mechanics. Methods of plane statics. Applications in plane statics. Plane kinematics. Methods of plane dynamics. Applications in plane dynamics—motion of a particle—motion of a rigid body and of a system. Plane impulsive motion. *Part II.* Mechanics in space. Products of vectors. Statics in space. Kinematics. Kinetic energy and angular momentum. Methods of dynamics in space. Applications in dynamics in space—motion of a particle—motion of a rigid body. Lagrange's equations. The special theory of relativity. Appendix: The theory of dimensions. Index.

Note: In this work, the author departs considerably from the method of approach and the scope of the conventional introductory text in mechanics. More than average attention is devoted to the philosophical background and the discussion of fundamental laws and mechanics in two dimensions and particles; detailed treatment of mechanics in space. Both parts may be used separately, the first as an elementary text requiring a working knowledge of calculus and analytical geometry, the second as an advanced text based on a more advanced mathematical background. The major changes in the second edition consist of thorough revision of the sections on the motion of a particle in an electromagnetic field, and more detailed discussion of principal axes of inertia, Foucault's pendulum and the gyrocompass.

SOLID STATE PHYSICS

GOMER, ROBERT, AND CYRIL STANLEY SMITH editors

Structure and properties of solid surfaces A conference arranged by the National Research Council Lake Geneva, Wisconsin September 1952 Chicago University of Chicago Press, 1953 491 p illus 22 cm. (The University of Chicago Committee on Publications in the Physical Sciences Walter Bartky and others) $10.00 808

Contents: The use of classical macroscopic concepts in surface-energy problems, by C. Herring. Atomic theory of surface energy by P. P. Ewald and H. Juretschke. The mechanical properties of crystalline metal surfaces, by A. J. Shaler. Wetting of solids as influenced by the polarizability of surface ions, by W. A. Weyl. The study of solid surfaces, by G. P. Thomson. The adhesion of solids, by F. P. Bowden and D. Tabor. Crystal growth and chemical structure, by A. F. Wells. Some remarks on facts and theories of crystal growth, by H. E. Buckley. Epitaxy, by H. Seifert. Physical adsorption of gases on solids, by T. L. Hill. Surface structure from the standpoint of chemisorption and catalysis, by M. Boudart. Physical and chemical adsorption of gases on iron synthetic ammonia catalysts, P. H. Emmett. Chemisorption on solid surfaces, by A. Wheeler. The catalytic action of spinels, by G. M. Schwab and others. Index.

Note: Papers first presented at the conference mentioned in the above title have been published in this volume, together with extensive excerpts from the discussions of the individual papers at the conference. The purpose of the conference was not only to summarize the previous and present recent developments in the understanding of solid surfaces, but also to call attention to the many unsolved problems. Eminent scientists working at the research level in fields where the physics and chemistry of surfaces is important participated in the conference, and, generally speaking, addressed themselves to their colleagues. Both the papers and the discussion are technical. The book can be used as an introduction to the field by persons who have the necessary basic knowledge of physics, or the papers can be used as independent monographs by graduate physicists and chemists. Literature references are given in the form of footnotes. There is no index to the authors of the cited literature but the volume does contain an adequate subject index.

KITTEL, CHARLES

Introduction to solid state physics. Second edition. New York John Wiley & Sons, Inc., 1956 617 p. illus. 23 cm. (Wiley series on the science and technology of materials J. H. Hollomon, advisory editor) $12.00. 809

Contents: The description of crystal structures. Diffraction of X-rays by crystals. Classification of solids—Lattice energy of ionic crystals. Elastic constants of crystals. Lattice vibrations. Thermal properties of solids. Dielectric properties. Ferroelectric crystals. Diamagnetism and paramagnetism. Free electron model of metals. Band theory of solids—Brillouin zones. Application of Brillouin zone theory to metals and alloys. Semiconductor crystals. Semiconductor rectifiers and transistors. Ferromagnetism and antiferromagnetism. Superconductivity. Lattice vacancies, diffusion, and color centers. Excitons, photoconductivity and luminescence. Dislocations. Appendix. Author index. Subject index.

Note: Addressed primarily to advanced students of physics, chemistry and engineering, this book introduces the reader to the modern knowledge of the physics of solids. It is not a comprehensive treatment, but those areas of the field which are named in the chapter titles listed above are covered. The level of treatment assumes previous introductory courses in basic physics and atomic physics. Although mathematics is used in all chapters, the exposition is not primarily mathematical, and certain advanced mathematical topics are included only in the appendix. Literature references are given for all chapters, and in this edition they include some publications as recent as 1954. Although only three years lapsed between the first and second editions, the latter is some 200 pages longer. Numerous topics are explained more fully in the second edition, and topics have been added in several chapters.

National Research Council Division of Physical Sciences Committee on Solids

Imperfections in nearly perfect crystals Symposium held at Pocono Manor, October 12–14 1950 *Editorial committee W Shockley*, J H Hollomon R. Maurer and F Seitz. New York John Wiley & Sons, Inc., 1952 490 p illus 24 cm $10 00 *810*

Contents I, On the nature of imperfections in nearly perfect crystals *Imperfections in nearly perfect crystals—a synthesis*, by F Seitz. On the geometry of dislocations, by W T Read, Jr and W Shockley II, The role of imperfections in deformation Imperfections from transformation and deformation, by C. S. Barrett. Experimental information on slip lines, by W T Read, Jr X-ray diffraction studies of cold work in metals, by B. E. Warren and B L. Averbach. Mechanical strength and creep in metals, by N F Mott. The influence of dislocations and impurities on the damping and the elastic constants of metal single crystals, by J S. Koehler. III, Diffusion and related phenomena Relaxation effects in ionic crystals, by R. G Breckenridge. Studies of alkali halides *by photoelectric methods, by L. Apker and E. Taft. Diffusion* in alloys and the Kirkendall effect, by J Bardeen and C. Herring. Theory of diffusion, by C. Zener IV On the properties and effects of external and internal surfaces of crystals *Surface and interfacial tensions* I single-phase solids, by J C. Fisher and C. G. Dunn. Dislocation models of grain boundaries, by W T Read, Jr and W Shockley Interphase interfaces, by C. S. Smith. Substructures in crystals, by A. Guinier *The properties and effects of grain* boundaries, by B Chalmers. Movement and diffusion phenomena in grain boundaries, by R. Smoluchowski. Author index. Subject index.

Note A valuable addition to the literature of the physics of solids. It contains both the final papers whose titles are given above and excerpts from the discussions at the symposium. The first paper is an authoritative survey of the current status of the knowledge of imperfections in crystals. The other papers, for the most part, describe results of recent investigations. In addition to being a fundamental work for specialists in crystallography the *book is of interest to physicists working in the fields of semi*conductors and the physics of metals and to metallurgists conducting fundamental research.

National Research Council Division of Physical Sciences Committee on Solids

Phase transformations in solids Symposium held at Cornell University August 23–26 1948 Editorial committee R. Smoluchowski, *J E Mayer and W A Weyl. New York* John Wiley & Sons Inc., 1951 660 p 22 cm. $12 00 *811*

Contents. On the general theory of phase transitions, by L. Tisza. A general method for imperfect crystals and phase transitions, by J E. Mayer Crystallization as cooperative phenomenon, by J. G. Kirkwood. Fundamental aspects of diffusion in solids, by F Seitz. Nucleation theory by R. Smoluchowski. Crystallographic aspects of phase transformations, by M. J Buerger *The solid-liquid transition* in argon, by O K. Rice. Transitions in silver halides, by M. L. Huggins. Phase transformations in one-component silicate systems, by F C. Kracek. Phase transformations in polycomponent silicate systems, *by J F Schairer Transitions in glass, by W A. Weyl.* Phase transitions in ferroelectrics, by B Matthias. Transformations in pure metals, by C. S. Barrett. Order-disorder transitions in metal alloys, by S. Siegel. Precipitation *from solid solutions of metals*, by A. H. Geisler *The eutectoid reaction, by R. F Mehl and A. Dubé* The martensite transformation, by M. Cohen.

Note The phenomena of phase transformations in solids is of interest in variety of fields, some of which, such as photography and metallurgy are not obviously related. The papers are addressed primarily to scientists working in laboratories and industry They are accompanied by lists of related literature and by transcripts of discussions. Although the book is a valuable contribution to knowledge, no index has been provided.

Photoconductivity Conference

Photoconductivity conference held at Atlantic City, November 4–6, 1954 Editorial committee R. G Breckenridge, B R Russell and E E Hahn Sponsored by University of *Pennsylvania, Radio Corporation of America* and Office of Naval Research. New York John Wiley & Sons Inc., 1956 *653* p illus. *23 cm. $13 50* 812

Contents Part I, Phenomenological theory of photoconductivity *Performance of photoconductors*, by A. Rose. The relation between lifetime, limit of sensitivity and information rate in photoconductors, by R. L. Petritz. Part II, Photon absorption process: Theoretical ideas pertaining to traps or centers, by C. Herring. The influence of lattice vibrations on electronic transitions in solids, by M. Lax. *Indirect transitions from the valence to the conduction* bands, by J Bardeen and others. Absorption near the edge in insulators, by D L. Dexter *Infrared absorption and energy-band* structure of germanium and silicon, by H. Y Fan and others. Note on the statistical mechanics of semiconductor crystals with electron-vibration coupling, by H. M. James. Part III, Electron processes: *Electron processes in photoconductors, by E. S. Rittner. The range* of charge carriers in photoconductors, by F Stöckmann. *The role* of chemisorption in *surface trapping*, by P H. Miller, Jr Interfacial photoeffects in germanium at room temperature, by C. G. B. Garrett and W H. Brattain. The photoelectromagnetic effect, by L. Pincherle *The trapping of minority carriers in silicon*, by J. R. Haynes and J A. Hornbeck. Part IV *Photoconducting materials*: Optical and photoconductive properties of silicon and germanium, by E. Burstein and others. Photoconductivity and photovoltaic effect in intermetallic compounds, by H. P R. Frederikse and R. F Blunt. Absorption and photoconductivity in InSb, by T S. Moss. Photoexcitation in ionic crystals, by J A. Krumhansl. The electrical and optical properties of PbS and allied semiconductors, by R. P Chasmar *Photoconductivity of PbS*, by G. W Mahlman and others. Electrical and optical properties of ZnO, by E. Mollwo. Part V Current topics. *Photoeffects in InSb*, by S. W Kurnick and R. N Zitter. Gold-doped germanium, by W C. Dunlap, Jr Impurity photoconduction in germanium, by G. A. Morton and others. Carrier lifetime in tellurium by D Redfield. Superlinear photoconductivity *by R. H. Bube. Fine-spot scanning of PbS films*, by D Dutton. The electrical and optical properties of PbTe films, by H. Levinstein. The chemical and physical properties of *PbS single crystals*, by W W Scanlon and others. Hall effect and resistivity measurements on photoconductive *PbS films under illumination*, by J. F Woods. Author index. Subject index.

Note. Although it lacks the unity of well-planned treatise, this volume results nevertheless as major contribution to solid state physics. The authors of the papers are scientists who are taking prominent part in research (both academic and applied) in solid state physics and, more particularly photoconductivity in the U.S.A. and other countries at the present time. The participants in the conference also participated in the discussions of the individual papers following their presentation, and excerpts from these discussions are included in the published volume. Also included are selected literature references.

Seitz, Frederick

The modern *theory of solids* *New York* McGraw Hill Book Company Inc., 1940 698 p illus 23 cm (International series in physics L. A. DuBridge consulting editor) $10 00 813

Contents Empirical classification of solid types. *The classical* theory of ionic crystals. The specific heats of simple solids. The free-electron theory of metals and semi-conductors. Quantum-mechanical foundation. *Approximate treatment of the many-body* problem. Molecular binding. The band approximation. Approximational methods. The cohesive energy The work function and the surface barrier The excited electronic states of solids. The electronic structure of the five solid types. The dynamics of nuclear motion phase changes. Theory of conductivity The magnetic properties of solids. The optical properties of solids.

Note Presents survey of the theory of the properties of all types of crystalline solids, treating them from common viewpoint. Besides dealing with the theory of metals, the book discusses the properties of salts and other insulators as well, showing the factors which account for differences and similarities of all these materials.

SOLID STATE PHYSICS advances in research and applications. Editors Frederick Seitz and David Turnbull. Volume I. New York Academic Press, Inc., 1955 469 p illus. 23 cm. $10.00. 814

Contents: Methods of the one-electron theory of solids, by J. R. Reitz. Quantitative analysis of the cohesion in metals, by E. P. Wigner. The quantum defect method, by F. S. Ham. The theory of order-disorder transitions in alloys, by T. Muto and Y. Takagi. Valence semiconductors, germanium and silicon, by H. Y. Fan. Electron interaction in metals, by D. Pines. Author index. Subject index.

—— Volume II. New York Academic Press, Inc., 1956 468 p. illus. 24 cm. $10.00. 815

Contents: Nuclear magnetic resonance, by G. E. Pake. Electron paramagnetism and nuclear magnetic resonance in metals, by W. D. Knight. Applications of neutron diffraction to solid state problems, by C. G. Shull and E. O. Wollan. The theory of specific heats and lattice vibrations, by J. de Launay. Displacement of atoms during irradiation, by F. Seitz and J. S. Koehler. Author index. Subject index.

—— Volume III. New York Academic Press, Inc., 1956. 588 p. illus. 23 cm. $12.00. 816

Contents: Group III—Group V compounds, by H. Welker and H. Weiss. The continuum theory of lattice defects, by J. D. Eshelby. Order-disorder phenomena in metals, by L. Guttman. Phase changes, by D. Turnbull. Relations between the concentrations of imperfections in crystalline solids, by F. A. Kröger and H. J. Vink. Ferromagnetic domain theory, by C. Kittel and J. K. Galt. Author index. Subject index.

Note: The physics of solids is an area of science in which the volume of research and accumulated knowledge has expanded tremendously in the last decade. The discovery of the transistor was a principal factor in this expansion, but solid state physics finds applications also in other fields, notably crystallography and metallurgy. This series provides a summary of advances and a guide to the current literature. The pattern is a familiar one: surveys written by experts and tied rather closely to the literature. According to the editors it is planned to published three types of articles: (1) broad elementary surveys for newcomers to the field, (2) more advanced for research workers already at work in it, and (3) specialized articles on new techniques. The volumes published through 1956 contain the reviews whose authors and titles are listed above.

VON HIPPEL, R.
Dielectrics and waves. New York John Wiley & Sons, Inc. 1954 284 p. illus. 29 cm. $16.00 817

Contents (abridged): Macroscopic approach. Complex permittivity and permeability. Polarization and magnetization. Correlations between electric and magnetic phenomena. Electromagnetic waves in unbounded space. Dimensions and units. Description of dielectrics by various sets of parameters. Polarized radiation. Dipole radiation. Fresnel equations. Reflection and refraction of plane waves by loss-free dielectrics. Skin effect. Electromagnetic fields in wave guides. Treatment of field phenomena by equivalent circuits. Representation of dielectrics by lumped circuit equivalents. Molecular approach. Molecular mechanisms of polarization. The Clausius-Mosotti-Lorentz-Lorenz equation. Electronic polarization. The energy level diagram of atoms. Wave functions of molecules and the concept of quantum-mechanical resonance. Bond energies and dipole moments of diatomic molecules. Polyatomic molecules. The band-width of spectral lines. Microwave spectroscopy. Formation and structure of liquids and solids. Piezoelectricity. Ferroelectricity. Ferromagnetism and ferrimagnetism. Conduction and breakdown. Appendix: Problems and illustrative examples. Elements of vector analysis. Values of physical constants. Table of symbols. Reference list of books and summarizing articles. Index.

Note: In scope, this book is a companion volume to *Dielectric materials and applications*, edited by von Hippel. It is characterized by the same broad, fundamental approach, the central theme of which is the study and understanding of dielectrics in terms of atomic and molecular structure and properties. Essentially it is a survey of the current status of the knowledge of dielectric phenomena from this viewpoint. The traditional or classical view is summarized in the first part, and the new view is covered in the much larger second part. The term "dielectrics" is interpreted broadly so as to include not only electrical insulators but all nonmetals and even metals under certain conditions. Graduate physicists, chemists and electrical engineers are the intended audience.

CRYSTALLOGRAPHY

BUCKLEY, HAROLD EUGENE
Crystal growth. New York John Wiley & Sons, Inc., 1951 571 p. illus. 22 cm. $11.00. 818

Contents: Solution and solubility. Solubility and supersolubility. The artificial preparation of crystals. The Curie theory of crystal growth. The so-called velocities of growth. The diffusion theories. Recent theories of crystal growth. Ideal and real crystals. Miscellaneous types of crystallization. Dissolution phenomena. Crystal habit modification by impurities. Relationship of substances during crystallization. Peculiarities of crystal growth. Appendix: Habit modification in crystals as a result of the presence of impurities. Name index. Subject index.

Note: A substantial survey of the current knowledge of the phenomena of crystal formation and of the techniques of growing large crystals in the laboratory. Due attention is paid to the historical development of the field. Reference numbers in the text are keyed to extensive literature citations at the end of each chapter, and the names of the authors of the quoted articles are brought out in the name index. There are 88 plates made principally from photographs of crystals and 140 figures based chiefly on line drawings.

BUERGER, MARTIN JULIAN
Elementary crystallography an introduction to the fundamental geometrical features of crystals. New York John Wiley & Sons, 1956 528 p. illus. 23 cm. $9.50. 819

Contents: The crystalline state and its relation to other states of matter. Repetition theory. The translation periodicity of crystals. The basic rotational symmetries of crystals. Derivation of the crystal classes. Combinations of symmetry operations involving reflections and inversions. The symmetrical plane lattices. The symmetrical space-lattice types. The coordinate systems of crystallography. Crystal forms. Practical determination of point-group symmetry. The algebra of operations. Space groups isogonal with the cyclic point groups. The dihedral space groups. The isometric axial space groups. Space groups containing operations of the second sort. Résumé of space groups and their derivation. Equivalent positions in space groups. The determination of space groups and the utilization of space-group information. Group theory. Group theory applied to point symmetries. Group theory applied to space symmetries. Index.

Note: An introductory but full-scale treatment of crystal symmetry. Early in the book the author points out that there are only 230 possible types of three-dimensional space patterns. Most of the text that follows is concerned with the derivation of these patterns and with their characteristics in crystals. Allied topics, such as piezoelectric properties of crystals, are covered. Information is included on practical techniques of examining and classifying natural crystals, but this phase of the subject is not emphasized. The mathematics used in most of the book is essentially solid geometry. However in the last two chapters the reader is introduced to the mathematical theory of groups, and the importance of this theory to advanced work in crystallography is indicated. The author is Professor of Mineralogy and Crystallography in the Massachusetts Institute of Technology.

BUERGER MARTIN JULIAN
X-ray crystallography an introduction to the investigation of crystals by their diffraction of monochromatic X radiation. New York John Wiley & Sons Inc., 1942 531 p. illus. 26 cm. $9.50. 820

Contents: Introduction. Some geometrical aspects of lattices. The diffraction of X-rays by crystals. Space-group extinctions. The rotating-crystal method, preliminary account. The reciprocal lattice. Geometrical interpretation of Bragg's law. Rotating-crystal photographs and their interpretation. Practical aspects of rotating-

crystal investigations. Oscillating-crystal photographs and their interpretation. An introduction to moving-film methods. A general introduction to the Weissenberg method. The normal-beam Weissenberg method. The equi-inclination Weissenberg method. Moving-film photographs taken with the X-ray beam inclined to the layers of the reciprocal lattice. The Sauter and the Schiebold methods. The de Jong and Bouman method. The geometry of oblique cells and their reciprocals. The experimental determination of the lattice constants of the crystals belonging to the oblique systems. The theory of attaining precision in the determination of lattice constants. The precision determination of the linear and angular lattice constants of single crystals. The theory and interpretation of reciprocal lattice projections.

Note An introduction to the investigation of crystals and their diffraction of monochromatic X-ray radiation. This volume deals exclusively with modern X-ray crystallography. Essential theory, design and operation of apparatus, simple indexing procedures, connections with group theory, precision determination of lattice constants, and related topics are treated in great detail. The book is addressed primarily to those actively engaged in some phase of crystal structure analysis and should be particularly useful to the beginner in the field. A modest background in physics and mathematics is required, the development is extremely detailed, and the text is replete with excellent diagrams and illustrations. Much of the important data is placed in tabular form. Lists of references are given at the end of each chapter.

CADY, WALTER GUYTON

Piezoelectricity, an introduction to the theory and applications of electromechanical phenomena in crystals New York McGraw Hill Book Company, Inc., 1946 806 p illus. 23 cm (International series in pure and applied physics, Lee A DuBridge, consulting editor) $13 00 821

Contents (abridged) Crystallography. Crystal elasticity. Rotated axes and transformation of elastic constants. Vibrations of crystals. Elastic constants of crystals. Dielectric properties of crystals. Principles of piezoelectricity. Special piezoelectric properties of certain crystals. Production and measurement of piezoelectric effects. Alternative formulations of piezoelectric theory. The piezoelectric resonator. The electrical equivalent of the piezo resonator. Properties and technique of quartz. The quartz resonator. Resonators from other crystals, and composite resonators. The piezo oscillator. Rochelle salt—history, general properties, and technique—piezoelectric observations—dielectric observations—interaction theory and dielectric properties—piezoelectric and elastic properties. The domain structure of Rochelle salt. Internal-field theory of Seignette-electric crystals. Pyroelectricity. Piezo-optic, and other optical effects. Piezoelectricity in the light of atomic theory. Ferromagnetism. General bibliography. Author index. Subject index.

Note In spite of the subtitle, this work ranks as a comprehensive treatment. It is written on the level of graduate students in physics and physicists engaged in piezoelectric work in laboratories and industry. As the chapter titles indicate, topics allied to piezoelectricity are also discussed, and the material on crystals includes quartz and all other kinds that are of interest. The techniques of manufacturing oscillators and other devices from crystals are covered but the treatment of them is less full than the treatment of the theoretical and mathematical aspects of the subject. The main bibliography contains 603 numbered entries to which statements and formulas in the text are keyed.

CULLITY, B D

Elements of X ray diffraction Reading, Mass Addison-Wesley Publishing Company Inc. 1956 514 p illus 24 cm. (Addison Wesley metallurgy series, Morris Cohen consulting editor) $10 00 822

Contents Fundamentals. Properties of X-rays. The geometry of crystals. Diffraction—The directions of diffracted beams—The intensities of diffracted beams. Experimental methods. Laue photographs. Powder photographs. Diffractometer measurements. Applications. Orientation of single crystals. The structure of polycrystalline aggregates. The determination of crystal structure. Precise parameter measurements. Phase-diagram determination. Order-disorder transformations. Chemical analysis by diffraction. Chemical analysis by fluorescence. Chemical analysis by absorption. Stress measurement. Suggestions for further study. Appendixes. Answers to selected problems. Index.

Note. An introduction to X-ray diffraction, addressed primarily to advanced college students who are preparing for careers in such fields as chemistry, metallurgy, ceramics and mineralogy. Although fundamentals and techniques are emphasized, considerable space is devoted also to applications. The subject is not pursued beyond concepts that can be expressed in terms of the Bragg law; however, two sections of the appendix are devoted to the reciprocal lattice. In addition to its study in organized classes, the style of the book and the fullness of the exposition make it suitable for use in self-instruction by college graduates who are familiar with basic physics.

DONNAY, J D H, AND WERNER NOWACKI

Crystal data, classification of substances by space groups and their identification from cell dimensions. With the collaboration of Gabrielle Donnay and many assistants New York The Geological Society of America, 1954 719 p illus 25 cm. (Geological Society of America. Memoir 60) $5 00 823

Contents. Part I, Systematic tables—classification of crystalline substances by space groups, by W Nowacki. Introduction. Main table. Tables of statistical data (tables 1 to 6). Abbreviations of names of scientific journals. Literature references. Part II, Determinative tables—identification of crystalline substances from cell dimensions, by J D. H. Donnay. Introduction. Determinative tables. Appendix. Tables of space-group criteria, by J. D. H. Donnay and D Harker (tables 14 to 19). Formula index. Name index. Errata.

Note. The two parts of this important reference book were written independently but they complement one another. In the first part, crystalline substances are classified by space groups in the main table, which is supplemented by six tables in which the data are presented from a statistical standpoint. Part II—480 pages in length—consists of determinative tables and a series of six short tables of space-group criteria. The determinative tables give, for a long range of crystalline substances, the determinative number and other axial elements, chemical name and formula, number of formula units per cell, space-group, structural type, specific gravity, locality where found (in the case of some minerals), literature reference, and occasional critical remarks. Separate bibliographies are included in the two parts. In the case of Part I, the literature is covered to the middle of 1948; for Part II, the coverage is through 1951. Substances are fully indexed, both by chemical formula and chemical or mineralogical name.

EITEL, WILHELM

Thermochemical methods in silicate investigation New Brunswick Rutgers University Press, 1952 132 p illus. 24 cm $5 00 824

Contents: Introduction. Heats of formation and reaction. Calorimeters for the determination of heats of reaction. Thermochemical principles for the problem of reaction affinities. Experimental methods for determining reaction affinities. Examples for the calculation of free energy changes and affinities. The possibility of anomalies at low temperatures; statistical meaning of entropy. Appendixes. Index to compounds. Subject index.

Note Thermochemical concepts combined with the techniques of modern calorimetry constitute a powerful tool in investigations of structure-energy relationships and the determination of crystal structure. This book supplements the rather scanty literature on the subject. It is based largely on work of the Kaiser Wilhelm Institute for Silicate Research with which the author was associated for many years, but the contributions of American workers in the field are included also. Literature references and valuable notes are included at various points in the text. The book is of interest to research workers in such fields as crystallography, petrology and ceramics.

FRY, WILLIAM J, AND OTHERS

Design of crystal vibrating systems for projectors and other applications by William J Fry John M Taylor and Bertha W Henvis Naval Research Laboratory A H van Keuren, Rear Admiral U.S.N Director, Sound Division, H C. Hays Supt. New York

Dover Publications Inc., 1948 162 p. illus. 24 cm. $3.50 825

Contents: Part I, Design curves: Calculation of Resonant frequency Acoustic impedance of backing material combinations. Resonant frequencies of systems with multiple-material backing. Electrical input impedance and transmitting response. Sensitivity and acoustic input impedance. Efficiency and stress. Acoustic input impedance of particular backing material systems. Part II, Theory: Fundamental equations. Electrical input impedance. Acoustic input impedance. Resonant frequency. Sensitivity. Stress. Appendixes: Symbols, definitions, and conventions. Units and tables of constants. Longitudinal and thickness modes. Fundamental equations for thick wave vibrations.

Note: Essentially this volume is a presentation of technical data concerning the characteristics of piezoelectric crystal vibrating systems. It is made up largely of design curves which depict fundamental piezoelectric relations, and which are based on the analyses of a great number of crystal vibrating systems. Instructions for the use of these curves and an explanation of the methods used in their derivation are included. The calculations and the experimental verifications of them were done under the auspices of the Sonar Design Section of the Bureau of Ships, U.S. Navy and the work was published originally by the Department of Commerce in 1941, as P.B. Report 27412.

Heising Raymond Alphonsus editor

Quartz crystals for electrical circuits their design and manufacture. New York D Van Nostrand Company Inc., 1946 563 p. illus. 24 cm. $8 75 826

Contents: Introduction, by R. A. Heising. Quartz crystal applications, by W. P. Mason. Methods for specifying quartz crystal orientation and their determination by optical means, by W. L. Bond. The use of X-rays for determining the orientation of quartz crystals, by W. L. Bond and E. J. Armstrong. Raw quartz, its imperfections and inspection, by G. W. Willard. Use of the etch technique for determining orientation and twinning in quartz crystals, by G. W. Willard. Modes of motion in quartz crystals, the effects of coupling and methods of design, by R. A. Sykes. Theoretical analyses of modes of vibration for isotropic rectangular plates having all surfaces free, by H. J. McSkimin. Principles of mounting quartz plates, by R. A. Sykes. Sawing, grinding and lapping, by W. L. Bond. Adjusting to frequency by G. M. Thurston. Metal electrodes deposited on quartz crystals by the evaporation process, by H. W. Weinhart and H. G. Wehe. Piezoelectric crystals in oscillator circuits, by I. E. Fair. The mounting and fabrication of plated quartz crystal units, by R. M. C. Greenidge. Effects of manufacturing deviations on crystal units for filters, by A. R. d'Heedene. The measurement of the performance index of quartz plates, by C. W. Harrison. The wire mounted crystal unit, by W. F. Dewey and A. E. Brickhard. Low frequency quartz crystal cuts having low temperature coefficients, by W. P. Mason and R. A. Sykes. Index.

Note: The greater part of this book originated as lectures that were prepared to explain the techniques of quartz crystal design and manufacture to engineers and other technical personnel of the Western Electric Company. Here the lectures have been revised and supplemented to make an extensive presentation of both the theoretical and practical aspects. Specific details of production processes, together with illustrations of machines used in manufacturing, are given in several of the chapters.

Klug Harold P and Leroy E. Alexander

X-ray diffraction procedures for polycrystalline and amorphous materials. New York John Wiley & Sons, Inc., 1954 716 p. illus. 24 cm. $16.00. 827

Contents: Elementary crystallography. The production and properties of X-rays. Fundamental principles of X-ray diffraction. Photographic powder techniques. Spectrometric powder technique. The interpretation of powder diffraction data. Qualitative and quantitative analysis of crystalline powders. The precision determination of lattice constants from powder photographs. Crystallite-size determination from line broadening. Further applications of polycrystalline diffraction. Diffraction studies of noncrystalline materials. Small-angle X-ray scattering. Appendix: Layout for diffraction laboratory. The handling and processing of X-ray film. Miscellaneous constants and numerical data. International atomic weights. Mass absorption coefficients of the elements. Quadratic forms for the cubic system. Atomic and ionic scattering factors. Lorentz and polarization factors. Temperature factor tables. Author index. Subject index.

Note: An important treatise and manual. The fundamentals of crystallography X-rays and the phenomena and theory underlying diffraction techniques are covered in the first three chapters. The rest of the book is devoted to techniques selected by the authors as being the most useful at the present time. These are described in detail from the viewpoint of scientists and laboratory technicians who are or will be concerned with their use in academic and industrial laboratories. The mathematics necessary for understanding techniques and interpreting results is included, but the book is not primarily a mathematical treatise. The more than 300 figures include reproductions of many typical diffraction patterns. There are some illustrations of commercially available apparatus, but obviously the authors have not attempted to cover this aspect thoroughly. The chapter entitled, "Spectrometric powder technique," is based on the use of the *Geiger-counter spectrometer*. Although self-contained in the sense that seldom will a reader need to refer to the literature for details of procedure, literature references are numerous. The authors are staff members of the Mellon Institute and are well known as contributors to this field.

Mason Warren Perry

Piezoelectric crystals and their application to ultrasonics New York D Van Nostrand Company Inc. 1950 508 p. illus. 24 cm. (The Bell Telephone Laboratories series) $10.00. 828

Contents. Crystal systems, classes and symmetries. Elastic, piezoelectric, and dielectric relations in crystals. Properties of crystals determinable from small sets. Resonance measurement of the properties of large-sized crystals. Properties and uses of quartz crystals. Properties and uses of rochelle salt. Properties and uses of ammonium dihydrogen phosphate (ADP) and potassium dihydrogen phosphate (KDP). Properties and uses of ethylene diamine tartrate (EDT) and dipotassium tartrate (DKT) crystals. Measurements of the properties of a number of piezoelectric crystals. Theory of ferroelectric crystals. Electrostrictive effect in rochelle salt and barium titanate. Properties of gases and methods for measuring them by crystal transducers. Measurements of the properties of liquids. Properties of solids and their measurement by ultrasonic waves. Appendix. Index.

Note. A technical work addressed to such readers as graduate physicists and communications engineers engaged in research and design. It is one of several fundamental modern works on piezoelectricity all of which complement one another. Although there is some discussion of quartz crystals, there is much more on such crystals as EDT DKT and the others named in the table of contents. The properties of these crystals are fully described from the theoretical standpoint. The last three chapters discuss the investigation of certain properties of gases, liquids, and solids by means of ultrasonic radiation generated by piezoelectric crystals.

Read W T, jr.

Dislocations in crystals. New York Mc Graw Hill Book Company Inc., 1953 228 p. illus. 24 cm. (International series in pure and applied physics Leonard I Schiff consulting editor) $5.00 829

Contents: Why dislocations? Part I, Theory: Some simple examples. Imperfections in crystals. Dislocations in motion. Forces on dislocations. Multiplication and interaction of dislocations. Partial dislocations. The stress around a dislocation. Forces between dislocations. Part II, Applications: Application to crystal growth. Simple grain boundary. General grain boundaries. Measurements of grain boundary energy. The motion of a grain boundary. Appendix. References. Name index. Subject index.

Note: An introductory work written from the metallurgical viewpoint but of interest also to advanced students of physics who are preparing for research in the physics of the solid state. The author states: "There is a general impression that dislocation theory is an open field for the speculations of theoretical physicists. In dislocation metallurgy the different bits of theory appear as a hodgepodge of ingenious but arbitrary creations. I have tried to present the other side of the picture and develop the basic ideas as a coherent body of knowledge. ... The book is written in a concrete style that is easy to grasp, and the verbal discussions are supplemented by a number of numerous drawings. The author is on the staff of Bell Telephone Laboratories, Inc.

UNITED STATES NATIONAL BUREAU OF STANDARDS NATIONAL APPLIED MATHEMATICS LABORATORIES

Tables for conversion of X ray diffraction angles to interplanar spacing Issued September 20 1950 Washington, D C Government Printing Office, 1950 159 p 27 cm (United States National Bureau of Standards Applied mathematics series 10) $2 00 830

Contents. Introduction. Tables of spacing values [θ = 0(.01)90°; 5S] Molybdenum Kα_1 radiation, λ = 0.70926A. Copper Kα_1 radiation, λ = 1.54050A. Nickel Kα_1 radiation, λ = 1.65783A. Cobalt Kα_1 radiation, λ = 1 78890A. Iron Kα_1 radiation, λ = 1 93597A. Chromium Kα_1 radiation, λ = 2.28962A. Tables of spacing values [2θ = 0(.02)180°; 5S]: Copper Kα_1 radiation, λ = 1.54050A. Iron Kα_1 radiation, λ = 1 93597A.

Note These tables give spacing values *d* in angstrom units corresponding to the angles θ which are usually measured when diffraction patterns are used for chemical identification and crystal structure determination. The angles are related to interplanar spacings *d* by the formula $d = \frac{\lambda}{2 \sin \theta}$ where λ is the wavelength of incident X radiation and θ is half the angle between the incident and diffracted rays. The wavelengths used in the calculations are those adopted at the International Conference sponsored by the British Institute of Physics in London, July 1946.

WAHLSTROM, ERNEST EUGENE

Optical crystallography Second edition New York John Wiley & Sons, Inc., 1951 247 p illus. 24 cm. $5 00 831

Content Crystallography Physical properties. Elementary optics. Optics of isotropic substances. The polarizing microscope Measurement of index of refraction. The uniaxial indicatrix. Polarization of light. Uniaxial crystals in plane-polarized light. Uniaxial crystals in convergent polarized light. Optical accessories. Sign determination in uniaxial crystals. Biaxial crystals—the biaxial indicatrix. Biaxial crystals in convergent polarized light. Determination of optic sign in biaxial crystals. Dispersion in biaxial crystals. Microscopic examination of nonopaque substances. Appendixes. Index.

Note. The techniques and principles of optical crystallography are rapidly finding application in fields other than those of mineralogy and petrology This volume is intended to serve as an introduction to the subject for workers in these other fields who are concerned with the identification of solids. Like its predecessor this edition deals primarily with basic principles and theories. Most of the chapters have been rewritten and expanded, and numerous three-dimensional drawings have been added. The section on the universal stage method has been enlarged, and the selective bibliography has been revised and brought up to date.

WYCKOFF, RALPH WALTER GRAYSTONE

Crystal structures Section I New York Interscience Publishers Inc, 1948 504 p illus 26 cm $8 00 832

Content Preface and introduction. Inorganic structures Structures of the elements. Structures of the compounds RX. Structures of the compounds RX_2. Structures of complex binary compounds, R_nX_m. Structures of the compounds $R(MX_2)_n$. Compounds of the type $R_n(MX_3)_p$.

—— Volume II New York Interscience Publishers Inc 1951 585 p illus. 25 cm. $10 00 833

Content Compounds of the type $R_n(MX_4)_p$. Compounds of the type $R_x(MX_m)_y$ The crystal structures of hydrates and ammoniates. The structures of aliphatic compounds.

—— Volume III New York Interscience Publishers, Inc., 1953 v p illus. 25 cm $14 50 834

Contents The structures of aliphatic compounds. The structure of benzene derivatives. The crystal structures of alicyclic and heterocyclic compounds, and of carbohydrates. Illustrations. Bibliography

Note A reference work of considerable importance in crystallography It supersedes the author's *The structure of crystals*, second edition New York, 1931–34 and is designed to serve essentially the same purpose as that work. It provides concise descriptions, tabulated data, diagrams, and literature references on the crystal structures of specific compounds. It is published in loose-leaf format, and is so arranged that it can be kept up to date by the insertion of supplementary matter offered by the publisher from time to time. In 1951 a first supplement, containing additions to Chapters I through X, in the form of 72 text pages and 64 pages of tables, was published; and in 1953 Supplement II, containing 30 text pages and 64 pages of tables representing additions to Chapter XIII, was published. Chapters XI and XII, which will form parts of the third section, or volume and will cover respectively compounds of the type $R_n(MX)_p$ and silicates, are still to be published.

ATOMIC AND NUCLEAR PHYSICS

ANNUAL REVIEW OF NUCLEAR SCIENCE. Volume 6 James G Beckerley, editor, Martin D Kamen, associate editor, and Leonard I. Schiff, associate editor Palo Alto Annual Reviews, Inc. in co-operation with the National Research Council of the National Academy of Sciences, 1956 471 p. illus. 23 cm $7 00 835

Contents Time variations of primary cosmic rays, by V Sarabhai and N W Nerurkar Polarization of fast nucleons, by L. Wolfenstein. Excitation of nuclei by charged particles, by N P Heydenburg and G. M Temmer Isotope shift in atomic spectra, by J E. Mack and H. Arroe. Properties of medium-weight nuclei, by K. Way and others. Generalized acidity in radiochemical separations, by R. A. Horne and others. The masses of light nuclides, by J Mattauch and others. Nuclear radiation effects in solids, by H. Brooks. Applications of oxygen isotopes in chemical studies, by H. Taube. Recent advances in low level counting techniques, by E. C. Anderson and F N Hayes. Nuclear reactors for electric power generation, by L. Davidson and others. Cellular radiobiology by L. H. Gray Vertebrate radiobiology: Embryology by J P O'Brien.

Note. The sixth volume in an annual series, the purpose of which is to survey significant developments in nuclear science. It publishes monographic reviews of areas of the field in which there have been significant recent advances, rather than strict chronological digests of all the literature. It is addressed to graduate scientists and engineers. The sixth volume contains the reviews whose authors and titles are listed in the above contents. The authors have surveyed the literature down to March, 1956, or some other month early in 1956, and have covered the literature of several recent years. Full author and subject indexes are included.

BETHE, HANS A, AND PHILIP MORRISON

Elementary nuclear theory Second edition. New York John Wiley & Sons Inc., 1956 274 p illus 24 cm $6.25 836

Contents Part I, Descriptive theory of nuclei Basic facts about nuclei. The size of nuclei. β-disintegration (descriptive) Further facts on nuclear disintegrations. Spin and statistics. β-disintegration and the neutrino. Mesons and others. Part II, Quantitative theory of nuclear forces. Physical properties of proton neutron, and deuteron. Ground state of the deuteron. Scattering of neutrons by free protons. Effects of molecular binding coherent scattering. Interaction of the deuteron with radiation. Scattering of protons by protons. Non-central forces. Saturation of nuclear forces. Nucleon scattering at high energies. Polarization of nucleons. Sketch of the meson theory of nuclear forces. Part III, Complex nuclei—β-decay The structure of nuclei. Nuclear reactions and scattering β-disintegration. Some numerical relations. Appendix Table of nuclear species. Author index. Subject index.

Note The first edition of this book published in 1947 carried the sub-title A short course on selected topics In its second edition, the book is considerably longer but it is still an introduction to selected topics in nuclear theory rather than a comprehensive treatise. The emphasis is on basic facts about atomic nuclei, nuclear forces, and the complex reactions of heavier nuclei. Most of the

exposition is descriptive and is written in narrative form. Nevertheless, the reader will need to be familiar with the basic concepts of [illegible] physics and matrix algebra. Many topics not mentioned in the first edition are discussed in this one. The useful table of [illegible] nuclear species included in the appendix has been revised and brought down to date.

BEYER, ROBERT T., editor
Foundations of nuclear physics. Facsimiles of thirteen fundamental studies as they were originally reported in the scientific journals. With a bibliography compiled by Robert T. Beyer. New York Dover Publications 1949 272 p. illus. 24 cm. $1.75 837

Contents: Papers: The positive electron, by C. D. Anderson. The existence of a neutron, by J. Chadwick. Experiments with high velocity positive ions: II. The disintegration of elements by high velocity protons, by J. D. Cockcroft and E. T. S. Walton. Un nouveau type de radioactivité, by I. Curie and M. F. Joliot. Possible production of elements of atomic number higher than 92, by E. Fermi. Versuch einer Theorie der β-Strahlen, by E. Fermi. Über die magnetische Ablenkung von Wasserstoffmolekülen und das magnetische Moment des Protons, by R. Frisch and O. Stern. Zur Quantentheorie des Atomkernes, by G. Gamow. Über den Nachweis und das Verhalten der bei der Bestrahlung des Urans mittels Neutronen entstehenden Erdalkalimetalle, by O. Hahn and F. Strassmann. The production of high speed light ions without the use of high voltages, by E. O. Lawrence and M. S. Livingston. The scattering of α and β particles by matter and the structure of the atom, by E. Rutherford. Collision of α particles with light atoms. Part IV. An anomalous effect in nitrogen, by E. Rutherford. On the interaction of elementary particles. I, by H. Yukawa. Bibliography. List of journals.

Note: The first 14[illegible] pages of this book are occupied by the articles, whose authors and titles are listed in the above contents. As stated in the title of the volume, the articles are facsimile reprints from various journals. Following the articles is an original [illegible]-page bibliography classified under 13 such heads as "Isotopes and mass measurements," "Scattering and collision processes," "Radioactivity," "Theory of nuclear structure," and "Mathematics and apparatus." Under each heading, the bibliographical entries are arranged alphabetically by authors' names, and include titles which are translated into English, in case of original publication in other languages. There is no index.

BLACKWOOD, OSWALD H., AND OTHERS
An outline of atomic physics. Third edition. Collaborators on the third edition: Thomas H. Osgood and Arthur E. Ruark. New York John Wiley & Sons, Inc., 1955 501 p. illus. 24 cm. $7.50 838

Contents: The atomic nature of matter. The atomic nature of electricity. The nature of radiant energy. The Bohr model of the atom. X-rays. Waves associated with material particles. Atomic spectra and the Pauli principle. The periodic system. Molecular structure and related topics. Radioactivity. Elementary particles. Transmutation and nuclear structure. Applications of nuclear physics. Cosmic rays. The theory of relativity. Appendices. Index.

Note: An introductory survey of atomic and nuclear structure and radiations, addressed to college students who have completed an introductory college course in basic physics. It was originally developed in a course of lectures at the University of Pittsburgh and, although the book has been much rewritten since the appearance of the first edition in 193[illegible], this origin is still apparent in the vivid, readable style. Mathematics is used, but sparingly, and most of the exposition is conveyed in physical terms. The second edition of the book was published in 19[illegible]. In this third edition, [illegible] has been extensively revised and supplemented so as to bring [illegible] abreast of the great advances in the field in the past two decades.

BLATT, JOHN M., AND VICTOR F. WEISSKOPF
Theoretical nuclear physics. New York John Wiley & Sons, 1952 864 p. illus. 24 cm. $13.50. 839

Contents: General properties of the nucleus. Two-body problems at low energies. Nuclear forces. Two-body problems at high energies. Three- and four-body problems. Nuclear spectroscopy: I. General theory—II. Special models. Nuclear reactions: General theory—Application of the theory to experiments. Formal theory of nuclear reactions. Spontaneous decay of nuclei. Interaction of nuclei with electromagnetic radiation. Beta-decay. Nuclear shell structure. Appendixes. A. Angular momentum operators and eigenfunctions—B. Multipole radiation. References. Index.

Note: Generally speaking, the scope of this book is classical nuclear physics, or nuclear phenomena involving energies of about 50 Mev and below. Thus, cosmic rays and meson phenomena are not covered. Within this limitation the authors present the current theories, theoretical nuclear physics, and the experimental evidence which supports them, together with the pertinent mathematical formulas and manipulations. The book is addressed to graduate students of physics and graduate physicists already engaged in research. Readers need a previous introduction to quantum mechanics.

BLEULER, ERNST, AND GEORGE J. GOLDSMITH
Experimental nucleonics. New York Rinehart & Company, Inc. 1952 393 p. illus. 24 cm. $6.50 840

Contents (abridged): Radiation protection. Laboratory equipment. Preparation of sources. Part I, General techniques: Technique of measurements with Geiger-Müller counters. Routine beta measurements. Absolute beta counting. Neutron activation of silver. The naturally occurring radioactive substances. Measurement of source strength by comparison with [illegible]. Mean life of thermal neutrons in water. Absorption of continuous beta spectra. Absorption of gamma rays. Part II, Chemical techniques: Separation of active material by solvent extraction. The Szilard-Chalmers process with ethyl iodide. Separation by ion exchange. Electrochemical separations. Preparation of carrier free sources. Radioelements as tracers. Separation of nuclear isomers. Preparation of [illegible]. Measurement of C^{14} with an ionization chamber. Part III, Physical techniques: Range and energy loss of alpha particles. Tracks of particles in photographic plates. Scintillation counters. Coincidence measurements. Radiations of [illegible]. Cosmic rays. Appendix. Author index. Subject index.

Note: Primarily a laboratory manual for advanced college students who have acquired a fundamental knowledge of nuclear physics and chemistry. Specific procedures are described for 24 experiments, most of which can be performed with naturally radioactive materials. In each case the procedures are preceded by a thorough discussion of the pattern illustrated by the experiment, together with their applications in nuclear physics and other fields of scientific investigation where radioactive materials are used.

CASE, K. M., AND OTHERS
Introduction to the theory of neutron diffusion. Volume I. By K. M. Case, F. de Hoffmann, and G. Placzek. Numerical work by B. Carlson and M. Goldstein. United States Atomic Energy Commission. Los Alamos Scientific Laboratory, Los Alamos, New Mexico, June 1953. Washington, D. C. Government Printing Office 1954 174 p. illus. 26 cm. $1.25 841

Contents: Part A, Introduction. Definitions. Part B, Propagation in the absence of scattering collisions: 1, Streaming in vacuum. Continuity equation. Source-free streaming. Sources. 2, Purely absorbing medium. Consequences of the continuity equation. Point source. Plane source. Shell source. Remarks on the reciprocity theorem. Escape probabilities. Part C, One-velocity theory of neutron diffusion: 1, Equations for a general medium. The transport equation and some of its properties. Integral equations. 2, Uniform infinite medium with isotropic point source. Isotropic plane source. Anisotropic sources. 3, Application of the results obtained for the uniform infinite medium to the solution of finite problems. Reduction of finite problems to an infinite-medium problem. Standard problems. Appendices.

Note: The mathematical development of the theory of neutron diffusion forms the basis for theoretical work underlying neutron chain reactions. The aim of this monograph is to give a detailed discussion of the general equations of one-velocity neutron diffusion theory and of their solution for the special case of a homogeneous infinite medium with isotropic scattering.

CONFERENCE ON HIGH ENERGY NUCLEAR PHYSICS

High energy nuclear physics, Proceedings of the Sixth annual Rochester Conference, April 3–7, 1956 Compiled and edited by J Ballam and others New York Interscience Publishers, Inc, 1956 360 p 28 cm $3 75 842

Note The only available report of the proceedings of a conference attended by nearly 200 scientists associated with the foremost nuclear physics research centers of the world. It is not a collection of formal papers, similar to the proceedings of many conferences. Instead, the talks, papers and discussions are presented in a condensed, paraphrased version based apparently on reporters' notes. Interest in the volume's contents is due to (1) the reporting of experimental results still unpublished and (2) the discussions by experts of the current state of knowledge and theory in rapidly advancing areas of nuclear research. The volume has a table of contents but no index.

CORK, JAMES MURLE

Radioactivity and nuclear physics Second edition Princeton D Van Nostrand Company Inc., 1950 415 p. illus. 22 cm. 843

Contents Natural radioactivity The detection of radiation. Induced radioactivity-apparatus. Alpha rays. Beta rays. Gamma radiation. Neutrons. Protons, deuterons, and tritions. Mesons (mesotrons) Cosmic radiation Nuclear fission. Some applications of radioactivity Health physics. Table of isotopes. References. Appendix: Fundamental constants. Useful information concerning electrons. Data on electrons. Useful information regarding protons in motion. Useful information regarding alpha particles. Excitation potentials for the elements, in kilovolts. Author index. Subject index.

Note. An introductory work designed primarily as a text for college students, but so organized and written that it is useful also to persons outside of college who have a moderate amount of technical education and are in need of a fairly substantial survey Under each heading the historical background is sketched briefly then the current knowledge is summarized, together with formulas and data. The third edition was published in 1957 415 p., $7 75.

DUSHMAN, SAUL

Fundamentals of atomic physics. New York McGraw Hill Book Company, Inc., 1951 294 p illus 24 cm $6 00 844

Contents A brief history of physics. Mathematical introduction Kinetic theory of gases Molecular velocities. Kinetic theory of gases: Mean free path and molecular diameter Charge and mass of electron Electronics. Photoelectric effect. X-rays. Bohr theory of the origin of spectral lines. Electron configurations in atoms and the periodic arrangement of the elements. Matter waves. Isotopes. Nuclear phenomena. Generators for acceleration of high-energy particles. Appendixes. Index.

Note A book developed from material originally prepared to be used in short courses offered to high-school teachers of science under a program sponsored by the General Electric Company The treatment is compact, and a good deal of ground is covered The reader needs a knowledge of basic physics and of elementary calculus, but aside from these requirements the book is not difficult to comprehend. It is suitable not only for teachers but also for such readers as engineers who want a fairly solid book for personal reading.

EVANS ROBLEY D

The atomic nucleus New York McGraw Hill Book Company Inc, 1955 972 p illus 24 cm (International series in pure and applied physics Leonard I Schiff consulting editor) $14 50 845

Contents Charge of atomic nuclei. Radius of nuclei Mass of nuclei and of neutral atoms. *Nuclear moments, parity and statistics* Atomic and molecular effects of nuclear moments, parity and statistics. Effects of nuclear moments and parity on nuclear transitions. Isotopic abundance ratios. *Systematics of stable nuclei.* Binding energy of nuclei. Forces between nucleons. Models of nuclei. Conservation laws for nuclear reactions. Nuclear reactions, illustrated by B^{10} (α,p) and its associates. Energy dependence of nuclear reaction cross sections. *Radioactive-series decay* α-ray spectra. β-ray spectra. Ionization of matter by charged particles. Elastic scattering of electrons and positrons. Radiative collisions of electrons with atomic nuclei. Stopping of electrons by thick absorbers. *Passage of heavy charged particles through matter* The interaction of electromagnetic radiations with matter—Compton scattering and absorption. *Photoelectric effect and pair production.* Attenuation and absorption of electromagnetic radiation. Statistical fluctuations in nuclear processes. *Statistical tests for goodness of fit.* Applications of Poisson statistics to some instruments used in nuclear physics. Appendixes. *Bibliography* Glossary of principal symbols. Index.

Note A textbook developed at the Massachusetts Institute of Technology in courses offered to senior undergraduate and first-year graduate students. *It covers the basic experimental evidence and the fundamental theory of present-day nuclear physics.* It is based on an extensive literature survey and—an unusual feature for a college text—contains keyed *references from important statements* and data to the 33-page bibliography The variety and wide range of reference information make it useful as a *desk reference book* for some graduate physicists. The seven appendixes are devoted to a variety of topics, including a discussion of Thomson scattering as an illustration of wave and corpuscular concepts of cross sections

FEENBERG, EUGENE

Shell theory of the nucleus. Princeton Princeton University Press, 1955 211 p illus. 26 cm. (Investigations in physics, edited by Eugene Wigner and Robert Hofstadter) $4 00 846

Contents. The magic numbers. Single particle models. Magnetic dipole and electric quadrupole moments. Isomeric transitions. Survey of beta transitions—mostly odd *A* Survey of beta transitions—even *A* Analysis of superallowed transitions. *jj coupling matrix elements* The spheroidal core, collective motions, and shell structure. Nuclear force models and shell structure. Appendixes. Subject index. Name index.

Note: A compact statement of the current status of the concept of shell models of the atomic nucleus in general and of the spin-orbit level model in particular *It is written from the standpoint of the usefulness of this particular model in the interpretation of observed results. However the author's viewpoint is a critical one* and the model is not presented as the final representation of nuclear structure. The *historical development of the shell theory is well* outlined in the first chapter Literature references, rather inconveniently arranged, are included for each chapter The book contains many tabulations of a reference nature

FERMI, ENRICO

Elementary particles. New Haven Yale University Press 1951 110 p. 23 cm $3.00 847

Contents Quanta of a field as particles. Interaction of the fields. *The interaction constants. Pions, nucleons, and anti-nucleons.* Appendices Quantization of the radiation field. Second quantization with Pauli principle. Measurability of the fields. Relativistic invariance. Relationships between interaction constants.

Note This book is in effect a survey of current thought pertaining to the component particles of the atomic nucleus and to their interactions. Although it is based on the Silliman Memorial Lectures delivered by the author at *Yale University in April, 1950,* it is not addressed to the general public. Instead, the intended audience includes graduate students of physics and graduate physicists who are not specialists in nuclear physics but who desire some acquaintance with current concepts.

FINKELNBURG, WOLFGANG

Atomic physics translated from the revised German edition in cooperation with the author by George E Brown New York Mc Graw Hill Book Company Inc. 1950 498 p illus. 23 cm. (International series in pure and applied physics G P Harnwell, consulting editor) $8 00 848

Contents (abridged) Introduction. Atoms, ions, electrons, atomic nuclei, photons. *Atomic spectra and atomic structure.* The atomic

theory according to quantum mechanics. Nuclear physics. Molecular physics. Atomic physics of the liquid and solid state. Appendix: The most important constants and energy relations of atomic physics. Index.

Note: A comprehensive treatment of atomic and molecular physics designed for upperclass undergraduate college students majoring in physics and for graduate students. The chapters are supplemented by well-selected and rather extensive lists of references. The first edition of the book was written in German and published in Germany in 1948. The present edition has been translated from the manuscript of the revised German edition before the publication of the latter.

Note: A rather full and satisfactory presentation written in the terms of logical positivism or operational physics. The author has given particular attention to indicating the experimental bases of theories. Landmark experiments are specifically described and, in many cases, diagrams of experimental set-ups. The reader needs facility in algebraic computation, even though the presentation is more physical than mathematical. The book is designed for upperclass undergraduates and beginning graduate students who have studied general physics. The first edition was published in 1930. The book is shorter in this second edition, but the reduction in length has been achieved by eliminating material of marginal interest. A considerable mass of information and revised data has been added, and the book has been reorganized.

GLASSTONE, SAMUEL

Sourcebook on atomic energy. Princeton: D. Van Nostrand Company, Inc., 1950. 546 p. illus. 24 cm. 849

Contents: Foundations of the atomic theory. Constituents of the atom. Energy and radiation. The structure of the atom. Natural radioactivity. Measurement of radioactivity. Nuclear radiations. Isotopes. The acceleration of charged particles. Nuclear transmutation and artificial radioactivity. The neutron. Nuclear structure and nuclear forces. Nuclear fission. The utilization of nuclear energy. The new elements. The uses of isotopes. Cosmic rays and mesons. Radiation protection and health physics. Name index. Subject index.

Note: This book is not a popularization in the usual sense of the term, but is instead a reliable presentation in terms that such nonspecialist readers as journalists, teachers, and industrial executives can understand. In each chapter the historical development of the particular facts under discussion is outlined; then a factual, reasonably detailed account of the current state of the subject is given. The names of scientists who have contributed to the development of atomic energy and the knowledge of the atom are mentioned frequently and are brought together in the author index, but there is no formal bibliography. A second edition was published early in 1958, 640 p., $4.40.

HARNWELL, GAYLORD P., AND WILLIAM E. STEPHENS

Atomic physics: an atomic description of physical phenomena. New York: McGraw-Hill Book Company, Inc., 1955. 401 p. illus. 24 cm. (International series in pure and applied physics, Leonard I. Schiff, consulting editor) $8.00 852

Contents: Classical foundations of atomic theory. Atomic nature of matter and radiation. Atomic structure. Electron spin and polyelectronic atoms. Molecular structure. Statistics of atomic processes. Elementary properties of matter. Relationships between units. Principal atomic constants. Index.

Note: Designed as a text for use in first year graduate courses, the book is a well-organized and broad introduction to the basic knowledge of atomic physics. The first chapter is a concise résumé of background concepts and laws from classical physics. This material is used as a logical introduction to the birth and development of atomic physics. Throughout the book, relationships between classical physics and atomic physics are pointed out where they exist. The chapter on statistics is organized on this pattern. It deals first with classical statistics, then introduces the reader to quantum statistics. Mathematics is used freely in the exposition, but the book can be fairly described as a descriptive rather than a mathematical treatment.

GREEN, ALEX E. S.

Nuclear physics. New York: McGraw-Hill Book Company, Inc., 1955. 535 p. illus. 24 cm. (International series in pure and applied physics, Leonard I. Schiff, consulting editor) $9.00 850

Contents: Relativistic dynamics and review of atomic physics. Static properties of nuclei. Accelerators. Precision instruments and methods. Detectors and nuclear techniques. Radioactivity. Nuclear reactions. Systematics and tendencies of nuclei. Liquid-drop model and fission. Quantum mechanics and the nucleus. Nuclear periodic table. Nuclear decay. Theory of nuclear reactions. Nuclear forces. Appendixes: Some useful constants and conversion factors. Beta-stable nuclides: their mass decrements (in mMU) and mass differences between adjacent isobars (in mMU). Index.

Note: A well-organized, introductory account of accumulated knowledge, experimental techniques and current hypotheses pertaining to the behavior and structure of atomic nuclei. It is designed for use as a college text by advanced students of physics. Selected parts of it, particularly the chapters on accelerators, instruments and techniques, are potentially useful as background information for graduate scientists working in other fields who need a working acquaintance with nuclear instruments, etc. In the final chapter the reader is given a [illegible] view of the current state of theory pertaining to nuclear forces and is told that formulation of a satisfactory theory remains as a challenge to scientists working in the field. Each chapter contains an extensive list of literature references.

HOAG, J. BARTON

Electron and nuclear physics. Third edition, revised by S. A. Korff. Princeton: D. Van Nostrand Company, Inc., 1948. 522 p. illus. 22 cm. $6.00 853

Contents: Electron physics. The charge of the electron. The mass of the electron. The wave-length of the electron. Photoelectric emission. Thermionic emission. High-vacuum, low-voltage tubes. The outer part of the atom. The passage of electricity through gases. X-rays. Nuclear physics. Positive rays and isotopes. Spontaneous disintegration. Alpha, beta and gamma rays. The acceleration of ions. Artificial transmutation. Cosmic rays. Laboratory technique. Vacuum technique. Small current technique. The detection of particles. Notes on high voltage technique. Problems. Tables. Index.

Note: This book has two main purposes: first, to give concise accounts of experiments which have established or confirmed currently accepted facts and theories in electron and nuclear physics; second, to give instructions for performing similar experiments in the college laboratory. It is designed chiefly for senior college and graduate students of physics, but it has also considerable historical and reference value for persons trained in physics. The scope and arrangement of material remain the same as in the previous edition (1938) but considerable material has been added to cover later developments. The chapters on artificial transmutation and cosmic rays show the greatest revision, but other sections, such as those dealing with counter tubes, have also been extended.

HALLIDAY, DAVID

Introductory nuclear physics. Second edition. New York: John Wiley & Sons, Inc., 1955. 493 p. illus. 22 cm. $7.50 851

Contents: Basic nuclear concepts. Elements of quantum mechanics. Two-particle systems. Radioactive decay and alpha emission. Gamma radiation and internal conversion. Beta decay. Passage of charged particles and gamma rays through matter. Detection of charged particles and photons. Neutrons. Nuclear masses, mass numbers, and mass abundances. Nuclear structure. Charged particle accelerators. Nuclear reactions. Nuclear fission. Nuclear spin and moments. Cosmic rays and subnuclear particles. References. Appendixes. Index.

HUGHES, DONALD J., AND JOHN A. HARVEY

Neutron cross sections. New York: Pergamon Press Inc., 1955. 328 p. illus. 26 cm. $ 854

Contents: Thermal cross sections: Introduction. Tables—Z<[illegible]—[illegible]. References. Resonance parameters: Introduction. Tables—light nuclei—heavy nuclei—fissionable nuclei. References. Cross section curves: Introduction. Curves. Additional data. References. Angular distributions: Introduction. Curves. References.

Note An edition published in the regular book trade of a reference compendium emanating from the Brookhaven National Laboratory and widely known as *BNL325* It presents in tabular and graphical form "best values" for neutron cross sections as determined by several measurements. In cases where published data was used, references are given to the source publication. Also each of the sections contains an introduction in which the treatment of data used in determining the values given is discussed. A *Supplement* was issued by the United States Government Printing Office in 1957 $1 75

HUGHES, DONALD J

Neutron optics New York Interscience Publishers, Inc. 1954 136 p illus 21 cm (Interscience tracts on physics and astronomy, edited by R. E Marshak) $2 50 855

Contents Principles. Experimental methods. Measurement of nuclear interactions. Measurement of crystal lattice structures. Magnetic scattering.

Note. A rather brief survey of basic principles and applications, designed for readers who have backgrounds in the fundamentals of physics and who understand advanced physical terminology but who are not specialists in nuclear physics. Whenever possible, the author has framed his exposition in terms of analogies to light optics. However he has also stressed the differences between light optics and neutron optics. The chapter on experimental methods and applications in such physical problems as measurements of crystal lattices will be of particular interest to the intended audience. A selection of related literature is cited as footnotes. The author is a member of the staff of Brookhaven National Laboratories.

HUGHES, DONALD J

Pile neutron research. Reading Mass Addison Wesley Publishing Co , 1953 386 p illus 24 cm. (Addison Wesley nuclear science and engineering series, Clark Goodman consulting editor) $10 00 856

Contents Fundamental concepts of neutron physics. The pile as a neutron source. Neutron standardization Fast neutron research. Resonance neutrons in the pile. Resonance neutron beams. Thermal neutrons inside the pile. Neutron diffusion measurements. Thermal neutron beams. Neutron diffraction. Neutron refraction, reflection and polarization. Health physics. Appendices Constants, conversion factors, and formulas Atomic masses. Thermal cross sections. A set of experiments for pile physics course. Symbol index. Index.

Note The new field of pile neutron research is a distinct yet broad one, according to the author "in which physicists, chemists, biologists, and engineers take advantage of the specific facilities that have been developed to make use of pile neutrons The book, on the level of first year graduate course in physics, describes the techniques and the instruments used in pile neutron research, going into some detail for those that are peculiar to this work. New instruments such as choppers, crystal spectrometers, and neutron mirrors are covered in detail. Mathematics is limited to that needed for the explanation of physical principles involved, and useful references enable the reader to find the necessary background information for basic principles that are not fully covered. The chapter on health physics deals with precautionary measures that should be employed to ensure protection from radiation accidents. The author is Senior Physicist at Brookhaven N tional Laboratory

INGHRAM, MARK G , AND RICHARD J HAYDEN

A handbook on mass spectroscopy Prepared for the Subcomittee on Instruments and Techniques of the Committee on Nuclear Science Division of Physical Sciences National Research Council Nuclear science series Report number 14 Washington D C National Academy of Sciences—National Research Council 1954 51 p illus 28 cm (National Research Council Publication 311) $2 00 857

Contents Introduction. Mass analyzers Theory Practice. Ion sources for mass spectroscopy Ion detectors for mass spectroscopy Sample introduction systems for mass spectroscopy List of symbols. References.

Note This publication was originally prepared for the Subcommittee on Nuclear Instruments and Techniques of the Committee on Nuclear Science of the National Research Council as chapter for proposed handbook (subsequently abandoned) on nuclear instruments and techniques. It appears as separate publication to fill the need for a review and compilation of the background information needed for the successful operation of the mass spectrometer as equipment to determine masses of charged ions by electric and magnetic deflection. It is especially useful to investigators in fields other than physics who need assistance in selecting tools and in interpreting data obtained from the mass spectrometer Although the manuscript was completed in April, 1952 and reference to more recent work in the field of mass spectroscopy is necessarily lacking, the handbook is still valuable as source of information on basic principles and procedures of mass spectroscopy

JAUCH, J M , AND F ROHRLICH

The theory of photons and electrons, the relativistic quantum field theory of charged particles with spin one-half Reading Mass. Addison Wesley Publishing Company Inc., 1955 488 p illus 24 cm. $10 00 858

Content General principles. The radiation field. Relativistic theory of free electrons. Interaction of radiation with electrons. Invariance properties of the coupled fields. Subsidiary condition and longitudinal field. The S-matrix. Evaluation of the S-matrix. The divergences in the iteration solution. Renormalization. The photon-electron system. The electron-electron system. The photon-photon system. Theory of the external field. External field problems. Special problems. Appendixes The invariant functions. The gamma-matrices. A theorem on the representation of the extended Lorentz group by irreducible tensors. The ordering theorem. On the evaluation of certain integrals. A limiting relation for the δ-function. The method of analytic continuation. Notation. Author index. Subject index.

Note The authors of this book have stated that for the first time it has become possible to give unified and consistent presentation of radiation theory in full conformity with the principles of relativity and quantum mechanics. T this task the present book is devoted. The book is masterly and comprehensive presentation of the theory of quantum electrodynamics in its present *state of development. The general theory is presented in detail, and* its applications to a selection of problems in physics are discussed in several chapters. Throughout the book the presentation is unavoidably mathematical however much of the highly specialized mathematics appears only in the appendix.

KAPLAN, IRVING

Nuclear physics. Reading Mass. Addison Wesley Publishing Company 1955 609 p illus 24 cm. $9 00 859

Contents Part I, The background of nuclear physics The chemical foundations of atomic theory Atoms, electrons, and radiations. The nuclear atom. *X-rays and atomic structure* The quantum theory of radiation. The special theory of relativity Atomic spectra and atomic structure. Part II, The nucleus The constitution of the nucleus. Isotopes Natural radioactivity and the laws of radioactive transformation. Artificial nuclear disintegration. Artificial radioactivity Alpha-decay Beta-decay Gamma-rays and gamma-decay Nuclear reactions. Nuclear forces and nuclear structure. Part III, Special topics and applications Neutron physics. Nuclear fission Nuclear energy sources. The acceleration of charged particles. Isotope separation Appendixes. Index.

Note A textbook for college students and others who have completed thorough courses in basic physics and an introductory college course in calculus. It is introductory to the field of nuclear physics, however it is broad in coverage and rather detailed. The style of presentation is such that the graduate engineer who wishes an introduction for reading without the guidance of an instructor will find the presentation easy to follow Literature references are included.

LAPP RALPH E , AND HOWARD L ANDREWS

Nuclear radiation physics. Second edition New York Prentice Hall Inc. 1954 532 p illus 23 cm. $7 50 860

Contents: Particles and waves. Atomic structure. Isotopes and nuclear structure. Natural radioactivity. X-rays and gamma rays. Alpha particles. Beta particles. Ionization-chamber instruments. Pulse counters. Particle accelerators. Induced nuclear transformations. Neutron physics. Nuclear fission. Nuclear power. Radiation measurement techniques. Radioactive tracer techniques. Radiation health protection. Appendix. Index.

Note: A textbook for college courses which provides a well-rounded introductory exposition of nuclear physics. The first edition (1948) has been completely revised, recent developments in this rapidly expanding field and further discussion of some of the material previously touched on have been expertly integrated with the original text. As in the first edition, the authors take as their point of departure the more elementary concepts of the physics pertaining to nuclear radiation, and they keep mathematical expression at a minimum.

LIBBY WILLARD F

Radiocarbon dating Second edition. Chicago University of Chicago Press, 1955 175 p. illus. 24 cm. $4.50 861

Contents: Principles. World-wide distribution of radiocarbon. Half-life of radiocarbon. Preparation of the sample for measurement. Measurement of the sample. Radiocarbon data. Reflections upon the significance of radiocarbon dates, by F Johnson. Appendices: Special equipment and chemicals for the C^{14} sample preparation apparatus. Special materials for screen-wall counter. Index of subjects. Index of names. Index of samples.

Note: In its second edition, this pioneer book on the principles and techniques of estimating the ages of organic materials, especially products of archeological interest, by measuring their radioactive carbon contents have been extended in length by some 50 pages. The chapter titles are identical with those of the first edition published in 1952. However revisions and augmentations have been made in the passages on measurement techniques, the tabulations of date determinations have been greatly extended, and Johnson's chapter on the significance of dates established by the radiocarbon method has been substantially revised and enlarged. References to literature published since 1951 have been added.

LIVINGSTON M STANLEY

High-energy accelerators. New York Interscience Publishers Inc., 1954 157 p. illus. 21 cm. (Interscience tracts on physics and astronomy edited by R. E. Marshak) $3.25 862

Contents: High-energy accelerators as tools for nuclear research. Principles of acceleration to high energies. The electron synchrotron. The synchrocyclotron. Linear accelerators. The proton synchrotron. Alternating gradient focusing. References. Index.

Note: The high-energy accelerator is our chief tool in studying the atomic nucleus. In this new book, readers are provided with an exposition of the principles on which such devices are based and descriptions of the chief types which have been developed and are in use. Although the style is largely descriptive and the mathematics used is not difficult, the book is addressed to graduate scientists. It will appeal particularly to such readers as teachers of physics and graduate students who are preparing for careers in nuclear research.

MARSHAK, ROBERT E

Meson physics. New York McGraw Hill Book Company Inc., 1952 378 p. illus. 24 cm. (International series in pure and applied physics G P Harnwell, consulting editor) $8.00 863

Contents: Single production of [illegible] mesons in photon-nucleon collisions. Single production of [illegible] mesons in nucleon-nucleon collisions. Nuclear production of slow [illegible] mesons. Properties of [illegible] mesons. The capture and absorption of slow negative mesons. Properties of the [illegible] meson. Nuclear interaction of fast [illegible] mesons. Production of mesons at relativistic nucleon energies. New particles and new processes. Name index. Subject index.

Note: A survey of the knowledge accumulated to the date of writing, on the production, properties, and nuclear interactions of mesons. Source articles and reports are cited in footnotes. The author points out that he has restricted himself to "real meson processes," and has not attempted to cover virtual meson theory. The book originated in a series of lectures delivered at the University of Rochester and at Columbia University in 1950. It is addressed to advanced graduate students and to graduate physicists.

MAYER MARIA GOEPPERT AND J HANS D JENSEN

Elementary theory of nuclear shell structure New York John Wiley & Sons Inc., 1955 269 p. illus 24 cm. $8.25 864

Contents: Stable nuclei. Empirical evidence for the magic numbers. Review of electronic structure of atoms. Individual orbits in the nucleus. Properties of nuclear ground states. Discussion of the empirical data for odd-A nuclei. Determination of parity and occupation numbers by the angular distribution of (d,p) and (d,n) reactions. Quadrupole moments and isotope shifts. β decay in particular for nuclei of odd A. Light nuclei. Nuclei of even A. General facts about nuclear spectroscopy. Isomerism in nuclei of odd A. Appendices: Eigenfunctions of [illegible] single-particle orbits. Coupling of identical nucleons. Coupling of non-identical nucleons. Multipole moments and their radiation fields. Index.

Note: The concept of nuclear shells, analogous to the shells in the electronic structure of noble gas atoms, has proved to be a useful framework for correlating a considerable mass of observations and data on nuclear properties. This book is an authoritative carefully written exposition and survey of the shell theory and of the qualitative and quantitative knowledge that may be systematized by its use. Elementary in level as indicated by the title, it is addressed to such readers as graduate students preparing for careers in nuclear physics and for graduate physicists in other fields who wish to keep abreast with thought and progress in nuclear physics. Although there are occasional references to quantum mechanics in the main part of the book, mathematics beyond the knowledge of the average physics graduate is found only in the appendices.

MILLIKAN ROBERT ANDREWS

Electrons (+ and —) protons photons neutrons, mesotrons and cosmic rays. Revised edition 1947 Chicago University of Chicago Press 1947 642 p. illus. 19 cm. $9.00 865

Contents: Early views of electricity. The extension of the electrolytic laws to conduction in gases. Early attempts at the direct determination of e. General proof of the atomic nature of electricity. The exact evaluation of e. The mechanism of ionization of gases by X-rays and radium rays. Brownian movements in gases. Is the electron itself divisible? The structure of the atom. The nature of radiant energy. Waves and particles. The spinning electron. The discovery of the cosmic rays. The direct measurement of the energy of cosmic rays and the discovery of the free positive electron. The neutron and the transmutation of the elements. The release and utilization of nuclear energy. Geomagnetic studies in cosmic rays at low altitudes, 1932–36. The mesotron. The nature and number of the incoming primary rays. The atom-annihilation hypothesis as to the origin of the cosmic rays. Appendixes. Indexes.

Note: The author of this book—during his lifetime one of the most eminent of American physicists—received the 1923 Nobel Prize in physics in recognition of his famous oil-drop experiment and other work on the electron. The first edition of this book appeared in 1917 and was titled simply The electron. The changed title, which first appeared in the 1935 edition, reflects the enlargement of the scope of the book to include additional topics in nuclear physics. In this revised and final edition, the last six chapters of the 1935 edition have been replaced by the five detailed chapters whose titles are listed above, beginning with "The release and utilization of nuclear energy." These chapters account for approximately one-third of the length of the volume. Although some parts of it are now outdated, the book enjoys the status of a classic. It is written in a nontechnical style, and is appropriate for reading by such groups as advanced undergraduate students who are majoring in physics. It is important, also, as a first-hand account of some of the author's own work.

MITCHELL ALLAN C G AND MARK W ZEMANSKY

Resonance radiation and excited atoms. New York Cambridge University Press 1934 338 p. illus. 22 cm. $6.50 866

Contents Introduction. Physical and chemical effects connected with resonance radiation. Absorption lines and measurements of the lifetime of the resonance state. Collision processes involving excited atoms. The polarization of resonance radiation. Appendix. Index.

Note A comprehensive, critical account of the knowledge of resonance radiation down to approximately the beginning of 1934. It is concerned with the phenomena and theory; however some of the applications that have been developed, for example sodium vapor lamps, are foreshadowed. The book is based on the literature and careful references to source articles are a feature. The author named first on the title page (Mitchell) is currently Chairman of the Department of Physics of Indiana University and his colleague is Head of the Department of Physics in the College of the City of New York.

MOORE, CHALLOTTE EMMA

Atomic energy levels as derived from the analyses of optical spectra. Volume I The spectra of hydrogen, deuterium tritium, helium, lithium beryllium, boron carbon, nitrogen oxygen fluorine, neon, sodium, magnesium aluminum, silicon, phosphorus sulfur, chlorine, argon, potassium, calcium, scandium, titanium and vanadium Washington, D C Government Printing Office, 1949 309 p 30 cm (United States Department of Commerce National Bureau of Standards Circular 467 issued June 15, 1949) $2 75 867

—— Volume II The spectra of chromium manganese iron cobalt, nickel copper zinc, gallium, germanium arsenic, selenium bromine, krypton rubidium strontium yttrium zirconium and niobium Washington D C Government Printing Office 1952 227 p 30 cm. (United States Department of Commerce. National Bureau of Standards Circular 467 issued August 15, 1952) $2 25 868

Note These are the first two volumes in a series "being prepared at the National Bureau of Standards as part of a general program on the compilation of atomic energy levels derived from analyses of atomic spectra." In most instances the data are taken from published literature, and references to the source articles are given. However information from unpublished material also is included. The series is an indispensable reference work for atomic physicists, astrophysicists, and even for chemists interested in atomic structure.

NATIONAL RESEARCH COUNCIL DIVISION OF ENGINEERING AND INDUSTRIAL RESEARCH BUILDING RESEARCH ADVISORY BOARD

Laboratory design for handling radioactive materials Proceedings of a research conference sponsored by The American Institute of Architects and the Atomic Energy Commission and conducted by the Building Research Advisory Board of the National Research Council, November 27 and 28 1951 Washington, D C National Research Council—National Academy of Sciences 1952 140 p illus 28 cm (National Research Council Division of Engineering and Industrial Research. Building Research Advisory Board. Research conference report no 3) $4 50 869

Contents Session 1 Architectural introduction to radiochemical laboratory layout Main article, by A. Mackintosh. Panel discussion, by G G. Manov and others. General discussion. Session 2 Air supply and exhaust in laboratories handling radioactive materials Main article, by C. P Roberts. Panel discussion, by L. Silverman and others. General discussion. Session 3 Control and shielding of isotopes in radioactive laboratories Main article, by N B Garden. Panel discussion, by W. M. Ries and others. General discussion. Session 4 Surfaces and finishes for radioactive laboratories Main article, by J. G. Terrill. Panel discussion, by C. D Watson and others. General discussion. Session 5, Disposal of radioactive wastes Main article, by E. C. Pluer Panel discussion, by R. H. Simon and others. General discussion. Summaries of the conference by W H. Schaick and others. Some written comments on papers and discussions. Glossary of terms used in nuclear science and technology Bibliography Attendance at the conference.

Note The proceedings of a symposium held in 1951 on the subject of the design of laboratories for handling radioactive materials, the first symposium of its kind, are printed in full in this volume. They form a comprehensive source of general and technical information for those concerned with the design and construction of "hot" laboratories. Emphasis is upon the design of facilities for handling tracer quantities of radioactive materials in all types of laboratories—scientific, medical, agricultural, and industrial.

NELMS, ANN T

Graphs of the Compton energy-angle relationship and the Klein Nishina formula from 10 Kev to 500 Mev Washington, D C Government Printing Office, 1953 89 p illus. 26 cm (United States National Bureau of Standards Circular 542) $0 55 870

Contents Symbols. Introduction. Radiative correction to the Klein-Nishina formula for free electrons. Experimental studies of the Compton effect. Corrections to the Klein-Nishina formula in case of small moment transfer. General procedure and accuracy of calculations. Discussion of graphs. References. Graphs.

Note The Compton energy-versus-angle relationship and the differential and integral Klein-Nishina cross sections are here presented graphically as functions of the energy and direction of the scattered photon and of the recoil electron. The graphs are intended to serve the purpose of tables, the advantage of this form of presentation being the convenience and accuracy of two-way interpolation. The publication is one of a series of surveys and tabulations of information on radiation physics being carried out with the support of the Biophysics Branch of the Atomic Energy Commission. The graphs, of which there are 31, form parts of eight figures and are divided into three groups as follows: Compton energy-angle relationship, Differential Klein-Nishina cross section per electron, Integral Klein-Nishina cross section per electron.

OLDENBERG OTTO

Introduction to atomic physics. Second edition. New York McGraw Hill Book Company, Inc. 1954 421 p. illus 23 cm. $6 75 871

Contents Part I, Structure of matter as revealed in chemistry: The atomic hypothesis and Avogadro's rule. Some results and definitions of chemistry. Part II, Gases: Explanation of pressure and temperature. Experimental tests of the kinetic theory. Mean free path. Report of further development. Part III, Structure of electricity: Determination of e/m. Determination of the charge of the electron. Part IV Structure of light: Photoelectric effect and the quantum of light. Part V Electronic structure of atoms: Nuclear atom as revealed by alpha-ray scattering. Spectrum of the hydrogen atom and Bohr's theory. More complicated spectra. Fundamental processes. Periodic table of elements. X rays. Solid state. Part VI, Nuclear structure: Isotopes. Natural transmutation and radioactivity. Artificial transmutation and radioactivity. Fission and fusion. Cosmic rays. Part VII, Wave nature of matter: Diffraction of electrons. Report on wave mechanics. Appendices. Index.

Note An elementary treatment of fundamental atomic theory designed for students and other readers who have a knowledge of basic physics and chemistry. It was developed in an introductory course in atomic physics which the author has given at Harvard University for many years. Its most outstanding quality derives

from the care the author has taken to describe the experiments and observations upon which the modern knowledge of the atom is based. Most of the exposition is in physical terms, with little use of mathematics. The first edition was published in 1949. Considerable reorganization and revision is evident in this second edition. Although it is only about 50 pages longer, it contains several chapters that did not appear in the first edition, including one on [illegible] and [illegible], several chapters and parts of chapters of the first edition have been deleted. The reference material in the appendices has been revised, and [illegible] list of references to other books added.

PANEL ON THE IMPACT OF THE PEACEFUL USES OF ATOMIC ENERGY

Peaceful uses of atomic energy Report of the Panel on the Impact of the Peaceful Uses of Atomic Energy to the Joint Committee on Atomic Energy of the United States Congress. Washington, D C. Government Printing Office, 1956 2 v illus. 23 cm. (United States. 84th Congress 2nd Session. Joint Committee Print) Vol. 1 $0 45 vol. 2 $2.00 872

Contents Current framework for the development of peaceful uses of atomic energy Atomic power. Controlled thermonuclear power and direct conversion of [illegible] energy Medicine and public health Agriculture. Radiation preservation of food. Atomic propulsion. General industrial uses. Impact on the United States of peaceful atomic developments abroad. Public and private activities as they affect development of the peaceful uses. Control of information. Research and development. Manpower—education of the public and the individual. Hazards, protection, and insurance. Ownership of special nuclear materials, licensing and regulation. Financial involvement. Patents. Government organization.

Note In 1955 the Joint Committee on Atomic Energy of the United States Senate and House of Representatives established the Panel named above and gave [illegible] four main instructions: (1) to appraise the present and future impact of all aspects of the development of atomic energy on the economy, industry and natural interests of the United States (2) to consider also the effects of the application of atomic energy upon economies and industries abroad, (3) to study the activities of the Atomic Energy Commission as they affect the foregoing, ( ) to recommend to the Joint Committee any legislation or policy actions needed to speed the development of peaceful uses of atomic energy The panel was instructed also to prepare and submit by January 31, 1956, [illegible] report on its activities and findings. These two volumes are the result. The first volume, 133 pages in length, contains the report, conclusions, and recommendations of the panel under 15 different headings. The second volume, 149 pages in length, contains the background material collected by the panel in preparing its report and not previously published elsewhere. For convenience the material in the second volume [illegible] arranged in chapters corresponding with the chapters and numbering of Volume [illegible] The two volumes together contain [illegible] substantial body of information on atomic energy of value both to specialists and to general readers.

PAULI, WOLFGANG

Meson theory of nuclear forces. Second edition. New York Interscience Publishers, Inc., 1948. 69 p. illus. 21 cm. $4.00. 873

Contents Various types of meson fields. Scalar charged meson field, Pseudoscalar symmetric theory Vector-field theory Theory of [illegible] [illegible]. Scattering of mesons. Magnetic moment in the strong coupling case. Magnetic moment in the weak coupling case. Quantum theory of scattering Theory of radiation damping. Heisenberg's observable quantities. Proof that S is unitary Theory of meson-proton scattering, Strong coupling theory of the two-nucleon system. Concluding remarks Appendix.

Note. The lectures that make up this volume were delivered in substantially their present form at Massachusetts Institute of Technology in 1944. In them the author critically examines various problems and hypotheses that bear on the meson theory of nuclear forces. The discussion is largely in mathematical terms and is intended for persons with an advanced knowledge of physics. The second edition is the same as the first (1946) except for the addition of about three pages that deal with later work on meson-proton scattering and the strong coupling theory.

PEASLEE, D C., AND H MUELLER

Elements of atomic physics. New York Prentice-Hall, Inc., 1955 394 p. illus. 24 cm. $7.50. 874

Contents Part I, The facts of atomic structure: Atoms and elementary chemistry Atoms as components of matter. Particle beams in electric and magnetic fields. Magnetic, optical, and [illegible] properties of atoms. X-rays. Photons and X-ray spectra. Optical spectra. Part II, Theoretical interpretation of the facts Special theory of relativity Wave mechanics. The Schroedinger equation. Electron spin and multiplet spectra. The periodic table exclusion principle and other topics. Part III, Further applications of the theory Modern developments. Quantum statistical mechanics. Appendices. Answers to even numbered problems. Index.

Note An introductory textbook, carefully planned to make available to undergraduate college students an understanding of modern physics in general and atomic physics specifically The main facts gathered by measurement and experimentation are described in the first part of the book, and it is shown that the concepts and laws of classical mechanics are not adequate to explain all of them. The demonstrated inadequacy is used as [illegible] supplying frame to the exposition of quantum mechanics and the related theory [illegible] which are developed in the second and third parts. As aids to comprehension, each of the three parts is prefaced with an explanation of [illegible] what will be expounded in it, and each of the chapters includes [illegible] summary of the ground covered in it. Selected literature references are another feature.

POLLARD ERNEST CHARLES, AND WILLIAM L. DAVIDSON

Applied nuclear physics. Second edition New York John Wiley & Sons Inc., 1951 352 p illus. 24 cm. $6.00. 875

Contents Fundamentals, nuclei, and atomic energy Properties of nuclear particles. The detection of nuclear particles. Methods of accelerating atomic particles. Transmutation. Radioactivity Technique in artificial radioactivity Artificial radioactivity in practice. Stable isotopes and their applications. Nuclear fission. Nuclear chain reactions. Nuclear theory and cosmic rays. Appendix. Author index. Subject index.

Note The first edition of this book, published in 1942, was one of the few pre-World War II books to include an account of nuclear fission. Though there are now many others that contain information on this subject, this work is still [illegible] useful text. A good deal of new material has been added in this edition, including discussions of pile theory nuclear chain reactions, and an extensive table of data on isotopes. The book is written at the college level and is intended for students who have studied general physics.

RAMSEY NORMAN F

Nuclear moments. Reprinted in part from Segrè (editor) Experimental nuclear physics, Vol. 1. New York John Wiley & Sons, Inc., 1953 169 p illus. 24 cm. $5.50 876

Contents Introduction to nuclear moments and statistics. Interaction of [illegible] nucleus with atomic and molecular fields. Experimental methods of measuring nuclear moments and statistics. Results of measurements of nuclear moments and statistics. Applications to chemistry and solid state physics. Appendix. References. Author index. Subject index.

Note. The first four parts of this book have been reprinted—as noted in the title—from E. Segrè editor Experimental nuclear Physics, Volume [illegible] However, the fifth chapter which runs to 38 pages is new Some additions have been made to the list of references, and the indexes have been made especially for this volume. The result is [illegible] relatively brief graduate-level text and survey suitable for use by chemists and physicists engaged in research in which nuclear moment measurements are of interest.

RICE, FRANCIS OWEN AND EDWARD TELLER

The structure of matter New York John Wiley & Sons, Inc., 1949 361 p. illus 24 cm. (Structure of matter series edited by Maria Goeppert Mayer) $7.25 877

Contents: Introduction. The hydrogen atom. The periodic system. Motion and position of nuclei in molecules. Atoms and molecules in electric fields. Van der Waals attraction forces. The chemical bond. Forces in the solid state. Magnetic properties of matter. Molecular vibrations. Electronic spectra. Nuclear chemistry. State of matter in stars. Index.

Note In this work, fundamental atomic phenomena and their grosser manifestations, such as spectra, chemical bonds, and magnetism, are explained in the concepts and terms of quantum mechanics. Thus it is both an exposition of modern atomic physics and an introduction to the applications of quantum mechanics. The presentation has been kept as simple as possible so that the book will be useful to chemists, engineers, and others who need a nonspecialist's knowledge of quantum mechanics. Within each chapter the exposition is developed under short sub-topics, an arrangement that facilitates comprehension and makes the book easier to use as a reference aid or as a "refresher."

ROSE, M E

Multipole fields New York John Wiley & Sons, Inc., 1955 99 p illus. 24 cm. $4 95 878

Contents The classical field equations. The multipole fields. Properties of the multipole fields. The retarded electromagnetic interaction. Internal conversion. Emission of gamma radiation. Appendices. References. Index.

Note. In this book the theory of multipole fields, which implies the representation of Maxwell fields in terms of the algebra of irreducible tensors, is explored. The properties of such fields are examined, and the theory is applied to selected problems in electromagnetics and nuclear radiation. The book can be described as an advanced-level mathematical study in which the emphasis is on the angular-momentum and parity properties of multipole fields. Readers will need a prior knowledge of quantum mechanics and electromagnetic theory on a graduate level. The author is Chief Physicist in the Oak Ridge National Laboratory and the book is addressed primarily to other physicists engaged in nuclear research.

ROSSI, BRUNO

High-energy particles New York Prentice-Hall, Inc., 1952 569 p illus 24 cm. (Prentice-Hall physics series, Donald H. Menzel, editor) $12 50 879

Contents Introduction. Theory of electromagnetic interactions. Experimental methods. Elementary particles. Cascade showers. Experimental results on the electromagnetic interactions of high-energy particles in cosmic rays and from artificial sources. Nuclear interactions of high-energy particles from artificial sources. Nuclear interactions of cosmic rays. Appendices. Bibliography. Index.

Note Although most of the text of this book is written in narrative style it is essentially a reference book of the accumulated knowledge on the elementary particles of physics and on their behavior at high energies. Basic properties, phenomena, experimental methods, and useful formulae are included. Many data are assembled in tables or represented in graphs. The book is addressed to graduate students and research workers in nuclear physics, cosmic radiation, and related fields.

SACHS, ROBERT G

Nuclear theory Reading Mass Addison Wesley Publishing Company, Inc., 1953 383 p illus 24 cm. $8 50 880

Contents: Part I, The nuclear force problem Introductory remarks. Qualitative discussion of nuclear forces. Part II, The two-body problem Ground state of the deuteron. Excited states of the deuteron. S-scattering by bound nuclei. Further considerations of the two-body problem. Remarks on the meson theory of nuclear forces. Part III, Complex nuclei Structure of complex nuclei. Electromagnetic interactions of nuclei. Nuclear reactions. Concerning beta decay Appendixes. Author index. Subject index.

Note A textbook designed as an introduction to nuclear theory for graduate students in physics. The author's aim was to present the basic concepts and mathematical techniques, accordingly the book is written in terms of ordinary Schroedinger quantum mechanics. Nearly half of the space is devoted to two-body (deuteron and proton) systems. A selection of the pertinent literature is cited as footnotes throughout the book. The author is Professor of Physics in the University of Wisconsin.

SCHWEBER, SILVAN S, AND OTHERS

Mesons and fields Volume I, Fields. By Silvan S Schweber, Hans A. Bethe, and Frederic de Hoffmann Volume II, Mesons By Hans A. Bethe and Frederic de Hoffmann. Evanston Row, Peterson and Company, 1955 2 v illus. 23 cm. $8 00 per vol. 881

Contents (abridged) Volume I, Fields One-particle relativistic wave equations The Klein-Gordon equation. The Dirac equation. Transformation properties and magnitude of Dirac operators. Calculational aids. Feynman's positron theory Applications of Feynman's theory Field theory: Fields and interaction—Interaction between fields—Interaction with the electromagnetic field. Quantum theory of fields—Scattering of the S matrix—The covariant formalism—Feynman diagrams. The renormalization program—The self energy of a Fermion—The divergences—Renormalizable and nonrenormalizable theories—Recent developments. Appendixes. References. Index. Volume II, Mesons. Meson physics. Meson scattering—Isotopic spin formalism in meson theory—Phase shift analysis—Low energy scattering experiments—High energy scattering (above 120 Mev) Photoproduction Meson theory: Development of meson theory 1947–1955—The Tamm-Dancoff method—The relativistic integral equation for meson scattering—Renormalization problems—Recent theories of photoproduction of mesons—The magnetic moment of the nucleon—Theory of nuclear forces. Meson production by particles. Other mesons The μ meson—"Curious" particles. Appendixes. References. Index.

Note The complicated authorship of this work is best described by quoting from the preface to Volume I "Volume I as it now stands, is predominantly the work of S. S. Schweber Volume II that of H. A. Bethe and F de Hoffmann. The original draft of some of the sections of Volume I is due to H. A. Bethe and F de Hoffmann. The pressure of other duties made it impossible for F de Hoffmann to work on Volume I to any substantial extent beyond the first stages. After this, S. S. Schweber assumed primary responsibility with advice from H. A. Bethe. The work was developed from advanced graduate courses given at Cornell University in 1953 and 1954 Volume I is a survey and development of modern field theory The authors have stated, "We have attempted to keep the presentation, as far as possible, simple and close to familiar concepts. For this reason, we have used as our main basis Dyson's approach of 1949 rather than the more modern and fundamental reformulations of Schwinger and Feynman during 1950 and 1951." A knowledge of basic quantum mechanics on the part of readers is assumed. Volume II is a survey and analysis of experimental results pertaining to mesons, with incidental discussions of other mesons. One of the major sections is devoted to meson theory. The first volume can be studied without reference to the second volume. Although the second volume is essentially independent, those readers who are interested in the theory will find it necessary to read sections of it in order to fully understand Volume II. Extensive literature references are included in both volumes.

SEGRÈ, E, editor

Experimental nuclear physics Vol I II New York John Wiley & Sons Inc. 1953 2 v illus. 23 cm Vol I $15 00 vol II $12 00 882

Contents. Volume I. Part I, Detection methods, by H. H. Staub Fundamental principles of particle detection Electronic instruments. Typical constructions and methods of operation of counters and cloud chambers. Part II, Passage of radiations through matter by H. A. Bethe and J Ashkin The passage of heavy particles through matter Penetration of beta-rays through matter Penetration of gamma-rays. Part III, Nuclear moments and statistics, by N F Ramsey Introduction to nuclear moments and statistics. Interaction of nucleus with atomic and molecular fields. Experimental methods of measuring nuclear moments and statistics. Results of measurements of nuclear moments and statistics. Part IV Nuclear two-body problems and elements of nuclear structure by N F Ramsey Introduction. Nuclear two-body problems. Heavier nuclei. Part V Charged particle dynamics and optics, relative isotopic abundances of the elements, atomic masses, by K. T Bainbridge Introduction. The deflection and focusing of charged particles in magnetic and electric fields. The relative abundance of isotopes. The measurement of isotopic weights. Author index. Subject index. Volume II. Part VI, A survey of nuclear reactions, by P Morrison The conservation laws. The data of nuclear reactions. The nuclear model. Nuclear level widths. The course of nuclear reactions. The dispersion theory—resonance reactions. Some typical nuclear reactions. The deuteron as a projectile. Radiative processes in nuclear

reactions. Nuclear fission. Nuclear reactions at high energy. Part VII. The neutron, by B. T. Feld. Properties and fundamental interactions. Interaction with nuclei. Sources and detectors—neutron spectroscopy. The interaction of neutrons with matter in bulk. Coherent scattering phenomena with slow neutrons. Author index. Subject index.

Note: A treatise planned as a basic work for graduate physicists and graduate students preparing for research in nuclear physics. As indicated in the above contents, it is composed of parts written by eminent nuclear scientists. Generally speaking, each author has outlined fundamental theory, described experimental techniques, and supplied the necessary reference data. In the work as a whole the primary emphasis is on experimental techniques and interpretation of experimental results. The stage of knowledge presented is approximately that at the end of the year 1951. Because it is somewhat out of date, the work is useful primarily as an introductory survey to be supplemented by study of the more recent literature. A projected third volume has not been issued.

SEMAT HENRY

Introduction to atomic and nuclear physics. Third edition revised and enlarged of *Introduction to atomic physics* New York Rinehart & Company Inc., 1954 561 p. illus. 23 cm. $6.50. 883

Contents: Part 1, Foundations of atomic and nuclear physics: Elements of electricity and magnetism. Charged atomic particles. The nuclear atom. Electromagnetic radiation. X-rays. Waves and particles. Part 2, The extranuclear structure of the atom. The hydrogen atom. Optical spectra and electron distribution. X-ray spectra. Part 3, Nuclear physics. Natural radioactivity. Disintegration of nuclei. Nuclear processes. Nuclear fission. Fundamental particles. New elements and isotopes. Particle accelerators. Appendixes. Index.

Note: A successful introductory textbook used in the instruction of undergraduate college students who have completed courses in basic physics and calculus. The lengths of the three respective parts whose titles are given above are: Part 1, 221 pages; part 2, 90 pages; part 3, 207 pages. The book is well organized for study and includes both problems for the student to solve and selected literature references. In comparison to the preceding edition published under the title *Introduction to atomic physics* it is 150 pages longer and contains a wide range of additional information. The author is Professor of Physics on the faculty of the College of the City of New York.

SHANKLAND ROBERT S

Atomic and nuclear physics. New York The Macmillan Company 1955 529 p. illus. 25 cm. $7.50 884

Contents: The atom and kinetic theory. The electron. Atomic structure and spectra. Molecular structure and spectra. X-rays. The solid state of matter. Isotopes and nuclear structure. Natural radioactivity. Induced nuclear transformations. Nuclear energy sources. High-energy nuclear processes. Cosmic rays. Index.

Note: This book is an introductory text addressed to advanced undergraduate and graduate students majoring in physics. The author has taken pains to explain basic ideas such as the uncertainty principle. Also, he has described at some length the methods and significance of the major experiments which advanced atomic and nuclear knowledge. Toward the end of the book the various types of nuclear reactors are described. Literature references are furnished. Although not primarily a mathematical treatment the reader will need somewhat more skill in mathematics than is usually gained from an introductory course in "college mathematics." Besides its textbook use, the book is useful in libraries for its definitions and descriptions.

THORNDIKE, ALAN M.

Mesons, a summary of experimental facts. New York McGraw Hill Book Company Inc., 1952 242 p. illus. 24 cm. (International series in pure and applied physics G P Harnwell, consulting editor) $6.00. 885

Contents: Evidence for the existence of mesons. Properties of cosmic-ray mesons. New types of mesons. Artificially produced mesons. Decay of mesons. Interaction of mesons with matter. Production of mesons in cosmic radiation. Occurrence of mesons in cosmic radiation. Glossary. List of symbols in equations. Name index. Subject index.

Note: The available knowledge on the existence and properties of mesons is presented in this book, and this knowledge is directly related to the experiments from which it has been derived. Experimental techniques are at least outlined, but in most instances the reader is referred to the original publications for detailed descriptions. However, results are fully described and are integrated with the body of experimental knowledge. No attempt is made to present meson theory. Substantial lists of literature references are included in the chapters. The book is intended as an introduction to the subject for graduate college students majoring in nuclear physics, and the style of presentation is largely descriptive.

WAY KATHARINE, AND OTHERS compilers

Nuclear level schemes. A = 40 — A = 92 (covering the elements Ca Zr) A collection of diagrams showing positions and properties of nuclear energy levels characteristics of radioactive decay and nuclear reactions, together with a tabular compilation of the experimental data and bibliographic references to the original papers. Compiled by K. Way R. W King C. L. McGinnis, and R. van Lieshout, Nuclear Data Project, Committee on Tables of Constants and Numerical Data, National Academy of Sciences—National Research Council Washington, D C. Washington, D C. Government Printing Office 1955 221 p. illus. 27 cm. (United States. Atomic Energy Commission. TID 5300) $1 75 886

Contents: Introduction. Abbreviations. Nuclear level schemes and tabular data. Binding energy charts. Mass links. Data for natural elements and unassigned activities. Table of nuclear moments. Relative isotopic abundances. Thermal neutron absorption cross sections. Beta decay systematics. Index of level schemes for different mass numbers, A. Alphabetical index of elements and isotopes.

Note: The first section of a tabular work originally planned as a revision of National Bureau of Standards circular 499, 1950, and three supplements, 1950–1951. As the backlog of nearly 4,000 new papers issued after 1950 on radioactivity and nuclear levels mounted, it became apparent that entirely new methods of organizing and presenting the material were called for, as explained in detail in the introduction to the new work. The compilation is designed for those concerned with nuclear technology as well as for those interested primarily in the fundamental problems of nuclear structure. Included are decay schemes for all known radioactive nuclei with mass numbers A = 40 through A = 92 in the region 20 Ca — 40 Zr. These schemes show explicitly the percentages of disintegrations in which the different β radiations are emitted and, in the case of positron emitters, the percentages of electron capture which are to be expected in addition to the particle transitions. Other pertinent data have also been computed and are shown on all the diagrams. The next section of the work will cover approximately the following 20 elements in the Periodic Table.

YAGODA, HERMAN

Radioactive measurements with nuclear emulsions New York John Wiley & Sons Inc., 1949 356 p illus. 22 cm. $9 00 887

Contents: Photographic detection of nuclear particles. Comparison of scintillation and photographic methods. Laboratory manipulations. Alpha-particle patterns on nuclear emulsions. Quantitative aspects of the alpha-particle pattern. Radiochemical studies with nuclear emulsions. Alpha-particle patterns of uranium and thorium minerals. Alpha tracers in crystallography and metallurgy. Biological applications of alpha-particle tracers. Principles of beta-particle autoradiography. Applications of beta-ray patterns. Applications in nuclear physics. Bibliography. Appendixes: Range-energy relations in Ilford nuclear research emulsions. Atomic constants and conversion factors. Author index. Subject index.

Note: A monograph on the use of photographic emulsions in the detection, analysis, and measurement of radioactive radiations. It is written on the research level and is intended for the information of biologists and physicists. Though the historical development is covered, the greater part is devoted to techniques, which are described in adequate detail for practical laboratory use. The book is based on an extensive literature survey. Keyed references to sources are incorporated in the text.

RELATIVITY

ABRO, A. D'

The evolution of scientific thought from Newton to Einstein Second edition revised and enlarged New York Dover Publications, Inc., 1950 481 p illus 21 cm $2 00 888

Contents. Part I, Pre-relativity physics Manifolds. The birth of metrical geometry Riemann's discoveries and congruence. The problem of physical space. An alternative view of non-Euclidean geometries. Time. Systems of co-ordinates and distance. The meaning of the word relativity The principles of relativity Classical mechanics and the Newtonian principle of relativity The ether The equations of electromagnetics and Lorentz's theory Part II, The special theory of relativity: Einstein's special theory of relativity Relativistic mechanics. Consequences of the new space and time measurements—simultaneity Practical congruence in relativity The mathematical expression of Einstein's fundamental premises. The discovery of space-time. The irreversibility of time. The reality of the contraction of lengths and of the lengthening of durations. The paradoxes associated with space-time and the trip to the star Part III, The general theory of relativity: Potentials and forces. The postulate of equivalence. The inclusion of gravitation in the model of space-time. Tensors and the laws of nature. The principle of general covariance, or the general principle of relativity The discovery of the Einsteinian law of gravitation. The general laws of motion. The verification of Einstein's law The separation of space-time into space and time in a gravitational field. The principles of conservation. Other aspects of the gravitational equations. The finiteness of the universe. The importance of space-time, and the principle of action. The mystery of matter The theories of Weyl and Eddington. Part IV The methodology of science The methodology of science. The general significance of the theory of relativity Appendix: The space and time graphs.

Note Essentially an interpretation of relativity for the general reader Relativity is presented as a logical development in the stream of physical thought in which the contributions of Newton, Maxwell, Riemann, Planck and many other scientists are landmarks and the importance of whose work is made clear About one-fourth of the space is devoted to physics before the theory of relativity and the terminal part contains a long chapter—about 100 pages—on the methodology of science. All of the remainder is given over to a detailed, non-mathematical explanation of the special and general theories of relativity and of their significance to physics. The first edition was published in 1927 In the second edition, errors were corrected, and the chapter entitled "The finiteness of the universe" was revised and slightly extended.

BERGMANN, PETER GABRIEL

Introduction to the theory of relativity Foreword by Albert Einstein New York Prentice-Hall Inc 1942 287 p 23 cm. (Prentice-Hall physics series) $5 25 889

Contents Part I, The special theory of relativity Frames of reference, coordinate systems and coordinate transformations. Classical mechanics. The propagation of light. The Lorentz transformation. Vector and tensor calculus in an *n* dimensional continuum. Relativistic mechanics of mass points. Relativistic electrodynamics. The mechanics of continuous matter Applications of the special theory of relativity Part II, The general theory of relativity The principle of equivalence. The Riemann-Christoffel curvature tensor The field equations of the general theory of relativity Rigorous solutions of the field equations of the general theory of relativity The experimental tests of the general theory of relativity The equations of motion in the general theory of relativity Part III, Unified field theories Weyl's gauge-invariant geometry Kaluza's five dimensional theory and the projective field theories. A generalization of Kaluza's theory Index.

Note The theory of relativity is presented as a theory in physics rather than in pure mathematics. Only a physicist's knowledge of mathematics is necessary to understand this text. The specific apparatus needed in relativity—tensor calculus and Ricci calculus—is developed in the book itself. Problems are introduced which familiarize the reader with the mathematical apparatus and illustrate the physical aspects of the theory The book is divided into the topics of the special theory of relativity the general theory of relativity and the unified field theories.

COLEMAN, JAMES A

Relativity for the layman a simplified account of the history theory, and proofs of relativity Illustrated by the author New York The William-Frederick Press, 1954 131 p illus 21 cm $2 75 890

Contents The velocity of light. The great dilemma. The special theory of relativity Experimental proof of the special theory The general theory and experimental proof Relativity and the nature of the universe. The unified field theory Index.

Note Relativity is not an easy field of science to explain to readers who lack education in mathematics. The author of this book, which is addressed to readers who have very little facility in mathematics has, however succeeded fairly well. He has used many analogies in explaining such concepts as the principle of equivalence. On the other hand, he has not avoided mathematics altogether. The basic equations are quoted, and their meanings are described as well as possible in nonmathematical terms. The discussions of the experimental proofs of the Special theory and the General theory add considerable interest to the book.

EINSTEIN, ALBERT

The meaning of relativity Fifth edition, including the *Relativistic theory of the non-symmetric field* Princeton Princeton University Press, 1955 169 p 21 cm. $3 75 891

Contents: Space and time in pre-relativity physics. The theory of special relativity The general theory of relativity Appendix: Relativistic theory of the non-symmetric field. Index.

Note: This authoritative interpretation of relativity is too well known to require description at this date. The first edition appeared in 1922 The second edition appeared in 1945 and contained an appendix on advances in the theory of relativity which had taken place since the writing of the first edition in 1921 The third edition published in 1950 contained a second appendix in which Einstein stated his generalized theory of gravitation. In this fifth and final edition that second appendix has been replaced with one entitled "Relativistic theory of the non-symmetric field," in which Einstein restated the generalized theory with the object of simplifying the derivations and making the theory more clear

LIEBER, LILLIAN ROSANOFF

The Einstein theory of relativity Drawings by Hugh Gray Lieber New York Rinehart & Company, Inc., 1945 324 p illus. 21 cm. $3 50 892

Contents (abridged) Part I, The special theory The Michelson-Morley experiment, Re-examination of the fundamental ideas. The remedy The result of applying the remedy The four-dimensional space-time continuum. Some consequences of the theory of relativity Part II, The general theory The principle of equivalence. A non-Euclidean world! The study of spaces. What is a tensor? The effect on tensors of a change in the coordinate system. Mixed tensors. Contraction and differentiation. The little g's. The curvature tensor at last. The big G's or Einstein's law of gravitation. Comparison of Einstein's law of gravitation with Newton's. How can the Einstein law of gravitation be tested? More about the path of a planet. The perihelion of Mercury Deflection of a ray of light. The third of the "crucial" phenomena. Summary

Note. The purpose of this book is to fill the need for a presentation between the popular and the expert levels of the Einstein theory of relativity The authors have written several other books in which difficult mathematical concepts have been explained for general readers, and they have developed original techniques for both the textual exposition and the supplementary drawings. Part I of the book was first published in 1936 Part II is here published for the first time. The jacket quotes Albert Einstein as follows "The book is a clear and vivid exposition of the essential ideas and methods of the theory of relativity and can be warmly recommended—especially to those who cannot spend too much time on the subject.

QUANTUM MECHANICS

BOHM, DAVID

Quantum theory New York Prentice-Hall Inc. 1951 646 p 24 cm. $8 75 893

Contents (abridged) Part I, Physical formulation of the quantum theory The origin of the quantum theory Wave packets and De Broglie waves. The uncertainty principle. Wave vs. particle properties of matter Part II, Mathematical formulation of the quantum

theory. Wave functions, operators, and Schrödinger's equation. Fluctuations, correlations and eigenfunctions. Part III, Applications to simple systems. Solutions of wave equations for square potentials. The classical limit of quantum theory. The harmonic oscillator. Angular momentum and the three-dimensional wave equation. Matrix formulation of quantum theory. Spin and angular momentum. Part IV. Methods of approximate solution of Schrödinger's equation. Perturbation theory: time-dependent and time-independent. Sudden and adiabatic approximations. Part Theory of scattering. Part VI, Quantum theory of the process of measurement. Relationship between quantum and classical concepts. Index.

Note: A relatively full introduction to the quantum theory for upperclass and graduate students majoring in physics. The author has made special effort to relate the concepts and laws of the quantum theory to classical physics and to the experiments upon which modern physics, particularly the quantum theory, is based. However, though extensive use is made of experimental results in the exposition, the mathematical aspects are not slighted. A short list of supplementary reading is given at the beginning of the book, and there are occasional footnote references throughout the text.

HOUSTON WILLIAM VERMILLION

Principles of quantum mechanics. Nonrelativistic wave mechanics with illustrative applications. New York McGraw Hill Book Company Inc. 1951 288 p. illus. 24 cm. (International series in pure and applied physics G P Harnwell, consulting editor) $6.00 894

Contents (abridged) Part I, General outline of quantum mechanics: Experimental necessity for the quantum theory. Analysis of the inadequacy of classical mechanics. Formulation of quantum mechanics. The classical approximation. Motion of particle in central field. Approximation methods. Spin and the Pauli exclusion principle. Part II, Applications to spectroscopy. Part III, Applications to collision problems. Part IV Applications to electrons in solids. Quantum statistical mechanics. Behavior of an electron gas. Motion of an electron in periodic potential. Part Applications to electromagnetic radiation. Quantization of electromagnetic radiation in empty space. Interaction of radiation and matter. Mathematical appendix. Index.

Note: A comparatively short introduction to quantum mechanics. In addition to the quality of brevity, the exposition tends to be clearer than in some lengthier texts. In the first three chapters, series of actual experiments, the results of which illustrate the inadequacies of classical mechanics, are described, the shortcomings of classical physics are further discussed, and two basic postulates of quantum mechanics, one for representing the state of system, the other for representing change in system when presented. Most of the remainder of the book is devoted to applications of these postulates to physical problems and systems. The book is for graduate students of physics who have had an introductory course in mathematical physics.

LANDÉ, ALFRED

Foundations of quantum theory: a study in continuity and symmetry New Haven Yale University Press 1955 106 p. 21 cm. $4.00. 895

Contents: Entropy continuity and quantum structure. Superposition mechanics and symmetry principles. Quantum dynamics. Appendices. References. Index.

Note: An important contribution to physical theory. In it the author, who is Professor of Theoretical Physics in Ohio State University shows that quantum mechanics in its basic concepts and its formalistic rules not dependent on tailored interpretations of experiments on microphysical scale but can be developed as straightforward consequence of elementary physical principles of continuity and symmetry. The book is addressed to readers, such as teachers of physics who are familiar with the concepts and arguments of quantum mechanics.

LANDÉ, ALFRED

Quantum mechanics. New York Pitman Publishing Corporation 1951 307 p. illus. 24 cm. $5.50. 896

Contents: The antinomies of waves and particles. The older quantum theory. De Broglie waves—uncertainty. Elementary wave mechanics. Approximation methods. Matrix mechanics. Noncommutative systems. Transitions in radiation. Spin and Pauli principle's Atomic and molecular spectra. Quantum statistics. The Dirac electron. The quantum theory of radiation. The meson theory of nuclear forces. Retrospect. Bibliography. Index.

Note: An introductory work suitable chiefly for upperclass or graduate college students who are majoring in physics or mathematics. Essentially the author's method is to develop the subject by painstaking analyses of suitable experiments in physics, and to make these analyses in such way that they are related to classical physics with which the student is presumably familiar. Each chapter concludes with summary and lastly there is summary of the entire book. The author is Professor of Physics at Ohio State University

PERSICO ENRICO

Fundamentals of quantum mechanics translated and edited by Georges M Temmer New York Prentice-Hall, Inc. 1950 484 p. illus. 22 cm. $7.50 897

Contents: Part I, Historical development and experimental basis. The atomic model. Energy quanta and light quanta. Energy levels. Quantum mechanics. Part II, Wave mechanics of a particle: Mathematical introduction. Probabilistic statement of atomic problems. One-dimensional problems. Three-dimensional problems. The Bohr-Sommerfeld theory. Part III, General methods of quantum mechanics: Mathematical introduction. General theory of quantum mechanics. The matrix method. Perturbation theory. Relativity and spin. Systems with identical particles. Bibliography. Index.

Note: The first part of this book can be understood by practically anyone who has successfully completed an introductory course in college physics. The second part requires the mathematical knowledge that any college student majoring in physics should have acquired. Although highly abstract mathematical methods have been avoided in the third part, the concepts of matrix theory and Hilbert space are used, hence fairly high level of mathematical education is required to read it. The book can be used either as college textbook or as an introduction for persons out of college who have had the requisite training in basic physics and mathematics.

REICHENBACH HANS

Philosophic foundations of quantum mechanics. Berkeley University of California Press, 1944 182 p. illus. 24 cm. $4.00. 898

Contents (abridged) Part I, General considerations. Causal laws and probability laws. Probability distributions. The principle of indeterminacy. The disturbance of the object by the observation. Waves and corpuscles. Exhaustive and restrictive interpretations. Part II, Outlines of the mathematics of quantum mechanics: Expansion of function in terms of an orthogonal set. Geometrical interpretation in the function space. Functions of several variables and the configuration space. Operators, eigen-functions, and eigen-values of physical entities. The commutation rule. Operator matrices. Mathematical theory of measurement. The rules of probability and the disturbance by the measurement. The nature of probabilities and of statistical assemblages in quantum mechanics. Part III, Interpretations: Comparison of classical and quantum mechanical statistics. The corpuscle interpretation. The impossibility of chain structure. The wave interpretation. The rules of two-valued logic. The rules of three-valued logic. The limitation of meaningfulness. Conclusion. Index.

Note: The author of this advanced treatment has endeavored to develop philosophic interpretation free from metaphysics, and to develop it in such way that quantum mechanical results about the world can be considered as real as the physical world. He interprets philosophy as the analysis of the knowledge of the physical world.

SCHIFF LEONARD I.

Quantum mechanics. Second edition. New York McGraw Hill Book Company, Inc., 1956 417 p. illus. 24 cm. (International series in pure and applied physics Leonard I. Schiff consulting editor) $7.00 899

Contents: The physical basis of quantum mechanics. The Schrödinger wave equation. Eigenfunctions and eigenvalues. Discrete eigenvalues—energy levels. Continuous eigenvalues—collision theory. Matrix formulation of quantum mechanics. Approximation

RELATIVITY

ABRO, A D'

The evolution of scientific thought from Newton to Einstein. Second edition revised and enlarged New York Dover Publications, Inc. 1950 481 p illus 21 cm. $2 00 888

Contents Part I, Pre-relativity physics Manifolds. The birth of metrical geometry Riemann's discoveries and congruence. The problem of physical space. An alternative view of non-Euclidean geometries. Time. Systems of co-ordinates and distance. The meaning of the word relativity The principles of relativity Classical mechanics and the Newtonian principle of relativity The ether. The equations of electromagnetics and Lorentz's theory Part II, The special theory of relativity: Einstein's special theory of relativity Relativistic mechanics. Consequences of the new space and time measurements—simultaneity Practical congruence in relativity The mathematical expression of Einstein's fundamental premises. The discovery of space-time. The irreversibility of time. The reality of the contraction of lengths and of the lengthening of durations. The paradoxes associated with space-time and the trip to the star Part III, The general theory of relativity: Potentials and forces. The postulate of equivalence. The inclusion of gravitation in the model of space-time. Tensors and the laws of nature. The principle of general covariance or the general principle of relativity The discovery of the Einsteinian law of gravitation. The general laws of motion. The verification of Einstein's law The separation of space-time into space and time in gravitational field. The principles of conservation. Other aspects of the gravitational equations. The finiteness of the universe. The importance of space-time and the principle of action. The mystery of matter The theories of Weyl and Eddington. Part IV The methodology of science The methodology of science. The general significance of the theory of relativity Appendix: The space and time graphs.

Note Essentially an interpretation of relativity for the general reader Relativity is presented as logical development in the stream of physical thought in which the contributions of Newton, Maxwell, Riemann, Planck and many other scientists are landmarks and the importance of whose work is made clear About one-fourth of the space is devoted to physics before the theory of relativity and the terminal part contains a long chapter—about 100 pages—on the methodology of science. All of the remainder is given over to detailed, non-mathematical explanation of the special and general theories of relativity and of their significance to physics. The first edition was published in 1927 In the second edition, errors were corrected, and the chapter entitled "The finiteness of the universe" was revised and slightly extended.

BERGMANN, PETER GABRIEL

Introduction to the theory of relativity Foreword by Albert Einstein. New York Prentice-Hall, Inc. 1942 287 p 23 cm. (Prentice-Hall physics series) $5 25 889

Contents Part I, *The special theory of relativity:* Frames of reference, coordinate systems and coordinate transformations. Classical mechanics. The propagation of light. The Lorentz transformation. Vector and tensor calculus in an dimensional continuum. *Relativistic mechanics of mass points. Relativistic electrodynamics.* The mechanics of continuous matter Applications of the special theory of relativity Part II, The general theory of relativity The principle of equivalence. The Riemann-Christoffel curvature tensor *The field equations of the general theory of relativity* Rigorous solutions of the field equations of the general theory of relativity The experimental tests of the general theory of relativity The equations of motion in the general theory of relativity Part III, *Unified field theories. Weyl's gauge-invariant geometry* Kaluza's five dimensional theory and the projective field theories. A generalization of Kaluza theory Index.

Note The theory of relativity is presented as theory in physics rather than in *pure mathematics. Only* physicist's knowledge of mathematics is necessary to understand this text. The specific apparatus needed in relativity—tensor calculus and Ricci calculus—is developed in the book itself. Problems are introduced which *familiarize the reader with the mathematical* apparatus and illustrate the physical aspects of the theory The book is divided into the topics of the special theory of relativity the general theory of relativity and the unified field theories.

COLEMAN, JAMES A.

Relativity for the layman a simplified account of the history, theory, and proofs of relativity Illustrated by the author New York The William Frederick Press, 1954 131 p illus 21 cm $2 75 890

Contents The velocity of light. The great dilemma. The special theory of relativity Experimental proof of the special theory The general theory and experimental proof. Relativity and the nature of the universe. The unified field theory Index.

Note Relativity is not an easy field of science to explain to readers who lack education in mathematics. The author of this book, which is addressed to readers who has very little facility in mathematics has, however succeeded fairly well. He has used many analogies in explaining such concepts as the principle of equivalence. On the other hand, he has not avoided mathematics altogether. The basic equations are quoted, and their meanings are described as well as possible in nonmathematical terms. The discussions of the experimental proofs of the Special theory and the General theory add considerable interest to the book.

EINSTEIN, ALBERT

The meaning of relativity Fifth edition, including the *Relativistic theory of the non-symmetric field* Princeton Princeton University Press, 1955 169 p 21 cm. $3 75 891

Contents Space and time in pre-relativity physics. The theory of special relativity The general theory of relativity Appendix. Relativistic theory of the non-symmetric field. Index.

Note This authoritative interpretation of relativity is too well known to require description at this date. The first edition appeared in 1922 The second edition appeared in 1945 and contained an appendix on advances in the theory of relativity which had taken place since the writing of the first edition in 1921 The third edition published in 1950 contained a second appendix in which Einstein stated his generalized theory of gravitation. In this fifth and final edition that second appendix has been replaced with one entitled "Relativistic theory of the non-symmetric field, in which *Einstein restated the generalized theory with the object of simplifying* the derivations and making the theory more clear.

LIEBER, LILLIAN ROSANOFF

The Einstein theory of relativity Drawings by Hugh Gray Lieber New York Rinehart & Company, Inc., *1945 324* p illus *21* cm. $3.50 892

Contents (abridged) Part I, The special theory The Michelson-Morley experiment. Re-examination of the fundamental ideas. The remedy The result of applying the remedy The four-dimensional space-time continuum. Some consequences of the theory of relativity Part II, The general theory The principle of equivalence. A non-Euclidean world! The study of spaces. What is tensor? The effect on tensors of a change in the coordinate system. Mixed tensors. Contraction and differentiation. The little g's. The curvature tensor at last. The big G's or Einstein's law of gravitation. Comparison of Einstein's law of gravitation with Newton's. How can the Einstein law of gravitation be tested? More about the path of planet. The perihelion of Mercury Deflection of a ray of light. The third of the "crucial" phenomena. Summary

Note: The purpose of this book is to fill the need for presentation between the popular and the expert levels of the Einstein theory of relativity The authors have written several other books in which difficult mathematical concepts have been explained for general readers, and they have developed original techniques for both the textual exposition and the supplementary drawings Part of the book was first published in 1936 Part II is here published for the first time. The jacket quotes Albert Einstein as follows "The book is clear and vivid exposition of the essential ideas and methods in the theory of relativity and can be warmly recommended—especially to those who cannot spend too much time on the subject.

QUANTUM MECHANICS

BOHM, DAVID

Quantum theory New York Prentice Hall Inc. 1951 646 p 24 cm. $8 75 893

Contents (abridged) Part I, Physical formulation of the quantum theory The origin of the quantum theory Wave packets and De Broglie waves. The uncertainty principle. Wave vs. particle properties of matter. Part II, *Mathematical formulation of the quantum*

HILL, TERRELL L.

Statistical mechanics principles and selected applications. New York McGraw Hill Book Company Inc., 1956. 432 p. illus. 24 cm. $9.00. 905

Contents: Principles of classical statistical mechanics. Principles of quantum statistical mechanics. Statistical mechanics and thermodynamics. Fluctuations. Theory of imperfect gases and condensation. Distribution functions and the theory of the liquid state. Nearest-neighbor lattice statistics. Lattice theories of the liquid and solid states. Appendixes. Index.

Note: Rather than attempting to provide [illegible] comprehensive treatise, the author of this book has selected certain important recent developments in statistical mechanics and has dealt with them at length. His chapter on "Distribution functions and the theory of the liquid state," for example, is 113 pages long and is essentially complete account of the present state of this aspect of statistical mechanics. Several of the other chapters also are full-scale treatments of the topics named in their titles. The exceptions are the first, second, and third chapters which are compact treatment of basic principles, included for background. The book is addressed to such readers as graduate students and young graduate scientists studying or doing research work in chemistry and physics. It is of interest also to established scientists who are familiar with classical statistical mechanics and wish to become familiar with recent work in the field.

SLATER, JOHN CLARKE

Introduction to chemical physics. New York McGraw Hill Book Company Inc., 1939 521 p. illus. 23 cm. (International series in physics F. K. Richtmyer consulting editor) $5.00. 906

Contents (abridged): Part I, Thermodynamics, statistical mechanics, and kinetic theory. Heat as [illegible] mode of motion. Statistical mechanics. The Maxwell-Boltzmann distribution law. The Fermi-Dirac and Einstein-Bose statistics. The kinetic method and the approach to thermal equilibrium. Part II, Gases, liquids, and solids: Thermodynamic and statistical treatment of the perfect gas and mixtures of gases. The molecular structure and specific heat of polyatomic gases. Chemical equilibrium in gases. The equilibrium of solids, liquids, and gases. The equation of state of solids. Debye's theory of specific heats. Phase equilibrium in binary systems. Phase changes of the second order. Part III, Atoms, molecules, and the structure of matter. Radiation and matter. Ionization and excitation of atoms. Interatomic and intermolecular forces. The homopolar bond and molecular compounds. Organic molecules and their crystals. Homopolar bonds in the silicates. Thermionic emission and the volta effect. The electronic structure of metals.

Note: In the unified presentation of material common to the fields of physics and chemistry the author offers [illegible] treatment of thermodynamics and statistical mechanics, including their applications to solids, liquids, and gases. There is also [illegible] discussion of atomic structure and the resulting interatomic and intermolecular forces, with application to the different types of chemical substances, and to their thermal and mechanical properties.

PHYSICS OF GASES

BASS, A. M. editor

Energy transfer in hot gases. Proceedings of the NBS Semicentennial Symposium on Energy Transfer in Hot Gases held at the NBS on September 17 and 18 1951 Washington, D. C. Government Printing Office, 1954 126 p. illus. 24 cm. (United States. National Bureau of Standards. Circular 523) $1.50. 907

Contents: Processes of electronic excitation in relation to flame spectra, by A. G. Gaydon. Profiles of some polyatomic flame bands, by G. A. Hornbeck and R. C. Herman. Emission spectra of polyatomic free radicals, by F. J. Dyne. Distributions of OH rotational intensities in flames, by H. P. Broida. Spectroscopic studies of low-pressure combustion flames, by R. E. Ferguson and others. Studies of emission and absorption in flames, by G. H. Dieke and H. M. Crosswhite. Energy distribution of CO molecules in CO-O_2 flames, by S. Silverman. High-resolution spectra of hydrocarbon flames in the infrared, by W. S. Benedict and E. K. Plyler. Infrared emissivity of diatomic gases, by S. S. Penner. Infrared spectra of thermally excited gases, by R. H. Tourin. Present position of the theory of flames, by B. Lewis. Detailed mechanism of elementary reactions: production of OH ($^2\Sigma^+$) in the H_2-O_2 flame, by K. E. Shuler. Some reactions of atomic hydrogen in flames, by J. R. Arthur and D. T. A. Townend. Temperature of the hydrogen-fluorine flame, by R. H. Wilson, Jr. and others. Effect of flame-generated turbulence on heat transfer from combustion gases, by B. Karlovitz. Astrophysicist's concept of temperature, by H. K. Sen.

Note: Interest in the problems of radiation from flames and hot gases and of basic chemical and physical mechanisms governing energy transfer in these media led to the holding of the Symposium on Energy Transfer in Hot Gases under the auspices of the National Bureau of Standards, with the co-operation of the Office of Naval Research. This volume, in which the symposium papers are published, is of interest to chemical technologists who are concerned with the practical as well as the theoretical aspects of the production and utilization of high temperatures. Bibliographical references are included at the close of the respective papers.

HILSENRATH, JOSEPH, AND OTHERS

Tables of thermal properties of gases, comprising tables of thermodynamic and transport properties of air, argon, carbon dioxide, carbon monoxide, hydrogen, nitrogen, oxygen, and steam. By Joseph Hilsenrath, Charles W. Beckett, William S. Benedict, Lilla Fano, Harold J. Hoge, Joseph F. Masi, Ralph L. Nuttall, Yeram S. Touloukian, and Harold W. Woolley. Washington, D. C. Government Printing Office, 1955 488 p. illus. 27 cm. (United States. National Bureau of Standards. Circular 564) $3.75 908

Contents: Introduction. The thermodynamic properties of air. The thermodynamic properties of argon. The thermodynamic properties of carbon dioxide. The thermodynamic properties of carbon monoxide. The thermodynamic properties of hydrogen. The thermodynamic properties of nitrogen. The thermodynamic properties of oxygen. The thermodynamic properties of steam. Appendix.

Note: The importance of basic thermodynamic and transport data for air and its constituent gases in the conduct of aerodynamic research has long been recognized and led to the compilation beginning in 1948 and to the publication seven years later of the tables in this Circular. Data are given at close temperature intervals for the thermodynamic properties and transport properties of air and of its component gases: argon, carbon dioxide, carbon monoxide, hydrogen, nitrogen, oxygen, and steam. "The thermodynamic properties—compressibility factor, density, entropy, enthalpy, specific heat, specific-heat ratio, and sound velocity—are tabulated for the real gas at pressures up to 100 atmospheres and to temperatures of 600°K for hydrogen, 1500°K for carbon dioxide, 850°K for steam, and 3000°K for the remainder. The ideal-gas thermodynamic functions are tabulated uniformly to 5000°K. Also tabulated are the vapor pressures and transport properties—thermal conductivity, viscosity, and Prandtl number. These were fitted either semi-theoretically or empirically to the experimental values and are tabulated over the range of the available experimental data. Comparisons of the tabulated values with the existing experimental data are shown in deviation plots which exhibit the range and distribution of the experimental data as well as their agreement with the tabulated values. Each set of tables is provided with its own introductory textual data. References consulted in the course of the work are listed.

KENNARD, EARLE HESSE

Kinetic theory of gases, with an introduction to statistical mechanics. New York McGraw Hill Book Company Inc., 1938. 483 p. illus. 23 cm. (International series in physics F. K. Richtmyer consulting editor) $8.00. 909

Contents: Elements of the kinetic theory of gases. Distribution law for molecular velocities. General motion and special dis-

methods for stationary problems. Approximation methods for time-dependent problems. Identical particles and spin. Semiclassical treatment of radiation. Atoms, molecules, and atomic nuclei. Relativistic wave equations. The quantization of wave fields. Quantum electrodynamics. Index.

Note A graduate-level textbook which provides an introduction to quantum mechanics for students who are preparing for professional work in physics. I the first chapter the author outlines experimental evidence on which quantum mechanics is based, criticizes the old quantum theory developed by Planck, Einstein, and Debye and shows how quantum mechanics avoids the difficulty of the old theory The remainder of the book is devoted to the mathematical theories and techniques of quantum mechanics, and here the exposition is full and is supplemented by numerous worked examples. Although the author did not aim at mathematical rigor he has used differential equations and other advanced mathematics freely in the presentation. Physical terms also are frequently used. The last three chapters are written at a more advanced level than those that precede them. The first edition was published in 1949 A number of changes in the expository text and in the problems were made for this second edition, but there has not been an extensive revision of the book.

SLATER, JOHN CLARKE

Quantum theory of matter New York McGraw Hill Book Company, Inc., 1951 528 p illus 24 cm. (International series in pure and applied physics, G P Harnwell, consulting editor) $7 50 900

Contents De Broglie waves and wave mechanics. Schrödinger's equation Average values and matrices. Perturbations and the action of radiation. The hydrogen atom The central field model for atomic structure. Multiplet structure. The hydrogen molecule. Interatomic and intermolecular forces. The metallic state. Mechanical, chemical, and thermal properties of matter Electrical conductivity The nature of dielectrics. Magnetism. Appendixes. Suggested references. Index.

Note An introductory treatment of the quantum theory as it relates to the structure of atoms, molecules, and solids. One or two courses in basic mathematics at the college level on the part of the reader has been assumed. Most of the discussion is in narrative form rather than in mathematical equations The book is addressed to advanced undergraduate and graduate students of chemistry metallurgy and physics. It takes the place of the section on quantum mechanics in *Introduction to theoretical physics*, New York, 1933 by Slater and N H. Frank, and forms a part (though it can be read independently) of the expansion of that work into four volumes consisting of the present work and three others bearing the titles *Mechanics*, by Slater and Frank *Electromagnetism* by Slater and Frank, and *I troduction to chemical physics* by Slater alone.

VON NEUMANN, JOHN

Mathematical foundations of quantum mechanics translated from the German edition by Robert T Beyer Princeton Princeton University Press 1955 445 p 23 cm. (Investigations in physics edited by Eugene Wigner and Robert Hofstadter) $6 00 901

Contents Introductory considerations. Abstract Hilbert space. The quantum statistics. Deductive development of the theory General considerations. The measuring process.

Note The German original I this work was published in Berlin in 1932 before the uthor migrated to the United States of America. Since publication, it has been recognized as one of the basic works on quantum mechanics. The translation was revised by the uthor but no extensive changes from the original text were made. The notes, which in the original edition were printed at the end of the volume, are in this version printed as footnotes and are of course translated.

STATISTICAL MECHANICS

BAND WILLIAM

An introduction to quantum statistics. Princeton D Van Nostrand Company Inc. 1955 342 p illus 23 cm $7 50 902

Contents. Review of quantum mechanics. The formation of statistical mechanics. Statistical interpretation of thermodynamics. The partition function in classical statistics. Equilibrium between phases. Chemical and dissociative equilibrium. Assemblies of dependent systems. Independent systems with quantum degeneracy Phase equilibria among quantum degenerate systems. Dissociative equilibrium among quantum degenerate systems. Quantum degenerate assemblies of dependent systems. The grand partition function and its applications. General theory of the liquid phase. Some solid state problems. Fluctuations and nonequilibrium phenomena. Appendix. Index.

Note An exposition of statistical mechanics which is addressed to chemists and physicists rather than to mathematicians. It is written at the graduate level and is designed primarily for use as a text in graduat courses. Although the first chapter is devoted to a review of quantum mechanics, the treatment assumes that the reader will have had a course in this subject or be pursuing one. Theory and thinking in terms of theory are emphasized further more, the statistical approach is favored over the thermodynamic. On this point the author has stated "Each practical problem is studied as a problem in statistics. The basic methods of statistics are applied repeatedly in whatever form the particular problem demands, and appeal is seldom made to general thermodynamic laws to show the derivation. The author is Professor of Physics in Washington State College.

DOLE, MALCOLM

Introduction to statistical thermodynamics. Englewood Cliffs, N J Prentice-Hall, Inc., 1954 250 p illus. 21 cm (Prentice-Hall chemistry series, Wendell M Latimer, editor) $6 25 903

Contents Introduction. Introduction to mathematical probability Distribution of molecular weights in linear condensation polymers. Fundamentals of statistical mechanics—probability equation of the most probable state. Derivation and significance of the Boltzmann distribution law Interionic attraction theory of strong electrolytes. Relation of thermodynamic functions to the partition function. Preliminary considerations and evaluation of the partition function. Evaluation of translational rotational, and vibrational partition functions for perfect gases. Heat capacity of gases and solids. Calculation of equilibrium constants in terms of partition functions. Entropy of chemical substances. Statistical thermodynamics of adsorption. Bose-Einstein and Fermi-Dirac statistics. Appendix. Index.

Note: The author of this book is a chemist by profession, but the book is directed both to students of chemistry and to students of physics. The level of treatment does not assume a previous course in statistical mechanics, although some notions of statistical mechanics are introduced. The primary emphasis is on relating the theoretical knowledge of thermodynamics and kinetics to practical chemistry and physics. Numerous illustrations of applications are mentioned.

GURNEY, RONALD WILFRID

Introduction to statistical mechanics. New York McGraw Hill Book Company Inc., 1949 268 p illus. 24 cm. (International series in pure and applied physics G P Harnwell, consulting editor) $6 00 904

Contents (abridged) Groups of particles. The use of undetermined multipliers. The distribution of particles through alternative sets of energy levels. The partition function and properties of monatomic and diatomic gases. The relation between statistical mechanics and thermodynamics. Conditions of equilibrium for a partially dissociated diatomic gas. Substitutional and interstitial solutions. The total energy shared by interacting particles. Chemical mechanics. Vibration of molecules and of crystal lattices. The rotation of diatomic molecules. Particles in electric and magnetic fields. Appendix. Name index. Subject index.

Note An attempt to simplify the exposition of statistical mechanics so that its chief concepts and methods will be available to scientists who are not professional mathematicians. The more abstract concepts are not introduced until the latter part of the book. In the first part the emphasis is on the mathematical techniques and some of their applications. Applications in chemistry and in physics are used throughout the book. The chapters are supplemented by problems for students to solve, but the work is intended for graduat students and graduat scientists already in industry rather than for undergraduates.

CARLIN BENSON

Ultrasonics. New York McGraw Hill Book Company Inc., 1949 270 p. illus. 24 cm. $5.50 915

Contents: Ultrasonic waves. Ultrasonic waves: further theory. Crystals for ultrasonic use. Crystal holders for ultrasonic use. Resonance and selection. Continuous-wave ultrasonic systems. Pulsed ultrasonic systems. Ultrasonic agitation. Magnetostriction. Practical considerations in the application of ultrasonics. Index.

Note: A survey of the basic phenomena of radiation in the "ultrasonic range and of some of the applications. The author has done extensive experimentation in the field himself and the book incorporates results of his own work as well as the published results of others. It is especially useful for its descriptions of fundamental apparatus such as crystal holders and basic circuits. The book is suitable as an introduction for such readers as scientists seeking information outside the field of their own specialties. Also, it can be read by laymen who have an acquaintance with basic electronic terminology.

GEOLOGICAL SOCIETY OF AMERICA

Propagation of sound in the ocean Explosion sounds in shallow water by J Lamar Worzel and Maurice Ewing Theory of propagation of explosive sound in shallow water by C. L. Pekeris Long range sound transmission, by Maurice Ewing and J Lamar Worzel. Contribution no. 415 from the Woods Hole Oceanographic Institution. New York The Geological Society of America, 1948. 53 117, 35 p. illus. 25 cm. (The Geological Society of America. Memoir 27) $2 75 916

Contents: Explosion sounds in shallow water: Recording system characteristics. Calibrations. Calibration reductions. Shot list. Water waves. Bubble pulses. Ground waves. Refraction results. Conclusions. References cited. Index.—Theory of propagation of explosive sound in shallow water. Part I, Data: Some observed characteristics of pressure records obtained at large ranges from an explosion in shallow water. Qualitative discussion of the theory of propagation of explosive sound in shallow water. Summary of the solutions of the wave equation for the problem of propagation of sound produced by point-source explosions in shallow water. Propagation of pressure pulse in shallow water. Features of the pressure wave from an explosion in shallow water. Some remarks on the history of the development of the theory of normal modes in elastic half-spaces and of its applications to problems of propagation of shocks. Preliminary report on free acoustic waves, prepared in November 1941. Part II, Theory: Theory of propagation of sound in water underlain by uniform bottoms of different density and sound velocity. Theory of propagation of sound in three-layered liquid half-space. References cited. Index.—Long-range sound transmission: Hydrographic data. Key diagram calculation. Travel times. Calibration and frequency response. Peak intensities. Sound energies. Conclusions. Appendices: Calculation of travel time along sound ray. Shot list. References cited. Index.

Note: These papers are based on a series of experiments that were carried out under contracts between the Woods Hole Oceanographic Institution and several agencies of the United States Government.

HUETER, THEODOR F., AND RICHARD H. BOLT

Sonics techniques for the use of sound and ultrasound in engineering and science. New York John Wiley and Sons, Inc., 1955 456 p illus. 23 cm. $10.00. 917

Contents: Introduction. Basic principles. Radiation. Piezoelectric transducers. Magnetostrictive transducers. Physical mechanisms for sonic processing. Devices and techniques for sonic processing. Principles of sonic testing and analysis. Appendix. Acoustical relaxation mechanisms in fluids: General relations between macroscopic and microscopic properties. Phase lag between pressure and density. Classical absorption and velocity dispersion. Molecular relaxation in gases. Structural aspects of sound propagation in liquids. Sound propagation in fluid mixtures and solutions. Author index. Subject index.

Note: A text and reference book addressed to graduate engineers who wish to understand the applications, developed and potential, of radiation in the ranges of audible sound and supersonic frequencies. Although the slant is practical, the emphasis is on principles and other fundamental matters in the design of systems. Elements which are common to all systems, such as transducers, are thoroughly explored as to principles, properties and mechanical details, but there are no descriptions of specific applications in industrial plants.

KINSLER, LAWRENCE E., AND AUSTIN R. FREY

Fundamentals of acoustics New York John Wiley & Sons Inc., 1950 516 p illus. 20 cm. $6.50. 917A

Contents: Simple harmonic motion. Vibrating strings. Vibrations of bars. Circular membranes and plates. Acoustic plane waves. Transmission phenomena. Spherical acoustic waves. Resonators and filters. Absorption of sound waves. Direct radiator loudspeakers. Horn-type loudspeakers. Microphones. Psychoacoustics. Architectural acoustics. Underwater acoustics. Ultrasonics. Appendix. Glossary of symbols. Index.

Note: Fundamental principles and phenomena are emphasized in this engineering college textbook. In addition, the reader is introduced to the fundamental theorems and constants, and to practical methods of analysis of acoustical problems. The principles and characteristics of standard acoustical devices, such as microphones, also are discussed, but there is no attempt to cover the whole field of acoustical devices or applications.

THERMODYNAMICS AND HEAT

AMERICAN INSTITUTE OF PHYSICS

Temperature, its measurement and control in science and industry papers presented at a symposium held in New York City November 1939 under the auspices of the American Institute of Physics with the cooperation of National Bureau of Standards, National Research Council, and officers and committees of American Ceramic Society American Chemical Society American Institute of Mining and Metallurgical Engineers, [and others] New York Reinhold Publishing Corporation, 1941 1,362 p. illus. 23 cm. $18.00 918

Contents: Temperature and temperature scales. Precision thermometry. Education. Natural sciences. Temperature in biology. Temperature and its regulation in man. Automatic temperature regulation and recording. Special applications and methods. General engineering. Metals and ceramic industries. Oil industries. Optical and radiation pyrometry. Thermoelectric metals and alloys. Glossary. Index.

—— Volume II. Edited by Hugh C. Wolfe. Papers presented at the Third Symposium on Temperature, Washington, D C., October 28–30 1954 Sponsored by American Institute of Physics, National Bureau of Standards, Office of Ordnance Research, U S. Army New York Reinhold Publishing Corporation, 1955 467 p. illus. 23 cm. $12.00. 919

Contents: Section I, General concepts: The temperature concept, by H. C. Wolfe. The concept of temperature near absolute zero, by F. E. Simon. High gas temperatures, by G. H. Dieke. Astrophysical temperatures, by C. Payne-Gaposchkin. Section II, Standards and scales: Gas thermometry, by J. A. Beattie. Thermodynamic temperatures obtained from P V isotherms of He gas between 1° and °K, by W. E. Keller. High temperature gas

tribution of the molecules. Viscosity thermal conduction, diffusion. The equation of state. Energy entropy and specific heats. Fluctuations. Properties of gases at low densities. Statistical mechanics. Wave mechanics of gases. Electric and magnetic properties of gases. Some integrals. Important constants. Index.

Note An introduction to the kinetic theory of gases. Included are an account of the wave-mechanical theory and especially of the degenerate Fermi-Dirac case. A concise chapter of general statistical mechanics is provided, and a number of carefully worded theorems have been inserted in the guise of problems.

LADENBURG, R W, AND OTHERS, *editors*

Physical measurements in gas dynamics and combustion Princeton Princeton University Press, 1954 578 p illus. 25 cm. (High speed aerodynamics and jet propulsion Board of editors Theodore von Kármán, chairman, Hugh L Dryden and others) $12 50 910

Contents Part I, Physical measurements in gas dynamics, editor R. Ladenburg Density measurements—Analysis of optical methods, by F J Weyl—Shadow and Schlieren methods, by J W Beams—Interferometry by R. Ladenburg and D Bershader—Electrical discharge and afterglow technique by E. M. Winkler—Spectral absorption method, by E. M. Winkler—X-ray technique, by E. M Winkler Pressure measurements—The impact tube, by P L. Chambré and S. A. Schaaf—Pressure measuring manometers and gauges, by W Bleakney and A. B. Arons. Velocity measurements—Velocity measurements using ions as tracers, by W M. Cady—Velocity measurements by illuminated or luminous particles, by W M. Cady—Electric discharge anemometry by W M. Cady—Acoustic Mach meters, by W C. Cady—Velocity of shock waves by the light screen technique, by W Bleakney Temperature measurements—Wall temperature determination, by G. R. Eber—Shielded thermocouples, by G. R. Eber—Temperature measurement by sound velocity methods, by W M Cady Shock front measurements by light reflectivity by D F Hornig. Turbulence measurements, by L. S. G. Kovásznay Condensation study by absorption or scattering of light, by E. M. Winkler Analogue methods—Free surface water table, by A. H. Shapiro—Electrolytic plotting tank, by L. Malavard. Part II, Physical measurements in combustion edited by H. S. Taylor and others Measurement of flame temperature, pressure, and velocity by F P Bundy and H. M. Strong Flame photography by W T Reid. Measurement of burning velocity, by E. F Fiock. Mass spectroscopy by J A. Hipple—Methods of mass analysis—Application to chemical analysis—Applications to flames. Spectroscopy of combustion, by G. H. Dieke. Analysis of the combustion wave by pressure effects and spectroscopy by N Thomas. Index.

Note Part of projected twelve-volume series, this book is critical survey f techniques applicable t the measurement of density pressure, etc., gases in turbulence and gases undergoing combustion. Each technique is described explicitly and mathematical equations and computations used in interpreting results obtained by means of it are illustrated. Literature references are generally included. Apparatus set-ups and sections of instruments are shown. The treatment is on graduate level, and the book will be of interest to physicists and engineers concerned with research in combustion and aerodynamics.

PATTERSON, G N

Molecular flow of gases New York John Wiley & Sons Inc. 1956 217 p 24 cm. $7 50 911

Contents. The fundamental equations. Isentropic flow Basic equations for nonisentropic flow Nonisentropic flows. Mechanics of rarefied gases. Appendix. Index.

Note The need to design aircraft, rockets, and guided missiles (not to mention space ships) for flight in rarefied atmospheres undoubtedly was motive for the writing of this book. In it the flow of gases is studied in terms of discrete molecules rather than as continuum. The treatment is classical in the sense that it is based on the classical laws of conservation of momentum and energy The book is addressed to advanced graduat students of physics and of aeronautical engineering. It should be of equal interest to engineers and physicists already t work in industrial research and design in fields where an understanding of the molecular flow f gases is important Extensive lists f references to the literature is included in the chapters. The author is director of the Institute of Aerophysics and chairman of the Department of Aerophysics of the University of Toronto.

SPITZER, LYMAN, JR

Physics of fully ionized gases. New York Interscience Publishers, Inc., 1956 105 p. illus. 21 cm (Interscience tracts on physics and astronomy, edited by R. E Marshak) $3 50 912

Contents Motion of a particle. Macroscopic motion—principles—problems. Waves in a plasma. Encounters between charged particles. Appendix The Boltzmann equation. Symbols. Index.

Note. An introduction intended for graduate students of physics and other readers who have a general knowledge of theoretical physics. It deals with fundamental aspects of the analysis of fully ionized gases and serves as an introduction to the more advanced literature on this subject. The author is member of the staff of the Princeton University Observatory

SOUND

BERANEK, LEO LEROY

Acoustic measurements Prepared under the auspices of the Office of Naval Research Navy Department, Washington D C. New York John Wiley & Sons, Inc., 1949 914 p. illus 22 cm. $12 50 913

Contents Introduction and terminology The medium. Disturbance of plane sound waves by obstacles and by finite baffles. Primary techniques for the measurement of sound pressure and particle velocity and for the absolut calibration of microphones. Microphones and ears. Measurement of frequency Measurement of acoustic impedance. The velometer Sound sources for test purposes. Characteristics f random noise the response f rectifiers to random noise and complex waves. Indicating and integrating instruments for the measurements of complex waves. Analysis of sound waves. Basic tests for communication systems, the rating of microphones, amplifiers, and loudspeakers. Tests for laboratory and studio microphones. Tests for loudspeakers. Testing of communication system components. Articulation test methods. Measurement of the acoustic properties of rooms, studios, and auditoriums. Measurement of acoustical materials. The sound level meter Author Index. Subject Index.

Note. A comprehensive reference book written on the graduate-professional level. It is designed as an aid "to five main groups of research workers, the acoustic physicist making fundamental laboratory measurements, the communications engineer measuring and evaluating the performance of wide communications systems, the psychologist performing measurements involving the human hearing mechanism, the otologist studying hearing defects and, finally the industrialist applying acoustic measuring techniques in manufacturing processes.

BERANEK, LEO LEROY

Acoustics. New York McGraw Hill Book Company Inc. 1954 481 p illus 24 cm (McGraw Hill *electrical and electronic engineering series* Frederick E Terman consulting editor) $10 00 914

Contents I troduction and terminology *The wave equation and solutions*. Electro-mechano-acoustical circuits. Radiation of sound. Acoustic components. Microphones. Direct-radiator loudspeakers. Loudspeaker enclosures. Horn loudspeakers. Sound in enclosures. Noise control. Acoustic measurements. Hearing, speech intelligibility and psychoacoustic criteria. Problems. Appendixes. Index.

Note A textbook developed at Massachusetts Institute of Technology where the author is Associate Professor of Communication Engineering It is introductory to the field of acoustics, but the level f treatment assumes that the reader will have had considerable basic education in physics and the usual undergraduate courses in mathematics. The practical slant is not indicated by the chapter titles. However the book is judicious combination of theory and mathematical analysis applied to the practical problems *of acoustics engineering. There is considerable emphasis on electrical-*acoustical design problems, but the reader is at least introduced to other *fields of acoustical engineering*, such as noise control and architectural acoustics. There is also useful information for the technically educated designer of systems for the high-fidelity reproduction of sound.

soil. Revised edition. Madison University of Wisconsin Press 1954 325 p illus. 23 cm. $5.00 926

Contents: Introduction. The Fourier conduction equation. Steady state—one dimension. Steady state—more than one dimension. Periodic flow of heat in one dimension. Fourier series. Linear flow of heat. Flow of heat in more than one dimension. Formation of ice. Auxiliary methods of treating heat-conduction problems. Methods of measuring thermal-conductivity constants. Theory of earth heat exchangers for the heat pump. Drying, soil consolidation. Appendixes. Index.

Note: Mathematical methods applicable to complex problems in heat conduction, such as the working out of geological time-tables, heat flow in the vulcanization of tires, cooling of gas turbines, and heat sources for heat pumps are treated in this textbook. The book is aimed at readers who will make practical use of the knowledge; hence, the emphasis is on practical rather than refined methods of attack. It has been assumed that the reader will have a knowledge of fundamental physics and calculus. The preceding edition was issued by another publisher in 1943. In this revised edition—actually the third edition of the work—the two chapters at the end are newly added. One of these contains a much expanded treatment of the problems of the earth as a source of heat for heat pumps used in air conditioning. Presented in the 13 appendixes is a variety of reference information, such as values of thermal conductivity constants, tabulations of functions and definite integrals, and a bibliography of 220 literature references.

JESSUP RALPH SLOCOMB AND ELMER R. WEAVER

Gas calorimeter tables. Third edition. Washington D C. Government Printing Office 1948 42 p. illus. 23 cm. (United States. National Bureau of Standards. Circular 464) $0.15 927

Contents: Introduction. Summarized operating directions for water-flow gas calorimeters. Tables and charts. Corrections for humidity, specific heat of water, buoyancy, and heat loss. Preparation of correction table for local use. Corrections for difference between inlet-water and room temperatures. Correction of heating value to basis of measurement for sale. Records and computations.

Note: This publication, which supplements National Bureau of Standards Circular 48, *Standard methods of gas testing*, contains condensed directions for operating a gas calorimeter of the water-flow ("Junkers") type, with forms and directions for recording and computing results, tables of "reduction factors" for gas volumes between 32 and 110°F and from 24 to 30.9 in. of mercury pressure, and tables of correction factors needed in fuel-gas calorimetry. Blank forms are included to be filled in with data pertaining to local conditions and individual laboratory instruments, so that the user may have all the data needed in gas calorimetry conveniently arranged under one cover. This supersedes Circular 417.

POWELL ROBERT L. AND WILLIAM A. BLANPIED

Thermal conductivity of metals and alloys at low temperatures a review of the literature. Washington D C. Government Printing Office 1954 68 p illus. 26 cm. (United States. National Bureau of Standards. Circular 556) $0.50 928

Contents: Introduction. Figures and tables list. Metallic elements. Alloys and commercial metals. Dielectric crystals. Bibliography.

Note: In this circular the thermal conductivity values of three types of solid are presented in graphic and tabular form: metallic elements, alloys, and dielectrics. The professional abstract and leading research journals were searched for references dating from 1900 to the spring of 1954. The compilation is complete for the metals and essentially complete for the alloys, but only a few representative references are given for the dielectrics. Conductivity values are reported for the temperature range approximately 0° to 300°K. Although the circular is not primarily a critical compilation, the text indicates a method that may be used in choosing between conflicting data. Information on the thermal conductivity of materials of construction at low temperatures is essential in the design of cryogenic equipment. Such data on pure metals also have important applications in basic physics.

ROSSINI FREDERICK D editor

Thermodynamics and physics of matter Princeton Princeton University Press, 1955 812 p. illus. 24 cm. (High speed aerodynamics and jet propulsion. Vol 1) $15.00 929

Contents (abridged): Fundamentals of thermodynamics, by F. D. Rossini. Fundamental physics of gases, by K. F. Herzfeld and others. Thermodynamic properties of real gases and mixtures of real gases, by J. A. Beattie. The transport properties of gases and gaseous mixtures, by J. O. Hirschfelder and others. Critical phenomena, by O. K. Rice. Properties of liquids and liquid solutions, by J. M. Richardson and S. R. Brinkley, Jr. Properties of solids and solid solutions, by F. P. Bundy. Relaxation phenomena in gases, by K. F. Herzfeld. Gases at low densities, by I. Estermann. The thermodynamics of irreversible processes, by C. F. Curtiss. Index.

Note: A graduate-professional level statement of the fundamental concepts, laws, and equations pertaining to thermodynamics and physics of matter. It is the first volume (though not the first published) in a 12-volume series planned to provide a comprehensive and authoritative treatment of scientific theory and engineering techniques pertaining to high-speed aerodynamics and jet propulsion. However, the contents of this volume are basic to various fields of engineering. Well-selected literature lists are included, and the index is fully detailed.

SEARS FRANCIS WESTON

An introduction to thermodynamics the kinetic theory of gases and statistical mechanics. Second edition. Reading Mass. Addison Wesley Publishing Company Inc., 1953 374 p. illus. 24 cm. $5.50 930

Contents: Thermodynamic systems. Equations of state. Work. The first law of thermodynamics. Some consequences of the first law. Changes of phase. The second law of thermodynamics. Entropy. Combined first and second laws. Some engineering applications of thermodynamics. Kinetic theory of an ideal gas. The distribution of molecular velocities. Transport phenomena. The Maxwell-Boltzmann statistics. Applications of the Boltzmann statistics. Quantum statistics. Fluctuations. Collateral reading. Index. Answers to problems. Selected differentials from a condensed collection of thermodynamic formulas, by P. W. Bridgman.

Note: A college textbook originally written for use in a course given by the author to students of electrical engineering at the Massachusetts Institute of Technology. It is suitable also as an introduction to thermodynamics for students majoring in theoretical physics. The treatment assumes a fair degree of maturity in physical and mathematical thinking. The discussions are clear, rigorous, compact, and are amply supplemented by worked examples and diagrams. The first edition was published in 1950. In preparing the second edition, the former terminal chapter on low-temperature physics was deleted and a new chapter on fluctuations added. Also the chapters dealing with Boltzmann statistics were rewritten.

WEBER, ROBERT L.

Heat and temperature measurement. New York Prentice-Hall, Inc., 1950 422 p. 22 cm. (Prentice-Hall physics series Donald H. Menzel editor) $6.00. 931

Contents (abridged): Part 1, Principles of heat and temperature measurements: Temperature scales. Expansion thermometers. Heat transfer. Thermoelectricity. Radiant energy. Optical and radiation pyrometry. Resistance thermometry. Calorimetry. Phase diagrams, thermal analysis. Thermodynamics. Extreme temperatures. Special methods of temperature measurement. International temperature scale. Part 2, Laboratory experiments. Appendixes: How to solve physical problems. General laboratory procedure. Symbols and quantities. Tables. Index.

Note: An elementary but rather thorough description of basic techniques and equipment applicable to the measurement of temperature and heat flow. Chiefly it is a laboratory manual for the use of college students who have had an introductory course in physics. The discussions of experimental procedures are full enough to make them useful as guides to scientists out of college who need directions for projects involving heat measurement. Enough thermodynamic theory is included to make the book essentially complete in itself. Each chapter includes a selected bibliography. The work is a revision of the author's *Temperature measurement and control*, Philadelphia, 1941.

thermometry by H. Moser The international temperature scale by J A. Hall. Precision resistance thermometry and fixed points, by H. F Stimson. The zinc point as a thermometric fixed point, by H. Preston-Thomas. Low temperature scales from 90 to 5 K, by R. B Scott. The helium vapor-pressure scale of temperature by R. P Hudson. Techniques of magnetic thermometry by H. van Dijk. Section III, Transient phenomena Thermodynamics of irreversible processes and fluctuations, by I Prigogine. Relaxation of partial temperatures, by K. F Herzfeld. Section IV Experimental measurements. Thermometry below 1 K, by D de Klerk. Experimental temperature measurements in flames and hot gases, by H. P Broida. Temperature measurement in engineering, by H. J Hoge. Superconductors as thermometers, by J G. Daunt. Semiconductors as thermometers, by S. A. Friedberg. Sound velocity as measurement of gas temperature, by A. L. Hedrich and D R. Pardue. Section V Miscellaneous topics Temperatures in atomic explosions, by F G. Brickwedde. Ionization measurements at high temperatures, by W Lochte-Holtgreven. Temperatures in the upper atmosphere, by H. E. Newell, Jr Author index. Subject index.

Note As indicated in their titles, these volumes contain the papers presented at two symposia, one held in 1939 the other in 1954 In both instances, the symposia were arranged to review and present fundamental principles and recent developments pertaining to the measurement and control of temperature. The participants were leading scientists and engineers of the United States of America and other countries actively engaged at the research level in fields where temperature measurement and control are of more than routine importance. Although the symposia were planned as units, each of the published papers is essentially complete in itself and can be read by graduate scientists and engineers without reference to the other papers if necessary Literature references are included in the individual papers. Both volumes are well indexed.

BERGMANN, PETER GABRIEL

Basic theories of physics heat and quanta. New York Prentice Hall, Inc., 1951 300 p illus. 22 cm (Prentice-Hall physics series, Donald H Menzel editor) $5 75 920

Contents Part I, Heat The kinetic hypothesis. Statistics in physics. Stationary ensembles. Thermodynamics, the first law Thermodynamics, the second law Thermodynamics, statistical mechanics, and heat-death. Part II, Quanta: Summary of classical statistical mechanics. Early quantum theories. Atomic spectra. Probability waves. Quantization in wave mechanics. Approximation methods. The abstract theory Summary and outlook. Further reading. Index.

Note A textbook for graduate students in theoretical physics. The purpose of this and the companion work described below is to introduce students to "the fundamental ideas on which they can build up the detailed technical knowledge required of the modern practicing physicist. This book deals with the invasion of theoretical physics by the atom, Part I being devoted to the classical theory of heat from statistical point of view Part II being an introduction to quantum mechanics based on historical lines.

CAMPBELL, CHARLES H

Modern pyrometry New York Chemical Publishing Company 1951 150 p illus. 23 cm $4 00 921

Content Types and uses of thermocouples, lead wire, and protection tubes. Temperature indicators, recorders, and controllers. Other methods of temperature measurement and control. Applications, care and maintenance of pyrometers. References. Appendix. Index.

Note A brief but useful survey of currently used methods and instruments for the measurement of high temperatures. It is based on lecture prepared for delivery before meeting of the American Society for Metals. Instruments used in the measuring and recording of temperatures in the metallurgical industries are emphasized. Th book is designed for beginners in the metallurgical industries and other persons who need practical introduction.

EINSTEIN, ALBERT

Investigations on the theory of the Brownian movement. Edited with notes by R. Fürth. Translated by A. D Cowper With 3 diagrams New York Dover Publications Inc., 1956 122 p illus 21 cm $1.25 922

Contents On the movement of small particles suspended in a stationary liquid demanded by the molecular-kinetic theory of heat. On the theory of the Brownian movement. A new determination of molecular dimensions. Theoretical observations on the Brownian motion. Elementary theory of the Brownian motion. Notes. Subject index. Author index.

Note The five articles published in this volume were originally written in German and published in German periodicals. They were collected, translated, and first published in English in London in 1926. The edition listed here is an inexpensive reprint of the complete and unaltered text of the English edition. It contains not only the English versions of the original articles, but also 14 pages of editorial notes.

EPSTEIN, PAUL SOPHUS

Textbook of thermodynamics. New York John Wiley & Sons, Inc., 1937 406 p illus 23 cm $7 50 923

Contents The thermal properties of matter The first law of thermodynamics. The first law of thermodynamics and the caloric properties of matter The second law of thermodynamics. The trend of thermodynamical processes towards equilibrium. General conditions of equilibrium of thermodynamical systems. Phases of a chemically pure substance. Mixtures of perfect gases. Dilute solutions. Equilibrium of binary systems. Fugacities and activities. The capillary layer Nernst's postulate or the third law of thermodynamics. Bearing of Nernst's postulate on the absolute entropy of gases. Critical analysis of Nernst postulate. Degenerate perfect gases. Electron and ion clouds. Theory of specific heats. Equilibrium involving radiation. Magnetic and electric phenomena. The direction of thermodynamical processes. Limitations of thermodynamics. Appendices. Index.

Note A detailed and careful discussion, for physicists, of the applications of thermodynamics to numerous experimental facts. Particular attention is paid to those facts which involve quantum phenomena. General law are illustrated by the discussion of chemical applications of the laws of thermodynamics.

FERMI, ENRICO

Thermodynamics. New York Dover Publications, Inc., 1956 160 p. illus. 21 cm. $1 75 924

Contents Thermodynamic systems. The first law of thermodynamics. The second law of thermodynamics. The entropy Thermodynamic potentials. Gaseous reactions. The thermodynamics of dilute solutions. The entropy constant. Index.

Note An elementary treatise, based on a famous series of lectures delivered at Columbia University in the summer of 1936. It is elementary in the sense that mathematics beyond calculus is not employed in the exposition. It is distinguished by clear style and straightforward organization. It was first published in New York, 1937 The edition listed here is an unaltered reprint.

GORANSON, ROY WALDEMAR

Thermodynamic relations in multi-component systems Washington, D C. Carnegie Institution of Washington 1930 329 p. 23 cm. (Carnegie Institution of Washington Publication no 408) $6.00 925

Content Fundamental ideas. Simple homogeneous systems. Homogeneous binary systems of variable mass and composition. Homogeneous n-component systems. Strain. Stress. Thermodynamic treatment of systems homogeneously strained. The stress-strain relations for isothermal changes of state. Systems not in equilibrium. Irreversible processes. Introduction to the tables of thermodynamic relations.

Note A mathematical outline of the fundamental physical hypotheses involved in the theoretical foundation of thermodynamics essential in evaluating the 70,500 tabulated derivatives, together with functional interrelations necessary for obtaining derivatives not tabulated. As many as possible of the thermodynamic relations existing between the quantities of homogeneous multi-component systems in terms of quantities that can be obtained from experiment are given.

INGERSOLL, LEONARD R., AND OTHERS

Heat conduction with engineering geological and other applications By Leonard R. Ingersoll, Otto J Zobel and Alfred C. Inger

Magnetic properties of [illegible] helium superconducting lead sphere, by J. Babiskin. Studies on oscillating superconducting spheres, by R. H. Fry and others. Eddy currents and supercurrents in rotating metal spheres at liquid-helium temperatures, by P. R. Akers and others. Atomic heat of indium at liquid-helium temperatures, by J. R. Clement and E. H. Quinnell. Specific heat of niobium at various temperatures, by A. Brown and others. High frequency resistance of tin, lead, and helium, by C. J. Grebenkemper and P. P. Hagen. Detection of microwave signals by NbN superconductors in the transition region, by J. V. Lebacqz and M. G. Bodgers. Properties of liquid He³-He⁴ mixtures, by J. G. Daunt and C. V. Heer. Phase diagrams of dilute solutions of He³ in He⁴ below the lambda point, by H. S. Sommers, Jr. A Bose-Einstein model of liquid helium applied to solutions of He³ in He⁴, by W. Band. Solidification of He³ by D. W. Osborne and others. Liquid-helium research in the Royal Society Mond Laboratory, by K. R. Atkins and others. Propagation of second sound below 1 K, by D. V. Osborne. Pressure dependence of second-sound velocity in liquid helium II, by R. D. Maurer and M. A. Herlin. The thermal Rayleigh disk in liquid helium II, by J. R. Pellam and W. B. Hanson. Apparatus for measuring the pressure dependence of the viscosity of liquid helium, by H. H. Kolm and M. A. Herlin. Remarks on scattering of slow neutrons by liquid helium, by L. Goldstein. Flow properties of helium II, by K. Mendelssohn. Transport rates of the helium film over various surfaces, by J. G. Dash and H. A. Boorse. Adiabatic oscillations in liquid helium, by J. E. Robinson. Helium II films, by D. G. Henshaw and L. C. Jackson. Some preliminary thermodynamic studies on helium adsorbed on titanium dioxide, by J. G. Aston and S. V. R. Mastrangelo. Thermal conductivity of liquid helium I, by C. Grenier. Evaporation rate of liquid helium II, by A. Wexler. Methods of determining very low thermodynamic temperatures; measurements with potassium-chromium-alum, by D. de Klerk. Behavior of single crystals of cobalt-ammonium-sulfate below 1 K, by S. Meister. A new effect found in paramagnetic crystals below 100 millidegrees absolute: the critical-field curve bounding the antiferromagnetic state, by C. G. B. Garrett. A new experimental method for the measurement of temperature and entropy at and below 1°K, by L. D. Roberts and J. W. T. Dabbs. Some laboratory aids to cryomagnetic research, by W. E. Henry. Current sensitivity and other characteristics of metal films at low temperatures, by A. van Itterbeek. The electric conductivity of graphite at liquid-helium temperatures, by L. Meyer and others. Normal resistivities at low temperatures, by K. Mendelssohn. Infrared absorption by metals at low temperatures, by E. G. Ramberg. The de Haas-van Alphen effect, by D. Shoenberg. Approximate calculations of the surface impedance of [illegible] metal in the anomalous region, by P. M. Marcus. Magneto-resistance of superconducting mercury, by T. G. Berlincourt and C. T. Lane. Magnetic susceptibility of liquid nitric oxide and the heat of dissociation of $(NO)_2$, by A. L. Smith and H. L. Johnston. Heat capacity of solid deuterium, from 1.5 to 1 K, by O. D. Gonzalez and others. Compressibility of liquid normal hydrogen from the boiling point to the critical point at pressures up to 100 atmospheres, by W. E. Keller and others. Elastic constants of rock salt, by W. C. Overton, Jr. and R. T. Swim. Specific heat of silicon below 100°K, by P. H. Keesom and N. Pearlman. Optical properties of F-centers at liquid-helium temperatures, by E. Burstein and J. J. Oberly.

Note A collection of 61 monographs, most of them brief. They were delivered originally as papers at one of the 1951 symposia conducted in observance of the 50th anniversary of the establishment of the National Bureau of Standards. Most of the papers are illustrated and include bibliographical references.

LIGHT AND OPTICS

EVANS RALPH MERRILL

An introduction to color New York John Wiley & Sons, Inc., 1948 340 p. illus. (part col'd) 25 cm. $8 50 938

Contents Color and light. The physical nature of light. Light sources. Illumination. Colored objects. The physics of everyday color. Color vision. The visual variables of color. Perception and illusion. Brightness perception. Color perception. The measurement of color. The specification of color. Color differences and color names. Mixtures of colored lights. Effects of illuminants. Transparent colorant mixtures. Paints and pigments. Color in photography. Color in art. Design and abstraction. General bibliography. Index.

Note This book is designed to provide [illegible] scientific background for understanding color and making practical use of it. However specific practical applications are cited only incidentally and the mystical and pseudo-scientific notions that appear in some books on color are altogether absent. Instead, the author has surveyed and synthesized pertinent topics from physics, physiology and psychology. He is associated with the Eastman Kodak Company and perhaps has given [illegible] shade of emphasis to aspects that are of special interest in color photography. The illustrative matter includes many graphs. There are chapter bibliographies and [illegible] general bibliography.

HERZBERGER, MAX

The limitations of optical image formation. New York The New York Academy of Sciences, 1946 30 p. illus 24 cm. (New York Academy of Sciences. Annals Volume 48 p. 1–30 1946) $0 75 939

Contents Introduction. Part [illegible] Point and diapoint. Part II. Second-order derivatives of *D* and *E*. Part III. Special systems. Spatial-symmetrical systems. Part IV. Spatial-symmetrical systems. The *diapoint* characteristic for [illegible] single refracting surface. Further applications of the theory. References.

Note This paper describes [illegible] new method of investigating the limitations of image formation which will assist lens designers in determining the image-forming qualities of an optical system. By the introduction of the concept of diapoint characteristic, demonstrated on [illegible] few classical examples, it is possible to find out at once whether the system in question images [illegible] point sharply symmetrically or half-symmetrically. The method also points the way to [illegible] new treatment of image errors. The *diapoint* analysis will be of interest to mathematicians as [illegible] as designers of optical instruments.

JACOBS DONALD HARRY

Fundamentals of optical engineering. New York McGraw Hill Book Company Inc. 1943 487 p illus. 21 cm. $8.00 940

Contents Part I, Fundamental considerations: Properties of beams. Lens aberrations. Theory of stops. Brightness of images in optical instruments. Properties of the eye. Optical materials. Polarized light. Low-reflectance lens coatings. Photographic objectives. Photographic shutters. Prisms used in optical instruments. Part II, Representative instruments: Telescopes. Binoculars and battery commander [illegible] telescopes. Periscopes. Gun sights. Range finders. Part III, Mechanical and electrical design: Optical instrument design. General considerations. Machining operations and casting methods. Bearings. Gears, clutches, couplings. Lens mountings permitting displacements. Electrical controls. Photoelectric cells. Part IV. Optical design: Ray tracing. Spherical aberration. Chromatic aberration. Coma. Design of aplanatic objectives. Eyepiece design. Optical tolerances.

Note Offers [illegible] comprehensive introduction to the methods and principles of optical design. After outlining the fundamentals of optics, the author gives an analytical description of the functioning and design of representative military optical instruments. In the next section the basic principles of the mechanical design of optical instruments are stated. The book concludes with an introduction to optical design that will enable the student to design aplanatic objectives and eyepieces.

JENKINS FRANCIS ARTHUR, AND HARVEY E. WHITE

Fundamentals of optics. Second edition. New York McGraw Hill Book Company Inc., 1950 647 p. illus. 24 cm. 941

Contents (abridged) Part I, Geometrical optics: Light rays. Plane surfaces. Thin lenses. Spherical surfaces. Thick lenses. Spherical mirrors. The effects of stops. Ray tracing. Lens aberrations. Part II, Physical optics: Interference of two beams of light. Interference involving multiple reflections. Fraunhofer diffraction by [illegible] single opening. The double slit. The diffraction grating. Fresnel diffraction. The electromagnetic character of light. Absorption and scattering. Dispersion. Polarization of light. Optical activity. Reflection. Magneto-optics and electro-optics. Part III. Quantum optics; Photons. Index.

Note A college textbook designed for students who have completed at least an introductory course in basic physics. The first edition was entitled *Fundamentals of physical optics*. The change in title was made necessary by the addition, in the present edition of the 175-page treatment of physical optics. Another addition is the 15-page chapter on photons. Other changes are relatively minor, but they include new or revised discussions of such topics as nonreflecting films, wide-angle interference, the electron microscope, and the phase-contrast microscope. A third edition, 634 p. $8.50, was published in 1957

WELD, LEROY DOUGHERTY

A textbook of heat for upperclassmen. New York The Macmillan Company, 1948 436 p illus 22 cm. $5 75 932

Contents The nature and the measurement of heat. Expansion of solids and liquids. Fusion, evaporation, and sublimation of pure substances. Observable behavior of gases. Molecular motion in pure gases. Thermodynamic processes and cycles. Entropy Fluid mixtures and suspensions. Thermal conduction and some thermal properties of metals. Thermal radiation. Very high and very low temperatures. Appendices. Indexes.

Note A clear style combined with relative brevity is the outstanding characteristic of this college textbook. Also instead of devoting a chapter to thermometry the various methods of temperature measurement are discussed throughout the work in connection with the physical phenomena associated with temperature changes. Lists of selected references accompany most of the chapters.

ZEMANSKY, MARK W

Heat and thermodynamics, an intermediate textbook for students of physics, chemistry, and engineering Third edition. New York McGraw Hill Book Company, Inc., 1951 465 p illus 24 cm 933

Contents. Temperature. Thermodynamic systems. Work. The first law of thermodynamics. Transfer of heat. Ideal gases. The second law of thermodynamics. Reversibility and irreversibility The Carnot cycle and the Kelvin temperature scale. Entropy Properties of pure substances. The steam engine and the refrigerator Applications of thermodynamics to pure substances. Applications of thermodynamics to pure substances to special systems. Change of phase. The physics of very low temperatures. Chemical thermodynamics. Ideal gas reactions. Heterogeneous systems. Bibliography Index. Answers to problems.

Note An outstanding textbook designed for the instruction of engineering college students who have completed college courses in basic physics and calculus and are preparing for careers as physicists, chemists or engineers. It provides thorough discussions of such topics as heat, calorimetry steam engines and the refrigerator Ten chapters are devoted to general principles, nine to applications. A fourth edition was published in 1957 484 p $7.50.

LOW TEMPERATURE PHYSICS

GARRETT, C G B

Magnetic cooling Cambridge Mass Harvard University Press, New York John Wiley and Sons Inc. 1954 110 p illus 22 cm (Harvard monographs in applied science No 4) $4 75 934

Contents Why demagnetize? Technique. Thermodynamics. The measurement of temperature and specific heat. The theory of paramagnetism at low temperatures. Results of paramagnetism of specific heat and susceptibility Coöperative effects Experiments on other materials below 1 K cascade demagnetization nuclear alignment. Index of names. Index of subjects.

Note. Magnetic cooling is an important research technique in the investigation of matter at temperatures below 1 absolute. Appropriately most of the space in this monograph on it, is given to the underlying scientific theory and to the major experimental results that have been gained to date. The book is written so that it can be read without reference to the related literature however the literature is cited in footnotes. It is of interest to graduate physicists and chemists, those who are concerned with the fundamental properties of matter as well as to those who are engaged in or are preparing for research in the low-temperature field.

LONDON, FRITZ

Superfluids. New York John Wiley & Sons, Inc., 1950–54 2 v illus 24 cm. (Structure of matter series Maria Goeppert Mayer advisory editor) Vol. I, o p vol II, $8.50 935

Contents Volume I, Macroscopic theory of superconductivity. Some properties of superconductors and their thermodynamical correlation. The electrodynamics of the pure superconducting state. The intermediate state. The phase transition into the superconducting state reconsidered. Program for the molecular theory of superconductivity Name index. Subject index. Volume II, Macroscopic theory of superfluid helium Some remarkable properties of liquid helium. Energy and structure of condensed helium at absolute zero. The evolution of the two-fluid concept. The hydrodynamical quasi-continuum. Two-fluid thermohydrodynamics. The helium isotope He^3 Conclusion Appendix. Recent monographs and conference reports. Name index. Subject index.

Note The late Professor London viewed the superconductivity of metals cooled to very low temperatures and the extraordinary flowing of liquid helium as quantum mechanisms occurring on macroscopic scale and in these books, has advanced this explanation as a theory or hypothesis. The experimental results are described and analyzed in this light, and equations expressing the basic relationships are offered. The special properties of superfluid helium are interpreted in terms of the Bose-Einstein condensation mechanism. The books are basic ones for scientists who are interested in low-temperature phenomena and research.

SQUIRE, CHARLES F

Low temperature physics. New York McGraw Hill Book Company, Inc., 1953 244 p. illus 24 cm. (International series in pure and applied physics, G P Harnwell, consulting editor) $6 50 936

Contents Gas liquefaction and the equation of state. Experimental methods of low-temperature physics. Theoretical considerations of the equation of state. Liquid helium—thermal properties—dynamic properties. Theories of liquid helium. Superconductivity Magnetism at low temperatures. Thermal energy in the solid state at low Dielectric properties at low temperatures. Appendix. Index.

Note A graduate-level textbook developed at Rice Institute. In the first two chapters, the principles and methods of gas liquefaction and currently used experimental methods in low temperature physics are covered very concisely In the remainder of the book, low temperature phenomena are explained and analyzed in terms of quantum mechanics. There are frequent references both to classical experiments and to recent ones. Articles published as recently as 1952 are listed in footnotes. Aside from its primary use, the book will be of interest to college teachers of physics and other graduate physicists in need of an up-to-date survey of this interesting field.

SYMPOSIUM ON LOW TEMPERATURE PHYSICS

Low temperature physics Proceedings of the NBS Semicentennial Symposium on Low Temperature Physics held at the NBS on March 27 28 and 29, 1951 Washington D C Government Printing Office, 1952 291 p illus 24 cm (United States National Bureau of Standards Circular 519) $2 00 937

Contents Theory of the superconducting state, by H. Fröhlich. Superconductivity and lattice vibrations, by J Bardeen. On the nature of the superconducting transition, by L. Tisza. Field theoretic description of interactions in superconductor by M. Dresden. Determinantal eigenfunctions for the theory of superconductivity by W Band. Superconductivity of isotopes of mercury and tin, by C. A. Reynolds and others. Recent work at the National Bureau of Standards on the isotope effect, by E. Maxwell. Superconductivity of the isotopes, by J M. Lock and others. Superconductivity at the Clarendon Laboratory by K. Mendelssohn. Heat transfer in superconducting alloys, by J K. Hulm. Experiments on the magnetic transition from the superconducting state to the normal state, by M. P Garfunkel and B. Serin. New experiments on the superconductivity of metal-layers condensed at low temperatures, by R. Hilsch. Kinetics of the superconducting phase transition, by T E. Faber Superconducting properties of indium-thallium alloys, by J W Stout and L. Guttman. Investigation of superconductivity in lead compounds, gold alloys, and molybdenum carbide, by R. P Hudson and K. Lark Horovitz. Superconductivity in Mg_3Tl and LiBi, by L. Guttman and J W Stout. New superconducting compounds, by B T. Matthias and J. K. Hulm. Occurrence of superconductivity below 1 K, by B. B. Goodman. Penetration of magnetic field into thin superconducting films, by J M. Lock

by G. S. Monk. An all-plastic optical system for project purposes, by G. S. Monk. A new wide-angle all-plastic periscope, by G. S. Monk. Scratch resistance of plastic optical materials, by K. F. Monk. Light transmission through [illegible] water-filled tube, by Whitcomb. Light [illegible] G. S. Monk and R. W. Baer. Report on shadow tests, by W. G. Beerstine. Borescope cameras, by R. L. Williams and W. H. McCarthy. Water-filled wide-angle viewers, by G. S. Monk. The use of high-density radiation-absorbing solutions in optical instruments, by P. E. Gerould. Experiments on the evaporation of barium in vacuo, by D. D. Friel. Some observations on controlled deposition of metals by cathode sputtering, by D. C. Livingston. Production of mirrors by the evaporation procedure, by E. R. Piirosky. Grinding and polishing of metallic mirrors, by N. F. Beardsley. Waterproof cements and their suitability in optical construction, by K. F. Whitcomb. Index.

Note: An account of the optical needs and problems encountered in the work of the Plutonium Project at the University of Chicago during World War II, and of the various instruments which were devised to solve them. Although the descriptions of the instruments are condensed, in most cases the optical systems are diagrammed, and in some instances there is also a diagram or photograph of the associated mechanical parts. A reference to the original technical report on which the description is based is supplied. The instruments described have, of course, specific applications in laboratories where radioactive materials are handled, and some of them have wider uses. The chapters on plastic lenses and optical systems employing them are of special interest.

OPTICAL SOCIETY OF AMERICA. COMMITTEE ON COLORIMETRY

The science of color New York Thomas Y. Crowell Company 1953 385 p. illus. (part col'd) 26 cm. $7.00. 947

Contents: Introduction. The historical background and evolution of the Colorimetry report. From the art of coloring to the science of color. The concept of color. Anatomy and physiology of color vision. Psychological concepts—sensory aspects of color—perceived and affective aspects of color. Physical concepts—radiant energy and its measurement. Psychophysics of color. Quantitative data and methods for colorimetry. Colorimeters and color standards.

Note: An authoritative work that represents a landmark in the literature of color. It replaces the society's well-known "Report of Committee on Colorimetry for 1920–21," which was published in the Optical Society of America's *Journal*, August, 1922. The first two chapters are only semitechnical and can be read by anyone with a serious interest in color. The remaining chapters are technical accounts replete with literature references and tables of data and are intended for specialists in colorimetry and others equipped to understand technical literature. The concept of color given is a psychophysical one. Special attention is given to a consistent terminology and to definitions of terms. There is an extensive, classified bibliography.

ROBERTSON, JOHN K.

Introduction to optics geometrical and physical. Fourth edition. Princeton D. Van Nostrand Company Inc., 1954 416 p. illus. 23 cm. $6.50 948

Contents: Why we study wave motion. The velocity of light. Reflection and refraction by Huygens' principle. Further study of lenses. Vision through an instrument—the telescope and the microscope. Dispersion. Study of wave motion. Interference—thin films and plane parallel surfaces. Diffraction. Fraunhofer diffraction. Double refraction. Plane polarized light. Interference of polarized light. Rotatory polarization. The electromagnetic theory of light. The origin of spectra. Radiation and the quantum theory. Spectral series and origin of spectra. Radiation potentials, absorption and band spectra. The *Quantum*. Can the existence of an ether be detected? Tables. Answers to problems. Index.

Note: A standard work widely used as a textbook in universities in Canada and the United States of America since the publication of the first edition in 1929. Light optics is the principal subject. However, in this edition there is also a short discussion of the principles of the electron microscope. Throughout the volume principles and applications are described primarily in physical terms and no mathematics more advanced than simple algebraic equations is employed. The book is written in a clear style and is very fully illustrated, two features that make it useful to teachers and enrolled in college courses as well as to college students. The third edition was published in 1941. In this fourth edition, [illegible] material on such developments as the phase contrast microscope has been added, and the book has been given a new and more attractive format.

SEARS, FRANCIS WESTON

Optics. Third edition Reading Mass. Addison Wesley Publishing Company Inc., 1949 369 16 p. illus. (part col'd) 23 cm. $8.50 949

Contents: The nature and propagation of light. Reflection and refraction at plane surfaces. Reflection and refraction at spherical surfaces. Lenses. Lens aberrations. Optical instruments. Polarization. Interference. Diffraction. Limit of resolution. Line spectra. Thermal radiation. Photometry. Color. Index. Answers to problems.

Note: An outstanding textbook which was first published as Volume III of the author's three-volume *Principles of physics*, a text book developed and used in a two-year course in physics at the Massachusetts Institute of Technology. However, *Optics* is an independent work and is so used in college courses in optics. It is an intermediate-level exposition of fundamental principles and includes also discussions of the applications of these principles in basic instruments such as the microscope. It is directed to students who are pursuing courses in physical science or engineering. In this third edition, there are many new diagrams and new problems; also some of the chapters have been rather extensively rewritten.

SOUTHALL, JAMES POWELL COCKE

Mirrors, prisms and lenses a text book of geometrical optics. Third edition. New York The Macmillan Company 1933 806 p. illus. 20 cm. $8.50 950

Contents (abridged): Lights & shadows. Reflection of light. Refraction of light. Refraction at a plane surface. Refraction through a prism. Reflection & refraction of paraxial rays at a spherical surface. Change of curvature of the wave-front in reflection and refraction. Aplanatic lenses. Geometrical theory of the symmetrical optical instrument. Compound systems. Aperture & field of optical system. Optical system of the eye. Distortion & achromatism. Rays of finite slope. The microscope. Notes on physical optics & physiological optics.

Note: A standard introduction to geometrical optics, still useful although it has not been revised in recent years.

UNITED STATES NATIONAL BUREAU OF STANDARDS

Optical image evaluation. Proceedings of the NBS Semicentennial Symposium on Optical Image Evaluation held at the NBS on October 18 19 and 20 1951 Washington, D C. Government Printing Office 1954 289 p. illus. 24 cm. (United States. National Bureau of Standards Circular 526) $2.25 951

Contents: Introduction, by I. C. Gardner. The diffraction theory of aberrations, by F. Zernike. The contrast of optical images and the influence of aberrations, by A. Maréchal. Diffraction images produced by fully corrected objectives of high numerical aperture, by H. Osterberg and R. A. McDonald. Bases for testing photographic objectives, by L. E. Howlett. Quality aspects of the aerial photographic system, by D. F. Macdonald. A mathematical model of an optical system, by M. Herzberger. Methods and apparatus for measuring performance and quality of optical instruments, by A. Arnulf. Image quality as used by the Government inspector of naval telescopic instruments, by H. S. Coleman. Application of Fresnel diffraction to measurements of high precision, by A. C. S. van Heel. Image structure and test data, by J. G. Baker. Geometrical and interferential aspects of the Ronchi test, by G. T. di Francia. A combined test procedure for camera lenses, and photoelectric examination of intensity distribution in line images, by E. Ingelstam and P. J. Lindberg. Measurements of energy distribution in optical images, by R. E. Hopkins and others. Optical calculations at the National Bureau of Standards, by D. P. Feder. Resolving power of airplane-camera lenses, by F. E. Washer. Theory of resolving power, by E. W. H. Selwyn. A new system of measuring and specifying image definition, by O. H. Schade. Position of best focus of a lens in the presence of spherical aberration, by R. Kingslake. Image evaluation by edge gradients, by A. Cox. A proposed approach to image evaluation, by R. V. Shack. Excerpt from a letter from T. Smith.

Note: The Symposium on Optical Image Evaluation was devoted to a re-examination and comparison of the different methods of image evaluation with the purpose of placing them on a sound

JUDD, DEANE BREWSTER

Color in business, science and industry New York John Wiley & Sons, Inc, 1952 401 p illus 24 cm $8 50 942

Contents Part I Basic facts The eye. Aspects of color (basic terms) Color matching. Color deficiencies. Part II, Tools and techniques Spectrophotometry Fundamental standards in colorimetry Visual colorimeters. Reproduction of pictures in color Colorimetry by difference. Color standards. Uniform color scales. Color languages. Part III Physics and psychophysics of colorant layers Gloss. Opacity or hiding power Kubelka-Munk analysis. Identification of colorants. Formulation of colorants. Appendix. References. Index.

Note A substantial manual of color standards, color measurements, and certain other selected aspects of color that are of particular concern in commerce and industry It is addressed to persons with education in basic physics and some familiarity with color problems. Colorimetry is covered thoroughly and leading types of spectrophotometers are compared. Various published color standards are discussed specifically The treatment of colorant layers, that is such finishes as varnish or wax over wood and ceramic glazes over baked clay is an analytical study based on optical principles. There is an extensive list of references to the literature.

JUDD, DEANE BREWSTER

Colorimetry Washington, D C. Government Printing Office, 1950 56 p illus 26 cm. (United States. National Bureau of Standards Circular 478) $0.30 943

Contents Introduction: Definition and nature of color Basic principles of measurement. The standard observer Illuminants and coordinate system Reduction of spectrophotometric data to colorimetric terms. Direct colorimetry Small-difference colorimetry: Martens photometer Chromaticity-difference colorimeter Photoelectric tristimulus colorimeters. Perceptibility of color differences. Material standards of color Transparent media. Opaque media. One-dimensional color scales Color temperature. Lovibond grading of vegetable oils. Union-colorimeter grading of lubricating oils. Saybolt-chromometer grading of refined petroleum. U S. color standards for rosin. Color standards for paint vehicles. General methods. References.

Note This pamphlet brings together in concise form a description of the standards and methods presented in many scientific and technical publications between the years 1930 and 1950. Color is defined, and the basic principles of its measurement are outlined. Reduction of photometric data is described, three methods being illustrated by examples. The various methods of direct colorimetry the most useful collections of material color standards, the most widely used one-dimensional color scales, and the best known of the specifications of color having general applicability are described. The illustrative material includes 34 figures, mostly diagrams, and 19 tables. The bibliography lists 144 references.

KELLY, KENNETH L, AND DEANE B JUDD

The ISCC–NBS method of designating colors and a Dictionary of color names Washington, D C. Government Printing Office, 1955 158 p illus 27 cm. (United States National Bureau of Standards. Circular 553) $2 00 944

Contents. History Scope Applications. Logic of designations: The color solid. Basic plan of forming the designations. Divisions of the hue circle Some unavoidable disadvantages. Definition of the color ranges. Color designations from the *Munsell book of color* for diverse types of specimens. Dry opaque powders. Opaque solids. Liquids and nonpowdered solids. Microscopic specimens. Color designations from chromaticity coordinates and daylight reflectance. Description of the *Dictionary of color names*. Listing by source of color name and by ISCC-NBS designation American Association of Textile Chemists and Colorists and the Society of Dyers and Colourists. Biology Federal Specification TT-C-595. *Horticultural colour chart Maerz and Paul Dictionary of color* Molded urea plastics and polystyrene plastics. *Plochere color system Ridgway color standards and nomenclature. Rock color chart* Postage-stamp color names USDA Soil color charts. *Descriptive color names dictionary* Textile Color Card Association of the United States. Description of the alphabetical list of color names. Summary References. Color name charts. Synonymous and near-synonymous color names with their sample identifications. Dictionary of color names.

Note This publication consists essentially of four parts (1) the history and theory of color designations according to the revised usage of the Inter-Society Color Council and the National Bureau of Standards, concluded by a bibliography of 61 references (2) the color name charts with directions for their use (3) the graded list of 267 separately recognized colors (from vivid pink to black) under each of which are the names of the various synonyms and near-synonyms for the same taken from recognized color dictionaries and from the color sources of various art and industry groups and (4) the dictionary of approximately 7,500 color names, an alphabetical listing (from Abbey to Zuni brown) which gives the color name the source of the color name, and the ISCC-NBS color designation with serial number The purpose of the book is to assist scientists, artists, businessmen, and laymen to understand the different color vocabularies used in the many fields of science, art, and industry It is noteworthy and in keeping with its purpose that the publication includes no charts of colors.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY COLOR MEASUREMENT LABORATORY

Handbook of colorimetry Prepared by the staff of the Color Measurement Laboratory, Massachusetts Institute of Technology, under the direction of Arthur C. Hardy Cambridge, Mass The Technology Press, Massachusetts Institute of Technology, 1936 87 p illus. 33 cm $5 00 945

Contents The physical basis of color specification. Sources of light. Spectrophotometry The laws of color mixture. Determination of tristimulus values by the weighted ordinate method. Determination of tristimulus values by the selected ordinate method. Trichromatic coefficients. Graphical representation of colorimetric data. Index.

Note This book contains authoritative discussions of the problems of scientific color specifications, including such concepts as tristimulus values and such standards as I.C.I. (International Commission on Illumination) illuminants and the I.C.I. Observer. In a sense, it is a guide to the interpretation of color measurements made with the spectrophotometer To some users the most valuable features are the tables and charts. Typical of the former is a tabulation of the energy distributions for a considerable range of wavelengths of I.C.I illuminants A, B, and C. The latter include a series of 21 charts designed to facilitate the conversion of tristimulus values into brightness, dominant wavelength, and purity

MONK, GEORGE S, AND W H MCCORKLE, editors

Optical instrumentation By members of the staff of the Optics Section Metallurgical Laboratory University of Chicago New York McGraw Hill Book Company Inc., 1954 262 p illus 24 cm (National nuclear energy series. Manhattan Project Technical Section. Division IV—Plutonium project record Volume 8) $3 75 946

Contents Part I Survey of optical and associated problems. Optical problems in the metallurgical project. Optical instruments for viewing in irradiated areas. Miscellaneous instruments and services of the project optical section. Part II, Collected papers A standard periscope design for project purposes, by G. S. Monk. Comparative tests of periscope extenders, by G S. Monk and W Wallin. The erecting objective magnifier by G. S. Monk Design of Kellner type plastic objective by M Mrjenovich. Achromat with positive element of two plastic field lenses, by M. Mrjenovich. Borescopes in the project, by G. S. Monk and others. Experiments on borescope head, by G. S. Monk. Periscope for discharge area of pile, by G. S. Monk and W T Jayton. The binocular periscope, by G. S. Monk. The corner periscope by G. S. Monk and others. A visual inspector for slugs, by M. C. Leverett and others. Underwater bar viewer by W. H. McCorkle. The periscope by G. S. Monk. Type D-A periscope by W H. McCorkle Type D-B periscope by W H. McCorkle. The chemiscope by W H. McCorkle. The shelfscope, by W H. McCorkle. The A-A periscope by W H. McCorkle. Type C B periscope, by G S. Monk and W H. McCorkle. The extensoscope, by G. S. Monk. Coloration of a standard periscope objective, by G. S. Monk Miscellaneous notes on coloration of optical materials, by G. S. Monk. Colorimetry of optical glasses, by G. S. Monk. *The case for plastic lenses,*

extensive bibliographies are a feature. The current edition of the first volume is the second edition, published in 1950. The current edition of the second volume is the first edition, published in 1941. Although planned as a three-volume work, only the two volumes listed here have been published to the close of 1956.

KISLIUK, PAUL, AND CHARLES H. TOWNES

Molecular microwave spectra tables. Washington, D. C. Government Printing Office 1952 127 p. 26 cm. (United States. National Bureau of Standards. Circular 518) $0.65 958

Contents: Introduction. Description of tables. Molecular microwave spectra tables: Molecules listed alphabetically by chemical symbol. Lines listed in order of frequency. Casimir's function. Indexes: Molecules by chemical symbol. Molecules by name. Authors listed alphabetically including a list of the molecules with the reference numbers.

Note: This group of tables gives the frequencies, assignment of quantum numbers, and intensities of about 1800 microwave absorption lines. The best available values of other pertinent molecular data, such as rotational constants, dipole moments, quadrupole coupling constants, and rotation-vibration interaction constants, are also included. The frequencies are listed once for each molecule, and again in consecutive ascending order of frequency. References are given for all data included. For easy calculation of quadrupole hyperfine structure, Casimir's function is tabulated up to I = [illegible] and J = 9/2. Explanations of the tables and a short discussion of microwave spectra and important formulas are given in the introduction.

MOORE, CHARLOTTE EMMA

An ultraviolet multiplet table. Washington, D. C. Government Printing Office, 1950–52 2 sections. 78, 115 p. 29 cm. (United States. National Bureau of Standards. Circular 488 sections 1–2) Section 1 $0.45 section 2 $0.70. 959

Contents: Section 1. The spectra of hydrogen, helium, lithium, beryllium, boron, carbon, nitrogen, oxygen, fluorine, neon, sodium, magnesium, aluminum, silicon, phosphorus, sulfur, chlorine, argon, potassium, calcium, scandium, titanium, and vanadium. Section 2. The spectra of chromium, manganese, iron, cobalt, nickel, copper, zinc, gallium, germanium, arsenic, selenium, bromine, krypton, rubidium, strontium, yttrium, zirconium, and niobium.

Note: The first two sections of a table extending multiplets in the ultraviolet beyond the limit of the *Revised multiplet table* by Charlotte E. Moore (*Contr. Princeton Univ. Observ.* no. 20) published in 1945, which because of its limited wavelength range had proved to be inadequate. The two sections contain the leading multiplets of 123 spectra of the first [illegible] elements of the periodic table. The form of arrangement is identical with that of the *Revised multiplet table*, except that bibliographical references are included with each spectrum instead of being grouped together at the end.

SAWYER, RALPH ALANSON

Experimental spectroscopy Second edition. New York Prentice-Hall, Inc., 1951 358 p. 24 cm. $7.50. 960

Contents: History of spectroscopy. Light sources. Spectroscopic apparatus—general principles. Prism spectroscopes and spectrographs—theory and construction. Prism spectroscopes and spectrographs—types and use. The diffraction grating—theory and production. The diffraction grating—mountings and use. The photographic process. The determination of wave length. The determination of spectral intensity. Apparatus and methods of infrared spectroscopy. The spectroscopy of the vacuum ultraviolet. Spectrochemical analysis. Name index. Subject index.

Note: A useful manual of information about standard spectrographic techniques and apparatus. It is designed for readers with practical interest in the subject such as research workers in college laboratories and analytical chemists in industry. Readers will need background knowledge of basic physics and physical optics. In the present edition useful and rather extensive changes have been made. These include expanded discussions of certain topics, the inclusion of information from publications since 1944, and a few additions to the literature citations.

TOWNES, C. H., AND A. L. SCHAWLOW

Microwave spectroscopy New York Mc Graw-Hill Book Company, Inc. 1955 698 p illus. 24 cm. (International series in pure and applied physics Leonard I Schiff consulting editor) $12.50 961

Contents: Rotational spectra of diatomic molecules. Linear polyatomic molecules. Symmetric-top molecules. Asymmetric-top molecules. Atomic spectra. Quadrupole hyperfine structure in molecules. Molecules with electronic angular momentum. Magnetic hyperfine structure in molecular spectra. Interpretation of hyperfine coupling constants in terms of molecular structure and nuclear moments. Stark effects in molecular spectra. Zeeman effects in molecular spectra. The ammonia spectrum and hindered motions. Shapes and widths of spectral lines. Microwave circuit elements and techniques. Microwave spectrographs. Millimeter waves. Frequency measurement and control. The use of microwave spectroscopy for chemical analysis. Appendices: Intensities of hyperfine structure components and energies due to nuclear quadrupole interactions. Second-order energies due to nuclear quadrupole interactions in linear molecules and symmetric tops. Coefficients for energy levels of a slightly asymmetric top. Energy levels of a rigid rotor. Transition strengths for rotational transitions. Molecular constants involved in microwave spectra. Properties of the stable nuclei (abundance, spin and moments). Bibliography. Author index. Subject index. Fundamental constants and conversion factors.

Note: "Microwave spectroscopy" is the accepted term for spectroscopic techniques based upon the absorption of radiation in the 1 to 1000 mm. range. In the past decade and a half these have been developed into a powerful research tool for the investigation of molecules and atoms, in such fields of scientific investigation as nuclear physics, chemical kinetics, and quantum electrodynamics. This book is a full-scale survey of the present state of the field, including the techniques, the experimental findings, and their interpretation. The list of literature references runs to more than 1,000 entries, and statements and data given in the body of the book are keyed to the citations. Extensive tabulations of reference data are contained in the appendix.

UNITED STATES NATIONAL BUREAU OF STANDARDS COMPUTATION LABORATORY

Tables for the analysis of beta spectra. Washington, D. C. Government Printing Office 1952 61 p. illus 26 cm. (United States. National Bureau of Standards. Applied mathematics series 13) $0.40 962

Contents (abridged): Introduction. Beta spectra. References. Figures: Graph of [illegible]. Graph of [illegible] spectrum in [illegible]. Spectrum of [illegible] after elimination of the unfinished factor. Determination of the maximum energy. Positron spectrum of [illegible]. Fermi-Kurie plots of allowed spectra. Fermi-Kurie plot of [illegible] forbidden spectrum. Graph of [illegible]. Graph of outer screening potential. Auxiliary tables: Values of [illegible] for electrons of given momentum, [illegible]. Values of [illegible] for electrons of given kinetic energy. Table of [illegible]. Illustrating the importance of the relativistic effect. Illustrating the accuracy of the Bethe-Bacher approximation. Table for the evaluation of the screening effect. Table of the Fermi function.

Note: Most of the space in this pamphlet is devoted to the table of the Fermi function. The titles of the auxiliary tables and graphs are given above. To quote the introduction: "The primary purpose of these tables is to assist in the theoretical analysis of experimental data on β-ray spectra. This analysis involves the use of the function of [illegible] complex argument.

WILSON, E. BRIGHT, JR., AND OTHERS

Molecular vibrations the theory of infrared and Raman vibrational spectra. By E. Bright Wilson, Jr., J. C. Decius and Paul C. Cross New York McGraw-Hill Book Company Inc., 1955 388 p illus. 24 cm. $8.50. 963

Contents: Introduction. The vibration of molecules. Wave mechanics and the vibrations of molecules. More advanced methods of studying vibrations. Symmetry considerations. Applications of group theory to the analysis of molecular vibrations. Vibrational selection

engineering basis. The volume of *Proceedings* reprints 20 technical papers on different phases of fundamental optics presented at the symposium, nine of them including bibliographical references. Discussion of some of the papers is included.

VALESEK, JOSEPH

Introduction to theoretical and experimental optics New York John Wiley & Sons, Inc., 1949 454 p illus 22 cm $7 50 952

Contents. Geometrical optics. *Fundamental principles.* Ideal optical systems. Computation of constants. Physical limitations of optical images. Apertures of optical systems. Photometry and image brightness. Optical instruments. Stereoscopy Physical optics: Wave propagation. Interference of light. Diffraction. Polarization and double refraction. Optical activity Refraction and dispersion. Optical constants of metallic absorbers. Radiation and spectra Thermal radiation. Line and band spectra. X-ray spectra. Magneto- and electro-optics. Measurement of color The scattering of light. Experimental optics Experiments. Appendix. Answers to problems. Bibliography Index.

Note Although this book is not systematic treatise it includes material on both geometrical and physical optics and on theory and experimental work. It is addressed primarily to advanced students of physics with an interest in optics. However it also provides for graduate laboratory technicians and engineers at work in industry concise expositions of optical concepts and techniques which are not readily found in older treatises.

SPECTROSCOPY

GORDY, WALTER, AND OTHERS

Microwave spectroscopy By Walter Gordy, William V Smith and Ralph F Trambarulo New York John Wiley & Sons, Inc., 1953 446 p illus 24 cm (Structure of matter series Maria Goeppert Mayer, advisory editor) $8 75 953

Contents Instruments and experimental methods. Microwave spectra of gases. Stark and Zeeman effects. Shapes and intensities of absorption lines of gases. Spectra of solids and liquids. Nuclear properties. Electrical properties of molecules. Molecular structures. Applications in other fields. Appendix. Bibliography Name index. Subject index.

Note. A concise survey of the whole field of microwave spectroscopy It covers the instruments and techniques, and also presents, chiefly in tabular form, the knowledge of atomic and molecular structure that has been gained by the use of microwave spectroscopy to 1952 with some data included from the literature of that year It is written essentially from the standpoint of graduate scientists who are interested in the potentialities of the technique However the tabulated data may be used independently of the expository text. The book is therefore useful for reference to chemists and physicists who are not interested in the techniques. The comprehensive bibliography is classified by subject and within subjects is arranged by year

HARRISON, GEORGE RUSSELL, editor

Massachusetts Institute of Technology wavelength tables with intensities in arc, spark or discharge tube of more than 100,000 spectrum lines most strongly emitted by the atomic elements under normal conditions of excitation between 10 000 A and 2,000 A, arranged in order of decreasing wavelengths Measured and compiled under the direction of George R. Harrison by staff members of the Spectroscopy Laboratory of the Massachusetts Institute of Technology assisted by the Works Progress Administration New York John Wiley & Sons Inc., 1939 429 p 28 cm $17 50 954

Note These tables are designed principally for use in spectroscopic analysis of materials and for identifying impurities. One of the most valuable features of the book is the intensity scale which has been expanded to a range of 1–9000. Twenty-five different ratings are given in this range. More than 400 pages of tables are included in the book, each containing 253 lines. Also included are a few pages of short tables containing lists of sensitive lines of the elements, and descriptive material interpreting the tables and telling how the measurements and compilation were made.

HARRISON, GEORGE RUSSELL, AND OTHERS

Practical spectroscopy, by George R. Harrison, Richard C. Lord and John R. Loofbourow New York Prentice-Hall, Inc. 1948 605 p illus 22 cm. (Prentice-Hall physics series, Donald H Menzel, editor) $9 00 955

Contents Spectroscopy as a scientific tool. Selection of spectroscopic instruments. Prism spectroscopes and spectrographs. Diffraction-grating spectrographs. The testing, adjustment, and care of spectroscopic equipment. Illumination of the spectroscope. Photography of the spectrum. Light sources for spectroscopy Identification of spectrum lines. The origins of atomic spectra. Molecular spectra and molecular structure. The measurement of spectral intensities. Photographic photometry Absorption spectrophotometry Qualitative spectrographic analysis of materials. Quantitative spectrochemical analysis. Spectroscopy of the infrared region. Raman spectroscopy Spectroscopy of the vacuum ultraviolet. Interferometric spectroscopy Appendices. Index.

Note A survey of spectroscopic techniques and apparatus for chemists, physicists, and other scientific research workers. It is addressed to readers who are not specialists in spectroscopy but who use, or are interested in using, spectroscopy as an analytical or research technique. The physical principles which are the bases of the various types of spectroscopy are explained in considerable detail, and wide range of spectroscopic apparatus is discussed from the viewpoint of principles, characteristics, and uses. These discussions are addressed to scientists and contain good deal of laboratory "know-how Related literature is cited both in footnotes and in selected reference lists at the ends of chapters. The authors are all associated with the Spectroscopy Laboratory of Massachusetts Institute of Technology

HERZBERG, GERHARD

Molecular spectra and molecular structure. I Spectra of diatomic molecules With the cooperation, in the first edition, of J W T Spinks Second edition. Princeton D Van Nostrand Company, Inc., 1950 658 p illus. 24 cm $12 50 956

Contents. Introduction Résumé of the elements of atomic structure. Observed molecular spectra and their representation by empirical formulae. Rotation and vibration of diatomic molecules—interpretation of infrared and Raman spectra. Elementary discussion of electronic states and electronic transitions *Finer details* about electronic states and electronic transitions. Building-up principles, electron configurations, and valence. Continuous and diffuse molecular spectra—dissociation and predissociation. Examples, results, and applications. Appendix Vibrational and rotational constants for the electronic states of all known diatomic molecules (table 39) Bibliography Author index. Subject index.

——— Infrared and Raman spectra of polyatomic molecules. Forming the second volume of *Molecular spectra and molecular structure* Princeton D Van Nostrand Company, Inc., 1945 632 p. illus 23 cm $12.50 957

Contents Rotation and rotation spectra. Vibrations, vibrational energy levels, and vibrational eigenfunctions. Vibrational infrared and Raman spectra. Interaction of rotation and vibration, rotation-vibration spectra. Applications. Appendix Physical constants and conversion factors. Bibliography Author index. Subject index.

Note A comprehensive treatise addressed to advanced students and graduate research workers in chemistry and physics. The subject is the measurement and interpretation of energy levels in molecules. The reader needs some knowledge of wave mechanics; however most of the text is expressed in physical rather than mathematical terms. The work is based on the literature and

matter in the bibliography which is international in scope and comprehensive for literature published up to May 1948. The book is intended for graduate physicists and other scientists working in the field or seeking data from it. The author is associated with the Argonne National Laboratory

OTHER RADIATION

CLARK, GEORGE L.

Applied X-rays. Fourth edition. New York McGraw Hill Book Company Inc., 1955 843 p. illus. 24 cm. $12.50. 968

Contents: Part I, General physics and applications of X-radiation. Before and after the discovery by Röntgen. X-ray tubes. High-voltage equipment. The measurement of intensity (dosage). The measurement of quality (wavelength)—X-ray optics. X-ray spectra and atomic structure. Chemical analysis from X-ray spectra. The absorption and scattering of X-rays. Radiography (Roentgenography). Microradiography. The chemical effects of X-rays. The biological effects of X-radiation. Part II, The X-ray analysis of the ultimate structure of materials: Crystallography and X-ray diffraction. The experimental X-ray methods of crystal analysis. The interpretation of diffraction patterns in terms of ultimate structure. The results of crystal analysis—elements and inorganic compounds. Crystal chemistry. The silicates. Alloys. Organic compounds. The structure of glasses, liquids, and other colloidal and amorphous materials. The texture of metals. Polymers—synthetic and natural materials with giant molecules. Appendix. Space-group symbols. Index.

Note: A comprehensive treatise on technology and applications of X-rays. Its central theme is the use of X-rays in pure and applied scientific research; however, there is some information included on most aspects of X-rays. For example, in the chapter on biological effects, both harmful and beneficial effects are described. Applications covered range from medical diagnosis to studies of molecular structure. The third edition was published in 1940. Although the chapter titles in this fourth edition are not greatly changed, there has been a very extensive revision of the whole work, and much new material has been added. The type has been reset, so that much more matter is contained on a typical page; even so, the number of pages has been increased by [illegible] Changes have been made in the expository text, illustrations, literature references and tables, and the general level of the discussion has been raised somewhat.

COMPTON, ARTHUR H. AND SAMUEL K. ALLISON

X-rays in theory and experiment, second edition of *X-rays and electrons* by Arthur H. Compton. Princeton D. Van Nostrand and Company Inc., 1935 828 p. illus. 23 cm. $15.00. 969

Contents: The discovery and properties of X-rays. The production of X-rays. The scattering of X-rays. Dispersion theory applied to X-rays. The study of crystal structure by means of X-rays. The intensity of reflection of X-rays from crystals. Phenomena associated with the ejection of photo-electrons by X-rays. The interpretation of X-rays spectra. Some accurate methods of X-ray wavelength measurement and their results. Appendices. Author's index. Subject index.

Note: Long recognized as the standard reference book in its field, this work still has value, although portions of it are now out of date. It is an essentially complete presentation of the scientific knowledge pertaining to X-rays at the time of writing of the second edition (circa 1934).

KOLLER, LEWIS RICHARD

Ultraviolet radiation. New York John Wiley & Sons Inc., 1952 270 p. illus. 24 cm. $9.50 970

Contents: Introduction. Arcs. Incandescent sources of radiation. Solar radiation. Transmission. Reflection. Some applications and effects of ultraviolet. Detectors of ultraviolet radiation. Index.

Note: A general survey in which is incorporated a wide range of scientific and technical data. It is addressed primarily to persons who have some familiarity with technical terminology such as physicists, chemists, engineers, biologists, and even laymen. In the chapter on applications such uses of ultraviolet radiation as tanning of the skin, prevention of rickets, destruction of bacteria in air and water, and the production of fluorescence are discussed. The descriptions of lamps and other devices for producing ultraviolet radiation are limited to types rather than to particular equipment now being manufactured. Selected short lists of literature references are included. The author is a member of the staff of the General Electric Research Laboratory

LUCKIESH, MATTHEW

Applications of germicidal erythemal and infrared energy. Princeton D. Van Nostrand Company Inc. 1946 463 p. illus. 21 cm. $7.50 971

Contents: Challenging the sun. Sunlight and skylight. Erythema and tan. Units and terminology for biological effectiveness. Germicidal energy. Disinfecting controlled air. Infected communal air. Disinfecting air in occupied interiors. Disinfecting water. Artificial sunlight. Fading of materials. Ultraviolet energy and plant life. Radiant energy in common illuminants. Reflection and transmission. Measurement of ultraviolet energy. Various applications of radiant energy. References. Index.

Note: This work is concerned chiefly with the germicidal, biological, and therapeutic properties of ultraviolet energy, but only as regards the physics and mechanics of the subject. Thus there are chapters which describe the construction and properties of various types of sun lamps, and discussions of the amount of energy required to produce erythema and tan, but the biological and medical explanations of this reaction are referred to only in passing. The work is largely a presentation of scientific data, but it is written so that it can be understood by the lay reader. A 10-page bibliography is included.

SPROULL, WAYNE TREBER

X-rays in practice. New York McGraw Hill Book Company Inc., 1946 615 p. illus. 23 cm. $8.00 972

Contents (abridged): History of X-rays. Fundamentals of X-ray tubes. Characteristic X-ray spectra. Absorption and scattering. Refraction of X-rays and their diffraction by ruled gratings. X-ray generating equipment. X-ray detection, measurement, and registration. Protection. X-rays in the medical field (radiology). Industrial radiography. Laws of X-ray diffraction in a crystal. The Bragg method of crystal analysis and some pertinent properties of actual crystals. The Laue method, the rotation method, and other methods for a single crystal. The Hull-Debye-Scherrer powder method. Chemical analysis by X-ray diffraction. The measurement of stress and strain by X-ray diffraction. X-ray diffraction by amorphous solids, liquids, and gases. Electron diffraction and its applications. Appendix. Index.

Note: A rather thorough exposition of X-ray principles and research techniques. It is organized as a textbook with the usual questions and problems, but it is written on a level that will attract engineers and scientists who, though not X-ray specialists, need a scientific understanding of the subject. Mathematics is freely used in the exposition. Related literature is cited in footnotes, thus enhancing the book's reference value.

ELECTRICITY AND MAGNETISM

BOAST, WARREN B.

Principles of electric and magnetic fields. Second edition. New York Harper & Brothers, 1956 418 p. illus. 24 cm. $6.00. 973

Contents: Part I, Basic electric fields: Electric fields caused by concentrated charges in fixed positions. General relations in static electric fields. Electric fields with spherical boundaries. Electric fields caused by line lines of charge. Electric fields with cylindrical boundaries. Electric fields with essentially plane boundaries. Method of images applied to electric fields close to conducting planes. Capacitance concepts in multiple-conductor systems. Part II, Basic magnetic fields: General magnetic effects. Magnetic fields caused by line lines of current. Magnetic fields with cylindrical boundaries. The solenoid, toroid, and other simple geometric shapes. Flux linkage relations in systems of many parallel wires. Part III, Other aspects of electric and magnetic fields: Graphic construction of equipotentials and elements of flux plotting. Estimating capacitance and permeance of three-dimensional systems from probable flux paths. Permanent magnets. Transient response

rules and intensities. Potential functions. Methods of solving the secular determinant. A sample vibrational analysis—the benzene molecule. The separation of rotation and vibration. Appendices. Index.

Note A graduate-level textbook designed to teach the understanding and analysis of data supplied by infrared and Raman spectra of polyatomic molecules. The authors point up the importance of such spectra by stating that their results are useful in the study of (1) the forces between the atoms of a molecule (2) determinations of molecular structure, and (3) calculations of thermodynamic quantities. The early chapters are essentially descriptive and patient, explicit exposition is characteristic of the whole main part. Although mathematical symbols and equations are used freely in this part, the most difficult mathematics and derivations are reserved for the appendix, which accounts for 86 of the volume pages. A helpful feature is the inclusion as footnotes of citations of original papers pertaining to specific concepts and methods.

LUMINESCENCE

American Physical Society Division of Electron Optics

Preparation and characteristics of solid luminescent materials Symposium held at Cornell University October 24–26, 1946, sponsored by The Division of Electron Optics of The American Physical Society Published under the auspices of The National Research Council New York John Wiley & Sons Inc, 1948 459 p illus 22 cm. $10 00 964

Contents Foreword, by Lloyd P Smith. General characteristics and methods of preparation Luminescent crystals, by F Seitz. The preparation of sulfide and selenide phosphors, by R. Ward. The preparation of phosphors containing oxygen and fluorine by H. C. Froelich. The constitution and structure of phosphors, by G R. Fonda. Recent developments in theory and experiment: Some studies of electron traps in phosphors, by G F J Garlick. Storage and release of light by phosphors, by F Urbach. Infrared-sensitive phosphors, by B. O'Brien. Excitation and emission phenomena in phosphors, by H W Leverenz. Factors affecting fluorescence characteristics The fluorescence of cadmium sulfide, by J K. Inman, A. M. Moss, and W A. Weyl. Photoluminescence of some sulfide phosphors as a function of intensity by N R. Nail, D Pearlman, and F Urbach. Zinc Cadmium-sulfide Selenide phosphors, Part I Synthesis and constitution, by H. W Leverenz, E. J Wood, S. Lasof and R. E. Shrader Part II Photoluminescence and cathodoluminescence as a function of temperature crystal structure diffuse reflectivity and photolysis, by S. Lasof, R. E. Shrader and H. W Leverenz. Part III Spectral emission characteristics and relative intensities, by R. E. Shrader S. Lasof and H W Leverenz. Effect of temperature on the spectral energy distribution of several phosphors, by F J Studer and L. Olsen. The influence of temperature upon the intensity of luminescence of various phosphors, by L. Thorington. Storage of luminescence energy Absorption, storage and release of light by infrared-sensitive phosphors, by F Urbach H. Hemmendinger and D Pearlman Induction and decay of luminance as a function of excitation, by W B Nottingham. Measurement of brightness decay of phosphorescent materials, by R. P Tarle The decay of infrared-sensitive phosphors, by R. T Ellickson and W L. Parker The mechanism of rate processes in the luminescence of solids, by F E. Williams. Stimulation of some zinc sulfide phosphors, by D Pearlman, N R. Nail and F Urbach. Miscellaneous aspects of fluorescence The photochemical effect of short ultraviolet radiation on phosphors, by O. Meister and R. Nagy The reactivation of sulfide phosphors below formation temperature, by D T Wilber Multiple bands in the fluorescence spectra of singly activated phosphors, by G R. Fonda and H. C. Froelich. Correlation of the structure of various phosphors, by R. Nagy The luminescence of zinc beryllium silicate and of other manganese-activated phosphors, by J H. Schulman. The fluorescent efficiency of calcium tungstate under X-ray excitation by J W Coltman. Some observations on light absorption of powdered luminescent materials, by F H. Nicoll. The print-out effect and its use in the study of the motions of electrons in silver-halide crystals in an electric field, by J R. Haynes. Luminescence—experiment and others. Significance of paramagnetism, by S. Dunkman, F Seitz. Luminescence and purity of materials, by H. W Leverenz and others. Significance of paramagnetism, by S. Dunkman, F Seitz, and F Urbach Scope and limitations of energy diagrams, by W B Nottingham, F Seitz, and G F J Garlick. Characteristics and possible mechanisms of luminescence by P Pringsheim and others.

Note. The papers collected here provide a comprehensive survey of current knowledge of the subject. They are intended mainly for graduate physicists and other research workers with equivalent training. There are some citations to pertinent literature, but no prepared bibliography and unfortunately no index.

De Ment, Jack

Fluorochemistry, a comprehensive study embracing the theory and applications of luminescence and radiation in physicochemical science. New York Chemical Publishing Company, Inc., 1945 796 p illus. 22 cm. $14 50 965

Contents Part I, Fluorochemistry in theory Physical aspect of luminescence Physicochemical aspects of luminescence. Part II, "Homogeneous" luminescent systems The luminescent organic substances. The luminescent dyestuffs and coloring matters. Part III, "Heterogeneous" luminescent systems The phosphor medium—quasichemical systems. The synthetic, crystalline, inorganic phosphors. The synthetic vitreous phosphors—glasses. The organic phosphors and luminescent plastics. The natural phosphors—luminescent minerals. Part IV Ultraluminescence and infraluminescence Ultraviolet emitting substances. The ultraviolet emitting inorganic substances. The ultraviolet emitting organic and metal-organic substances. Fluorescent gamma and X-radiation. Fluorescent infrared radiation. Part V Fluorochemistry and fluorobiology Aspects of fluorobiology Appendices. Author index. Subject index.

Note A full treatment of the physics and chemistry of fluorescence and fluorescent substances based on a comprehensive survey of the literature and on the author's own researches. It is somewhat marred by errors and an uncritical selection of material; hence it must be used with caution. Important contributions are made to the theoretical aspects, and a large amount of information is included on practical applications, including applications in biology and medicine. Bibliographies and glossaries are included. Patents are listed in several of the bibliographies.

Leverenz, Humboldt Walter

An introduction to luminescence of solids. New York John Wiley & Sons, Inc., 1950. 569 p illus 24 cm $16 00 966

Contents The elements of matter and luminescence. Solids (crystals) Syntheses of luminescent solids (phosphors) Constitution, structures, and energy levels of phosphors. Luminescence of phosphors. General properties of phosphors (résumé of useful phosphors) Uses of phosphors. Appendixes. Preparation of pure ZnS, CdS, and ZnSe. Proportions of isolated and structurally adjacent impurity atoms, assuming a random distribution. Interconversion of some units of luminescence (surface brightness) General spectral characteristics of luminescence (radiance) Summary of some magnitudes and structures involved in the luminescence of solids. References. Formula index. Name index. Subject index.

Note A systematic and inclusive presentation of theoretical and practical information on phosphors. It has been written for such persons as graduate physicists who are beginning to work in the field and for other nonspecialists who are familiar with basic physical concepts. The text is compact and is keyed to the bibliography which runs to 730 references. The author is associated with the RCA Laboratories and has himself made important contributions to the basic knowledge of the field.

Pringsheim, Peter

Fluorescence and phosphorescence. New York Interscience Publishers, Inc. 1949 794 p. illus 24 cm $18 00 967

Contents Introduction General theory Experimental technique Part I, Fluorescence of gases and vapors Monatomic gases and vapors. Diatomic gases and vapors. Polyatomic gases and vapors. Part II Fluorescence and phosphorescence of condensed systems General survey Fluorescence of organic compounds Luminescence of pure inorganic compounds. Crystal phosphors Bibliography Author index. Reference number index. Subject index.

Note A comprehensive technical survey of photoluminescence It does not cover technical applications but theory experimental techniques, and physical data are fully covered In addition to the narrative text, there are 140 tables of data and 119 figures, many of which are graphs relating to spectra, etc. There are more than 7,000

lished literature, has been revised and expanded from doctoral thesis presented to the Department of Physics of Princeton University in 1930. The development of the knowledge of the subject is outlined, and the various published theories are reviewed. The theoretical discussions are directly related to the behavior of barium filaments, and an electronic theory developed by the author is explained. The list of references is extensive, and covers book and journal literature published to December 1931.

LOEB, LEONARD BENEDICT

Fundamentals of electricity & magnetism. Third edition. New York John Wiley & Sons Inc., 194 669 p. illus 24 cm. $7.00. 980

Contents (abridged): Historical. The quantitative treatment of magnetic forces. The absolute determination of pole strength and magnetic fields. Electric currents. Potential difference and work in an electric circuit. Generalization of Ohm's law. Liquid conductors—electrolysis—batteries. Thermoelectricity. Static electricity—charges and fields—potential—capacity. Electromagnetism. Magnetic properties of materials. Induced electric currents. Simple dynamos and motors. Induction. Electrical and magnetic measurements. Alternating currents. The units of electromagnetic and electrostatic units, Maxwell's equations and electromagnetic waves, and the character of electrical units and their dimensions. Discharge through gases and atomic structure. Photoelectric and thermionic effects. Problems. Name index. Subject index.

Note: A college textbook that is designed to give engineering and science students an unusually thorough grounding in the electrical part of basic physics. It is intended for use in basic courses, and the material is more advanced and requires more knowledge of mathematics than is usual in undergraduate textbooks. Subject matter and its arrangement in the present edition are the same as in the previous edition (1938), but there are 115 additional pages which include revisions and new material dealing with modern constructions, the betatron, synchrotron, magnetron, klystron, UHF wave generation, and the principles of ferromagnetism.

MASON, MAX, AND WARREN WEAVER

The electromagnetic field. New York Dover Publications, Inc., 1952 390 p. illus. 21 cm. $2.00 981

Contents: Coulomb's law and some analytic consequences. The electrostatic problem for conductors and dielectrics. Magnetostatics. The Maxwell field equations. Problems for Chapter IV. Corrections to Chapter IV. Mathematical appendix. Table for change of units. Formula index. Subject index.

Note: Originally a textbook for advanced students of physics, electrical engineering, communications engineering, etc., this work has continued to find readers both among enrolled students and graduate scientists since its original publication in 1929. It is written in terms of vector analysis. This edition is reprinted without change in the text of the original edition.

PAGE, LEIGH, AND NORMAN ILSLEY ADAMS JR.

Principles of electricity: an intermediate text in electricity and magnetism. Second edition. Princeton D. Van Nostrand Company Inc., 1949 619 p. illus. 22 cm. (University physics series. Leigh Page consulting editor) $7.25 982

Contents: Fundamental laws of electrostatics. Dielectrics and conductors. Solution of electrostatic problems. Magnetostatics. Steady currents. Chemical and thermal effects. Magnetic field of currents. Motion of ions in electric and magnetic fields. Electromagnetic induction. Interactions of currents and fields. Flux measurements. Absolute standards and units. Alternating currents. Measurements with varying currents. Coupled circuits. Filters and lines. Electromagnetic waves. High-frequency oscillations. Index.

Note: As this text is intended for use in undergraduate second-year physics courses, the treatment presupposes knowledge of elementary physics and calculus. More advanced mathematical concepts are explained in the text as needed. The treatment is considerably more analytical than in introductory texts. The first edition published in 1931 was reprinted many times without revision. The present edition, although unchanged in scope and general arrangement, has now been revised to include new material on such topics as the cyclotron, betatron, and wave guide.

PANOFSKY, WOLFGANG K. H., AND MELBA PHILLIPS

Classical electricity and magnetism. Reading Mass Addison-Wesley Publishing Company 1955 400 p. illus. 24 cm. $8.50. 983

Contents: The electrostatic field in vacuum. Boundary conditions and relation of microscopic to macroscopic fields. General methods for the solution of potential problems. Two-dimensional potential problems. Three-dimensional potential problems. Energy relations and forces in the electrostatic field. Currents and their interactions. Magnetic materials and boundary value problems. Maxwell's equations. Energy, force, and momentum relations in the electromagnetic field. The wave equation and plane waves. Wave solutions in the presence of metallic boundaries. The inhomogeneous wave equation. The experimental basis for the theory of special relativity. Relativistic kinematics and the Lorentz transformation. Covariance and relativistic mechanics. Covariant formulation of vacuum electrodynamics. The Liénard-Wiechert potentials and the field of a uniformly moving electron. Radiation from an accelerated charge. Radiation reaction. Radiation, scattering, and dispersion. Covariant formulation of the field equations in material media and the conservation laws of electrodynamics. The motion of charged particles in electromagnetic fields. Hamiltonian formulation of Maxwell's equations. Appendices: Units and dimensions in electromagnetic theory. Vector relations in curvilinear coordinates. Bibliography. Index.

Note: A graduate-level text developed from lectures given by the first-named author at the University of California and Stanford University. It is intended as preparation for research work and teaching in physics and related fields, such as mathematical physics. The exposition is expressed in the concepts of field theory and is designed to relate classical electricity and magnetism to modern physics. Readers will need considerable knowledge of mathematics, including advanced calculus and vector analysis.

SCHELKUNOFF, SERGEI ALEXANDER

Electromagnetic waves. New York D. Van Nostrand Company, Inc., 1943 530 p. illus. 23 cm. $10.50 984

Contents: Vectors and coordinate systems. Mathematics of oscillations and waves. Bessel and Legendre functions. Fundamental electromagnetic equations. Impedance, transmission, networks. About waves in general. Transmission theory. Waves, wave guides and resonators. Radiation and diffraction. Antenna theory. The impedance concept.

Note: A discussion of the subject for scientists and engineers. The circuit theory, the transmission line theory, and the field theory are treated as subdivisions of one inclusive theory. Mathematics is used freely, but the main emphasis is upon physics. The book was developed from lectures delivered to staff members of the Bell Telephone Laboratories in New York.

SHEDD, PAUL C

Fundamentals of electromagnetic waves. New York Prentice-Hall, Inc., 1954 191 p. illus. 23 cm. (Prentice-Hall Electrical engineering series. W. L. Everitt, editor) $5.65 985

Contents: Vector algebra. Differentiation and integration. Fundamentals of mechanics. Fundamental postulates and restrictions. The fundamental law. Gauss's law. Polarization. Properties of dielectrics. Electrical scalar potential. The divergence theorem. Stokes' theorem. Curvilinear coordinates. Field and potential equations. Solutions of Laplace's equation. Images. Conjugate functions. Electric current. Principles of relativity. Moving electric field. Ampère's law. The magnetic field. Magnetism. Changing-flux theorem. Maxwell's field equations. Energy relations. Electric circuits. Maxwell wave equations. Retarded potentials. Electromagnetic fields in waveguides. Properties of waveguides. Impedance and power in waveguides. Antennas. Appendix. References. Problems. Index.

Note: A mathematical exposition designed for use by senior undergraduate and first-year graduate students. In the first 11 chapters, electromagnetic field theory is developed as a logical system capable of complete expression in the terms of mathematics. In the last four chapters, applications of the theory of waveguides and antennas are illustrated. The student or reader will need prior knowledge of elementary calculus. The book is self-contained for higher mathematics such as vector algebra.

in simple resistance-capacitance systems. Transient response in simple resistance-inductance systems. Measurements of electric charge and magnetic flux with the ballistic galvanometer and the fluxmeter Initial and ultimate conditions in resistance-capacitance-inductance systems. Maxwell's field equations. Appendix. Index.

Note. The fundamental phenomena and theory of electric and magnetic fields are presented at an elementary level in this textbook designed for advanced undergraduate college students. Calculus is used throughout the book, and knowledge of elementary electric circuit theory is necessary for comprehension of the chapters in the third part. The first edition was published in 1948 There have been some reorganization and revision of material, and the terminal *chapter on Maxwell's field equation,* has been added in this second edition.

BOZORTH, RICHARD MILTON

Ferromagnetism Princeton D Van Nostrand Company, Inc, 1951 986 p illus 24 cm (Bell Telephone Laboratories series) $20 00 974

Contents (abridged) Part I Introduction Concepts of ferromagnetism. Factors affecting magnetic quality Part II. Magnetic properties of materials Technical and pure iron. Iron-silicon alloys. Iron-nickel alloys. Iron-cobalt alloys. Other high permeability materials. Permanent magnets. Part III Magnetic phenomena and theories The magnetization curve and the domain theory Magnetic properties of crystals. Stress and magnetostriction. Temperature and the Curie point. Change of magnetization with time. Special problems in domain theory Part IV Measurements. Appendixes Some physical properties of the elements. Values of some constants. Magnetic properties of various materials. Bibliography Name index. Subject index.

Note A substantial treatise covering the modern knowledge of magnetic phenomena and magnetic materials, addressed to graduate physicists and engineers. The bibliography alone runs to 72 pages. The author is member of the technical staff of Bell Telephone Laboratories, Inc.

FOWLER, R. G

Introduction to electric theory Reading, Mass. Addison Wesley Publishing Company, 1953 390 p illus 24 cm $8 50 975

Contents The electrostatic field in vacuum. Energy relations in the electrostatic field in vacuum. Electrostatic fields and matter Electrostatic fields in matter Electric charges in motion. Magnetic fields and magnetic materials. The magnetic field of current. Electromagnetic forces and electromagnetic induction. Stress and energy in the electromagnetic field. Electrical properties of matter Theory of linear circuits bearing constant currents. Theory of time-changing currents in linear circuits. Theory of periodic currents in linear circuits. Electromagnetic radiation. Units in electricity List of symbols. Answers to problems. Index.

Note A college textbook designed for upperclass undergraduate students who have completed courses in introductory physics, analytic geometry and calculus. The author states, "My object has not been to teach all about electricity but to build a framework of methods, quantities and attitudes from which larger knowledge can easily be fitted at will and as needed. Nevertheless, the reader is given broad view of current ideas in such fields as electromagnetism. The final chapter contains a compact presentation of Maxwell' equations, together with illustrations of their uses in solving typical problems in electromagnetic radiation.

FRANK, NATHANIEL HERMAN

Introduction to electricity and optics. Second edition New York McGraw Hill Book Company, Inc., 1950 440 p illus. 24 cm $6 50 976

Contents Fields of force. The electrostatic field of force. The sources of the electrostatic field. Induced charges and capacity Steady electric currents. The magnetic field of force. The magnetic field of steady currents. Induced electromotive forces and inductance Elementary alternating-current circuits Displacement current and electromagnetic waves. Radiation of electromagnetic waves Electronic conduction in vacuum and in metals. Dielectrics. Magnetic properties of matter Electromagnetic waves in material bodies. Geometrical optics and simple optical instruments. Dispersion and scattering. Interference. Diffraction. Heat radiation. Appendixes. Index.

Note This college text, based on courses given at Massachusetts Institute of Technology is designed for the use of second-year students majoring in electrical engineering or physics. Emphasis is on fundamental laws and theories and methods of application in the study of currents, electric and magnetic properties of matter and optics. The general scope and content of the revision remain the same, but the material has been expanded and rewritten to provide fuller discussions of such topics as field of force, parallel c. circuits, interference, and diffraction.

GILBERT, NORMAN EVERETT

Electricity and magnetism. Third edition. New York The Macmillan Company, 1950 269 p illus 21 cm $6 75 977

Content (abridged) Electricity and the electrostatic field. Magnets and the magnetic field. Potential. Capacity Theory of dielectrics. Atmospheric electricity Measurement of current. Resistance and its measurement. Measurement of potential. Electrolytic conduction and batteries. Direct-current dynamo machines. Measurement of inductance and capacity Alternating-current networks. Alternators—generators and motors. Transformers. Transmission and distribution of power Conduction in gases. Electrons, photons, and positive ions. Thermionic electron tubes. Electrical communication. Thermoelectricity Radioactivity and the structure of matter Units and dimensions. Index.

Note. A textbook for engineering college students who are not specializing in electrical engineering. It is more comprehensive than many of the texts planned for such students, but it is neither so full nor so difficult as textbooks intended for the use of physics majors and engineering students. In the present edition new material has been added on such topics as the betatron, chain atomic reactions, plutonium the source of the sun's heat, and the symbolic method of treating alternating-current networks. Altogether, the changes do not add up to an extensive revision.

HARNWELL, GAYLORD PROBASCO

Principles of electricity and electromagnetism. Second edition New York McGraw Hill Book Company Inc., 1949 670 p illus. 24 cm. (International series in pure and applied physics G P Harnwell consulting editor) $8 50 978

Contents Electrostatics. Electrostatic energy and dielectrics. Physical characteristics of dielectrics and conductors. Direct-current circuits. Nonohmic circuit elements and alternating currents. Chemical, thermal, and photoelectric effects. Thermionic vacuum tubes. Electrical conduction in gases. Electromagnetic effects of steady currents. Changing electric currents and electromagnetic reactions. Magnetic properties of matter Electromagnetic machinery Simple circuits containing inductance, capacitance and resistance. Coupled circuits, filters and lines. Vacuum tube circuits. Radiation. Mathematical appendix. Index.

Note An established textbook for use in intermediate college courses offered to students who have completed course in basic physics. It is designed as an introduction to both experimental and theoretical electricity but there is somewhat more emphasis on the experimental and mathematical aspects than on the theoretical. Changes in the present edition reflect advances in nuclear physics and in electronics. There are new or expanded discussions of such developments as radar wave guides, and high-energy electromagnetic ion accelerators. In addition to its use as text, the book has more value as reference manual on advanced experimental techniques.

JAYNES, E T

Ferroelectricity Princeton Princeton University Press 1953 137 p illus 23 cm. (Investigations in physics edited by Eugene Wigner and Robert Hofstadter No 1) $2 00 979

Content Historical introduction and review of experimental facts. Review of theories of $BaTiO_3$. Thermodynamic treatment Internal fields in crystals. Electric polarization in crystals. Appendixes. References. Index

Note The term ferroelectricity" is due to certain similarities between the group of phenomena designated by it and magnetic phenomena, such phenomena as hysteresis and abrupt changes in characteristic reminiscent of the Curie point. This book, intended as general introduction to the subject and guide to the pub-

[illegible] literature, has been revised and expanded from [illegible] doctoral thesis presented to the Department of Physics of Princeton University in 1932. The development of the knowledge of the subject is outlined, and the various published theories are reviewed. The theoretical derivations are directly related to the behavior of [illegible] [illegible], and an electronic theory developed by the author is explained. The list of references is extensive, and covers book and journal literature published to December 1931.

LOEB LEONARD BENEDICT

Fundamentals of electricity & magnetism. Third edition. New York John Wiley & Sons Inc., 1947 669 p. illus. 24 cm. $7.00 980

Contents (abridged) Historical. The quantitative treatment of magnetic forces. The absolute determination of pole strength and magnetic fields. Electric currents. Potential difference and work in an electric circuit. Generalization of Ohm law. Liquid conductors—electrolysis—batteries. Thermoelectricity. Static electricity—charges and fields—potential—capacity. Electromagnetism. Magnetic properties of materials. Induced electric currents. Simple dynamos and motors. Inductance. Electrical and magnetic measurements. Alternating currents. The ratio of electromagnetic and electrostatic units. Maxwell's equations and electromagnetic waves, and the character of electrical units and their dimensions. Discharge through gases and atomic structure. Photoelectric and thermionic effects. Problems. Name index. Subject index.

Note A college textbook that is designed to give engineering and science students an unusually thorough grounding in the electrical part of basic physics. It is intended for use in long courses, and the material is more advanced and requires more knowledge of mathematics than is usual in undergraduate textbooks. Subject matter and its arrangement in the present edition are the same as in the previous edition (1938) but there are 113 additional pages which include problems and new material dealing with nuclear constitution, the betatron, synchrotron, magnetron, klystron, UHF wave generation, and the principles of [illegible].

MASON MAX, AND WARREN WEAVER

The electromagnetic field. New York Dover Publications, Inc., 1952 390 p. illus. 21 cm. $2.00. 981

Contents. Coulomb's law and some analytic consequences. The electrostatic problem for conductors and dielectrics. Magnetostatics. The Maxwell field equations. Problems for Chapter IV. Contribution to Chapter IV. Mathematical appendix. Table for change of units. Formula index. Subject index.

Note Originally [illegible] textbook for advanced students of physics, electrical engineering, communications engineering, etc., this work has continued to find readers both among enrolled students and graduate scientists since its original publication in 1929. It is written in terms of vector analysis. This edition is [illegible] reprint without change in the text of the original edition.

PAGE, LEIGH AND NORMAN ILSLEY ADAMS JR.

Principles of electricity an intermediate text in electricity and magnetism. Second edition. Princeton D Van Nostrand Company Inc., 1949 619 p. illus. 22 cm. (University physics series Leigh Page, consulting editor) $7.25 982

Contents Fundamental laws of electrostatics. Dielectrics and conductors. Solution of electrostatic problems. Magnetostatics. Steady currents. Chemical and thermal effects. Magnetic field of [illegible] currents. Motion of ions in electric and magnetic fields. Electromagnetic induction. Interaction of currents and fields. Flux measurements. Absolute standards and units. Alternating currents. Measurements with varying currents. Coupled circuits. Skin and lines. Electromagnetic waves. High-frequency oscillations. Index.

Note As this text is intended for use in undergraduate [illegible] year physics courses, the treatment presupposes [illegible] knowledge of elementary physics and calculus. More advanced mathematical concepts are explained in the text as needed. The treatment is considerably more analytical than in introductory texts. The first edition published in [illegible] 931 was reprinted many times without revision. The present edition, although unchanged in scope and general arrangement, has now been revised to include new material on such topics as the cyclotron, betatron, and wave guide.

PANOFSKY WOLFGANG K. H. AND MELBA PHILLIPS

Classical electricity and magnetism. Reading Mass. Addison Wesley Publishing Company 1955 400 p. illus. 24 cm. $8.50 983

Contents The electrostatic field in vacuum. Boundary conditions and relation of microscopic to macroscopic fields. General methods for the solution of potential problems. Two-dimensional potential problems. Three-dimensional potential problems. Energy relations and forces in the electrostatic field. Currents and their interactions. Magnetic materials and boundary value problems. Maxwell equations. Energy, force, and momentum relations in the electromagnetic field. The wave equation and plane waves. Wave solutions in the presence of metallic boundaries. The inhomogeneous wave equation. The experimental basis for the theory of special relativity. Relativistic kinematics and the Lorentz transformation. Covariance and relativistic mechanics. Covariant formulation of vacuum electrodynamics. The Liénard-Wiechert potentials and the field of a uniformly moving electron. Radiation from an accelerated charge. Radiation reaction. Radiation, scattering, and dispersion. Covariant formulation of the field equations in material media and the conservation laws of electrodynamics. The motion of charged particles in electromagnetic fields. Hamiltonian formulation of Maxwell equations. *Appendices* Units and dimensions in electromagnetic theory. Vector relations in curvilinear coordinates. Bibliography. Index.

Note A graduate-level text developed from lectures given by the first-named author at the University of California and Stanford University. It is intended as preparation for research work and teaching in physics and related fields, such as mathematical physics. The exposition is expressed in the concepts of [illegible] field theory and is designed to relate classical electricity and magnetism to modern physics. Readers will need considerable knowledge of mathematics, including advanced calculus and vector analysis.

SCHELKUNOFF, SERGEI ALEXANDER

Electromagnetic waves. New York D Van Nostrand Company Inc., 1943 530 p. illus. 23 cm. $10.50 984

Contents Vectors and coordinate systems. Mathematics of oscillations and waves. Bessel and Legendre functions. Fundamental electromagnetic equations. Impedance, transformers, networks. Along waves in general. Transmission theory. Waves, wave guides and resonators. Radiation and diffraction. Antenna theory. The impedance concept.

Note A discussion of the subject for scientists and engineers. The circuit theory, the transmission line theory, and the field theory are treated as subdivisions of one inclusive theory. Mathematics is used freely but the main emphasis is upon physics. The book was developed from lectures delivered to staff members of the Bell Telephone Laboratories in New York.

SHEDD PAUL C.

Fundamentals of electromagnetic waves. New York Prentice-Hall, Inc., 1954 191 p. illus. 23 cm. (Prentice-Hall Electrical engineering series W. L. Everitt, editor) $5.65 985

Contents Vector algebra. Differentiation and integration. Fundamentals of mechanics. Fundamental postulates and restrictions. The fundamental law. Gauss' law. Polarization. Properties of dielectrics. Electrical scalar potential. The divergence theorem. Stokes's theorem. Curvilinear coordinates. Field and potential equations. Solutions of Laplace's equation. Images. Conjugate functions. Electric current. Principles of relativity. Moving electric field. Ampère's law. The magnetic field. Magnetism. Counting-line theorem. Maxwell field equations. Energy relations. Electric circuits. Maxwell wave equations. Retarded potentials. Electromagnetic fields in waveguides. Properties of waveguides. Impedance and power in waveguides. Antennas. Appendix. References. Problems. Index.

Note A mathematical exposition designed for use by senior undergraduate and first-year graduate students. In the first 31 chapters, electromagnetic field theory is developed as [illegible] logical system capable of complete expression in the terms of mathematics. In the four final chapters, applications of the theory of waveguides and antennas are illustrated. The student or reader will need [illegible] prior knowledge of elementary calculus. The book is self-contained for higher mathematics such as vector algebra.

in simple resistance-capacitance systems. Transient response in simple resistance-inductance systems. Measurements of electric charge and magnetic flux with the ballistic galvanometer and the fluxmeter. Initial and ultimate conditions in resistance-capacitance-inductance systems. Maxwell's field equations. Appendix. Index.

Note: The fundamental phenomena and theory of electric and magnetic fields are presented at an elementary level in this textbook designed for advanced undergraduate college students. Calculus is used throughout the book, and a knowledge of elementary electric circuit theory is necessary for comprehension of the chapters in the third part. The first edition was published in 1945. There have been some reorganization and revision of material, and the terminal chapter on Maxwell's field equation, has been added in this second edition.

BOZORTH, RICHARD MILTON

Ferromagnetism Princeton D Van Nostrand Company, Inc., 1951 986 p illus 24 cm. (Bell Telephone Laboratories series) $20 00 974

Contents (abridged) Part I, Introduction Concepts of ferromagnetism. Factors affecting magnetic quality Part II, Magnetic properties of materials Technical and pure iron. Iron-silicon alloys. Iron-nickel alloys. Iron-cobalt alloys. Other high permeability materials. Permanent magnets. Part III, Magnetic phenomena and theories The magnetization curve and the domain theory Magnetic properties of crystals. Stress and magnetostriction Temperature and the Curie point. Change of magnetization with time. Special problems in domain theory Part IV Measurements. Appendixes Some physical properties of the elements. Values of some constants. Magnetic properties of various materials. Bibliography Name index. Subject index.

Note. A substantial treatise covering the modern knowledge of magnetic phenomena and magnetic materials, addressed to graduate physicists and engineers. The bibliography alone runs to 71 pages. The author is a member of the technical staff of Bell Telephone Laboratories, Inc.

FOWLER, R. G

Introduction to electric theory Reading, Mass Addison Wesley Publishing Company 1953 390 p illus 24 cm $8 50 975

Contents: The electrostatic field in vacuum. Energy relations in the electrostatic field in vacuum. Electrostatic fields and matter Electrostatic fields in matter Electric charges in motion. Magnetic fields and magnetic materials. The magnetic field of a current. Electromagnetic forces and electromagnetic induction. Stress and energy in the electromagnetic field. Electrical properties of matter Theory of linear circuits bearing constant currents. Theory of time-changing currents in linear circuits. Theory of periodic currents in linear circuits. Electromagnetic radiation. *Units in electricity* List of symbols. Answers to problems. Index.

Note A college textbook designed for upperclass undergraduate students who have completed courses in introductory physics, analytic geometry and calculus. The author states, "My object has not been to teach all about electricity but to build a framework of methods, quantities and attitudes from which a larger knowledge can easily be fitted at will and as needed." Nevertheless, the reader is given a broad view of current ideas in such fields as electromagnetism. The final chapter contains a compact presentation of Maxwell's equations, together with illustrations of their uses in solving typical problems in electromagnetic radiation.

FRANK, NATHANIEL HERMAN

Introduction to electricity and optics Second edition New York McGraw Hill Book Company, Inc., 1950 440 p illus. 24 cm $6 50 976

Contents: Fields of force. The electrostatic field of force. The sources of the electrostatic field. Induced charges and capacity Steady electric currents. The magnetic field of force. The magnetic field of steady currents. Induced electromotive forces and inductance Elementary alternating-current circuits. Displacement current and electromagnetic waves. Radiation of electromagnetic waves. Electronic conduction in vacuum and in metals. Dielectrics. Magnetic properties of matter Electromagnetic waves in material bodies. Geometrical optics and simple optical instruments. Dispersion and scattering. Interference. Diffraction Heat radiation. Appendixes. Index.

Note This college text, based on courses given at Massachusetts Institute of Technology is designed for the use of second-year students majoring in electrical engineering or physics. Emphasis is on fundamental laws and theories and methods of application in the study of currents, electric and magnetic properties of matter and optics. The general scope and content of the revision remain the same, but the material has been expanded and rewritten to provide fuller discussions of such topics as field of force, parallel a.c. circuits, interference, and diffraction.

GILBERT, NORMAN EVERETT

Electricity and magnetism Third edition. New York The Macmillan Company, 1950 269 p illus 21 cm $6 75 977

Contents (abridged) Electricity and the electrostatic field. *Magnets and the magnetic field. Potential. Capacity Theory of dielectrics.* Atmospheric electricity Measurement of current. Resistance and its measurement. Measurement of potential. Electrolytic conduction and batteries. Direct-current dynamo machines. Measurement of inductance and capacity Alternating-current networks. Alternators—generators and motors. Transformers. Transmission and distribution of power Conduction in gases. Electrons, photons, and positive ions. Thermionic electron tubes. Electrical communication. Thermoelectricity Radioactivity and the structure of matter *Units and dimensions.* Index.

Note A textbook for engineering college students who are not *specializing in electrical engineering. It is more comprehensive than many of the texts planned for such students,* but it is neither so full nor so difficult as textbooks intended for the use of physics majors and engineering students. In the present edition new material has been added on such topics as the betatron, chain atomic reactions, plutonium, the source of the sun's heat, and the symbolic method of treating alternating-current networks. Altogether the changes do not add up to an extensive revision.

HARNWELL, GAYLORD PROBASCO

Principles of electricity and electromagnetism Second edition New York McGraw Hill Book Company, Inc , 1949 670 p. illus. 24 cm. (International series in pure and applied physics G P Harnwell, consulting editor) $8 50 978

Contents. Electrostatics. Electrostatic energy and dielectrics. *Physical characteristics of dielectrics and conductors.* Direct-current circuits. Nonohmic circuit elements and alternating currents. Chemical, thermal, and photoelectric effects. Thermionic vacuum tubes Electrical conduction in gases. Electromagnetic effects of steady currents. Changing electric currents and electromagnetic reactions. Magnetic properties of matter Electromagnetic machinery Simple circuits containing inductance capacitance and resistance. Coupled circuits, filters and lines. Vacuum tube circuits. Radiation. Mathematical appendix. Index.

Note: An established textbook for use in intermediate college courses offered to students who have completed a course in basic physics. It is designed as an introduction to both experimental and theoretical electricity but there is somewhat more emphasis on the experimental and mathematical aspects than on the theoretical. Changes in the present edition reflect advances in nuclear physics and in electronics. There are new or expanded discussions of such developments as radar wave guides, and high-energy electromagnetic ion accelerators. In addition to its use as a text, the book has some value as a reference manual on advanced experimental techniques.

JAYNES, E T

Ferroelectricity Princeton Princeton University Press 1953 137 p. illus. 23 cm. (Investigations in physics edited by Eugene Wigner and Robert Hofstadter No 1) $2 00 979

Contents Historical introduction and review of experimental facts. Review of theories of $BaTiO_3$. Thermodynamic treatment Internal fields in crystals. Electric polarization in crystals. Appendixes. References. Index

Note The term "ferroelectricity" is due to certain similarities between the group of phenomena designated by it and magnetic phenomena, such phenomena as hysteresis and abrupt changes in characteristic reminiscent of the Curie point. This book, intended as a general introduction to the subject and a guide to the pub-

[illegible] [illegible], has been revised and expanded from [illegible] doctoral thesis presented to the Department of Physics at Princeton University in 1950. The development of the knowledge of the subject is outlined, and the various published theories are reviewed. The theoretical [illegible] are directly related to the behavior of [illegible] [illegible], and an electronic theory developed by the author is emphasized. The list of references is extensive, and covers book and journal literature published to December 1951.

LOEB, LEONARD BENEDICT

Fundamentals of electricity & magnetism. Third edition. New York John Wiley & Sons, Inc., 1947 669 p. illus. 24 cm. $7.00 980

Contents (abridged) [illegible]. The quantitative treatment of magnetic forces. The absolute determination of pole strength and magnetic fields. Electric currents. Potential difference and work in an electric circuit. Generalization of Ohm' law. Liquid conductors—electrolysis—batteries. Thermoelectricity. Static electricity—charges and fields—potential—capacity. Electromagnetics. Magnetic properties [illegible] materials. Induced electric currents. Simple dynamos and motors. Induction. Electrical and magnetic measurements. Alternating currents. The [illegible] of electromagnetic and electrostatic units. Maxwell' equations and electromagnetic waves, and the character of electrical units and their dimensions. Discharge through gases and atomic structure. Photoelectric and thermionic effects. Problems. Name index. Subject index.

Note: A college textbook that is designed to give engineering and science students an unusually thorough grounding in the electrical part of basic physics. It is intended for use in basic courses, and the material is more advanced and requires more knowledge of mathematics than is usual in undergraduate textbooks. Subject matter and its arrangement in the present edition are the same as in the previous edition (1938) but there are 115 additional pages which include revisions and new material dealing with [illegible] [illegible], the betatron, synchrotron, magnetron, klystron, [illegible] wave generation, and the principles of ferromagnetism.

MASON MAX, AND WARREN WEAVER

The electromagnetic field. New York Dover Publications Inc., 1952 390 p. illus. 21 cm. $2.00 981

Contents: Coulomb' law and some analytic consequences. The electrostatic problem for conductors and dielectrics. Magnetostatics. The Maxwell field equations. Problems for Chapter IV. Contributions to Chapter IV. Mathematical appendix. Table for change of units. Formula index. Subject index.

Note: Originally a textbook for advanced students of physics, electrical engineering, communications engineering, etc., this work has continued to find readers both among untutored students and [illegible] scientists since its original publication in 1929. It is written in terms of vector analysis. This edition is reprinted without change in the text of the original edition.

PAGE, LEIGH AND NORMAN ILSLEY ADAMS JR.

Principles of electricity an intermediate text in electricity and magnetism. Second edition. Princeton D Van Nostrand Company Inc., 1949 619 p. illus. 22 cm. (University physics series Leigh Page consulting editor) $7.25 982

Contents: Fundamental laws of electrostatics. Dielectrics and conductors. Solution of electrostatic problems. Magnetostatics. Steady currents. Chemical and thermal effects. Magnetic field of current. Motion of ions in electric and magnetic fields. Electromagnetic induction. Interaction of currents and fields. Flux measurements. Absolute standards and units. Alternating currents. Measurements with varying currents. Coupled circuits. Filters and lines. Electromagnetic waves. High-frequency oscillations. Index.

Note: As this text is intended for use in undergraduate second-year physics courses, the treatment presupposes knowledge of elementary physics and calculus. More advanced mathematical concepts are explained in the text as needed. The treatment is considerably more analytical than in introductory texts. The first edition, published in 1931, was reprinted many times without revision. The present edition, although unchanged in scope and general arrangement, has now been revised to include new material on such topics as the cyclotron, betatron, and wave fields.

PANOFSKY WOLFGANG K. H. AND MELBA PHILLIPS

Classical electricity and magnetism. Reading, Mass Addison Wesley Publishing Company 1955 400 p illus 24 cm $8.50 983

Contents: The electrostatic field in vacuum. Boundary conditions and relation of microscopic to macroscopic fields. General methods for the solution of potential problems. Two-dimensional potential problems. Three-dimensional potential problems. Energy relations and forces in the electrostatic field. Currents and their interaction. Magnetic materials and boundary value problems. Maxwell' equations. Energy, force, and momentum relations in the electromagnetic field. The wave equation and plane waves. Wave solutions in the presence of metallic boundaries. The inhomogeneous wave equation. The experimental basis for the theory of special relativity. Relativistic kinematics and the Lorentz transformation. Covariance and relativistic mechanics. Covariant formulation of vacuum electrodynamics. The Liénard-Wiechert potentials and the field of uniformly moving electron. Radiation from an accelerated charge. Radiation reaction. Radiation, scattering, and dispersion. Covariant formulation of the field equations in material media and the conservation laws of electrodynamics. The motion of charged particles in electromagnetic fields. Hamiltonian formulation. [illegible] Maxwell's equations. Appendices. Units and dimensions in electromagnetic theory. Vector relations in curvilinear coordinates. Bibliography. Index.

Note: A graduate-level text developed from lectures given by the first-named author at the University of California and Stanford University. It is intended as preparation for research work and teaching in physics and related fields, such as mathematical physics. The exposition is expressed in the concepts of field theory and is designed to relate classical electricity and magnetism to modern physics. Readers will need considerable knowledge of mathematics, including advanced calculus and vector analysis.

SCHELKUNOFF, SERGEI ALEXANDER

Electromagnetic waves. New York D Van Nostrand Company Inc., 1943 530 p. illus. 23 cm. $10.50 984

Contents: Vectors and coordinate systems. Mathematics of oscillations and waves. Bessel and Legendre functions. Fundamental electromagnetic equations. Impedors, transducers, networks. About waves in general. Transmission theory. Waves, wave guides and resonators. Radiation and diffraction. Antenna theory. The impedance concept.

Note: A discussion of the subject for scientists and engineers. The circuit theory, the transmission line theory, and the field theory are treated as subdivisions of one inclusive theory. Mathematics is used freely, but the main emphasis is upon physics. The book was developed from lectures delivered to staff members of the Bell Telephone Laboratories in New York.

SHEDD PAUL C.

Fundamentals of electromagnetic waves. New York Prentice-Hall, Inc., 1954 191 p. illus 23 cm. (Prentice-Hall Electrical engineering series W. L. Everitt, editor) $5.65 985

Contents: Vector algebra. Differentiation and integration. Fundamentals of mechanics. Fundamental postulates and restrictions. The fundamental law. Gauss's law. Polarization. Properties of dielectrics. Electrical scalar potential. The divergence theorem. Stokes' theorem. Curvilinear coordinates. Field and potential equations. Solutions of Laplace's equation. Images. Conjugate functions. Electric current. Principles of relativity. Moving electric field. Ampère's law. The magnetic field. Magnetism. Changing flux theorem. Maxwell' field equations. Energy relations. Electric circuits. Maxwell' wave equations. Retarded potentials. Electromagnetic fields in waveguides. Properties of waveguides. Impedance and power in waveguides. Antennas. Appendix. References. Problems. Index.

Note: A mathematical exposition designed for use by senior undergraduates and first-year graduate students. In the first 11 chapters, electromagnetic field theory is developed as a logical system capable of complete expression in the terms of mathematics. In the four final chapters, applications of the theory of waveguides and antennas are illustrated. The student or reader will need prior knowledge of elementary calculus. The book is self-contained for higher mathematics such as vector algebra.

SEARS, FRANCIS WESTON

Electricity and magnetism. Reading, Mass Addison Wesley Publishing Company, Inc., 1946 434, 14 p illus 23 cm $8 50 986

Contents Coulomb's law The electric field. Potential. Current, resistance, resistivity D C. circuits. Chemical and thermal EMF's. Properties of dielectrics. Capacitance and capacitors. The magnetic field. Galvanometers, ammeters, and volt meters—the D C. motor Magnetic field of current and of a moving charge. Induced electromotive force. Inductance. Magnetic properties of matter. Ferromagnetism. Alternating currents. Electrical oscillations and electromagnetic waves. Electronics. Suggested books for collateral reading. Index.

Note Originally published as part of the author's three-volume *Principles of physics*, this book provides a more mature exposition of electricity and magnetism than is common in introductory college texts. The level of treatment assumes that the readers will have grasp of elementary calculus and will have acquired considerable familiarity with physical terminology Rationalized mks units are used. The relatively advanced level notwithstanding, the expository text is carefully written and most points are discussed fully There are more than 300 illustrations.

SILSBEE, FRANCIS B

Extension and dissemination of the electrical and magnetic units by the National Bureau of Standards Washington, D C. Government Printing Office, 1952 33 p illus 26 cm. (United States National Bureau of Standards Circular 531) $0 25 987

Contents Introduction. Fundamentals. Derivation of other units. Transfer from d-c to a-c measurements. Extension of measurement ranges The resistance scale. The scale of direct voltage. The scale of direct current. The scale of alternating current. The scale of alternating voltage. Measurement of crest and surge voltage. Dissemination of units. International relations. Bibliography

Note. This circular gives an over-all picture of the sequence of measuring processes by which self-consistent system of electrical units is built up in the laboratories of the National Bureau of Standards. Starting with the ohm and the volt as maintained by groups of standard resistors and cells, the pamphlet describes the experimental processes by which the other electric and magnetic units, e.g., farad, henry ampere, watt, joule, gauss, and oersted, are derived. It also describes the series of steps by which the scales of measurement of resistance and voltage are derived experimentally Brief mention is made of the procedures for the dissemination of these standards of measurement throughout the world by the calibration of standard electrical measuring apparatus. An extensive bibliography lists papers describing the measurement procedures in greater detail and serves as a historical report of the work of the National Bureau of Standards in the field of electrical measurements during its first 50 years.

SMITH, ARTHUR WHITMORE

Electrical measurements in theory and application. Fourth edition New York Mc Graw Hill Book Company, Inc 1948 371 p illus. 23 cm. $6 00 988

Contents Introduction General principles. Ammeter and voltmeter methods. Ballistic-galvanometer and condenser methods. The current galvanometer The Wheatstone bridge. Potentiometer and standard-cell methods Measurement of current. Measurement of power. Electron tubes. The magnetic circuit. Measurement of magnetic flux and Mmf Magnetic tests of iron and steel. Alternating currents. Measurement of capacitance. Inductance. Measurement of inductance. Calibration of alternating-current instruments. Index

Note. A standard manual of fundamental methods and instruments. It is designed for use in connection with college courses, but the relatively full discussions of principles make it suitable for self-instruction and reference use also. The treatment assumes that readers will be familiar with elementary college physics and mathematics. In comparison to the third edition (1934) this edition exhibits many small changes, most of which expand or clarify the exposition. The type has been reset.

SMYTHE, WILLIAM RALPH

Static and dynamic electricity Second edition New York McGraw Hill Book Company, Inc., 1950 616 p illus 24 cm. (International series in pure and applied physics G P Harnwell, consulting editor) $10.00. 988A

Contents Basic ideas of electrostatics. Capacitors, dielectrics, systems of conductors. General theorems. Two-dimensional potential distributions. Three-dimensional potential distributions. Electric current. Magnetic interaction of currents. Electromagnetic induction. Transient phenomena in networks. Alternating currents. Eddy currents. Magnetism. Plane electromagnetic waves. Electromagnetic radiation. Wave guides and cavity resonators. Special relativity and the motion of charged particles. Appendix. Index.

Note An outstanding graduate-level text designed for students who are preparing for careers in research in physical and industrial laboratories. In it the basic laws of electrostatics, magnetostatics, and electromagnetic theory are formulated from the underlying *experimental facts*. Mathematical techniques for applying these basic laws to specific problems are emphasized. Much of the exposition is in the form of specific problems worked out in the text. Several hundred additional problems for the student to work are included. The first edition was published in 1939 This edition represents very extensive revision. Nomenclature has been revised and rationalized mks units have been adopted throughout. The treatment of electromagnetic waves has been expanded so as to reflect the increased interest in the microwave range. The chapter on wave guides and cavity resonators is new

STRATTON, JULIUS ADAMS

Electromagnetic theory New York Mc Graw Hill Book Company, Inc. 1941 615 p. illus. 23 cm. (International series in physics L. A. DuBridge, consulting editor) $10 00 989

Contents The field equations. Stress and energy The electrostatic field. The magnetostatic field. Plane waves in unbounded, isotropic media. Cylindrical waves. Spherical waves. Radiation. Boundary-value problems.

Note Postulating Maxwell's equations from the outset, the author of this advanced text and reference book emphasizes *dynamic* rather than static field theory A mathematical formulation is followed by comprehensive investigation of energy and stress relations. The properties of static fields are then discussed, and the *rest of the book is devoted to the propagation of plane, cylindrical,* and spherical waves, the theory of radiation and boundary-value problems.

SYMPOSIUM ON THE THEORY OF ELECTROMAGNETIC WAVES

The theory of electromagnetic waves A symposium held under the auspices of the Washington Square College of Arts and Science and the Institute for Mathematics and Mechanics of New York University and the Geophysical Research Directorate of the Air Force Cambridge Research Laboratories, June 6–8 1950 New York Interscience Publishers Inc. 1951 393 p 26 cm $7 50 990

Contents On the theory of electromagnetic wave diffraction by an aperture in an infinite plane conducting screen by H. Levine and J Schwinger On systems of linear equations in the theory of guided waves, by W Magnus and F Oberhettinger Wiener-Hopf techniques and mixed boundary value problems, by S. N Karp. Asymptotic solutions of differential equation in the theory of microwave propagation, by R. E. Langer Criteria for discrete spectra, by K. O. Friedrichs. Extension of Weyl's integral for harmonic spherical waves to arbitrary wave shapes, by H. Perlsky Kirchhoff's formula, its vector analogue, and other field equivalence theorems, by S. A. Schelkunoff. On the diffraction theory of Gaussian optics, by H. Bremmer Diffraction and reflection of pulses by wedges and corners, by J B Keller and A. Blank. Vector wave functions, by R. D Spence and C. P Wells. The W K.B. approximation as the first term of a geometric-optical series, by H. Bremmer Remarks concerning wave propagation in stratified media, by S. A. Schelkunoff The theory of magneto ionic triple splitting, by O E. H. Rydbeck. An asymptotic solution of Maxwell's equations, by M. Kline. Field representations in spherically stratified regions,

by [illegible]. Propagation in [illegible] atmosphere, by R. [illegible]. Reflection of electromagnetic waves from slightly rough surfaces, by S. O. Rice. The theory of scattering of radio waves in the troposphere and ionosphere (abstract), by H. G. Booker. Properties of guided waves (abstract) by R. R. [illegible]. Evaluation of integrals associated with wave motion in dispersive media and the formation of transients (abstract) by M. Carrier. Electromagnetic research in the U. S. Air Force Research Program, by N. C. Gerson.

Note: A collection of original papers which reflects the current mathematical approaches to theoretical problems in electromagnetic wave research. Although predominantly theoretical, many of the papers have clear applications in the design of radio antennas and other problems which require communications engineers.

WHITMER, ROBERT MOREHOUSE

Electromagnetics. New York Prentice-Hall, Inc., 1952 3?0 p. 22 cm. (Prentice-Hall physics series Donald H. Menzel, editor) $6.00. 990A

Contents: Charges, field, and potential. Reference among [illegible] equations. Capacitance. Dielectric materials. Electrostatic problems. Direct currents. Magnetic fields. Induced emf and inductance. Magnetic materials. Alternating currents. General field equations and the wave equation. Plane electromagnetic waves. Guided waves. The Hertzian vectors and circular waveguides. Appendix. References. Index.

Note: A textbook for upperclass college students [illegible] in either physics or electrical engineering. The author has assumed that the students will have had or be pursuing courses in general circuit theory and in vector analysis. The various topics treated in the chapter titles are treated usually from the field-theory point of view. Comparisons are drawn between electrostatic and magnetic concepts and equations, and the reader is introduced to the pertinent mathematics. Terms such as "conducting material" are defined more precisely than [illegible] customary in introductory courses.

WINCH, RALPH P

Electricity and magnetism. New York Prentice-Hall, Inc., 1955 ?55 p. illus. 23 cm. $8.00. 991

Contents: Electrical structure of matter. Introduction to the mks system of electrical units. Steady direct-current circuit problems. Introduction to magnetic flux and induced emf. Some of the properties of [illegible] capacitor in [illegible] circuit element. Some properties of an inductor in [illegible] circuit element. Vector method for solving ac circuit problems. Solution of sinusoidal ac circuit problems by the use of complex numbers. The electrostatic field. Electric potential. Properties of dielectrics. More about capacitance and capacitors. Magnetic force on moving charges. Magnetic fields in free space due to currents. More about induced emf's. Magnetic properties of materials. Ferromagnetic materials. The single-phase transformer. Oscillating circuits and Maxwell's theory. Appendices. Index.

Note: A textbook designed for use in intermediate undergraduate college courses offered to students who have completed courses in basic physics and elementary calculus. Mathematical expressions are freely used, but they are buttressed by [illegible] verbal text in which the explanation is chiefly in terms of physical concepts. Vector analysis [illegible] developed in the book, and some elementary vector methods are employed in computations. Rationalized mks units are used throughout the text. Conversion factors for converting into other systems are furnished in one of the appendices. The author [illegible] member of the faculty at Williams College.

ELECTRONICS

ADVANCES IN ELECTRONICS AND ELECTRON PHYSICS. Edited by L. Marton. Volume VII. New York Academic Press Inc., 1955 527 p. illus. 23 cm. $11.50. 992

Contents: The physics of semiconductor materials, by [illegible] and P. H. [illegible]. Theory of the electrical properties of germanium and silicon, by H. Brooks. Characteristic energy losses of electrons in solids, by L. Marton and others. Synchrotron by [illegible] [illegible], by G. K. Walters. Observational radio astronomy by J. P. Wild. Analog computers, by A. W. [illegible] and others. Electrical discharges in gases and modern electronics, by L. Goldstein. Author index. Subject index.

—— Volume VIII. New York Academic Press, Inc., 1956 562 p. illus. 23 cm. $13.00 993

Contents: Some new applications and techniques of molecular beams, by J. G. King and J. R. Zacharias. Field emission, by W. P. Dyke and W. W. Dolan. Mass spectroscopy by L. Kerwin. Amplitude and time measurement in nuclear physics, by C. [illegible]. Pulse amplitude analysis, by J. L. W. Churchill and [illegible] [illegible] [illegible]. Electron guns and focusing for high-density electron beams, by C. Susskind. On the electrical life of an oxide-cathode receiving tube by G. H. Metson. Traveling wave tubes, by M. Kuhn and [illegible]. Magnetron trends [illegible], by L. C. [illegible]. Author index. Subject index.

Note: Previously published volumes in this series appeared under the title Advances in electronics. The modified title indicates no change in editorial policy, but is an attempt to indicate that the series covers [illegible] the field than is designated by electronics [illegible] its connotation of applied science. Volumes VII and VIII continue the monographic reviews [illegible] some authors and titles are listed above. Each of the monographs is [illegible] critical survey of recent literature pertaining to its specific topic and contains an extensive list of [illegible] source articles. The series is addressed to graduate students and engineers who [illegible] to keep abreast of advances in theoretical and applied electronics in areas outside their immediate specialties. Earlier volumes in the series are still in print.

ALBERT ARTHUR LEMUEL

Electronics and electron devices. Third edition of *Fundamental electronics and vacuum tubes*. New York The Macmillan Company, 1956 587 p. illus 24 cm. $8.00 994

Contents: Basic electron theory. Emission of electrons. Two-electrode electron tubes. Three-electrode [illegible] electron tubes. [illegible] electrode electron tubes. Electron-tube rectifiers. Vacuum-tube amplifiers. Vacuum-tube power amplifiers. Vacuum-tube oscillators. Semiconductor devices. Transistor amplifiers and oscillators. Modulation. Demodulation. Wave-shaping and control circuits. Magnetic amplifiers. Photoelectric devices. Cathode-ray tubes. Index.

Note: An established college text now published under a different title from that used on the first edition, 1938, and the second edition, 1947. It is designed for use as [illegible] first book in electronics after the student has mastered the basic ideas of physics including electricity. Most of the explanation is in narrative form, and no very advanced mathematics is used. Also, most of the chapters contain good lists of references. In comparison to the second edition this third edition includes considerable new material. The transistor is an obvious addition. The chapter on magnetic amplifiers and the one on wave-shaping and control circuits are new, and important revisions have been made in other chapters. The author [illegible] Professor of Communication Engineering in Oregon State College.

BACHMAN CHARLES HERBERT

Techniques in experimental electronics. New York John Wiley & Sons, Inc., 1948 252 p. illus. 22 cm. $5.50. 995

Contents: Vacuum systems generalized. Pumps. Traps and baffles. Vacuum gauges. Valves and controlled leaks. Demountable joints. Controls and gadgets. Glass-blowing fundamentals. Vacuum system techniques. Leak detection. Metal versus glass vacuum systems. Sources of charged particles. Control of charged particles. The collection of charged particles. Assembly and processing of electronic devices. Miscellaneous hints and techniques. Index.

Note: A concise but very useful book for physicists, advanced students, and even amateurs [illegible] who are doing experimental work in electronics. Chiefly it is concerned [illegible] the construction of laboratory apparatus. Much expert "know-how" is included on such problems as degassing, glass-to-metal seals, etc. Lists of reference are appended to the chapters, and some suppliers of materials are mentioned as footnotes. The author was formerly on the staff of the General Electric Company and is now [illegible] member of the faculty of Syracuse University.

BLY MERWYN CLOXTON

A guide to cathode ray patterns. New York. John Wiley & Sons, Inc., 1943 39 p. illus. ?5 cm. $2.50. 996

SEARS, FRANCIS WESTON

Electricity and magnetism Reading, Mass. Addison Wesley Publishing Company, Inc, 1946 434, 14 p illus 23 cm. $8 50 986

Contents Coulomb's law The electric field. Potential. Current, resistance, resistivity D C. circuits. Chemical and thermal EMF's. Properties of dielectrics. *Capacitance and capacitors.* The magnetic field. Galvanometers, ammeters, and volt meters—the D C. motor Magnetic field of a current and of a moving charge. Induced electromotive force. Inductance. Magnetic properties of matter Ferromagnetism. Alternating currents. Electrical oscillations and electromagnetic waves. Electronics. Suggested books for collateral reading. Index.

Note Originally published as part of the author's three-volume *Principles of physics* this book provides more mature exposition of electricity and magnetism than is common in introductory college texts. The level of treatment assumes that the readers will have grasp of elementary calculus and will have acquired considerable familiarity with physical terminology Rationalized mks units are used. The relatively advanced level notwithstanding, the expository text is carefully written and most points are discussed fully There are more than 300 illustrations.

SILSBEE, FRANCIS B

Extension and dissemination of the electrical and magnetic units by the National Bureau of Standards Washington, D C Government Printing Office 1952 33 p illus 26 cm. (United States National Bureau of Standards Circular 531) $0 25 987

Contents Introduction. Fundamentals. Derivation of other units. Transfer from d-c to a-c measurements. Extension of measurement ranges. The resistance scale. The scale of direct voltage. The scale of direct current. Th scale of alternating current. The scale of alternating voltage. Measurement of crest and surge voltage. Dissemination f units. International relations. Bibliography

Note This circular gives an over-all picture of the sequence of measuring processes by which a self-consistent system of electrical units is built up in the laboratories of the National Bureau of Standards. Starting with the ohm and the volt as maintained by groups of standard resistors and cells, the pamphlet describes the experimental processes by which the other electric and magnetic units, e.g., farad, henry ampere, watt, joule, gauss, and oersted, are derived. It also describes the series of steps by which the scales of measurement of resistance and voltage are derived experimentally Brief mention is made of the procedures for the dissemination of these standards of measurement throughout the world by the calibration of standard electrical measuring apparatus. An extensive bibliography lists papers describing the measurement procedures in greater detail and serves as a historical report of the work of the National Bureau of Standards in the field of electrical measurements during its first 50 years.

SMITH, ARTHUR WHITMORE

Electrical measurements in theory and application Fourth edition. New York Mc Graw Hill Book Company, Inc., 1948 371 p illus. 23 cm. $6 00 988

Contents Introduction General principles. Ammeter and voltmeter methods. Ballistic-galvanometer and condenser methods. The current galvanometer The Wheatstone bridge. Potentiometer and standard-cell methods Measurement of current. Measurement of power Electron tubes. The magnetic circuit. Measurement of magnetic flux and Mmf Magnetic tests of iron and steel. Alternating currents. Measurement of capacitance. Inductance. Measurement of inductance. Calibration f alternating-current instruments. Index

Note. A standard manual of fundamental methods and instruments. It is designed for use in connection with college courses, but the relatively full discussions of principles mak it suitable for self instruction and reference use also. The treatment assumes that readers will be familiar with elementary college physics and mathematics. *In comparison to the third edition* (1934) this edition exhibits many small changes, most of which expand or clarify the exposition. The type has been reset.

SMYTHE, WILLIAM RALPH

Static and dynamic electricity Second edition. New York McGraw Hill Book Company, Inc., 1950 616 p illus. 24 cm. (International series in pure and applied physics G P Harnwell, consulting editor) $10.00 988A

Contents Basic ideas of electrostatics. Capacitors, dielectrics, systems of conductors. General theorems. Two-dimensional potential distributions. Three-dimensional potential distributions. Electric current. Magnetic interaction f currents. Electromagnetic induction. Transient phenomena in networks. Alternating currents. Eddy currents. Magnetism. Plane electromagnetic waves. Electromagnetic radiation. Wave guides and cavity resonators. Special relativity and the motion of charged particles. Appendix. Index.

Note An outstanding graduate-level text designed for students who are preparing for careers in research in physical and industrial laboratories. In it the basic laws of electrostatics, magnetostatics, and electromagnetic theory are formulated from the underlying experimental facts. Mathematical techniques for applying these basic laws to specific problems the emphasized. Much of the exposition is in the form of specific problems worked out in the text. Several hundred additional problems for the student to work are included. The first edition was published in 1939 This edition represents very extensive revision. Nomenclature has been revised and rationalized mks units have been adopted throughout. The treatment of electromagnetic waves has been expanded so as to reflect the increased interest in the microwave range. The chapter on wave guides and cavity resonators is new

STRATTON, JULIUS ADAMS

Electromagnetic theory New York Mc Graw Hill Book Company, Inc. 1941 615 p. illus 23 cm (International series in physics, L. A. DuBridge, consulting editor) $10 00. 989

Contents The field equations. Stress and energy The electrostatic field. The magnetostatic field. Plane waves in unbounded, isotropic media. Cylindrical waves. Spherical waves. Radiation. Boundary-value problems.

Note. Postulating Maxwell's equations from the outset, the author of this advanced text and reference book emphasizes dynamic rather than static field theory A mathematical formulation is followed by comprehensive investigation of energy and stress relations. The properties f static fields are then discussed, and the rest of the book is devoted to the propagation of plane, cylindrical, and spherical waves, the theory of radiation, and boundary-value problems.

SYMPOSIUM ON THE THEORY OF ELECTROMAGNETIC WAVES

The theory of electromagnetic waves. A symposium held under the auspices of the Washington Square College of Arts and Science and the Institute for Mathematics and Mechanics of New York University and the Geophysical Research Directorate of the Air Force Cambridge Research Laboratories, June 6–8, 1950 New York Interscience Publishers, Inc. 1951 393 p 26 cm $7 50. 990

Contents On the theory of electromagnetic wav diffraction by an aperture in an infinite plane conducting screen, by H. Levine and J Schwinger On systems of linear equations in the theory of guided waves, by W Magnus and F Oberhettinger Wiener Hopf techniques and mixed boundary value problems, by S. N Karp. Asymptotic solutions f differential equation in the theory of microwave propagation, by R. E. Langer Criteria for discrete spectra, by K. O. Friedrichs. Extension of Weyl's integral for harmonic spherical waves to arbitrary wav shapes, by H. Poritsky Kirchhoff's formula, its vector analogue, and other field equivalence theorems, by S. A Schelkunoff. On the diffraction theory of Gaussian optics, by H. Bremmer Diffraction and reflection f pulses by wedges and corners, by J B Keller and A. Blank. Vector wave functions, by R. D Spence and C. P W lls. The W.K.B. approximation as the first term of geometric-optical series, by H. Bremmer Remarks concerning wa e propagation in stratified media, by S. A. Schelkunoff. The theory of magneto ionic triple splitting, by O. E. H. Rydbeck. An asymptotic solution of Maxwell' equations, by M. Kline. Field representations in spherically stratified regions.

fice, 1954 416 p. illus. 24 cm. (United States. National Bureau of Standards. Circular 527) $2.75 1002

Contents: Introductory remarks, by L. Marton. Diffusion of electrons in infinite media, by C. H. Blanchard. Scattering of electrons by nuclei, by H. Feshbach. Low electron-energy losses in solids, by G. G. Engel. Summary calculations of multiple scattering, by W. T. Scott. On the general theory of multiple scattering, particularly of charged particles, by M. C. Wang and E. Guth. Multiple scattering of electrons and positrons in a gas, by G. Groetzinger. Scattering of electrons (experimental), by W. Bothe. Back-scattering of positrons and electrons, by H. H. Seliger. Range of electrons in the energy interval 0.1 to 1.1 Mev, by J. Fleeman. Measurements of electron scattering with the electron microscope, by C. E. Hall. Experimental study of limits imposed by plural scattering in electron-diffraction studies, by S. G. Ellis. Electron diffraction and average vibrational motion of gas molecules, by J. Karle. Fundamental problems of theoretical electron optics, by W. Glaser. Über den Bildentstehung im Elektronenmikroskop, von H. Boersch. On a phase-contrast theory of electron-optical image formation, by H. Bremmer. Theoretical study of quality of images, by A. Maréchal. Lentilles électroniques, par P. Grivet. A property of the paraxial ray equation and some consequences, by P. A. Clarke. Étude théorique de la lentille formée de trois cylindres coaxiaux de même diamètre à l'aide d'une représentation approchée du potentiel axial, par P. Grivet et M. Bernard. Étude théorique des lentilles à grille à l'aide d'une représentation approchée du potentiel, par M. Bernard. Note sur la théorie de la lentille électrostatique à électrode centrale elliptique, par E. Regenstreif. Note sur la théorie de la lentille électrostatique elliptique fonctionnant en régime transgaussien, par E. Regenstreif. Progress in microscopy by reconstructed wavefronts, by D. Gabor. Problems in the realization of diffraction microscopy with electrons, by M. E. Haine and T. Mulvey. On the theory of the magnetron, by L. Brillouin. On the theory of the magnetron, by D. Gabor and G. D. Sims. A point X-ray focus for shadow microscopy, by V. E. Cosslett and W. C. Nixon. X-ray shadow microscope, by L. Marton. Marton Schlieren method and weak lenses, by F. Bertein. Achievement of accuracy in electron-optical shadowgraphs of electromagnetic fields, by J. A. Simpson. Interpretation of electron-optical shadowgraphs, by R. H. Lauchenbruch. Characteristics of symmetrical magnetic electron lenses, by G. Liebmann. Present trends in electron microscopy, by V. E. Cosslett. Microanalysis by means of an electron-probe principle and corrections, by R. Castaing. Applications of the electron probe microanalyzer, by R. Castaing. Ions in cathode ray tubes, by C. H. Bachman. High-voltage electron guns, by M. E. Haine and P. A. Einstein. Electron-lens safety systems, by M. Knoll. Direct view storage tube, by M. Knoll and F. Rudnick. Point projection microscopes, by E. W. Müller. On the breakdown between metal electrodes in a dynamic vacuum, by F. Bertein and P. Grivet. Some studies of the contamination induced by electron bombardment in kinematic vacuum systems, by S. G. Ellis. Controlling of electron beam by means of a rotating electric field and its application, by K. Owaki. Experiments with adjustable magnetostatic electron lenses, by E. Ruska. Magnetic lenses of extremely short focal length (abstract), by J. B. LePoole and A. C. van Dorsten. Correction of field measurements in electron lenses, by A. Bruner. New interference phenomena in the electron microscopic images of plate-like crystals, by J. Hillier.

Note: This volume reproduces papers presented in 1951 at the Symposium on Electron Physics. Literature references are included in some of the papers, and pertinent discussion is printed as part of the proceedings. Electron physics for the purpose of the Symposium on Electron Physics was interpreted to mean the physics of the free electron, in distinction to physical electronics, which is a study of the bound electron. For many years work had been conducted at the National Bureau of Standards on the different phases of the physics of the free electron. The symposium was arranged around two topics in which Bureau activities had been carried out: namely, electron scattering and electron optics. A new trend in electron physics was indicated in the contributions in that a large percentage of the papers in electron optics were concerned with electron-wave optics.

Note A sketch-and-caption summary of cathode ray pattern types encountered in the usual course of laboratory and test bench work. The material is intended for use by radio and sound technicians and engineers. The book provides a quick and convenient guide containing over 100 charts of common occurrence with which the operator should be familiar The patterns produced for this book were developed with conventional amplifiers and oscillators and viewed on a small *oscilloscope*, using a standard circuit. A section on simple graphic analysis is included. Among the drawings are some of "perfect half-sine waves of various amplitudes for quick checking f wave shape purity Numerous circles with dotted axes are provided for the convenience of the technician who wishes to draw reference images from his own experience.

CORCORAN, GEORGE F, AND HENRY W PRICE

Electronics New York John Wiley and Sons, Inc., 1954 459 p illus 24 cm. $7 00 997

Contents Introduction. Mobile charges. The vacuum diode. Triodes and pentodes. Linear operation—class A. Non-linear operation—class A and class B Feedback circuits. Gas-filled tubes and associated circuits. Germanium diodes and transistors. Oscillators. Index.

Note A text developed in courses taught by the authors at the United States Naval Ordnance Laboratory and the University of Maryland. The style is compact, and the exposition is preponderantly mathematical. The basic physics of electron tube and transistors are covered, along with the features and characteristics of typical circuits in which tubes or transistors are essential elements. More space has been given to the transistor than is usual in general introductory texts. The transistor sections especially have potential value for engineers who were graduated before the transistor assumed its present importance and who now find themselves in need of an engineer's introduction to this new development.

HARMAN, WILLIS W

Fundamentals of electronic motion. New York McGraw Hill Book Company, Inc., 1953 319 p illus 23 cm (McGraw Hill electrical and electronic engineering series, Frederick Emmons Terman, consulting editor) $8 00 998

Contents Fields and electrons. Motion in a static electric field. Electron properties and sources. Motion in a magnetic field. Negative and positive space charge. Motion in time-varying fields. Space-charge waves and velocity modulation. Traveling-wave amplification Traveling-wave magnetron amplifiers and oscillators. Relativistic electrodynamics. Appendixes. Index.

Note In this work, electron tube phenomena, or the motions of free electrons individually and collectively in electronic devices, are used as the framework for presenting the philosophy and some f the more important techniques of solving engineering problems by mathematical analysis. In fact, the book can be viewed as an introduction to applied mathematical analysis. However the framework and the envelope at so thoroughly interwoven that it is of interest chiefly to readers whose education or experience lies in electronics. The treatment is on first year graduate level. The uthor is Associate Professor of Electrical Engineering in Stanford University

LOEB, LEONARD [illegible]

Basic processes of gaseous electronics Berkeley University of California Press, 1955 1 012 p illus 24 cm $13 50 999

Contents. Ionic mobilities. The diffusion of carriers in gases. The velocities of electrons in gases. The distribution of energy of electrons in field in gas. The formation of negative ions. The recombination of ions. Electrical conduction in gases below ionization by collision. Ionization by collision of electrons [illegible] gas—Townsend's first coefficient. The second Townsend coefficient. Appendixes Notes covering recent advances. Standard reference data. Index to authors. Index to subjects.

Note Essentially a reference book characterized by broad scope and wealth of detail. It integrates and interprets the results reported in hundreds of publications. The source articles are cited, and the names of the authors are brought together in a nine-page index to authors, thus making the book useful as a guide to the literature. Many data of reference value are presented in the form of graphs and tables. Some of the author's interpretations of research results are controversial, a fact that he himself acknowledges in such passages as the following: In the preceding paragraphs, certain positive and dogmatic statements have been made. This applies especially to the eradication of ionization by positive ions in a gas as an active mechanism in common discharges. It is doubtful if all discharge physicists will accept these statements. The book is a successor to the author's *Fundamental processes of electrical discharge in gases* 1939 rather than a revised edition of it.

MARTON, L , AND OTHERS

Electron physics tables By L. Marton, C. Marton, and W G Hall Washington, D C. Government Printing Office, 1956 83 p 26 cm. (United States. National Bureau of Standards Circular 571) $0 50 1000

Contents. Introduction. Electron physics tables.

Note. These tables were prepared to replace *Miscellaneous physical tables*, part II, *Electronic functions*. (Mathematical Tables 17) issued by the National Bureau of Standards in 1941 In preparing the new tables, the compilers adopted such quantities for tabulation as were suited to changed requirements in physics and in engineering. Eight parameters were calculated on the Standards Electronic Automatic Computer (SEAC) and tabulated with an eight-digit accuracy In order to facilitate interpolation each of the quantities was treated as an independent variable at selected intervals, and the values of the other quantities were determined from it.

NOTTINGHAM, WAYNE B

Bibliography on physical electronics. Prepared by Wayne B Nottingham and staff Cambridge, Mass. Research Laboratory of Electronics, Massachusetts Institute of Technology, 1954 428 p 24 cm

Available from Addison Wesley Publishing Company Reading, Mass , $10 00 1001

Contents (abridged) General electronics Theory Fundamental components and phenomena. Gas discharges. Electron emission and surface phenomena. Contact potential. Field emission. Photoelectric emission. Secondary emission. Space charge and electron flow Surface adsorption. Thermionic emission. Thermally produced positive ions. Work-function Solid state and conduction Conductors. Hall effect. Insulators. Rectifiers. Semiconductors. Phosphors and luminescence Theory Fatigue quenching, decay Infrared sensitive phosphors. Some salts, oxides and minerals. Sulfides and halides. Photocells, photovoltaic effect, and photoconductivity Theory Metallic salts. Metals. Oxides and barrier layers. Techniques Amplifiers, power supplies, current measurement, etc. Electron diffraction and scattering. High vacuum. Miscellaneous.

Note. A classified bibliography of books and articles on electron physics or to use the compiler's own term, "physical electronics, which he defines as "that subject dealing principally with physical phenomena related closely to the free electron. Such areas of electronics as atomic and molecular spectroscopy are not included. Applications are covered only in the section on techniques and, in turn, this section is devoted almost entirely to applications which are of value in laboratory research. The original intent was to cover comprehensively the literature published 1930–1950, with the inclusion of selected basic articles published 1900–1929 However there are numerous citations of articles published after 1950 and some references to 1954 publications. Titles as well as authors' names are given, and titles in foreign languages have been translated into English. The reference value of the book is reduced considerably by the lack of uthor and subject indexes.

UNITED STATES NATIONAL BUREAU OF STANDARDS ELECTRON PHYSICS SECTION

Electron physics Proceedings of the NBS Semicentennial Symposium on Electron Physics held at the NBS on November 5–7 1951 Washington, D C. Government Printing Of

BLAIR, THOMAS ARTHUR

Climatology general and regional. New York Prentice-Hall, Inc., 1942 484 p. illus. 23 cm. (Prentice-Hall geography series consulting editor N. A. Bengtson) $6.95 1005

Contents: Part I. General climatology: Weather and climate. Temperature as a climatic element. Pressure, wind, and moisture as climatic elements. Climatic controls. Climatic variability. Climatic influences. The classification of climates. Part II. The climates of the world: General climatic features of North and Central America. The humid climates of Central America, southern Mexico, West Indies, southern Florida, and Hawaii. The dry climates of North America. Subtropical climates of the United States. Humid intermediate climates of North America. Polar and subpolar climates of North America. Climates of South America. Humid tropical and subtropical climates of the East Indies, the Philippines, and southern Asia. Dry climates of Eurasia. Humid climates of China, Japan, and Manchuria. Climate of the Mediterranean region. Humid intermediate, subpolar, and polar climates of Europe and Siberia. Tropical climates of Africa. Subtropical climates of Africa. Climates of Australia and New Zealand. Appendices: Bibliography temperature and rainfall tables. Index.

Note: This work covers the entire subject of climates, the agents which comprise them, the factors which influence them, and climatic effects and phenomena. Particular attention is given to the significance of plants as indicators of climatic types. Conditions of life and agricultural pursuits are emphasized.

BLAIR, THOMAS ARTHUR

Weather elements a text in elementary meteorology Third edition. New York Prentice-Hall, Inc., 1948. 373 p. illus. 23 cm. 1006

Contents: The atmosphere. Observing temperature, pressure, and wind. Observing moisture, evaporation, visibility and upper air conditions. Solar radiation and its effects. Condensation of water in the atmosphere. Interrelations of temperature, pressure, and wind. The general circulation. The secondary circulation. Air masses and fronts. Lesser disturbances. Weather analysis and forecasting. Aviation and the weather. Climate. World weather relations and climatic influences. Electrical and optical phenomena. The United States Weather Bureau. *Appendices:* Bibliography. Conversion factors and tables. Mean monthly and annual temperatures and precipitation (tables). Index.

Note: A clearly written introduction that is used both as textbook in college courses and as a self-instruction book. Although the exposition avoids the use of advanced physical and mathematical concepts, the reader is given a rather comprehensive and scientifically accurate view of meteorological phenomena. A fourth edition, revised, was published in 1957 [illegible] p., $6.75.

BYERS, HORACE R., editor

Thunderstorm electricity The research reported in this document has been made possible through support and sponsorship extended by the Geophysics Research Directorate of the Air Force Cambridge Research Center under Contract No. AF 19(122)–194 It is published for technical information only and does not necessarily represent recommendations or conclusions of the sponsoring agency Chicago The University of Chicago Press, 1953 344 p. illus. 25 cm. (The University of Chicago Committee on Publications in the Physical Sciences Walter Bartky and others) $7.00 1007

Contents: Introduction, by H. R. Byers. The atmospheric electric field and its meteorological causes, by H. Israël. Investigations of the potential gradient at the earth's ground surface and within the low atmosphere, by L. Koenigsfeld. Thunderstorm structure and dynamics, by H. R. Byers and R. R. Braham, Jr. Observational data on the formation of precipitation in cumulonimbus clouds, by H. Weickmann. Structure and electrification, by E. J. Workman and S. E. Reynolds. Experimental contributions to the knowledge of charge generation, by L. B. Loeb. Measurements of the electricity carried by precipitation particles, by R. Gunn. Thundercloud electrification in relation to rain and snow particles, by S. Chapman. Aircraft measurements of electric charge carried to ground through thunderstorms, by O. H. Gish. Charge distribution and electrical processes deduced from lightning measurements, by D. J. Malan and B. F. J. Schonland. Field changes due to lightning discharges, by E. T. Pierce and T. W. Wormell. Simultaneous measurements of sferics signals and thunderstorm activity by R. E. Bauer. Long-distance location of thunderstorms, by H. Norinder. Aircraft and lightning, by M. M. Newman. Power line protection, by E. L. Harder and J. M. Clayton.

Note: This book had its origin in research and a conference sponsored as noted in the subtitle. It contains the papers presented at the conference and several additional ones. Specialists in meteorology and related fields working in the United States of America and other countries authored the papers, and they addressed themselves to an audience possessing similar interests and backgrounds. In many of the papers recent experimental advances are described. Literature references are given for all. As the titles of the papers indicate, some of them deal with practical applications. The book is of interest to geophysicists, physicists, meteorologists, and to a lesser extent to engineers who are concerned with atmospheric lightning if only from the viewpoint of protecting power systems and structures against it. The volume lacks an index.

CARTER J H AND OTHERS

On atmospheric pollution a group of contributions. Boston The American Meteorological Society 1951 55 p. illus. 28 cm. American Meteorological Society Meteorological monographs Vol. 1 no. 4) $4.50 1008

Contents: Some aspects of the air pollution problem a panel discussion. Enforcement principles and standards, by J. H. Carter. Meteorology applied to air pollution abatement, by C. A. Gosline. Meteorological influences and their application to control of the source, by E. W. Hewson. Climatology and its part in pollution, by H. Landsberg. Diffusion of stack gases in very stable atmospheres, by M. L. Barad. The statistical theory of diffusion by turbulent eddies, by O. W. Beier. Instruments for air pollution measurement, by W. L. C. Hemeon. Meteorological factors in stack pollution from tall stacks, by F. H. Lowry. Ground-level measurements of oil-fog emitted from a hundred-meter chimney, by P. H. Lowry and others. Continuous profiles in the lower layers of the atmosphere, by H. F. Poppendiek. Air-trained studies of diffusion in urban areas, by H. Rouse. Analyzing winds for frequency and duration, by R. H. Sherlock. The forecasting of micrometeorological variables, by M. E. Smith.

Note: In this booklet various aspects of the problems of atmospheric pollution are discussed by meteorologists. Most of the papers describe the results of recent, original investigations. All but one of the papers were presented at a symposium on atmospheric pollution held during the 50th meeting of the American Meteorological Society at St. Louis in January 1950.

CLAYTON, H. HELM compiler

World weather records. Collected from official sources. Assembled and arranged for publication by H. Helm Clayton. Published under grant from John A. Roebling. (Publication 2913) Washington D C. Smithsonian Institution 1927 1199 p. 23 cm. (Smithsonian miscellaneous collections. Vol. 79 whole volume) $3.00 1009

Contents: Notes and explanations. Monthly and normal means of pressure and temperature and totals of rainfall. Appendix: Monthly and normal sun-spot numbers. Alphabetical index of stations and countries. Geographical index by 10° zones of latitude.

—— World weather records (continued from Volume 79) 1921–1930 Collected from official sources. Assembled and arranged for publication by H. Helm Clayton. Published under grant from John A. Roebling (Publication 3218) Washington, D C. Smithsonian

METEOROLOGY

METEOROLOGY AND *CLIMATOLOGY*

AMERICAN METEOROLOGICAL SOCIETY

Compendium of meteorology Prepared under the direction of the Committee on the Compendium of Meteorology H. G Houghton, chairman Edited by Thomas F Malone. Boston American Meteorological Society, 1951 1,334 p illus 29 cm. $12 00 1003

Contents Composition of the atmosphere The composition of the atmospheric air by E. Glueckauf. Radiation Solar radiant energy and its modification by the earth and its atmosphere, by S. Fritz. Long-wa radiation, by F Möller Actinometric measurements, by A. Angström. Meteorological optics. General meteorological optics, by H. Neuberger Polarization of daylight, by Z. Sekera. Visibility in meteorology by W E. K. Middleton. Atmospheric electricity· Universal aspects of atmospheric electricity by O. H. Gish. Ions in the atmosphere, by O. R. Wait and W D Parkinson. Precipitation electricity by R. Gunn. The lightning discharge by J H. Hagenguth. Instruments and methods for the measurement of atmospheric electricity by H. Israël. Radioactivity of the atmosphere by H. Israël. Cloud physics On the physics of louds and precipitation, by H. G Houghton. Nuclei of atmospheric condensation, by C. Junge. The physics f ice clouds and mixed clouds, by F H. Ludlam. Thermodynamics of clouds, by F Möller The formation of ice crystals, by U Nakaya. Snow and its relationship to experimental meteorology by V J Schaefer Relation f artificial cloud-modification to the production f precipitation, by R. D Coons and R. Gunn. The upper atmosphere General aspects of upper atmospheric physics, by S. K. Mitra. Photochemical processes in the upper atmosphere and resultant composition, by S. Chapman Ozone in the atmosphere, by F W P Götz. Radiative temperature changes in the ozone layer by R. A. Craig. Temperatures and pressures in the upper atmosphere, by H. E. Newell, Jr Water vapour in the upper air by G. M. B Dobson and A. W Brewer Diffusion in the upper atmosphere, by H. Lettau. The ionosphere, by S. L. Seaton Night-sky radiations from the upper atmosphere, by E. O. Hulburt. Aurorae and magnetic storms, by L. Harang. Meteors as probes of the upper atmosphere, by F L. Whipple. Sound propagation in the atmosphere, by B Gutenberg. Cosmical meteorology Solar energy variations as possible cause of anomalous weather changes, by R. A. Craig and H. C. Willett. The atmospheres of the other planets, by S. L. Hess and H. A. Panofsky Dynamics of the *atmosphere The perturbation equations in meteorology* by B. Haurwitz. The solution f nonlinear meteorological problems by the method of characteristics, by J C. Freeman. Hydrodynamic instability by J M. Van Mieghem. Stability properties of large-scale atmospheric disturbances, by R. Fjørtoft. The quantitative theory of cyclone development, by E. T Eady Dynamic forecasting by numerical process, by J G. Charney Energy equations, by J E. Miller Atmospheric turbulence and diffusion, by O. G. Sutton. Atmospheric tides and oscillations, by S. Chapman. Application of the thermodynamics of open systems t meteorology by J M Van Mieghem. *The general circulation The physical basis for the general* circulation, by V P Starr Observational studies of general circulation patterns, by J Namias and P F Clapp. Applications of en*ergy principles to the general circulation*, by V P Starr Mechanics of pressure systems Extratropical cyclones, by J Bjerknes. The aerology of extratropical disturbances, by E. Palmén. Anticyclones, by H. Wexler Mechanism of pressure change by J M. Austin. Large-scale vertical locity and divergence, by H. A. Panofsky The instability line by J R. Fulks. Local circulations Local winds, by F Defant. Tornadoes and related phenomena, by E. M. Brooks. Thunderstorms, by *H. R.* Byers. *Cumulus convection and entrainment*, by J M. Austin. Observations and analysis World weather network, by A. F Spilhaus. Models and techniques f synoptic *representation*, by J C. Bellamy Meteorological analysis in the middle latitudes, by V J Oliver and M. B. Oliver Weather forecasting *The forecast problem*, by *H. C.* Willett. Short-range weather forecasting, by *G. E.* Dunn. A procedure of short-range weather forecasting, by R. C. Bundgaard. Objective weather forecasting, by R. A. Allen and E. M. Vernon. General aspects of extended-range forecasting, by J Namias. Extended-range weather forecasting, by F Baur *Extended-range forecasting* by weather types, by R. D. Elliott. Verification of weather forecasts, by G. W Brier and R. A. Allen. Application of statistical methods to weather forecasting, by G. P Wadsworth. Tropical meteorology Tropical meteorology by C. E. Palmer Equatorial meteorology by A. Grimes. Tropical cyclones, by G. E. Dunn. Aerology of tropical storms, by H. Riehl. Polar meteorology· Antarctic atmospheric circulation, by A. Court. Arctic meteorology by H. D Dorsey Jr Some climatological problems of the arctic and sub-arctic, by F K. Hare. Climatology Climate—the synthesis of weather by C. S. Durst. Applied climatology by H. E. Landsberg and W C. Jacobs. Microclimatology by R. Geiger Geological and historical aspects of climatic change, by C. E. P Brooks. Climatic implications of glacier research, by R. *F* Flint. Tree-ring indices of rainfall, temperature and river flow by E. Schulman. Hydrometeorology: Hydrometeorology in the United States, by R. D Fletcher The hydrologic cycle and its relation *to meteorology—river forecasting*, by *R. K. Linsley Marine* meteorology: Large-scale aspects of energy transformation over the oceans, by W C. Jacobs. Evaporation from the oceans, by H. U Sverdrup. Forecasting ocean waves, by W H. Munk and R. S. Arthur Ocean waves as meteorological tool, by W H. Munk. Biological and chemical meteorology Aerobiology by W C. Jacobs. Physical aspects of human bioclimatology by K. J. K. Buettner. Some problems of atmospheric chemistry by H. Cauer Atmospheric pollution Atmospheric pollution, by E. W Hewson. Clouds fog, and aircraft icing· The classification of cloud forms, by W E. Howell. The use of clouds in forecasting, by C. F Brooks. Fog, by J J George. Physical and operational aspects of aircraft icing, by L. A. Rodert. Meteorological aspects of aircraft icing, by W Lewis. *Meteorological instruments. Instruments and techniques for meteoro*logical measurements, by M. Ference, Jr Aircraft meteorological instruments, by A. C. Bemis. Laboratory investigations Experimental analogies to atmospheric motions, by D Fultz. Model techniques in meteorological research, by H. Rouse. Experimental cloud formation, by Sir D Brunt. Radiometeorology· Radar storm observation, by M G H. Ligda. Theory and observation of radar storm detection, by R. Wexler Meteorological aspects of propagation problems, by H. G. Booker Sferics, by R. C. Waats. Microseisms Observations and theory f microseisms, by B Gutenberg. Practical application of microseisms to forecasting, by J B Macelwane. Index.

Note A comprehensive statement and survey of meteorological knowledge. The papers were written *especially* for it, and the authors, who are recognized specialists, were drawn from several nations including the U S. A. A typical paper contains about 16,000 words and is supplemented by long bibliography of the pertinent literature. The work is of interest to meteorologists and to physicists interested in such branches of meteorology as atmospheric electricity and the properties of the upper atmosphere.

BERRY, FREDERIC AROYCE, AND OTHERS, editors

Handbook of meteorology edited by F A Berry, Jr , E Bollay and Norman R. Beers. New York McGraw Hill Book Company, Inc., 1945 1 068 p. illus. 23 cm $13.50 1004

Contents Numerical and graphical data. *Meteorological* mathematics and calculations. Physics of atmospheric phenomena. Radiation. Meteorological thermodynamics and atmospheric statics. *Kinematics* and dynamics f fluid flow The scientific basis f modern meteorology Meteorological instruments. Transmission and plotting of meteorological data. *Synoptic meteorology and weather forecast*ing. Clouds and states f the sky *Climatology Hydrometeorology* Oceanography Index.

Note A reference book of fundamental theory and practical data, useful to students of meteorology and to professional meteorologists and weather forecasters. Meteorology is viewed as an applied science as well as branch of physics, and the kinds of material included are similar to the kinds included *in the standard handbooks of other* branches f engineering. Each section is the work of one or more experts, and adequate, w ll-selected bibliographies accompany most f the sections.

ment of isothermal emissivities. Nocturnal radiation measurements. Notes on radiative cooling of the free atmosphere. Appendix: A mechanical integrating device. Bibliography. Atmospheric radiation chart, second edition.

Note: This monograph is divided into three parts, the first dealing with the general theory of radiative heat transfer in the atmosphere without regard to the particular structure of the infrared spectrum. The second part analyzes this spectrum and shows the connection between its structural elements and the integral effects observed as radiative flow of heat. The last part deals with the direct measurement of radiative heat flow and the empirical relationships derived from such measurements. The bibliography contains 123 references to the world literature.

FLORA, SNOWDEN D

Tornadoes of the United States. Second edition. Norman University of Oklahoma Press, 1954 221 p illus 22 cm. $3.50 1017

Contents: When the tornado strikes. Causes and structure of tornadoes. The destructive force. Forecasts and warnings. When to expect tornadoes. How to escape death and protect property. Freaks of the storm. Some outstanding disasters. The tornado hazard by states. Other whirling storms. Tornadoes in other parts of the world. *Appendices:* Noteworthy tornadoes of the United States. Tornadoes that occurred in groups or series. Index.

Note: Written primarily for nonspecialists, this book describes the causes and nature of tornadoes, cites examples of their destructive force, describes some of the violent ones that have occurred in the United States of America and in other countries, and provides ... ... of tabulated data. Some remarkable pictures of storms and of their damage are included. The book ... primary purpose is to provide information on tornadoes to persons living in regions where these destructive storms occur with some frequency. Because of the wide range of information presented, especially on individual tornadoes, the book is useful also to professional meteorologists.

FUJITA, TETSUYA, AND OTHERS

Mesoanalysis an important scale in the analysis of weather data by Tetsuya Fujita, Herman Newstein, and Morris Tepper presented at the 136th National Meeting of the American Meteorological Society May 1955, at Washington, D. C. (The research reported on in this paper has been conducted jointly by the University of Chicago and the U S. Weather Bureau.) Washington, D C. Government Printing Office 1956 83 p. illus. (part col d) 26 cm. (United States. Weather Bureau. Research paper no 39) $0.50. 1018

Contents: Introduction. The severe local storms research unit network. Reduction of data and reduction to ... suitable datum. Pattern time sections. Construction of the mesomaps. The case of June 24–25, 1953. Additional mesomaps. Upper-air field. Significant findings. Appendix: Pattern time sections.

Note: This publication, like others in the same series, is intended for professional meteorologists. It presents the concepts of ... significant advance in local weather analysis and forecast, and is published as ... preliminary manual for mesoanalysis. The data used in the example analyses are reproduced in the form of station time sections, four to ... page, on the last 43 pages of the paper. The mesomaps, of which there are ten in color, show local weather conditions for the period June 4–25, 1953, in Kansas and also surrounding states. Observations from ... total of 193 stations were involved.

GARBELL, MAURICE ADOLPH

Tropical and equatorial meteorology New York Pitman Publishing Corporation, 1947 237 p. illus. 28 cm. $12.00. 1019

Contents: General circulation. Air masses in the tropics. The tropical sky. Subtropical anticyclonic cells. Temperate fronts. Polar outbreaks in the tropics. Tropical and intertropical fronts. Tropical cyclones. Violent tropical weather phenomena. Regional tropical weather: The American space. The Pacific space. The Asiatic and Indian Ocean space. The Eurafrican space. The Atlantic space. References and bibliography. Index.

Note: This work explains the causes that underlie tropical weather phenomena and shows how the customary meteorological concepts must be adapted when applied to them. The idea for the polar front, for example, is shown as inadequate when used indiscriminately to analyze equatorial weather because air masses in low latitudes do not have the sharp temperature differences typical of air masses in high latitudes. The second part analyzes the weather in the five principal land and sea areas lying within 30° north and south of the equator. The treatment is dynamic and synoptic rather than ... Numerous graphs, maps, and cloud photographs are used to supplement the text. The work is designed for use in advanced courses and also as ... self-instruction text for airline pilots, ship navigators, and other persons interested in the weather of the tropics.

HALPINE CHARLES GREHAM, AND HALTON HAGEN TAYLOR

A mariner's meteorology Princeton D Van Nostrand Company Inc. 1956 371 p. illus. 24 cm. $8.00 1020

Contents: Introduction. The atmosphere, its characteristics, composition, and structure. The elements of meteorology and their measurement. Cloud types and obstructions to vision. Variations of temperature and their effects. Circulation of air. Currents and winds. Air masses, fronts, and disturbances—their development and effects. Weather reports. Weather maps. Weather forecasts. Climatology. Oceanography. Weather at war. Glossary. Appendixes. Index.

Note: A step-by-step presentation of meteorological knowledge. As the title indicates, it is addressed primarily to mariners. It is not, however, restricted to persons whose vocations take them to sea but is addressed also to amateur sailors and yachtsmen. It describes weather phenomena as observed from the sea and adjacent coastlines, including, of course, many observations that can be made as well on land. Cloud types, weather maps and reports, and elementary meteorological instruments are described and pictured. The technical terminology of meteorology is freely used, but terms are carefully defined when first introduced. A series of weather maps is reproduced and discussed. The book is ... companion to the ... "... ... meteorology" described elsewhere in this volume.

HAURWITZ BERNHARD AND JAMES M AUSTIN

Climatology New York McGraw Hill Book Company Inc., 1944 410 p illus. 23 cm $5.00 1021

Contents: Preface. Introduction. Part A. General climatology: Solar radiation and terrestrial heat balance. Temperature. Wind and pressure. Hydrometeors. Air masses, fronts, cyclones, and anticyclones. Climatic zones and types. Description of climatic types. Microclimatology. Part B. Regional climatology: North and Central America. South America. Europe. Asia. Africa. Australia and New Zealand. Arctic and Antarctic. Oceanic regions. Index.

Note: This introductory text for students of meteorology is concerned with ... description of climates in all parts of the world, as produced by the combined action of such variables as temperature, pressure, wind, humidity and precipitation. Part A presents ... survey of each of these elements, their distribution over the globe, and the manner in which they affect climate. Part B gives ... detailed description of the climatic features of each continent and of the oceans. Seventeen maps of the world showing mean annual temperature range, mean sea level pressure, ocean currents, surface temperatures, precipitation, cloudiness, etc., are contained in a pocket at the end of the volume.

HAURWITZ, BERNHARD

Dynamic meteorology New York Mc Graw Hill Book Company Inc., 1941 365 p. illus. 23 cm. $7.50. 1022

Contents: The earth. The equation of state for dry and moist air. Atmospheric statics. Adiabatic changes of dry air. Condensation. Adiabatic changes of moist air. Further applications of thermodynamics to the atmosphere. Radiation. The equations of motion of the atmosphere. Simple atmospheric motions. Surfaces of discontinuity. Kinematical analysis of the pressure field. Atmospheric turbulence. Turbulent mass exchange. The energy of atmospheric motions. The general circulation of the atmosphere. The perturbation theory of atmospheric motions. Air masses, fronts, cyclones, and anticyclones. Appendix. Indexes.

Institution, 1944 616 p 23 cm. (Smithsonian miscellaneous collections Vol 90, whole volume) $1 50 1010

Contents. Contractions and symbols. Part I Pressure, temperature, and precipitation at selected stations, 1921 1930. Part II, Ocean and sea-level pressures Atmospheric pressures over the northern oceans and sea-level pressures at selected land stations, 1921–1930. Part III, Late reports and additional data not published in Volume 79 Part IV Errata in Volume 79 Appendix Sun spots and solar radiation, 1921 1930 Alphabetical index of stations and countries. Geographical index by zones of latitude.

—— World weather records 1931–1940 (continued from Volumes 79 and 90) Prepared in cooperation with the various official weather services and observations of the world Assembled and arranged for publication by H. Helm Clayton and Frances L Clayton Published under grant from John A Roebling (Publication 3803) Washington, D C Smithsonian Institution, 1947 646 p 23 cm (Smithsonian miscellaneous collections Vol 105, whole volume)$3 50 1011

Contents Editorial note. Abbreviations and symbols. Part I, Pressure, temperature, and precipitation at selected stations, 1931–1940 Notes. Data. Part II, Sea-level pressure at 10° intersections over Northern Hemisphere. Part III, Additional data. Appendixes Lake and river levels. Sunspot numbers. Alphabetical index of stations and countries. Geographical index by 10° zones of latitude.

Note These volumes provide a comprehensive and valuable record of fundamental weather data on a world-wide scale, for the period 1895–1910. Each volume tabulates the monthly means of pressure, temperature, and rainfall as recorded in all parts of the world for the years indicated. The data are arranged under the grand divisions of the earth, Africa, Asia, Australia, Europe, Indian Ocean, North America, North Atlantic, and South Pacific. Within each division the breakdown is by country and finally by station. The units of measurement used are those of the countries in which the observations were made.

CONRAD, VICTOR, AND L W POLLAK

Methods in climatology Second edition, revised and enlarged, including some methods in general geophysics. Cambridge, Mass. Harvard University Press, 1950 459 p illus 24 cm $7 50 1012

Contents (abridged) Part I, Methods in climatology: General remarks. Statistical analysis of climatic elements. Aids to computation. Some problems of curve fitting, and smoothing of numerical series. Harmonic analysis. Characteristics of some selected climatic elements. Spatial comparison of climatic elements. Essential elements of the climatography Part II, Computing devices; periodography· Computation with mechanical and electrical devices. Periodography· hidden periodicities. Test of significance. Determination of periods with the aid of autocorrelation. Appendixes. Index.

Note A valuable presentation in which are described climatological rather than geographical methods of examining observational data and constructing therefrom quantitative description of climate. It is designed to facilitate the step from qualitative to quantitative methods for college students of climatology and of related fields such as geography and agriculture. The methods described are based on mathematical and statistical analysis hence the readers need working knowledge of these disciplines. Part I was added in this edition, and there are other important revisions and augmentations.

CRAIG, RICHARD A

The observations and photochemistry of atmospheric ozone and their meteorological significance Boston The American Meteorological Society 1950 50 p illus 28 cm (American Meteorological Society Meteorological monographs. Vol I, no 2) $2 50 1013

Contents Introduction. Ozone observations. The photochemistry of atmospheric ozone. A discussion of the observed characteristics of atmospheric ozone. Summary and conclusions. References. Appendixes Observed total amounts and vertical distributions of ozone. Details of photochemical calculations.

Note A survey of the present state of knowledge of atmospheric ozone. The historical development of this knowledge and the reported results and observations are presented in a readable, well-organized form. The bibliography although not comprehensive is substantial.

DONN, WILLIAM L

Meteorology with marine applications. Second edition New York McGraw Hill Book Company, Inc, 1951 465 p illus 24 cm. $6 25 1014

Content (abridged) Heat and temperature of the air Humidity Atmospheric equilibrium. Condensation and precipitation. Clouds and thunderstorms. Atmospheric pressure. Winds—observation and theory Primary or terrestrial wind circulation. Weather analysis and interpretation. Optical features of the atmosphere. The oceans. Bibliography Appendixes Teletype sequence code. Tables of average weather summaries for principal ports and islands. Index.

Note A general introduction to meteorology and aimed specifically at mariners and others with practical interest in the weather at sea. It is well written and illustrated and, though semi-technical in style, it is not difficult to read. The most obvious change in the present edition is a complete revision of the chapter on weather coding and notation, to make it conform to the International Weather Code, which went into effect on January 1 1949

DOUGLASS, ANDREW ELLICOTT

Climatic cycles and tree growth. Volume III A study of cycles Washington, D C. The Carnegie Institution of Washington, 1936 171 p illus 25 cm. (Carnegie Institution of Washington. Publication no 289) $3 00 1015

Contents Introduction. Cyclogram analysis. The discontinuous period in cyclogram analysis. Analysis of solar records. Analysis of terrestrial records. Relation between terrestrial and solar records. The cycle problem and long-range forecasting. Appendix Studies f the cyclograph, by E. Schulman. Cycle summation curves. An automatic optical periodograph, by A. E. Douglass. Bibliography

Note. Although part of a three-volume publication on climatic cycles and tree growth, Volume III may be used independently of the first two, which are out of print. The present work is based on an analytical method developed by the author which involves the use of a new type of optical instrument known as the cyclograph. This instrument produces photographically a rectangular chart of sunspots or tree ring records with a general time scale placed horizontally progressing from left to right, and differential time scale in the vertical. From the viewpoint of climatology the investigation is a study of the geographical extension of certain climatic similarities, since by means of the cyclograph similarities not hitherto observed can be recognized. One hundred ninety-seven articles and monographs are listed in the bibliography

ELSASSER WALTER M

Heat transfer by infrared radiation in the atmosphere. With a copy of the atmospheric radiation chart, second edition Cambridge Mass Harvard University Press 1942 108 p. illus 25 cm (Harvard meteorological studies. No 6) $1 25 1016

Contents Principles of radiative transfer· Kirchhoff's law the equation f transfer Planck's law Transfer of monochromatic radiation. Transfer f non-monochromatic radiation. The general transfer problem. Atmospheric radiation chart. Structure and absorption of infrared bands Absorption of spectral lines. Absorption of band spectrum Pressure and temperature corrections. The water-vapor spectrum. Spectra f other atmospheric gases. Absorption of sunlight. The measurement of atmospheric radiation Instruments for atmospheric radiation measurements. Measure-

Note: "Continuing evaporation studies conducted by the Weather Bureau have been aimed primarily towards the development of improved methods for estimating annual lake evaporation from pan observations and related meteorological data normally collected in the established observational programs. Since the network of pan stations is quite sparse and the records are notably incomplete—usually seasonal in nature—the development of [illegible] universally applicable procedures for extrapolating and interpolating pan evaporation has also been [illegible] major objective. This paper presents the results of these studies, including examples of suggested methods of computing reservoir evaporation, given selected combinations of basic data. Much of the material presented can be considered as only preliminary—the basic approach to the subject is believed sound, but some of the empirical aspects are based on rather meager data.

KRICK, IRVING P., AND ROSCOE FLEMING

Sun, sea and sky weather in our world and in our lives. Philadelphia J B Lippincott Company 1954 248 p. illus. 22 cm. $3 95 1030

Contents: Rivers in the sky. Clouds ever changing. Forecast for yesterday today and tomorrow. Tools of the weatherman's trade. When the wind blows. The paradoxes of climate. Predictions public and private. Weather and war. Increasing the take. Fruits of cloud-making. In partnership with nature. Index.

Note: Discussion of comparatively recent developments in meteorology in general, and weather forecasting in particular, form the central core of this popularly written book, though it is essentially [illegible] of information. It touches upon such diverse topics for instance as the complexity of predicting the trajectory of long-distance missiles, [illegible] about the weather part in the defeat of Napoleon at Waterloo, the causes of London fogs, and the present scope of industrial meteorology. The book is competently written and easy to read.

LAIRD CHARLES AND RUTH LAIRD

Weathercasting. Englewood Cliffs, N J Prentice-Hall, Inc., 1955 163 p. illus. 24 cm. $3 95 1031

Contents: Introduction. Observing. Forecasting. Instruments. Index.

Note: An elementary book about the principles and techniques of weather forecasting. It is addressed to amateurs who make weather observations and attempt weather forecasts as a hobby. In supplying information that will aid the amateur in constructing instruments, taking observations, and making forecasts, the authors also convey much information about the interpretation of official weather maps and forecasts.

LEOPOLD L. B., AND OTHERS

On the rainfall of Hawaii a group of contributions. Boston The American Meteorological Society 1951 55 p illus. 28 cm. (American Meteorological Society Meteorological monographs. Volume 1, no 3) $2.50 1032

Contents: Foreword, by E. C. Auchter. Introduction. Hawaiian climate, its relation to human and plant geography, by L. B. Leopold. Statistical investigations into the climatology of rainfall on Oahu (T.H.) by H Landsberg. The geographic distribution of average monthly rainfall, Hawaii, by C. K. Stidd and L. B. Leopold. A study of rainfall over Oahu, by T. C. Yeh and others. On the relation between the circumpolar westerly current and rainfall over the Hawaiian Islands, by T. C. Yeh and others.

Note: Original papers written as part of [illegible] meteorology research program intended to explore "the feasibility of obtaining useful practical weather forecasts for Hawaii, particularly long-range forecasts," are printed in this booklet. The research program, sponsored by The Pineapple Research Institute of Hawaii and set up under the guidance of C. G. Rossby is an illustration of meteorological research applied to [illegible] particular region and designed to delineate the factors which are important in long-range weather forecasting for the region.

LONGSTRETH T MORRIS

Understanding the weather A revision of *Knowing the weather* New York The Macmillan Company 1953 118 p. illus. 21 cm. $2.50. 1033

Contents: Our layered atmosphere. The large-scale circulation. Close-up of an air parcel. Air mass, the weather cradle. Fronts. Cyclones and finally Anticyclone fair-weather friend. Wind. Temperature. Clouds, weather announcers. Fog. Rain (old style—(man-induced)) Snow. Thunderstorms. Hurricanes. Tornadoes. The weather map. Forecasting. Climate. The amateur and his tools. Bibliography. Technical terms used in this book. Some useful equivalents. What the weather can do. Index.

Note: Published originally in 1943 under the title *Knowing the weather* this book for amateur weathermen and general readers has been thoroughly rewritten. The style has been improved, and considerable material based on meteorological research during and subsequent to World War II has been included.

NAMIAS JEROME

Subsidence within the atmosphere. Cambridge Mass. Harvard University Press, 1934 61 p. illus. 24 cm. (Harvard meteorological studies. No 2) $0.85 1034

Contents: Introduction. General discussion of subsidence within the atmosphere. The effect of subsidence acting on the lapse rate. Factors in the development of subsidence inversions. Divergence and the subsidence dome. The conservation of potential temperature along the surface of subsidence. Observed variations in the specific humidity along the surface of subsidence. Illustrative synoptic material. Summary. References.

Note: A technical discussion of subsidence or sinking of layers of air in the atmosphere. The paper is divided into two major portions, the first of these being [illegible] discussion from the general standpoint in which diagrams are presented based on the aerological material which is covered synoptically in the second section of the report. The second section gives the salient features in connection with three situations, practically [illegible] the space being taken up [illegible] detailed analysis of the aerological material for these periods, with special emphasis upon the subsidence inversions which are observed. There are 13 references listed.

NAMIAS JEROME

Thirty-day forecasting a review of a ten-year experiment. With a foreword by Hurd C. Willett Boston The American Meteorological Society 1953 83 p. illus. 28 cm. (Meteorological monographs editor E. Wendell Hewson. Vol. 2 no. 6 July, 1953) $3.50. 1035

Contents: Introduction. Background for 30-day forecasts. The relationship of mean circulation patterns to weather and storm tracks. The nature of 30-day mean circulations. Evolution of 30-day mean circulations. Methods of forecasting the motion and development of planetary waves. Statistical auxiliaries. Verification of forecasts. References. Appendix: Mechanics and organization of the forecast routine.

Note: "This monograph is [illegible] summary of the results of research and operations in connection with [illegible] program designed to extend the time range of weather forecasts, beginning with [illegible] history of the project and [illegible] classification of circulations according to periods of evolution. After treating the background against which 30-day forecasts are produced—the normal atmospheric circulation and circulation frequency distributions—it is demonstrated that the 30-day mean circulations are closely related to the average weather characteristics of the month. Qualitative and objective methods of translating mean circulation patterns into temperature and precipitation are described. The research was carried out as [illegible] joint undertaking of the United States Weather Bureau, the U. S. Bureau of Agricultural Economics, and the Department of Meteorology of the Massachusetts Institute of Technology. This monograph is related to the author's *Methods of extended forecasting*, Washington, D. C., 1943, and *Extended forecasting by mean circulation methods*, Washington, D. C., 1947. It is addressed to professional meteorologists. A bibliography of 93 literature references is included.

Note The author presents concise treatment of the laws of thermodynamics and dynamics that operate in the atmosphere. He stresses those results of dynamic meteorology which are of importance to the practical forecaster A large number of bibliographic references are given in the text.

HAYNES, BENARTHUR CASTLE

Techniques of observing the weather New York John Wiley & Sons, Inc., 1947 272 p illus 21 cm $4 90 1023

Contents The atmosphere. The weather observatory Clouds. Visibility Hydrometeors. Temperature Humidity Wind. Pressure. Precipitation. Winds-aloft observations. Electronic meteorological observations. An *improvised weather station.* References. Bibliography Appendix. Index.

Note. There are few digressions into general meteorology in this practical book for the amateur weather observer The text is confined largely to explanations of established techniques of making observations and recording weather data. The observer is taught how to apply scientific method to a subjective activity which could easily invite ambiguity The information on instruments is rather general but adequate for most beginners. Some of the suggestions for improvisation of instruments are ingenious. There is an extensive bibliography and the illustrations are excellent.

HOLMBOE, JORGEN, AND OTHERS

Dynamic meteorology, by Jörgen Holmboe, George E Forsythe, and William Gustin. New York John Wiley & Sons Inc., 1945 378 p illus 22 cm $6 50 1024

Contents Dimensions and units. Thermodynamics of a perfect gas. Thermal properties of water substance and moist air Hydrostatic equilibrium. Stability f hydrostatic equilibrium. The equation of motion. Horizontal flow Wind variation along the vertical. Wind variation along the vertical in the surface layer Mechanism of pressure changes. Circulation and vorticity Theory of waves in zonal current. Index.

Note A basic textbook designed for use by students who are preparing for professional careers in meteorology The treatment is *largely mathematical and thus requires previous knowledge of calculus and college physics.* The first half of the volume is discussion f physical principles, particularly thermodynamics and hydrodynamics, which are the bases of dynamic meteorology Remaining chapters relate these principles to the study of atmospheric behavior There are no problems for the student to solve, and since th work is beginning one, only very few references are given. The senior author is associated with the Department of Meteorology University of California at Los Angeles.

HUMPHREYS, WILLIAM JACKSON

Ways of the weather a cultural survey of meteorology New York The Ronald Press 1942 400 p illus 25 cm (Humanizing science series) $4 00 1025

Contents. Weather perceptions. Weather measurements. The atmosphere origin and composition. Structure of the atmosphere. Distribution of temperature. Distribution of water vapor Distribution and changes of atmospheric pressure Wind. Precipitation. Atmospheric electricity Weather music Atmospheric optics. Climate, present and past. Weather control. What of it? Meteorological mileposts.

Note. A popular book for the reader who is seeking an intelligent layman's understanding of meteorology and its importance to man. Without recourse to mathematics it discusses the chief problems of weather and climate and dispels many popular fallacies.

JACOBS, WOODROW C

Wartime developments in applied climatology Boston The American Meteorological Society 1947 52 p illus (part col d) (Meteorological monographs editor E Wendell Hewson Vol 1 no 1, August, 1947) $1 00 1026

Contents Introduction. Types of weather problems in staff planning. Climatological techniques for military problems with reference to civilian application. Climatology for forecasters. The *accumulating, processing, and filing* of basic climatological data. Bases for a "synoptic" or "synchronous" climatology Problems associated with the presentation of climatic information. Conclusions. References.

Note Described in this publication are a number of military applications of climatology that were made by the United States of America during World War II. The applications include predictions of weather over military targets, estimating the probability of fresh-water supply from rainfall in particular Pacific areas at chosen parts of the year and the predicting of trajectories of free balloons released in Japan during specific months of the year Toward the end of the monograph, *the author makes a plea for* more application of climatologic knowledge and techniques in times of peace.

JOHNSON, JOHN C

Physical meteorology New York Published jointly by the Technology Press of the Massachusetts Institute of Technology and *John Wiley & Sons, Inc.,* 1954 393 p. illus. 24 cm $7.50 1027

Contents Atmospheric refraction. Scattering in the atmosphere. Theory of atmospheric visibility Radiation processes in the earth's atmosphere. Radiation studies and the heat budget of the earth. Refraction and diffraction by atmospheric suspensoids, atmospheric optics. The physical conditions attending the formation of cloud particles. Natural and artificially stimulated precipitation, icing of aircraft, and radar meteorology Atmospheric electricity The ionosphere and the exosphere. The temperature, density pressure and humidity of the upper atmosphere. Appendix. Index.

Note The subject of this book has been described by the author as follows. "Physical meteorology is a fringe study investigating those meteorological phenomena not directly linked with the circulation of the atmosphere. Admittedly wide, it connects meteorology with other branches of science. Developed in teaching an undergraduate course at the Massachusetts Institute of Technology the book is text designed for third- or fourth-year undergraduate students who are preparing for careers in meteorology A knowledge of basic physics and calculus is assumed. Well-selected reference lists are included in the chapters. In addition to its use by students, the book is useful to graduate meteorologists both as survey of fundamental knowledge and as guide to important research papers. Also, such chapters as that on radiation processes in the earth's atmosphere are potentially of value to scientists and engineers in fields other than meteorology

KIMBLE, GEORGE H T

Our American weather Maps and charts by Jean Paul Tremblay New York McGraw Hill Book Company, Inc., 1954 322 p. illus 21 cm $4 75 1028

Note. A book of interesting miscellaneous information about climate and weather written by an author who is not only an internationally known geographer and meteorologist but is also gifted writer The arrangement is chronological throughout the year with each of the twelve chapters bearing the name of month Under January—to take an example—one finds not only data on January weather but also discussions of tangential topics, such as the resistance of various species of trees to damage by ice storms Under December some topics are "The shortest day is not the coldest, "The odds on a white Christmas, and "What Florida has on California—and vice versa Not systematic enough to be classed as reference tool, the book contains nevertheless considerable data of reference nature, and the index is sufficiently detailed to make them quickly accessible.

KOHLER, M A , AND OTHERS

Evaporation from pans and lakes By M A Kohler, T J Nordenson and W E. Fox. Washington D C. Government Printing Office 1955 21 p 26 cm (United States Weather Bureau Research paper no 38) $0 20 1029

Contents (abridged) Introduction. Pan evaporation and meteorological factors. Estimation of annual lake evaporation. Summary and conclusions. Future studies. References.

Jet stream formation and maintenance. References. Index. Jet stream research, 1953–54. References (continued).

Note The first seven chapters of this publication are based on a series of lectures which was planned as a critical summary of the extant knowledge of the jet stream as of 1951. The lectures were first published in June, 1951, by the United States Navy Department as NAVAER Report 50-1R-249 and have been reprinted in this volume essentially without change. They outline the accumulated knowledge concisely and relate it to surface weather phenomena and weather forecasting. One-hundred-fifteen references to the literature follow this group of chapters. The eighth chapter —which is not one of the original lectures—is devoted to advances made in the years 1952–1953–1954 in the knowledge of the jet stream. Appended to this supplementary part is a supplementary list of 34 literature references, including publications that were issued in 1954.

RIEHL HERBERT

Tropical meteorology New York Mc Graw Hill Book Company Inc., 1954 392 p illus. 24 cm. $8.50 1042

Contents Winds and pressure. Temperature. Rainfall. Diurnal and local effects. Convection. The physics of tropical rain, by R. Wexler. Weather observations and analysis. Divergence and vorticity. Waves in the easterlies. Survey of low-latitude disturbances. Tropical storms. The general circulation. Name index. Subject index.

Note Readers of this book are assumed to be acquainted with accepted temperate zone meteorology hence practically all of the space has been devoted to the meteorological processes of "that part of the world where most of the weather sequences differ distinctly from those of the middle latitudes. Since tropical meteorology is a relatively new field of research, much of the book is based on observations of the last two decades, and especially on research conducted during World War II. The book thus complements the standard meteorological literature. It was written primarily for use as a college text. In addition to use by students it is useful to graduate meteorologists in need of an introduction to this special field. Extensive reference lists are included.

SARGENT F., II, AND R. G STONE, editors

Recent studies in bioclimatology a group. With a preface by Jacques M May Boston The American Meteorological Society 1954 121 p. illus. 28 cm. (Meteorological monographs editor E. Wendell Hewson. Vol. 2 no. 8 October 1954) $5.00. 1043

Contents Climate in relation to crops, by C. W Thornthwaite and J. R. Mather Weather and climate in forest entomology by W. G. Wellington The climatic physiology of farm animals, by J. D. Findlay Biophysical adaptations of man under climatic stress, by L. P Herrington. Effects of sunlight on man, by H. F Blum. Man, climate, and changes of altitude, by C. Monge M. Organic responses to cosmic rays and their secondaries, by O. Buell and [illegible]. Season and the metabolism of fat and carbohydrate—a study in vertical physiology by F Sargent, II. Bioclimatology of housing, by H. Landsberg. Thermal comfort as a criterion for the classification of climates, by K. Terjung. The geography of disease, by J. M. May Smog and human health, by J H. Foulger. Glossary, by F Sargent, II.

Note Collected in this publication are original brief monographs on aspects of the relations between climate and living organisms. All of the monographs are written in technical terminology and are addressed to climatologists, biologists and other scientists. Selected ones, for example, Foulger's "Smog and human health," are of interest to physicians and public health authorities. Literature references are included in all of the monographs. The publication appears under the auspices of the Committee on Bioclimatology of the American Meteorological Society

SAUCIER, WALTER J

Principles of meteorological analysis Chicago University of Chicago Press, 1955 438 p. illus. 25 cm. (The University of Chicago Committee on Publications in the Physical Sciences Walter Bartky and others) $10.00. 1044

Contents A review of the atmospheric variables. Meteorological charts and diagrams. Hydrostatics and static stability. Theory and practice of scalar analysis. Graphical analysis and computations. Cross-section analysis. Isobaric analysis. Isentropic analysis. Analysis of the surface chart. Kinematic analysis. Certain aspects of broad-scale analysis. Local analysis. Brief survey of analysis in the tropics. Appendix. Index.

Note An intermediate-level textbook designed for the instruction of college students who are majoring in meteorology and have completed introductory courses in physics, thermodynamics, and meteorology. It presents an integrated, detailed exposition of weather analysis. In the teaching, the physical background is always present, but the improvisations that the practical weather analyst must often make are also explained. The author began writing the book when he was a member of the faculty of the University of Chicago, and its scope and organization reflect the significant changes in the teaching of meteorology at the University of Chicago in the last decade.

SHAPLEY HARLOW, editor

Climatic change evidence causes and effects. Cambridge, Mass Harvard University Press, 1954 318 p illus 24 cm. $6.00 1045

Contents On climate and life, by H. Shapley Climate and man, by C. S. Coon. Climate and civilization, by P. B. Sears. Atmospheric and oceanic circulation as factors in glacial-interglacial changes of climate, by H. C. Willett. Radiation balance of the earth as a factor in climatic change, by H. Wexler. The insufficiency of geographical causes of climatic change, by J. Weisbach. On the causes of the ice ages, by D. H. Menzel. Solar variation as an explanation of climatic change, by R. Bell. Internal constitution of the sun and climatic changes, by P. L. Bhatnagar. Interstellar matter and the solar constant, by M. Krook. The astronomical theory of climatic changes, by A. J. J. Van Woerkom. The polar wandering and changes in the earth's orbit, by D. Brouwer. Evidence from glacial geology as to climatic variations, by R. F Flint. Geologic evidence of late pleistocene climates, by J. T Hack. Pedogenic criteria of climatic changes, by C. C. Nikiforoff. Climatic changes and radiocarbon dating, by J. L. Kulp. Tree-ring evidence for climatic changes, by E. Schulman. Climatic changes as interpreted from meteorological data, by J. R. Conover Climatic changes or cycles, by V Conrad. Evidence of climatic change in the geologic record of plant life, by E. S. Barghoorn. The record of climatic changes as revealed by vertebrate paleontology by E. H. Colbert. Paleoecology and climate, by E. S. Deevey

Note The breadth and range of modern climatology are well illustrated by the papers in this book. The 22 papers were first presented at a conference sponsored by the American Academy of Arts and Sciences, in May 1952. The authors are professional scientists working in meteorology and other fields, and primarily they addressed themselves to other scientists. However the papers vary in technical difficulty many of them being quite within the scope of the mature lay reader.

SMITHSONIAN INSTITUTION

Smithsonian meteorological tables. Sixth revised edition. Prepared by Robert J List. Washington, D C. The Smithsonian Institution, 1951 527 p. illus. 24 cm. (Smithsonian miscellaneous collections. Volume 114 Publication 4014) $4.00. 1046

Contents (abridged) Introduction. Section I, Conversion tables. Section II, Wind and dynamical tables. Section III, Barometric and hypsometric tables. Section IV Geopotential and aerological tables. Section V Standard atmosphere and altimetry tables. Section VI, Thermodynamic tables. Section VII, Hygrometric and psychrometric tables. Section VIII, Tables of miscellaneous physical properties of air and airborne particles. Section IX, Tables of miscellaneous properties of water substance and soils. Section X, Radiation and visibility tables. Section XI, Geodetic and astronomical tables. Index.

Note A standard collection of tables used as a reference book by students of meteorology practicing meteorologists, and other scientists in need of accurate data on the atmosphere, weather and related subjects. In comparison to the fifth edition published in 1939 this sixth edition has not only been thoroughly revised but is much more comprehensive. The data have been critically selected, and the regulations of the International Meteorological Organization current at the time of compilation, 1949 have been followed as far as possible. The numbers of tables in the various sections in the sixth edition are: Section I, 111 Section II, [illegible] Section III, [illegible] Section IV 14 Section [illegible] Section VI, 11; Section VII, 17; Section VIII, 14; Section IX, 11; Section X, 11; and Section XI, 14.

NEUBERGER, HANS HERMANN

Introduction to physical meteorology University Park, Pa. Pennsylvania State University, 1951 271 p illus 24 cm. $3 50 1036

Contents Condensation processes in the atmosphere. Visibility in meteorology *Solar and terrestrial* radiation. Meteorological acoustics. Meteorological optics. Atmospheric electricity Appendix. General references. Index.

Note. An introduction to the physical processes of the atmosphere written for college students and others who possess a basic understanding of college physics and algebra. Only those classes of phenomena named in the chapter titles are covered, and there is no discussion of thermodynamics. On the other hand, clear statements are given of the current knowledge of such phenomena as condensation nuclei. The chapters contain reference lists to which statements in the text are keyed. There are 109 figures and approximately 70 tables. The author is Professor of Meteorology in the Pennsylvania State College.

NEUBERGER, HANS HERMANN, AND F BRISCOE STEPHENS

Weather and man New York Prentice Hall, Inc., 1948 272 p illus 22 cm. $3 75 1037

Contents Introduction. Part I, What is weather? The atmosphere. Energy earth, and air Weather elements. Atmospheric properties and processes. Air masses. Fronts. Atmospheric circulation. Weather phenomena of stable air Weather phenomena of unstable air Destructive storms. Climate. The U S. Weather Bureau. Amateur weather forecasting. Part II, Why do we care?: Weather and health. Weather and agriculture. Weather and architecture. Weather and aviation. Weather shipping, and transportation. Weather and public utilities. Weather and the housewife. Weather business, and industry Suggested reading material. Abbreviated psychrometric table. Index.

Note Weather phenomena and their importance are the subject of this book for general readers. The authors have done an excellent job of explaining in everyday language such terms as "dew-point, adiabatic process, "occluded cold front, and "cyclone" and of relating the weather and weather forecasting to daily living. In passing, they also debunk number of weather forecasting gadgets such as the so-called Swiss Weather House.

NEWELL, HOMER, E , JR.

High altitude rocket research New York Academic Press Inc., 1953 298 p illus. 23 cm $8 50 1038

Contents Introduction. The rocket as a research vehicle. Recovery of data. Pressures, densities, and temperatures in the upper atmosphere. Winds in the upper atmosphere. Rocket measurements of solar radiation. Composition of the high atmosphere. The ionosphere and the earth's magnetic field. Cosmic rays. High-altitude photography Name index. Subject index.

Note A pioneer survey of the uses of rockets as research vehicles in making studies of and in the upper atmosphere. The techniques of using rockets in upper atmosphere research and their potentialities are the primary themes. However some historical information is included—for instance there is an eight-page tabulation of data on the individual firings of research rockets in the *United States of* America from 1947 through 1952 Also, considerable space is devoted to data already collected by the use of rockets. The presentation ranges from semitechnical to technical. The book is particularly suited to reading by scientists in fields *other than high altitude* research who wish to learn about the potentialities of this relatively new technique and by laymen who have done enough reading in the field to have become familiar with the terminology *References to the literature down to early 1953 are included.*

PETTERSSEN, SVERRE

Weather *analysis and forecasting* Second edition New York McGraw Hill Book Company, Inc 1956 2 v illus 23 cm. Vol I $8 50, vol. II $6 00 1039

Contents. Volume I, Motion and motion systems Basic equations. Kinematics of quasi-horizontal motion. Kinematics of the pressure field. Wind in relation to pressure. Influence of friction. Vertical structure of wind systems. Circulation and vorticity Theory of long waves. Extension of the theory of upper waves. Computation of the movement of pressure systems. Fronts and frontogenesis. Structure of extratropical cyclones and anticyclones. Behavior of cyclones and anticyclones. Vertical velocity and divergence. Instability theories of cyclone formation. Development of cyclones and anticyclones. Examples of cyclone development. Numerical forecasting. Graphical integrations. Appendixes. Name index. Subject index. Volume II, Weather and weather *systems: Production and* transformation of air masses. Temperature and humidity relationships. Clouds and precipitation. Quantitative precipitation forecasting. Mist fog, and stratus. Convective clouds and weather. Weather systems. Local forecast studies. Application of synoptic climatology to weather prediction. Appendix. Name index. Subject index.

Note. The first edition of this title was published in 1940 and was contained in one volume. It bore the subtitle, A textbook on synoptic meterology The preface to this second edition contains the following statement: the time has come for a reorientation for the training of forecasters. This reorientation should aim at minimizing (and, if possible, eliminating) the difference between what is commonly called *synoptic* and *dynamic* meteorology The purpose of this second edition is to provide a text for such training. The work has been completely rewritten in accordance with the new viewpoint. In its new version it provides a general comprehensive introduction to present-day forecasting concepts and techniques. Only specialities, such as tropical meteorology and empirical techniques useful in limited regions, are omitted. It is addressed to advanced students who are preparing for careers in weather forecasting and is of interest also to graduate meteorologists already at work in the field. Selected literature references are included.

RIEHL, HERBERT, AND OTHERS

Forecasting in middle latitudes. By Herbert Riehl and J Badner J E Hovde, N E. La Seur, L L. Means, W C. Palmer, M J Schroeder, L. W Snellman and others. With a foreword by Francis W Reichelderfer Boston The American Meteorological Society, 1952 80 p. illus. 28 cm (American Meteorological Society Meteorological monographs. Vol I, no 5) $3.50 1040

Contents Introduction. The upper-air prognostic chart. The surface prognosis. Field example, 1–4 November 1950 (stage NIII) Appendices. Calculation and representation of the zonal wind profile. Preparation of the continuity chart. Long-wave calculations. Calculation of the dynamic stability in ridges. Computation of the 24-hr 500-mb prognosis. Jet stream analysis. Computation of the 24-hr jet stream prognosis. Computation of the vorticity field aloft. Relations between changes of surface pressure and changes of vorticity aloft. Trajectory method of displacement. References.

Note The mechanics and computations of contemporary weather forecasting for short periods such as 48 hours are illustrated in this work. The method chiefly *considered is the construction* of prognostic charts "on the basis of experience, empirical rules, and some kinematic and dynamic computations. The *forecaster* is shown first how to draw an upper-air prognostic chart, then how to use *this and other information in drawing a* 48-hour surface prognostic chart. The booklet is based on a course sponsored by the University of Chicago and conducted at the Chicago Weather Bureau Forecast Center since 1930. It is written in the technical terminology *of the field and is* addressed both to advanced college students and to graduate *meteorologists.* A particularly valuable feature is the relation of specific steps in the prognosis to papers bearing on them in the modern literature.

RIEHL HERBERT, AND OTHERS

The jet stream By H Riehl M A Alaka, C L Jordan and R. J Renard With a foreword by F A. Berry Boston The American Meteorological Society 1954 100 p illus 28 cm (Meteorological monographs editor E Wendell Hewson Vol 2, no 7, August, 1954) $3 50 1041

Contents: Introduction. *Synoptic* structure of the jet stream. Climatology of the jet stream. The jet stream in relation to middle latitude cyclones. The jet stream in relation to extended forecasting. High level wind analysis. *Dynamic* principles relating to

Arid climates. Climatic variations. Literature cited. Selected list of references. Plates: Average annual precipitation over the earth. Climatic regions over the earth. Areal distribution of principal climates in the United States, annual. Areal distribution of principal climates in the United States, crop season. Climates of the United States for each year from 1900 to 1939 (annual climates, crop-season climates). Frequency of arid climates (annual and crop season). Frequency of semiarid and drier climates (annual and crop season). Frequency of dry-subhumid and drier climates (annual and crop season). Frequency of moist-subhumid and drier climates (annual and crop season). Frequency of humid climates (annual and crop season). Frequency of superhumid climates (annual and crop season).

Note: The maps in this atlas are restricted to [illegible] presentation of the ordinary forms of climate and show the normal position of the principal climatic types, their variation in pattern from year to year, and the frequency of occurrence of the various individual climates. From [illegible] study of these colored maps of the United States, of which there are 96 arranged two to [illegible] page, an appreciation of the diversity of the patterns of soil and water conservation in the different parts of the country may be obtained.

TREWARTHA, GLENN T

An introduction to climate. Third edition. New York. McGraw Hill Book Company Inc., 1954 402 p. illus. 26 cm. (McGraw Hill series in geography John C. Weaver consulting editor) $7 5 1054

Contents: Part i, The elements of climate: Air temperature (including insolation). Atmospheric pressure and winds. Atmospheric moisture and precipitation. Air masses and fronts. Atmospheric disturbances and their associated weather types. Part ii, The world pattern of climates—climatic types and their distribution. Classification of climates and the world pattern. The tropical rainy climates. The dry climates. The humid mesothermal climates. The humid microthermal climates. Polar climates and highland climates. Appendixes. Köppen's classification of climates. Supplementary climatic data for selected stations. Index.

Note: A standard college text. It is well organized and is written in [illegible] style which puts it within the reach of persons [illegible] students as well as students. The two parts are approximately equal in length. The first covers the basic principles and phenomena, the second describes the types of climates of the world. It [illegible] generously illustrated, mainly with graphic representations of data bearing on climate. In this edition, as compared with the preceding one published in 1943, there is considerable new matter, including the newly added chapter on classification of climates, but also including many new sections in chapters whose titles are the same as in the second edition. Illustrations and literature references have also been revised.

UNITED STATES. HYDROGRAPHIC OFFICE

Bibliography on ice of the northern hemisphere the bibliography for H. O Pub. No. 550, *Ice atlas of the northern hemisphere* now in preparation by the Hydrographic Office, to which has been added an index of authors subjects and places. Washington, D C. Government Printing Office 1945 179 p. 26 cm. (United States. Hydrographic Office. H. O pub no. 240) $2.00 1055

Contents: Abbreviations of periodicals. World-wide references. Geographic divisions. General references. Addenda. Index of subjects. Index of names. Index of geographic names.

Note: A bibliography of the pertinent international literature, including numerous publications of the U.S.S.R. The bulk of it is organized under geographic regions such as the Arctic Ocean, Greenland Sea, East Siberian Sea, Hudson Bay and Strait, Great Lakes, Yellow Sea, and rivers and lakes of North America. Within each division, the arrangement [illegible] alphabetical by author's name. The information given for each entry includes year of publication, title, and the customary citation of journal, volume number, pages, etc. In some instances, there is [illegible] very brief explanatory annotation. Another useful feature is the inclusion of English translations of Russian titles.

UNITED STATES. HYDROGRAPHIC OFFICE

Ice atlas of the northern hemisphere. Corrected reprint. Washington, D C. Published by the Hydrographic Office United States Navy 1955 106 p. illus (part col d) 51 cm. $5.00. 1056

Contents: Northern hemisphere. Grand Banks region. Baltic Sea. Kara Sea. White Sea. Okhotsk Sea region. Bibliography.

Note: This important publication consists primarily of charts designed to show average ice conditions month by month for each of the regions covered. Five types of ice, classified from the standpoint of navigation, are recognized, and their ranges are indicated on the charts. The first edition was published in 1946. In the corrected reprint new definitions for the types of ice are published, and there is [illegible] short additional bibliography. The original bibliography is also available separately as described in the preceding entry.

UNITED STATES WEATHER BUREAU

The climate of the Matanuska valley Prepared by Robert F Dale. Washington, D C., Government Printing Office, 1956 26 p. illus. 26 cm. (United States. Weather Bureau. Technical paper no. 2) o.p. 1057

Contents: Introduction. General features. Temperature. Precipitation. Drought. Evaporation. Cloudiness. Solar radiation and day length. Local winds. Matanuska winds. Knik winds. Joint occurrence of Matanuska and Knik winds. Aviation and dewpoints. References.

Note: A detailed study of the climate of the Matanuska valley in Alaska. It is based on seven series of observations with the longest one about 34 years, and other averaging more than 11 years in length. Considerable interest in the Matanuska valley as [illegible] potential agricultural region inspired the study and the discussion of the data that accompanies the tabular and graphical representation makes frequent reference to agriculture, agricultural. Aside from the agricultural interest, however, the publication is an outstanding example of [illegible] climatological study of [illegible] relatively small area.

UNITED STATES WEATHER BUREAU

Hurricane rains and floods of August 1955 Carolinas to New England. Prepared under direction of Paul H. Kutschenreuter Washington, D C. Government Printing Office 1956 145 p. illus 26 cm. (United States. Weather Bureau. Technical paper no. 26) $1.00. 1058

Contents: Part i, Meteorological analysis. Introduction. Broadscale weather patterns. Beginning of the heavy rain in Virginia—August 12 1955. First day of rains in southern New England—August 18, 1955. Final day of rains in New England—August 19 1955. Rainfall mechanisms. Rainfall comparisons. Conclusion. References. Part ii, Floods. Introduction. Basic hydrometeorological data. Description and causes of August 1955 floods. Floods in southern New England. Floods in southeastern New York. Floods in New Jersey and eastern Pennsylvania. Floods in Maryland, Virginia, and West Virginia. Floods in eastern North Carolina. Flood and damage summary. Part iii, Precipitation data. Introduction. Hourly precipitation data, August 1955. Daily precipitation, August 1955.

Note: An exhaustive analysis of the meteorological conditions which produced rains and floods of record proportions in [illegible] regions of the United States of America in August, 1955, combined with the basic hydrometeorological data and the precipitation data pertinent to the storm and the subsequent floods. The data presented are exceptionally detailed, and include hourly records of precipitation for [illegible] large number of observation stations. The illustrative matter includes [illegible] number of photographs showing the flood damage.

UNITED STATES. WEATHER BUREAU

Instructions for cooperative observers. Circulars B and C, Instrument Division. Ninth edition (revised 1941) Washington, D C.

TANNEHILL, IVAN RAY

Drought, its causes and effects Princeton Princeton University Press, 1947 264 p illus. 19 cm $3 75 1047

Contents Preface. Introduction—Choosing a point of view Droughts and the menacing deserts. Famine. Droughts in the United States. Dusters and black blizzards. What makes it rain? Why doesn't it rain? The monster in the back yard. The drought comes over the mountains. November droughts and the G.B.A. What about the great plains? Hot sun and cool water The atmosphere and its moisture. What about sunspots? What makes the ocean cold? Do droughts come in cycles? Trends and oscillations. Can we control the climate? Is our climate changing? Droughts through the ages. Causes of drought—a summary Appendix, Weather records Normal rainfall and temperature Average precipitation amounts by states for each month. Charts of normals (Figs. 113 to 118) National rainfall, 1886–1945 Percentages of normal rainfall by months and years for the United States as a whole, 1886–1945 Percentages of normal annual rainfall for states east of the Mississippi River Percentages of normal annual rainfall for states between the Mississippi River and the Rocky Mountains. Percentages of normal annual rainfall for states from the Rocky Mountains westward to the Pacific coast. Bibliography Index.

Note The author's chief purpose in this book has been to assist in establishing a method whereby droughts can be predicted. He has advanced the theses that variations in solar radiation are translated into rainfall variations, and that rainfall in the United States is dependent on relatively low temperatures over the northern continent and relatively high temperatures over the northern Pacific Ocean. These theories are developed through a study of the various meteorological processes that affect rainfall. The writing is simply phrased and is intended for meteorologists—both professional and amateur—and for farmers.

TANNEHILL, IVAN RAY

The hurricane hunters Illustrated with photographs New York Dodd, Mead & Company, 1955 271 p illus. 21 cm. $3 00 1048

Contents Monsters of the world of storms. The soldier's apprentice. At the bottom of the sea. Storm warnings. Radio helps—then hinders. The eye of the hurricane. First flight into the vortex! The hammer and the highway Wings against the whirling blasts. Keppler's hurricane. Tricks of the trade. Trailing the terrible typhoon Guest on a hairy hop. The unexpected. Fighting hell and hurricanes. Carol, Edna, Hazel or Sadly! The tears and grits of the ghost.

Note. The author's Hurricanes their nature and history is well known. Although this new book contains much about the behavior of hurricanes, its primary topic is the gradual development of hurricane forecasting and tracking. The story begins with Columbus who learned a good deal about hurricanes in his voyages to the West Indies. Only the high spots of the story are touched on, *up to July 27 1943* when Joseph B Duckworth, a veteran pilot and an expert in instrument flying, made the first airplane flight into the eye of a hurricane. From this point on, the parts, sometimes separate, sometimes integrated, played by the Weather Bureau the United States Air Force and the United States Navy flyers are recounted in considerable detail. The book is written in a spirited style and is intended for general reading. It has little value for reference, for no sources are given, and there is no index.

TANNEHILL, IVAN RAY

Hurricanes, their nature and history particularly those of the West Indies and the southern coasts of the United States. Ninth edition Princeton Princeton University Press, *1956 308* p illus *22 cm* $4 50 1049

Contents Introduction—tropical cyclones. Winds of the hurricane. The storm wave. Origin of West Indian hurricanes. Hurricane tracks. Rainfall in tropical cyclones. Barometric pressures. Signs of the approaching hurricane. Unusual hurricane movements. Frequency of West Indian hurricanes. Destructive effects of hurricanes. Precautionary measures. *Early history of West Indian hurricanes. Memorable hurricanes* of the nineteenth century Chronological account of hurricanes of the twentieth century Chronological list of hurricanes, 1494 to 1900 Appendix Observing and forecasting hurricanes. Bibliography Index.

Note The standard work of information about the meteorology and records of hurricanes. The style is semitechnical, and the book appeals both to general readers and to professional meteorologists. Much reference information on particular hurricanes is included.

TANNEHILL, IVAN RAY

Weather around the world. Second edition. *Princeton Princeton University Press, 1952* 212 p illus 20 cm $2.50 1050

Contents Wind and waves. Clouds. Prevailing winds, barometers and the law of storms. Ocean currents, temperatures and climate. Heat and humidity Cloudiness, rain, snow and fog. Special phenomena over the oceans. Europe. West Indies and South America. The Mediterranean and the Middle East. Africa. Asia. Australia and the Pacific Islands. North America. The weather shelf. Appendix, Weather records around the world A. Weather records for 110 cities. B Supplementary weather records for 75 places. C, Wind and weather for ocean crossings. Indexes.

Note A handy readable book addressed to travelers and other laymen It is useful also as a weather reference book in personal libraries. The first seven chapters deal with weather phenomena in general and include both unusual facts, such as the height of the tallest waves, and information about more routine matters, such as varieties of clouds. The remainder of the book (except for the final chapter) is devoted to the weather of particular regions of the world. The first edition was published in 1943. The main change in the present edition is the addition of the final chapter on the weather and travel by air

TAYLOR, GEORGE F

Elementary meteorology New York Prentice-Hall, Inc , 1954 364 p illus. 24 cm. $5 95 1051

Contents The setting. Components of the weather Composition and vertical structure of the atmosphere. Heat temperature, and moisture in the atmosphere. Atmospheric pressure and basic pressure patterns. Wind and atmospheric circulation. Condensation and precipitation. Clouds and fog. Air masses. Fronts and storm structure. Violent local storms. Weather in the tropics. Weather charts and diagrams. Weather forecasting. Climatology Appendixes. Index.

Note A well-rounded introduction to weather phenomena and to the principal ideas and techniques of present-day meteorology and weather observation. *A range of information is covered, from an outline of Gamow's hypothesis on the origin of the universe to* discussion of whether the climate of the earth is slowly warming up. The book is not, however a popularization. It is primarily a textbook suited to the needs of college students who are interested in meteorology as a career and also to students of other sciences who desire a basic understanding of meteorology and its methods. The appendices contain reference information such as meteorological codes, conversion tables, and the constants of the standard atmosphere.

THIESSEN, ALFRED HENRY, compiler

Weather glossary Washington D C. Government Printing Office 1946 299 p *23½ cm. (W B no 1445)* $1 00 1052

Note An excellent and useful dictionary issued under the auspices of the United States Weather Bureau. *It is based on word usage as found in American meteorological works. In most instances* the definitions are expressed in terms of scientific meteorology rather than in the common language therefore the work is more suitable for use by professional meteorologists than general reference use. An occasional definition runs to a page in length but the typical definition is only six or eight lines long. References are given frequently to fuller discussions of specific terms in standard texts and reference books.

THORNTHWAITE CHARLES WARREN

Atlas of climatic types in the United States *1900–1939* Washington D C Government Printing Office 1941 58 p illus. 47 cm (United States Department of Agriculture. Miscellaneous publication no 421) o p 1053

Contents Introduction. The evolution of the climatic pattern. Vegetation as a climatic indicator The determination of effective precipitation. The climates in the United States Superhumid climate Humid climate. Subhumid climate. Semiarid climate

tals, Wisconsin, Wyoming, Alaska, Territory of Hawaii, Puerto Rico.

Note: Presented in this publication are rainfall intensity-duration curves for durations from five minutes to 24 hours, and return periods of 2, 5, 10, 25, 50, and 100 years for each of 203 U. S. Weather Bureau stations located in the states and other subdivisions whose names are given in the above Contents.

UNITED STATES. WEATHER BUREAU

The thunderstorm report of the Thunderstorm Project (a joint project of four U S. Government Agencies Air Force, Navy National Advisory Committee for Aeronautics and Weather Bureau) Horace R. Byers, director Roscoe R. Braham, jr., senior analyst. Washington D C. Government Printing Office, 1949 287 p. illus. 26 cm. $2.25 1066

Contents (abridged) Introduction. History of the Thunderstorm Project. Design of the observational system. Areas of operations. Character of data obtained. Part one. Description of the thunderstorm. Thunderstorm structure and circulation. Turbulence and hydrometeors within the thunderstorm. Thunderstorm weather near the surface. Electric fields inside the thunderstorm. The thunderstorm as disclosed by radar. Effect of environment wind field on existing thunderstorms. Preferred areas of thunderstorm development. [illegible]. Part II. Flight operations in thunderstorm conditions. Part III. Examples. References. Appendices Surface instruments. Cooperative [illegible]. Radar equipment. Airplane instruments. Photography. Index.

Note The final report of a research project which was set up in 1945 to make a thorough study of thunderstorms. The project was active from late in 1945 to the early months of 1949 and issued a number of partial reports and other publications, a list of which is given in the present report. Very extensive field investigations were carried on in the course of the research, and the data collected are synthesized in Part I. Part III consists of complete sets of data for several individual storms, four of which were observed in August, 1947. The equipment and instruments used in the study are described in the appendix. Considering the report as a whole, important results on the internal structure and circulation of thunderstorms and on associated weather and atmospheric phenomena, and on their effects on airplane flight, are presented.

VAETH, J GORDON

200 miles up the conquest of the upper air Second edition. New York The Ronald Press Company 1955 261 p. illus. 24 cm. $5.00. 1067

Contents: The upper atmosphere—a frontier of scientific exploration. The atmospheric ocean. Upper air research instruments. Vehicles for upper air research. Project skyhook—upper air research by balloon. The White Sands proving ground. Principles of rocket flight. The V-2—forerunner of modern high altitude rocketry. The high-flying Aerobee. The Viking. The future and the upper air. The unmanned satellite. Beyond the earth. Index.

Note A standard book for lay readers about present-day techniques of investigating the phenomena of the earth's upper atmosphere. The principal vehicles, sounding balloons, "sky hook" balloons, and rockets for carrying the measuring and recording instruments into the upper atmosphere are also described. No classified information is included; nevertheless, there is a wide range of detailed information about rockets such as the Viking and the heights they have achieved. A first edition of the book was published in 1951. The three terminal chapters of this second edition are new additions. Also, changes have been made where necessary in the chapters carried over from the first edition: for instance, the chapter on the Viking has been considerably revised. Some new illustrations have been added. A "revised printing" issued in 1956 contained additional information to that in the second edition on the earth satellite development program in the United States of America.

VISHER, STEPHEN SARGENT

Climatic atlas of the United States. Cambridge Mass. Harvard University Press 1954 403 p. illus. 30 cm. $9.00 1068

Contents: Introduction—summary. Part I. Temperature: Normal temperatures—annual, seasonal, monthly: contrasts, departures. Normal weekly mean temperatures. Normal daily maximum and minimum temperatures for alternate weeks. Temperature [illegible]. Killing frosts; growing season. House-heating requirement contrasts. Relatively high temperatures. Relatively low temperatures: frost frequency and penetration. Temperature ranges—diurnal, seasonal, annual, extreme. Sudden changes of temperature—cold waves, hot waves, chinooks. Part II. Winds, atmospheric pressure, storms. Atmospheric pressure. Winds—average velocities and directions. Air mass movements. Storms—cyclones, thunderstorms, tornadoes, hurricanes, anticyclones. Other winds—sea, lake and land breezes, valley winds, squalls, [illegible]. Part III. Sunshine. Normal amounts of sunshine, cloudiness, fog, radiation. Part IV. Atmospheric humidity and evaporation. Relative and absolute humidity and vapor pressure. Evaporation—amounts and ratios. Part V. Precipitation. Normal amounts of precipitation—annual, seasonal, monthly, semimonthly, daily. Normal amount of precipitation received in alternate weeks. Normal shifts in amount of precipitation—seasonal, monthly, semimonthly. Normal amounts of snowfall, hail, "excessive" rains, prospects of early rain. Normal rainfall intensity. Normal runoff and absorption (ground water recharge). Exceptionally wet years, seasons, months, spells—amounts. Exceptionally dry years, seasons, months, spells—amounts. Frequencies of dry years, seasons, months. Frequencies of wet years, seasons, months. Precipitation variability—range and ratios, annual, seasonal, monthly. Precipitation [illegible]. Precipitation regions. Part VI. Some consequences of climate and weather. Some consequences of climate and weather on agriculture and health. Some consequences of climate on land and water—soil erosion, topography, lakes, rivers. Part VII. Climatic regions and changes. Climatic regions, on various criteria. Climatic changes and [illegible]. References. Sources of the maps. Index.

Note: Primarily this book is an organized collection of weather maps. Of the 1,031 illustrations, nearly 1,000 are outline maps of continental United States of America, with weather data superimposed in graphical form. About 400 of the maps are original; the others have been adapted from previous publications, mostly government documents. All of the maps are simplified black-and-white drawings, and most of them are 3 inches by 4½ inches in size. Each map is accompanied by a brief, explanatory caption. The book is a useful quick-reference tool for professional meteorologists and other scientists interested in the climate of the United States, and a standard source of information for nonspecialists in climatology such as farmers.

WENSTROM, WILLIAM HOLMES

Weather and the ocean of air Boston Houghton Mifflin Company 1942 484 p. illus. 23 cm. $5.00. 1069

Contents. The air ocean above us. Heights unexplored—the upper atmosphere. Basic sources—the sun and the earth. How weather studies began. The weather instruments. Winds aloft and [illegible]. Sounding the tropospheric depths. Fogs and clouds and showers. Wind-and-climate belts of the world. Air-conditioning on a continental scale—cold and warm air waves. Large-scale storms of the temperate zone—cyclones and fronts. Big wind in [illegible] circle—tropical hurricanes. Thor's symphony—thunderstorms and line squalls. Climax violence of air-tornadoes and waterspouts. Earth's highest frontier—aerology's future. Hidden conquests—solar forces and earthly storms. Amateur aerology. Weather reports, maps, and charts. Forecasting the weather. Industry and agriculture. Forest weather and war weather. On the water—mariners' weather. In the air—aviators' weather. Index.

Note: This is both a descriptive and a practical book by a retired U.S.A. army officer who was for three years meteorological officer at Bolling Field, District of Columbia. Types and manifestations of weather are described, and the science of weather forecasting is explained. Special chapters on weather on the water and weather in the air are designed for yachtsmen and aviators. The book is intended primarily for general readers.

Government Printing Office, 1941 34 p illus 22 cm. (W B no 845) $0 10 1059

Contents: Introduction. Instructions for the erection and care of instruments. The object of temperature readings and exposure of thermometers. General description of thermometers. Instructions for reuniting detached columns of alcohol. Instructions for mounting maximum and minimum thermometers. The rain gage. How to measure rainfall and snowfall. General instructions about instruments. To make and record observations. Temperature records. Precipitation records. Miscellaneous phenomena. Definitions. Form 1009 meteorological, sample monthly record. Earthquakes and instructions for their noninstrumental observation. Importance of earthquake data. Why the Weather Bureau should collect earthquake data. Instructions for the collection of earthquake data. Index.

Note The object of this pamphlet is to furnish instructions to observers co-operating with the Weather Bureau in order that there may be uniformity in the observations. There are about 5,500 co-operative observers in the United States of America. The instructions cover taking and recording meteorological observations, especially of temperature and rainfall, and also reporting earthquakes.

UNITED STATES WEATHER BUREAU

Manual of cloud forms and codes for states of the sky Second edition Washington, D C Government Printing Office, 1949 v p illus 26 cm (United States Weather Bureau. Circular S) $0.30 1060

Contents Definition and description of the forms of clouds: Cirrus. Cirrocumulus. Cirrostratus. Altocumulus. Altostratus. Stratocumulus. Stratus. Nimbostratus. Cumulus. Cumulonimbus. Varieties. Specification of cloud codes CL, CM and CH: Illustrations and discussions of code specifications.

Note An official manual for weather observers and others who are concerned with the coding of cloud states of sky in meteorological reports. It classifies and defines the recognized cloud forms, furnishes both technical and nontechnical specifications for cloud descriptions and in series of 47 plates provides photographic illustrations of the described cloud forms and states of sky The code specifications are those adopted by the International Meteorological Association.

UNITED STATES WEATHER BUREAU

Manual of marine meteorological observations January 1954 (reprinted to include changes 1 and 2 May 1956) Washington, D C. Government Printing Office, 1956 104 p looseleaf illus. 26 cm (United States Weather Bureau Circular M, ninth edition) $1 25 1061

Contents Introduction. General instructions. Identification data. Wind. Visibility Weather Pressure. Temperature Clouds. Waves. Ice. Code tables. Miscellaneous tables. Chart of local time corresponding t Greenwich mean noon. Index.

Note A guide to the taking of weather observations at sea. Systematic weather reports from co-operating ships by mail and by radio provide the basis for the weather forecasts and navigation charts issued to the maritime service by the U S. Weather Bureau. The manual is organized to accord with the order of the various elements of the observation as they are entered in the basic Weather Bureau Form 1210F "Log f ship's weather observations. The first seven editions of Circular M were issued under the title, "Instructions to marine meteorological observers.

UNITED STATES WEATHER BUREAU

Manual of surface observations (WBAN) Seventh edition. Approved by the Weather Bureau, the Air Weather Service of the Department of the Air Force, and the Naval Aerology Branch of the Department of the Navy Washington D C Government Printing Office, 1955 171 p illus 26 cm (United States Weather Bureau Circular N) $0 75 1062

Contents Introduction. Clouds and obscuring phenomena. Visibility Atmospheric phenomena. Precipitation (depth) Temperature. Humidity Pressure. Wind. Types of observations. Coding and dissemination. WBAN 10. Pilots' reports. Marine observations. Index.

Note This technical manual, copiously illustrated with charts and tables, contains instructions for the guidance of Weather Bureau, Air Force, and Navy meteorologists concerned with the making of weather reports. It gives details of methods of taking, recording, and transmitting of surface observations. It is the seventh edition of a publication first issued in 1928 under the title, *Instructions for airway ob ervers* Circular N It is issued in loose-leaf form to allow for the insertion of revised pages as issued.

UNITED STATES WEATHER BUREAU

Monthly normal temperatures, precipitation, and degree days Washington, D C. Government Printing Office, 1956 39 p 26 cm. (United States. Weather Bureau. Technical paper no 31) $0.25 1063

Note. Monthly normals based on records for the 30-year period 1921 1950 inclusive, for temperature precipitation, and degree days are tabulated in this publication for the states of continental United States of America and also for Hawaii, Alaska, and selected islands in the West Indies and in the Pacific. The degree-day normals are derived from the values for the monthly normal maximum and minimum temperature and are computed on the standard base of 65 F

UNITED STATES WEATHER BUREAU

Radiosonde observation computation tables and diagrams Washington, D C. U S Government Printing Office, 1956 119 p. illus. 35 cm. $1.25 1064

Contents Conversion table for wind speed. Fahrenheit to Celsius temperatures. Celsius to Fahrenheit temperatures. Conversion table for inches and millibars. Relative humidity (%) Celsius temperatures. Relative humidity with respect to ice converted to relative humidity with respect to water Distances from surface of given pressure to standard isobaric surface. Distances between standard isobaric surfaces. Distances from a standard isobaric surface to a surface of given pressure. Determination of heights by the barometer Meters into feet. Feet into meters. Table of temperature correction (for reduction of pressures to 1000 mb.) Table of Z for computing altitude of the 1000-mb.—constant-pressure surface. Table of temperature correction (for reduction of pressures to 850 mb.) Table of Z for computing the altitude of the 850-mb. —constant-pressure surface. Proportional parts. Mean values of relative humidity (over water) when electric hygrometer is below its operating range Altitudes in hundreds of geopotential feet as a function of pressure in millibars. Number of minutes to be added algebraically to local standard time to obtain true solar time. Determination of balloon ascensional rates (range 150-60 mb.) Determination of balloon ascensional rates (range 60-10 mb.) Diagrams.

Note A complementary volume to the United States Weather Bureau *Manual of radiosonde observations*, of which revised edition was published in 1957 It contains 20 tables and four diagrams useful in the evaluation of radiosonde observations.

UNITED STATES WEATHER BUREAU

Rainfall intensity-duration frequency curves for selected stations in the United States, Alaska Hawaiian Islands, and Puerto Rico. Washington D C. Government Printing Office 1955 53 p 26 cm (United States. Weather Bureau Technical papers no. 25) $0 40 1065

Contents Introduction. References. Rainfall intensity-duration-frequency curves Alabama, Arizona, Arkansas, California, Colorado, Connecticut, District of Columbia, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky Louisiana, Maine Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire New Jersey New Mexico, New York, North Carolina, North Dakota, Ohio Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia

of some volume; the inclusion of information on some topics not represented in the eighth edition, such as the physical properties of the earth, the cosmic abundance of the chemical elements, the physical and chemical properties of plastics as materials of construction, the efficiency of drying agents, and comparison of hydrometer scales; and the revision of the information on 16 subjects represented in the eighth edition. The number of pages is slightly smaller than in the eighth edition, thus the book remains of a size that is conveniently handled.

PATTERSON, AUSTIN MCDOWELL
A French-English dictionary for chemists. Second edition. New York John Wiley & Sons, Inc., 1954 476 p. illus. 19 cm. $6.50. 1076

Note: The first edition of this often used desk reference book was published in 1921. In this second edition no change has been made in the scope of the book. It is a list of the general and basic French chemical terms, rather than a comprehensive vocabulary of the names of chemical compounds. The names of the more common chemicals are included, also terms from the French literary language which would be encountered in reading chemical articles. The total number of terms for which English equivalents are given has increased from about 35,000 to about 42,000.

PATTERSON, AUSTIN MCDOWELL
A German-English dictionary for chemists. Third edition. New York John Wiley & Sons Inc., 1950. 541 p. 18 cm. $6.50 1077

Note: In the present edition a substantial number of terms has been added to the standard reference book, and some new meanings have been added for terms which were included in previous editions. As in earlier editions, the work is a dictionary for chemists rather than of chemistry. Chemical terms constitute the bulk, but common terms from the general language, such as "wyler" and "tell" which might be encountered in reading chemical articles, are included. Also, there are many terms from sciences that border on chemistry.

THE VAN NOSTRAND CHEMIST'S DICTIONARY
Board of editors Jurgen M. Honig, Morris B. Jacobs, S. Z. Lewin, William R. Minrath and George Murphy. Princeton D. Van Nostrand Company Inc. 1953 761 p. illus. 24 cm. $12.00. 1078

Note: A standard reference work of definitions of chemical terms and terms from related fields, such as physics, which are of interest to chemists and are found in chemical literature. The editors did not attempt the impractical task of defining all chemical terms. Instead, they have included a selection of terms of many kinds, including those of chemical elements, type compounds, classes of chemical substances, fundamental laws, named reactions and tests, named and laboratory equipment. Terms including proper names, for example "Tschermak process," are included along with common names. Since the book is intended for the use of chemists and other scientists rather than laymen, definitions are expressed in chemical terminology. A helpful feature is the use of boldface type to indicate terms used in definitions which are defined elsewhere in the dictionary. There are some diagrams of chemical structures, but no other illustrations, not even the expected pictures of instruments. The terms of very specialized areas are, generally speaking, not included. On this point the editors have stated, "The primary objective ... is to furnish to the specialist in any one field the information in all fields up to the level of the specialist."

BIBLIOGRAPHY AND HISTORY

BROWNE, CHARLES ALBERT AND MARY ELVIRA WEEKS
A history of the American Chemical Society seventy-five eventful years. Washington, D. C. American Chemical Society 1952 526 p. illus. 23 cm. $5.00 1079

Contents: Preface and memorial to Dr. C. A. Browne. Precursors. Beginnings. The secession period. The new order. The twenty-fifth anniversary—before and after. Specialization and dangers of dissolution. Strivings for consolidation. International relations, 1876–1914. The American Chemical Society and the First World War. The Society completes its first half century. The start of the Society's second half century. The American Chemical Society during the Second World War. The postwar reorganization. Growth and readjustment. Increasing professional consciousness. International relations, 1918–1951. Contributions of the divisions. Publications. Awards, memorial lectures, and research foundations. The Diamond Jubilee. Chronology. Presidential addresses. Biographical sketches. Appendix: Editors of American Chemical Society journals. General meetings of the American Chemical Society—1876–1951. Honorary memberships. Active divisions—1951. Active local sections—1951. Officers of the American Chemical Society. Name index.

Note: An official history of the principal professional society in the field of chemistry in the United States of America. It covers the Society's development and activities in detail, even including specific information on the volume of circulation of the Society's chief publications. The illustrations include portraits of officers of the Society.

CHYMIA ANNUAL STUDIES IN THE HISTORY OF CHEMISTRY Volume 1. Tenney L. Davis editor in-chief. Philadelphia University of Pennsylvania Press 1948 190 p. illus 24 cm. $3.50 1080

Contents: Recently acquired information concerning Frederick Accum, 1769–1838, by C. A. Browne. A memorial tribute to Dr. C. A. Browne, with a bibliography of his contributions to the history of chemistry, by C. E. Dreicher. The argument of Marius and Merlin—an English alchemical poem, by F. S. Taylor. Thomas Thomson—pioneer historian of chemistry, by H. S. Klickstein. L'école des chimistes français vers 1840, by M. Delépine. Factors which led Mendeleev to the periodic law, by H. M. Leicester. The early use of potassium chlorate in pyrotechny—Dr. Moritz Meyer's colored flame compositions, by T. L. Davis. The early chemical and pharmaceutical history of calomel, by G. Urdang. The concepts of substance and chemical element, by J. R. Partington. Priestley writes the water controversy, by S. M. Edelstein. Scottish alchemy in the seventeenth century, by J. Read. Carl Weltzien and the congress at Karlsruhe, by C. de Milt. Pierre Louis Dulong—his life and work, by P. Lemay and R. E. Oesper.

—— Volume 2 Tenney L. Davis, editor in-chief. Philadelphia University of Pennsylvania Press, 1949 143 p. illus. 24 cm. $4.00 1081

Contents: The beginnings of laboratory instruction in chemistry in the U. S. A., by H. S. van Klooster. An Irish-American chemist, William James MacNeven, 1763–1841, by D. Reilly. Was Newton an alchemist? by R. J. Forbes. Bemerkungen zu Hollandschen chemischen Forschern, by R. Winderlich. Découverte et Cémentation [illegible] et [illegible] la catalyse, by P. Lemay. History of [illegible] in India between about A. D. 700 and 1900, by P. K. Gode. Some personal qualities of Wilhelm Ostwald recalled by a former consultant, by E. F. Hiltpern. The experimental origin of chemical atomic and molecular theory before Boyle, by R. Hooykaas. Das chemische Laboratorium der Bayerischen Akademie der Wissenschaften in München, by W. Prandtl. Pehr's [illegible], by T. L. Davis. Some seventeenth century chemists and alchemists of Lorraine, by D. I. Duveen and A. Willemart. Sir Kenelm Digby alchemist, scholar, courtier and man of adventure, by W. Miles. Index of names. Errata corrigenda.

——Volume 3 Henry M. Leicester, editor in-chief. Philadelphia University of Pennsylvania Press 1950 250 p. illus. 24 cm. $4.50. 1082

Contents: Tenney Lombard Davis and the history of chemistry by H. M. Leicester and H. S. Klickstein. The beginnings of chemical instruction in America—a brief account of the teaching of chemistry at Harvard prior to 1800, by I. B. Cohen. Les appareils d'expérimentation de Lavoisier, by M. Daumas. Bioactive substances in the sixteenth century by R. Forbes. La quinina en las "Elementos de química" de Orfila, by C. X. Pellet and A. G. Velarde. Early American chemical societies. 1. The 1789 Chemical Society of Philadelphia. 2. The Chemical Society of Philadelphia, by W. Miles. The invention of printing and the diffusion of alchemical

CHEMISTRY

DICTIONARIES AND HANDBOOKS

BENNETT, HARRY, editor

Concise chemical and technical dictionary New York Tudor Publishing Company, Inc. 1947 1,055 p 23½ cm $10 00 1070

Note A wide range of subjects has been covered in this dictionary Although chemical terms predominate there are many terms from mathematics, physics, biology metallurgy metalworking, electronics, and a number of other fields. A selection of established trade names is also included. Altogether about 50,000 terms are defined. The definitions are brief the typical length being 10 to 15 words, but some run to 50 words or more. They are written for persons who ha e some familiarity with science and technology rather than for laymen. Another useful feature is the inclusion of a large umber of abbreviations and symbols.

CALLAHAM, LUDMILLA IGNATIEV

Russian English technical and chemical dictionary New York John Wiley & Sons, Inc., 1947 794 p illus 20 cm $16 50 1071

Note The scope f this dictionary is somewhat wider than the title indicates. Chemistry accounts for the largest number of terms, and engineering runs second but there are also many terms from such fields as mathematics, meteorology agriculture, botany and medicine. Also included are such words as legislator, manuscript, mandate, and steppe. The author justifies their inclusion on the ground that they are encountered in technical articles, but it ould appear that some of them could have been omitted. The total number f words included appears to be between 40,000 and 50,000. As the title indicates, the translation is from Russian to English, not English to Russian.

THE CONDENSED CHEMICAL DICTIONARY, a reference volume for all requiring quick access to essential data regarding chemicals and other substances used in manufacturing and research and to terms in general use in chemistry and the process industries Fifth edition completely revised and enlarged by Arthur and Elizabeth Rose. Formerly directed by Francis M Turner New York Reinhold Publishing Corporation 1956 1 200 p 23 cm $12 50 1072

Note The first edition of this standard reference book was published in 1919 the second edition in 1930, the third edition in 1942 the fourth edition in 1950. In the fifth edition the cyclopedic nature of the work is unchanged. The principal terms are not only defined, but considerable information not expected in dictionary is given about them. Most of the commercially important chemicals and trade-marked chemical products are concisely described as to general characteristics, chemical composition, properties, uses, hazards, shipping regulations, and standard commercial containers. Both common names such as "acetylene" and proprietary names such as "Econo-flour" are also included. Manufacturers' names are supplied for the chemicals sold under trade names. The book has been given ew format. The type is still set in two columns t the page but larger and more legible type has been used. The new page contains less matter hence the increase in pages is not true indication of additional contents. However many new terms, especially trade names, have been added also the information on hazards, shipping regulations, etc., have been revised where necessary for terms carried over from preceding editions.

HACKH, INGO WALDEMAR DAGOBERT

Hackh's Chemical dictionary (American and British usage) containing the words generally used in chemistry, and many of the terms used in the related sciences of physics, astrophysics, mineralogy, pharmacy, agriculture, biology, medicine, engineering etc. based on recent chemical literature. Third edition, completely revised and edited by Julius Grant. New York McGraw Hill Book Company, Inc., 1944 925 p illus. 25 cm. $9 50 1073

Note This work contains in one alphabetical sequence definitions and descriptions of the various terms, processes, and methods of chemistry Also included are descriptions of chemical apparatus and equipment, as well as brief biographies of important scientists. Graphical formulas for the hydrocarbons are given, together with many tables of other formulas and analytical data. In this edition pronunciation has been omitted, but otherwise the work has been thoroughly revised and the umber of terms expanded to over 57,000.

HANDBOOK OF CHEMISTRY AND PHYSICS, a ready reference book of chemical and physical data. Thirty-seventh edition. Editor-in chief Charles D Hodgman, associate editor in charge of chemistry, Robert C. Weast associate editor in charge of mathematics, Samuel M Selby Cleveland Chemical Rubber Publishing Company 1956 3 156 p. illus. 19 cm. $12 00 1074

Not An invaluable reference book used for many years in the scientific laboratories and libraries of the world. It is compendium of useful mathematical tables and formulas; data on physical and chemical constants; on chemical structures, solubilities and reactions basic information on biochemistry; the constants of radioactive elements and isotopes, etc. New editions are published frequently and there is always considerable revision and extension of the information included.

LANGE, NORBERT ADOLPH, compiler

Handbook of chemistry a reference volume for all requiring ready access to chemical and physical data used in laboratory work and manufacturing Compiled and edited by Norbert Adolph Lange assisted by Gordon M Forker Ninth edition. Sandusky Ohio Handbook Publishers, Inc. 1956 1,969 p. 20 cm $8.50 1075

Note. One of the standard American reference books for chemical laboratories and the offices of chemists and physicists. It contains data—much of it tabulated—on such topics as atomic weights and numbers, physical constants of the elements and compounds, flame temperatures, the composition of commercial metal alloys, the properties of materials of construction, and indices of refraction of various substances. The first edition was published in 1934 and the eighth edition in 1952. The changes in this ninth edition are described accurately and in detail in its preface. In short, they consist of correction of errors that have been discovered, revision

[illegible] The transition from the type theory to the valence theory. The periodic law. Bunsen, Berthelot, Pasteur and contemporaries. Organic chemistry since 1860. Index.

Note: A history of chemistry intended for the more mature student who is familiar with the important facts and principles of the science. The aim has been to emphasize only those facts and influences which have contributed to make the science what it is today; hence the chemical achievements of the ancients and the history of alchemy have been purposely compressed. Included in the text are biographical sketches of individual contributors, such as Paracelsus, Van Helmont, Cavendish, Dalton, and others. The third edition covers the advances from 1933 to 1939 with [illegible] of the work of living chemists and [illegible] of earlier achievements. New bibliographic material has also been added.

WEEKS MARY ELVIRA

Discovery of the elements. 6th edition. Edited, with a chapter on elements discovered by atomic bombardment, by Henry M. Leicester Illustrations collected by F B Dains. Easton, Pa. Journal of Chemical Education, 1956 910 p. illus. 24 cm. $10 00 1089

Contents: Elements known to the ancient world. Carbon and some of its compounds. Elements of the alchemists. More on the discovery of phosphorus. Some eighteenth-century metals. Old compounds of hydrogen and chlorine. Three important gases. Rutherford, discoverer of nitrogen. Chromium, molybdenum, tungsten, uranium. Contributions of the de Elhuyar brothers. Tellurium and selenium. Klaproth-Kitaibel letters on tellurium. Niobium (columbium) tantalum, vanadium. Contributions of Charles Hatchett. Contributions of Andrés Manuel del Río. The platinum metals. Some old potassium and sodium compounds. Three alkali metals. J. A. Arfwedson and his service to chemistry. Alkaline earth metals, magnesium, cadmium. Elements isolated with the aid of potassium and sodium. Other elements isolated with the aid of potassium and sodium. Some spectroscopic discoveries. Periodic system of the elements. Some elements predicted by Mendeleev. The rare earth elements. The halogen family. The inert gases. The natural radioactive elements. Discoveries by X-ray spectrum analysis. Elements discovered by atomic bombardment. List of the chemical elements. Chronology of element discovery. Index.

Note: A skillfully arranged history of the discovery of the chemical elements. The important steps in the research and discovery of each element is described. The narrative is highlighted with biographical information on scientists and illustrated with several hundred portraits, views of laboratories in which discoveries were made, reproductions of title pages, and other pictures. References to related literature are given. Compared with the previous edition (1945) the sixth edition has been very extensively written and expanded. It has been printed from new type, has many new illustrations and [illegible] more pleasing format.

MATHEMATICS FOR CHEMISTS

ANDERSON H. V

Chemical calculations Sixth edition. New York. McGraw Hill Book Company Inc., 1955 305 p. 24 cm. $4 75 1090

Contents: Measures and weights. Density. The language of chemistry. Gram-atoms and gram-moles. The measurement of temperature. Effects of changes in pressure and temperature on the volume of gases. Mole-weight—gas-volume relations. Derivation of chemical formulas. Chemical equations, metathetic type. Oxidation-reduction. Gram-equivalent weight. Molar and normal concentration. Principle of equivalency. Combination of gases. Thermochemical reactions. Electrochemistry. Chemical equilibrium, reversible reactions. Solubility-product principle. Appendix. Index.

Note: A long-established college textbook, the first edition of which was published in 1924 and the fifth edition in 1948. Editions preceding the sixth edition were by James S. Long and the present author. The main subject is the arithmetic and elementary algebra of chemistry, but related topics, such as chemical symbolism, are also discussed. In addition, there is more exposition of basic theory than might be expected in a book on chemical calculation. The supplementary text are numerous exercises for the student. In comparison to the fifth edition, the sixth edition has fewer pages, but essentially the same topics are covered and the arrangement is the same. Several chapters and sections of chapters have been rewritten, and the exercises and problems have been revised.

ARENSON SAUL BRYAN

Chemical arithmetic. Second edition. New York John Wiley & Sons, Inc., 1941 130 p. illus. 22 cm. $2.50 1091

Contents: Introduction. Units and their conversion factors. Atomic and molecular weights. Gas laws. Weight and volume relationship. Normal solution. Balancing equations. Graphical representation. Logarithm tables. Index.

Note: The aim of the book is to provide [illegible] clear explanation of all the common types of calculations of general chemistry and much of the field of quantitative analysis. An excellent treatment of the methods of graphical representation is given. Over [illegible] carefully selected problems afford intensive drill work in the application of principles. Stress is laid upon the application [illegible] common sense in the solution of problems rather than on the use of formulas. Answers are included to all problems; however only the first three digits are given, and the decimal point must be supplied.

ARENSON SAUL BRYAN

How to solve problems in quantitative analysis. New York Thomas Y Crowell Company 1942 89 p. 21 cm. $1.25 1092

Contents: Computations. Gravimetric analysis. Normal solutions in neutralization. Normal solutions in oxidation and reduction. Normal solutions in precipitation titrations. Appendix: Logarithms and antilogarithms.

Note: This text is designed for use in self-instruction by those who find difficulty with mathematical problems in quantitative analysis. For each type of calculation likely to be met, the author seeks to help the student, first to visualize the problem and then to plan his approach to its solution. After [illegible] preliminary discussion in each case, typical illustrative problems are presented and their solutions outlined in detail, together [illegible] the reasons for each step.

BABOR, JOSEPH ALBERT, AND GARRETT W THIESSEN

How to solve problems in physical chemistry New York Thomas Y Crowell Company 1944 215 p. 21 cm. $2.00 1093

Contents: Gases. Pure liquids. The solid state. Properties of analytical value (optical). Additive and constitutive properties. Solutions. Solutions of electrolytes. Colloids. Thermochemistry. Homogeneous equilibrium. Heterogeneous equilibrium. Chemical kinetics. Thermodynamics. Electrochemistry. International atomic weights (1941). Logarithms. Antilogarithms.

Note: This text is designed for use in self-instruction by those who find difficulty with mathematical problems in physical chemistry. For each type of calculation likely to be met, the authors seek to help the student first to visualize the problem and then to plan his approach to its solution. T[illegible] this end, after [illegible] preliminary discussion in each case, typical illustrative problems are presented and their solutions outlined in detail, together with the reasons for each step. Because the proper selection of the equivalents of factors (for example, the gas constant or the pressure) in the correct units usually helps the student to visualize the problem, the dimensional method is constantly stressed to stimulate logical thinking rather than blind substitution in [illegible] derived equations.

BABOR, JOSEPH ALBERT AND J KENNETH W MACALPINE

How to solve problems in qualitative analysis. New York Thomas Y Crowell Company 1943 93 p. 21 cm. $1.25 1094

Contents: Mathematical operations. Concentration of solutions. Weak electrolytes. Solubility-product principle. Ionization constant and solubility product. The water equilibrium: hydrolysis. Complex ions. Appendices: Ionization constants of weak acids and bases, solubility products, instability constants of complex ions [illegible] brief table of atomic weights; logarithms and antilogarithms.

Note: This text is designed for use in self-instruction by those who find difficulty with mathematical problems in qualitative analysis. For each type of calculation likely to be met, the authors first seek to help the student visualize the problem and then plan

and chemical knowledge, by R. Hirsch. Wandlungen in der geschichtlichen Betrachtung der Alchemie, by W Ganzenmüller Boyle and Bayle—the sceptical chemist and the sceptical historian, by G. Sarton. Karl Friedrich Mohr 1806–1879—"Father of volumetric analysis, by J M. Scott. Henri Sainte-Claire Deville, 1818–1881 by R. E. Oesper and P Lemay Bunsens Vorlesung über allgemeine Experimentalchemie, by H. Rheinboldt. The owl of Heinrich Khunrath—its origin and significance, by C. K. Deischer and J L. Rabinowitz.

—— Volume 4 Henry M Leicester, editor in-chief Philadelphia University of Pennsylvania Press, 1953 217 p illus 24 cm. $4 50 1083

Contents On the origin of alchemy by R. J. Forbes. Madame Lavoisier by D I. Duveen. Zukunftsaufgaben der Geschichte der Alchemie, by W Ganzenmüller Benjamin Rush, chemist, by W Miles. A projected by unpublished edition of the "Life and Works" f Robert Boyle, by C. F Bühler Auguste Laurent, founder of modern organic chemistry by C. de Milt. Zur Vorgeschicht des Meissner Porzellans, by W Prandtl. Charles Caldwell and the controversy in America over *Liebig's* Animal chemistry by H. S. Klickstein. Contributions of Maxwell Simpson (1815–1902) to aliphatic chemical synthesis, by D Reilly The scientific background of chemistry teachers in representative pharmacy schools of the United States during the 19th century by G. Sonnedecker Index of Names—Vols. 3 and 4 Errata corrigenda.

Note. Original, unpublished papers on aspects of the history of chemistry make up these yearly volumes. The typical paper is a scholarly contribution addressed to other scholars who are interested in the history of chemistry the history of science, or the history of the development f knowledge in general. It is documented with citations f the related literature, and may be illustrated with a portrait, reproduction of a title page, or other appropriate material.

FARBER, EDUARD

The evolution of chemistry, a history of its ideas, methods, and materials New York The Ronald Press Company, 1952, 349 p illus. 24 cm. $6 00 1084

Contents (abridged) Period I, The emergence of chemistry as a science *Survey f the period from the oldest records to the eighteenth century* From the fourth millennium B.C. to the third century A.D. From the third century to the sixteenth. From the beginning of the sixteenth century to the third quarter of the eighteenth. Phlogiston and dephlogisticated air Mines, pharmacies, and manufacturing plants. Period II, The development of chemical systems. Survey of the period from the late eighteenth century to the late nineteenth. Principles and elements. Galvanism and voltaism. Atoms and molecules. Foundations of organic chemistry The periodic system. The course of chemical change. Period III, Specialization and industrialization Survey of the period from the latter part f the nineteenth century to our own time M tter and radiation. Chemical bond and physical form. Inorganic chemistry Organic chemistry Biochemistry List f periodicals cited. Index of authors. Index f subjects.

Note. The whole of chemical history is covered in this rather short book. The author has necessarily used compressed style and has had to cover great developments in few lines. His pages are sprinkled with names, dates, and quotation marks consequently the book is not likely to attract many readers who are looking for an easily read narrative account. However since the main events are all mentioned together with references to source articles and longer accounts and the book is fully indexed, it is useful for elementary reference.

FARBER, EDUARD

Nobel prize winners in chemistry 1901–1950 New York Abelard-Schuman, Ltd 1953 219 p illus 22 cm $5 00 1085

Note A reference book containing short monographs on the 51 scientists who were awarded Nobel prizes in chemistry in the half-century 1901–1950. Each monograph is constructed on this pattern quotation of the citation used in awarding the prize, a short biographical sketch, quotation from the scientist's own writings describing the work for which the *prize was awarded*, and a short essay on the "consequences" of the discovery The description of the work is usually from the lecture delivered by the scientist on the occasion of accepting the prize. The whole is in English when the original lectures or articles from which these selections have been taken were in some other language, a translation has been made. Portraits of the included scientists are supplied on a photographic insert near the middle of the volume.

JAFFE, BERNARD

Crucibles the story of chemistry, from ancient alchemy to nuclear fission Revised edition New York Simon and Schuster, Inc., 1948 480 p. illus 21 cm $3 95 1086

Contents Bernard Trevisan (1406–1490) Theophrastus Paracelsus (1493–1541) John Joachim Becher (1635–1682) Joseph Priestley (1733–1804) Henry Cavendish (1731–1810) Antoine Laurent Lavoisier (1743–1794) John Dalton (1766–1844) John Jacob Berzelius (1779–1848) Amedeo Avogadro (1776–1856) Friedrich Woehler (1800–1882) Dmitri Ivanovitch Mendeléef (1834–1907) Svante Arrhenius (1859–1927) Marie Sklodowska Curie (1867–1934) Joseph John Thomson (1856–1940) Henry Gwyn Jeffreys Moseley (1887–1915) Irving Langmuir (1881) Ernest Orlando Lawrence (1901–) The men who harnessed nuclear fission. Nuclear energy tomorrow Sources and bibliography Index.

Note. A famous popular account of the growth of chemical knowledge. It is constructed on a framework of lives of great chemists, but it is not—as the chapter titles seem to indicate—a collection of short biographies. The whole panorama of developing knowledge is presented simply and dramatically without the use of mathematics or chemical notation. The first edition was published in 1930. In this edition three chapters have been added, and another has been revised. The bibliography has been revised.

LEICESTER, HENRY M

The historical background of chemistry New York John Wiley & Sons Inc., 1956 260 p. illus 24 cm $6 00 1087

Contents Introduction. Early practical chemistry Scientific ideas of the ancient world. Greek science. Hellenistic culture and the rise of alchemy Chinese alchemy Arabic alchemy The transmission f chemistry to the West. The fourteenth and fifteenth centuries. The sixteenth century a period of technical chemistry Chemical practice and theory in the first half of the seventeenth century The spread of atomistic theories. Theories of the eighteenth century—phlogiston and affinity Laboratory discoveries of the eighteenth century—the chemistry of gases. Lavoisier and the foundation of modern chemistry The laws of atomic combination. Electrochemistry and chemical affinity The development of organic chemistry—the radical and unitary theories. Organic chemistry from the theory of types to the structural theory The systematization of inorganic chemistry Physical chemistry in the nineteenth century The development of chemistry as a profession during the nineteenth century Radioactivity and atomic structure. Biochemistry Name Index. Subject Index.

Note By concentrating on the "development and interrelation of chemical concepts, the author of this book has produced brief, readable and informative history of chemistry Fully half of the space is devoted to the developments before the 18th century However in these pages the uthor corrects numerous misconceptions about the nature and significance of the ideas and work of the early natural philosophers and the later alchemists. Although accounts are included of 20th-century developments in such areas as radioactivity and biochemistry the twentieth century developments are not treated on the same scale as the treatments of earlier periods. Each of the chapters contains list of literature references, and the book is well indexed.

MOORE, FORRIS JEWETT

A history of chemistry Revision prepared by William T Hall Third edition. New York McGraw Hill Book Company, Inc., 1939 447 p. illus. 21 cm. (International chemical series, J F Norris consulting editor) $7.50 1088

Contents Chemistry among the ancients. Chemistry in the Middle Ages. Alchemy Chemistry in the Renaissance. Boyle and his contemporaries. The phlogiston theory The later phlogistonists. The discovery of oxygen Lavoisier Law of definite proportions. Dalton and the tomic theory The early history of galvanic electricity Humphry Davy Berzelius. The organizer of the science The beginning of organic chemistry The reaction against Berzelius. Gerhardt and the chemical reformation. Wil-

takes many more examples of solved problems than can be incorporated in the traditional texts, and most of the problems are more advanced than those in such texts. The book is of interest not only to students majoring in the field but also to chemistry graduates who wish refreshing in the handling of an unfamiliar variety of problems.

HITCHCOCK FRANK LAUREN, AND CLARK SHOVE ROBINSON

Differential equations in applied chemistry Second edition. New York John Wiley & Sons, Inc., 1936 120 p. illus. 19 cm. $3.50. 1102

Contents: Introduction. Processes of the first order. Processes of the second order. Simultaneous processes. Equations of flow. The numerical solution of differential equations. Miscellaneous problems. Index.

Note: The primary object of this pocket-size manual is to help students in chemistry and chemical engineering to think more readily in terms of calculus as a professional tool. It assumes a good general knowledge of differential and integral calculus on the part of the student and does not attempt to review in any way his previous mathematical studies, but rather to lead him into new fields of application in differential equations. The problems have been revised and expanded in the second edition, with added emphasis on the study of actual experiments.

SPICER, WILLIAM MONROE AND OTHERS

General chemistry problems, by William M. Spicer William S Taylor and Joe D Clary New York John Wiley & Sons, Inc., 1943 120 p. illus. 22 cm. $2.50. 1103

Contents: Introduction. Conversion of units, density, percentage. Equivalent weights. Percentage composition, molecular formula. The gas laws. Problems based on chemical equations. Valence. Molecular and atomic weights. Exponential numbers, logarithms, and the slide rule. Significant figures. Relative density, specific gravity. The use of chemical units of quantity. The concentration of solutions. Raoult's law. Equilibrium. Review problems. Index.

Note: For use as a supplementary text in general college chemistry. This book teaches the necessity for the justification of every step taken in the solution of a problem. It emphasizes the importance of thinking in terms of chemical units of quantity and describes the use of logarithms and the slide rule as applied to the solution of chemistry problems.

YOUDEN WILLIAM JOHN

Statistical methods for chemists New York John Wiley & Sons, Inc., 1951 126 p. 23 cm. $3.50 1104

Contents: Precision and accuracy. The measurement of precision. The comparison of averages. The statistics of errors. Statistics of the straight line. The analysis of variance. Interaction between factors. Requirements for data. Arrangements for improving precision. Experiments with several factors. List of publications referred to in the text. Appendixes: Critical values of *t*. Critical values of *F* at 5 per cent level. Critical values of *F* at 1 per cent level. Table of squares. Index.

Note: In this book both statistical theory and proofs are largely absent, and the text is confined to exposition of statistical techniques that will be useful to chemists in planning experiments and in interpreting data derived from experiments. Brevity has been achieved by limiting the scope rather than by compact treatment. Discussions of the points that are included are adequately full and include numerous worked examples. The author, who is associated with the National Bureau of Standards, is a recognized expert on statistical methods, in addition to being a noted research chemist.

GENERAL CHEMISTRY

BABOR, JOSEPH ALBERT AND ALEXANDER LEHRMAN

General college chemistry Third edition. New York Thomas Y Crowell Company 1951 800 p. illus. 24 cm. $6.00. 1105

Contents (abridged): The gaseous state. The atomic-molecular hypothesis. Energy changes in chemical reactions. Chemical equilibrium. Atomic structure, electron distribution, and valence. Hydrogen. Oxygen. Water and hydrogen peroxide. Water supply and health. The solid state. Solutions. Properties of solutions. Solutions of electrolytes. Ionization. The halogens. Oxidation-reduction. The sulfur family. Compounds of nitrogen. Other elements of the nitrogen family. Silicon. Colloid chemistry. Metals and metallurgy. Iron, cobalt, nickel, and the platinum metals. The alkali metals. The alkaline earth metals. Copper, silver and gold. Boron and aluminum. The electrochemical cell. Tin and lead. Nuclear chemistry. Appendices. Index.

Note: A standard introductory textbook which is specifically designed for students interested in chemistry or related sciences and who have completed a high school course in chemistry. The second edition appeared in 1940. This edition represents a substantial revision and a moderate expansion. Many of the chapter titles are the same, but the contents have been revised because new advances rendered the old text out of date. As would be expected, the discussion of radioactivity has been rewritten. Many equations are now written in ionic form, and many new illustrations have been substituted for old ones. The same authors have written *Introductory college chemistry*, second edition, New York Thomas Y. Crowell Co., 1950, 611 p. $4.00, for use by students who have had no previous introduction to chemistry.

BAILAR, JOHN C JR. editor

The chemistry of the coordination compounds. Edited by John C. Bailar Jr Daryle H. Busch, editorial assistant. New York Reinhold Publishing Corporation 1956. 834 p. illus. 23 cm. (American Chemical Society monograph series William A. Hamor editor) $18.50. 1106

Contents: A general survey of the coordination compounds, by J. C. Bailar, Jr. and D. H. Busch. The early development of the coordination theory, by J. C. Bailar Jr. Modern developments—the electrostatic theory of coordination compounds, by R. W. Parry and R. N. Keller. Modern developments—the electron pair bond and the structure of coordination compounds, by R. N. Keller and R. W. Parry. Chelation and the theory of heterocyclic ring formation involving metal ions, by R. W. Parry. Large rings, by T. D. O'Brien. General isomerism of complex compounds, by T. D. O'Brien. Stereoisomerism of hexacovalent atoms, by F. Basolo. Stereochemistry of coordination number four, by R. P. Block. Stereochemistry and occurrence of compounds involving the less common coordination numbers, by T. D. O'Brien. Stabilization of valence states through coordination, by J. V. Quagliano and R. L. Rebertus. Theories of acids, bases, amphoteric hydroxides and basic salts, as applied to the chemistry of complex compounds, by F. Basolo. Olation and related chemical processes, by C. L. Rollinson. The poly acids, by H. B. Jonassen and S. Kirschner. Coordination compounds of metal ions with olefins and olefin-like substances, by B. E. Douglas. Metal carbonyls and nitrosyls, by J. A. Mattern and S. J. Gill. Organic molecular compounds, by L. B. Clapp. Physical methods in coordination chemistry, by R. C. Brasted and W. E. Cooley. Coordination compounds in electrodeposition, by R. W. Parry and E. H. Lyons, Jr. The use of coordination compounds in analytical chemistry, by J. V. Quagliano and D. H. Wilkins. Coordination compounds in natural products, by G. L. Eichhorn. Dyes and pigments, by R. D. Johnson and N. C. Nielsen. Water softening through complex formation, by R. D. Johnson and C. F. Callis. Subject index.

Note: Generally speaking, the chemical compounds covered in this treatise are those produced by reactions between molecules possessing atoms or ions, which on the one hand can share by pairs of electrons, and molecules possessing atoms or ions which can furnish a pair of electrons. The metal chelates are included. As shown above, there are 23 signed chapters on theory, groups of compounds, and applications. Each of the chapters is in effect a literature survey and is extensively documented with references to the source articles. Most of the authors have covered their specific areas of the subject in considerable detail, especially in regard to such matters as the experimental evidence for particular structures and reaction mechanisms. The work is addressed to graduate chemists and will be used primarily as a reference book and guide to the literature. There is a very full subject index but no author index.

BRINKLEY STUART ROBERT

Introductory general chemistry Third edition. New York The Macmillan Company 1945 645 p. illus. 21 cm. $6.00 1107

his approach to its solution. To this end, after a preliminary discussion in each case typical illustrative problems are presented and their solutions outlined in detail, together with the reasons for each step.

BENNETT, CARL A , AND NORMAN L FRANKLIN

Statistical analysis in chemistry and the chemical industry Sponsored by the Committee on Applied Mathematical Statistics, The National Research Council. New York John Wiley & Sons, Inc., 1954 724 p illus 24 cm (Wiley publications in statistics, Walter A Shewhart, editor) $9 00 1095

Contents Introduction. Descriptive statistics. Probability and samples. Mathematical machinery Statistical inference. Relationships between variables. Analysis of variance. The design of experiments. Analysis of counted data. Control charts. Some tests for randomness. Bibliography Index.

Note The authors of this book are—in the order that their names appear above—Chief Statistician of the General Electric Company and Lecturer in Chemical Engineering in the University of Leeds, in short, an applied statistician and a specialist in chemical engineering. The book is addressed to applied chemists and chemical engineers, and its purpose is to make available to these groups statistical ideas and techniques applicable in their fields of activity Appropriately there is considerable emphasis on the basic methods of statistics. Numerous worked examples selected from problems in chemistry and chemical engineering are included, and there is also much stress on the selection of techniques to fit specific situations. A lengthy selected bibliography is included for the guidance of those readers who need more information or a more rigorous treatment of specific points.

BENSON, SIDNEY WILLIAM

Chemical calculations, an introduction to the use of mathematics in chemistry New York John Wiley & Sons, Inc , 1952 214 p 23 cm. $2 95 1096

Contents Measurement. Methods of measuring quantities of matter Chemical formulas. Chemical reactions. Energy and chemical changes. The properties of gases. The concept of combining power—valence. Measurement of solutions. The physical properties of solutions. Chemical equilibrium. Electrical properties of ionic solutions. Simple equilibria in ionic solutions. The ionization of water—hydrolysis. Additional equilibria in ionic solutions. Oxidation and reduction. Predicting redox reactions. Rates of chemical reactions. Appendixes. Index.

Note. A more comprehensive book than the typical introduction to this field. Basic methods of calculation and related chemical concepts and terminology are explained. Numerous examples in which equations are fully stated and are then solved step by step are included. The book is suitable not only for first-year college students, but also for those occasional readers who want to study the subject by themselves. The author is Professor of Chemistry at the University f Southern California.

CURTMAN, LOUIS JACOB, AND SYLVAN M EDMONDS

Calculations of qualitative analysis. New York The Macmillan Company, 1940 156 p illus. 24 cm. $3 90 1097

Content General properties of strong and weak electrolytes Chemical equations. Calculations based upon the chemical formula and equation. Solutions. Calculations involved in non-redox and redox reactions. Chemical equilibrium and ionization. Solubility product. The ionization of water—oxonium ion concentration. Complex ions. Theory of redox reactions. Appendix. Logarithm tables. Index.

Not This book provides material for use in conjunction with laboratory work in courses on qualitative analysis It tests the student's comprehension of theory gives him training in qualitative calculations, and prepares the way for his later work in quantitative analysis. All the calculations encountered in the theory and practice of qualitative analysis are covered. There is modern presentation of such topics as oxidation-reduction and salt effect, with problems. In addition to the list of problems for assignment on each topic, the underlying theory is outlined and its applications explained by appropriate examples. There is complete answer book available for teachers using the text.

ENGELDER, CARL JOHN

Calculations of qualitative analysis. Second edition. New York John Wiley & Sons, Inc., 1942 174 p 23 cm. $2 90 1098

Contents Mathematical operations. Stoichiometric calculations based on chemical equations. The preparation and use of reagents. Molar and gram-ion concentrations. Ionization equilibria. Solubility product equilibria. Complex-ion equilibria. Hydrolysis equilibria. Oxidation-reduction equilibria. General summary and review Appendix. Index.

Note This book is designed to give students practice in handling the calculations of qualitative analysis. The second edition provides the basic theory of equilibrium calculations as applied to ionic reactions. Fifteen sets of problems illustrate the theory In general, the problems in this edition are new Answers to the odd-numbered ones are given in the book. Numerous changes have been made in this edition.

ENGELDER, CARL JOHN

Calculations of quantitative analysis. New York John Wiley & Sons, Inc., 1939 174 p. 23 cm. $2 90 1099

Contents Introduction General considerations. The reagents of quantitative analysis. The calculations of volumetric analysis. The general calculations of volumetric analysis. The calculations of volumetric precipitation analysis. The calculations of neutralization analysis. The calculations of oxidation and reduction processes. The calculations of gravimetric analysis. General considerations of gravimetric analysis. Equilibria in gravimetric precipitation analysis. Calculations based on analytical data Systematic quantitative analysis. Computations based on percentage composition. Appendix. Index.

Note. A systematic sequence of problem assignments, in 15 sets, is presented in this book, each problem set consisting of 20 problems—a total of 300. Discussion of theory together with numerous illustrative examples, accompanies each problem set. The book applies the theory to typical analysis.

GORE, W L

Statistical methods for chemical experimentation. New York Interscience Publishers, Inc., 1952 210 p. illus 18 cm. $3 50 1100

Contents: Introduction. Statistical concepts. The reliability of estimates. Analysis of variance. Design of experiments. Correlation and regression. Attribute statistics. Appendixes. Tables. Index to formulas. Glossary Bibliography Subject index.

Note: A useful, relatively brief collection of the statistical methods most used in the design of chemical experiments at the Du Pont Experimental Station with which the author is associated. The style is direct and explicit. The book is well suited for the guidance of practical chemists who do not have time to master statistical theory Books which offer fuller treatments are listed in the annotated bibliography

GUGGENHEIM, E A , AND J E PRUE

Physiochemical calculations New York Interscience Publishers Inc., 1955 491 p illus. 24 cm $7.00 1101

Contents Atomic and molecular weights. Avogadro's number Molecular velocities. Interatomic distances. Moments of inertia Characteristic frequencies. Electric moments and polarizabilities. Energies and enthalpies. Entropies. Heat capacities. Equation of state. Mixtures of non-electrolytes. Electrolyte solutions. Conductance and diffusion of electrolytes. Gaseous equilibria. Solution equilibria. Acid-base equilibria. General electrolyt equilibria. Solid surfaces. Liquid surfaces. Gas kinetics. Solution kinetics. Radioactivity

Not The uthors of this book have worked out and arranged, according to the groups listed above 171 problems which illustrate the solving of typical problems in physical chemistry and chemical physics. The matter on each problem includes a statement on its object, listing of the pertinent experimental data with references to the source articles where they were published, an explanation of the steps taken in analyzing the problem, the mathematical calculations in full, and a supplementary discussion The book con-

take many more examples of solved problems than can be included in the traditional texts, and most of the problems are more advanced than those in such texts. The book is of interest not only to students majoring in the field but also to chemistry graduates who wish orientation in the handling of an unfamiliar variety of problems.

HITCHCOCK, FRANK LAUREN AND CLARK SHOVE ROBINSON

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Contents: Introduction. Processes of the first order. Processes of the second order. Simultaneous processes. Equations of flow. The numerical solution of differential equations. Miscellaneous problems. Index.

Note: The primary object of this pocket-size manual is to help students in chemistry and chemical engineering to think more readily in terms of calculus as a professional tool. It assumes a good general knowledge of differential and integral calculus on the part of the student and does not attempt to review in any way his previous mathematical studies, but rather to lead him into new fields of application in differential equations. The problems have been revised and expanded in the second edition, with added emphasis on the study of actual experiments.

SPICER, WILLIAM MONROE, AND OTHERS

General chemistry problems, by William M. Spicer William S. Taylor and Joe D Clary New York John Wiley & Sons, Inc., 1943 120 p illus. 22 cm. $2.50 1103

Contents: Introduction. Conversion of units, density percentage. Equivalent weights. Percentage composition, molecular formulas. The gas laws. Problems based on chemical equations. Valence. Molecular and atomic weights. Exponential numbers, logarithms, and the slide rule. Significant figures. Relative density specific gravity. The use of chemical units of quantity. The concentration of solutions. Raoult's law. Equilibrium. Review problems. Index.

Note: For use as a supplementary text in general college chemistry. This book teaches the necessity for the justification of every step taken in the solution of problems. It emphasizes the importance of thinking in terms of chemical units of quantity and describes the use of logarithms and the slide rule as applied to the solution of chemistry problems.

YOUDEN WILLIAM JOHN

Statistical methods for chemists. New York John Wiley & Sons, Inc., 1951 126 p. 23 cm. $3.50. 1104

Contents: Precision and accuracy. The measurement of precision. The comparison of averages. The distribution of errors. Statistics of the straight line. The analysis of variance. Interaction between factors. Requirements for data. Arrangements for improving precision. Experiments with several factors. List of publications referred to in the text. Appendixes: Critical values of *t*. Critical values of *F* at 5 per cent level. Critical values of *F* at 1 per cent level. Table of squares. Index.

Note: In this book both statistical theory and proofs are largely absent, and the text is confined to expositions of statistical techniques that will be useful to chemists in planning experiments and in interpreting data derived from experiments. Brevity has been achieved by limiting the scope rather than by compact treatment. Discussions of the points that are included are adequately full and include numerous worked examples. The author, who is associated with the National Bureau of Standards, is a recognized expert on statistical methods, in addition to being a noted research chemist.

GENERAL CHEMISTRY

BABOR, JOSEPH ALBERT AND ALEXANDER LEHRMAN

General college chemistry Third edition. New York Thomas Y Crowell Company, 1951 800 p illus. 24 cm. $6.00 1105

Contents (abridged): The gaseous state. The atomic-molecular hypothesis. Energy changes in chemical reactions. Chemical equilibrium. Atomic structure, electron distribution, and valence. Hydrogen. Oxygen. Water and hydrogen peroxide. Water supply and health. The solid state. Solutions. Properties of solutions. Solutions of electrolytes. Ionization. The halogens. Oxidation reduction. The sulfur family. Compounds of nitrogen. Other elements of the nitrogen family. Silicon. Colloid chemistry. Metals and metallurgy. Iron, cobalt, nickel, and the platinum metals. The alkali metals. The alkaline earth metals. Copper, silver and gold. Boron and aluminum. The electrochemical cell. Tin and lead. Nuclear chemistry. Appendices. Index.

Note: A standard introductory textbook which is specifically designed for students interested in chemistry or related sciences and who have completed a high-school course in chemistry. The second edition appeared in 1940. This edition represents a substantial revision and a moderate expansion. Many of the chapter titles are the same, but the contents have been revised, because new advances rendered the old text out of date. As would be expected, the discussion of radioactivity has been rewritten. Many equations are now written in ionic form, and many new illustrations have been substituted for old ones. The same authors have written Introductory college chemistry, second edition, New York, Thomas Y. Crowell Co., 1950, 517 p. $4.00, for use by students who have had no previous introduction to chemistry.

BAILAR, JOHN C JR., editor

The chemistry of the coordination compounds. Edited by John C. Bailar Jr Daryle H. Busch editorial assistant. New York Reinhold Publishing Corporation, 1956 834 p. illus. 23 cm. (American Chemical Society monograph series William A Hamor editor) $18.50 1106

Contents: A general survey of the coordination compounds, by J. C. Bailar Jr. and D. H. Busch. The early development of the coordination theory, by J. C. Bailar Jr. Modern developments—the electrostatic theory of coordination compounds, by R. W. Parry and R. N. Keller. Modern developments—the electron pair bond and the structure of coordination compounds, by R. N. Keller and R. W. Parry. Chelation and the theory of heterocyclic ring formation involving metal ions, by R. W. Parry. Large rings, by T. D. O'Brien. General behavior of complex compounds, by T. D. O'Brien. Stereoisomerism of hexacovalent atoms, by F. Basolo. Stereochemistry of coordination number four, by R. F. Block. Stereochemistry and occurrence of compounds involving the less common coordination numbers, by T. D. O'Brien. Stabilization of valence states through coordination, by J. V. Quagliano and R. L. Rebertus. Theories of acids, bases, amphoteric hydroxides and basic salts, as applied to the chemistry of complex compounds, by F. Basolo. Chelation and related chemical processes, by C. L. Rollinson. The poly acids, by H. B. Jonassen and S. Kirschner. Coordination compounds of metal ions with olefins and olefin-like substances, by B. E. Douglas. Metal carbonyls and nitrosyls, by J. A. Mattern and J. S. Gill. Organic molecular compounds, by L. E. Clapp. Physical methods in coordination chemistry, by R. C. Brasted and W. E. Cooley. Coordination compounds in electrodeposition, by R. W. Parry and E. H. Lyons, Jr. The use of coordination compounds in analytical chemistry, by J. V. Quagliano and D. H. Wilkins. Coordination compounds in natural products, by G. L. Eichhorn. Dyes and pigments, by R. D. Johnson and N. C. Nielsen. Water softening through complex formation, by R. D. Johnson and C. F. Coffin. Subject index.

Note: Generally speaking, the chemical compounds covered in this treatise are those produced by reactions between molecules possessing atoms or ions which on the one hand can share a pair of electrons, and molecules possessing atoms or ions which can furnish a pair of electrons. The metal chelates are included. As shown above, there are 23 signed chapters on theory, groups of compounds, and applications. Each of the chapters is in effect a literature survey and is extensively documented with references to the source articles. Most of the authors have covered their specific areas of the subject in considerable detail, especially in regard to such matters as the experimental evidence for particular structures and reaction mechanisms. The work is addressed to graduate chemists and will be used primarily as a reference book and guide to the literature. There is a very full subject index but no author index.

BRINKLEY STUART ROBERT

Introductory general chemistry Third edition. New York The Macmillan Company 1945 645 p. illus. 21 cm. $6.00. 1107

Contents (abridged) Changes in substances—the atomic theory Oxygen the atmosphere. States of matter—the kinetic theory Solutions. Chemical equilibrium. Determination of molecular and atomic weights. The alkali metals and hydroxides. The halogens and hydrohalic acids. The periodic system. Atomic structures. Ionization. Acids, bases, ampholytes, hydrolysis. Analytical separations of metal ions. Oxidation-reduction in solution. Sulfur sulfuric acid. Nitrogen, ammonia, nitric acid. The phosphorus family of elements. The colloidal state of dispersion. The metallic elements. The alkaline earth metals. Hydrocarbons. Derivatives of the hydrocarbons. Problems. Appendix. Index.

Note The most important changes in the third edition of this standard textbook are the new order in which the topics are presented, and the re-defining of acidity-basicity concepts in terms of the proton donor-acceptor theory The Brönsted definitions are now used throughout the book, thus simplifying the discussions. The book is intended for college students who are beginning the study of chemistry

BRINKLEY, STUART ROBERT

Principles of general chemistry Fourth edition New York The Macmillan Company, 1951 703 p illus 24 cm. $6 50 1108

Contents (abridged) Substances and changes they undergo. Typical reactions. Equations and calculations. Atomic structures. Chemical equilibrium. Solutions. The colloidal state Completed ionic reactions. Hydrolysis. The hydroacids. The oxides and hydroxides of the metals. Oxidation-reduction. Nitrogen. Sulfur The phosphorus family The elements of group IV The production of metals from ores. The transition elements. Salts. Compounds of chromium and manganese. Electric cells. The nucleus of the atom. Liquid and gaseous fuels. Derivatives of the hydrocarbons. Appendix. Index.

Not An outstanding introductory college textbook. It is particularly suited to students who have studied the subject in high school and intend to pursue it beyond the first college course. N major changes have been made in comparison to the preceding edition. However throughout the book, there are rewritten paragraphs, new exercises, and revised lists of supplementary reading. New development have caused such changes as the following "Fluorine has few uses of importance (third edition) to "Fluorine and its compounds are becoming increasingly important (fourth edition)

BRISCOE, HERMAN THOMPSON

General chemistry for colleges Fourth edition Boston Houghton Mifflin Company, 1949 773 p illus 25 cm $6 50 1109

Contents (abridged) Matter and energy Kinds of substances and their chemical changes. Structures of atoms and molecules. Oxidation and combustion. The gas laws and the kinetic molecular theory Hydrogen. Molecules and molecular weights. Atomic weights and combining capacity Solutions. X-ray spectra, atomic numbers, and the structures of crystals. Radioactivity The structure of matter The oxides and other simple compounds of carbon. The atmosphere. The halogens. Oxidation and reduction. The alkali metals. Solutions of electrolytes. Chemical equilibrium. Nitrogen and ammonia. The sulfur family Silicon and related elements. Colloidal dispersions. Organic chemistry—the hydrocarbons. Carbohydrates and proteins—food and nutrition. Energy in chemical change. The metals. Appendix. Index.

Note A standard introductory textbook. It contains more material than some texts written at the same level and, although applications are mentioned and shown in illustrations, the main emphasis is on fundamental matters. The author's style is easy to read, and the publisher has given the book an attractive format. The third edition was published in 1945 The more prominent changes in the text of this edition relate to nuclear chemistry atomic energy and radioactivity However numerous changes have been made in the treatment of other topics. The type of the book has been re-set and there are now two columns of print to page.

CARNEY THOMAS PATRICK

Laboratory fractional distillation New York The Macmillan Company 1949 259 p illus 24 cm $6 50 1110

Contents Theory Mathematical treatment. Column characteristics. Theoretical plates and reflux ratio required for given separation. Separation to be expected. Selection of proper columns. Bubble plate columns. Unpacked columns. Packed columns. Miscellaneous packing. Rotary distillation columns. Effect of variables on column characteristics. Operation of the column. Vacuum fractionation. Construction of columns. Testing the column. Accessory equipment. Special columns. Vapor-liquid equilibrium determination. Azeotropic and extractive distillation. Micro and semimicro fractionation. Molecular distillation. General bibliography Index.

Note Graduate chemists, laboratory technicians, and advanced students find this volume valuable and practical guide to the methods and techniques of fractional distillation. Fundamental principles are discussed, but the construction and operation of laboratory distillation apparatus and especially the packing and construction of columns are emphasized. Information is provided regarding ease of operation, costs, comparative efficiency etc., of various types of apparatus. Line drawings and diagrams are used freely and 23-page classified bibliography is included.

CHAMOT, EMILE MONNIN, AND CLYDE WALTER MASON

Handbook of chemical microscopy Second edition New York John Wiley & Sons, Inc., 1938–40 2 v illus 23 cm $8 75 per vol. 1111

Contents (abridged) Volume I Principles and uses of microscopes and accessories. The optical system of the microscope. Microscopes for use in chemical laboratories. Illumination of transparent objectives. Illumination of opaque objects. Methods for the preparation of materials for microscopical study Special methods for interpretation of appearances and observation of physical properties. Ultramicroscopy Photomicrography and microprojection The study of doubly refracting materials by means of the polarizing microscope. Chemical crystallography Determination of refractive indices of liquids and solids. Microscopical measurements. Particle size determination. Quantitative analyses of heterogeneous mixtures. Appendix. Index. Volume II Chemical methods and inorganic qualitative analysis. Manipulative methods of a general character. Methods of applying reagents in microscopical qualitative analysis. Detection of the elements of Group I of the periodic system. Detection of the elements of Group II, III, IV V, VI, VII, VIII. Detection of the rare earths. The detection of anions. Special reagents yielding reactions with a number of cations. Qualitative analysis of material of unknown composition. Appendix. Index.

Note Although first published in 1930 and published in second edition as noted above and not since revised, this standard work is still useful for instruction and reference on (1) the microscope as an instrument in chemical and mineralogical laboratories, and (2) the identification or qualitative analysis of very small samples of inorganic substances. Volume I contains full or explicit discussions of the principles and elements of the microscope and of the accessories useful in chemical laboratory work. It describes also the general techniques of preparing materials for microscopic examination. Volume II contains explicit directions for the microscopic analysis of inorganic materials, and is illustrated with over 200 reproductions of excellent microphotographs showing the appearance of various substances under the microscope at stated magnifications.

CHAPIN WILLIAM HENRY

Second year college chemistry Fifth edition, revised by Luke E Steiner New York John Wiley & Sons Inc. 1943 575 p. illus. 22 cm $6 75 1112

Contents The structure of matter The gas laws. Liquids and their relation with gases. Solids and their relations with gases and liquids. The quantitative laws of chemical combination Atoms and molecules and their weights. Formulas and equations and chemical calculations. Valence and the chemical bond. The periodic system. Rays from vacuum tubes Radioactivity Atomic structure and valence. Atomic transmutations. Solutions and solubility Laws of solutions. Solvent properties. Acids, bases, and salts. Homogeneous equilibrium. Neutralization indicators and acid-alkali titrations. Heterogeneous equilibrium. Colloids. Electrochemistry Appendix. Index.

Not A basic textbook for second-year inorganic chemistry course It serves as guide for review of and an expansion of, general principles. Liquids and solutions are discussed more fully and exactly in the fifth edition, and there is new chapter on crystalline solids which serves as an introduction to structural chemistry

DEMING HORACE GROVE

Fundamental chemistry an elementary textbook for college classes. Second edition. New York John Wiley & Sons, Inc., 1947 745 p. illus. 22 cm. $6.00 1113

Contents: The changing universe. Elements and compounds. Atoms and molecules. Weights and formulas. Oxygen. Energy. Hydrogen. The properties of gases. Molar and molal properties. Liquids. Solids. Changes of state. Properties of acids—valence. How ions are formed. Properties of acids. Chlorine. The periodic table. Within the atom. Building molecules. Oxidation and reduction. The halogens. Solutions. The sulfur family. Reaction rate. Chemical equilibrium. The atmosphere. Nitrogen. The relatives of nitrogen. Hydroxyl—hydrogen ion concentration. Precipitation. The colloidal state of matter. Carbon. Organic chemistry. Some [illegible] syntheses. Silicon and boron. The metals. Electrochemistry. The light metals. The transition metals. Iron and steel. The post-transition metals. Nuclear chemistry. Chemistry and the spirit of science. Appendices. Index.

Note: The author, one of the most successful American writers of chemical textbooks, has incorporated in this one several novel features of content and organization. The book is designed for courses offered to students who plan to take additional work in the subject. It deals less with industrial applications of chemistry than does his *General chemistry*, fifth edition, New York, 1944, and differs from his *Introductory college chemistry*, second edition, New York, 1942, by placing more emphasis on principles and less on historical details. Changes made in the present edition include some rewriting and rearranging and the addition of material on new developments, such as silico-organic compounds, antibiotics, and nuclear chemistry.

DEMING HORACE GROVE

General chemistry an elementary survey emphasizing industrial applications of fundamental principles. Sixth edition. New York John Wiley & Sons Inc., 1952 656 p. illus. 24 cm. $6.50. 1114

Contents (abridged): The beginnings of chemistry. Mixtures and substances. Atoms and molecules. Energy. The properties of gases. Liquids and solids. Solutions. Electrons and valence. Acids. Neutralization and hydrolysis. The colloidal state of matter. Chemical equilibrium. Oxidation and reduction. Nuclear chemistry. The hydrocarbons. Cellulose products, plastics. Elastomers, dyestuffs, medicinals. Industries based on sulfur and salt. The ceramic industries. Iron and steel. Electrochemistry. The transition metals. Index.

Note: A long established—the first edition was published in 1923—introductory textbook for use in college courses. One of its chief characteristics is the purposeful relating of the theoretical material to practical applications, a feature intended to stimulate the interest of engineering students. Many changes in both text and illustrations were made in preparing the present edition. Most of the new material relates, as might be expected, to developments pertaining to atomic structure and to new industrial processes and products.

EHRET WILLIAM FREDERICK

Smith's college chemistry Sixth edition. New York Appleton-Century-Crofts, Inc., 1946 677 p. illus. 26 cm. $5.50 1115

Contents (abridged): The chemical view of matter. Chemical change and some methods of studying it. The atomic theory. Symbols, formulas, and equations. The velocity of chemical reactions. The measurement of gases. Solutions. The periodic classification of the elements. Radioactivity and the transmutation of elements. Atomic number, atomic nuclei, and isotopes. Atomic structure and valence. Energy and chemical change. Chemical equilibrium. Solutions of electrolytes. Newer concepts of acids and bases. Oxidation and reduction. The atmosphere and its inert components. The hydrocarbons and their simple derivatives. Plant life and products. Animal life and animal products. Synthetic organic products. Colloidal suspensions. The metallic elements. Electromotive chemistry and voltaic cells. Appendix. Index.

Note: A classic chemistry text, the various editions of which have been used in colleges of the United States of America for over 30 years. The original author was Alexander Smith, 1865–1922. The third, fourth, and fifth editions were the work of James Kendall. In his sixth edition, the work was very extensively revised by Professor Ehret of New York University. Large sections of the expository text were rewritten, many new illustrations added, and the problems and lists of references were revised. However, the book remains a broad introduction to chemical chemistry in which many of the topics are covered descriptively.

EHRET, WILLIAM FREDERICK

Smith's Introductory college chemistry Third edition. New York Appleton-Century Crofts Inc. 1950 511 p. illus. 25 cm $5.00 1116

Contents (abridged): Elements and compounds. The laws of chemical combination. Atoms and their properties. The properties of gases. Water and hydrogen peroxide. Solutions. Salt and sodium hydroxide. The solid state. The halogens. The transmutation of elements. The nuclei of atoms. Electronic structure and chemical properties. Chemical equilibrium. The properties of electrolytes. Acid-base systems. Oxidation and reduction. Oxygen compounds of the halogens. Sulfur and sulfides. Compounds of nitrogen. Phosphorus and its compounds. Carbon. Plant life and products. Animal life and products. Synthetic organic products. Silicon and boron. Metals and metallurgy. Electrochemistry. Appendix. Index.

Note: A shorter book, based on the author's *Smith's college chemistry* described above. It has the same lineage and the revision came on the preceding edition by James Kendall. It is less encyclopedic than the larger text but covers the fundamental concepts and the laws of general chemistry and also a considerable range of facts on the properties of the individual elements and their compounds. In comparison to the preceding edition, revisions were made in both the text and illustrations, and many new illustrations were introduced. Also, the terminology was modified to bring the nomenclature in line with the recommendations of the International Union of Chemistry published in the *Journal of the American Chemical Society*, volume 63, page 889. As in preceding editions, terms are carefully defined when first introduced, and little mathematics is used.

FELSING WILLIAM AUGUST, AND GEORGE W WATT

General chemistry Third edition New York McGraw Hill Book Company Inc., 1951 558 p. illus. 24 cm. $6.00. 1117

Contents (abridged): Forms of matter. Weight relationships. The structure of atoms. Properties of gases. Relative weights of molecules. Solutions. Acids, bases, and salts, nomenclature. Ionization. Ion equilibria. Classification of the elements. Colloids. Electrolysis. Industrial electrochemical processes. Battery cells. Metals and alloys. Heavy metals. Some binary compounds of nonmetallic elements. Commercial production of acids and bases. Nuclear chemistry. Organic chemistry. Appendix. Answers to problems. Index.

Note: An introduction to the fundamentals of chemistry for first-year college students. The chief differences between this and the previous edition are greater emphasis on quantitative methods and rearrangement in the order of subject presentation. Thus, atomic structure is now discussed in the fourth instead of the fourteenth chapter, and nuclear chemistry is deferred until the final chapters. The subject of chemical equilibria is treated in greater detail, and the number and variety of review problems have been increased. Answers to numerical problems are included.

GLASSTONE SAMUEL

Theoretical chemistry, an introduction to quantum mechanics statistical mechanics and molecular spectra for chemists. Princeton D Van Nostrand Company Inc., 1944 515 p illus. 23 cm. $7.00 1118

Contents: Introduction; quantum numbers. Quantum mechanics. Quantum theory of valence. Molecular spectra. diatomic molecules. Molecular spectra. Polyatomic molecules. The electronic configuration of diatomic molecules. Statistical mechanics. Statistical thermodynamics. Intermolecular forces. Index.

Note: An elementary knowledge of calculus, including differential equations, is a prerequisite for this advanced text for graduate chemists. Dissociation accompanying light absorption, valence force constants, and bond distances are a few of the topics discussed. Supplemental references are provided in the preface and as footnotes.

Contents (abridged) Changes in substances—the atomic theory Oxygen the atmosphere. States of matter—the kinetic theory Solutions. Chemical equilibrium. Determination of molecular and atomic weights. The alkali metals and hydroxides. The halogens and hydrohalic acids. The periodic system. Atomic structure. Ionization. Acids, bases, ampholytes, hydrolysis. Analytical separations of metal ions. Oxidation-reduction in solution. Sulfur sulfuric acid. Nitrogen, ammonia, nitric acid. The phosphorus family of elements. The colloidal state of dispersion. The metallic elements. The alkaline earth metals. Hydrocarbons. Derivatives of the hydrocarbons. Problems. Appendix. Index.

Note. The most important changes in the third edition of this standard textbook are the new order in which the topics are presented, and the re-defining of acidity-basicity concepts in terms of the proton donor-acceptor theory The Brönsted definitions are now used throughout the book thus simplifying the discussions. The book is intended for college students who are beginning the study of chemistry

BRINKLEY, STUART ROBERT

Principles of general chemistry Fourth edition. New York The Macmillan Company, 1951 703 p illus 24 cm $6 50 1108

Contents (abridged) Substances and changes they undergo. Typical reactions. Equations and calculations. Atomic structure. Chemical equilibrium. Solutions. The colloidal state. Completed ionic reactions. Hydrolysis. The hydroacids. The oxides and hydroxides of the metals. Oxidation-reduction. Nitrogen. Sulfur The phosphorus family The elements of group IV The production of metals from ores. The transition elements. Salts. Compounds of chromium and manganese. Electric cells. The nucleus of the atom. Liquid and gaseous fuels. Derivatives of the hydrocarbons. Appendix. Index.

Note. An outstanding introductory college textbook. It is particularly suited to students who have studied the subject in high school and intend to pursue it beyond the first college course. No major changes have been made in comparison to the preceding edition. However throughout the book, there are rewritten paragraphs, new exercises, and revised lists of supplementary reading. New developments have caused such changes as the following "Fluorine has few uses of importance (third edition) to "Fluorine and its compounds are becoming increasingly important (fourth edition)

BRISCOE, HERMAN THOMPSON

General chemistry *for colleges* Fourth edition Boston Houghton Mifflin Company, 1949 773 p illus 25 cm $6 50 1109

Contents (abridged) Matter and energy Kinds of substances and their chemical changes. Structures of atoms and molecules. Oxidation and combustion. The gas laws and the kinetic molecular theory Hydrogen. Molecules and molecular weights. Atomic weights and combining capacity Solutions. X-ray spectra, atomic numbers, and the structures of crystals. Radioactivity The structure of matter The oxides and other simple compounds of carbon. The atmosphere. The halogens. Oxidation and reduction. The alkali metals. Solutions of electrolytes. Chemical equilibrium. Nitrogen and ammonia. The sulfur family Silicon and related elements. Colloidal dispersions. Organic chemistry—the hydrocarbons. Carbohydrates and proteins—food and nutrition. Energy in chemical change. The metals. Appendix. Index.

Note A standard introductory textbook. It contains more material than some texts written at the same level; and, although applications are mentioned and shown in illustrations, the main emphasis is on fundamental matters. The author's style is easy to read, and the publisher has given the book an attractive format. The third edition was published in 1943 The more prominent changes in the text of this edition relate to nuclear chemistry atomic energy and radioactivity However numerous changes have been made in the treatment of other topics. The type of the book has been re-set and there are now two columns of print to a page.

CARNEY, THOMAS PATRICK

Laboratory fractional distillation New York The Macmillan Company 1949 259 p illus 24 cm $6 50 1110

Contents Theory Mathematical treatment. Column characteristics. Theoretical plates and reflux ratio required for given separation. Separation to be expected. Selection of proper columns. Bubble plate columns. Unpacked columns. Packed columns. Miscellaneous packing. Rotary distillation columns. Effect of variables on column characteristics. Operation of the column. Vacuum fractionation Construction of columns. Testing the column. Accessory equipment. Special columns. Vapor-liquid equilibrium determination. Azeotropic and extractive distillation. Micro and semimicro fractionation. Molecular distillation. General bibliography Index.

Note Graduate chemists, laboratory technicians, and advanced students find this volume a valuable and practical guide to the methods and techniques of fractional distillation. Fundamental principles are discussed, but the construction and operation of laboratory distillation apparatus and especially the packing and construction of columns are emphasized. Information is provided regarding ease of operation, costs, comparative efficiency etc., of various types of apparatus. Line drawings and diagrams are used freely and 32-page classified bibliography is included.

CHAMOT, EMILE MONNIN, AND CLYDE WALTER MASON

Handbook of chemical microscopy Second edition New York John Wiley & Sons, Inc., 1938–40 2 v illus 23 cm $8 75 per vol. 1111

Contents (abridged) Volume I Principles and uses of microscopes and accessories. The optical system of the microscope. Microscopes for use in chemical laboratories. Illumination of transparent objectives. Illumination of opaque objects. Methods for the preparation of materials for microscopial study Special methods for interpretation of appearances and observation of physical properties. Ultramicroscopy Photomicrography and microprojection. The study of doubly refracting materials by means of the polarizing microscope. Chemical crystallography Determination of refractive indices of liquids and solids. Microscopial measurements. Particle size determination. Quantitative analyses of heterogeneous mixtures. Appendix. Index. Volume II Chemical methods and inorganic qualitative analysis. Manipulation, methods of a general character Methods of applying reagents in microscopial qualitative analysis. Detection of the elements of Group I of the periodic system. Detection of the elements of Group II, III, IV V VI, VII, VIII. Detection of the rare earths. The detection of anions. Special reagents yielding reactions with a number of cations. Qualitative analysis of material of unknown composition. Appendix. Index.

Note Although first published in 1930, and published in second edition as noted above and not since revised, this standard work is still useful for instruction and reference on (1) the microscope as an instrument in chemical and mineralogical laboratories, and (2) the identification or qualitative analysis of very small samples of inorganic substances. Volume I contains full or explicit discussions of the principles and elements of the microscope and of the accessories useful in chemical laboratory work. It describes also the general techniques of preparing materials for microscopic examination. Volume II contains explicit directions for the microscopic analysis of inorganic materials, and is illustrated with over 200 reproductions of excellent microphotographs showing the appearance of various substances under the microscope at stated magnifications.

CHAPIN WILLIAM HENRY

Second year college chemistry Fifth edition, revised by Luke E Steiner New York John Wiley & Sons Inc. 1943 575 p illus. 22 cm $6 75 1112

Contents The structure of matter The gas laws. Liquids and their relation with gases. Solids and their relations with gases and liquids. The quantitative laws of chemical combination. Atoms and molecules and their weights. Formulas and equations and chemical calculations. Valence and the chemical bond. The periodic system Rays from vacuum tubes. Radioactivity Atomic structure and valence. Atomic transmutations Solutions and solubility Laws of solutions. Solvent properties. Acids, bases, and salts. Homogeneous equilibrium. Neutralization indicators and acid-alkali titrations. Heterogeneous equilibrium Colloids Electrochemistry Appendix. Index.

Note A basic textbook for second-year inorganic chemistry course. It serves as guide for a review of and an expansion of general principles. Liquids and solutions are discussed more fully and exactly in the fifth edition, and there is new chapter on crystalline solids which serves as an introduction to structural chemistry

General Chemistry

DEMING, HORACE GROVE

Fundamental chemistry an elementary textbook for college classes. Second edition. New York John Wiley & Sons, Inc., 1947 745 p. illus 22 cm. $6.00 1113

Contents: This changing universe. Elements and compounds. Atoms and molecules. Weights and formulas. Oxygen. Energy. Hydrogen and [illegible]. The properties of gases. Mass and weight properties. Liquids. [illegible]. Changes of state. Properties of [illegible]. How ions are formed. Properties of acids. Chlorine. The periodic table. Within the atom. Building molecules. Oxidation and reduction. The halogens. Solutions. The sulfur family. Reaction rates. Chemical equilibrium. The atmosphere. Nitrogen. The relatives of nitrogen. Hydrolysis—hydrogen ion concentration. Precipitation. The colloidal state of matter. Carbon. Organic chemistry. Some famous syntheses. Silicon and boron. The metals. Electrochemistry. The light metals. The transition metals. Iron and steel. The post-transition metals. Nuclear chemistry. Chemistry and the [illegible] of [illegible]. Appendixes. Index.

Note: The author, one of the most successful American writers of chemical textbooks, has incorporated in this one several novel features of content and organization. The book is designed for courses offered to students who plan to take additional work in the subject. It deals less with industrial applications of chemistry than does his *General chemistry*, fifth edition, New York, 1944, and differs from his *Introductory college chemistry*, second edition, New York, 1942, by placing more emphasis on principles and less on historical details. Changes made in the present edition include some rewriting and rearrangement and the addition of material on new developments, such as silico-organic compounds, antibiotics, and nuclear chemistry.

DEMING HORACE GROVE

General chemistry an elementary survey emphasizing industrial applications of fundamental principles. Sixth edition. New York John Wiley & Sons Inc., 1952 656 p. illus. 24 cm. $6.50 1114

Contents (abridged): The beginnings of chemistry. Mixtures and substances. Atoms and molecules. Energy. The properties of gases. Liquids and solids. Solutions. Electrons and valence. Acids. Neutralization and hydrolysis. The colloidal state of matter. Chemical equilibrium. Oxidation and reduction. Nuclear chemistry. The hydrocarbons. Cellulose products, plastics. Elastomers, dyestuffs, medicinals. Industries based on sulfur and salt. The ceramic industries. Iron and steel. Electrochemistry. The transition metals. Index.

Note: A long established—the first edition was published in 1923—introductory textbook for use in college courses. One of its chief characteristics is the purposeful relating of the theoretical material to practical applications. [illegible] features intended to stimulate the interest of engineering students. Many changes in both text and illustrations were made in preparing the present edition. Most of the new material relates, as might be expected, to developments pertaining to atomic structure and to new industrial processes and products.

EHRET WILLIAM FREDERICK

Smith's college chemistry Sixth edition. New York Appleton-Century-Crofts, Inc., 1946 677 p. illus. 26 cm. $5.50 1115

Contents (abridged): The chemical view of matter. Chemical change and some methods of studying it. The atomic theory. Symbols, formulas, and equations. The velocity of chemical reactions. The measurement of gases. Solutions. The periodic classification of the elements. Radioactivity and the transmutation of elements. Atomic number, atomic nuclei, and isotopes. Atomic structure and valence. Energy and chemical change. Chemical equilibrium. Solutions of electrolytes. Newer concepts of acids and bases. Oxidation and reduction. The atmosphere and its inert components. The hydrocarbons and their simple derivatives. Plant life and products. Animal life and natural products. Synthetic organic products. Colloidal suspensions. The metallic elements. Electromotive chemistry and voltaic cells. Appendix. Index.

Note: A classic chemistry text, the various editions of which have been used in colleges of the United States of America for over 30 years. The original author was Alexander Smith, 1865–1922. The third, fourth, and fifth editions were the work of James Kendall. In the sixth edition, the work was very extensively revised by Professor Ehret of New York University. Large sections of the [illegible] were rewritten, many new illustrations added, and the problems and lists of references were revised. However the book remains a broad introduction to chemical chemistry in which many of the topics are covered descriptively.

EHRET WILLIAM FREDERICK

Smith's Introductory college chemistry Third edition. New York Appleton-Century Crofts, Inc., 1950 511 p. illus 25 cm. $5.00 1116

Contents (abridged): Elements and compounds. The laws of chemical combination. Atoms and their properties. The properties of gases. Water and hydrogen peroxide. Solutions. Salt and sodium hydroxide. The solid state. The halogens. The transmutation of elements. The [illegible] of atoms. Electronic structure and chemical properties. Chemical equilibrium. The properties of electrolytes. Acid-base systems. Oxidation and reduction. Oxygen compounds of the halogens. Sulfur and sulfides. Compounds of nitrogen. Phosphorus and its compounds. Carbon. Plant life and products. Animal life and products. Synthetic organic products. Silicon and boron. Metals and metallurgy. Electrochemistry. Appendix. Index.

Note: A shorter book, based on the author's *Smith's college chemistry* described above. It has the same format and the reviser's name on the preceding edition is James Kendall. It is less cyclopedic than the larger text but covers the fundamental concepts and the laws of general chemistry and also a considerable range of facts on the properties of the individual elements and their compounds. In comparison to the preceding edition, revisions were made in both the text and illustrations, and many new illustrations were introduced. Also, the terminology was modified to bring the nomenclature in line with the recommendations of the International Union of Chemistry published in the *Journal of the American Chemical Society*, volume 63, page 889. As in preceding editions, terms are carefully defined when first introduced, and little mathematics is used.

FELSING WILLIAM AUGUST AND GEORGE W WATT

General chemistry Third edition. New York McGraw Hill Book Company Inc., 1951 556 p. illus. 24 cm. $6.00 1117

Contents (abridged): Forms of matter. Weight relationships. The structure of atoms. Properties of gases. Relative weights of molecules. Solutions. Acids, bases, and salts. [illegible]. Ionization. Ion equilibria. Classification of the elements. Colloids. Electrolysis. Industrial electrochemical processes. Battery cells. Metals and alloys. Heavy metals. Some binary compounds of nonmetallic elements. Commercial production of acids and bases. Nuclear chemistry. Organic chemistry. Appendix. Answers to problems. Index.

Note: An introduction to the fundamentals of chemistry for first year college students. The chief differences between this and the previous edition are [illegible] greater emphasis on structure [illegible] and [illegible] rearrangement in the order of subject presentation. Thus, atomic structure is now discussed in the fourth instead of the fourteenth chapter and nuclear chemistry is deferred until the final chapter. The subject of chemical equilibria is treated in greater detail, and the number and variety of review problems have been increased. Answers to numerical problems are included.

GLASSTONE, SAMUEL

Theoretical chemistry an introduction to quantum mechanics statistical mechanics, and molecular spectra for chemists. Princeton D Van Nostrand Company Inc., 1944 515 p. illus. 23 cm. $7.00 1118

Contents: Introduction. Quantum numbers. Quantum mechanics. Quantum theory of valence. Molecular spectra. Diatomic molecules. Molecular spectra: Polyatomic molecules. The electronic configurations of diatomic molecules. Statistical mechanics. Statistical thermodynamics. Intermolecular forces. Index.

Note: An elementary knowledge of calculus, including differential equations, is [illegible] prerequisite for this advanced text for graduate chemists. Dissociation, [illegible], light absorption, valence force constants, and bond distances are [illegible] few of the topics discussed. Supplemental references are provided in the preface and as footnotes.

HATCHER, WILLIAM HOOKER

An introduction to chemical science. Second edition. New York John Wiley & Sons, Inc, 1949 449 p illus 22 cm $4 50 1119

Contents (abridged) Part 1 Inorganic chemistry: The chemist's stock in trade. The three states of matter The atmosphere. Carbon and life. Molecular and atomic weights. What is a chemical reaction? Acids, bases, salts. Colloidal solutions. The periodic classification of the elements. Part 2 Organic chemistry: Pictures from the paraffins. Organic nitrogen. The carbohydrates. Fats and oils—soap—paint. Explosives—dyes—pharmaceuticals. Part 3 Food chemistry Part IV Industrial chemistry: Raw materials and their sources. Catalysis in industry Ceramics. Petroleum. Chemistry in the home. Books for supplementary study Index.

Note An elementary college text designed for nonspecialist courses and liberal arts students. The treatment is largely historical, with emphasis on the practical applications of chemistry to modern life. In this revision the general format and scope of the original edition have been maintained, but some sections have been rewritten and new material included on properties of matter atomic weights, electrolysis, metals and alloys, and the vitamins. Each chapter concludes with a summary and review questions.

HILDEBRAND, JOEL H, AND RICHARD E POWELL

Principles of chemistry *Sixth edition* New York The Macmillan Company, 1952 444 p *illus 21 cm $5 00* *1120*

Contents Kinds of matter Weight relations in chemical reactions—atoms and molecules. The kinetic theory Molecular weights. The relation of chemical and physical properties to atomic structure. Concentration, acidimetry and alkalimetry Thermochemistry Electrolytic dissociation Combining proportions. Chemical nomenclature. The speed of chemical reactions. Chemical equilibrium—the effect of concentration. Types of equilibria. The effect of pressure and temperature upon equilibrium. Oxidation and reduction. The constitution of the atom. The periodic system of elements. Organic chemistry Dispersed systems. Solubility Carbonic acid and its ions. Acid-base systems. Structures of inorganic compounds. Appendices. Index.

Note. An introductory textbook in general chemistry which has been widely used in colleges and universities *in the United States* of America for many years. It offers a descriptive and essentially nonmathematical treatment, in which elementary theory nomenclature, and fundamental phenomena are emphasized. Unlike some introductory textbooks, there are few references to applications. The first edition was published in 1918 and the fifth edition in 1947 Minor rather than major changes were made in this sixth edition, which has the same organization and purpose as the fifth edition.

HOLMES, HARRY NICHOLLS

General chemistry Fifth edition New York The Macmillan Company, 1949 708 *p. illus* 22 cm. $6 50 1121

Contents (abridged) The composition of pure substances. The atomic theory Symbols, formulas, and equations. Gases. Liquids and solids. Valence. Water and hydrogen peroxide. Carbon and its oxides. Solutions. The simple halogen acids. Ions and electrolysis. The modern theory of acids and bases. Equilibrium. Sulfuric acid and the oxides of sulfur The periodic system. Structure of the atom. Nuclear chemistry The atmosphere. Nitrogen and ammonia. Colloid chemistry Compounds of the metals. Preparation of the metals. Electrochemistry The aliphatic hydrocarbons. Rubber The *aromatic hydrocarbons The carbohydrates.* Cellulose and its esters. Dyeing. Plastics. Food and nutrition—chemotherapy Radiation chemistry Appendix. Index.

Note A widely used introductory textbook. Although it is designed for students who will take additional courses in chemistry about as much space is given to descriptive chemistry as to basic principles. The fourth edition was published in 1941 A considerable range of new material has been added in this edition in order to bring the work abreast of the many advances in chemical knowledge and the applications of chemistry in the past decade.

HOLMES, HARRY NICHOLLS

Introductory college chemistry Fifth edi*tion.* New York The Macmillan Company 1951 594 p illus 22 cm. $6 00 1122

Contents (abridged): The field of chemistry Matter and energy Atoms and molecules. The composition of pure substances. Hydrogen. Oxygen. Gases. Liquids and solids. Electrovalence and covalence. Water and hydrogen peroxide. Solutions. Chlorine, bromine, iodine, and fluorine group VIIB. The alkali metals, group IA. Bases. Ions and electrolysis. Equilibrium. Structure of the atom. Radioactivity Nuclear chemistry Atomic fission. Sulfur and hydrogen sulfide. The atmosphere. Nitrogen and ammonia *Nitrogen fixation. The phosphorus group VB* Carbon and silicon IVB Compounds of the alkali metals, IA. Compounds of copper silver and gold, IB. Compounds of zinc, cadmium, and mercury IIB Compounds of *aluminum and boron, IIIB* Compounds of tin and lead, IVB. Compounds of chromium and manganese, VIA and VIIA. Compounds of iron cobalt, and nickel, VIIIA. The platinum group. Properties and uses of the metals. Alloys. Steel. Electrochemistry Colloid chemistry The aliphatic hydrocarbons. Rubber The aromatic hydrocarbons. The carbohydrates. Cellulose and its esters. Plastics. Nutrition. Chemotherapy Appendix. Index.

Note An introductory textbook which has enjoyed wide use in American colleges since the publication of the first edition in 19 8 As is common in such books, the basic topics in organic and inorganic chemistry are covered in a descriptive fashion with enough references to applications to hold the interest of beginning students. The fourth edition was published in 1946. A fair amount of material on such topics as atomic energy and titanium, synthetic fibers, plastics, and the hydrogen bomb has been added in this edition. A more important change is the rewriting of the sections on atomic structure so as to place more emphasis on this knowledge.

HOPKINS, B SMITH, AND JOHN C BAILAR, JR.

General chemistry for colleges Fifth edition Boston D C Heath and Company, 1956 701 p illus. (part col d) 24 cm. $6 75 1123

Contents (abridged): Fundamental concepts and laws. Measurements—elements—compounds. Atomic structure—valence. Gas laws—kinetic theory Solutions. Colloid chemistry Gas volumes—molecular and atomic weights. Chlorine. Chemical equations. Hydrogen halides. Electrochemistry Acids and bases. Compounds of nitrogen. Carbon and its inorganic compounds. The metallic elements. The alkali metals. The alkaline earth metals. Zinc, cadmium, and mercury Chromium and related elements. Cobalt, nickel, and the platinum metals. The chemistry of the nucleus. Appendix. *Index.*

Note A standard introductory textbook written by a former and present member of the faculty of the University of Illinois. Basic principles are well covered, and also there is a good deal of space given to descriptions of industrial chemistry and to technical applications of chemical principles. In its fifth edition, the book is organized in 41 chapters of which a selected number are listed by *title above. There are 73 tables of reference data,* a generous number of illustrations, and rather extensive reading lists. The fourth edition was published in 1951 In preparing the present edition, two chapters were extensively rewritten sections of others were revised, the literature lists were extensively revised, and new problems were substituted for those in earlier editions.

KING, G BROOKS, AND WILLIAM E CALDWELL

The *fundamentals of college chemistry* Second edition. New York American Book Company 1954 589 p illus. 23 cm. $5.50 1124

Contents (abridged) The atom, its structure and behavior The *periodic* classification of the elements. Formulas and equations. Oxygen. The gaseous state of matter Valence. Water and the liquid state. The solid state of matter Weight and volume relations between substances in chemical changes. *Solutions.* The halogens. Chemical equilibrium. The theory of ionization. Nitrogen and the atmosphere. The sulfur family Carbon and its oxides. The colloidal stat of matter The alkali metals. *Radioactivity* and nuclear changes Electrochemistry Copper silver gold. *Group IV metals*—tin and lead. Introduction to *organic chemistry Chemical* industry and *chemical engineering.* Appendix. Glossary Index.

Note A textbook for first courses in chemistry at the college level. As is common in such books, it combines elementary theory with descriptions of applications. Modern atomic *theory is* introduced in one of the early chapters, and ionic equations as well as molecular are used throughout the book in diagramming chemical reactions. Little mathematics is employed *in the exposition.* Selected literature references are included.

LAUBENGAYER, ALBERT WASHINGTON

General chemistry New York Rinehart & Company Inc., 1949 528 p. illus. 24 cm. 1125

Contents (abridged). The laws of chemical change and the atomic theory. Substances and formulas. Chemical reactions and equations. Energy and chemical change. The gaseous state. The liquid state. The solid state. Reaction rates and chemical equilibrium. Atomic structure and the classification of the elements. Chemical bonding. Electrolytic dissociation and ionic equilibrium. Ionic reactions. [illegible]. The halogens. The sulfur family. Nitrogen. Carbon and its inorganic compounds. Organic chemistry. Silicon and its compounds. The metals. Nuclear structure and radioactivity. Colloidal systems. Appendix. Index.

Note: An introductory textbook designed for first-year college students who require a sound knowledge of the fundamentals of chemistry in preparation for further work in the field or for work in such fields as physics, engineering, or in the biological sciences. Throughout the work, the exposition is closely related to the modern knowledge of the atom and other physical principles on which modern chemistry is based. Chemical bonding is explained in terms of electronic structure. The author is Professor of Chemistry at Cornell University. A revised edition was published in 1957 [illegible] p. $6 [illegible].

MANUFACTURING CHEMISTS ASSOCIATION, INC.

Guide for safety in the chemical laboratory Prepared by and published for The General Safety Committee of the Manufacturing Chemists Association Inc., Washington, D C. Princeton D Van Nostrand Company Inc., 1954 234 p. illus. 22 cm. $4.50. 1126

Contents. General rules for laboratory safety. Laboratory design and equipment. Handling glassware. Handling and storage of containers. Miscellaneous hazards. Flammability. Chemical hazards. Toxicity. Radiation safety and contamination control in the laboratory. Pressure vessel hazards. Clothing and personal protective equipment. Laboratory first aid and suggestions for medical treatment. The packaging and transportation of chemicals. Literature references. Index.

Note: A manual of basic information. In it are outlined good safety practices, safety features to be incorporated when chemical laboratories are designed, the chief hazards in chemical laboratories, and suggestions for first aid and medical treatment. In addition, protective clothing and equipment are described, and there is a selected bibliography of publications containing safety information. The information given is not generalized to the extent that readers will have to turn to other publications for specific details, rather the book is essentially self-contained, with most of the topics being covered concisely and adequately. Many of the 39 plates are reproductions of photographs of laboratories and equipment designed for safety.

MARTELL, ARTHUR EARL, AND MELVIN CALVIN

Chemistry of the metal chelate compounds. New York Prentice Hall, Inc., 1952 613 p. illus. 24 cm. (Prentice Hall chemistry series Wendell M Latimer editor) $10.00 1127

Contents. Introduction. Methods of determining the presence of chelates. Stability constants. Influence of the structure of the chelating agent. Effect of metal ion. Bond type. Structure of chelate compounds. Catalytic effects of chelate compounds. Separation of metal ions. Uses of chelating agents. Appendices. Chelate stability constants. Optical activity and related properties. Glossary of terms. Thermodynamic constants for reactions of metal with chelating agents. Author index. Subject index.

Note: The theoretical chemistry of the metal chelate compounds, their properties, and the uses of chelating agents are all covered in this work, which is both a comprehensive monograph and a reference book of useful data. The discussions of such topics as the influence of the structure of the chelating agent are supplemented by many tables of organized data, including a 45-page table of chelate stability constants. Hundreds of literature references are included as footnotes. The book is of interest to graduate chemists in several branches of chemistry including analytical chemistry, biochemistry, water treatment, and dyestuffs.

NAYLOR, NELLIE MAY, AND AMY LE VESCONTE

Introductory chemistry with household applications. Revised edition. New York D Appleton-Century Company Inc., 1941 476 p. illus. 21 cm (The Century chemistry series J Kendall editor) $4.00 1128

Note: This textbook is intended for use in the general chemistry course in women's colleges and in the course for home economics students in coeducational colleges. As compared with the earlier edition, the revised edition devotes more attention to fundamentals as is indicated by the new material in the chapters on the quantitative relations of acids and bases, the concepts of electrovalence, covalence, and coordinate valence and the complete revision of the chapters on atomic structure and radio activity. Recent theory that has become firmly established through research has been incorporated in the text, as for example, the Debye-Hückel theory as applied to solutions of salts, and strong acids and bases. Equations are introduced earlier; a new chapter has been added to cover recent industrial applications of chemistry of interest in the field of home economics—synthetic textile fibers, glass fibers, synthetic plastics, and new alloys. A list of suggested readings is now included at the end of each chapter, in addition to new questions similar to those in the first edition.

PAULING LINUS

College chemistry an introductory textbook of general chemistry Second edition. Illustrations by Roger Hayward. San Francisco W H. Freeman and Company 1955 685 p. illus. 25 cm. $6.50 1129

Contents (abridged). An introduction to modern chemistry. Some aspects of chemical theory. Some non-metallic elements and their compounds. Water, solutions, chemical equilibrium. Metals and alloys and the compounds of metals. Organic chemistry. Biochemistry, and nuclear chemistry. Appendices. Index.

Note. Dr Pauling is the author of two introductory college texts in chemistry. His General chemistry described below is widely used in the U.S.A. in courses offered to students who are planning to major in chemistry. Although several of the chapters are common to both books, College chemistry is a somewhat less difficult text. There is a similar emphasis on theory but the exposition is more leisurely and the mathematics is comparatively simple.

PAULING, LINUS

General chemistry, an introduction to descriptive chemistry and modern chemical theory Second edition. Illustrations by Roger Hayward. San Francisco W H. Freeman and Company 1956 710 p. illus. 24 cm (A series of chemistry texts Linus Pauling editor) $6.50 1130

Contents: The nature and properties of matter. Atoms, molecules, and crystals. The electron and the nucleus. Elements, elementary substances, and compounds. The chemical elements and the periodic law. Weight relations in chemical reactions. Quantum theory and molecular structure. Ions, ionic valence and electrolysis. Covalence and electronic structure. Oxidation-reduction reactions. The chemistry of the halogens. The laws of electrolysis—electrochemical processes. The properties of gases. Water. The properties of solutions. Sulfur, selenium, and tellurium. Nitrogen, phosphorus, arsenic, antimony, and bismuth. The rate of chemical reactions. Chemical equilibrium. Acids and bases. Solubility product and precipitation. Complex ions. The nature of metals and alloys. Chromium and manganese, and related metals. Iron, cobalt, nickel, and the platinum metals. Copper, zinc, gallium, and germanium, and their congeners. Organic chemistry. Biochemistry. The chemistry of silicon. Thermochemistry. Oxidation-reduction equilibria. Nuclear chemistry. Appendices. Index.

Note: A distinguished textbook designed specifically for the instruction of undergraduate college students who are planning to

specialize in chemistry A moderate amount of descriptive chemistry—that is to say accounts of applications of chemical principles in industry etc.—is included, but most of the space is devoted to theory properties of compounds, and descriptions of reactions. The illustrations include numerous reproductions of three-dimensional drawings based on molecular models. The first edition was published in 1948. In preparing this edition, a number of changes were made, including the addition of two chapters on the electron and the nucleus, the quantum theory and molecular structure.

ROCHOW, EUGENE G, AND M KENT WILSON

General chemistry a topical introduction New York John Wiley & Sons, Inc., 1954 602 p illus 24 cm. $6 50 1131

Content (abridged) The cause of it all—the structure of atoms and molecules. Organization in nature—the periodic system of the elements. Introduction to gases—the kinetic molecular theory and its practical applications. Chemical equilibrium—the rates of chemical reactions and the concept of dynamic equilibrium—acids, bases, and pH. Hydrogen peroxide and oxidations in general—the concept of oxidation number and its use. The sea as a chemical storehouse Sulfur and its compounds. The connection between chemistry and electricity—oxidation potential, cells, batteries, and electrolysis. Heat of chemical reactions—the interchange of chemical and thermal energy Photochemistry—the emission and absorption of light by chemical systems. Piezochemistry—the effect of pressure on chemical reactions. Nitrogen—unwilling but useful element. Organic chemistry—variety and versatility on the part of element 6. Photosynthesis—inimitable production of organic compounds. Chemotherapy—chemical agents in medicine Macromolecules—size transcends composition. Metals in theory and practice. Radiochemistry—the theory and practice of nuclear reactions. Our resources—our inheritance of materials and sources of energy Appendixes The history of chemistry Some mathematical concepts and operations. Review of chemical arithmetic. Answers to problems. Index.

Note A textbook for freshman college students, written by two faculty members of the Department of Chemistry of Harvard University The organization and content differ considerably from the typical introductory chemistry text of a decade or so ago. For instance, the authors have not attempted to cover systematically all of the elements in the periodic table, nor have they devoted much space to descriptions of groups of compounds. Missing also are the usual descriptions of industrial chemical processes. On the other hand, fundamental knowledge, such as atomic and molecular structure, is carefully explained. The reader's interest is held by (1) a readable style and (2) the inclusion of numerous passages which relate chemical science to man's present and future needs.

SANDERSON, ROBERT THOMAS

Vacuum manipulation of volatile compounds a laboratory manual describing the application of high vacuum technique in experimental chemistry New York John Wiley & Sons, Inc. 1948 162 p illus. 22 cm. $5 50 1132

Contents Introduction to chemical high vacuum technique. Materials of construction and operation. Glass blowing. Producing high vacuum. Measuring pressure. Low temperatures. Valves. Introducing into and removing from vacuum system Measuring volumes. Measuring vapor pressure Condensation traps and fractionation. Miscellaneous suggestions and methods. Practice in high vacuum technique. A general utility high vacuum apparatus. Future developments. Appendix. Author index. Subject index.

Note As the title indicates, this manual has been written to provide the chemical research worker with a practical knowledge of the fundamental principles and methods of high vacuum technique. It describes in detail the actual construction of a laboratory high vacuum system and the procedures to be followed in carrying out typical quantitative analyses. Particular attention is given to the intricacies of handling minute quantities of material. The appendix includes a tabulation of the melting points, boiling points, and vapor pressure for 198 pure compounds.

SCARLETT, ANDREW J AND JOSÉ GÓMEZ IBÁÑEZ

General college chemistry New York Henry Holt and Company 1954 645 p illus 24 cm. $6.50 1133

Contents (abridged) Part 1, Fundamental principles and the kinetic theory of matter Chemical properties and the periodic table. The structure of matter and the chemical bond. Chemical equilibrium and solutions of electrolytes. The chemistry of the elements. Compound substances. Thermochemistry colloids, nuclear reactions. Appendix. Index.

Note A successor to *General college chemistry* by Leon B. Richardson and Professor Scarlett. As was the earlier work, it is intended for the instruction of college students taking their first courses in chemistry It is organized in the seven parts whose titles are given above and in 39 relatively short chapters. More attention is given to fundamental principles, the structure of matter, the laws of chemical equilibria, etc., than to describing the properties of chemical elements. Nevertheless, more than 200 pages are devoted to descriptive chemistry The senior author is a member of the faculty of Wesleyan University

SCHLESINGER, HERMANN IRVING

General chemistry Fourth edition, completely revised and rewritten New York Longmans, Green and Company, 1950 811 p. illus 21 cm $5 75 1134

Contents (abridged) Some fundamental concepts of chemistry *The kinetic molecular theory Critical phenomena* and the liquefaction of gases. Atomic theory and atomic weights. Introduction to chemical equilibrium. Heats of formation of oxides. Atomic structure. The behavior of ions and ionic compounds. The law of chemical equilibrium. The alkali and the alkaline earth groups. The halogens. Nitrogen and some of its compounds. Organic chemistry and its contribution to chemistry as a whole. Silicon and some of its compounds. The colloidal condition. The copper group. The zinc group. Radioactivity and atomic fission. Appendixes. Index.

Note One of the more successful introductory texts in general chemistry In contrast to some books of the kind, it presents a systematic and fairly solid introduction, with some material on relatively advanced topics in chemistry It has some reference value, especially in such features as the 31-page table of physical properties of the inorganic compounds. In comparison with the previous edition, this one has been reorganized, and the type has been reset. Discussions of a considerable number of new topics have been added.

SELWOOD, PIERCE W

Magnetochemistry Second edition, completely revised and rewritten. New York Interscience Publishers, Inc., 1956 435 p. illus. 24 cm. $11 50 1135

Content Classical determination of average susceptibility The measurement of principal susceptibilities. Specific magnetization and thermomagnetic analysis. Resonance methods. Atomic diamagnetism. Molecular diamagnetism. Molecular diamagnetic anisotropy Atomic paramagnetism. Some applications of atomic paramagnetism. Coordination compounds. Molecular paramagnetism. Ferromagnetism. Antiferromagnetism. Metallic diamagnetism and paramagnetism. Magnetochemistry and heterogeneous catalysis. Author index. Subject index.

Note The author of this book has indicated his purpose in the following words "... I have tried to show what information of chemical nature may be obtained from magnetic measurements and to indicate in some detail how these measurements may be made. ... In its present form, the book is the most complete treatment available of its subject. Experimental techniques, instruments, and the applications of results to various problems in chemistry particularly structural chemistry are all covered. It is based on a wide literature survey and important statements in the text are keyed to citations of the source articles. The first edition was published in 1943 This edition, although written from the same viewpoint, is essentially a new work covering both basic knowledge and applications developed in the past 23 years. The author is a faculty member of the Department of Chemistry of Northwestern University

SNEED, M CANNON, AND OTHERS

General college chemistry By M Cannon Sneed, J Lewis Maynard and Robert C. Brasted Second edition. Princeton D Van Nostrand Company Inc., 1954 693 p. illus. (part col d) 24 cm $6 50 1136

Contents (abridged) Structure of atoms and molecules. The periodic system. Formulas, equations, valence, and chemical arithmetic. Hydrogen. Water and hydrogen peroxide. The gas laws and the kinetic theory. Molecular weights, equivalent weights, and atomic weights. The halogens. Oxidation and reduction. Solutions. The velocity of chemical reactions and equilibrium. Solutions of electrolytes and ionic theories. Electrochemistry. Sulfur, selenium, tellurium, and polonium. Nitrogen and compounds. The phosphorus family. Introductory organic chemistry. Applied organic chemistry. Silicon. Boron. The alkali metals. Beryllium, magnesium, and the alkaline-earth metals. Radio-activity. Elements of Group III. The transition elements of Groups IV and [illegible]. The transition elements of Groups VI and VII. Iron, cobalt, and nickel. The actinoid (actinide) series. Appendices. Some selected lecture demonstrations. Index.

Note: Three members of the faculty of the School of Chemistry of the University of Minnesota are the authors of this textbook which is designed for use in full-length introductory college courses. It offers [illegible] broad view of the field, including both inorganic and organic chemistry. The main emphasis is on basic theory and phenomena, but some space is devoted also to applied chemistry. Many data on individual compounds are included by the device of presenting this information in tabular form. Ignoring the tables in the appendix, there are 114 in this second edition. The first edition was published in 1944. The second edition represents [illegible] thorough revision and some reorganization. The nomenclature has been changed to that recommended by the Commission of the International Union of Chemistry for the Reform of Inorganic Chemical Nomenclature in 1940. More space is given to organic chemistry and the treatment of some topics has been shortened.

TIMM JOHN ARREND

General chemistry Third edition. New York McGraw Hill Book Company Inc. 1956 636 p. illus. 23 cm. $6 50 1137

Contents (abridged) Matter. Atoms and molecules. The properties of gases. The kinetic-molecular theory. The periodic table. Subatomic particles. Atomic structure. Valence. Oxidation number. Oxygen. Hydrogen. Water. The halogens—group VII. Solutions. Reaction velocity and equilibrium. Reactions of acids and bases. The alkali metals—group IA. Oxides and oxygen acids of sulfur. Nitrogen and ammonia. The alkaline-earth metals—group IIA. Phosphorus, arsenic, antimony and bismuth—group VA. Boron and aluminum—group IIIA. Carbon, silicon, germanium, tin, and lead—group IVA. Colloids. Copper, silver and gold—group IB. Zinc, cadmium, and mercury—group IIB. Iron, cobalt, nickel, and the other metals of group VIII. Chromium, manganese, and other transition metals. The aliphatic hydrocarbons and their derivatives. The aromatic hydrocarbons. Biochemistry. Transmutations and nuclear energy. Appendix. Index.

Note: An established introductory text in which theoretical information and descriptive material on the applications of chemistry are combined with basic knowledge [illegible] a readable work suitable for first-year college students and for other readers in search of factual information. The illustrations include small reproductions of [illegible] large number of photographs of chemical applications. The second edition was published in 1950. Although there are fewer pages in this third edition, [illegible] amount of material has been added, [illegible] chapters and parts of chapters have been rewritten to make them clearer and easier to comprehend. A few recent books and articles have been added to the bibliography.

WHITTAKER, ROLAND MAPES

Rudiments of chemistry the chemist's view of the nature of matter New York The Ronald Press Company 1947 310 p illus. 21 cm. $5.50 1138

Contents (abridged) Fundamental ideas. Classification and properties of matter. Changes in matter. Symbols, formulas, equations. Mechanics. The atoms change, chemical reactions occur. The larger units of matter. The three states of matter. Molecular and atomic weights. The dispersed condition. Ionization and electrolytes. Chemical equilibrium. Appendices: Units and conversion factors. The expression of numbers. Suggested lecture demonstrations. Index.

Note: An interesting and successful attempt to expound concisely the basic chemical laws, theories, and phenomena without cluttering the text with accounts of chemical industries and other descriptive material. Special emphasis is placed on modern theories of atomic structure. Chapter reading lists refer the reader to selected periodical articles, text- and reference-books for fuller treatments of the various topics. The book is suitable for use in cultural or survey-type college courses in chemistry and may also be studied with profit and enjoyment by the lay reader. The author is Chairman of the Department of Chemistry at Queens College, New York.

WISWESSER, WILLIAM J

A line formula chemical notation. New York Thomas Y Crowell Company 1954 149 p. illus 22 cm. $7 00. 1139

Contents: Part one, The system of symbols. The international atomic symbols. New atomic group symbols. Auxiliary symbols. Part II, Aliphatic (open-chain) compounds. The line formula convention. Miscellaneous open-chain details. Systematic contractions. Part III, Cyclic compounds. Benzene derivatives. Other monocyclic compounds. Bicyclic compounds. Polycyclic compounds. Appendices. Indexes.

Note: Described in this important book is [illegible] new system of symbols for indicating the structure of molecules by means of a single line of type without the use of subscripts or superscripts. The notation can be typed on [illegible] standard typewriter keyboard, and it is adaptable to literature searching on punch-card machinery. These four "general propositions" or rules that govern the choice of symbols are quoted from the book: 1. Reserve capitalized letter symbols to denote atoms or atomic groups. 2. Reserve punctuation marks to denote modes of connection or disconnection. 3. Reserve numeric symbols to denote absolute numerical measures, such as the number of skeletal atoms in [illegible] ring or an alkyl chain. 4. Reserve lower-case letters (rather than numbers) as locants to locate valence ring positions. The system is described fully and in detail, and review exercises for readers' practice are included.

ANALYTICAL CHEMISTRY

AHRENS LOUIS HERMAN

Spectrochemical analysis Arranged particularly for the D. C. arc analysis of minerals, rocks and soils and applicable also to ceramic materials, refractories, slag biological ash and powders in general Foreword by George R. Harrison. Reading, Mass Addison-Wesley Publishing Company Inc., 1950 269 p illus. 23 cm. $12.00 1140

Contents (abridged) Part I, General principles: The origin and interpretation of spectra. Some physical features of the D. C. arc discharge. Power for the arc source. Qualitative analysis. Selective volatilization. General principles of quantitative analysis. Effect of change of composition on line intensity. The photographic measurement of radiant energy and the construction of [illegible] working curve. The emission of band spectra from the arc. Part II, The elements. Bibliography. Author index. General index. Wavelength tables.

Note: The author of this practical treatment has not assumed that his readers will have had any previous experience with spectrochemical analysis, but he has assumed familiarity with basic physical concepts and terminology and with basic chemistry. The first part of the book is devoted to the general aspects of spectrochemical analysis. In the second part, semi-quantitative and quantitative analytical methods applicable to specific elements are described in detail. Numerous special points based largely on the author's experience are included in the descriptions of procedures. There are copious references to the related literature. The book is of particular interest to workers in geochemistry but it has application to analytical work in many other fields.

ALTIERI V JOSEPH

Gas analysis & testing of gaseous materials New York American Gas Association, Inc., 1945 567 p. illus. 23 cm. $7.50. 1141

Contents: Introduction. The composition of gases. Measurement of quantity and flow of gas. Selection of method of sampling. Apparatus and reagents. Common operations. Calculations of gas analysis. Official inspection and testing. The Hempel type of apparatus and method. The Orsat apparatus and its modifications. The Elliott and Macdonald methods. The Shepherd apparatus and methods. Methods for small amounts of nitric oxide, carbon monoxide, olefins, oxygen, hydrogen sulfide, cyanogen, and hydrocyanic acid. Dusts, sprays, fumes, mists, and similar dispersoids. Liquefaction and distillation methods of analysis. The determination of sulfur compounds. Light oils in gas. Naphthalene in gas. Density and specific gravity. Analysis of raw gases. Appendix. List of illustrations. List of tables. Bibliography. Name index. Subject index.

Note: This work is intended to supersede the gas analysis portion of the *Gas chemists' handbook* New York, 1929 and [illegible]

amount of material that appeared in that work has been included. The present work is intended for use by gas chemists as a guide to standard procedures of analyzing and testing. Specific directions for apparatus, procedure and interpretation of tests are given. There are many illustrations of apparatus. The appendix contains about 40 pages of useful reference data, and there is an extensive bibliography

AMERICAN CHEMICAL SOCIETY
Reagent chemicals Specifications, 1955 Washington, D C American Chemical Society, 1955 428 p 24 cm $6 50 1142

Contents: Definitions, procedures, and standards. Specifications. Index.

Note. A well-sponsored and carefully prepared reference book of specifications for reagents to be used in precise analytical work. It was prepared by the American Chemical Society's 1955 Committee on Analytical Reagents. A 22-page introductory section on definitions, procedures and standards is followed by standardized specifications for the reagents which are included. For each reagent, the official requirements are stated, and standardized tests for various types of impurities are described. The arrangement is alphabetical by name of the reagent, such as Ferrous sulfide, Potassium hydroxide, and Zinc sulfate. This edition supersedes the edition of 1950 and its appendix published in 1953 in *Analytical chemistry* Vol. 25 p. 165–80. Many of the older specifications, including those given in the appendix just mentioned have, of course, been carried over without change or with small changes into the present edition of the book.

AMERICAN SOCIETY FOR TESTING MATERIALS
Index to the literature on spectrochemical analysis, 1920–1939 Second edition By William F Meggers and Bourdon F Scribner Philadelphia The American Society for Testing Materials, 1941 94 p 22 cm $1 50 1143

—— Part II, 1940–1945 By Bourdon F Scribner and William F Meggers. Philadelphia The American Society for Testing Materials, 1947 180 p 23 cm $3 00 1144

—— Part III 1946–1950 By Bourdon F Scribner and William F Meggers. Philadelphia The American Society for Testing Materials 1954 226 p 23 cm $4 50, parts I III $7 50 1145

Note. In its three parts, this useful bibliography now covers the international literature bearing on spectrochemical analysis from 1920 through 1950. Within each part, the organization is by calendar year and in alphabetical order of authors' names within each calendar year. Each part contains its own indexes, including adequately detailed subject indexes. No abstracts were given in Part I, although references to published abstracts were included. In both Part II and Part III, abstracts are included. In most cases, the abstracts are quoted verbatim from *Chemical abstracts*, but in a few instances they are abridged or quoted from other publications or are especially prepared from this index.

AMERICAN SOCIETY FOR TESTING MATERIALS
Report on standard samples for spectrochemical analysis, 1955 Prepared by Robert E Michaelis National Bureau of Standards, for ASTM Committee E-2 on Emission Spectroscopy Philadelphia The American Society for Testing Materials, 1956 90 p 23 cm (Technical publication no 58-C) $2 75 1146

Contents. Introduction. Available standard samples. Available reference samples. Available high-purity materials. Appendices. Standard samples in preparation.

Note. In a series of 47 tables, accompanied by explanatory text, this reports states the exact chemical analyses of standard samples obtainable from approximately 34 suppliers in the United States of America and Canada, whose names and addresses are given. The total number of entries of standard samples, reference samples, and high-purity materials described and listed is 2,100. Included also is a report of a new survey on standard samples for spectrochemical analysis, conducted for Committee E-2's Subcommittee IV. Five appendix tables provide information on standards in preparation.

AMERICAN SOCIETY FOR TESTING MATERIALS
Symposium on flame photometry Presented at the fifty fourth annual meeting, American Society for Testing Materials, Atlantic City, N J., June 19, 1951 Philadelphia American Society for Testing Materials, 1952 120 p illus 23 cm. (Special technical publication no 116) $2.00 1147

Contents: Introduction, by R. O. Clark and L. R. Pritchard. A review of flame photometry, by V. M. Meloche. A stable internal standard flame photometer for sodium, potassium, lithium and calcium analyses in biological fluids and a study of ion interference, by C. L. Fox, Jr. and others. Use of the Beckman and Perkin-Elmer flame photometers for the determination of alkalies in Portland cement, by J. J. Diamond and L. Bean. Applications of flame photometry for the analysis of alkalies in silicates, waters and metals, by J. L. Gilliland. The determination of lithium oxide in Portland cement by flame photometer by W. J. McCoy and O. O. Christiansen. Control of interferences caused by acids and salts in the flame photometric determination of sodium and potassium, by F. T. Eggertsen and others. The effect of organic solvents on the flame photometric emission of certain elements, by O. W. Curtis and others. Determination of tetraethyllead in gasoline by flame photometry by P. T. Gilbert, Jr. Determination of calcium in lubricating oil by flame spectrophotometer by M. L. Moberg and others. A modified recording flame photometer by W. H. King and W. Priestley Jr. Flame photometer in the analysis of water and water-formed deposits, by R. K. Scott and others. General discussion.

Note: Recent developments in the field of flame photometric analysis form the basic theme for the papers in this symposium. Each paper is the work of an expert engaged in active research, and in most cases is the report of an original contribution to the subject. Applications of the technique in the analysis of industrially useful substances are emphasized. Bibliographies and discussions are included.

ARTHUR, PAUL AND OTTO M SMITH
Semimicro qualitative analysis Third edition New York McGraw Hill Book Company, Inc., 1952 285 p illus 23 cm (International chemical series L P Hammett, consulting editor) $4.25 1148

Contents Part I, Theory Introduction—review of elementary principles. Solutions. Theories of ionization. Homogeneous ionic equilibrium. Heterogeneous equilibrium—solubility product. Colloids—coprecipitation. Hydrogen sulfide and metal sulfides. Ionization of water—pH—hydrolysis. Complex ions—Amphoteric substances. Oxidation-reduction reactions. Part II, Analytical procedures. Semimicro technique Cation analysis. Anion analysis. Appendix. Index.

Note. Theory and other basic information and laboratory procedures are separated in this third edition of a standard introductory textbook. The theoretical part is 161 pages long, the analytical part 100 pages long. The ground covered is traditional for introductory courses in qualitative analysis, and the treatment also is primarily classical. However modern theory such as Brønsted' acid-base theory is also introduced. An important feature is that the analytical procedures are based on the use of samples consisting of about one ml. of solution, or from 10 to 100 mg of solid. The first edition was published in 1942 In this third edition,

the organization of the book and its scope are essentially the same, but various sections and paragraphs have been rewritten in the interests of clarity and discussions of some concepts not considered in the second edition have been introduced, among other changes.

ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS

Official methods of analysis of the Association of Official Agricultural Chemists. Editorial Board William Horwitz, chairman and editor Committee on Editing Methods of Analysis H. J Fisher A. H. Robertson and Helen Reynolds. Eighth edition. Washington, D C. The Association of Official Agricultural Chemists, 1955 1,008 p. illus. 24 cm. $12.00 $12.50 outside U.S.A. 1149

Contents: Agricultural liming materials. Fertilizers. Soils. Caustic poisons. Pesticides. Plants. Baking powders and baking chemicals. Beverages: nonalcoholic and concentrates. Beverages: distilled liquors. Beverages: malt beverages, sirups and extracts, and brewing materials. Beverages: wines. Cacao bean and its products. Cereal foods. Coffee and tea. Dairy products. Eggs and egg products. Enzymes. Fish and other marine products. Flavoring extracts. Fruits and fruit products. Gelatin dessert preparations, and mixes. Grain and stock feeds. Meat and meat products. Metals, other elements, and residues in foods. Nuts and nut products. Oils, fats, and waxes. Preservatives and artificial sweeteners. Spices and other condiments. Sugars and sugar products. Vegetable products, processed. Waters, mineral, and salt. Drugs. Cosmetics. Coloring matters. Extraneous materials: isolation. Microbiological methods. Microchemical methods. Nutritional adjuncts. Radioactivity. Spectroscopic methods. Standard solutions. Reference tables. General index.

Note: New editions of this standard reference book have been issued by the Association at five-year intervals beginning in 1920. Between editions the Association carries on continuous study and development of analytical methods as applied to agriculture; the findings are reflected in the quinquennial revision and republication of the "Methods of analysis." The result is an up-to-date working laboratory manual for the analytic chemist concerned with food and related products. Developments in instrumental technique have permitted many simplifications of method in the eighth as compared with the preceding edition, e.g., the extension of such techniques as chromatography to the isolation of substances from materials refractory to other means of separation. Revised or replaced by newer and more efficient methods have been certain time-honored methods of analysis, such as the Kjeldahl methods for nitrogen, the gravimetric methods for vanillin and coumarin, and the fermentation methods for thiamine. The vitamin chapter has been renamed "Nutritional adjuncts," and there is a new chapter on spectrographic methods. The selected bibliographical references, which appear at the ends of the chapters, have been brought up to date by the inclusion of pertinent citations from recent technical journals.

BARBER HERVEY HUBBARD AND T IVAN TAYLOR

Semimicro qualitative analysis. Revised edition. New York Harper & Brothers, 1953 404 p. illus. 24 cm. (Harper's chemistry series William Marshall MacNevin editor) $5.00. 1150

Contents: Part I, Semimicro qualitative analysis for the cations. Introduction—terms of qualitative analysis. Concentration of solutions—calculations. Chemical reactions and equations. Laboratory methods in semimicro qualitative analysis. Directions for laboratory work. General scheme of qualitative analysis for the cations. Preliminary experiments and reactions for group I cations. Analysis of group I cations. Preliminary experiments and reactions for group II cations. Analysis of group II cations. Preliminary experiments and reactions for group III cations. Analysis of group III cations. Preliminary experiments and reactions for cations of groups IV and V. Analysis of cations of groups IV and V. General unknown solution for cations. Analysis of metals and alloys—identification of the cation and anion in simple solid salts. Part II, Qualitative analysis for the anions. General scheme of qualitative analysis for the anions. Preliminary experiments and properties of group I anions. Analysis of group I anions. Preliminary experiments and properties of group II anions. Analysis of group II anions. Preliminary experiments and properties of group III anions. Analysis of group III anions. Tests for group IV ions. Analysis of a general unknown solution—all anion groups. Systematic analysis of a solid unknown for cations and anions. Appendices. Index.

Note: A standard textbook designed for use in introductory college courses in chemical analysis. General directions for laboratory work, calculations, and other topics general to qualitative analysis are discussed for beginners. Analytical procedures are described in detail. There are numerous tables, in which information on procedures, reactions, and tests is presented concisely. The procedures permit the use of a simple apparatus consisting of a pressure filter tube and a rubber pressure bulb in place of the expensive centrifuge in filtration. Another feature is the use of thioacetamide in place of hydrogen sulfide in precipitations. However, directions are given for hydrogen sulfide precipitations and for filtrations based on use of the centrifuge for instructors who prefer these techniques. The first edition of the book was published in 1941. This revised edition represents a very extensive reorganization and revision.

BATES ROGER G

Electrometric *p*H determinations theory and practice. New York John Wiley & Sons, Inc. 1954 331 p illus. 24 cm. $7.50 1151

Contents: Fundamental principles and conventions. Definitions of *p*H scales. Liquid-junction potentials and ionic activities. Establishment of *p*H standards. Buffer solutions. Quantitative aspects of acidity and basicity in nonaqueous solutions. Cells, electrodes, and techniques. Properties of glass electrodes. Measurement of electromotive force. The *p*H meter. Automatic *p*H control. Appendix. Author index. Subject index.

Note: An important addition to the literature of *p*H determination. In the theoretical chapters (the first six) the problems of *p*H standardization with a view to the adoption of a practical electrometric scale of acidity are carefully examined from both the thermodynamic and practical standpoints. The latter four chapters are devoted to instrument elements and instruments including industrial control apparatus. Here emphasis is on selection, use, and the understanding of inherent errors. Specific descriptions of *p*H meters which are currently available from instrument manufacturers in the United States of America and Europe are included in these chapters. The book is addressed to graduate chemists, and the level of treatment assumes familiarity on the reader's part with the basic concepts of the field, the fundamentals of thermodynamics, and the necessary mathematical techniques. Literature references are supplied in the form of footnotes.

BELCHER, RONALD AND CECIL L WILSON

New methods in analytical chemistry New York Reinhold Publishing Corporation 1955 287 p. illus. 23 cm. $5.50 1152

Contents: Separation by precipitation. Separation by extraction. Inorganic precipitants. Organic reagents. Indicators. Titrants. Miscellaneous methods. Subject index. Author index.

Note: A professional-level reference book devoted to new analytical techniques which do not depend on the use of instruments—in other words, procedures which may be carried out with traditional laboratory equipment. Furthermore the authors selected only procedures which have appeared in the professional literature but had not been incorporated in the standard texts and reference books. Although most of the chapters begin with a paragraph or two of generalized discussion, the book is essentially a manual of specific individual procedures. The description of each procedure is full enough to enable the experienced analytical chemist to carry it out in the laboratory. References to the source publications are given. Entries in the index have been marked with a symbol to indicate whether the reference is to a gravimetric determination, titrimetric determination, synthesis, to a reagent or solvent, etc. This unusual feature facilitates use of the book for reference.

BENEDETTI PICHLER A A.

Essentials of quantitative analysis an introduction to the basic unit operations. New York The Ronald Press Company 1956 666 p. illus. 24 cm. $15.00 1153

Contents (abridged): Introduction. Measuring and weighing instruments. Preliminary tasks. Analytical operations. A course of

study Appendix Locating analytical procedures in the literature. Administration of the laboratory Tables. Index.

Note. A substantial and important addition to textbooks on quantitative analysis. Although designed primarily for student use, it will be useful to graduate chemists also because of its broad scope and numerous reference features. As indicated by the subtitle, the material is arranged according to basic unit operations, such as determinations of mass, volume, temperature, gas pressure; preparation of solutions mixing; mechanical separation of phases, etc. Most of the space is given to these operations, and only about 140 pages are devoted to procedures for specific analytical determinations. The author is Professor of Chemistry in Queens College of the City of New York.

BERL, WALTER G, editor

Physical methods in chemical analysis Volume III New York Academic Press, Inc., 1956 652 p illus 23 cm. $15 00 1154

Content Gas chromatography by C. S. G Phillips. Electrochromatography (zone electrophoresis, pherography) by T Wieland and K. Dose. Electroanalytical methods in trace analysis, by W D Cooke. High-frequency method of chemical analysis, by W J Blaedel and D L. Petitjean. Field emission microscopy by E. W Muller Theory and principles of sampling for chemical analysis, by A. A. Benedetti-Pichler. Flame photometry by K. W Gardiner Microwave spectroscopy by B P Dailey Analytical applications of nuclear magnetic resonance, by H. S. Gutowsky Fluorescent X-ray spectrometric analysis, by G L. Clark. Analytical distillation, by W J Podbielniak and S. T Preston. Neutron spectroscopy and neutron interactions in chemical analysis, by T I Taylor and W W Havens, jr Author index. Subject index.

Note Volumes I and II of this treatise, published in 1950–51 and now out of print, are described under number 332 of *Scientific, Medical and Technical Books Second Supplement*. This third volume contains the reviews of those authors and titles listed above. All treat methods of chemical analysis which have become important since the writing of the first two volumes, and all are critical surveys, accompanied by substantial lists of literature reference, and addressed to graduate chemists.

BIFFEN, FRANK M, AND WILLIAM SEAMAN

Modern instruments in chemical analysis. New York McGraw Hill Book Company, Inc., 1956 333 p illus 24 cm $7 50 1155

Contents Introduction. Emission spectroscopy Flame photometry Visual and ultraviolet absorption spectrophotometry Infrared spectrophotometry Raman spectroscopy Mass spectrometry X-ray diffraction. Survey of electroanalysis. Polarography Potentiometric analysis. Conductometric analysis. Coulometric analysis. Radioactivity Index.

Note Planned particularly for general analytical chemists and others who are concerned with analytical work in which instruments may be used, this book describes the instrumental techniques noted in the chapter titles. The organization of the chapters varies somewhat, but generally speaking th following points are covered in each basic principles, advantages, limitations, applications, typical commercial instruments, examples f analyses, and literature refer ences. The purpose of the book is to aid in selecting techniques and instruments to suit the needs of specific laboratories hence, although the terminology is that of professional chemistry the discussions are not highly technical.

BOLTZ, DAVID F, editor

Selected topics in modern instrumental analysis New York Prentice Hall Inc, 1952 477 p illus 24 cm. (Prentice-Hall chemistry series Wendell M Latimer editor) $7 00 1156

Contents Electrometric pH measurements, by G. A. Perley Polarographic analysis, by C. L. Rulfs. Fluorometric analysis, by C. E. White. Spectrophotometric analysis, by D F Boltz. Spectrochemical analysis, by J R. Churchill. Electrometric and opticometric methods of analysis, by D F Boltz. Analytical applications of x-ray diffraction, by E. J Black. Mass spectrometry by C. E. Berry and H F Wiley Raman spectroscopy by D R. Lang. Radiochemical analysis, by B F Rider Appendices. Index.

Note. The ever-increasing use of instruments in the analysis f organic and inorganic materials has given rise to college courses in this phase of analytical chemistry This text is designed for chemistry students taking such courses at the senior and graduate level. Each chapter has been prepared by a specialist in the field, and each type of instrument is discussed as to its fundamental principles, methods of construction and operation, and applications in chemical research. Brief bibliographies, review questions, and laboratory exercises are included.

BRODE, WALLACE REED

Chemical spectroscopy Second edition. New York John Wiley & Sons, Inc., 1943 677 p illus. (part col'd) 22 cm. $12 00 1157

Contents Introduction. Atomic and molecular spectra. Emission spectra (apparatus) Qualitative analysis, spectrum tables, and standard samples. Quantitative analysis. Resonance and chemical structure. Absorption spectra (apparatus and methods) Relation between molecular structure and absorption spectra. Application of absorption spectra data. Infrared and raman spectra. Colorimetry and fluorimetry Laboratory experiments. Theory and practice of photography Equipment and arrangement of a spectrographic laboratory Bibliography and references. Tables. Charts. Index.

Note For those dealing with spectrographic analysis of materials and other applications of emission and absorption spectroscopy While written primarily from the chemical standpoint, it will be found useful also by workers in physics, the biological sciences, metallurgy and engineering. The book constitutes practical working guide for the laboratory analyst. In this second edition the lists f spectrum tables and data for both emission and absorption spectra have been expanded. There has been a complete revision of all numerical (spectrum data) tables, with wavelength values based on the Harrison M. I. T Wavelength tables New York, Wiley 1939 This book includes the first published spectrum lines by elements based on these tables. The section on theoretical spectra has been carefully revised to conform with accepted modern notation. The section on quantitative emission spectra has been revised and expanded. Some new tables have been added, including persistent lines, lines for analysis, and conversion tables for transmission/extinction and wavelength/frequency The bibliography has been expanded.

BROWN, FRANK EMERSON

A short course in qualitative analysis Revised edition. New York D Appleton-Century Company, Inc. 1942 367 p illus. 23 cm. (The Century chemistry series, James Kendall, editor) $3 00 1158

Note. In order to adapt this college textbook for use with both types of analytical methods, adequate directions are given for macro analysis as well as for semimicro. Part I of the book is devoted to the theory of qualitative analysis Part II gives in detail simple, default procedures for the systematic analysis of inorganic substances Part III provides general directions for laboratory work, followed by laboratory report sheets for 51 experiments which parallel the procedures described in Part II. The principal new features of the revised edition are the revision of the text to fit the needs of semimicro courses, the inclusion of perforated laboratory sheets, a more logical organization of the material, and the enlargement of the format.

BURKE, OLIVER WALLIS JR, AND OTHERS, editors

Light hydrocarbon analysis analytical methods compiled and tested for the Office of Rubber Reserve Reconstruction Finance Corporation by the Butadiene Committee on Specifications and Methods of Analyses Edited by O W Burke, jr, C. E Starr, jr, and F D Tuemmler New York Reinbold Publishing Corporation 1951 639 p illus. 26 cm. $18 00 1159

Content History and function of the Committee on Butadiene Specifications and Methods f Analyses. Butadiene production processes. Butadiene specifications and applicable test methods. Schemes of analysis. Sampling and handling of light hydrocarbons. Analytical methods. Preparation of samples of known composition for test programs. Evaluation of accuracy and precision of methods. Index of appendix tables. Subject index.

Note: An important contribution to the literature of analytical chemistry. The heart of the volume is a collection of analytical methods that were compiled and critically evaluated by the committee formed in the task for use in connection with the synthetic rubber program of the United States government during World War II. In addition, there are full discussions of selected topics, such as safety precautions and methods of evaluating the results of analytical tests. Each of the analytical methods included is fully described, with information on the required apparatus, reagents, and the detailed procedure. The work is of interest to graduate chemists engaged in analytical work in the petroleum and gas industries and in other industries using petroleum gases as raw material.

CURTMAN, LOUIS JACOB

A brief course in qualitative chemical analysis from the standpoint of the laws of equilibrium and the ionization theory. New York: The Macmillan Company, 1936. 249 p. illus. 22 cm. $4.35 1160

Contents (abridged): Introduction. Qualitative analysis. Terms. Method of qualitative analysis. Limitations of tests. Part I, Theory. Chemical equations. Balancing equations. Solution of electrolytes. Theory of ionization. Modification of the theory of ionization. Chemical equilibrium. Application of the mass action law and ionization. Solubility product. Complex ions. Law of distribution. Theory of oxidation and reduction. Ion product of water. Buffer solutions. Hydrolysis of salts. Part II, The metal ions and the acids. Part III, Laboratory work. Part IV, Calculations. Appendix. Index.

Note: This textbook contains comprehensive material for an elementary course in which theory and laboratory work are closely co-ordinated to provide a scientific foundation for the prospective student of chemistry, medicine, dentistry, agriculture and engineering. Detailed explanations have been supplied for working all the difficult equations for the reactions of the metal ions and serve as a reference for the student. Instructions are also provided for the use of a system of individual reagents as developed by the author. Problems are given at the end of each chapter.

CURTMAN, LOUIS JACOB

Introduction to semimicro qualitative chemical analysis. Revised edition. New York: The Macmillan Company, 1950. 391 p. illus. (part col'd) 21 cm. $4.50. 1161

Contents (abridged): Introduction. Part I, Theory. Part II, The metal ions and the anions. Part III, Calculations. Part IV, Laboratory work. Part V, The anions and the complete analysis of mixtures. Appendix: Checking in. Checking out. Assignment schedule. Suggested lecture topics. Remaining notes. Desk equipment. Reagent solutions in student's rack. Side-shelf solutions and reagents. Reagents. Preparation of test, known and unknown solutions. The Bradford H_2S generator. Table—solubilities and solubility products. Table of inorganic compounds. Table of logarithms. Index.

Note: A college laboratory textbook and manual. In the procedures described, the quantities of samples, reagents, and the sizes of apparatus are reduced to a scale of one-tenth to one-twentieth of those employed in standard macro methods. Another feature is the emphasis on inorganic rather than organic reagents. In this edition important changes have been made in the laboratory procedures. The author is Emeritus Professor of Chemistry in the City College of New York.

CURTMAN, LOUIS JACOB

Qualitative chemical analysis. Revised edition. New York: The Macmillan Company, 1938. 514 p. illus. (part col'd) 22 cm. $5.90 1162

Contents (abridged): Introduction. Part I, Theory. Part II, The metal ions. Part III, Calculations. Part IV, Laboratory work—qualitative analysis. Part V, The acids or anions. Appendix: Remaining notes. Typical apparatus. Desk equipment. Reagents. The preparation of test, known and unknown solutions. The Bradford H_2S generator. The individual reagent system. Use and care of platinum crucibles. Table—solubilities and solubility products. Table of logarithms. Index.

Note: This text for college students is designed to provide an adequate basis for work in professional fields. A series of semimicro procedures has been included in the section on laboratory work. In the revised edition, discussions of the structure of compounds and the Brönsted theory of conjugate acids and bases have been added, part of the text has been rearranged, and a considerable portion has been revised. The volume is arranged so that it can be used for a short course or a full one. Also available from the same publisher is the author's *A brief course in qualitative chemical analysis*, New York, The Macmillan Company, 1936, 249 p., which contains selections from the larger text and is designed to be used in short courses.

CUTTING, THEODORE ABIJAH

Manual of spectroscopy. New York: Tudor Publishing Company, 1949. 220 p. illus. 22 cm. $6.50 1163

Contents: History and theory of spectroscopy. Light sources. Spectroscopes. Spectroscopic analysis. The spectroscope in mineralogy. Characteristic lines of the elements. Wave-length table—Chart. Appendix. Index.

Note: The main purpose of this book is to make spectroscopic techniques available to professional workers, such as chemists and assayers, who are now analyzing ores, alloys, and other inorganic materials by slower and less precise methods. The discussions of light sources, spectroscopes, and general techniques occupy approximately the first half of the book. The remainder is given over chiefly to tabulation of the characteristic lines of the elements, together with other information useful in work with minerals.

DAGGETT, ALBERT FREDERICK, AND WILLIAM BUELL MELDRUM

Quantitative analysis. Boston: D. C. Heath and Company, 1955. 470 p. illus. 24 cm. $5.50 1164

Contents (abridged): Part I, Principles and techniques. Introduction. Treatment of data. The analytical balance and weighing. Quantitative relations in basic equilibria. Gravimetric analysis—apparatus and techniques—representative determinations—sources of error—electrolytic principles and methods. Volumetric analysis—apparatus and its use—standard solutions—precipitation and complexation methods—acidimetric and alkalimetric methods—oxidation-reduction methods—sources of error. Part II, Laboratory procedures. Appendix. Index.

Note: In this textbook, which is intended for use in introductory college courses in quantitative chemical analysis, more than the usual proportion of space is devoted to basic theory and to techniques in general. Part I is 334 pages long, in contrast to the 100 pages of Part II. Laboratory directions for determinations and analyses are segregated in the latter part. The greater emphasis on the basic topics in Part I reflects the current tendency in American colleges to discard the traditional introductory course in qualitative analysis, thus making the course in quantitative analysis the first separate course in chemical analysis taken by many students. The book is well organized and is written in a full style that encourages reading. The appendix contains such reference material as lists of apparatus, reagents, and tables of constants.

DIEHL, HARVEY AND G. FREDERICK SMITH

Quantitative analysis: elementary principles and practice. New York: John Wiley & Sons, Inc., 1952. 539 p. illus. 24 cm. $5.50. 1165

Contents (abridged): The general operations of quantitative analysis. The calculations in gravimetric analysis. Mass action and the solubility-product principle. Volumetric analysis. Theory of neutralization reactions. The practice of neutralization reactions. The theory of oxidation-reduction reactions. The practice of oxidation-reduction titrations. Volumetric reactions involving the formation of insoluble or non-dissociated compounds. Colorimetry. Methods of effecting separations. Electrodeposition. The analysis of brass. The analysis of limestone. The determination of pH, colorimetric and potentiometric methods. Errors; accuracy and precision. Reference books. Appendix. Glossary. Index.

Note: A modern textbook in which quantitative analysis is presented for students with various interests in analytical chemistry. Although theory is not entirely omitted, the emphasis is on technique. Some instrumental techniques are covered, and the reagents mentioned include recently developed ones such as versene. The treatment does not assume a previous introduction to analytical chemistry in a course in qualitative analysis.

DOBBINS, JAMES TALMAGE

Semi micro qualitative analysis. New York John Wiley & Sons, Inc , 1943 422 p 22 cm. $5 50 1166

Contents. Introduction. Part I, Fundamental principles. Part II, The reactions of the cations Group 1 cations. Group 2 cations. Group 3 cations. Group 4 cations. Group 5 cations. Part III, Systematic analysis Group 1 cations. Group 2 cations. Group 3 cations. Group 4 cations. Group 5 cations. Part IV General properties of the anions Group 1 anions. Group 2 anions. Group 3 anions. Group 4 anions. Group 5 anions. Part V Systematic analysis of the anions Group 1 anions. Group 2 anions. Group 3 anions. Group 4 anions. Group 5 anions. Appendix. Index.

Note With the Periodic Table as a foundation, this elementary book co-ordinates and unifies the field of chemical reactions. It contains a set of experiments illustrating the fundamental principles a complete systematic scheme of separation of the anions and a scheme of separation of the cations in which the time required for a complete analysis is materially shortened. A series of problems illustrating and emphasizing the most important points rounds out the book.

DOBRINER, KONRAD, AND OTHERS

Infrared absorption spectra of steroids, an atlas By Konrad Dobriner, E R. Katzenel lenbogen, and R. Norman Jones Preface by C P Rhoads New York Interscience Publishers, Inc., 1953 XLV p, 308 1 $11 50 1167

Contents (abridged) Introduction. Atlas of spectra. Bibliography Numerical index of charts. Alphabetical index of charts.

Note. The greater part of this volume consists of reproductions of charts of the infrared absorption spectra of specific steroid compounds. The charts are arranged so that compounds containing similar functional groups are adjacent to one another. Each chart shows the spectrum of a particular compound and usually contains information on the experimental technique that is, the type of prism, cell length and solvent used in obtaining the spectra. Altogether there are 308 charts. The book is an important one for biochemists whose work involves the identification of steroid compounds.

ENGELDER, CARL JOHN

Fundamentals of semi micro qualitative analysis New York John Wiley & Sons Inc., 1947 385 p illus 22 cm $4 50 1168

Contents Part I, The cations. Introduction—reactions and equations—apparatus and technique—reagents. The theory of solutions—the analytical grouping of the common elements—the alkali metals. The law of chemical equilibrium the theory of precipitation the solubility-product principle—the alkaline earth elements. The elementary theory of oxidation and reduction—the theory of amphoterism—the theory of complex ions—the elements of group III. Ionization equilibria and buffer action the elements of groups I and II. Part II, The anions The classification of the anions—the anions of group I The pH value of solutions. The theory of neutralization and hydrolysis—the anions of groups II and III The anions of groups IV and V—the electrochemical theory of oxidation. Part III, Systematic analysis Systematic analysis. Appendix Colloids. Exponents and logarithms. Tables. Index.

Note In this introduction to the basic principles and methods of qualitative analysis every effort has been made to integrat theory and practice so that each phase of experimental work is accompanied by the appropriate theoretical preparation. Review questions and problems are given in sufficient number to eliminate the need for a special problem book. Although the text is based, to some extent, on an earlier volume, *Semi-micro qualitative analysis*, New York, 1940, of which Engelder was senior author the fresh approach to the subject and the inclusion of new materials justify its consideration as new work.

ENGELDER, CARL JOHN

A textbook of elementary quantitative analysis. Third edition. New York John Wiley & Sons, Inc. 1943 283 p 23 cm $3 75 1169

Contents Part I Fundamental principles of quantitative analysis. General considerations of quantitative analysis. Part II, Volumetric analysis The theory technique and calculations of volumetric analysis. Neutralization methods. Oxidation and reduction methods. Volumetric precipitation methods. Part III, Gravimetric analysis The theory technique and calculations of gravimetric precipitation methods. Representative gravimetric precipitation procedures. Part IV Systematic quantitative analysis. Systematic analysis. Appendix. Index.

Note A textbook for college students who have completed a course in qualitative analysis. In the third edition it has been largely rewritten. In the interest of more logical presentation, the material on volumetric precipitation methods immediately precedes that on gravimetric precipitation methods. Thus, the concepts of equivalent weights and normal solution are introduced with acids and bases. The volumetric procedure for chloride determination has been added. The entire content of the book has been modernized by the use of better indicators, less emphasis on titers, and similar changes. Brief outlines are given for the procedures for limestone and brass. A chapter on systematic quantitative analysis is now included. The amount of problem work has been increased, and the problems have been rearranged, some with and some without answers.

EWING, GALEN W

Instrumental methods of chemical analysis. New York McGraw Hill Book Company Inc., 1954 434 p illus 24 cm. $6 50 1170

Contents (abridged) Part I, Principles Introduction. Conductimetry Electromotive-force measurements. Voltammetry and polarography Electrodeposition. Emission spectroscopy The absorption of radiation. Turbidimetry, nephelometry and fluorimetry Infrared absorption The absorption and diffraction of X-rays and electrons. Polarimetry Refractivity and dispersion. Radioactivity as an analytical tool. Mass spectrometry The analysis of gases. Thermal analysis. The determination of water Extraction analysis. Chromatography Ion exchange. General considerations in analysis. Part II, Laboratory experiments. Appendix. Index.

Note. In this textbook for undergraduate college students the reader is introduced to the principles and methods of the main techniques of chemical analysis by instruments. Typical instruments are described, but the main emphasis is on the basic principles. The first part on principles runs to 351 pages, in contrast to the 53 pages devoted to laboratory experiments. In both parts, the level of treatment assumes that readers will have knowledge of basic chemistry and of the principles and techniques of introductory quantitative analysis. Literature references are included in both parts.

FERRIS, S W

Handbook of hydrocarbons. New York Academic Press, Inc. 1955 324 p 24 cm $8 50 1171

Contents Introduction. Hydrocarbons [illegible] the order of their boiling points at 760 mm Hg. Hydrocarbons arranged in groups of the same empirical formula and same type (alkane, alkene, alkyne, cyclane, cyclene, or aromatic) References. Alternate names for hydrocarbons with key to table B. Representative cyclic hydrocarbons. Appendix. Correction of boiling points.

Note. A standard reference book for chemists who are concerned with the identification of hydrocarbons. The titles of the tables quoted above indicate the main feature of their arrangement. Table A is an aid in the identification of an unknown hydrocarbon, once the boiling point has been determined. Table B is both key and supplement to Table A. The scheme of arrangement of this table is (1) number of carbon atoms (2) number of hydrogen atoms and (3) type of compound alkane, alkene etc. Table B gives the boiling points of specific hydrocarbons, hence is a key to Table A and to the other properties useful in identification which are tabulated there Tabl B also contains the literature references from which the data in both tables have been taken. Table C relates the many "trivial" or nonsystematic names found in the literature to the nomenclature employed in Table B. American Petroleum Institute Research Project 44 *Selected values of properties of hydrocarbons* and G. Egloff, *Physical constants of hydrocarbons*, are the primary sources on which the tables are based, but many other sources are cited also.

FISCHER, ROBERT B

A basic course in the theory and practice of quantitative chemical analysis. *Philadel*

phia W B Saunders Company, 1956 401 p illus. 24 cm. $5.50. 1172

Contents (abridged) Part i, Introduction Review of fundamental principles. The general unit operations and tools of quantitative analysis. Treatment of analytical data. Part ii, Gravimetric methods: The unit operations, tools and calculations of gravimetric analysis. Theory of the precipitation process. Part iii, Volumetric methods: The unit operations, tools and calculations of volumetric analysis. Neutralization theory Volumetric precipitation and complex formation methods. Oxidation-reduction methods—principles and theory Part iv Optical and electrical methods: Colorimetric methods Spectrophotometry and other optical methods. Electrodeposition methods. Potentiometric titrations, polarography and coulometry Part Appendices. Index.

Note: A textbook for first courses in quantitative analysis at the undergraduate college level. More space is given to theory than to procedures for experiments. In fact, the 35 experiments are not segregated but are scattered throughout the book at appropriate points in conjunction with discussions of theory, instruments, and other basic topics. The contents of the first three parts are essentially the standard contents of introductory courses in quantitative analysis as currently taught in colleges and universities in the United States of America. However, the chapter on the treatment of analytical data in the first part is somewhat longer and more rigorous than the discussion of this subject in most introductory texts. The fourth part describes selection of instrumental methods of quantitative analysis which the student who goes on to graduate and professional work will find of use in research and industrial laboratories. The chapters include suggested literature for additional reading. The author is Associate Professor of Chemistry in Indiana University.

FLAGG, JOHN FERARD

Organic reagents used in gravimetric and volumetric analysis. New York Interscience Publishers, Inc. 1948 300 p illus. 24 cm. (Chemical analysis Vol iv) $6.25 1173

Contents: General discussion. Organic compounds as precipitants for inorganic ions. Some properties of organometallic precipitates. Separation by means of organic reagents. Theory of the solubility of salts with common anion. Techniques in gravimetric and volumetric analysis with organic reagents. Special reagents: Anthranilic acid. The arsonic acids. Benzoin oxime. Ammonium nitrosophenylhydroxylamine (cupferron). The oxine (8-hydroxyquinoline) (oxine). Miscellaneous reagents. α-nitroso-β-naphthol. Picrolonic acid. Precipitants for anions. Quinaldic acid. Salicylaldoxime. Tannin. Thionalide. Appendix. Author index. Subject index.

Note: This volume deals essentially with those organic compounds which form insoluble organometallic salts when used for the detection or determination of organic or inorganic substances. The introductory chapters discuss the fundamental principles of organic chemistry as relating to organic reagents, and describe the special techniques employed when using these reagents in gravimetric and volumetric analyses. The remainder and greater part of the volume is devoted to detailed descriptions of various organic precipitants as regards behavior characteristics of the complexes formed, reaction with various ions, types of analyses to which best suited, and finally the actual analytical procedures.

FOULK, CHARLES WILLIAM AND OTHERS

Quantitative chemical analysis an introduction to the science and practice of chemical measurement. By Charles W Foulk, Harvey V Moyer and William M. MacNevin. New York McGraw Hill Book Company Inc., 1952 484 p. illus. 24 cm. $5 75 1174

Contents: Introduction. The chemical balance and its use. Common operations of quantitative analysis. Apparatus for gravimetric analysis. The operations of gravimetric analysis. Calculations in gravimetric analysis. The solubility of analytic precipitates. Analytical precipitates. Volumetric apparatus and its calibration. Volumetric solutions and their standardization. Calculations in volumetric analysis. Hydrogen-ion concentration of aqueous solutions of acids, bases, and salts. Oxidation-reduction reactions in volumetric analysis. Precipitation reactions and complex formation in volumetric analysis. Errors and statistical methods in chemical analysis. Oxidation-reduction potentials. The potentiometric measurement of pH values. Electrometric titrations. Electrolytic analysis. Colorimetric analysis. Exercises. Appendices. Name index. Subject index.

Note: An introductory work for use in college courses. The underlying theory is presented in the first part of the book, and the laboratory exercises are described separately in the latter part. As the table of contents shows, most of the space is given to gravimetric and volumetric methods of analysis, but there is some discussion of instrumental methods. The authors are members of the faculty of Ohio State University

FRIEDEL, ROBERT AUGUSTINE AND MILTON ORCHIN

Ultraviolet spectra of aromatic compounds. New York John Wiley & Sons Inc., 1951 52 p. illus. 27 cm $14.50 1175

Contents: Purpose and scope of the collection. Spectrometric nomenclature and the absorption law for solutions. Instruments and experimental procedure. Theoretical aspects of ultraviolet absorption spectra. The use of ultraviolet spectra in qualitative analysis. Quantitative analysis. Use of the catalogue. Acknowledgment. Collection of spectra. Name index of spectra. Formula index of spectra.

Note: A collection of the ultraviolet spectra of 579 polynuclear aromatic compounds together with some expert discussion of the use of such spectra in chemical analysis. According to the authors, about half of the included spectra have been taken from the published literature, and the other half are original determinations by the authors and other workers in Bureau of Mines laboratories. Graduate chemists interested in the use of ultraviolet absorption spectra in organic analysis are the book as reference tool and as an introduction to ultraviolet spectroscopy

GIBB, THOMAS ROBINSON PIRIE

Optical methods of chemical analysis New York McGraw Hill Book Company Inc., 1942 391 p illus. 23 cm. (International chemical series L. P Hammett consulting editor) $8.00 1176

Contents: Spectrochemical analysis. The spectrophotometer. The colorimeter. Turbidimetry, nephelometry and fluorophotometry. The refractometer. Elementary crystallography. Identification of crystals with the polarizing microscope. The interferometer. The polariscope.

Note. In this contribution to the literature of analytical chemistry the author covers the fundamental theory, the design, and the practical application of the 10 optical instruments which are most widely used in organic and inorganic chemical analysis. Emphasis is placed on the design and technique of modern rapid methods of micro and macro analysis by means of the spectrograph, spectrophotometer, colorimeter and allied instruments, refractometer, microscope, and polariscope.

GILREATH, ESMARCH S

Qualitative analysis using semimicro methods. New York McGraw Hill Book Company Inc., 1954 287 p. illus 24 cm. $4.50. 1177

Contents (abridged) Theoretical aspects. Experimental procedures. Appendix. Index.

Note. An introductory text for college students. In keeping with current ideas on the teaching of qualitative analysis, more space is devoted to exposition of theory than to descriptions of laboratory exercises. Part on theoretical aspects consists of 10 chapters devoted to such principles as forces between atoms, chemical equilibrium and oxidation-reduction theory. If necessary these chapters can be comprehended without reference to the laboratory exercises.

GRIFFIN, CARROLL WARDLAW AND MARY ALYS PLUNKETT

Inorganic semimicro qualitative analysis. New York McGraw Hill Book Company Inc., 1951 299 p illus. 23 cm. $5.00 1178

Contents: Part i, Theory: Atomic structure, valence and types of compounds. Solutions of electrolytes. Chemical equilibrium. Hydrolysis. Heterogeneous equilibrium. Complex ions and amphoterism. Oxidation and reduction—reactions—theory. Part ii, Analytic Laboratory techniques. Preparation of sample. The silver group. The

copper-arsenic group The aluminum-iron group The alkaline earth group. The soluble group. The anions. Appendix. Index. The common logarithms of the natural numbers.

Note A textbook and laboratory manual for college undergraduates who have completed a year of general inorganic chemistry The discussion of theory in Part I is sufficiently inclusive to form a good foundation for more advanced theoretical studies. In Part II the procedures for the various analyses are presented in a convenient form which includes a schematic diagram of the reactions. The authors are members of the Department of Chemistry of Vassar College.

HAMILTON, LEICESTER F , AND STEPHEN G SIMPSON

Quantitative chemical analysis Tenth edition Formerly Talbot's *Quantitative chemical analysis* New York The Macmillan Company, 1952 529 p illus 21 cm $5.25 1179

Contents Part I, Introduction: General considerations. General directions. Common analytical operations. The analytical balance. The precision of analytical measurements. Review of some basic principles. Part II, Volumetric analysis General directions for volumetric work Neutralization methods. Acidimetry and alkalimetry Oxidation-reduction (redox) processes. Oxidation-reduction (redox) titrations. Permanganate process. Dichromate and ceric processes. Iodimetry (iodometry) Precipitation methods ("precipitimetry") Complex formation methods ("complexometry") Part III, Gravimetric analysis: General principles of gravimetric analysis. Analyses of soluble salts. Analysis of an ore. Analysis of a nonferrous alloy Part IV Instrumental methods Potentiometric methods. Conductometric methods. Amperometric methods. Optical methods. Gasvolumetric methods. Part V Miscellaneous determinations. Appendix. Index.

Note A standard introductory text and laboratory manual which has been used in successive editions for 55 years. It is organized so that the student can acquire a full understanding of the chemical theory involved as he learns the details of quantitative analytical techniques. The present edition represents a considerable revision in which the space given to theory has been increased along with other changes. The authors are members of the faculty of Massachusetts Institute of Technology

HAMMETT, LOUIS PLACK

Solutions of electrolytes with particular application to qualitative analysis Second edition New York McGraw Hill Book Company, Inc , 1936 238 p illus 21 cm (International chemical series, J F Norris, consulting editor) $5 00 1180

Contents Part I Principles: Introduction. The solubility product principle. Weak electrolytes the law of chemical equilibrium. The ionization of water Acidity and basicity Hydrolysis. Complex compounds. Oxidation-reduction reactions. Oxidation potentials. Part II, Experiments Introduction. The course of laboratory instruction. Questions on the experiments. The method of analysis. Special notes on the method of analysis. Further analytical methods. Appendixes. The lecture experiments. The schedule of laboratory work. Reagents. Apparatus.

Note A combination text and laboratory manual for college courses in qualitative analytical chemistry This second edition incorporates the new theories of the ionization of acids and bases, the new theories of inorganic colloidal solutions, and other material not in the first edition.

HARLEY, JOHN H , AND STEPHEN E WIBERLEY

Instrumental analysis New York John Wiley & Sons Inc , 1954 440 p illus. 24 cm $6 50 1181

Contents Introduction. Spectral theory Absorption in the visible region. Absorption in the ultraviolet region. Absorption in the infrared region. Raman spectroscopy Fluorometric methods. Apparatus for emission spectroscopy Qualitative emission spectroscopy. Quantitative spectrographic analysis. Flame photometry Colorimetric pH measurement. Electrode potential and pH measurements. Potentiometric titrations. Conductance measurement. Polarography Amperometric titrations. High-frequency methods. X-ray analysis. Mass spectrometry Nuclear-radiation measurements. Laboratory experiments. Appendix. Index.

Note The authors of this college text have recognized that graduate chemists, when they enter analytical or research work in industry will make extensive use of commercially available instruments. Instruments are considered according to their area of use. There [redacted] considerably more emphasis on explaining their basic principles and their potentialities and limitations than on their description. Even so, numerous commercial instruments are described and shown in reproductions of photographs. Footnote references [redacted] the literature appear throughout the book [redacted] addition, a selected bibliography of books and articles for further reading is appended to each chapter

HENLEY, ALFRED, editor

Electrophoresis bibliography Compiled by Charles L. Schuettler Silver Spring Md. Biochemical Instruments Division, American Instrument Company, Inc., 1955 290 p. 28 cm $12 50 1182

Contents Part I, Explanation of classifications. Part II, Arrangement, terms, and symbols. Part III, Classification of papers. Books and general articles. Theory and instrumentation. Moving boundary method. Microscope method. Zone electrophoresis in immobilized media (paper gelatin, etc.) Electrophoresis convection. Interferometry in electrophoresis. Preparative electrophoresis. Diffusion studies. Adsorption chromatography (Schlieren and interferometric methods) Inorganic compounds. Simple organic compounds. Plant physiology and soil science. Animal physiology Human physiology Normal human serum and plasma. Hormones and enzymes. Blood corpuscles. Micro-organisms. Viruses. Human pathology Industrial process control. Index to authors.

Note An extensive, though selected, bibliography of books and articles on electrophoresis and certain related analytical techniques, such as diffusion studies and adsorption chromatography The third and fourth parts occupy all but 12 of the pages, and the third part is the heart of the volume. It is classified as noted in the above Contents. Within each sub-class the arrangement is alphabetical by senior author Each entry gives authors' names, title of the article, title of the journal, volume number page number, year of publication, and a reference to an abstract in *Analytical abstracts* or *Chemical abstracts*, if an abstract in one or the other of these sources was located by the compiler The entries were selected on the basis of their potential usefulness to professional biochemists and biophysicists. Diffusion studies and certain techniques classified as adsorption chromatography were included because they are useful in biochemistry and can be carried out with standard electrophoresis apparatus. On the other hand, the entries on these topics have been rigidly selected, and no attempt was made to cover the whole field of chromatography for example. The total of literature references is approximately 3,200 This 1955 edition is an enlarged version of the original edition published in 1953 The number of entries has been substantially increased. The added entries include both references omitted from the original list and literature published since its compilation.

HERSHENSON, HERBERT M

Ultraviolet and visible absorption spectra, index for 1930–1954 New York Academic Press, Inc., 1956 205 p 29 cm. $12 00 1183

Note This book indexes the absorption spectra for chemical substances that have been published in 27 leading chemical periodicals and in the book, R. A. Friedel and M. Orchin, *Ultraviolet spectra of aromatic compounds*, described above. The arrangement of the index is alphabetical by name of compound. For each spectrum indexed, symbols are used to indicate whether it is for the visible, ultraviolet, or vacuum ultraviolet range of radiation. About 32,000 spectra are indexed. The book is useful to analytical chemists, particularly those using colorimetric techniques of analysis.

HILLEBRAND, W F , AND G E LUNDELL

Applied inorganic analysis with special reference to the analysis of metals, minerals and rocks Second edition *revised by* G E F Lundell, H. A. Bright, and J I Hoffman. New York John Wiley and Sons, Inc., 1953 1 034 p illus. 24 cm $18 50 1184

Contents: Part I, General considerations: Introduction. Balance and weights. Apparatus and reagents. Common operations. Special apparatus and techniques. Volumetric analysis. Part II, The determination of the elements: The hydrogen sulfide group—elements that yield sulfides that are insoluble in acids and in solutions of alkali sulfides—elements that yield sulfides that are insoluble in acids but are soluble in solutions of alkali sulfides—the noble metals: gold, osmium, ruthenium, platinum, palladium, rhodium, iridium. The ammonium sulfide group—elements that form sulfides that are soluble in acids—elements that form hydroxides or basic compounds. The alkaline earths and magnesium. The alkalies. The acid-forming elements. Part III, Silicate rock analysis: Introduction. Methods applicable to silicate rocks. Part IV, Carbonate rock analysis: Introduction. Rational methods for the analysis of carbonate rocks. Condensed analysis. Index of authors. Index of subjects.

Note: This standard work is not a book of special techniques but one devoted to fundamental analytical methods of separations and reactions. It contains descriptions of methods of separation and determination that have proved of value, or that promise to be of value, in applied inorganic analysis. Established procedures are described in full detail, and literature references are furnished. Recent developments in polarography, chromatography, mass spectrometry, fluorometry and the like are discussed with relative brevity since the authors feel that sufficient experience has not been accumulated to present working directions in enough detail. In this edition much new material has been added, and much of the old has been significantly revised. Part [illegible] of the first edition (with lime, glass, bauxite, and refractories analysis) has been entirely omitted. The book is addressed primarily to graduate chemists.

Hogness T R., and Warren C. Johnson

Qualitative analysis and chemical equilibrium. Fourth edition. New York Henry Holt and Company 1954 621 p illus. 21 cm. $5.50. 1185

Contents (abridged): The atomic and molecular concept of matter. Electrolytes and non-electrolytes. Quantized atoms and molecules. Oxidation and reduction. Reaction velocity and chemical equilibrium. Heterogeneous equilibrium—the solubility product—colloids. The ionization of water—hydrolysis. Complex ions. Amphoteric substances. Oxidation-reduction equilibria. Nuclear chemistry. Laboratory techniques. The alkali metal group of ions. The silver group. The copper-arsenic group. The aluminum-zinc group. The alkaline earth group of ions. The preparation of a sample for analysis—analysis of solids. Identification of the negative ions. The chemical properties of negative ions. Appendix. Index.

Note: A standard college text designed for use in first courses in chemical analysis. It pioneered the emphasizing of chemical equilibrium and related theory rather than the learning of analytical techniques, and was also one of the first books to introduce semimicro methods in qualitative analysis. A first edition was published in 1937 and [illegible] third edition in 1947. In this fourth edition, the first part—which is largely devoted to theory—is 340 pages long, in contrast to 195 pages in the second part which is devoted to the classic introductory laboratory techniques of qualitative analysis. Several new chapters have been added on such topics as nuclear chemistry. There are many more figures and more tables. The appendix, which contains lists of apparatus and reagents, notes on mathematical operations, and tables of constants and properties, has also been revised, especially the table of constants. The authors are both members of the faculty of the University of Chicago.

Huntress Ernest Hamlin and Samuel Parsons Mulliken

Identification of pure organic compounds tables of data on selected compounds of order I (compounds of carbon with hydrogen or with hydrogen and oxygen) New York John Wiley & Sons, Inc. 1941 691 p. 23 cm. $12 75 1186

Contents: Introduction. The generic tests of order [illegible]. Aldehydes. Carbohydrates. Acids. Phenols. Esters. Acid anhydrides and lactones. Ketones. Alcohols. Ethers, hydrocarbons, etc. Colored compounds of order [illegible] (suborder II). Tables of melting points of derivatives of compounds of order [illegible]. General index for order [illegible].

Note: Presents in organized and accessible form [illegible] summary of data on [illegible] selected list of organic compounds containing carbon and hydrogen, and oxygen. Selection has been made on the basis of interest, commercial importance, and possible commercial value. Compounds are classified in nine genera on the basis of generic tests, applied in order until one is positive. Assignment to division or section [illegible] genus is made upon the basis of physical properties, including specific gravity and also on occasion by special tests. A new feature is the inclusion of melting-point sequence tables of derivatives.

Jacobs Morris B., and Leopold Scheflan

Chemical analysis of industrial solvents. New York Interscience Publishers Inc. 1953 501 p illus. 24 cm. (Chemical analysis a series of monographs on analytical chemistry and its applications editors Beverly L. Clarke and I M Kolthoff Vol VII) $12 00 1187

Contents: Introduction and sampling. Physical and general methods. Physical chemical methods. Physiological effects of industrial solvents. General methods for the determination of solvent vapors. General methods for the analysis of solvent mixtures. Paraffin and unsaturated aliphatic hydrocarbons and terpenes. Benzene, aromatic and hydrocyclic hydrocarbons. Halogenated hydrocarbons. Alcohols. Glycols, polyhydroxy compounds, and ethers. Acids and esters. Ketones and aldehydes. Nitrogen and sulfur compounds. Index.

Note: A reference book of information pertinent to the analysis of [illegible] wide range of solvents used in industry. Basic and general methods such as sampling techniques, determination of specific gravity, the determination of pH, measurement of color, viscosity, surface tension, etc., are covered in the first six chapters. Specific tests for classes of chemical substances and individual substances are described in the succeeding chapters. For each substance, information is given on physical and chemical properties, and the tests applicable to it are described in detail with explicit descriptions of procedures. Accepted standard requirements in the United States of America, such as the standards of the American Chemical Society for reagents and the requirements of the United States Pharmacopoeia for pharmaceutical preparations, are cited. Literature references are given in the form of footnotes. The subject index is adequate.

Kelsey Erwin Burr and Harold G Dietrich

Fundamentals of semimicro qualitative analysis. Revised edition. New York The Macmillan Company 1951 328 p. illus. 22 cm. $4 90 1188

Contents (abridged): Section I, Fundamental theory. Section II, Analytical procedure. Part I, The systematic cation analysis. Part II, The analysis for the non-metal ions. Part III, The analysis of solids. Appendix. Index.

Note: An introductory text and laboratory manual for college courses. The procedures employ original samples of the order of 0.3 ml. (about ten drops) in which the amounts of the individual ions present average about 1 mg. It has been extensively rewritten in the present edition, and the type has been reset. The authors are members of the faculty of Yale University.

Kirk Paul Leland

Quantitative ultramicroanalysis. New York John Wiley & Sons Inc., 1950 310 p. illus. 23 cm. $6.50 1189

Contents: Introduction. Volumetric apparatus and techniques. Colorimetry apparatus and techniques. General apparatus and techniques. Microgram titrimetry. Metallic constituents: titrimetric methods. Non-metallic constituents: titrimetric methods. Volumetric gas methods. Spectrophotometric methods. Physical methods. Index.

Note: Standard methods require samples of about one milligram or more. In this book [illegible] more refined technique is described, in which quantities as small as one microgram may be used. Apparatus and practical laboratory procedures are both discussed in full detail. There are more than 100 illustrations, most of which pertain to apparatus. The book is intended for graduate students and advanced researchers who are familiar with standard methods.

KOLTHOFF, IZAAK MAURITS

Acid base indicators Translated by Charles Rosenblum New York The Macmillan Company, 1937 414 p illus 22 cm $10 00 1190

Contents The dissociation of strong and weak electrolytes. The reaction (degree of acidity) of acid, bases and salts. Amphoteric substances. The ion activity theory and its application to acid-base equilibria. The Brönsted definition of acidity and basicity properties of acids and bases. The properties of acid-base indicators. The color change and properties of indicators. The influence of solvents on the properties of indicators. The theory of indicators. The colorimetric determination of hydrogen ion concentration. Buffer solutions, preparation and properties. The colorimetric determination of hydrogen ion concentration. Sources of error in the colorimetric method. Indicator papers. Appendix. Index.

Note This manual, originally published in German, was brought up to date by the author for this first edition in English. It is valuable as a handbook and reference for work in analytical chemistry

KOLTHOFF, IZAAK MAURITS, AND H A LAITINEN

*p*H and electro titrations, the colorimetric and potentiometric determination of *p*H Potentiometry, conductometry, and voltammetry (polarography) Outline of electrometric titrations Second enlarged and revised edition New York John Wiley & Sons, Inc, 1941 190 p illus 23 cm $6 00 1191

Contents The colorimetric determination of *p*H—acid-base equilibria. Acids and bases. The reaction of aqueous solutions. Acid-base indicators. The colorimetric measurement of *p*H. The potentiometric measurement of *p*H—potentiometric titrations Electrode potentials. The technique of potentiometric measurements. The potentiometric measurement of the hydrogen ion activity Potentiometric titrations. Conductometric titrations Conductometric titrations. Voltammetry (polarography) and amperometric titrations The fundamental principles of voltammetry Equipment and technique used in voltammetry Amperometric titrations. Index.

Note Workers in pure and applied chemistry as well as those in the allied fields of biochemistry physiological chemistry bacteriology and pharmacy find this book useful. It contains a condensed outline of the measurement of *p*H according to the colorimetric and potentiometric method and of the performance of potentiometric and conductometric titrations. A general understanding of physical chemistry and electrochemistry is basic to the study of this book. Considerable new material was added to the second edition. Three new chapters have been included, forming Part IV on voltammetry and amperometric titrations. A list of reactions which have been made the basis of conductometric titrations, with literature references, has been added.

KOLTHOFF, I M AND JAMES J LINGANE

Polarography Second edition New York Interscience Publishers Inc. 1952 2 v illus 23 cm Vol I $11 00 vol II $12 50 1192

Contents (abridged) Volume I, Theoretical principles—instrumentation and technique Part I, Theoretical principles Theory of diffusion currents. Evaluation of diffusion coefficients. Polarography in nonaqueous media. Electrical migration current. The electrocapillary curve of mercury Polarographic maxima. Polarographic waves of complex metal ions. Polarographic waves of organic substances. Part II, Instrumentation and technique The dropping mercury electrode and polarographic cells. Common operations in polarographic analysis. Voltammetry with solid microelectrodes. Volume II Inorganic polarography Inorganic polarography Organic polarography Biological applications of polarography Amperometric titrations. Author index, Volumes I–II. Subject index, Volumes I–II.

Note A professional-level treatise based on a systematic review of the international literature. Basic theory instruments, techniques, and applications are covered with unusual thoroughness. The characteristics of polarographic current voltage curves are treated at length. Although much among the material is drawn from the international literature, the authors have themselves made important contributions to the development of the field. The first edition in one volume was published in 1941 the second edition represents a very extensive revision and expansion of the original work.

KOLTHOFF, IZAAK MAURITS, AND E B SANDELL

Textbook of quantitative inorganic analysis. Third edition. New York The Macmillan Company, 1952 759 p illus. 24 cm. $6.50 1193

Contents (abridged) Stoichiometry Gravimetric analysis Theoretical part, practical part, gravimetric determinations. Volumetric analysis. Theoretical part, practical part, volumetric determinations. Physical and physicochemical methods of analysis. Analyses of complex materials. Appendix. Index.

Note A successful college textbook and laboratory guide. The expositions of theory and the descriptions of apparatus and laboratory procedures are fuller and somewhat more advanced than in some introductory texts in this field. Literature references are included. The second edition appeared in 1943 Fairly extensive revisions were made in preparing this edition.

KOLTHOFF, IZAAK MAURITS, AND V A. STENGER

Volumetric analysis Second revised edition New York Interscience Publishers, Inc., 1942–47 2 v 23 cm. Vol I, $7 50, vol. II, $8 25 1194

Contents Volume I, Theoretical fundamentals Fundamentals of volumetric analysis. The principles of neutralization and ion combination reactions. Titration curves for neutralization and ion combination reactions. The principles of oxidation-reduction reactions—titration curves. Indicators. Titration error Reaction velocity catalysis and induced reactions. Adsorptions and coprecipitation phenomena. Volumetric methods of organic analysis. Methods for the determination of the equivalence-point. Appendix. Indexes. Volume II, Titration methods Apparatus and general principles. Calibration and use of volumetric apparatus. Practical principles of volumetric analysis. Acid-base reactions Acidimetry and alkalimetry Acid-base reactions. Acidimetry and alkalimetry Acid-base reactions. Acid-base displacement titrations. Titrations involving hydrolytic precipitation or complex formation. Special methods of acidimetry and alkalimetry Quantitative precipitation and complex-formation reactions. Argentometric titrations. Other precipitation methods. Formation of slightly dissociated or complex compounds—mercurimetry Appendix. Author index. Subject index.

Note Although this work had its origin in a German monograph, *Die Praxis der Massanalyse*, it has been revised and expanded so much in the *English translation that it is essentially a new work*. It presents a liberal selection of useful tests, discusses procedures and reagents in general, and gives references to the pertinent literature. The techniques covered are those in which the reagent is added in an amount which is chemically equivalent to the substance being determined. The treatment is at a professional and graduate level. In the first edition of the English translation, oxidation and reduction reactions were covered in the second volume. When the revision was made for the second edition, these were removed, and it was planned that they would be the subject of a third volume. However Volume III had not been published at the end of 1956.

MCALPINE ROY K, AND BYRON A SOULE

Fundamentals of qualitative chemical analysis semimicro method Fourth edition. *Princeton D Van Nostrand Company* Inc., 1956 340 p illus. 23 cm. $5 00. 1195

Contents Introduction Formulas and equations Chemical arithmetic. Introduction to laboratory work. Group I—lead, silver mercury *Copper division of group II*—mercury lead, bismuth, copper cadmium. Group III—iron, chromium, aluminum. Group IV—zinc, manganese cobalt, nickel. Group V—barium, strontium, calcium. Group VI—magnesium, sodium, potassium, ammonium radical. *Arsenic division of group II*—arsenic, antimony tin The more common acid radicals. Other common acid radicals. Qualitative examination of simple dry unknowns. Complex dry unknowns. *Appendix*. Logarithms. *Index*.

Note A standard introductory text. It covers, in an elementary style, basic principles, gives directions for the separation and

identification of common metal and acid radicals, and describes analytical methods for qualitative analysis. The first edition was published in 1916 and the third edition in 1949. The most significant change in this fourth edition is the conversion of the procedures to the semimicro scale. Numerous other changes of pedagogical interest are described in the book's preface.

McDonald, Hugh J

Ionography electrophoresis in stabilized media. In collaboration with Robert J Lappe, Edward P Marbach, Robert H. Spitzer and Matthew C. Urbin. Chicago The Year Book Publishers, Inc., 1955 268 p. illus. 23 cm. $6.50 1196

Contents: Historical introduction. Types of apparatus and nomenclature. General experimental methods and procedures. Mobility determinations and related factors. Relation between mobilities in stabilized and non-stabilized media. Proteins, peptides and amino acids. Carbohydrates and related compounds. Lipoproteins and related substances. Enzymes, hormones and vitamins. Inorganic substances. Miscellaneous applications of ionographic techniques. Bibliography. Subject index. Author index.

Note: A survey in the form of monograph of relatively new technique in chemical analysis which has gone under various names including, in addition to the one used for the title of this book, "paper electrophoresis," "ionophoresis," and "electrochromatography." The technique depends upon the phenomenon of migration in an electric field of charged particles, either ions or colloidally dispersed substances, through conducting solutions stabilized with such materials as powders, silica gel, glass fiber or filter paper. Essentially the book is literature survey and references to the literature are incorporated in the text and keyed to bibliography of nearly 800 citations. The whole field is surveyed, including historical development, apparatus, nomenclature, experimental methods, and applications to the analysis of various classes of chemical substances. As the chapter titles indicate, most applications developed are in the field of biochemistry, medicine, and pharmaceutical research. The book is addressed to graduate biochemists and other scientists who are concerned with research in the proteins and other substances of high molecular weight.

Meites Louis

Polarographic techniques. With a foreword by I. M. Kolthoff New York Interscience Publishers, Inc., 1955 317 p. illus. 24 cm. $6.00 1197

Contents: The nature and scope of polarographic measurements. Instrumentation. The polarographic limiting current. Theory of the current-voltage curve. The interpretation of half-wave potential data. Maxima and their suppression. Techniques of quantitative polarographic analysis. Amperometric titrations. Special techniques. Literature cited. Appendixes. Trouble-shooting in polarographic circuits. Half-wave potentials and diffusion current constants of inorganic substances. Index.

Note: Polarography is now solidly established as an analytical method in chemical laboratories, and polarographs are offered by number of commercial instrument makers. The books about it published hitherto have been in the nature of comprehensive treatises, or at the opposite extreme, very brief expositions. In contrast this book is systematic introduction to theory and practice, written at level that suits advanced students of chemistry and chemistry graduates who will use polarography as tool. In addition to an treatment of the basic theory and typical apparatus, it includes directions for some laboratory experiments. A feature of special reference value is 44-page table, arranged by chemical elements, of half-wave potentials and diffusion current constants. Values in this table have been taken from the literature, and references are given to the sources.

Mellon Melvin Guy editor

Analytical absorption spectroscopy, absorptimetry and colorimetry New York John Wiley & Sons Inc., 1950. 617 p. illus. 23 cm. $12.50. 1198

Contents: Chemistry. Preparation of systems for absorptiometric measurement, by M. L. Moss. Physics: General principles of absorptiometric measurement, by M. G. Mellon. Color comparimeters, by W. R. Fortune. Filter photometers, by R. H. Müller. Spectrophotometers—ultraviolet and visible regions, by K. S. Gibson. Photographic methods, by R. R. Holiday. Applications of ultra-violet and visual spectrophotometric data, by E. I. Stearns. Spectrophotometers—infrared region, by L. J. Brady. Measurement and specification of color, by D. B. Judd. Index.

Note: The principles and techniques of absorption spectroscopy as an analytical tool are presented in this important contribution to the literature of analytical chemistry. Each chapter is in effect short monograph by specialist, and is accompanied by bibliography of the pertinent literature. Although available instruments are described, more attention is paid to their operating principles and the techniques of their use. The book is intended for professional chemists. It is of some interest to physicists as well.

Mellon Melvin Guy

Quantitative analysis methods of separation and measurement. New York Thomas Y Crowell Company 1955 694 p illus. 24 cm. $6.50 1199

Contents (abridged): Part I, General principles: Introduction. A, The sample: Selection and preparation. Measurement by weight. Measurement by volume. Preliminary treatment. B, The desired constituent. The general problem of separation. Separation by volatilization processes—by precipitation processes—by electro-chemical processes—by partition processes. Titrimetry general principles. Neutralization methods. Oxidation-reduction methods. Precipitation and complexation methods. Gravimetry. Colorimetry. Electrometry. Part II, Laboratory exercises with analytical technics. Managing laboratory work. Experimental data. The use of balances. The use of volumetric ware. Neutralization methods. Oxidation-reduction methods. Precipitation and complexation methods. Gravimetric methods. Colorimetric methods. Electrometric methods. Library problems. Part III, Numerical analytical problems: Typical problems and their solution. Appendix. Index.

Note: A textbook for introductory college courses. The experience of the author who is *Professor of Analytical Chemistry at Purdue University* has led him to regard all problems of quantitative analysis as having two phases the first, chiefly or entirely chemical, involves treatment of the sample separation of the desired constituent, and conversion of that constituent (or its chemical equivalent) into measurable form; the second phase entirely physical, involves measurement of the desired constituent (or its chemical equivalent). This sequence of operations is followed in the organization of the textbook. The methods presented, suitable to both inorganic and organic chemistry, are sufficiently general to include all elements of the Periodic Table.

Mitchell John, Jr., and Donald Milton Smith

Aquametry application of the Karl Fischer reagent to quantitative analyses involving water New York Interscience Publishers Inc. 1948 444 p illus. 24 cm. (Chemical analysis, a series of monographs on analytical chemistry and its applications B L. Clarke and I. M Kolthoff editors. Vol v) $10.50 1200

Contents: Part one, Specific quantitative determination of water by Karl Fischer reagent—reactions of inorganic compounds: Methods for determination of water. Titrimetric determination of water using Karl Fischer reagent. Nature of the Karl Fischer reagent. Titrimetric procedures for using Karl Fischer reagent. Determination of water in organic compounds. Determination of water in commercial organic materials. Determination of water in inorganic compounds. Reactions of Karl Fischer reagent with inorganic compounds. Part II, Organic reactions involving liberation or consumption of water—application of Karl Fischer reagent to quantitative determination of organic functional groups: Determination of alcoholic hydroxyl. Determination of organic carboxylic acids. Determination of acid anhydrides. Determination of carbonyl compounds. Determination of amines and nitriles. Determination of peroxides. Miscellaneous analytical procedures. Proposed further studies involving Karl Fischer reagent. Author index. Subject index.

Note: Since its discovery in 1935 the Karl Fischer reagent has become highly useful in determinations of moisture content for many organic and inorganic compounds and reactions. The authors of this volume describe their own wide experience with this modern analytical reagent and critically survey the rapidly increasing literature on the subject up to early 1947. For easy duplication in the

KOLTHOFF, IZAAK MAURITS
Acid base indicators Translated by Charles Rosenblum New York The Macmillan Company, 1937 414 p illus 22 cm $10 00 1190

Contents The dissociation of strong and weak electrolytes The reaction (degree of acidity) of acid, bases and salts. Amphoteric substances. The ion activity theory and its application to acid base equilibria. The Brönsted definition of acidity and basicity properties of acids and bases. The properties of acid-base indicators The color change and properties of indicators. The influence of solvents on the properties of indicators. The theory of indicators. The colorimetric determination of hydrogen ion concentration: Buffer solutions, preparation and properties. The colorimetric determination of hydrogen ion concentration Sources of error in the colorimetric method. Indicator papers. Appendix. Index.

Note This manual, originally published in German, was brought up to date by the author for this first edition in English It is valuable as a handbook and reference for work in analytical chemistry

KOLTHOFF, IZAAK MAURITS, AND H. A LAITINEN
*p*H and electro titrations, the colorimetric and potentiometric determination of *p*H. Potentiometry, conductometry, and voltammetry (polarography) Outline of electrometric titrations. Second enlarged and revised edition New York John Wiley & Sons, Inc., 1941 190 p illus 23 cm $6 00 1191

Contents The colorimetric determination of *p*H—acid-base equilibria Acids and bases. The reaction of aqueous solutions. Acid-base indicators. The colorimetric measurement of *p*H. The potentiometric measurement of *p*H—potentiometric titrations Electrode potentials. The technique of potentiometric measurements. The potentiometric measurement of the hydrogen ion activity Potentiometric titrations. Conductometric titrations Conductometric titrations. Voltammetry (polarography) and amperometric titrations The fundamental principles of voltammetry Equipment and technique used in voltammetry Amperometric titrations. Index.

Note Workers in pure and applied chemistry as well as those in the allied fields of biochemistry physiological chemistry bacteriology and pharmacy find this book useful. It contains a condensed outline of the measurement of *p*H according to the colorimetric and potentiometric method and of the performance of potentiometric and conductometric titrations. A general understanding of physical chemistry and electrochemistry is basic to the study of this book. Considerable new material was added to the second edition. Three new chapters have been included, forming Part IV on voltammetry and amperometric titrations. A list of reactions which have been made the basis of conductometric titrations, with literature references, has been added.

KOLTHOFF, I M, AND JAMES J LINGANE
Polarography Second edition New York Interscience Publishers Inc. 1952 2 v illus 23 cm Vol. I $11 00 vol II $12 50 1192

Contents (abridged) Volume I, Theoretical principles—instrumentation and technique Part I, *Theoretical principles* Theory of diffusion currents. Evaluation of diffusion coefficients. Polarography in nonaqueous media. Electrical migration current. The electrocapillary curve of mercury Polarographic maxima. Polarographic waves of complex metal ions. Polarographic waves of organic substances. Part II, Instrumentation and technique: The dropping mercury electrode and polarographic cells. Common operations in polarographic analysis. Voltammetry with solid microelectrodes. Volume II Inorganic polarography: Inorganic polarography Organic polarography Biological applications of polarography Amperometric titrations. Author index Volumes I–II. Subject index, Volumes I–II.

Note A professional-level treatise based on a systematic review of the international literature. Basic theory instruments, techniques, and applications are covered with unusual thoroughness. The characteristics of polarographic current voltage curves are treated at length. Although much among the material is drawn from the international literature the authors have themselves made important contributions to the development of the field. The first edition in one volume was published in 1941 the second edition represents a very extensive revision and expansion of the original work.

KOLTHOFF, IZAAK MAURITS, AND E B SANDELL
Textbook of quantitative inorganic analysis Third edition New York The Macmillan Company, 1952 759 p illus 24 cm. $6 50 1193

Contents (abridged) Stoichiometry Gravimetric analysis: Theoretical part, practical part, gravimetric determinations. Volumetric analysis Theoretical part, practical part, volumetric determinations. Physical and physicochemical methods of analysis. Analyses of complex materials. Appendix. Index.

Note A successful college textbook and laboratory guide. The expositions of theory and the descriptions of apparatus and laboratory procedures are fuller and somewhat more advanced than in some introductory texts in this field. Literature references are included. The second edition appeared in 1943 Fairly extensive revisions were made in preparing this edition.

KOLTHOFF, IZAAK MAURITS, AND V A. STENGER
Volumetric analysis. Second revised edition. New York Interscience Publishers, Inc., 1942–47 2 v 23 cm Vol I, $7 50, vol II, $8 25 1194

Contents Volume I, Theoretical fundamentals Fundamentals of volumetric analysis. The principles of neutralization and ion combination reactions. Titration curves for neutralization and ion combination reactions. The principles of oxidation-reduction reactions—titration curves. Indicators. Titration error Reaction velocity catalysis and induced reactions. Adsorption and coprecipitation phenomena. Volumetric methods of organic analysis. *Methods for the determination of the equivalence-point.* Appendix. Indexes. Volume II, Titration methods Apparatus and general principles. Calibration and use of volumetric apparatus. Practical principles of volumetric analysis. Acid-base reactions Acidimetry and alkalimetry Acid-base reactions Acidimetry and alkalimetry Acid-base reactions. Acid-base displacement titrations. Titrations involving hydrolytic precipitation or complex formation. Special methods of acidimetry and alkalimetry Quantitative precipitation and complex-formation reactions Argentometric titrations. Other precipitation methods. Formation of slightly dissociated or complex compounds—mercurimetry Appendix. Author index. Subject index.

Note. Although this work had its origin in a German monograph, *Die Praxis der Massanalyse*, it has been revised and expanded so much in the English translation that it is essentially a new work. It presents a liberal selection of useful tests, discusses procedures and reagents in general, and gives references to the pertinent literature. The techniques covered are those in which the reagent is added in an amount which is chemically equivalent to the substance being determined. The treatment is at a professional and graduate level. In the first edition of the English translation, oxidation and reduction reactions were covered in the second volume When the revision was made for the second edition, these were removed, and it was planned that they would be the subject of a third volume. However Volume III had not been published to the end of 1956.

MCALPINE, ROY K, AND BYRON A SOULE
Fundamentals of qualitative chemical analysis, semimicro method Fourth edition Princeton D Van Nostrand Company Inc. 1956 340 p illus 23 cm. $5 00 1195

Contents Introduction. Formulas and equations. Chemical arithmetic. Introduction to laboratory work. Group I—lead, silver mercury Copper division of group II—mercury lead, bismuth, copper cadmium. Group III—iron, chromium, aluminum. Group IV—zinc, manganese, cobalt, nickel. Group V—barium, strontium, calcium. Group VI—magnesium sodium, potassium, ammonium radical. Arsenic division of group II—arsenic, antimony tin. The more common acid radicals. Other common acid radicals. Qualitative examination of simple dry unknowns. Complex dry unknowns. Appendix. Logarithms. Index.

Note A standard introductory text. It covers, in an elementary style, basic principles, gives directions for the separation and

—— Volume III. Editorial board John Mitchell, Jr., I. M. Kolthoff E. S. Proskauer A. Weissberger New York Interscience Publishers Inc., 1956. 546 p. illus. 23 cm. $11.50 1208

Contents: Determination of organic acids, by J. Mitchell, Jr., and others. Determination of acid anhydrides, by C. W. [illegible] Determination of [illegible] and [illegible], by [illegible], Jr., and C. A. [illegible]. Determination of aldehyde [illegible], by A. [illegible] and J. L. [illegible]. Analytical [illegible] spectrometry by V. R. [illegible]. Synthetic organic coating resins, by O. D. [illegible]. Subject index, Volumes I–III.

Note: The three volumes, as noted above, have been published in this continuing series by the end of the year 1956. The purpose of the series is to publish from time to time review or monographic surveys on methods of analysis for functional groups in organic compounds. Each of the monographs is [illegible] substantial work based on the literature and including an extensive bibliography. The series is addressed to graduate chemists. There is no special emphasis on [illegible] particular area or group of organic chemistry; rather the whole field of organic analysis, both academic and industrial, is within the series' scope.

PATTERSON ANDREW JR., AND HENRY C THOMAS

A textbook of quantitative analysis. New York Henry Holt and Company 1952 500 p. illus. 22 cm. $4.75 1209

Contents: The principles of analytical chemistry—stoichiometry. Volumetric methods—titrations with permanganate. Volumetric determinations of acids and bases. Precipitation and complex-formation titrations. Oxidation-reduction reactions and oxidimetric determinations. Procedures used in gravimetric analysis. Preparation and properties of precipitates. Chemical analysis. Some physical methods of chemical analysis. Index.

Note: A substantial introductory text in which the capacity for learning to think in terms of [illegible] and equivalents, understanding the bases of quantitative analytical techniques, and learning the techniques of careful measurement are stressed. Directions for [illegible] number of laboratory exercises in quantitative determinations are incorporated throughout the book. However, much less space is given to such exercises than in some introductory texts in this subject. The authors are both associate professors of chemistry in Yale University.

PIERCE, WILLIS CONWAY AND EDWARD LAUTH HAENISCH

Quantitative analysis. Third edition. New York John Wiley & Sons Inc., 1948. 520 p. illus. 24 cm. $5.00 1210

Contents (abridged): Part I, Fundamentals: The analytical balance and its use. Precision, errors, and significant figures. Preparation of the sample for analysis. Part II, Volumetric analysis: Methods and apparatus. Theory of neutralization reactions. Complex equilibria. Oxidation-reduction. Volumetric precipitation methods. Part III, Gravimetric analysis: Methods and operations. [illegible] to precipitation reactions. Gravimetric analysis of simple [illegible]. Part IV, Special methods: Analysis by electrodeposition. Electrometric titrations. Use of analytical literature—standard samples. Appendix: Mathematical operations. Equilibrium constants. Preparation of reference solutions. Index.

Note: A standard textbook, the first edition of which was published in 1937 and the second edition in 1940. It is designed for use in introductory courses in quantitative chemical analysis, and [illegible] to that [illegible] may be used in either short courses or full-length courses. Basic theory, general techniques, and laboratory procedures for specific analyses are all stressed. In comparison to the second edition, the third edition was very extensively revised. One new chapter was added, and the number of problems increased by nearly 50 per cent.

RANDALL, HARRISON MCALLISTER, AND OTHERS

Infrared determination of organic structures. By H. M. Randall, R. G Fowler Nelson Fuson and J R. Dangl. Princeton D Van Nostrand Company, Inc., 1949 239 p. illus. 29 cm. $12 75 1211

Contents. The application of infrared spectroscopy to chemical analysis. Interpretation of specific structure groups and methods for recognition of these groups. A catalogue of empirical structural assignments for the double-bond region. A structural assignment catalogue for theoretically analyzed molecules. Application of the infrared method in practice. Instruments and experimental techniques. Spectra of various compounds. Index.

Note: This book is both an introduction to infrared spectroscopy and a reference book of data useful in the determination of molecular structures of organic compounds by infrared spectroscopy. The first two chapters are introductory to the subject; the third and fourth chapters consist primarily of tables pertaining to the assignment of the structures of organic compounds on the basis of their infrared spectra. The fourth chapter, the longest one in the book, contains, in addition to several tables, 314 plates of reproductions of the infrared spectra of individual organic compounds.

RIEMAN WILLIAM III AND OTHERS

Quantitative analysis a theoretical approach. Third edition. By William Rieman III, Jacob D Neuss, and Barnet Naiman. New York McGraw Hill Book Company Inc., 1951 523 p illus 24 cm. (International chemical series Louis P Hammett, consulting editor) $6.25 1212

Contents (abridged): Common apparatus and operations. Fundamentals of volumetric analysis. Potentiometric measurements. Titration of salts, acids, and bases. Acidimetry and alkalimetry. Theory of oxidation. Determination of iron in an ore. Iodimetry. Gravimetric determination of chlorides. Coprecipitation. Determination of chlorine. Determination of sulfur. Determination of [illegible]. Photometric methods. Determination of phosphorus. Organic reagents—determination of nickel and aluminum. Analysis of brass or bronze—electroanalysis. Ion exchange—determination of [illegible]. Appendix. References. Reagents and chemicals. Name index. Subject index.

Note: An established textbook for use in introductory college courses. An important feature is the interweaving of theory and laboratory analytical procedures. Other special features are the chapter on coprecipitation, the use of redox potentials, and the treatment of basic constants as functions of ionic strength. The chapter on ion exchange has been newly added in this ed. but the descriptions of certain techniques are considerably more detailed. The chapter on colorimetric methods has been enlarged, and there are minor changes in other parts of the text. The list of references has been revised.

ROSIN JOSEPH

Reagent chemicals and standards with methods of testing and assaying them also the preparation and standardization of volumetric solutions and extensive tables of equivalents. Third edition. Princeton D Van Nostrand Company Inc., 1955 561 p. 24 cm. $10.00 1213

Contents: Explanatory notes. Solutions used in reagents. Standard solutions (for controls, etc.). Reagents. Reagent solutions or [illegible]. The arsenic test. Boiling point range and boiling temperature. Freezing point determination. Melting point or temperature determination. Nitrogen determination by Kjeldahl method. pH determination. Buffer solutions. Indicators for pH determination. Specific rotation. Water determination by Karl Fischer method. Water determination with acetyl chloride. Volumetric solutions. Primary standards. Preparation and standardization of volumetric solutions. Indicators for volumetric determinations. Equivalents of volumetric solutions. Index.

Note: In its third edition, this standard reference book for analytical chemists is unchanged in purpose and organization, but it has been enlarged by the addition of descriptions of 43 new reagents and solvents, such as [illegible], [illegible] and [illegible]. Also, many of the test methods for purity of reagents presented in earlier editions have been revised. The supplementary reference information at the end of the volume has also been extended.

laboratory all procedures involving the reagent are discussed in detail. Documentation is in the form of footnotes. The book is mainly for research chemists and graduate students.

MULLER, OTTO HEINRICH

The polarographic method of analysis Second edition Easton, Pa. Chemical Education Publishing Company, 1951 209 p illus. 21 cm. (Contributions to chemical education No 2) $3 50 1201

Contents Introduction and review of electro-analytical methods. Apparatus. Fundamentals of quantitative analysis. Fundamentals of qualitative analysis. Polarometry Recent developments. Applications. Suggestions for practical polarography Appendix. General polarographic references. List of experiments. Index.

Note A short but reliable introduction to an important instrumental technique in chemical analysis. The technique is compared with other methods based on electric current. Typical apparatus is described, and applications and limitations are discussed. Embodied in the text are directions for 24 laboratory experiments. The first edition appeared in 1941 and consisted of reprints of a series of five articles that had appeared in the *Journal of chemical education*. The work has been extensively revised in this edition.

MULLEN, PAUL W

Modern gas analysis New York Interscience Publishers, Inc., 1955 354 p illus 19 cm $5 50 1202

Contents Part one Absorptiometric gas analysis Introduction. Pressure-volume-temperature relationship of gases. The measurement of pressure-volume-temperature parameters. Sampling. Macro absorptiometric equipment. Absorption reagents. Combustion analysis. Trace micro, and gas volumetric methods of analysis. Errors. Part II, Instrumental gas analysis. Sonic velocity Paramagnetic susceptibility Refractive index and interferometry Thermal conductivity Mass spectrometry Density specific gravity viscosity and effusion. Condensation and distillation. Spectrophotometric methods. Miscellaneous instrumental methods. Bibliography Index.

Note A compact manual of basic science, methods, and instruments pertinent to the chemical analysis of gases and mixtures of gases. The first part covers traditional methods which are based upon absorption. The second part covers newer methods based upon various physical properties. The book is addressed to graduate analytical chemists. As a survey of the present state of the field it should serve such readers well. A classified bibliography is included for the guidance of chemists who need detailed information on specific methods.

NACHTRIEB, NORMAN HARRY

Principles and practice of spectrochemical analysis New York McGraw Hill Book Company, Inc. 1950 324 p illus. 23 cm. $7 00 1203

Contents (abridged) Part I, The principles of spectrochemical analysis. The role of spectroscopy in analytical chemistry Prism spectrographs and the refraction of light. The diffraction of light by slits and gratings. The photographic process. The evaluation of photometric data. Direct-reading spectrometers. The origin of spectra. Part II, The practice of spectrochemical analysis The excitation of spectra. The quantitative analysis of metals. Qualitative analysis. The analysis of refractory materials. The analysis of solutions and soluble salts. Chemical separations in spectrochemical analysis. Index.

Note. A practical and rather thorough text for advanced college students and professional chemists who are just beginning to use spectrochemical analysis. The emphasis is on principles, but standard apparatus and its elements are adequately described. The basic physical principles and the chief instruments are discussed in the first part. The second part serves to introduce the reader to practical use of the techniques of spectrochemical analysis. Auxiliary techniques, such as precipitation of impurities, extraction by solvents, fire assay and electrolytic concentration, which are useful in association with spectrochemical methods, are briefly outlined in the final chapter The scope of the work is limited to emission spectroscopy in the ultraviolet and visual ranges.

OELKE, WILLIAM C

Semimicro qualitative analysis Boston D C. Heath and Company, 1950 377 p illus. 22 cm $4 50 1204

Contents (abridged) Part I, General theory: The solubility of solids. Acids, bases, and salts. Polyionic acids and bases and hydrolysis. Oxidation and reduction. Complex compounds. Part II, Laboratory and applied theory Semimicro technique. Anion analysis. Cation analysis. Systematic analysis. Appendixes. Reference and refresher section. Data section. Index.

Note An introductory textbook designed for study by students who have completed a college course in general chemistry It contains both material for classroom instruction and directions for laboratory work. The author is Chairman of the Department of Chemistry of Grinnell College.

OLSON, AXEL R , AND OTHERS

Introductory quantitative chemistry By Axel R. Olson, Charles W Koch and George C. Pimentel San Francisco W H. Freeman and Company, 1956 470 p illus 25 cm. $5 00 1205

Contents Introduction. The analytical balance. Introductory laboratory operations. Fundamental calculations. Evaluation of quantitative data. Equilibrium and equilibrium constants. Solubility equilibria in precipitation methods. Physical character and purity of precipitates. Gravimetric techniques. Introduction to the principles of volumetric analysis. Titrations and equilibria in monobasic acid systems. Titrations and equilibria in polybasic acid systems. Volumetric techniques. Principles of oxidation-reduction reactions. Analysis of mixtures. Oxidation-reduction methods—separations. Physicochemical methods—colorimetry Applications of physicochemical methods. Appendices. Table of logarithms. Index.

Note. In this textbook for full-length courses, the learning of fundamental principles and basic techniques is emphasized. To point up the emphasis, the directions for laboratory experiments are separated from the discussions of basic matters. In order to adapt the book to the instruction of students preparing for further study in fields other than chemistry particularly the biological and medical sciences, material has been included on buffer solutions, polybasic acids, etc. The book is written in a brisk style that lightens the task of reading and is illustrated with distinctive functional drawings. It is based upon but does not supersede *Introductory quantitative analysis* by Axel R. Olson and others, published in 1948 by the same publisher and used in shorter courses.

ORGANIC ANALYSIS Volume I. Editorial board John Mitchell, jr , I M Kolthoff E S Proskauer, and A Weissberger New York Interscience Publishers Inc., 1953 473 p. illus. 23 cm $8 50 1206

Contents Determination of hydroxyl groups, by V C. Mehlenbacher Determination of alkoxyl groups, by A. Elek. Determination of the alpha-epoxy group, by J L. Jungnickel and others. Organometallic compounds for the determination of active hydrogen, by G. F Wright. Diazomethane for the determination of active hydrogen, by F G. Arndt. Determination of carbonyl compounds, by J Mitchell, jr Determination of acetals, by J. Mitchell, jr Determination of organic sulfur groups, by S. Dal Nogare. Spectroscopic functional group analysis in the petroleum industry by N D. Coggeshall. Subject index.

—— Volume II Editorial board John Mitchell, jr , I M Kolthoff, E S Proskauer, A. Weissberger New York Interscience Publishers Inc. 1954 372 p. illus 23 cm. $8.50 1207

Contents Microdetermination of carboxyl groups (neutralization equivalent) by A. Steyermark. Determination of esters, by R. T Hall and W E. Shaefer Determination of nitro, nitroso, and nitrate groups, by W W Becker and W E. Shaefer Applications of lithium aluminum hydride to organic analysis, by T Higuchi. Coulometric methods, by W D Cooke. Application of polarography to organic analysis, by P J Elving. Methods based on reaction rate by T S. Lee. Phase solubility analysis, by W J Mader Countercurrent distribution, by J R. Weisiger Subject index, Volumes I–II.

compounds. Miscellaneous procedures. Quantitative separation of components in mixtures. Some physical chemical methods applicable to quantitative analysis. Techniques and reasoning in developing new analytical methods or modifying existing methods. The role of quantitative functional group determination in the identification of organic compounds. Weighing of volatile or corrosive liquids. Index.

Note: As indicated in the title, this is a book of analytical methods for organic compounds based on determination of functional groups rather than elements. The author is Research Analyst on the staff of the General Aniline & Film Corporation, and the book is addressed to analytical chemists in other industrial laboratories, as well as to advanced students. Some literature references are included but, generally speaking, procedures are described in sufficient detail to enable the experienced analytical chemist to carry them out without reference to other literature. The first edition appeared in 1948. In this second edition, there are two new chapters, "Techniques and reasoning in developing new analytical methods or modifying existing methods" and "The role of quantitative functional group determination in the identification of organic compounds." In other chapters, recently developed procedures and some older procedures not included in the first edition have been added. The length of the book has been substantially increased.

SMITH ORSINO C

Inorganic chromatography Princeton D Van Nostrand Company Inc. 1953 134 p. illus. 24 cm. $6.00 1219

Contents: Part I, History and theory: Introduction. The work of Tswett. Inorganic chromatography. Column chromatography. Paper chromatography. Chromatography by ion exchange. Radioactive tracers in chromatography. Part II, Applications: Adsorbents. Laboratory procedures. Table of reagents. Bibliography. General index.

Note: Chromatographic methods of chemical analysis have reached the stage of development where they can be used in many fields of chemistry. Nevertheless, most of the books published on the subject to date have been written at the level of specialists in chromatography. This book is the result of a planned effort to make chromatographic procedures available to ordinary chemists, particularly to chemists who are concerned with the analysis of ores and other mixtures of metals. The first part consists largely of literature abstracts, in which the author describes rather specifically and in fair detail methods which have been reported in the literature. References to the source articles are given. In the second part, practical laboratory procedures based on the processing of an 0.1 gram sample are specifically described. The illustrations include five colored plates.

SNELL, FOSTER DEE, AND CORNELIA T SNELL

Colorimetric methods of analysis including some turbidimetric and nephelometric methods. Volume I. Third edition. Princeton D Van Nostrand Company Inc., 1948 239 p. illus. 23 cm. $6.50 1220

Contents (abridged): Volume I, Theory—Instruments—pH: Theory. Comparison with a series of liquid standards. Comparison with solid standards. Dilution and duplication methods. Balancing method. Spectrophotometry. Visual filter photometry. Photoelectric filter photometry. Nephelometry. Turbidimetry. Fluorometry. Calculations. Hydrogen-ion. Author index. Subject index.

—— Volume II. Third edition. Princeton D Van Nostrand Company Inc., 1949 916 p. illus. 23 cm. $15.00 1221

Contents: Volume II: Inorganic. Lead. Thallium. Silver. Mercury. Copper. Cadmium. Bismuth. Arsenic. Antimony. Tin. Indium. Gallium. Germanium. Aluminum. Beryllium. Chromium. Iron. Nickel. Cobalt. Manganese. Zinc. Titanium. Zirconium. Vanadium. Tungsten. Molybdenum. Uranium. Columbium. Tantalum. Gold. Platinum. Rhenium. Iridium. Palladium. Osmium. Rhodium. Ruthenium. Sodium. Lithium. Cesium. Calcium. Barium. Cerium. Lanthanum. Magnesium. Phosphorus. Silica. Boron. Chlorine and chloramine. Chloride. Chlorates and perchlorates. Bromide. Iodine and iodine compounds. Fluoride. Sulfide. Sulfur in various oxidized forms. Selenium and tellurium. Thiocyanates. Nitrate. Nitrites. Ammonia. Carbon. Carbon monoxide. Carbon dioxide and carbonates. Cyanide. Oxygen. Peroxides. Ozone. Author index. Subject index.

—— Volume III. Third edition. Princeton D Van Nostrand Company Inc., 1949 950 p illus. 23 cm. $12.50. 1222

Contents: Organic—I Hydrocarbons. Alcohols and their esters. Phenols. Quinones. Oxygen cyclic oxides, and peroxides. Pentoses. Hexoses and heptoses. Polysaccharides. Glucosides. Aldehydes. Ketones. Unsubstituted monobasic aliphatic acids and their esters. Substituted monobasic aliphatic acids and their esters. Polybasic aliphatic acids and their esters. Cyclic acids and their esters. Complex acids and derivatives. Sulfur derivatives. Halogen compounds. Author index. Subject index.

—— Volume IV Third edition. Princeton D Van Nostrand Company Inc. 1954 676 p. illus. 23 cm. $12.50 1223

Contents: Organic—II Nitriles, nitrates, and nitro compounds. Aliphatic amines and amides. Amino acids. Proteins. Aromatic primary, secondary and tertiary amines. Azo compounds, nitrogen-containing cycles, etc. Urea and related compounds. Compounds with inorganic radicals. Sterols. Hormones. Alkaloids. Enzymes. Antibiotics. Glycosides and related compounds. Natural pigments. Color of liquids. Author index. Subject index.

Note: The standard reference work on colorimetric methods of analysis. Volume I is devoted to the basic theory, the instruments used, and to hydrogen ion determination. The other volumes consist of detailed procedures for individual analyses. Although the descriptions of the procedures are complete, literature references are given. The first edition was published in 1921 and the second edition was published in 1936–37. This third edition represents a very extensive revision, in which a majority of the procedures are not to be found in the preceding edition.

SNELL FOSTER DEE, AND FRANK M BIFFEN

Commercial methods of analysis. With photomicrographs by George Lord. New York McGraw Hill Book Company Inc. 1944 753 p. illus. 21 cm (International chemical series L. P Hammett consulting editor) $11.00. 1224

Contents: General. Tools of the analyst. General procedures. Preliminaries to the analysis. Qualitative analysis by micro and spot tests. Hydrogen-ion determination and electrometric titrations. Halogens. Combined nitrogen. Sulfur and its compounds. Minerals. Water analysis. Fixed alkalies and alkaline salts. Cement and mortar. Ferrous metals. Aluminum and light aluminum alloys. Copper-base alloys. Saponifiable fats and oils. Sulfated oil and related products. Soap and soap products. Heavy-metal soaps. Lubricating greases. Waxy substances. Solvents and thinners. Alcohols. Paints, varnishes, lacquers, and resins. Synthetic resins. White pigments, extenders, and mineral fillers. Mixed white pigments, extenders, and mineral fillers. Colored pigments and mineral colors. Oil and wax emulsions. Rubber. Miscellaneous rubber analyses and synthetic elastomers. Analysis of coal. Gas analysis. Paper, paper fibers, textile fibers, and starches. Sugar and sugar products. Petroleum products. Pyrethrins and rotenone. Indicator reagents, and volumetric solutions. Index.

Note: A treatise for chemists outlining the method of approach to analysis of the numerous complex commercial products. Standard methods, such as those recommended by the American Society for Testing Materials and the Association of Official Agricultural Chemists, have in many cases been introduced, though not often in the exact words of the original methods. Simplification and explanation of steps, together with reasons, are features of the work. Emphasis is laid on the importance of the determination of minute quantities. The volume is of use to the professional analyst as well as to the student who is familiar with the tools of quantitative analysis.

STEIN WILLIAM H. AND OTHERS

Amino acid analysis of proteins New York The New York Academy of Sciences 1946 184 p illus. 23 cm. (New York Academy of Sciences. Annals. Vol. 47 p. 57–240, 1946) $2.25 1225

SANDELL, ERNEST BIRGER

Colorimetric determination of traces of metals. Second edition, revised and enlarged New York Interscience Publishers, Inc, 1950 673 p illus 23 cm (Chemical analysis, a series of monographs on analytical chemistry and its applications, editors, Beverly L Clarke and I M Kolthoff Vol III) $10 50 1214

Contents General part, Colorimetric trace analysis Trace analysis. Methods for the separation and isolation of traces of substances. Colorimetry and spectrophotometry in trace analysis. General colorimetric reagents. Special part, Procedures for the determination of traces of metals *Aluminum*. Antimony Arsenic. Barium. Beryllium. Bismuth. Cadmium. Calcium. Cerium. Chromium. Cobalt. Columbium and tantalum. Copper Gallium. Germanium. Gold. Indium Iridium. Iron. Lead. Lithium. Magnesium. Manganese. Mercury Molybdenum. Nickel. Osmium. Palladium. Platinum. Potassium. The rare earth elements. Rhenium. Rhodium. Ruthenium. Scandium. Silver Sodium. Thallium. Tin. Titanium. Tungsten. Uranium. Vanadium. Zinc. Zirconium. Appendix. Author index. Subject index.

Note This volume presents a collection of modern methods for the colorimetric determination of traces of elements, especially of metals. Described under the names of the elements chosen are a limited number of methods which in the author's experience have proved best for dealing with traces of the respective elements. The book is addressed to graduate chemists. The second edition is one-third again as large as the original edition. Many new procedures are described.

SCHAEFFER, HAROLD F

Microscopy for chemists Princeton D Van Nostrand Company, Inc, *1953* 264 p illus 23 cm $4 50 1215

Contents Principles governing lenses. Getting acquainted with the microscope. Properties of objective and oculars. Illumination—equipment and principles. Permanent records—preparation of sketches and photomicrographs. Quantitative microscopy Polarized light—principles, sources, and applications. Chemical procedures on a microscopic scale—general—inorganic reactions—organic reactions. Laboratory experiments. Bibliography Index.

Note This manual of the microscope and its uses in chemistry is organized so that it may be used as a textbook by matriculated students or as a self-instruction manual and reference book by professional chemists. It introduces the reader to the principles and general construction of modern optical microscopes It discusses objectives, oculars, illumination, etc., with adequate thoroughness, and finally presents chemical techniques based on the optical microscope. The expository chapters are supplemented by 32 experiments designed to be carried out in chemical laboratory The book is self-contained from the viewpoint of the average chemist. However the author has included an extensive bibliography of books and papers for the guidance of those who need more specialized information. The illustrations include pictures of instruments and their parts and also reproductions of number of microphotographs of chemical substances.

SCOTT WILFRED WELDAY, editor

Standard methods of chemical analysis, a manual of analytical methods and general reference for the analytical chemist and for the advanced student. Fifth edition edited by N Howell Furman in collaboration with eminent specialists Princeton D Van Nostrand Company Inc 1939 2 v illus (part col d) 24 cm. $30 00 1216

Contents (abridged) Volume I Aluminum. Antimony Arsenic. Barium. Beryllium. Bismuth. Boron. Bromine. Cadmium. Calcium. Carbon Cerium and the other rare earths. Chlorine. Chromium. Cobalt. Columbium and tantalum. Copper Fluorine. Gallium. Germanium. Gold. Hydrogen. Indium. Iodine Iron. Lead. Magnesium. Manganese. Mercury Molybdenum. Nickel. Nitrogen. Oxygen. Phosphorus. Platinum metals. Radium Rhenium. Scandium. Selenium and tellurium. Silicon. Silver The fire assay for gold and silver Sodium and the other alkali metals. Strontium. Sulfur Thallium. Thorium. Tin. Titanium. Tungsten. Uranium. Vanadium. Zinc. Zirconium and hafnium. Qualitative tests of substances. Solubility table. Index. Volume II Standard methods of sampling. Decomposition of the sample. Determination of moisture, water of crystallization Bituminous substances including asphalts, tars, and pitches. Cement. Coal and coke. Explosives. Fixed oils, fats and waxes. Petroleum oils, fats and waxes. Paints. Paper and paper-making materials. Poisons. Rubber gutta percha and balata. Gas analysis. Methods of analysis of soaps and soap products. Water analysis. Microscopical and bacteriological examination of water supply Miscellaneous analyses. Acidimetry and alkalimetry Determination of *p*H by the colorimetric method. Electrometric hydrogen ion measurement. Potentiometric methods. Conductometric methods. Gas analysis. Chemical microscopy Quantitative microchemical analysis. Metallography Methods for the determination of solubility Spectrographic analysis. Index.

Note For many years this work has been a standard reference manual of chemical analysis in industrial and commercial laboratories. It gives in detail the methods used in the quantitative analysis of the chemical compounds of all the elements, including the rare ones, and it applies these methods to the analysis of ores, minerals, alloys, cements, soaps, and many other materials used or produced in the chemical industries. These methods are widely used in the United States in preparing contract specifications for the purchase or sale of materials in quantity This edition has been revised and enlarged and includes methods for the newer industrial products, and detailed descriptions of newer techniques in quantitative analysis, such as the electrometric, potentiometric conductometric, and microchemical methods. There are separate author and subject indexes in each volume.

SHRINER, RALPH L, AND OTHERS

The systematic identification of organic compounds a laboratory manual By Ralph L Shriner, Reynold C Fuson and David Y Curtin Fourth edition New York John Wiley & Sons, Inc., *1956* 426 p illus. *22* cm. $6 00 1217

Content Introduction. The identification of unknowns. Preliminary examination. The determination of physical properties. Qualitative analysis for the elements. The solubility classes. Application of classification tests. The use of spectroscopic methods for functional group determination. The preparation for derivatives. Tables of derivatives. The separation of mixtures. Introduction to the solution of structural problems. Problems. Appendix. Index.

Note An introductory textbook which has been widely used in American colleges and universities since the publication of the first edition in 1935 The subject is the qualitative analysis of organic compounds. The authors stress the necessity for *systematic* and logical thinking in the identification of organic "unknowns. On the other hand, they point out that organic analysis is intrinsically more than the mere following of directions and that the student must in most cases of identification use considerable ingenuity Except for spectroscopic techniques, instrumental analytical techniques are not discussed. All other methods covered require only the standard equipment of college teaching laboratories and the standard literature. Background discussion and directions for experiments and analytical procedures are *intermingled* throughout the book, and literature references are inserted adjacent to the text to which they pertain. The third edition was published in 1948. Revisions including citations of the recent literature are to be found in most chapters of this fourth edition. Major changes include abandonment of scheme of analysis based on solubility behavior and further emphasis on critical checking, by control reactions and otherwise of the results of laboratory work.

SIGGIA, SIDNEY

Quantitative organic analysis via functional groups. Second edition New York John Wiley & Sons, Inc., *1954* 227 p *illus 22* cm $5 25 1218

Contents Hydroxyl groups. Carbonyl groups. Carboxylic acids, salts, esters, amides, imides, anhydrides, and chlorides. Alkoxyl groups. Acetyl groups. Unsaturation. Active hydrogen compounds and compounds which react with Grignard reagent. Acetylenic hydrogen. Determination of acetal and ketal type compounds and vinyl alkyl ethers. Amino groups. Quaternary ammonium salts. Hydrazines. Diazonium salts. Titanous chloride reduction. Mercapto groups. Dialkyl sulfides. Alkyl disulfides. Sulfonic acids, salts, and sulfonamides. Peroxides. Isocyanates and *isothiocyanates*. Vinyl ethers. Oxirane oxygen (epoxide compounds) Water in organic

WALTON, HAROLD FREDERIC

Principles & methods of chemical analysis. New York Prentice-Hall, Inc., 1952 435 p. illus. 22 cm. $7.00. 1230

Contents: Introduction. The physical properties of precipitates. Impurities in precipitates. The drying and ignition of precipitates. Electrolytic methods of analysis. Organic precipitants. Complex ions in analytical chemistry. Ion exchange methods in analytical chemistry. Separation by vaporization and extraction. Volumetric analysis—introduction. Oxidation-reduction potentials. Methods of potentiometric titration. Acid-base titrations. Acid-base indicators. Oxidation-reduction titrations. Volumetric oxidation-reduction methods in organic chemistry. Oxidation-reduction indicators. Precipitation titrations. Complex-forming titrations. Conductometric titrations. Appendixes: Bibliography of selected texts. Selected methods for determination of the elements. Tables of data. Answers to problems. Index.

Note: An advanced survey in which the emphasis is on basic concepts. However, there are also many details and special points derived from experience which will be helpful to analytical chemists. The book is valuable also for the discussion of special problems in analysis, for example, the titration of fluoride. Instrumental methods of analysis are not covered, but much of the material presented is basic to the intelligent use of analytical instruments. Abundant literature references are supplied in footnotes and in the second appendix. The latter feature makes the book a useful reference tool for graduate chemists.

WELCHER, FRANK JOHNSON

Organic analytical reagents. Princeton D Van Nostrand Company Inc., 1947–48 4 v illus. 24 cm. $10.25 per vol. set, $38.50. 1231

Contents: Volume I: The electronic theory of valence. Coordination compounds. Chelate compounds. Types of chelate rings. The effect of structure on solubility. Hydrocarbons. Substitution products of hydrocarbons. Alcohols. Phenols. Miscellaneous phenolic compounds. Amino phenols. Phenol sulphonic acids. 8-hydroxyquinoline and its derivatives. Azo derivatives of 8-hydroxyquinoline. Ethers. Aldehydes. Ketones. Index of names and synonyms of organic reagents. Index of the uses of organic reagents. Volume II: The organic acids. Halogen substituted acids. Hydroxy acids. Amino acids. Miscellaneous acids. Acyl halides. Acid anhydrides. Esters. The amines. Quaternary ammonium compounds. Index of names and synonyms of organic reagents. Index of the uses of organic reagents. Volume III: Part I, Heterocyclic nitrogen compounds: Pyridine and its derivatives. Quinoline and quinoline derivatives. Dipyridyl and related compounds. Pyrazolone derivatives. Miscellaneous heterocyclic nitrogen compounds. Part II, The amides. The diamines. Acyclic amines. Hydroxyamines. Derivatives of Glyoxime. Imidoxime compounds. Nitroso phenols. Miscellaneous oximes. Cupferron and neocupferron. Nitroso amines. Part III, Acidic amino compounds. Rhodanine and its derivatives. Carbazides, thiocarbazides, and semicarbazides. Carbazones. Thiocarbazones. Miscellaneous amino compounds. Index of names and synonyms of organic reagents. Index of the uses of organic reagents. Volume IV: Acidic nitro compounds. The arsonic acids. The dithiocarbamates. The xanthates. Miscellaneous sulfur compounds. Sulfonic acids. The carboxylic acids. Selenious acids. The thiols. Diazonium compounds. Carbohydrates. Miscellaneous natural substances. Miscellaneous compounds. Lake-forming dyestuffs. Hydroxyanthraquinone dyes. Miscellaneous dyes. Dyes used in the detection of anions. Index of names and synonyms of organic reagents. Index of the uses of organic reagents.

Note: Totaling 2,219 pages in four volumes this major work is designed as a reference manual of all organic analytical reagents that have been described in the chemical literature published prior to January 1, 1946. Methods of preparation and uses of the reagent compounds are explained in sufficient detail for laboratory needs, and in addition citations are given to the original literature sources. Each volume contains an index to names and synonyms of organic reagents and an index of the uses of organic reagents. The latter feature brings together, under the name of a substance, the names of all organic reagents that have been reported as usable for its detection.

WELCHER, FRANK J., AND RICHARD B HAHN

Semimicro qualitative analysis. Princeton. D Van Nostrand Company Inc., 1955 497 p. illus. (part col'd) 23 cm. $8.00. 1231A

Contents (abridged): Part I, Theoretical. The structure of the atom. The formation of ions and molecules. The relationship of chemical structure and properties. Crystals, liquids, and gases. Chemical reactions. Solutions. Colloids. Chemical equilibrium. Ionic equilibrium. The solubility product principle. Amphoteric substances. Theory of oxidation-reduction. Part II, Reference. Ionization constants, solubility products, and other tables. Properties of inorganic compounds. Mathematical operations. Cations. Anions. Part III, Experimental. Appendix. Index.

Note: A modern introductory text and laboratory manual whose contents have been selected and organization planned to suit them to the way qualitative analysis is now taught in many colleges and universities in the United States of America. The structure of the atom is introduced in the first chapter; furthermore, it is treated in terms of wave mechanics rather than the Rutherford-Bohr theory. The book is more than a laboratory manual. In fact, the laboratory work is somewhat subordinated to the discussion of theory. The space in the volume is divided as follows: Part I, 128 pages, part II, 122 pages; part III, 143 pages.

WILG, EDWIN O., AND OTHERS

Semimicro qualitative analysis a course in applied chemical equilibrium. By Edwin O Wilg, Willard R. Line, and John F Flagg. Princeton D Van Nostrand Company, Inc., 1954 238 p. illus. 23 cm. $4.25 1232

Contents (abridged): Theory: Introduction. Structure of matter. Solutions. Chemical equilibrium. Applications of the law of chemical equilibrium—homogeneous systems—heterogeneous processes. Hydrolysis. Complex ions and amphoterism. Valence and oxidation-reduction. Experimental: The technique of semimicro qualitative analysis. Cation analysis. Anion analysis. Summary of analysis of general unknowns for cations and anions. General questions. Special alloy procedures. Appendix: Terms and definitions. Review of mathematical operations. List of apparatus. Reagents used in semimicro qualitative analysis. Tables. Index.

Note: This book may be viewed as a revised edition of, or as successor to one of the same title written by John F. Flagg and Willard R. Line and published in New York in 1941. Although intended for the instruction of college students taking their first course in chemical analysis—as was the earlier work—it has been reorganized and extensively rewritten in comparison to the earlier work. It teaches the principles of chemical equilibrium and applies them systematically to the analysis of inorganic substances. It covers both the basic theory and laboratory analytical procedures. It provides a range of basic reference information such as a list of reagents, ionization and instability constants, and a table of solubility data.

WILLARD, HOBART H., AND OTHERS

Elements of quantitative analysis theory and practice. By Hobart H. Willard, N Howell Furman, and Clark E. Bricker Fourth edition. Princeton D Van Nostrand Company Inc., 1956 576 p. illus 23 cm. $5.85 1233

Contents: Part I, Introductory material—general operations: Introduction. The general operations of quantitative analysis. The analytical balance—weighing—calibration of weights. Volumetric measurements. Fundamental laws and theories. Part II, Titrimetric (volumetric) methods: The general principles of titration methods. Titrimetric precipitations. Complex-forming titrations. Titrations of acids or bases—Procedures. The theory of acid-base titrations. Oxidation-reduction reactions. Oxidations with standard potassium permanganate solutions—ceric solutions—potassium dichromate solution. Oxidation and reduction processes involving iodine. Oxidation-reduction. Part III, Gravimetric determinations: Gravimetric analysis. Simple gravimetric determinations. Part IV, Separations: Separation by precipitation. Gravimetric separations. Electrolytic separations and determinations. Electrolytic determinations and separations—analysis of alloys—procedures. Separations by extraction. Separation by adsorption—by volatilization. Colorimetry and spectrophotometry. An introduction to electrometric methods in analytical chemistry. Appendixes. Subject index. Author index.

Note: This college textbook has enjoyed wide use in college courses in the United States of America and elsewhere. The first edition was published in 1933 and the third edition in 1940. These editions were written by Willard and Furman and were entitled Elementary quantitative analysis. In this fourth edition, matters basic to the whole field of quantitative analysis are discussed in

Contents Introduction, by W. H. Stein. The contribution of the analytical chemist to protein chemistry, by H. B. Vickery. The use of specific precipitants in the amino acid analysis of proteins, by W. H. Stein and S. Moore. The isotope dilution method of amino acid analysis, by D. Shemin and G. L. Foster. Chromatographic and ion exchange methods of amino acid analysis, by R. K. Cannan. Microbiological methods in amino acid analysis, by E. E. Snell. Enzymatic methods in amino acid analysis, by R. M. Archibald. Amino acid composition of simple proteins, by E. Brand. Some correlations between physico-chemical data and the amino acid composition of simple proteins, by J. T. Edsall. Conclusion, by H. T. Clarke.

Note A collection of papers presented at a conference held in October 1943 under the auspices of the New York Academy of Sciences. The volume as a whole offers a review and critical evaluation by chemists, biologists, and medical scientists of the various methods used to determine the amino acids produced by the hydrolysis of proteins. Of particular interest is the description of an apparently complete analysis of a simple protein. Brief bibliographies are included.

STEYERMARK, AL

Quantitative organic microanalysis New York McGraw-Hill Book Company, Inc. 1951 389 p illus 23 cm $7.50 1226

Contents (abridged) Weighing on the microchemical balance. Preparation of samples for analysis. The determination of metals by the ashing technic. Determination of nitrogen by the micro-Dumas method. The microdetermination of carbon and hydrogen. Standard solutions. Microdetermination of nitrogen by the Kjeldahl method. Determination of sulfur. Determination of halogens. Determination of phosphorus. Determination of arsenic. Determination of oxygen. Determination of the neutralization equivalent (determination of acidic hydrogen, carboxyl groups). Determination of alkoxyl groups (methoxyl and ethoxyl). Determination of acetyl groups. Determinations carried out on the Van Slyke manometric apparatus. Manometric carbon determination. Manometric determination of primary amino nitrogen in aliphatic α-amino acids. Determination of molecular weight. Determination of some physical constants. Calculations. Author index. Subject index.

Note The author of this work is Head of the Microchemical Department of Hoffmann-La Roche, Inc., Nutley, New Jersey. The order in which the chapters are presented is the same order in which microchemical techniques and procedures have been taught over a period of eight years to new members of his department. The publication is accordingly for the beginning microanalyst who is a graduate in chemistry. It is also of interest to experienced microanalysts. The methods and equipment are described in detail; in some cases alternative methods are also given. The bibliographical citations at the ends of the chapters are extensive.

SWANSON, HOWARD E., AND OTHERS

Standard X-ray diffraction powder patterns Washington, D. C. Government Printing Office 1953–56 6 v illus 26 cm. (United States National Bureau of Standards. Circular 539 Vols 1–6) Vols 1–5 $0.45 vol 6 $0.40 1227

Contents Volume I, Data for 54 inorganic substances, by H. E. Swanson and E. Tatge. Introduction. Patterns. References. Cumulative index to Volumes I and II. Volume II, Data for 30 inorganic substances, by H. E. Swanson and R. K. Fuyat. Introduction. X-ray data. Elements. Sulfides. Oxides. Halides. Carbonates. Sulfates. Silicates. Cumulative index to Volumes I and II. Volume III, Data for 34 inorganic substances, by H. E. Swanson and others. Introduction. X-ray data. Elements. Selenides. Oxides. Oxide hydrates. Multiple oxides. Halides. Chlorates. Carbonates. Nitrates. Sulfates and sulfites. Phosphates. Bromodimates. Cumulative index to Volumes I, II, III. Volume IV, Data for 42 inorganic substances, by H. E. Swanson and others. Introduction. Elements. Sulfides. Oxides. Halides and halide hydrates. Nitrates and nitrites. Phosphates. Sulfates. Silicates. Intermetallic compounds. Cumulative index for Volumes I–IV. Volume V, Data for 45 inorganic substances, by H. E. Swanson and others. Introduction. Standard X-ray powder patterns. Cumulative index to Volumes I–V. Volume VI, Data for 44 inorganic substances, by H. E. Swanson and others. Introduction. Standard X-ray powder patterns. Cumulative index to Volumes I–VI.

Note This circular, of which six parts have been issued, prints tables of standard X-ray diffraction powder patterns for inorganic chemicals. Most of the patterns are presented in revision and evaluation of corresponding patterns of the American Society for Testing Materials card file published in 1939 (with supplement 1944). Patterns also are included for some compounds not represented in that file. The project of compilation is supported by the Joint Committee on Chemical Analysis by Powder Diffraction Methods, a committee composed of members from the following bodies: The American Society for Testing Materials, the American Crystallographic Association, and the British Institute of Physics.

SWIFT, ERNEST H

A system of chemical analysis (qualitative and semi-quantitative) for the common elements San Francisco W. H. Freeman and Company, 1955 589 p illus. 24 cm $6.00. 1228

Contents (abridged) Part I, The preparation of standard solutions. The analytical balance. The determination of the sensitivity of a balance. The calibration of a set of weights. Volumetric methods of analysis. The preparation of a standard silver nitrate solution. The preparation and standardization of a thiocyanate solution. The preparation of a permanganate solution. The preparation and standardization of ferrous sulfate solutions. The preparation of iodine solutions. The preparation of starch solution. The preparation of thiosulfate solutions. The applications of iodometric methods. The preparation of carbonate-free solutions of sodium hydroxide. The standardization of sodium hydroxide solutions. The preparation and standardization of hydrochloric acid solutions. Gravimetric methods of analysis. The gravimetric standardization of a hydrochloric acid solution. Part II, The system of analysis for the basic constituents. The preparation of the sample, preliminary observations, and preparation of the solution for the analysis. Separation of the basic constituents into groups. Precipitation of the hydrogen sulfide group and separation of the copper and tin groups. The analysis of the copper group. Analysis of the tin group. Precipitation of the ammonium sulfide group, separation of iron, removal of phosphate, and separation of the aluminum and zinc groups. The analysis of the zinc group. The analysis of the aluminum group. The analysis of the alkaline earth group. The analysis of the alkali group. Part III, The system of analysis for the acidic constituents. The analysis of the acidic constituents. The analysis for sulfide, cyanide, and sulfite. The analysis for ferrocyanide and ferricyanide. The analysis of the halide group. The analysis of the oxy-halogen group. The analysis of the phosphate group. The detection and estimation of sulfate and of fluoride. The analysis of the sodium carbonate solution for nitrate, nitrite, borate, and acetate. Appendix. Questions and problems. Tables. Reagents and chemicals. Equipment. Index.

Note Presented in this textbook is a systematic combination of qualitative and quantitative analysis into a uniform system of chemical analysis. Many of the methods were original with the author and were developed for this system. The material was tested at the California Institute of Technology before publication. Detailed directions are given for procedures, and there are fairly lengthy discussions of each procedure. The book was originally published in 1939 by another publisher. The edition listed here is a reprint issued in 1955 of the original edition.

WAGNER, WALTER, AND OTHERS

Advanced analytical chemistry By Walter Wagner, Clarence J. Hull and Gerald E. Markle. New York Reinhold Publishing Corporation 1956 282 p illus 24 cm. $6.00 1229

Contents (abridged) Part I, Analytical techniques. Organic reagents. Gas analysis. Colorimetry and spectrophotometry. Polarography and amperometric titrations. Chromatography and ion exchange techniques. Thermogravimetric analysis. Radiochemistry. Statistics. Part II, The analytical chemistry of the elements. Index.

Note An advanced-level text and laboratory manual of some potential interest to graduate chemists as well as to enrolled students. In the first part—which accounts for a little over one-third of the book's length—selected instrumental techniques are briefly described, and references are given to the more important literature pertaining to them. Also in this part are useful survey chapters on organic reagents and on the use of statistics in analytical chemistry. The second part is devoted to analytical procedures for specific elements and groups of elements. Selected procedures are described in detail; however, these descriptions are embedded in condensed critical appraisals of all the analytical procedures applicable to the element or group of elements under discussion. A useful feature of this second part is the inclusion of fairly extensive literature lists for the various procedures. The authors are members of the faculty of the University of Detroit.

tion on the subject is collected and critically evaluated, with special emphasis on the data published in the *International critical tables*. Copious tables of data, gathered by many observers, accompany the discussions.

EITEL, WILHELM

The physical chemistry of the silicates. Chicago University of Chicago Press 1954 1,592 p. illus. 25 cm. (The University of Chicago committee on publications in the physical sciences Walter Bartky and others) $45.00 1240

Contents: The states of the silicates: The crystalline state. Fused and glassy states. Colloids. Fusion and polymorphic equilibria in dry silicate systems: General remarks on fusion and polymorphism phenomena. Special silicate systems. Pneumatogenic and hydatogenic silicates: Silicate systems with volatile components. Silicate hydrates of the zeolite, permutite group. Solid-state reactions and their ceramic uses: Reactions in the solid state. Reactions in ceramic bodies. Reactions in hydraulic cements. Silicate melts as industrial glasses and slags: Reactions in glass making—industrial glasses, enamels, and glazes. Industrial slags. Key to international periodicals in silicate research. References. Subject index. Index to minerals and rock species. Systematic index of the special silicate melt equilibria. Alphabetical index of silicate and related systems. Index of chemical compounds. Author index.

Note. The first and second editions of this important treatise were written in German and were published in Leipzig in 1929 and 1941. This third edition is not [illegible] translation of [illegible] published German edition, but was first published in English in the United States of America under the imprint noted above. It is [illegible] cyclopedic survey of theory and phenomena of the chemical behavior of silicate materials. It is based on the world literature, and most of the chapters are essentially an organization of abstracts of published papers and other literature. The source articles are cited in footnotes throughout the book, and the names of their authors have been assembled in the 44-page author index. Industrial applications are covered to the extent that papers reporting experiments in the production of such products as bricks, and papers reporting theoretical studies made in connection with industrial production are abstracted. The book is logically arranged and cross-indexed for reference use. In comparison to the preceding edition, it is much broader in scope and, of course, covers the later literature.

HURD, DALLAS T

An introduction to the chemistry of the hydrides. New York John Wiley & Sons Inc., 1952 231 p. illus. 24 cm. $8.25 1241

Contents: Introduction to the hydrides. Chemical bonding and the structure of hydrides. The saline hydrides—general considerations. The hydrides of the alkali metals. The hydrides of the alkaline earth metals. The hydrides of beryllium and magnesium. The covalent hydrides—general considerations. The hydrides of the group III elements. The hydrides of the group IV elements. The hydrides of the group [illegible] elements. The hydrides of the group VI elements. The hydrides of the group VII elements—F, Cl, Br, I. Acids and bases. Complex hydrides. The hydrides of the transitional elements. The borderline hydrides. Nomenclature of the hydrides. Appendixes: Deuterides. Toxicology of the hydrides. The vacuum manipulation of volatile compounds. Sources of hydrides. Extended tables of physical properties and thermodynamic data for the boron hydrides. Author index. Subject index.

Note. The author has used the term "hydride" to designate binary compounds which contain one other element and hydrogen, and also to designate certain compounds which are complex derivatives of binary hydrides. Most of the book consists of compact essays on specific hydrides, organized according to the following formula: [illegible] tabulated statement of chemical and physical properties, [illegible] discussion of the structure, descriptions of methods of laboratory preparation, [illegible] discussion of properties, [illegible] statement on uses, and literature references. Frequent variations from this formula are found: for instance, safety precautions in handling are described for the hazardous compounds. The book is of interest both to chemists engaged in pure research and to those concerned with applications, since industrial uses are frequently mentioned in the paragraphs on uses of the individual compounds.

INORGANIC SYNTHESES. Volume I. Editor in-chief Harold Simmons Booth. Associate editors L. F Audrieth and others New York McGraw Hill Book Company Inc., 1939 197 p. illus. 23 cm. $6.00 1242

Contents (abridged): Purification of lithium carbonate. Purification of silver residues. Sodium amalgam. Barium amalgam. Analyses of [illegible], [illegible], and cerium. Red mercuric oxide. Boron tribromide. Potassium fluoborate. Anhydrous rare-earth chlorides. Carbon tetrafluoride. Trisilane salts. Silicobromoform (tribromosilane). The higher chlorides of silicon. Lead tetraacetate. Anhydrous zirconium bromide. Nitrosyl chloride. Monochloramine. Dibromamide. Nitrogen trichloride. Nitramide. Hydrogen azide. Hydroxylamine. Hydrazine sulfate. Guanidine nitrate. Crystalline orthophosphoric acid. Antimony [illegible]. Oxygen fluoride. Thionyl bromide. Selenium dioxide. Sulfur, selenium, and tellurium hexafluorides. Chromyl chloride. Silicomolybdic acid. Silicotungstic acid. Phosphotungstic acid. Anhydrous hydrogen fluoride. Hydrogen bromide. Hydriodic acid. Iodine monochloride. Iodine trichloride. Periodic acid. Metallic rhenium. Rhenium trichloride. Tetrapyridine-ferrous chloride (yellow salt). A laboratory [illegible]. Subject index. Index of contributors.

—— Volume II. Editor in-chief W Conard Fernelius. Associate editors L. F Audrieth and others Consultant on nomenclature and indexing, Janet D Scott. New York McGraw Hill Book Company Inc., 1946 293 p. illus. 23 cm. $6.00 1243

Contents (abridged): Copper (I) chloride. Recovery of silver and iodine from silver iodide residues. Metal derivatives of 1,3-diketones. Fluoboric acid. Ammonium tetrafluoborate. The rare earth elements and their compounds. The separation of cerium from rare earth mixtures. Fractional crystallization—the magnesium rare earth nitrates. Monosodium acetylide (ethynylsodium). Ammonium carbamate. Alkali metal cyanates. Silica gel. Germanium (II) iodide. Titanium(IV) bromide. Nitric oxide [nitrogen (II) oxide]. Ammonium azide. Phosphonium iodide. Ammonium [illegible]. Sulfides and polysulfides of the alkali metals. Salts of dithionic acid. Sulfamic acid. Potassium [illegible]. Chromium (III) oxide gel. Potassium monochlorochromate. Trisodium orthoperiodate (sodium paraperiodate). Potassium hexacyanomanganate (III). [illegible](III) salts. Potassium hexacyanocobaltate (III). The metal carbonyls. Platinum(IV) chloride. Appendix: The nomenclature of inorganic compounds. Index of contributors. Subject index.

—— Volume III. Editor-in-chief Ludwig F Audrieth. Associate editors John C. Bailar jr., and others. Consultant on nomenclature and indexing, Janet D Scott. Advisory Board Arthur A. Blanchard and others. New York McGraw Hill Book Company Inc., 1950 230 p illus. 23 cm. $5.00 1244

Contents (abridged): Sodium peroxide 8-hydrate. Basic beryllium derivatives of organic acids. Strontium sulfide and selenide phosphors. Barium thiocyanate. Boron chloride and bromide. Aluminum bromide. Carbon tetraiodide. Cyanamide. Dicyanodiamide (cyanoguanidine). Ammonium dithiocarbamate. Organosilicon compounds. Dimethyldichlorosilane (dimethylsilicon dichloride). [illegible]. Diphenylsilanediol. Germanium( ) iodide (germanium diiodide). The extraction of hafnium and zirconium from cyrtolite. Nitrogen(V) oxide (nitrogen pentoxide, dinitrogen pentoxide, nitric anhydride). Hydroxylammonium salts. Pyrophosphoric acid (diphosphoric acid). Sodium pyrophosphates (sodium diphosphates). Sodium triphosphate (sodium tripolyphosphate). Sodium [illegible]. Sodium monofluophosphate. Silver monofluophosphate. Hexafluophosphates of sodium, ammonium, and potassium. Ammonium metavanadate. Sulfur(VI) fluoride (sulfur hexafluoride). Disulfur pentoxydichloride (pyrosulfuryl chloride). Selenium(IV) oxide (selenium dioxide). Selenium(IV) oxychloride. Crystalline selenic acid. Tellurium(IV) chloride (tellurium tetrachloride). Tellurium (IV) oxide (tellurium dioxide). Telluric acid. [illegible] (III) [illegible]. Chromium hexacarbonyl. Uranium(IV) oxalate. Anhydrous metal fluorides. Rhenium(VI) oxide (rhenium trioxide). Rhenium(VII) oxide (dirhenium heptoxide). Anhydrous iron(III) chloride (ferric chloride). Hexamminenickel(II) bromide and hexamminenickel(II) iodide. Index of contributors. Subject index. Formula index.

the first part. The two parts that follow are devoted to the traditional methods of quantitative analysis as taught in introductory college courses. In each of these parts, there is a preliminary chapters on general matters, and this is followed by chapters on individual methods. These chapters consist largely of directions for analytical procedures, but each includes also some background discussion and a wide selection of review questions and problems. Specialized techniques, including techniques based on instruments, are introduced in the final chapters of the fourth part. In comparison to the third edition the scope and purpose are the same but there has been extensive revision of the book's content and some enlargement. There are several new chapters as well as revised parts of chapters carried over. There are many more review questions and problems than in the third edition.

WILLARD, HOBART HURD, AND OTHERS

Instrumental methods of analysis By Hobart H. Willard, Lynne L Merritt, jr, and John A Dean. Second edition Princeton D Van Nostrand Company, Inc, 1951 344 p illus 29 cm $5 75 1234

Contents Visual colorimeters. Fundamental laws of colorimetry Photoelectric colorimeters and fluorescence meters. Turbidimeters and nephelometers. Spectrophotometry and flame photometry Spectrography X-ray diffraction methods. Radioactivity The refractometer and interferometer. Polarimetry Thermal conductivity and other methods for the analysis of gases. Mass spectrometry The centrifuge. Determination of the pH of a solution. Potentiometric titration methods. Conductance methods. Electroanalysis. Polarography Amperometric titration methods. Miscellaneous methods. Chromatographic analysis. Appendix. Index.

Note An introductory textbook designed primarily for use in college courses offered to advanced undergraduate students. Each class of instrument is described as to purpose, method of operation, advantages and disadvantages in practical chemical analysis. However the book is not a handbook on all commercially available instruments. The first edition appeared in 1948. About 100 pages have been added in the present edition. Chapters carried over have been revised and extended, and the chapters on polarimetry miscellaneous methods, and chromatographic analysis have been added.

INORGANIC CHEMISTRY

AUDRIETH, LUDWIG FREDERICK, AND BETTY ACKERSON OGG

The chemistry of hydrazine New York John Wiley & Sons, Inc. 1951 244 p 22 cm. $7 00 1235

Contents: Hydrazine as a hydronitrogen and an ammono compound. Formation and preparation of hydrazine. Preparation of concentrated and anhydrous hydrazine. Properties of anhydrous hydrazine. Properties of aqueous solutions of hydrazine. Oxidation of hydrazine catalytic decomposition. Quantitative determination and qualitative identification of hydrazine. Hydrazine salts. Coordination compounds of hydrazine. Anhydrous hydrazine as solvent. The hydrazine system of compounds. Uses of hydrazine and its compounds. Index.

Note A monograph in which the knowledge of hydrazine, N_2H_4, published down to about 1949 has been organized and summarized. References are given to the literature, including patents. Most of the book is written from the viewpoint of theoretical and research chemists, but the chapter on uses is slanted for industrial chemists. The book was originally prepared as an Office of Naval Research report, and revisions and additions were made for this edition.

BOOTH, HAROLD SIMMONS, AND DONALD RAY MARTIN

Boron trifluoride and its derivatives New York John Wiley & Sons 1949 315 p illus 22 cm $10 00 1236

Contents History and preparation of boron trifluoride. Physical properties. Chemical properties of boron trifluoride. The coordinating power of boron trifluoride Fluoboric acids and their salts. Boron trifluoride and its derivatives as catalysts. Analysis of boron trifluoride and its derivatives. Practical handling of boron trifluoride. References. Author index. Subject index. Formula index.

Note Boron trifluoride has been known for more than a century but it is only in the last decade and a half that its usefulness in chemical research and in industrial chemistry has been widely recognized. This book is probably the first comprehensive treatment of the compound and its derivatives. Essentially it is a digest of the extensive periodical and patent literature. The literature itself is cited in a bibliography which runs to almost 1,000 references. The book is of potential value to applied chemists in a number of fields, such as petroleum chemistry ceramics, electroplating, and plastics, as well as to chemists engaged in fundamental research.

BROWN, LAWRENCE M, AND OTHERS

Bibliography of research on deuterium and tritium compounds 1945 to 1952, by Lawrence M Brown, Abraham S Friedman and Charles W Beckett. Washington, D C. Government Printing Office, 1956 85 p 26 cm. (United States National Bureau of Standards Circular 562) $0 50 1237

Contents Introduction. Principal topics and subject code. Bibliography and author index. Subject index. Compound index.

Note. A bibliography of 1 482 references to published research on the properties of deuterium and tritium compounds, intended especially for the use of chemists and physicists engaged in research on the hydrogen isotopes. The main arrangement of the bibliography is alphabetical by author's name. The arrangement and the methods of coding and indexing used in the *Bibliography of research on heavy hydrogen compounds*, by Kimball, Urey and Kirshenbaum, were followed. The authors estimate that 95 per cent of the references were obtained from *Chemical abstracts* for the years 1946 to 1953 inclusive, the remaining 5 per cent from *British abstracts* and *Physics abstracts* for the same years.

DIEKE, GERHARD HEINRICH, AND A. B F DUNCAN

Spectroscopic properties of uranium compounds New York McGraw Hill Book Company, Inc., 1949 290 p illus 24 cm (National nuclear energy series Manhattan Project technical section Division III—Volume 2) $4.25 1238

Contents Part I, Spectroscopic properties of uranium compounds. Experimental procedure. X-ray analysis of the crystal structure of uranyl compounds. General features of the fluorescence and absorption spectra of uranyl compounds. Fluorescence spectra of uranyl compounds. Absorption spectra of uranyl compounds. Intensity measurements. Miscellaneous observations. Miscellaneous uranium compounds. Part II, The preparation of uranium compounds Synthesis of uranyl compounds. Preparation of other uranium compounds. Problems in synthesis. Growth of crystals. Conclusions and suggestions. Appendixes: Tables of wavelength measurements. Special preparations and apparatus. Miscellaneous contributions to the chemistry of uranium. Bibliography Index.

Note. Presented in this volume are the results of a comprehensive study carried out largely at Columbia University under the auspices of the Manhattan Project. Pertinent results from the literature are included and correlated. Experimental techniques—some of them new—used in the work are described. The study not only advanced the understanding of the uranyl compounds but also produced fundamental knowledge pertinent to the understanding of the solid state.

DORSEY, NOAH ERNEST

Properties of ordinary water-substance in all its phases water vapor, water, and all the ices. New York Reinhold Publishing Corporation 1940. 673 p illus 23 cm (American Chemical Society monograph series No 81) $15.00 1239

Contents (abridged) Introduction. Synthesis and dissociation. Single-phase systems Water-vapor Water Ice. Multiple-phase systems. Phase transition. Miscellanea. Index.

Note: A compilation of thermodynamic, physical, and descriptive data concerning water-substance. The available informa-

Note: A comprehensive bibliography of the international literature of deuterium and deuterium compounds. The main arrangement is alphabetical by author's names, and indexes are provided to subjects and compounds. Titles of articles are given, and those in foreign languages have been translated without, however, quotation of the original titles.

KLEINBERG, JACOB

Unfamiliar oxidation states and their stabilization. Lawrence: University of Kansas Press, 1950. 131 p. illus. 22 cm. $3.00 1254

Contents (abridged): Low oxidation states of the elements of the aluminum group. Oxygen. The superoxides of the alkali and alkaline earth metals. The halogens. Copper and silver. Chromium and manganese. Iron, cobalt, and nickel. The platinum metals. References. Index.

Note: A book of interest to advanced graduate students in chemistry and to professional chemists. In it are discussed certain unfamiliar states of inorganic elements which are uncommon but whose existence has nevertheless been clearly established. A good share of the book has to do with stabilization of these rare states by such means as alkaline solutions, use of solvents which possess reducing properties, and the insertion of conditions which favor the desired oxidation state. The study of these states is valuable from several standpoints, such as the insight gained into atomic structure, the making of greater accuracy in the planning of chemical reactions, and the production of new chemical substances. Though brief, the work is based on an extensive review of the literature, and has an eight-page bibliography.

LATIMER, WENDELL MITCHELL

Oxidation potentials: the oxidation states of the elements and their potentials in aqueous solutions. Second edition. New York: Prentice-Hall, Inc., 1952. 392 p. illus. 24 cm. (Prentice-Hall chemistry series, Wendell M. Latimer, editor) $8.00 1255

Contents: Units, conventions, and general methods employed in the determination of oxidation-reduction potentials. Entropies, potentials, heats of solution, lattice energies, and their relation to standard oxidation-reduction potentials. Hydrogen. Oxygen. The halogens. Sulphur, selenium, tellurium, and polonium. Nitrogen, phosphorus, arsenic, antimony, and bismuth. Carbon, silicon, germanium, tin, and lead. Gallium, indium, and thallium. Zinc, cadmium, and mercury. Copper, silver, and gold. Nickel, palladium, and platinum. Cobalt, rhodium, and iridium. Iron, ruthenium, and osmium. Manganese, technetium, and rhenium. Chromium, molybdenum, and tungsten. Vanadium, niobium, and tantalum. Titanium, zirconium, and hafnium. Boron, aluminum, scandium, and yttrium. Lanthanum and rare earth elements—the lanthanide series. The actinide elements. Beryllium, magnesium, calcium, strontium, barium, and radium. Lithium, sodium, potassium, rubidium, cesium, and francium. Appendices: Summary of oxidation-reduction potentials. The activity of strong electrolytes. The estimation of entropy values. Study questions. Author index. Subject index.

Note: A reference book of thermodynamic data pertaining to the elements and their chief inorganic compounds. For each element the following information is given: the number of valence electrons, the oxidation states, heats of formation, free energies of formation, entropies, and [illegible] diagrams, if the element has more than one oxidation state. Some of the data are taken from the literature, and references are given to the sources. Other data are based on the author's own calculations. In the present edition more information has been included on reaction mechanisms, and there is a new chapter on actinium, neptunium, plutonium and americium. In other parts numerous changes have been made in values and constants. References to the literature published since 1938 have been added.

LATIMER, WENDELL MITCHELL, AND JOEL H. HILDEBRAND

Reference book of inorganic chemistry. Third edition. New York: The Macmillan Company, 1951. 625 p. 22 cm. $5.50 1256

Contents (abridged): Hydrogen. Inert gases. Oxygen. Alkali metals. Boron, aluminum. Copper, silver and gold. Gallium, indium, and thallium. The halogens. Nitrogen, phosphorus, arsenic, antimony, and bismuth. Carbon. Silicon. Sulfur, selenium, tellurium, and polonium. Iron, cobalt and nickel. Platinum and palladium metals. The actinide elements. Nuclear reactions. Glossary. Appendix. Index.

Note: A compendium of reference data on such points as electronic structure, physical, and chemical properties, methods of preparation, uses, and important compounds of the elements. The arrangement is by element and [illegible] of elements. Although numerous tables are included, most of the information is presented in narrative style, for instance: "Amorphous silicon is prepared by the high temperature reduction of silicon halides by alkali metals, or of the dioxide by magnesium. $SiCl_4 + 4\ Na = Si + 4\ NaCl$." The book was originally prepared as a supplement to an introductory college text of which the current edition is J. H. Hildebrand and R. E. Powell, *Principles of chemistry*, sixth edition, New York, The Macmillan Company, 1952, 441 p. $4.50. The two works are available as separate books and also bound together. However the *Reference book* may be used quite independently of the *Principles*. In comparison to the second edition, published in 1940, the work is [illegible] pages larger, contains one new chapter and [illegible] number of other revisions.

MOELLER, THERALD

Inorganic chemistry: an advanced textbook. New York: John Wiley & Sons, Inc., 1952. 966 p. illus. 24 cm. $12.00 1257

Contents (abridged): Part I. Principles: Atomic nuclei and properties related thereto. The extranuclear structures of the atoms. Characteristics dependent upon the extranuclear structures. I. Generalities. Valency and the chemical bond. Complex ions and coordination compounds. Oxidation-reduction—oxidation potentials. Acids and bases. Non-aqueous solvents. Part II. The chemical elements: The inert gas elements. Hydrogen. The halogens. The oxygen family. The nitrogen family. The carbon family. The boron family. The alkali and coinage metals. The alkaline earth and zinc family elements. The transition elements. The inner transition elements. Appendices: Characteristics of the naturally occurring isotopes. Members of the disintegration series. Author index. Subject index.

Note: The field of inorganic chemistry is poorly supplied with modern textbooks, and advanced texts are uncommon. This work, developed on the basis of a course offered for a number of years at the University of Illinois, is a well-organized presentation of the scientific bases of modern inorganic chemistry together with a description at an advanced level of the characteristics and properties of the inorganic compounds. It is intended for the instruction of advanced undergraduate and first-year graduate students who are preparing for careers in chemistry. However, although it is not encyclopedic in scope, so much ground is covered that it is useful also as a reference book and guide to the literature. There are several hundred tables of constants and other data, and so much literature is cited that the author index runs to 11 two-column pages. The author is a member of the faculty of the University of Illinois.

MURPHY, GEORGE M., AND OTHERS, editors

Production of heavy water. Part I, by James O. Maloney, George F. Quinn, and Harold S. Ray (deceased). Part II, by Maxwell L. Eidinoff, George G. Joris, Ellison Taylor, Hugh S. Taylor, and Harold C. Urey. New York: McGraw-Hill Book Company, Inc., 1955. 394 p. illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division III, Vol. 4F) $5.25 1258

Contents: Part I. Commercial production of heavy water: Introduction to Part I. Catalytic exchange–electrolytic process for the production of heavy water at Trail, B. C. Water-distillation process for the production of heavy water as employed by E. I. du Pont de Nemours & Co., Inc., at Morgantown, W. Va. Hydrogen-distillation process for the production of heavy water. Miscellaneous processes for the production of heavy water. Part II. Laboratory studies for separation processes: Introduction to Part II. Distillation of water. Catalytic exchange process. Development of nickel-chromium oxide as a catalyst for isotopic exchange between hydrogen and water. Catalytic exchange—platinum and palladium catalysts. Hydrogen–water vapor exchange glass pilot plant. Dual-temperature process—hydrogen sulfide–water, ammonia–hydrogen, and cyclohexane–hydrogen systems. Appendixes: Electrolytic process. Operating data, Trail, Aug. 1 to 31, 1943. Economic calculation of the [illegible] process performance data, August 1943. Economic

—— Volume IV Editor in-chief, John C Bailar, jr Associate editors Jacob Kleinberg and others Advisory Board Ludwig F Audrieth and others New York McGraw Hill Book Company, Inc., 1953 218 p illus. 23 cm $5 00 1245

Contents (abridged) Lithium nitride. Extraction of cesium from pollucite. Gold powder and potassium tetrabromoaurate(III) Calcium dihydrogen orthophosphate 1-hydrate *Aluminum phosphide.* Biurea. Urazine. Carbohydrazide. Cyanate condensation products of carbohydrazide. Thiosemicarbazide Iodotrichlorosilane and diiododichlorosilane Cyclohexyltrichlorosilane *Nitrosyl chloride.* Phosphorous acid. Diethyl phosphite. Alkyl dichlorophosphites. Disodium dihydrogen hypophosphate. Phosphorus(V) sulfochloride. Diethyl monoamidophosphate, Sodium superoxide. Xanthates and dithiocarbamates of selenium(II) and tellurium(II) Addition compounds of chromium(VI) oxide. Potassium pentachloroaquomolybdate(III) and potassium hexachloromolybdate(III) *Anhydrous metal halides.* Bismuth (III) iodide. Aluminum iodide. Th(IV) iodide. Vanadium(II) chloride. Tantalum(V) bromide. Fluorination of volatile inorganic compounds. Silicon tetrafluoride. Arsenic(III) fluoride. Chlorine(IV) oxide. Iron(II) formate. Potassium ferrate(VI) Acidopentamminecobalt(III) salts. *trans*-Dinitrodiammineopalladium(II) Index of contributors. Subject index. Formula index.

Note The purpose of this series is to make available new or improved methods for the laboratory preparation of inorganic compounds. For each synthesis published this information is given: equation, name of chemist who submitted it, name of chemist who checked it, a brief preliminary discussion of the reaction and procedure, the procedure in detail a description of the chemical and physical properties of the prepared compound, analytical data and literature references. The number of syntheses in each of the first four volumes runs from 58 to 81. Volume IV contains a cumulative index to Volumes I–IV

JACOBSON, CARL ALFRED, compiler and editor

Encyclopedia of chemical reactions Volume I New York Reinhold Publishing Corporation, 1946 804 p 24 cm. $15 00 1246

Contents: Aluminum reactions. Antimony reactions. Arsenic reactions. Barium reactions. Beryllium reactions. Bismuth reactions. Boron reactions. Bromine reactions. List of abstractors. Index to reagents. Index to substances obtained.

—— Volume II. New York Reinhold Publishing Corporation 1948 917 p 24 cm $17 50 1247

Contents: Abbreviations. Cadmium reactions. Calcium reactions. Carbon reactions. Cerium reactions. Cesium reactions. Chlorine reactions. Chromium reactions. List of abstractors. Journals used by abstractors. Index to reagents (formulas) Index to reagents (names) Index to substances obtained (formulas) Index to substances obtained (names)

—— Volume III New York Reinhold Publishing Corporation, 1949 842 p. 24 cm. $17.50 1248

Contents Introduction. Abbreviations. Cobalt. Columbium. Copper Didymium. Dysprosium Erbium. Europium. Fluorine. Gadolinium. Gallium. Germanium. Gold. Hafnium. Holmium. Hydrogen. Illinium. Indium. Iridium. List of abstractors. Journals used by abstractors. Index to reagents (formulas) Index to reagents (names) Index to substances obtained (formulas) Index to substances obtained (names)

—— Volume IV New York Reinhold Publishing Corporation 1951 790 p 24 cm. $17.50 1249

Contents. Introduction. Abbreviations. Iron. Lanthanum. Lead. Lithium. Magnesium. Manganese. Mercury Molybdenum. Neodymium. List of abstractors. Journals used by abstractors. Index to reagents (formulas) Index to reagents (names) Index to substances obtained.

—— Volume V With the assistance of Clifford A Hampel and Elbert C. Weaver New York Reinhold Publishing Corporation, 1953 787 p 24 cm $17.50 1250

Contents Abbreviations. Nickel. Niobium. Nitrogen. Osmium. Oxygen. Palladium. Phosphorus. Platinum. Potassium. Praseodymium. Radium. Rhenium. Rhodium. Rubidium. Ruthenium. List of abstractors. Journals used by abstractors. Index to reagents (formulas) Index to reagents (names) Index to substances obtained.

—— Volume VI Edited by Clifford A. Hampel New York Reinhold Publishing Corporation, 1956 438 p 24 cm. $12.50 1251

Contents Samarium. Scandium. Selenium. Silicon. Silver Sodium. List of abstractors. List of journals used by abstractors. Index to reagents. Index to substances obtained.

Note The volumes listed above represent those published to the end of 1956 of a reference work designed to provide short description and literature references of all reactions of inorganic substances that have been reported in the literature. In each volume, the arrangement is alphabetical, first by chemical elements, then, under each element, by reactant and reagent. The information given for each reaction varies, but always includes an expression of it in equation form and a reference to the original source. Brief data on procedures, conditions, and properties of the products are given in some instances. Each volume contains full and useful indexes. The work was commenced by Professor Jacobson, who was aided by a large group of abstractors. Professor Jacobson died before Volume V was published. Preparation, from Professor Jacobson's file, of Volumes V and VI was carried out under the editorship of Clifford A. Hampel. Additional volumes from the same source, and presumably under the same editorship are planned. Although the work falls short of its goal of reporting all published reactions, it is, and is likely to remain, the most comprehensive compilation of inorganic reactions.

KILLEFFER, DAVID HERBERT, AND ARTHUR LINZ

Molybdenum compounds, their chemistry and technology With a chapter on the structural chemistry of molybdenum by Linus Pauling New York Interscience Publishers, 1952 407 p 24 cm $12 00 1252

Contents Introduction. Sources of molybdenum compounds. Properties of molybdenum. Oxides of molybdenum. Sulfides of molybdenum. Halides of molybdenum. Molybdenum in anions. Complex anions of molybdenum. The structural chemistry of molybdenum. Molybdenum in life processes. Analytical procedures. Molybdenum in colors. Miscellaneous applications of molybdenum compounds. Molybdenum catalysts. Subject index.

Note Essentially this work is a critical digest of the published literature bearing on the chemistry of molybdenum and on the chemical applications of the element. Metallurgical applications are not covered. The typical chapter is a condensed discussion supplemented by tabulated data and literature references. The chapter on analytical procedures is one of the longer ones in the book and consists largely of detailed descriptions of procedures used in the laboratory of the Climax Molybdenum Company. The chapter on molybdenum catalysts, together with the bibliographies of patent and other literature that accompany it, falls only a few pages short of half of the length of the whole book. Though not a well-organized treatise the work is highly useful as a guide to the literature and to the high points of the subject.

KIMBALL, ALICE H., compiler

Bibliography of research on heavy hydrogen compounds edited by Harold C. Urey and Isidor Kirshenbaum. New York McGraw Hill Book Company Inc. 1949 350 p 24 cm (National nuclear energy series Manhattan Project technical section. Division III —Volume 4C) $4 75 1253

Note: A comprehensive bibliography of the international literature of deuterium and deuterium compounds. The main arrangement is alphabetical by author's names, and indexes are provided to subjects and compounds. Titles of articles are given, and titles in foreign languages have been translated without, however, quotation of the original titles.

KLEINBERG, JACOB

Unfamiliar oxidation states and their stabilization. Lawrence University of Kansas Press, 1950 131 p. illus. 22 cm. $3.00 1254

Contents (abridged): Low oxidation states of the elements of the aluminum group. Oxygen. The superoxides of the alkali and alkaline earth metals. The halogens. Copper and silver. Chromium and manganese. Iron, cobalt, and nickel. The "rare-earths." References. Index.

Note: A book of interest to advanced students majoring in chemistry and to professional chemists. In it are discussed certain oxidation states of inorganic elements which are uncommon but whose existence has nevertheless been clearly established. A good share of the book has to do with stabilization of these rare states by such means as alkaline solutions, use of solvents which possess pertinent properties, and the selection of conditions which favor the desired oxidation state. The study of these states is valuable from several standpoints, such as the insight gained into atomic structure, the attaining of greater accuracy in the planning of chemical reactions, and the production of new chemical substances. Though brief, the work is based on an extensive review of the literature, and has an eight-page bibliography.

LATIMER, WENDELL MITCHELL

Oxidation potentials the oxidation states of the elements and their potentials in aqueous solutions. Second edition. New York Prentice-Hall, Inc., 1952 392 p. illus. 24 cm. (Prentice-Hall chemistry series Wendell M. Latimer editor) $8.00 1255

Contents: Units, conventions, and general methods employed in the determination of oxidation-reduction potentials. Ionization potentials, electron affinities, lattice energies, and their relation to standard oxidation-reduction potentials. Hydrogen. Oxygen. The halogens. Sulphur, selenium, tellurium, and polonium. Nitrogen, phosphorus, arsenic, antimony and bismuth. Carbon, silicon, germanium, tin, and lead. Gallium, indium, and thallium. Zinc, cadmium, and mercury. Copper, silver, and gold. Nickel, palladium and platinum. Cobalt, rhodium, and iridium. Iron, ruthenium, and osmium. Manganese, technetium, and rhenium. Chromium, molybdenum, and tungsten. Vanadium, niobium, and tantalum. Titanium, zirconium and hafnium. Boron, aluminum, scandium, and yttrium. Lanthanum and rare earth elements—the lanthanide series. The actinide elements. Beryllium, magnesium, calcium, strontium, barium, and radium. Lithium, sodium, potassium, rubidium, cesium, and francium. Appendices: Summary of oxidation-reduction potentials. The activity of strong electrolytes. The estimation of entropy values. Study questions. Author index. Subject index.

Note: A reference book of thermodynamic data pertaining to the elements and their chief inorganic compounds. For each element the following information is given: the number of valence electrons, the oxidation states, heats of formation, free energies of formation, entropies, and "potential diagrams" if the element has more than one oxidation state. Some of the data are taken from the literature, and references are given to the sources. Other data are based on the author's own calculations. In the present edition more information has been included on reaction mechanisms, and there is new chapter on uranium, neptunium, plutonium and americium. In other parts numerous changes have been made in values and constants. References to the literature published since 1938 have been added.

LATIMER, WENDELL MITCHELL, AND JOEL H HILDEBRAND

Reference book of inorganic chemistry Third edition. New York The Macmillan Company 1951 625 p 22 cm. $5.50 1256

Contents (abridged): Hydrogen. Inert gases. Oxygen. Alkali metals. Boron, aluminum. Copper, silver, and gold. Gallium, indium, and thallium. The halogens. Nitrogen, phosphorus, arsenic, antimony, and bismuth. Carbon. Silicon. Sulfur, selenium, tellurium, and polonium. Iron, cobalt and nickel. Platinum and palladium metals. The actinide elements. Nuclear reactions. Glossary. Appendices. Index.

Note: A compendium of reference data on such points as electronic structure, physical and chemical properties, methods of preparation, uses, and important compounds of the elements. The arrangement is by element and family of elements. Although numerous tables are included, most of the information is presented in narrative style, for instance: "Amorphous silicon is prepared by the high temperature reduction of silicon halides by alkali metals, or of the dioxide by magnesium: $SiCl_4 + 4\ N = Si + 4\ N\ Cl$." The book was originally prepared as a supplement to an introductory college text of which the current edition is: J. H. Hildebrand and R. E. Powell, *Principles of chemistry* sixth edition, New York, The Macmillan Company 1952 444 p. $4.50. The two works are available as separate books and also bound together. However the *Reference* book may be used quite independently of the *Principles*. In comparison to the second edition, published in 1940, the work is 63 pages longer, contains one new chapter and a fair number of other revisions.

MOELLER, THERALD

Inorganic chemistry an advanced textbook. New York John Wiley & Sons Inc. 1952 966 p. illus. 24 cm. $12.00 1257

Contents (abridged): Part I, Principles: Atomic nuclei and properties related thereto. The extranuclear structures of the atoms. Characteristics dependent upon the extranuclear structures. I, General—II, Valency and the chemical bond. Complex ions and coordination compounds. Oxidation-reduction—oxidation potentials. Acids and bases. Non-aqueous solvents. Part II, The chemical elements: The inert gas elements. Hydrogen. The halogens. The oxygen family. The nitrogen family. The carbon family. The boron family. The alkali and coinage metals. The alkaline earth and zinc family elements. The transition elements. The inner transition elements. Appendices: Characteristics of the naturally occurring isotopes. Members of the disintegration series. Author index. Subject index.

Note: The field of inorganic chemistry is poorly supplied with modern textbooks, and advanced texts are uncommon. This work, developed on the basis of a course offered for a number of years at the University of Illinois, is a well-organized presentation of the scientific bases of modern inorganic chemistry, together with a description at an advanced level of the characteristics and properties of the inorganic compounds. It is intended for the instruction of advanced undergraduates and first-year graduate students who are preparing for careers in chemistry. However, although it is not cyclopedic in scope, so much ground is covered that it is useful also as a reference book and guide to the literature. There are several hundred tables of contents and other data, and so much literature is cited that the author index to it runs to 19 two-column pages. The author is a member of the faculty of the University of Illinois.

MURPHY, GEORGE M AND OTHERS editors

Production of heavy water Part I, by James O Maloney George F Quinn, and Harold S Ray (deceased) Part II by Maxwell L. Eidinoff George G Joris, Ellison Taylor Hugh S Taylor and Harold C. Urey New York McGraw Hill Book Company Inc., 1955 394 p illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division III Vol. 4F) $5.25 1258

Contents: Part I, Commercial production of heavy water: Introduction to Part I. Catalytic exchange—electrolytic process for the isolation of heavy water at Trail, B. C. Water-distillation process for the isolation of heavy water as employed by E. I. du Pont de Nemours & Co. Inc., at Morgantown, W. Va. Hydrogen-distillation process for the isolation of heavy water. Miscellaneous processes for the isolation of heavy water. Part II, Laboratory studies for separation processes: Introduction to Part II. Distillation of water. Catalytic exchange—general. Development of nickel-chromium oxide as a catalyst for isotopic exchange between hydrogen and water. Catalytic exchange—platinum and palladium catalysts. Hydrogen—water vapor exchange glass pilot plant. Dual-temperature process—ammonia-water, ammonia-water-hydrogen, and cyclohexane-hydrogen systems. Appendices: Electrolytic process. Operating data, Project 9, Aug. 1 to 31, 1943. Illustrative calculation of the fourth-stage tower performance data, August 1943. Illustrative

—— Volume IV Editor-in-chief, John C. Bailar, jr Associate editors Jacob Kleinberg and others. Advisory Board Ludwig F Audrieth and others New York McGraw Hill Book Company, Inc., 1953 218 p illus 23 cm $5 00 *1245*

Contents (abridged): Lithium nitride. Extraction of cesium from pollucite. Gold powder and potassium *tetra*bromoaurate(III) Calcium dihydrogen orthophosphate 1-hydrate. Aluminum phosphide. Biuret. Urazine. Carbohydrazide. Cyanate condensation products of carbohydrazide. Thiosemicarbazide. Iodotrichlorosilane and diiododichlorosilane. Cyclohexyltrichlorosilane. Nitrosyl chloride Phosphorous acid. Dioctyl phosphite. Alkyl dichlorophosphites. Disodium dihydrogen hypophosphate. Phosphorus(V) sulfochloride. Diethyl monoamidophosphate. Sodium superoxide. Xanthates and dithiocarbamates of selenium(II) and tellurium(II) Addition compounds of chromium(VI) oxide. Potassium pentachloroaquomolybdate(III) and potassium hexachloromolybdate(III) Anhydrous metal halides. Bismuth (III) iodide. Aluminum iodide. Tin(IV) iodide. Vanadium(II) chloride. Tantalum(V) bromide. Fluorination of volatile inorganic compounds. Silicon tetrafluoride. Arsenic(III) fluoride. Chlorine(IV) oxide Iron(II) formate. Potassium ferrate(VI) Acidopentamminecobalt(III) salts. *trans*-Dinitrodiamminepalladium(II) Index of contributors. Subject index. Formula index.

Note The purpose of this series is to make available new or improved methods for the laboratory preparation of inorganic compounds. For each synthesis published this information is given equation, name of chemist who submitted it, name of chemist who checked it, brief preliminary discussion of the reaction and procedure, the procedure in detail, a description of the chemical and physical properties of the prepared compound, analytical data and literature references. The number of syntheses in each of the first four volumes runs from 58 to 81 Volume IV contains a cumulative index to Volumes I-IV

JACOBSON, CARL ALFRED, compiler and editor

Encyclopedia of chemical reactions. Volume I New York Reinhold Publishing Corporation 1946 804 p 24 cm $15 00 1246

Contents: Aluminum reactions. Antimony reactions. Arsenic reactions. Barium reactions. Beryllium reactions. Bismuth reactions. Boron reactions. Bromine reactions. List of abstractors. Index to reagents. Index to substances obtained.

—— Volume II New York Reinhold Publishing Corporation, 1948 917 p 24 cm. $17.50 1247

Contents Abbreviations. Cadmium reactions. Calcium reactions. Carbon reactions. Cerium reactions. Cesium reactions. Chlorine reactions. Chromium reactions. List of abstractors. Journals used by abstractors. Index to reagent (formulas) Index to reagents (names) Index to substances obtained (formulas) Index to substances obtained (names)

—— Volume III New York Reinhold Publishing Corporation 1949 842 p 24 cm. $17 50 1248

Content Introduction. Abbreviations. Cobalt. Columbium. Copper Didymium. Dysprosium. Erbium. Europium. Fluorine. Gadolinium. Gallium. Germanium. Gold. Hafnium. Holmium. Hydrogen. Illinium. Indium. Iridium. List of abstractors. Journals used by abstractors. Index to reagents (formulas) Index to reagents (names) Index to substances obtained (formulas) Index to substances obtained (names)

—— *Volume IV* New York Reinhold Publishing Corporation 1951 790 p. 24 cm $17.50 1249

Content Introduction. Abbreviations. Iron. Lanthanum. Lead. Lithium. Magnesium. Manganese. Mercury Molybdenum. Neodymium. List of abstractors. Journals used by abstractors. Index to reagents (formulas) Index to reagents (names) Index to substances obtained.

—— Volume V With the assistance of Clifford A. Hampel and Elbert C. Weaver New York Reinhold Publishing Corporation, 1953 787 p 24 cm $17 50 1250

Contents Abbreviations. Nickel. Niobium. Nitrogen. Osmium. Oxygen. Palladium. Phosphorus. Platinum. Potassium. Praseodymium. Radium. Rhenium. Rhodium. Rubidium. Ruthenium. List of abstractors. Journals used by abstractors. Index to reagents (formulas) Index to reagents (names) Index to substances obtained.

—— Volume VI Edited by Clifford A. Hampel. New York Reinhold Publishing Corporation, 1956 438 p 24 cm. $12 50 1251

Content Samarium. Scandium. Selenium. Silicon. Silver. Sodium. List of abstractors. List of journals used by abstractors. Index to reagents. Index to substances obtained.

Note The volumes listed above represent those published to the end of 1956 of a reference work designed to provide short descriptions and literature references of all reactions of inorganic substances that have been reported in the literature. In each volume, the arrangement is alphabetical, first by chemical elements, then, under each element, by reactant and reagent. The information given for each reaction varies, but always includes an expression of it in equation form and a reference to the original source. Brief data on procedures, conditions, and properties of the products are given in some instances. Each volume contains full and useful indexes. The work was commenced by Professor Jacobson, who was aided by a large group of abstractors. Professor Jacobson died before Volume V was published. Preparation, from Professor Jacobson's file, of Volumes V and VI was carried out under the editorship of Clifford A. Hampel. Additional volumes from the same source, and presumably under the same editorship, are planned. Although the work falls short of its goal of reporting all published reactions, it is, and is likely to remain, the most comprehensive compilation of inorganic reactions.

KILLEFFER, DAVID HERBERT, AND ARTHUR LINZ

Molybdenum compounds, their chemistry and technology With a chapter on the structural chemistry of molybdenum by Linus Pauling New York Interscience Publishers, 1952 407 p 24 cm $12 00 *1252*

Content Introduction. Sources of molybdenum compounds. Properties of molybdenum. Oxides of molybdenum. Sulfides of molybdenum. Halides of molybdenum. Molybdenum in anions. Complex anions of molybdenum. The structural chemistry of molybdenum. Molybdenum in life processes. Analytical procedures. Molybdenum in colors. Miscellaneous applications of molybdenum compounds. Molybdenum catalysts. Subject index.

Note Essentially this work is a critical digest of the published literature bearing on the chemistry of molybdenum and on the chemical applications of the element. Metallurgical applications are not covered. The typical chapter is a condensed discussion supplemented by tabulated data and literature references. The chapter on analytical procedures is one of the longer ones in the book and consists largely of detailed descriptions of procedures used in the laboratory of the Climax Molybdenum Company. The chapter on molybdenum catalysts, together with the bibliographies of patent and other literature that accompany it, falls only a few pages short of half of the length of the whole book. Though not a well-organized treatise, the work is highly useful as a guide to the literature and to the high points of the subject.

KIMBALL, ALICE H , compiler

Bibliography of research on heavy hydrogen compounds edited by Harold C Urey and Isidor Kirshenbaum. *New York* McGraw Hill Book Company, Inc., 1949 350 p 24 cm (National nuclear energy series Manhattan Project technical section. Division III —Volume 4C) $4 75 *1253*

Seaborg. Princeton D Van Nostrand Company Inc., 1953 232 p. illus. 23 cm. $5.00 1263

—— Volume II Copper silver and gold, by J W Laist. Princeton D Van Nostrand Company Inc., 1954 248 p illus. 23 cm. $5.00. 1264

—— Volume III The halogens, by R. C. Brasted. Princeton D Van Nostrand Company Inc., 1954 250 p illus. 23 cm. $5.00 1265

—— Volume IV Zinc, cadmium, and mercury by Howard M Cyr and the editors. Scandium, yttrium and the lanthanide series, by Thomas D O'Brien and the editors Princeton D Van Nostrand Company Inc., 1955 193 p. illus. 23 cm. $5.00 1266

—— Volume V Nitrogen, phosphorus arsenic, antimony and bismuth, by Harry H. Sisler Nonaqueous chemistry by Alfred R. Pray Princeton D Van Nostrand Company Inc., 1956 214 p. illus. 23 cm. $5.00 1267

Note: A series planned to cover at the professional level all of the inorganic elements and their principal compounds. The coverage is not encyclopedic; although all of the inorganic elements will be treated in the complete set, the compounds discussed are selected. Furthermore, basic concepts, such as atomic and molecular structure, the periodic system, physical and chemical properties, typical reactions, and preparative processes are emphasized. Even the last mentioned are carefully selected. The set is designed to be an aid in orientation and reference to chemists working in academic and industrial laboratories. Well-selected literature references are special features. The five volumes listed above had been published to the end of 1956. Six more volumes are planned.

TULLER, WILLIAM N editor
The sulphur data book. Compiled by the technical staff, Freeport Sulphur Company edited by William N Tuller New York McGraw Hill Book Company Inc., 1954 143 p. 24 cm. $5.00. 1268

Contents: The nature of sulphur. Physical and chemical properties. Reaction thermodynamics. Solubility. Analysis of sulphur. Sulphuric acid conversion tables. Bibliography. Index.

Note: A well-compiled reference book on one of the most important raw materials of chemical industry. A wide range of properties and behavior characteristics is presented in condensed form in the numerous tables and charts which comprise most of the book. The second chapter for instance, includes data on the viscosity surface tension, molecular composition, vapor pressure, heat capacity specific volume and thermodynamic properties of one or more states of sulphur. The data have been selected critically from the literature. There is a bibliography of 43 references.

YOST DON M., AND OTHERS
The rare-earth elements and their compounds, by Don M Yost, Horace Russell, Jr and Clifford S Garner New York John Wiley & Sons Inc., 1947 92 p illus. 24 cm. $4.50. 1269

Contents: Electronic structures and oxidation states of the rare earth elements. Paramagnetic properties of rare-earth compounds. Absorption spectra of rare-earth compounds. Evidence for the existence of element 61. Separation of the rare earths. Chemical and physical properties of the rare earths. Appendices: Nuclear properties of the rare-earth elements. General physical constants. The periodic system of the elements. Index of names. Subject index.

Note: This survey of the current knowledge of the chemical and physical properties of the elements in rare-earths group will be useful chiefly to graduate chemists and physicists. In the chapter on element 61 the authors conclude that at the time of writing their manuscript the evidence of its discovery was not conclusive. The text includes numerous references to the related literature.

YOST DON M., AND HORACE RUSSELL JR.
Systematic inorganic chemistry of the fifth- and sixth-group nonmetallic elements New York Prentice Hall Inc. 1944 423 p 23 cm. (Prentice Hall chemistry series W M Latimer editor) $5.75 1270

Contents (abridged): Nitrogen and its oxides and sulfides. Nitrogen oxyhalides and oxyacids. The fixation of nitrogen. Hydroxylamine, amine sulfonates, phosphorus chloronitrides, hydrazine and hydrazoic acid. Ammonia and liquid ammonia solutions. Phosphorus, phosphorus oxides, and phosphorus sulfides. The oxyacids of phosphorus. Phosphorus halides and oxyhalides. Phosphine. Oxygen, sulfur, selenium, tellurium, and their compounds with hydrogen. The halides and oxyhalides of sulfur selenium, and tellurium. The oxides and oxyacids of sulfur selenium, and tellurium. Hydrogen peroxide, hydrogen persulfides, and the peroxyacids. Metallic peroxides and superoxides. Polythionic acids. Appendices: Bibliography. General physical constants. Periodic system of the elements. Subject index. Name index.

Note: An advanced textbook on kinetics, molecular structure, thermodynamics, magnetic properties, and statistical mechanical calculations are integrated into discussions of chemical behavior and physical properties. Reaction rates are given in 70 figures and over 33 tables. Research problems are given, and bibliography of reference works is included.

ORGANIC CHEMISTRY

ADVANCES IN CARBOHYDRATE CHEMISTRY Volume 10 Editor Melville L. Wolfrom assistant editor R. Stuart Tipson. Board of advisors Hermann O L. Fischer and others. Board of advisors for the British Isles E. L. Hirst and others. New York Academic Press Inc., 1955 437 p. illus. 23 cm. $10.50 1271

Contents: Edward George Vincent Percival, 1902–1951. The stereochemistry of cyclic derivatives of carbohydrates, by J. A. Mills. Column chromatography of sugars and their derivatives, by W W Binkley. Glycosylamines, by G. P. Ellis and J. Honeyman. The amadori rearrangement, by J. E. Hodge. The glycosyl halides and their derivatives, by L. J. Haynes and F H. Newth. The methyl ethers of the aldopentoses and the rhamnose and fucose, by G. G. Maher. The methyl ethers of D-galactose, by G. G. Maher. Polysaccharides associated with wood cellulose, by W. J. Polglase. The chemistry of heparin, by A. B. Foster and A. J. Huggard. Author index. Subject index. Contents of Volumes 1–9

—— Volume 11 Academic Press Inc. 1956 465 p illus 23 cm. $11.00 1272

Contents: Kurt Heinrich Meyer 1883–1952. Periodate oxidation of carbohydrates, by J. M. Bobbitt. The osazones, by E. Reyes and L. A. Fowler. Reactions of monosaccharides with beta-ketonic esters and related substances, by F. Garcia Gonzalez. Kojic acid, by A. Beélik. The biosynthesis of the monosaccharides, by L. Hough and J. K. N. Jones. Branched-chain sugars of natural occurrence, by F. Shafizadeh. Nucleic acids, by G. R. Barker. Aspects of the physical chemistry of starch, by C. T. Greenwood. Addendum. Author index. Subject index. Cumulative author index (Vols. 1–10). Cumulative subject index (Vols. 1–10). Errata and addenda.

Note: Listed above are the contents of two annual volumes in an established and useful review series. As the titles of the papers indicate, the term "carbohydrate chemistry" is interpreted broadly. In most volumes in the series, there are reviews that contain material of interest to specialists in biochemistry pharmaceutical chemistry and polymer chemistry as well as to specialists

calculation of alpha for a secondary-plant rundown. Equilibrium constants for exchange reactions involving mercaptans. Index.

Note. The first part of this book compares the various methods of production of heavy water and draws specific comparisons among three—catalytic exchange, distillation of H_2O and distillation of hydrogen—which have been employed in the large-scale production of heavy water. It also makes definite recommendations as to processes and plant layouts most suitable for future production of this compound. The second part is a detailed account of laboratory and pilot-plant studies carried out at Columbia University as part of the program of development of the atomic bomb under a contract with the Manhattan Engineer District, the predecessor to the Atomic Energy Commission.

SCHUMB, WALTER C., AND OTHERS

Hydrogen peroxide. By Walter C. Schumb, Charles N. Satterfield and Ralph L. Wentworth. New York: Reinhold Publishing Corporation, 1955. 759 p. illus. 24 cm. (American Chemical Society monograph series) $17.50 1259

Contents: Introduction. Formation and manufacture: I, Directly from water or oxygen—II, From peroxy compounds. Concentration, purification, structural materials, handling. Physical properties. Structure. Chemical properties. Decomposition processes. Stabilization. Analytical procedures. *Uses of hydrogen peroxide.* Inorganic peroxy compounds. Notation. Name index. Subject index.

Note. Publication of this work in a series noted for comprehensive monographs reflects the current interest in hydrogen peroxide, both in the laboratory and in industry. The book is a survey based on the literature and, according to the publishers, there are more than 2,500 literature references. The subject is covered under the headings listed above. Somewhat more space is given to the basic knowledge—for instance, the chapter on physical properties is the longest in the book—but industrial aspects are well covered also. Inorganic peroxide compounds are surveyed in a 32-page chapter which contains a bibliography of 123 citations, but organic peroxides are omitted. The patent literature is cited, along with the journal literature; also included are citations of PB reports and similar series. The book should immediately become the standard reference on hydrogen peroxide in all laboratories where this compound is of interest.

SEABORG, GLENN THEODORE, AND JOSEPH J. KATZ, editors

The actinide elements. Also included: Index for *The transuranium elements,* Division IV, Volume 14B. New York: McGraw-Hill Book Company, Inc., 1954. 870 p. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division IV—Plutonium Project record—Vol. 14A) $11.75 1260

Contents: Introduction, by G. T. Seaborg. The chemistry of actinium, by F. T. Hagemann. Nuclear properties of uranium, protactinium, and thorium isotopes, by L. I. Katzin. The chemistry of thorium, by L. I. Katzin. The chemistry of protactinium, by R. E. Elson. The chemistry of uranium, by H. R. Hoekstra and J. J. Katz. Nuclear properties of the plutonium isotopes, by G. T. Seaborg. Oxidation states, potentials, equilibria, and oxidation-reduction reactions of plutonium, by R. E. Connick. Ionic and molecular species of plutonium in solution, by J. C. Hindman. Preparation and properties of the compounds of plutonium, by B. B. Cunningham. Nuclear properties of the neptunium isotopes, by G. T. Seaborg. The chemistry of neptunium, by B. B. Cunningham and J. C. Hindman. Nuclear properties of the transplutonium nuclides, by G. T. Seaborg. The chemistry of the transplutonium elements, by I. Perlman and K. Street, Jr. Radio-chemical separation of the actinide elements, by E. K. Hyde. Radiochemical assay by alpha and fission measurements, by A. H. Jaffey. Correlation of properties as actinide transition series, by G. T. Seaborg. Crystal chemistry of the 5f elements, by W. H. Zachariasen. Optical properties of some compounds of uranium, plutonium, and related elements, by E. Staritzky and A. L. Truitt. Slow-neutron and spontaneous-fission properties of heavy nuclei, by J. R. Huizenga and others. Appendix. Index—the transuranium elements. Index.

Note: Unlike some of the volumes in this valuable series, the present one incorporates the results of much research carried out since the close of World War II. The elements covered are named in the chapter titles and in the chapters devoted to individual elements, most of the text relates to chemical and physical properties. However several chapters, as their titles show, are devoted to laboratory manipulations and assay techniques. No explanation was found for the inclusion in this volume of the subject index to Volume 14B of the series. Unfortunately this out-of-place index precedes the volume index proper; hence libraries cannot readily remove it for insertion in the volume to which it pertains.

SEABORG, GLENN THEODORE, AND OTHERS, editors

The transuranium elements: research papers, edited by Glenn T. Seaborg, Joseph J. Katz, and Winston M. Manning. New York: McGraw-Hill Book Company, Inc., 1949. 2 v. illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division IV—Plutonium Project record—Vol. 14B) $23.75 1261

Note. A collection of original research papers bearing on plutonium and the other transuranium elements. The papers range in date from 1940 to as late as 1948, but most of them were written in 1943–1946 in connection with government-sponsored research on the atomic bomb and atomic energy. *Literature references are* included, and there are some diagrams of apparatus set-ups. The two volumes form a unit and are not sold separately.

SIMONS, J. H., editor

Fluorine chemistry. New York: Academic Press, Inc., 1950–54. 2 v. illus. 24 cm. $13.50 per vol. 1262

Contents: Volume I: Nonvolatile inorganic fluorides, by H. J. Emeléus. Volatile inorganic fluorides, by A. B. Burg. The chemistry of the fluoro acids of fourth, fifth, and sixth group elements, by W. Lange. The halogen fluorides, by H. S. Booth. Boron trifluoride, by H. S. Booth and D. R. Martin. Hydrogen fluoride, by J. H. Simons. Hydrogen fluoride catalysis, by J. H. Simons. Preparation of fluorine, by G. H. Cady. Physical properties of fluorine, by G. H. Cady and L. L. Burger. *The theoretical aspects* of fluorine chemistry, by G. Glockler. The action of elementary fluorine upon organic compounds, by L. A. Bigelow. Fluorocarbons and their production, by J. H. Simons. Fluorocarbons—their properties and wartime development, by T. J. Brice. Fluorocarbon derivatives, by W. H. Pearlson. Aliphatic chlorofluoro compounds, by J. D. Park. Fluorine compounds in glass technology and ceramics, by W. A. Weyl. Author index. Subject index. Volume II: *Fluorine containing complex salts and acids,* by A. G. Sharpe. Halogen fluorides—recent advances, by H. J. Emeléus. Analytical chemistry of fluorine and fluorine-containing compounds, by P. J. *Elving and others. Organic compounds containing fluorine,* by P. Tarrant. Metallic compounds containing fluorocarbon radicals and organometallic compounds containing fluorine, by H. J. Emeléus. Fluorocarbon chemistry, by J. H. Simons and T. J. Brice. The infrared spectra of fluorocarbons and related compounds, *by D. G.* Weiblen. Bibliography. Author index. Subject index.

Note. These two volumes of a projected three-volume comprehensive survey of fluorine chemistry are composed of monographs written by prominent chemists who have made contributions *to the* subject. The editor himself has also been one of the leaders in the development of the field. Each monographic chapter is a compact *review of the literature* and knowledge of a particular aspect of the subject and concludes with a comprehensive list of the pertinent international literature. The third volume, still to be published, will cover the biochemistry of fluorine-containing compounds. Both Volumes I and II contain *fully detailed author and subject indexes.* The work is intended for use by graduate and professional chemists, and it has become established as the standard reference survey of fluorine chemistry.

SNEED, M. CANNON, AND OTHERS

Comprehensive inorganic chemistry. By M. Cannon Sneed, J. Lewis Maynard, and Robert C. Brasted. Volume I: Principles of atomic and molecular structure, W. N. Lipscomb; Theoretical and applied nuclear chemistry, P. R. O'Connor; The actinide series, G. T.

this book follows the pattern of the series and is an integral part of it. It is an organized presentation of information previously published in the periodical literature. The text is condensed, with all important statements keyed to the references of the source articles. Structural diagrams are given for all of the compounds described, and reactions also are diagrammed. There are 71 tables of data on groups of compounds. Literature references are given as foot notes. The subject index is fully detailed.

BRAUDE, E. A., AND F C NACHOD editors
Determination of organic structures by physical methods. New York Academic Press, Inc., 1955 810 p. illus. 24 cm. $15.00 1278

Contents: Part I, The determination of molecular size: Phase properties of small molecules, by E. F Herington and F C. Nachod. Equilibrium and dynamic properties of large molecules, by P Johnson. Part II, The determination of molecular pattern: Optical rotation, by W. Klyne. Ultraviolet and visible light absorption, by E. A. Braude. Infrared light absorption, by R. C. Gore. Raman spectra, by F F Cleveland. Magnetic susceptibilities, by C. A. Hutchison, Jr. Part III, The determination of molecular fine-structure: Surface films, by E. Stenhagen. Dipole moments, by L. E. Sutton. Electron diffraction, by J. Karle and I. L. Karle. X-ray diffraction, by J. M. Robertson. Microwave spectroscopy, by E. B. Wilson, Jr., and D. R. Lide, Jr. Thermodynamic properties, by J. G. Aston. Dissociation constants, by H. C. Brown and others. Reaction kinetics, by E. A. Braude and L. M. Jackman. Wave-mechanical theory by C. A. Coulson. Author index. Subject index.

Note: The many physical, [illegible] mechanical techniques, which may be used in the study of the structure of organic compounds are reviewed in this treatise. The chapter titles cover the techniques which are covered, and all of these are presented from the viewpoint of the research chemist. For example, in the chapter on microwave spectroscopy one finds such statements as, "Microwave spectroscopy is not [illegible] universal tool for the determination of structure, since the kinds of substances which can be studied are severely limited by several restrictions." A discussion of the restrictions then follows. The chapter authors are eminent research chemists associated with universities and other research organizations in the United States of America, Great Britain and Europe. The typical chapter is well-organized literature digest with keyed references from statements in the text to an appended bibliography

BREWSTER, RAY QUINCY
Organic chemistry Second edition. New York Prentice Hall, Inc., 1948 840 p. illus. 24 cm. (Prentice-Hall chemistry series Wendell M Latimer editor) $7 75 1279

Contents (abridged): Part I, Aliphatic compounds: The alkanes or paraffinic hydrocarbons. Unsaturated hydrocarbons. Halogen derivatives of hydrocarbons. Alcohols. Aldehydes and ketones. Monocarboxylic acids (fatty acids). Acid derivatives. Aliphatic amines. Cyanogen and its derivatives. Sulfur compounds. Polyhydric alcohols. Cis-trans isomerism and unsaturated acids. Optical isomerism, halogenated acids, and hydroxy acids. Amino acids and proteins. Carbohydrates. Part II, Aromatic compounds: Sulfonic acids. Aromatic nitro compounds. Aromatic amines. Diazo compounds. Aromatic alcohols and phenols. Aromatic aldehydes, ketones, and quinones. Polynuclear hydrocarbons. Dyes. Alicyclic compounds and terpenes. Heterocyclic compounds and alkaloids. Index.

Note: In this text for college students the principles of organic chemistry are explained in terms of the electronic and resonance theories. Emphasis [illegible] placed on the mechanism of reactions; and the descriptions of properties of various compounds are preceded by discussions of their electronic structure and formulas. A brief review of the fundamentals of atomic structure and the mechanism of chemical reactions is included, but the treatment as [illegible] whole requires [illegible] sound knowledge of general chemistry. Each chapter concludes with review questions and problems. The author is Professor of Chemistry at the University of Kansas

BROOKS BENJAMIN T
The chemistry of the nonbenzenoid hydrocarbons. Second edition, revised and enlarged. New York Reinhold Publishing Corporation 1950. 615 p. illus. 24 cm. $14.00 1280

Contents (abridged): Natural occurrence of the paraffins. Physical properties. Methods of synthesis of paraffins and cycloparaffins. Oxidation of paraffins and cycloparaffins. Reactions of paraffins and cycloparaffins with chemical reagents. Olefinic hydrocarbons: methods of preparation. Isomerization. Polymerization of unsaturated hydrocarbons. Alkylation of unsaturated hydrocarbons. Oxidation of unsaturated hydrocarbons. Other chemical reactions of olefins. The dienes, trienes, and polyenes. Acetylenes. The cycloparaffins. Author index. Subject index.

Note: A classic survey of the hydrocarbons that do not contain the benzene ring structure. When the first edition (published in 1922) was prepared, most organic chemists were interested in the chemistry of the benzene ring and most organic chemical literature was devoted to benzene compounds. The book was [illegible] planned effort to call attention to the chemistry of the other hydrocarbons, especially those found in petroleum. Since 1922 much more has been published on the nonbenzenoid hydrocarbons, but this book still holds its place as [illegible] well-organized and useful monograph. Much material, including new chapters on acetylenic compounds, the dienes, trienes, polyenes, and thermal decomposition of paraffins, has been added in this edition. In effect, the entire work has been rewritten.

BROOKS BENJAMIN T AND OTHERS editors
The chemistry of petroleum hydrocarbons. Edited by Benjamin T Brooks Stewart S Kurtz, jr Cecil E Boord and Louis Schmerling. New York Reinhold Publishing Corporation 1954 3 v illus. Vol I, $18.00 vol II, $13.50 vol. III, $18 00 1281

Contents: Volume [illegible] Hydrocarbons in natural gases, by D T McRoberts and T W Legatski. Hydrocarbons in gasoline, kerosene, gas oils and lubricating oils, by A. N Sachanen. Composition of petroleum waxes, by B. T Brooks. Types of crude petroleum, by W A. Gruse. The composition of shale oils, by H. M Thorne and J. R. Ball. Origin of petroleum, by B. T Brooks. Extractive and azeotropic distillations, by C. S Carlson. Separation of aromatics by selective adsorption, by A. E. Hirschler and T S. Mertes. Principles of solvent extraction, by A. W Francis and W H. King. Separation of paraffins by urea and thiourea, by R. L. McLaughlin. Physical properties and hydrocarbon structure, by S. S. Kurtz, jr. Ultraviolet spectra of hydrocarbons, by W Priestley and R. F Dunkelbarth. Molecular structure and spectroscopic data, by E. J Rosenbaum. Analytical applications of infrared and Raman spectroscopy by H. M. Tenney. Mass spectroscopy of hydrocarbons, by W S. Young. Analysis and composition of the heavier petroleum fractions, by K. Van Nes. Preparation of pure paraffins and olefins, by B. T Brooks. Synthesis of low molecular weight alicyclic hydrocarbons, by J M. Derfer. Synthesis of high molecular weight hydrocarbons, by R. W Schiessler and R. L. McLaughlin. The Fischer-Tropsch process, by H H. Storch. Index. Volume II, Mechanisms for the thermal decomposition of hydrocarbons, by R. W K. Storch and S. Bywater. Conditions and results of thermal cracking for gasoline, by J H. Hirsch and E. K. Fisher. Composition of synthetic and cracked gasolines, by A. N. Sachanen. Acetylene by the pyrolysis of light hydrocarbons, by L. Kramer and J. Happel. Pyrolytic reactions of aromatic hydrocarbons, by C. R. Kinney. Theory of catalytic cracking, by B. S. Greensfelder. The effects of the variables in catalytic cracking, by A. G. Oblad and others. Aromatization, hydroforming and platforming, by V Haensel. Catalytic dehydrogenation, by K. Kearby. Mechanisms of the reactions of nonbenzenoid hydrocarbons, by L. Schmerling. General theory of hydrocarbon oxidation, by B. Lewis and G. von Elbe. Low-temperature oxidation of paraffin [illegible] of paraffin wax, by W E. Vaughan and F F Rust. Olefin autoxidation, by R. H. Rosenwald. Synthesis gas from methane, oxygen and steam, by H. H. Storch. The partial oxidation of the simple paraffinic hydrocarbons, by N. C. Robertson. Special oxidation reactions of unsaturated hydrocarbons, by N. A. Milas. Subject index. Volume III, Oxidation of ortho-xylene to phthalic anhydride, by I. E. Levine. Isomerization of saturated hydrocarbons, by H. Pines, and J. M. Mavity. Chlorination of paraffins and cycloparaffins, by E. T. McBee and H. E. Ungnade. Fluorination and properties of fluoro derivatives of paraffins and cycloparaffins, by E. T McBee and O. R. Pierce. Nitration of paraffins and cycloparaffins, by B. T Brooks. Special chemical reactions of paraffins and cycloparaffins, by B. T Brooks. Isomerization of olefins, by B. T Brooks. Vinyl polymerization, by C. Walling. Polyethylene, by R. L. Kraps and F B. Stickney. Diels-Alder condensations and related reactions, by C. Walling. Polymer gasoline, by K. K. Schaad. The chemistry of natural and synthetic rubbers, by H. L. Fisher. Condensation of saturated halides with olefins, by L. Schmerling. Catalytic hydrogenation of hydrocarbons, by B. B. Corson. Hydrogenation of cracked oils, catalytic naphtha, catalytic cycle stock, and shale oil, by W M. Smith. The oxo reaction, by M. Orchin. Alkylation of saturated hydro-

in sugar chemistry and the other areas of carbohydrate chemistry strictly interpreted. Reviews are topical rather than chronological, with emphasis on recent research and literature. Literature citations accompanying the reviews run to several hundred in some cases. The series is international in scope in two aspects the international literature is covered also, the contributors are drawn from various nations, although chemists working in the United Kingdom and the United States of America predominate.

ALEXANDER, ELLIOT RITCHIE

Principles of ionic organic reactions New York John Wiley & Sons, Inc, 1950 520 p illus 23 cm. $6 00 *1273*

Contents (abridged) Factors influencing distribution and mobility of electrons. Carbonium ions. Displacement reactions. Elimination reactions. Carbanions. Addition reactions of carbon-carbon double bonds. Carbanion addition to carbonyl groups. Carbanion displacement reactions. Formation and cleavage of ethers. Esterification and hydrolysis. Substitution on the benzene nucleus. Diazonium reactions and the Wolff-Kishner reduction. Miscellaneous reactions involving the migration of a double bond. Author index. Subject index.

Note This book is concerned with the mechanisms—interpreted in terms of electron configurations—of common organic reactions. Similarities between organic reactions, rather than differences, are stressed, with the purpose of aiding the experimental organic chemist in understanding and predicting reactions. The work is designed for advanced undergraduates majoring in organic chemistry and for graduate chemists engaged in experimental work. Related literature is cited in footnotes throughout the book.

ALLEN, CHARLES FRANCIS HITCHCOCK

Six membered heterocyclic nitrogen compounds with four condensed rings In collaboration with D M Burness, Jean V Crawford, F W Spangler Eleanor R. Webster, and C V Wilson New York Interscience Publishers, Inc., 1951 345 p illus 24 cm (The chemistry of heterocyclic compounds a series of monographs, Arnold Weissberger, consulting editor) $10 00 1274

Content Azanaphthacenes. Azabenz[a]anthracenes. Azabenzo[c]phenanthrenes. Azachrysenes. Azatriphenylenes. Azabenzanthrenes. Azapyrenes. Azabenzanthrenes—addenda. Index.

Note. One of the monographs in series which currently enjoys the status of being the major reference work on the chemistry and properties of the heterocyclic compounds. The series is planned to cover comprehensively the whole field of heterocyclic chemistry. It is organized in the form of independent monographs, each of which covers specific group or groups of heterocyclic compounds and is written by recognized authority. It does not describe all compounds and their derivatives, but the intention is to include all compounds which are important to academic applied chemists. Another purpose of the series is to serve as guide to the source literature, including the patents. Many volumes in the series are in preparation. Some already published were written by authors who are not citizens or residents f the United States of America or Canada, and therefore do not come within the scope of this bibliography. In the monograph by Allen listed above, each of the chapters is compact summary *of the available information of the* chemical group named in the chapter title. The individual compounds and the available information on their structure and properties is given. Methods of synthesis and reactions are often indicated. The index includes the name of every compound mentioned in the text.

AMERICAN PETROLEUM INSTITUTE RESEARCH PROJECT 44

Selected values of physical and thermodynamic properties of hydrocarbons and related compounds comprising the tables of the American Petroleum Institute Research Project 44 extant as of December 31 1952 By Frederick D Rossini Kenneth S Pitzer, Raymond L Arnett Rita M Braun George C. Pimentel, with contributions from Kun Li, and others Pittsburgh Published for the American Petroleum Institute by Carnegie Press, Carnegie Institute of Technology, 1953 1,050 p 27 cm $7 00 1275

Contents Introduction. Tables of physical and thermodynamic properties. Specific references for tables of properties. General references. Index of properties. Index of compounds. Publications of the API research project 44

Note A reference book of fundamental chemical and physical data. It is based primarily on information available in the literature and unpublished manuscripts, but these data have been critically evaluated, and the "best" values have been tabulated. Original calculations have been made where necessary. Sources are cited. Data obtained later than December 31 1952, are published in sheet form, the sheets being punched for insertion in loose-leaf binders. Information on the sheets available and the prices may be obtained from The Carnegie Institute of Technology Petroleum Research Laboratory Pittsburgh 13, Pa., attention Dr F D Rossini.

ASTLE, MELVIN J, AND J REID SHELTON

Organic chemistry New York Harper & Brothers, 1953 771 p illus. 24 cm. $7.50. 1276

Contents Introduction Paraffin hydrocarbons—alkanes. Olefin hydrocarbons—alkenes. Acetylene hydrocarbons—alkynes. Halogen derivatives of aliphatic hydrocarbons. Alcohols. Ethers. Aldehydes and ketones. Monobasic and dibasic acids. Acid halides, acid anhydrides, and acid amides. Esters—oils, fats, and waxes. Aldo and keto acids—acetoacetic ester and malonic ester syntheses. Unsaturated acids—geometrical isomerism. Halogenated acids—hydroxy acids—optical isomerism. Aliphatic amines. Aliphatic nitro compounds and nitriles. Amino acids and proteins. Aliphatic sulfur compounds. Carbohydrates—the sugars—the polysaccharides. Alicyclic compounds. Aromatic hydrocarbons. Nitration, halogenation, and sulfonation of aromatic compounds. Aromatic amines. Phenols. Aromatic alcohols, aldehydes, and ketones. Aromatic acids. Polynuclear aromatic hydrocarbons. Dyes. Heterocyclic compounds. Alkaloids. Terpenes. Steroids. High polymers. References for supplementary reading. Index.

Note An introductory textbook designed for use in *full-length* courses. It was written by two members of the faculty of Case *Institute of Technology and is designed primarily for the* instruction of students who are preparing for chemical engineering. There is frequent mention f industrial applications of specific organic reactions and commercial uses of organic compounds. However basic principles and reactions are given most of the space. As the chapter titles show the main classes of organic compounds are discussed. Many individual compounds are also described, but the coverage of individual compounds is not cyclopedic in the style of some texts. The concepts of electronic structure of molecules, electron displacements during chemical reactions, and resonance are introduced in the first chapter and referred to at appropriate points in succeeding chapters, but most of the reactions discussed are diagrammed in the conventional style. The index is well done.

BAMBAS LOUIS L

Five-membered heterocyclic compounds with nitrogen and sulfur or nitrogen, sulfur, and oxygen (except thiazole) New York Interscience Publishers, Inc. 1952 403 p. illus 24 cm (The chemistry of heterocyclic compounds, a series of monographs Arnold Weissberger consulting editor) $14 00 1277

Contents Part I, Thiadiazoles, their derivatives and selenium analogs. Derivatives of the 1,2,3-thiadiazoles and their selenium analogs. Derivatives of the 1,2,4-thiadiazoles and their selenium analogs. Derivatives of the 1,3,4-thiadiazoles and their selenium analogs. Derivatives of the 2,1,3-thiadiazoles and their selenium analogs. Part II, Five-membered rings containing nitrogen, sulfur selenium or oxygen atoms in addition to one sulfur and one nitrogen. Part III, Isothiazoles, their derivatives and selenium analogs 2,1-benzisothiazoles. 1,2-benzisothiazoles, their homologs and selenium analogs. 1,2-benzisoselenazoles, their homologs and derivatives. Index.

Note For a description of the series in which this volume appears, see the note on Allen, *Six-membered heterocyclic nitrogen compounds,* above. Although an independent monograph in the sense that it may be used without reference to the other volumes

Furoxans and furylamines. Furan metallic compounds. Furfuryl alcohol and other furan alcohols. Furfural—production, analytical methods and physical properties—chemical properties. Miscellaneous aldehydes of the furan series. Ketones. Furancarboxylic acids. Miscellaneous carboxylic acids of the furan series. Hydrolytic and nonhydrolytic cleavage of the furan nucleus. Catalytic hydrogenation of furans. Part II, Industrial application of furfural and its derivatives. Introduction. Furfural as chemical intermediate. Solvent applications of furfural and its derivatives. Furfural and furfuryl alcohol resins. Subject index.

Note: A comprehensive monograph on the chemistry of the furans, with three chapters on the industrial applications of furfural and its derivatives. Not all furan compounds could be included because of space limitation, but the compounds that are covered (D.R. Carstens) are dealt with thoroughly. Each chapter is extensively documented, with references back to 1781, and some 31 pages of patent citations are given in the appendix. Tables of properties of many of the compounds are given throughout the work, and many important reactions are clearly illustrated. The industrial applications include some information on the physiological properties of various furans and rather broad descriptions of their principal applications as intermediates, as biologicals, as solvents, and as resins. The authors are with the Quaker Oats Company.

EGLOFF GUSTAVE, AND GEORGE HULLA

Alkylation of alkanes. Patents on alkylation of alkanes. New York Reinhold Publishing Corporation, 1948 1 138 p illus. 23 cm. (American Chemical Society monograph series) $22.50. 1288

Contents: Introduction. Catalytic alkylation of alkanes. Thermal alkylation of alkanes. Combination processes. Miscellaneous processes. Selective dealkylation of alkanes. Index of patents.

Note: Patents pertaining to the alkylation of alkanes, issued in the United States of America and in other countries up to about the close of the year 1947 are abstracted in this book. The names of the patentees, the numbers of the application and issued patent, the dates of filing and date of issue, and fairly long abstracts are given for each patent. Volumes II and III, designed to abstract the report and periodical literature and continued in one fine supplement to forthcoming have not been published.

EGLOFF GUSTAV

Physical constants of hydrocarbons. Volume V Paraffins, olefins, acetylenes, and other aliphatic hydrocarbons (revised values) New York. Reinhold Publishing Corporation 1953 524 p. 24 cm. (American Chemical Society monograph series) $20.00. 1289

Contents: Introduction. Alkanes or paraffins. Alkenes or olefins. Alkynes or acetylenes.

Note: A revision of the original Volume I of this reference series. Based on a thorough search of the world's literature, the information given includes the name of the compound and common variations, molecular structure diagram (of some was given in the earlier edition), reference to the description of the compound in Volume I, values for melting point, boiling point, refractive index, specific gravity, critical temperature, critical pressure, and [illegible] point when known; corrections and additional data to Volume I; and the literature references for all of the data. It is noted in the introduction that data for compounds with more than eight carbon atoms are restricted to very few of the possible isomers. Volume [illegible] should be used with Volume [illegible] particularly if the compound's structure is desired. Volumes I–IV of the set are out of print.

ELDERFIELD ROBERT COOLEY editor

Heterocyclic compounds. New York John Wiley & Sons Inc., 1950–52 4 vol. illus. 24 cm. vol. I, $16.00 vol. II, $16.50 vol. III, $15.00 vol. IV $21.00 1290

Contents: Vol. I. Ethylene and trimethylene oxides, by [illegible] and [illegible]. Ethylenimines, by J. S. Fruton. Derivatives of [illegible], by S. A. Ballard and D. S. Melstrom. Furans, by R. C. Elderfield and T. N. Dodd, Jr. The chemistry of thiophene, by F. F. Blicke. The chemistry of pyrrole and its derivatives, by A. H. Corwin. Monocyclic pyrans, pyrones, thiopyrans, and thiopyrones, by J. Fried. The chemistry of the pyridines, by H. S. Mosher. Piperidines and partially hydrogenated pyridines, by R. C. Mosher [illegible]. Index. Vol. II. Benzofuran and its derivatives, by R. C. Elderfield and V. B. Meyer. Isobenzofurans, phthalans, and phthalides by R. C. Elderfield. Dibenzofurans (diphenylene oxide) by W. E. Parham. Thianaphthene, by D. K. Fukushima. Dibenzothiophene, by D. K. Fukushima. Coumarins, by S. Wawzonek. Isocoumarins, by S. Wawzonek. Chromones, flavones, and isoflavones, by S. Wawzonek. Chromanols, chromenes, and benzopyrylium salts: the anthocyanins, by S. Wawzonek. Chromanones, flavanones, chromanols, and flavanols, catechins, brazilin, and hematoxylin, by S. Wawzonek. Chromans, by S. Wawzonek. Xanthones, xanthenes, xanthydrols, and xanthylium salts, by S. Wawzonek. Flavonoids, [illegible], and [illegible], by S. Wawzonek. Thiochromenes and related compounds, by D. S. Tarbell. Index. Vol. III. The chemistry of indoles, by P. L. Julian and others. Isoindole, by R. C. Elderfield and T. N. Dodd, Jr. The chemistry of carbazole, by W. Freudenberg. Pyrindine, quinolizine, and related compounds, by R. C. Elderfield and E. T. Losin. Bicyclic systems with nitrogen atom common to both rings, by N. R. Ing. Index. Vol. IV. The chemistry of quinoline, by R. C. Elderfield. Isoquinoline, by W. J. Gensler. The acridines, by A. Albert. Phenanthridines, by L. P. Walls. Benzoquinolines, by L. P. Walls. Index.

Note: A valuable addition to chemical literature. Its purpose is to make available detailed monographic treatments of heterocyclic compounds of current interest which have not already been treated fully in other books. Each of the chapters is written by a specialist who has worked with the group of compounds which he discusses. The treatment is on a professional level, for [illegible] attention is given to such aspects as nomenclature, structure, reaction, and derivatives. Literature citations are given in footnotes. Volumes [illegible] and VI were published in 1957 vol. [illegible] 744 p., $22.00 vol. VI, 738 p., $15.00.

ENGLISH JAMES JR. AND HAROLD G CASSIDY

Principles of organic chemistry; an introductory text in organic chemistry Second edition. New York McGraw Hill Book Company Inc., 1956 469 p 24 cm. $6.50 1291

Contents (abridged): Hydrocarbons. Paraffins—cycloparaffins—[illegible] minerals, hydrocarbon gases, petroleum, and coal. Alcohols and phenols. Halogen compounds. Ethers. Carbonyl compounds. Carboxylic acids. Amines and diazonium compounds. Sulfur compounds. Carbonic acid and its derivatives. Substituted acids. Color and chemical constitution. Stereoisomerism. Carbohydrates. The sugars. Macromolecules. Polysaccharides, proteins, and plastics. Chemistry of heterocycles. Index.

Note: A relatively short textbook in which much of the descriptive detail on individual compounds that characterizes some texts in this field is lacking. The authors—faculty members of Yale University—have presented fundamental material that is essential to a basic understanding of organic chemistry but have described only a selected number of compounds and reactions. The first edition was published in 1949. The chapter on the chemistry of heterocycles is new in this second edition, and some other additions and revisions have been made.

FARKAS ADALBERT editor

Physical chemistry of the hydrocarbons. New York Academic Press Inc., 1950–53 2 v illus. 24 cm. $11.50 per vol. 1292

Contents: The chemical bond in hydrocarbon molecules, by G. W. Wheland. The molecular structure of hydrocarbons as determined by spectroscopy and electron and X-ray diffraction, by M. H. Jellinek. Mass spectroscopy in hydrocarbon analysis, by J. J. Mitchell. Optical properties of hydrocarbons: infrared absorption, Raman, and ultraviolet absorption spectroscopy, by N. D. Coggeshall. Optical methods of hydrocarbon analysis, by N. D. Coggeshall. Electrical properties of hydrocarbons, by A. Gemant. Solvent extraction of hydrocarbons; solubility relations between liquid hydrocarbons and other liquids, by A. W. Francis. Solid-liquid equilibria of hydrocarbons, by M. R. Cines. Chemical thermodynamic equilibria among hydrocarbons, by F. D. Rossini. Author index. Subject index. Volume II. Density and refractive index of hydrocarbons, by S. S. Kurtz, Jr., and A. Sankin. Surface tension and parachor of hydrocarbons, by O. R. Quayle and S. S. Kurtz, Jr. Heat capacity of hydrocarbons, by J. G. Aston and [illegible]. Critical behavior of hydrocarbons, by R. H. Olds. Optical activity of hydrocarbons, by R. L. Burwell, Jr. Mechanisms of some hydrocarbon reactions, by R. C. Hansford. Separation and purification of hydrocarbons by selective adsorption, by A. J. Juhola. Author index. Subject index.

Note: A systematic presentation of physical and chemical knowledge pertaining to the properties and behavior of the hydrocarbons.

carbons, by L. Schmerling. Special reactions of olefins, by B. T Brooks. Aromatic substitution—theory and mechanism, by H. C. Brown and K. L. Nelson. Industrial applications of aromatic alkylation, by S. H. McAllister Sulfonation of aromatic hydrocarbons, by E. E. Gilbert. Nitration of aromatic hydrocarbons, by C. D McKinney Jr Subject index.

Note An authoritative and systematic survey of fundamental hydrocarbon chemistry As the chapter titles show the editors have taken a broad view of the field. It is essentially a reference book for chemists who are engaged in academic or industrial work involving the hydrocarbons. Although there is more emphasis on basic theory and fundamental matters than on industrial applications, the basic chemistry of industrial processes involving hydrocarbon chemistry is covered. The chapters are written by experts, *many of whom are associated with leading American universities* or with the research departments of chemical firms. Literature references are a special feature of most chapters, and some of the authors have cited patents as well as journal literature. The treatment of all topics is at a graduate level.

BURK, ROBERT EMMETT, AND OLIVER GRUMMITT, editors

High molecular weight organic compounds New York Interscience Publishers, Inc., 1949 330 p illus 24 cm (Frontiers in chemistry, published under the auspices of Western Reserve University Vol VI) $6 00 1282

Contents Polymerization in suspension and emulsion by W P Hohenstein and H. Mark. Osmometry and viscosity of polymer solutions, by W J Badgley and H. Mark. The nature of elastomers, by H. L. Fisher Aspects of the structure and reactions of proteins, by J T Edsall. Condensation polymerization and constitution of condensation polymers, by P J Flory Physical and chemical structure of plasmoplasts, by T S. Carswell. Subject index.

Note A collection of short monographs which were originally presented as lectures under the auspices of Western Reserve University Most of the authors emphasize recent developments but also include enough of older events to give a fair picture of the current *state of knowledge pertaining to the specific topic of the lecture.* Gaps in the knowledge also are indicated. The level of presentation assumes an advanced knowledge of chemical terminology and concepts hence, the volume is intended for chemical graduates rather than beginners in organic chemistry *Long bibliographies* are included.

CONANT, JAMES BRYANT, AND ALBERT HAROLD BLATT

The chemistry of organic compounds, a year's course in organic chemistry Fourth edition. New York The Macmillan Company 1952 655 p illus. 24 cm. $6 50 1283

Content (abridged) The alcohols. Alkyl halides and ethers. Saturated or paraffin hydrocarbons. Gasoline and rubber. Aldehydes and ketones. Organic acids. Derivatives of ammonia. Polyhydric alcohols—fats and oils. Dibasic acids—condensation polymerization Optical isomerism. The carbohydrates. Unsaturated alcohols, acids, and carbonyl compounds. The amino acids and proteins. Benzene and the alkylbenzenes. Aryl halides, sulfonic acids, and phenols. Aromatic nitro compounds, anilines, diazonium salts, and azo dyes. Diamines, polyhydroxyl compounds, and aminophenols. Aromatic acids. Naphthalene, anthracene, and phenanthrene. Alicyclic compounds. Natural products containing alicyclic rings. Heterocyclic compounds. Natural and synthetic drugs. Index.

Note A standard textbook for use in introductory college courses in organic chemistry It is shorter than some texts of the kind, but the material has been selected and treated so that the student is offered an adequate basic account of the organic reactions and compounds. The authors have not attempted to describe large numbers of reactions and compounds.

CONANT, JAMES BRYANT AND ALBERT HAROLD BLATT

Fundamentals of organic chemistry a brief course for students concerned with biology medicine, agriculture, and industry New York The Macmillan Company, 1950 413 p illus 22 cm $5.25 1284

Contents The alcohols. Alkyl halides and ethers. Saturated or paraffin hydrocarbons. Unsaturated hydrocarbons. Gasoline and rubber Aldehydes and ketones. Organic acids. Polyhydric alcohols—fats and oils. Industrial and laboratory syntheses. Derivatives of ammonia—amides and amines. Acids containing two or more functional groups. Stereoisomerism. The carbohydrates. The amino acids and proteins. Biochemical processes. Benzene and alkylbenzenes. Aryl halides, sulfonic acids, and phenols. Aromatic nitro compounds, amines, diazonium salts, and azo dyes. Aromatic alcohols, aldehydes, ketones, and acids. Polynuclear aromatic compounds. Alicyclic compounds and related natural products. Heterocyclic compounds. Natural and synthetic drugs. Index.

Note The purpose of this introductory textbook is adequately indicated in the subtitle. The book is based to some extent upon the authors' *Chemistry of organic compounds*, described above, but the material has been selected to suit the needs of nonspecialists in chemistry and the treatment of many subjects is more descriptive in style.

DESHA, LUCIUS JUNIUS

Organic chemistry, the chemistry of the compounds of carbon Second edition. New York McGraw Hill Book Company, Inc., 1952 595 p illus 24 cm (International chemical series, L. P Hammett, consulting editor) $7 00 1285

Contents (abridged) The chemistry of molecules. Carbon chains, homology Unsaturation. Aromatic hydrocarbons. Organic hydroxides Ethers. Carbonyl compounds. Carboxylic acids. Amines. Sulfur and organometallic compounds. Polyfunctional aliphatic compounds. Polyhydric alcohols and their derivatives. Stereoisomerism. Carbohydrates. Polybasic acids and their derivatives. Substituted acids. Amino acids and proteins. Polyfunctional aromatic compounds. Color and constitution. Heterocyclic compounds. Organic chemistry and life. Appendix: The identification of organic compounds. Index.

Note An introductory presentation for college students who are not planning to major in organic chemistry General principles and the general characteristics of classes of compounds are emphasized. Theories and basic concepts are introduced gradually and in relation to discussions of the compounds which best illustrate them The first edition appeared in 1936. This edition represents a very extensive revision in which little material has been carried over The author is Professor of Chemistry in Washington and Lee University

DREISBACH, ROBERT RICKERT

Pressure-volume-temperature relationships of organic compounds. Third edition. Sandusky, Ohio Handbook Publishers, Inc., 1952 303 p 22 cm $10 00 1286

Contents (abridged) Table of symbols. Cox chart families and their infinite points. How to use the tables. Tables of vapor pressure-temperature relationships. How to determine the Cox chart family to which a compound belongs. Compounds classified according to their Cox chart families.

Note. A reference volume for the use of professional chemists. The heart of it is a series of tables from which the boiling points at various pressures for a wide range of organic compounds can be read directly The values given although less accurate than those which can be determined in careful measurements with precision apparatus, are more accurate than can be determined in the average industrial or college laboratory Some of the values in the tables have been derived from the precise measurements made in recent years by the American Petroleum Institute project of the National Bureau of Standards, but the greater part of them have been determined from large-scale Cox charts *constructed by the author* and his co-workers at the Dow Chemical Company The tables are supplemented by discussion and instructions on using them to determine a number of values in addition to boiling points. The earlier editions of the book were privately printed by the Dow Chemical Company

DUNLOP, A. P , AND F N PETERS

The furans New York Reinhold Publishing Corporation, 1953 867 p illus. 24 cm. (American Chemical Society monograph series) $22 50 1287

Contents. Part I The chemistry of the furans The furan series of chemical compounds. Furan and its homologs. Halogen derivatives of furan compounds. Nitro compounds of the furan series.

author reviewed the published literature up to January 1953, and in addition digested considerable unpublished literature, some of which was scheduled for later publication. Both patents and journal articles were covered. Reference features of the book include the extensive bibliographies, diagrammatic representations of reactions, and about 100 tables of data on reactions, properties, yields, etc.

GILMAN HENRY, editor

Organic chemistry, an advanced treatise. Henry Gilman, editor-in-chief. Editorial board, Roger Adams and others. New York John Wiley & Sons, Inc., 1943–53 4 v illus. 24 cm. $12.50 each. 1299

Contents: Volume I: The reactions of aliphatic hydrocarbons, by G. Egloff. Alicyclic compounds and the theory of strain, by R. C. Fuson. Theory of the structure and reactions of aromatic compounds, by L. F. Fieser. Stereoisomerism, by R. L. Shriner and others. Organometallic compounds, by H. Gilman. Free radicals, by W. E. Bachmann. Unsaturation and conjugation, by C. F. H. Allen and A. H. Blatt. Synthetic polymers, by C. S. Marvel and E. C. Horning. Catalytic hydrogenation and hydrogenolysis, by H. Adkins and R. L. Shriner. Organic sulfur compounds, by R. Connor. Aliphatic fluorides, by A. L. Henne. Molecular rearrangements, by E. S. Wallis. Comparison of chemical reactivity by H. Adkins. Index. Volume II: Natural amino acids, by H. T. Clarke. Alkaloids, by L. Small. The chemistry of the porphyrins, by A. H. Corwin. Chlorophyll, by C. C. Steele. The anthocyanins and the flavones, by K. P. Link. The sterols, by W. E. Bergmann. Carbohydrates I, by M. L. Wolfrom. Carbohydrates II, by A. L. Raymond. Carbohydrates III: Cellulose, by E. Heuser. Constitution and physical properties of organic compounds, by L. A. Leermakers and A. Weissberger. The substitution reaction, by G. Calingaert and H. A. Beatty. Modern electronic concepts of valence, by J. R. Johnson. The significance of resonance to the nature of the chemical bond and the structure of molecules, by L. Pauling. Index. Volume III: The study of organic reaction mechanisms, by P. D. Bartlett. Applications of infrared and ultraviolet spectra to organic chemistry by F. A. Miller. Lipids, by J. C. Cowan and H. E. Carter. Organic dyes, by H. W. Grimmel. Some aspects of chemotherapy by H. R. Ing. Antibiotics, by L. C. Cheney. Volume IV: The terpenes, by R. H. Eastman and C. R. Noller. Heterocyclic chemistry by R. H. Wiley. Starch, by W. Z. Hassid. Chemistry of explosives, by G. F. Wright. Reactions of organic gases under pressure, by W. E. Hanford and D. E. Sargent. Oxidation processes, by W. A. Waters. Index.

Note: A substantial treatise addressed to graduate students and graduate organic chemists. It is composed of signed monographic chapters, whose titles and authors are listed above. The authors include some of the most eminent organic chemists of the United States of America. The chapters are not condensed presentations. Instead, the discussions are detailed enough to enable the reader to grasp the main points without referring to the original literature. However literature references are given, and they often run to several hundred for [illegible] single monograph. Volumes [illegible] and II, originally published in 1938, were published in [illegible] considerably augmented second edition in 1943. Volumes III and IV were first published in 1953. Volumes [illegible] and II constitute [illegible] unit with continuous paging and [illegible] common index. The same is true of Volumes III and IV. There is no single index to the complete set.

HARTOUGH HOWARD D

Thiophene and its derivatives. With special chapters by H. P. Hochgesang and F. F. Blicke. New York Interscience Publishers, Inc., 1952 533 p. illus. 24 cm. (The chemistry of heterocyclic compounds a series of monographs Arnold Weissberger consulting editor) $16.50 1300

—— Compounds with condensed thiophene rings. By H. D. Hartough and S. L. Meisel. New York Interscience Publishers Inc., 1954 515 p. illus. 24 cm. (The chemistry of heterocyclic compounds, a series of monographs Arnold Weissberger consulting editor) $16.50 1301

Contents: Factors influencing chemical reactivity and substitution of thiophene systems. Thianaphthene and other thiophene compounds containing one carbocyclic fused ring. Thioindigo and related dyes. Dibenzothiophene and its derivatives. Naphthothiophenes and other thiophene compounds containing two carbocyclic fused rings. Thiophene systems containing three or more carbocyclic fused rings. Condensed thiophenes containing O, S, and Se ring systems. Condensed thiophene compounds containing nitrogen ring systems. Condensed selenophene and tellurophene systems. Bibliography Patent bibliography Ring index. Subject index.

Note: For [illegible] note on the series in which these two monographs are published see the note on Allen, Six-membered heterocyclic nitrogen compounds, above. The two monographs by Hartough listed here are complementary to one another and constitute an integral part of the series, however each of them may be used independently of the other and of the series. The style of the series is followed, and [illegible] the range of information on the chemistry of the groups of heterocyclic compounds [illegible] which are named in the chapter [illegible] headings is presented, much of it in tabular form. Both books contain many tables and extensive literature references. In the case of compounds with condensed thiophene rings, there is an extensive bibliography of patents relating to the thiophenes in addition to the general bibliography for the volume. However the thiophenes are not treated with the same comprehensiveness as the other compounds covered in the volume, for as the author has pointed out, the mere listing of all the known compounds in this class with their physical constants would have lengthened the volume by several hundred pages.

HATCH LEWIS F

Organic chemistry New York McGraw Hill Book Company Inc., 1955 324 p. illus. (part col d) 23 cm. $4.50 1302

Contents: Organic chemistry. Paraffins, olefins, and acetylenes. Cycloparaffins and aromatic hydrocarbons. Petroleum. Halogen compounds. Alcohols, phenols, and ethers. Aldehydes and ketones. Organic acids. Derivatives of organic acids. Nitro compounds, cyanides, sulfur compounds. Amines and their derivatives. Dyes. Proteins. Fats, waxes, and detergents. Optical isomerism. Carbohydrates. Enzymes, vitamins, hormones, and antibiotics. Medicinals and pharmaceuticals. Polymers. Organic chemistry and agriculture. Index.

Note. An introductory textbook designed for use in short courses offered at the college level. It outlines the scope of organic chemistry and indicates the fields of application. The chief classes of organic compounds, such as are named in some of the chapter titles given above, are described as classes, and some of the properties and reactions are outlined. However there is no attempt to catalog even the chief compounds that classify in these groups. The style is easy to read, and the book has an attractive format. It is suitable for use in courses offered to students who are majoring in such fields as home economics or agriculture. Also, lay readers who have had some introduction to chemical terminology find it [illegible] readable survey of the main features of organic chemistry

HINE, JACK

Physical organic chemistry New York McGraw Hill Book Company Inc., 1956 497 p illus 24 cm. $9.00 1303

Contents: Part I, Basic principles: The structure of organic molecules. Acids and bases. Kinetics. Organic reaction mechanisms. Part II, Polar reactions: Mechanisms for nucleophilic displacements on carbon. Reactivity in nucleophilic displacements on carbon. Elimination reactions. General and specific acid-base catalysis. Addition to carbon-carbon multiple bonds. Carbanions and enolization. Addition to aldehydes and ketones. Esterification and ester hydrolysis. Some reactions of carboxylic acids and their derivatives. Rearrangements of alkyl groups. Rearrangements due to electron-deficient nitrogen and oxygen atoms. Electrophilic aromatic substitution. Nucleophilic aromatic substitution. Part III, Free-radical reactions: Relatively stable free radicals. Evidence for the formation of reactive free radicals. Addition of free radicals to olefins. Decomposition of peroxides and azo and diazo compounds. Some reactions involving radical displacements. Stereochemistry and rearrangements of free radicals. Part IV Four-center-type reactions. Author index. Subject index.

Note: Reactions among organic chemicals, more specifically the mechanisms of such reactions, [illegible] and the effect of changing reaction variables, particularly reactant structures, on reactivity [illegible] constitute the subject matter of this book. Approximately three-fifths of the space is devoted to polar reactions; however the chapters on free-radical reactions amount to 70 pages and consider [illegible] reasonably full treatment. There is considerable emphasis on the experimental evidence for specific reaction mechanisms. In most

It contains the monographic chapters whose authors and titles are listed above. The chapters are essentially reviews of specific areas of hydrocarbon research, and each of them includes a bibliography of considerabl length. This feature, combined with complete indexes to the uthors of the cited literature, makes the work useful as a literature guide, in addition to its use as a source of fundamental information on hydrocarbon phenomena and manipulation. Although the majority of authors are associated with industrial research, basic rather than applied knowledge is stressed. There are numerous tabulations of physical-chemical data, and adequate subject indexes in each volume.

FERGUSON, LLOYD N

Electron structures of organic molecules New York Prentice-Hall, Inc, 1952 335 p illus 24 cm $7 25 1293

Contents. Introduction. Types of chemical bonds. The polar nature of covalent bonds. Covalent bond distances and bond angle. Intramolecular forces. Induction and electric dipole moments. Magnetic susceptibility Resonance and its applications to organic chemistry Absorption spectroscopy Aromatic substitution. Molecular and electron structures by physical methods. Author index. Subject index.

Note A survey of knowledge and hypotheses pertaining to electron distributions I organic molecules and to their significance in the properties of compounds, in reactions between compounds, and in physical characteristics, such as are revealed by absorption spectroscopy Experimental methods by means of which the information was obtained are described also. The presentation is not so compact as to require the average reader to go to the source articles. However the text is well documented with literature references. The book is suitable for upperclass college students who are majoring in organic chemistry and for graduate chemists who wish to be brought up to date on this important phase [illegible] organic chemistry

FIESER, LOUIS F, AND MARY FIESER

Organic chemistry Third edition. New York Reinhold Publishing Corporation 1956 1,112 p illus 24 cm $10 00 1294

Content The nature of organic compounds. Saturated hydrocarbons (alkanes) Ethylenic hydrocarbons (alkenes) Acetylenic hydrocarbons (alkynes) Petroleum. Alcohols. Halogen compounds. Carboxylic acids. Aldehydes and ketones. Amines. Stereochemistry Ring formation and stability Reaction mechanisms. Carbohydrates. Fats. Proteins. Carbohydrat metabolism. Fat metabolism. Protein metabolism. Structure of benzene. Aromatic hydrocarbons. Aromatic substitutions. Nitro compounds. Sulfonic acids. Aryl amines. Phenols. Aryl halides. Aromatic carboxylic acids. Aromatic aldehydes and ketones. Quinones. Naphthalene. Polynuclear hydrocarbons. Heterocycles. Alkaloids. Polymers. Dyes. Isoprenoids. Steroids. Vitamins. Chemotherapy Answers to problems. Indexes.

Note A widely known work which though primarily an introductory textbook of comprehensive scope is also well-rounded portrayal [illegible] organic chemistry including the historical development and its applications in biological and medical sciences and in technology Such chapters as the one on polymers are full enough to be useful as introductory surveys for graduate chemists who need a quick view of the fundamentals, together with selected literature references. The second edition was published in 1950. Many important revisions and additions pertaining both to theory and to applications were made in preparing this third edition. An index to the names of authors [illegible] cited literature is included along with a detailed subject index.

FLETT, LAWRENCE H, AND WILLIAM HOWLETT GARDNER

Maleic anhydride derivatives, reactions of the double bond New York John Wiley & Sons, Inc. 1952 269 p illus. 23 cm. $8 00 1295

Contents Hydrocarbons. Halogens and their compounds. Hydrogen. Metallic compounds. Compounds containing nitrogen. Compounds containing oxygen. Sulfur compounds. Energy and catalysts. Index.

Note A reference book of reactions and laboratory procedures in which maleic anhydride or one of its simple, unsaturated derivatives is employed. One hundred and sixteen reactions are described. For most of them the reaction is diagrammed, laboratory procedure is described, and there is a literature reference. In addition, in many instances, uses of the end product are discussed. The book is f interest to organic chemists.

FUSON, REYNOLD CLAYTON

Advanced organic chemistry New York John Wiley & Sons, Inc., 1950 669 p. illus. 23 cm $9 00 1296

Contents (abridged) Cleavage of carbon-carbon bonds. Carbon-carbon multiple bonds. Hydroxy compounds. Organometallic compounds in synthesis. Carbon monoxide in synthesis. Oxidation. Active methylene compounds. Nitro, nitroso, and oximino compounds. Amines and amino compounds. Azo and diazo compounds. Organic sulfur compounds. Polymerization. Author index. Subject index.

Note A textbook for students who are majoring in organic chemistry Its main theme is expressed in the first sentence "The study of organic chemistry can be greatly facilitated if it is recognized that the very large number of reactions of organic molecules actually involves relatively few fundamentally different transformations. The fundamental behavior patterns of organic compounds and groups and analogies and contrasts among them are constantly pointed out. The organic reactions with which the practicing organic chemist must be familiar are described compactly and clearly and in most instances are diagrammed. Bibliographical footnotes indicate the important related literature. Young chemists in industry as well as advanced students of chemistry will find the book useful.

FUSON, REYNOLD C, AND H R. SNYDER

Organic chemistry Second edition. New York John Wiley & Sons, Inc., 1954 544 p. illus 24 cm $6.50 1297

Contents: Introduction. The structure of molecules. Saturated hydrocarbons. Unsaturated hydrocarbons. Petroleum. Aromatic hydrocarbons. Alcohols. Aldehydes and ketones. Carboxylic acids and their derivatives. Amines. Polyfunctional acids. Phenols. Optical isomerism. Amino acids and proteins. Carbohydrates. Valence isomerism. Industrial alcohols. Reactions of halogen compounds. Organometallic compounds. Reactions of the carbonyl group. Substitution and condensation reactions of carbonyl compounds. Unsaturated carbonyl compounds. Compounds which contain two or more carbonyl groups. Ring formation. Polymerization and polymers. Nitro compounds. Reactions of amines. Organic sulfur compounds. Aromatic compounds. Polynuclear aromatic hydrocarbons. Aromatic heterocyclic compounds. Synthetic dyes. Appendix. Index.

Note. A outstanding introductory text, the first edition of which was published in 1942 Relative brevity has been achieved by limiting the exposition to fundamental aspects and typical cases, and leaving out the cyclopedic coverage of compounds which is characteristic of some college texts in this field. Another feature is that the basic information is presented at an introductory level in the first third of the book, then is developed in more detail and at an advanced level in the latter two-thirds. The importance of functional groups in organic reactions is stressed, and much attention has been given to making clear the "why" of reactions. This edition represents thorough revision, with more emphasis on theoretical physics.

GAYLORD NORMAN G

Reduction with complex metal hydrides. New York Interscience Publishers, Inc., 1956 1,046 p illus. 24 cm $15 00 *1298*

Contents Introduction. Preparation and properties of complex metal hydrides. *Reactions with inorganic reactants.* Reactions with organic derivatives of inorganic reactants. Complex metal hydrides as analytical reagents. Reduction of organic compounds with the complex metal hydrides—general. Reduction of oxygen-containing organic compounds—I, carbonyl derivatives—II, carboxylic acid derivatives (acids, anhydrides, acyl halides)—III, carboxylic acid derivatives (esters, lactones, enol esters)—IV carboxylic acid derivatives (amides, lactams, imides, carbamates)—V compounds containing other linkages. Reduction I nitrogen-containing organic compounds. Reduction I sulfur-containing organic compounds. Reduction of halogen-containing organic compounds. *Reduction of carbon*-carbon multiple bonds. Miscellaneous reactions with LAH. Experimental conditions for complex metal hydride reactions. Handling complex metal hydrides on a commercial scale, by M. D. Banus and R. D Gray Subject index.

Note: A comprehensive review of accumulated knowledge on a group of relatively new and useful reagents in organic chemistry. These include lithium aluminum hydride, aluminum hydride, sodium borohydride, potassium borohydride, lithium borohydride, sodium trimethoxyborohydride, and others. The field is covered primarily from the standpoint of graduate chemists interested in using the metal hydrides in laboratory investigations and syntheses. The terminal chapter on their use in industrial processes is short and contains only one literature reference. In preparing the book, the

KHARASCH M S., AND OTTO REINMUTH

Grignard reactions of nonmetallic substances. New York Prentice-Hall, Inc., 1954 1,384 p. illus. 24 cm. (Prentice-Hall chemistry series Wendell M Latimer editor) $17.50 1310

Contents: Historical introduction. The preparation of Grignard reagents. Estimation and detection of Grignard reagents. Constitution and dissociation of Grignard reagents. Some radical reactions of Grignard reagents. Reactions of Grignard reagents with aldehydes, ketones, and ketenes. Reactions of Grignard reagents with quinones. Reactions of Grignard reagents with esters and lactones. Reactions of Grignard reagents with carbonyl halides. Reactions of Grignard reagents with nitriles and other cyano compounds. Reactions of Grignard reagents with carboxylic anhydrides. Reactions of Grignard reagents with carboxylic amides, imides, and lactams. Reactions of Grignard reagents with oxides of carbon, and with carboxylic acids and their salts. Reactions of Grignard reagents with epoxides. Reactions of Grignard reagents with ethers, acetals, and ketals. Reactions of Grignard reagents with alkyl, aralkyl, and cycloalkyl halides. Allylic rearrangements in Grignard reactions. The Tschugaeff-Zerewitinoff method for the determination of "active" hydrogen. Reactions of Grignard reagents with miscellaneous nitrogen compounds. Reactions of Grignard reagents with oxygen, sulfur, selenium, and tellurium. Reactions of Grignard reagents with miscellaneous sulfur, selenium, and tellurium compounds. Reactions of Grignard reagents with silicon compounds. Reactions of Grignard reagents with miscellaneous non-metallic substances. Index of Grignard reagents General index.

Note. The Grignard reaction is one of the most useful in organic chemistry In this reference treatise on it, a vast range of data is covered The style is extremely condensed, and the authors have made extensive use of tables; nevertheless, certain limitations in scope (which are accurately and fully described in the book's preface) were imposed in order to hold the book to a practical length. The organization of chapters varies from one to another but generally speaking these aspects of each group of reactions are covered: history, description of the overall reaction and probable mechanism, typical preparative procedures, descriptions and discussion of abnormal reactions, and tabulations of data from the literature The literature is covered comprehensively to early 1950, and selected data were added from literature published later. The narrative text is both descriptive and critical. The 16-page index of "Grignard reagents" is a valuable feature

KOSOLAPOFF GENNADY MICHAEL

Organophosphorus compounds. New York John Wiley & Sons, Inc. 1950 376 p 23 cm. $12.00. 1311

Contents: Introduction. Phosphines and related compounds. Halophosphines. Halophosphine halides and phosphoryl halides. Quaternary phosphonium compounds. Tertiary phosphine oxides, sulfides, and selenides. Phosphinous, phosphonous, and phosphonic acids, their esters, analogs and salts. Phosphites and thiophosphites. Phosphates, halophosphates, and thio analogs. Compounds with phosphorus to nitrogen bonds. Quasi-phosphonium compounds. Derivatives of anhydro acids. Appendix. Index.

Note: A comprehensive summary of the current knowledge of an important group of organic compounds. Particular attention is paid to the properties, methods of preparation, chief reactions, and uses, especially uses in the chemical laboratory Literature references are given generously The work is essentially a reference book.

LEFFLER, JOHN E.

The reactive intermediates of organic chemistry New York Interscience Publishers, Inc., 1956 275 p. illus. 23 cm. $6.00 1312

Contents: Triarylmethyl radicals. Unstable carbon radicals. Diradicals. Heteroradicals. Carbonium ions by reversible dissociation. Carbonium ions by dissociation under irreversible conditions. Formation of carbonium ions by addition reactions. Analogs of carbonium ions. The formation of carbanions. Reactions of carbanions. Base-catalyzed reactions of carbon acids. Radical and non-radical reactions. Author index. Subject index.

Note: A contribution to the study of reaction mechanisms in organic chemistry It deals specifically with the radicals and ions taking part in reactions intermediate between the initial ones and the final ones in a reaction system. These intermediate products are studied by the classes named in the above quoted chapter titles. The author's approach is a critical one, and his concern is usually centered on the validity of the evidence for the existence of the radicals or ions under discussion. Methods of detection of radicals and ions are adequately explained. The foundations of evidence not based on direct measurements are critically delineated Literature citations are given throughout in the form of footnotes The book is potentially of interest to most graduate organic chemists.

LOWY, ALEXANDER AND BENJAMIN HARROW

An introduction to organic chemistry Seventh edition Revised by Benjamin Harrow and Percy M Apfelbaum. New York John Wiley & Sons Inc., 1951 480 p. illus. 22 cm $5 95 1313

Contents (abridged) Saturated hydrocarbons. Unsaturated hydrocarbons. Alcohols. Ethers. Aldehydes and ketones. Carboxylic acids. Fats and oils, waxes, and some lipids. Amines. Nucleoproteins, pyrimidines, and purines. Cyclic compounds. Alicyclic compounds. Aromatic hydrocarbons Aromatic amines Aromatic acids and their derivatives. Heterocyclic compounds. Synthetic polymers. Plastics and rubbers. Dyes. Terpenes and related substances. Alkaloids. Plant and animal pigments. Enzymes, vitamins, hormones. Nomenclature of organic compounds. Appendix. Index.

Note: A long-established text (the first edition appeared in 1924) intended principally for college students who are preparing for careers in medicine, dentistry pharmacy or the biological sciences. A simpler treatment is given than in introductory texts written for students planning to major in organic chemistry There is, however no special emphasis on those aspects of organic chemistry which are of special interest in biochemistry Changes in this edition are not extensive. However recent developments in such fields as the chemistry of aliphatic compounds have been incorporated The book is about 25 pages longer

LUCAS HOWARD J

Organic chemistry Second edition. New York American Book Company 1953 760 p illus. 24 cm. $7.00 1314

Contents: Introduction. Chemical bonds. Electric dipole moments and electronegativities. Saturated hydrocarbons, alkanes, the paraffin series, C_nH_{2n+2}. Alkenes, olefins, the ethylene series, C_nH_{2n}. Alkynes, the acetylene series alkadienes, diolefins, C_nH_{2n-2}. Alicyclic hydrocarbons, cycloalkanes, cycloparaffins, C_nC_{2n}. Halogen derivatives of aliphatic hydrocarbons. Organometallic compounds. Monohydric alcohols, $C_nH_{2n+1}OH$. Dihydric and trihydric saturated alcohols. Chlorohydrins unsaturated alcohols. Monobasic carboxylic acids, fatty acids. Dicarboxylic acids. Unsaturated and halogenated acids. Esters, ethers, anhydrides, and acyl halides. Ethers and esters of glycols and glycerol. Aldehydes and ketones. Hydroxy acids optical isomerism. Aldehydic and ketonic acids syntheses with ethyl acetoacetate and ethyl malonate. Organic compounds of sulfur Aliphatic amines. Amides. Derivatives of hydrogen cyanide Nitroparaffins. Compounds of silicon. Derivatives of cycloalkanes. Aromatic hydrocarbons. Orienting influence during substitution in the benzene ring. Aromatic halogen compounds. Sulfonic acids; nitro compounds azo compounds. Aromatic amines. Diazo compounds. Phenols. Aromatic alcohols, aldehydes, ketones. Aromatic acids. Quinones. Biphenyl and polyphenyl compounds. Naphthalene. Anthracene and phenanthrene. Amino acids. Proteins. Carbohydrates. Terpenes and camphors. Heterocyclic compounds. Alkaloids and drugs. Synthetic dyes. Index.

Note. An extensively revised and enlarged edition of a textbook first published in 1935. It is designed for use in first courses in organic chemistry offered to undergraduate college students. It is intermediate in scope between the brief texts that only indicate the highlights of the field and the cyclopedic texts. The emphasis is on fundamental concepts and relationships and on class reactions of chemical groups rather than on the reaction of individual compounds. Data on properties of individual compounds are, for the most part, arranged in tables in order to save space. The author is Professor of Organic Chemistry in the California Institute of Technology

MACY RUDOLPH

Organic chemistry simplified based completely on the electron theory Second revised and enlarged edition. New York Chemical

instances experimental techniques are described in summary fashion rather than in detail however references to source publications are always given. The primary purpose of the book is to serve as a text in graduate courses offered in organic chemistry. The important literature is cited, and the names of authors of the cited books and papers are indexed.

HOFMANN, KLAUS

Imidazole and its derivatives Part I New York Interscience Publishers, Inc., 1953 447 p 24 cm (The chemistry of heterocyclic compounds, a series of monographs, Arnold Weissberger, consulting editor) $13 50 1304

Contents Section I, Chemistry of classes and derivatives. General properties and structure of the imidazoles. The alkyl- and arylimidazoles. The oxo- and hydroxyimidazoles and their sulfur analogues. The halogenoimidazoles. The nitro- arylazo- and aminoimidazoles. The imidazolecarboxylic and sulfonic acids. The imidazolines, 2-imidazolidones, 2-imidazolidinethiones, 2-iminoimidazolidines, and imidazolidines. The benzimidazoles. Section II, Systematic survey and bibliography Imidazoles. Imidazolines. Imidazolidines. Imidazolidones, imidazolidinethiones, and 2-iminoimidazolidines. Benzimidazoles. Bibliography Subject index.

Note For a description of the series in which this monograph appears, see the note on Allen, *Six-membered heterocyclic nitrogen compounds*, above. The present monograph follows the pattern of the series, but may be used independently as a reference book and guide to the literature on the group of compounds covered in it. The first section, which with its bibliography runs to 324 pages, covers the physical and chemical properties, reactions, methods of synthesis, etc., of the classes of compounds named in the chapter titles. This part is a critical survey based on the literature with the texts of the separate chapters keyed to the chapter bibliographies. The second part of the volume consists of a systematic survey organized in tabular form of the compounds which have been noted in the literature. Melting points for most of the compounds listed are included, but a particularly useful part of the tabulation is a reference to the source article. The bibliography for this part contains more than 700 literature citations.

HUDSON CLAUDE SILBERT

The collected papers of C S Hudson Edited by Raymond M Hann and Nelson K. Richtmyer New York Academic Press, Inc Publishers, 1946–48 illus 2 v $30 00 1305

Content (abridged) Volume I, Section I The forms of milk sugar Physical chemistry of solutions. Mutarotation of sugars. Section II Enzymes—studies on invertase, emylsines, and emulsin. Section III Preparation of sugars. Section IV Rules of isorotation Acetyl derivatives of sugars and glycosides. Section V Lactone, phenylhydrazide, amide, and benzimidazole rules. Volume II Section VI Ketoses. Section VII Syntheses of higher-carbon sugars and their derivatives. Section VIII Periodate oxidations in the sugar group Section IX Neolactose celtrobiose, and d-altrose. Section X. Anhydro sugars and alcohols. Section XI Isopropylidene benzylidene, and methylene derivatives of the polyhydric alcohols. Section XII Miscellaneous papers. Appendix. Author index by year and paper number Index to sources of publication. Subject index Errata to Volume I.

Note. One feature of the celebration of the 65th birthday of Dr C. S. Hudson by the Division of Sugar Chemistry and Technology American Chemical Society in 1946 was the arranging for the publication of this collection. Two hundred and forty-seven papers representing the author's published contributions through June, 1945 are reprinted in the two volumes. As the section titles indicate most of them deal with the chemistry of sugars, particularly the rarer sugars, and with other carbohydrate substances. A 17-page autobiographical sketch appears as a foreword to Volume I.

HUNTRESS, ERNEST HAMILIN

A brief introduction to the use of Beilstein s Handbuch der Organischen Chemie. Second edition, revised. New York John Wiley & Sons Inc. 1938 44 p 23 cm $1 75 1306

Note: Provides a simplified explanation in English of the Beilstein method of classification of organic compounds as presented in the fourth edition of the *Handbuch*. It is based on the comprehensive and useful system developed by Prager and Jacobson, and offers an *elementary* exposition of this system. Treatment is brief and compact, condensing the fundamentals of the scheme of classification into four charts with accompanying explanation, illustrative examples, and problems.

HUNTRESS, ERNEST HAMILIN

The preparation, properties, chemical behavior, and identification of organic chlorine compounds, tables of data on selected compounds of Order III New York John Wiley & Sons, Inc., 1948 1,443 p 23 cm. $29 75 1307

Note An important reference book that complements the author's *Identification of pure organic compounds* Wiley 1941. Where the earlier work dealt with compounds composed of combinations of hydrogen, nitrogen, and oxygen, this volume provides data for compounds made up of combinations of carbon, chlorine, hydrogen, and oxygen. The information given for each compound listed includes its name, structural formula, empirical formula, Beilstein reference, melting point, boiling point, density refractive index, methods of preparation, chemical behavior preliminary tests, derivatives, and bibliography The book is based on a search of chemical literature and patents through 1945 but important references for the years 1946–47 are included in supplementary pages. Compounds are indexed by empirical formulas, chemical types, and by name and empirical formulas are indexed by molecular weight and by percentage chlorine content.

INGOLD, C K

Structure and mechanism in organic chemistry Ithaca Cornell University Press 1953 828 p illus 24 cm. (The George Fisher Baker Non resident Lectureship in Chemistry at Cornell University) $9 75 1308

Contents Valency and molecular structure. Interactions between and within molecules. Physical properties of molecules. The aromatic sextet. Classification of reagents and reactions. Electrophilic aromatic substitution. Nucleophilic aliphatic substitution. Olefin-forming eliminations. Saturated rearrangements. Unsaturated rearrangements. Aromatic rearrangements. Additions and their retrogression. Acids and bases. Carbonyl reactions. Nucleophilic aromatic substitution. Index.

Note. A graduate-level treatise on the structure of organic molecules and the mechanism of reactions among them. On the matter of the book's scope, the author has stated as to structure, attention has concentrated on molecules in their normal states. As to reactions, discussion has been restricted substantially to those classes of homogeneous molecular reactions on which the present broad pattern of organic chemistry mainly depends. In most of the chapters the arrangement is historical, with most of the space given to developments in the last several decades. The experimental evidence for statements about structures and reactions is carefully cited, and references are given to the source articles. Opposing views—for instance those on the Hofmann-Martius rearrangement—are critically examined. The book is of interest to graduate students of organic chemistry and to teachers of the subject, as well as to graduate chemists engaged in theoretical research.

JORDAN, T EARL

Vapor pressure of organic compounds New York Interscience Publishers Inc. 1954 266 p illus 29 cm $14 50 1309

Contents Hydrocarbons. Halogen compounds. Alcohols. Aldehydes, ethers, ketones, and oxides. Acids, acid chlorides, and anhydrides. Esters. Nitrogen compounds. Phenols. Organic compounds containing arsenic, selenium, sulfur and silicon. Organic compounds containing antimony boron, gallium, lead, phosphorus, tin, thallium, beryllium, and zinc. Index.

Note The data presented in this reference work are organized in tables and charts, and their sources are carefully cited. The organization of the book is somewhat complex. Each chapter begins with a table in which some data are presented and in which references are made to the source literature. This table also serves as an index to the contents of the particular chapter The general index refers to these tables. Working chemists will undoubtedly find that the charts of vapor pressures in relation to temperature which were drawn for the book, are its most useful feature.

effects on equilibrated systems, by G. S. Hammond. Molecular complexes and molecular asymmetry, by M. S. Newman. Steric effects on certain physical properties, by L. L. Ingraham. Calculation of the magnitude of steric effects, by F. H. Westheimer. Separation of polar, steric and resonance effects in reactivity, by R. W. Taft, Jr. Author index. Subject index.

Note: The importance of steric effects on the properties and the reactions of organic compounds is made clear in this book. The volume was planned to give adequate treatment to aspects of the subject omitted or inadequately treated in treatises already published. It is written at an advanced level and is addressed to graduate chemists working at the research level. Although each of the chapters is essentially self-contained, extensive references to the literature are a feature of all.

NOLLER, CARL ROBERT
Textbook of organic chemistry Philadelphia W B Saunders Company 1951 643 p. illus. 24 cm. $5 75 1321

Contents (abridged): Natural gas, petroleum and derived products. Esters of inorganic acids. Alkyl halides. Grignard reagents. Mechanism of organic reactions. Synthesis of alkanes and alkenes. Alkynes (acetylenes). Ethers. Waxes, fats, and oils. Aldehydes and ketones. Aliphatic nitrogen compounds. Aliphatic sulfur compounds. Proteins, amino acids, and peptides. Stereoisomerism. Benzene and its homologs. Coal products. Halogen derivatives of aromatic hydrocarbons. Aromatic nitro compounds. Aromatic sulphonic acids and their derivatives. Aromatic amines. Diazonium salts. Phenols, aminophenols, and quinones. Condensed nuclear hydrocarbons and their derivatives. Heterocyclic compounds. Alkaloids. Dyes and dyeing. Dienes, rubber and synthetic rubbers. Chlorinated and fluorinated aliphatic hydrocarbons. Unsaturated alcohols. Unsaturated acids. Polycarboxylic acids. Keto acids. Alicyclic compounds. Organic peroxides. Autoxidation and antioxidants. Organometallic compounds. Silicon compounds. Appendices. Index.

Note: A textbook for introductory college courses offered to students who have completed a course in general chemistry at the college level. Understanding of reaction mechanisms is emphasized. However, the presentation is descriptive rather than mathematical. The author is Professor of Chemistry in Stanford University. A second edition was published in 1957 978 p., $9 00.

ORGANIC REACTIONS Volume I. Roger Adams, editor-in-chief New York John Wiley & Sons, Inc., 1942 391 p. illus. 23 cm. $7.50. 1322

Contents: The Reformatsky reaction, by R. L. Shriner. The Arndt-Eistert synthesis, by W. E. Bachmann and W. S. Struve. Chloromethylation of aromatic compounds, by R. C. Fuson and C. H. McKeever. The amination of heterocyclic bases by alkali amides, by M. T. Leffler. The Bucherer reaction, by N. L. Drake. The Elbs reaction, by L. F. Fieser. The Clemmensen reduction, by E. L. Martin. The Perkin reaction and related reactions, by J. R. Johnson. The acetoacetic ester condensation and certain related reactions, by C. R. Hauser and B. E. Hudson, Jr. The Mannich reaction, by F. F. Blicke. The Fries reaction, by A. H. Blatt. The Jacobsen reaction, by L. I. Smith. Index.

—— Volume II. Roger Adams, editor-in-chief. New York John Wiley & Sons, Inc., 1944 461 p. illus. 23 cm. $8.00 1323

Contents: The Claisen rearrangement. The preparation of aliphatic fluorine compounds. The Cannizzaro reaction. The formation of cyclic ketones by intramolecular acylation. Reduction with aluminum alkoxides. The preparation of unsymmetrical biaryls by the diazo reaction and the nitrosoacetylamine reaction. Replacement of the aromatic primary amino group by hydrogen. Periodic acid oxidation. The resolution of alcohols. The preparation of aromatic arsonic and arsinic acids by the Bart, Bechamp, and Rosenmund reactions. Index.

—— Volume III. Roger Adams, editor-in-chief New York John Wiley & Sons Inc., 1946 460 p. illus. 24 cm. $9.00 1324

Contents: The alkylation of aromatic compounds by the Friedel-Crafts method, by C. C. Price. The Willgerodt reaction, by M. Carmack and M. A. Spielman. Preparation of ketenes and ketene dimers, by W. E. Hanford and J. C. Sauer. Direct sulfonation of aromatic hydrocarbons and their halogen derivatives, by C. M. Suter and A. W. Weston. Azlactones, by H. E. Carter. Substitution and addition reactions of thiocyanogen, by J. L. Wood. The Hofmann reaction, by E. S. Wallis and J. F. Lane. The Schmidt reaction, by H. Wolff. The Curtius reaction, by P. A. S. Smith. Index.

—— Volume IV Roger Adams, editor-in-chief. New York John Wiley & Sons, Inc., 1948. 428 p. illus. 24 cm. $9.00 1325

Contents: The Diels-Alder reaction with maleic anhydride, by M. C. Kloetzel. The Diels-Alder reaction: Ethylenic and acetylenic dienophiles, by H. L. Holmes. The preparation of amines by reductive alkylation, by W. S. Emerson. The acyloins, by S. M. McElvain. The synthesis of benzoins, by W. S. Ide and J. S. Buck. Synthesis of benzoquinones by oxidation, by J. Cason. The Rosenmund reduction of acid chlorides to aldehydes, by E. Mosettig and R. Mozingo. The Wolff-Kishner reduction, by D. Todd. Index.

—— Volume V Roger Adams, editor in chief New York John Wiley & Sons, Inc., 1949 446 p. illus. 24 cm. $9.00 1326

Contents: The synthesis of acetylenes, by T. L. Jacobs. Cyanoethylation, by H. A. Bruson. The Diels-Alder reaction; quinones and other cyclenones, by L. W. Butz and A. W. Rytina. Preparation of aromatic fluorine compounds from diazonium fluoborates: the Schiemann reaction, by A. Roe. The Friedel and Crafts reaction with aliphatic dibasic acid anhydrides, by E. Berliner. The Gattermann-Koch reaction, by N. N. Crounse. The Leuckart reaction, by M. L. Moore. Selenium dioxide oxidation, by N. Rabjohn. The Hoesch synthesis, by P. E. Spoerri and A. S. DuBois. The Darzens glycidic ester condensation, by M. S. Newman and B. J. Magerlein. Index.

—— Volume VI Roger Adams, editor in-chief New York John Wiley & Sons, Inc., 1951 517 p. illus. 24 cm. $10 00 1327

Contents: The Stobbe condensation, by W. S. Johnson and G. H. Daub. The preparation of 3,4-dihydroisoquinolines and related compounds by the Bischler-Napieralski reaction, by W. M. Whaley and T. R. Govindachari. The Pictet-Spengler synthesis of tetrahydroisoquinolines and related compounds, by W. M. Whaley and T. R. Govindachari. The synthesis of isoquinolines by the Pomeranz-Fritsch reaction, by W. J. Gensler. The Oppenauer oxidation, by C. Djerassi. The synthesis of phosphonic and phosphinic acids by G. M. Kosolapoff. The halogen-metal interconversion reaction with organolithium compounds, by R. G. Jones and H. Gilman. The preparation of thiazoles, by R. H. Wiley and others. The preparation of thiophenes and tetrahydrothiophenes, by D. E. Wolf and K. Folkers. Reduction with lithium aluminum hydride, by W. G. Brown. Index.

—— Volume VII. Roger Adams, editor in-chief. New York John Wiley & Sons Inc. 1953 440 p illus. 24 cm. $10.00 1328

Contents. The Pechmann reaction, by S. Sethna and R. Phadke. The Skraup synthesis of quinolines, by R. H. F. Manske and M. Kulka. Carbon-carbon alkylations with amines and ammonium salts, by J. H. Brewster and E. L. Eliel. The von Braun cyanogen bromide reaction, by H. A. Hageman. Hydrogenolysis of benzyl groups attached to oxygen, nitrogen, or sulfur by W. H. Hartung and R. Simonoff. The nitrosation of aliphatic carbon atoms, by O. Touster. Epoxidation and hydroxylation of ethylenic compounds with organic peracids, by D. Swern. Index.

—— Volume VIII. Roger Adams, editor-in-chief New York John Wiley & Sons, Inc., 1954 437 p. illus 24 cm. $12.00 1329

Contents: Catalytic hydrogenation of esters to alcohols, by H. Adkins. The synthesis of ketones from acid halides and organometallic compounds of magnesium, zinc, and cadmium, by D. A. Shirley. The acylation of ketones to form β-diketones or β-keto aldehydes, by C. R. Hauser and others. The Sommelet reaction, by S. J. Angyal. The synthesis of aldehydes from carboxylic acids, by E. Mosettig. The metalation reaction with organolithium compounds, by H. Gilman and J. W. Morton. β-Lactones, by H. E. Zaugg. The reaction of diazomethane and its derivatives with aldehydes and ketones, by C. D. Gutsche. Index.

Note: The purpose of this series is to publish monographs on the useful reactions in organic chemistry. In contrast to Organic syntheses, described below the emphasis is on the reaction rather than on

Publishing Company, Inc., 1955 611 p illus. 22 cm. $12 00 1315

Contents (abridged) Part I, The unique position of the carbon atom in chemistry The nature of organic chemistry Valence. New ideas on valence. North poles and south poles. Part II, The architecture of carbon compounds Methane and the structure theory Carbon chains. Carbon rings. Energy and molecular structure. Double and triple bonds. How molecules react—and why From partial valence to resonance. The benzene ring. Stereochemistry and isomerism. Part III, The classification of carbon compounds Alkyl radicals and aryl radicals. Halogen compounds. Alcohols. Phenols. Ethers. Aldehydes and ketones. Carboxy acids. Nitrogen compounds. Compounds with sulfur phosphorus, and other elements. Part IV Special topics in organic chemistry Structures of complex compounds. Heterocycles and condensed cycles. Proteins. Chemistry of sugars. Complex carbohydrates. Dyes. Drugs and related compounds. Hormones and vitamins. Isotopic chemistry Giant molecules. Index.

Note A compact and simplified textbook suitable for use in self instruction as well as in elementary courses in colleges and technical institutes. The simplification has been accomplished partly by choice of topics and partly by style that is intended for reading. A typical passage follows "From these remarks on the carbon dioxide molecule, it will be evident that it ought to exhibit *average* properties which satisfy the requirements of several plausible valence-bond structures. This is found to be the case, not only for carbon dioxide, but also for many other compounds. The phenomenon is called resonance. The first edition was published in 1943 The second edition represents an extensive revision and augmentation. More topics are now covered, and the presentation is more consistent.

MARKLEY, KLARE STEPHEN

Fatty acids, their chemistry and physical properties New York Interscience Publishers, Inc, 1947 688 p illus 23 cm $13 50 1316

Contents Nature and history of fats and waxes. Historical and general. Classification and structure of the fatty acids Classification and nomenclature. Isomerism. Physical properties of the fatty acids: Crystal properties. Spectral properties. Thermal properties. Solubility of fatty acids and solution properties. Properties of the fatty acids in the liquid state. Chemical reactions of the fatty acids Salts of fatty acids. Esterification and interesterification. Alkylation and alkoxylation. Pyrolysis. Halogenation. Hydrogenation and hydrogenolysis. Oxidation and hydroxylation. Oxidation by atmospheric oxygen (autoxidation) Biological oxidation. Nitrogen derivatives of aliphatic acids. Sulfur derivatives of the fatty acids. Synthesis of fatty acids In vitro synthesis of fatty acids. Biosynthesis of fatty acids. Isolation and identification of fatty acids. Separation of fatty acids. Identification of individual fatty acids. Author index. Subject index.

Note This volume provides a comprehensive survey of present day knowledge regarding the chemical reactions and physical properties of fatty acids. Based on review of the literature of the subject, it brings together in one volume great amount of technical information and data which will be of value to chemists, technologists, and others interested in the products and by-products of fatty acids. Although the lower members of the fatty acid series are discussed, the emphasis is placed on the long chain fatty acids. Also, because of the large amount of space that would be required for it, complete treatment of glyceride esters and natural fats is not given. The numerous footnote references and an author index constitute an extensive bibliography of the subject.

MIGRDICHIAN VARTKES

The chemistry of organic cyanogen compounds New York Reinhold Publishing Corporation, 1947 460 p illus 23 cm (American Chemical Society monograph series) $12 00 1317

Contents General introduction. Nitriles, their formation and properties. Hydrolysis of hydrocyanic acid and nitriles. Action of strong mineral acids on nitriles. Ammonolysis of nitriles. Simultaneous action of alcohols and acids on nitriles. Reaction of nitriles with halogens and other negative elements reactions of cyanogen halides and cyanamides. Replacement of halogens or other acid residues by the nitrile group; other reactions involving metallic cyanides. Reduction of nitriles. Reaction of hydrocyanic acid and alkali cyanides with aldehydes and ketones; reactions of cyanohydrins. Aminonitriles derived from aldehydes and ketones. Reaction of unsaturated compounds with hydrocyanic acid and alkali cyanides. Gattermann's synthesis. Houben-Hoesch synthesis. Reaction of Grignard reagents with nitriles. Condensation reactions involving active methylenic groups. other condensations. Knoevenagel condensation. Polymerization of nitriles. Reactions of cyanates, thiocyanates and isocyanides. Author index. Subject index.

Note Nitriles, or organic cyanides, are a varied and important group of nitrogen-bearing carbon compounds. This monograph is comprehensive survey of their chemistry including the chief methods of synthesis, their properties, and the products of reactions in which they are employed. Specific directions are given for the laboratory preparation of selected representative compounds, and methods of preparation are indicated for most of the compounds described. The work follows the general pattern of the series to the extent that it is based on comprehensive literature survey Extensive, numbered lists of references are supplied to each chapter, and statements in the text are keyed to them. However historical information has been omitted except insofar as the history of specific compounds or reactions can be traced through the literature references. The work is valuable as a reference book to advanced students and graduate chemists.

MORTON, AVERY ADRIAN

The chemistry of heterocyclic compounds New York McGraw Hill Book Company, Inc, 1946 549 p illus 23 cm. (International chemical series, Louis P Hammett, consulting editor) $9 00 1318

Contents The furan compounds. Condensed furan systems. Thiophene and condensed thiophene systems. Pyrroles. Di- and poly-pyrryl compounds. Porphyrins and phthalocyanines. Condensed pyrrole systems. Pyrans, pyrones, and related compounds. The pyridine group. Piperidine and related compounds. The quinoline compounds. Isoquinolines. Acridines and other condensed compounds. Azoles, azolones, and related systems. The azines and related compounds. Index.

Note. A college textbook for students who have had an introductory course in organic chemistry Problems are included, and there are numerous references to the literature of the subject. Because there are few collections of material on heterocyclic compounds in spite of their importance, the book should be of some use as a reference book. The author is Professor of Organic Chemistry at the Massachusetts Institute of Technology

MULDOON, HUGH CORNELIUS

Organic chemistry Third edition. New York McGraw Hill Book Company, Inc, 1948 648 p illus 24 cm. $6 50 1319

Contents (abridged): Introduction. Analysis—formulas—classification. Chain compounds. Unsaturated aliphatic hydrocarbons. Alkadienes. Alkyl halides. Aliphatic polyhalogen compounds. Monohydric alcohols. Unsaturated alcohols. Ethers. Monocarboxylic acids. Polycarboxylic acids. *Esters. Lipids.* Aliphatic nitrogen compounds. Amino acids—proteins. Carbohydrates. Aromatic hydrocarbons. Benzene series. Aromatic arsenicals, antimonials, and mercurials. Polynuclear compounds. *Heterocyclic* compounds. Terpenes and related compounds. *Alkaloids*—medicinal glycosides. Enzymes—antibiotics. Steroids—hormones—natural pigments—vitamins. Appendix. Index.

Note. An established textbook for use in first courses in the subject. It is slanted somewhat for students preparing for the study of medicine, for example, there is more space given to chemicals used in medicine and pharmacy than is usually the case in introductory texts. This edition has been considerably revised and rearranged, and new material has been added to such topics as antibiotics and hormones.

NEWMAN, MELVIN S , editor

Steric effects in organic chemistry *New* York John Wiley & Sons, Inc., 1956 710 p. illus 23 cm $12.50 *1320*

Contents Conformational analysis, by W G. Dauben and K. S. Pitzer Substitution at saturated carbon atoms, by E. L. Eliel. Steric effects in aromatic substitution, by G. S. Hammond and M. F Hawthorne. Additions to unsaturated functions, by M. S. Newman. Intramolecular rearrangements, by *D J Cram*. Olefin forming elimination reactions, by D J Cram. Cleavage reactions of carbon-carbon bond, by H. H. Wasserman. *Steric effects* among the common organometallic compounds, by G. F Wright. Steric

Wiley & Sons Inc., 1941 580 p. illus. 23 cm. $11.50. 1337

—— Collective volume 2 a revised edition of annual volumes x–xix. Edited by A. H. Blatt. New York John Wiley & Sons Inc. 1943 654 p. illus. 23 cm. $12 00 1338

—— Collective volume 3 a revised edition of annual volumes 20–29 E. C. Horning, editor-in-chief New York John Wiley & Sons, Inc., 1955 890 p illus. 23 cm. $15 00. 1339

Note Together these three "collective" volumes supersede the annual Volumes 1 through 29 of *Organic syntheses.* They contain not only all of the syntheses published in the superseded volumes but also corrections of errors which have been discovered in the original publications, modifications of some of the procedures as originally published, some new procedures, and revised literature references. Various indexes in these volumes enhance their value for reference.

PIGMAN WILLIAM WARD AND RUDOLPH MAXIMILIAN GOEPP JR.

Chemistry of the carbohydrates. New York Academic Press Inc. 1948 748 p illus. 23 cm. $10.80 1340

Contents (abridged) Introduction—development of carbohydrate chemistry—general chemistry—nomenclature and definitions. Structure and stereochemistry of the monosaccharides. Occurrence, properties, synthesis and analysis of the monosaccharides—naturally occurring monosaccharides—synthetic sugars—the identification and the quantitative determination of carbohydrates. Esters. Glycosides, full acetals and thioacetals. The polyols—acyclic polyols (glycitols)—the inositols and related compounds. Acids and oxidation products of carbohydrates. Ethers, anhydrides and unsaturated derivatives. Nitrogenous derivatives. Oligosaccharides. Naturally occurring glycosides and glycosylamines. Classification and determination of structure of the polysaccharides. Cellulose. The starches and starch substances. Polyuronides, hemicelluloses, plant gums, microbial polysaccharides. Author index. Subject index.

Note A general survey of a broad field of chemistry. It is monographic in style, and organization and is based on a wide but not exhaustive survey of the literature. Statements in the text are keyed to the numerous bibliographic footnotes. The work is written for advanced students who are beginning intensive study of the carbohydrates and for graduate chemists who are not specialists in carbohydrate chemistry but need a general knowledge of the field and, on occasion, specific information about the chemistry of a special carbohydrate group or a particular reaction.

PORTER C W AND T D STEWART

The essentials of organic chemistry Revised edition. Boston Ginn and Company 1953 394 p. illus. 22 cm. $5 00 1341

Contents (abridged) Methane and its oxidation products. Compounds of two carbon atoms; the carbon-carbon bond. The higher alkane hydrocarbons. The alkene hydrocarbons; geometrical isomerism. The alkyne and diene hydrocarbons. Alicyclic and aromatic hydrocarbons. The alcohols. Aliphatic ethers. Aliphatic aldehydes and ketones. The aliphatic monobasic acids. Aliphatic dibasic acids. Aliphatic amines. The carbohydrates. Proteins and amino acids. Aromatic halides, sulfonic acids, and phenols. Aromatic nitro compounds, amines, and diazonium salts. Aromatic alcohols, aldehydes, and ketones. Aromatic acids and their derivatives. Dyes and indicators. Natural and synthetic drugs. Enzymes, vitamins, and hormones. Sterols. Index.

Note An introductory and relatively brief textbook intended for use in short courses offered to students not specializing in chemistry. In other words, students preparing for such fields as medicine, pharmacy, home economics, and agriculture.

RALSTON, ANDERSON WHEELER

Fatty acids and their derivatives. New York John Wiley & Sons, Inc., 1948 986 p illus. 22 cm $16 00 1342

Contents: The saturated fatty acids. The ethylenic fatty acids. The acetylenic acids, the hydroxy acids, the keto acids, the cyclic acids, and the dicarboxylic acids. The preparation of the fatty acids from the naturally occurring fats. The structure and physical properties of the fatty acids. Reactions of fatty acids not involving the carboxyl group. The fatty acid esters. The nitrogen-containing derivatives of the fatty acids. The alcohols and their esters, the ethers, mercaptans, sulfides, sulfonates, and related compounds. The fatty acid anhydrides, acid chlorides, aldehydes, ketones, and related compounds. The aliphatic hydrocarbons and metallic soaps. Addenda. Index.

Note: The author of this volume has written widely in periodical literature regarding his investigations into the properties of the fatty acids. In this work he provides a comprehensive discussion of present-day knowledge concerning the occurrence, synthesis, physical and chemical properties, and uses of these acids and their derivatives. The purpose and nature of the book are similar to Markley's *Fatty acids* (see above) but the scope is somewhat broader due to the inclusion of more material on derivatives. Extensive lists of references key-numbered to the text are given at the end of each chapter.

RAPHAEL R. A.

Acetylenic compounds in organic synthesis. New York Academic Press Inc., 1955 219 p. 23 cm. $6.20. 1343

Contents: Note on nomenclature. Preparation and general properties of acetylenes. Synthesis of aliphatic compounds. Synthesis of conjugated systems. Synthesis of carbocyclic compounds. Synthesis of heterocyclic compounds. Practical techniques. Index.

Note: The acetylene series of compounds has been used as building blocks in the synthesis of a wide variety of organic compounds. The literature is so extensive that a compact guide such as this book has been definitely needed. In the typical chapter a group of reactions is divided into subgroups, and the reactions falling in the subgroups are discussed as to mechanisms, uses, yields, etc. Most of the reactions discussed are documented. Precise literature references are given. The book is not a laboratory manual, and laboratory directions are not included, except for a few special techniques collected in the final chapter. Graduate students and graduate organic chemists should find it useful as a reference book and literature guide.

REMICK ARTHUR EDWARD

Electronic interpretations of organic chemistry Second edition. New York John Wiley & Sons, Inc., 1949 600 p illus. 24 cm. $8.50 1344

Contents: Pre-electronic theories of chemical affinity. Early applications of the electron theory to problems of organic reactivity. Applications of the Lewis theory to problems of molecular structure. The generalized concept of oxidation-reduction. Outline of the electronic theory of the English school. Some contributions from the field of chemical physics. Some contributions from the field of kinetics. The role of the solvent. Some contributions from the field of stereochemistry. Electron-sharing reactions. Electron-pairing reactions. Some contributions from the field of electrochemistry. Appendixes. List of basic principles. Table of symbols. Index.

Note. A valuable summary of fundamental chemical knowledge which can be applied toward understanding the reactions and other phenomena of organic chemistry. The author has gathered together the developments in theoretical and physical chemistry which he believes are or can be useful to workers in preparative organic chemistry. These theories and principles are explained and evaluated, and the experimental evidence which supports them is described. Footnote references are given to original publications. Although used chiefly as a text in courses offered to advanced students in organic chemistry, the work is potentially useful to graduate chemists as well. It has been extensively revised in this edition.

RICE, FRANCIS OWEN AND K. K. RICE

The aliphatic free radicals. With a foreword by F A. Paneth. Baltimore The Johns

the product. Each of the monographs is a comprehensive survey of the reaction named in its title, covering not only its nature and basic principles but also its uses and limitations, procedures, conditions and yields. In many instances extensive tabulated data on the properties of derivatives is included. Usually the lists f cited literature are extensive.

ORGANIC SYNTHESES, an annual publication of *satisfactory methods for the preparation of* organic chemicals Arthur C Cope, editor in chief Volume 30 New York John Wiley & Sons, Inc., 1950 115 p illus 24 cm $3 00 1330

Contents 9-acetylanthracene. 3-aminopyridine. *p*-aminotetraphenylmethane DL-aspartic acid. Benzoylcholine iodide and chloride. *n*-butylacetylene. *β*-carbethoxy γ γ-diphenylvinylacetic acid. Chloroacetonitrile. *trans*-2-chlorocyclopentanol. 4 4 -dichlorodibutyl ether Diethyl *cis*-Δ⁴-tetrahydrophthalat and diethyl *cis* hexahydrophthalate. 1 4-diiodobutane. Ethanedithiol. Ethylenimine. 5-ethyl-2-methylpyridine. Ethyl phenylcyanoacetate. Fumaronitrile. Glutaric acid. Hexahydro-1,3,5-tripropionyl-*s*-triazine. 2-iodothiophene. 2 mercaptobenzimidazole. Methanesulfonyl chloride. N-methyl-2,3-dimethoxybenzylamine. 1 methyl-3-ethyloxindole. Methyl *β*-thiodipropionate. 1 naphthaldehyde o-nitroacetophenone Phenylacetylene. *trans*-1-phenyl-1,3-butadiene. *α*-phenyl-*α*-carbethoxyglutaronitrile. *α*-phenylglutaric anhydride Phenylsuccinic acid. 2,3-pyrazinedicarboxylic acid. 1,2,3 4-tetrahydrocarbazole. *cis* Δ⁴-tetrahydrophthalic anhydride. Tetraphenylarsonium chloride hydrochloride. o-tolualdehyde. Vanillic acid. Vinyl laurate and other vinyl esters. Index.

—— R. S Schreiber, editor in-chief Volume 31 New York John Wiley & Sons, Inc , 1951 122 p 24 cm $3 50 1331

Contents *α*-acetyl-*δ*-chloro-γ valerolactone. *δ*-acetyl-*n*-valeric acid. *p*-aminobenzaldehyde. Arylureas. Benzofurazan oxide. N-bromoacetamide. o-chlorophenylcyanamide. o-chlorophenylthiourea. Coumalic acid. Cyclohexylidenecyanoacetic acid and 1-cyclohexenylacetonitrile 4 4 -dibromobiphenyl. 1,6-diiodohexane. Diisopropyl methylphosphonate. 2,3-dimethoxycinnamic acid. *β*-dimethylaminoethyl chloride hydrochloride. *β*,*β*-dimethylglutaric acid. 3,5-dimethylpyrazole. 2,6-dinitroaniline. N N -diphenylbenzamidine. *α*,*β*-diphenylcinnamonitrile Ethyl *α*-acetyl-*β*-(2,3-dimethoxyphenyl)-propionate. Ethyl pyruvate. Hexamethylene diisocyanate. Iodocyclohexane. Laurone 6-methylcaprolactam. Methyl cyclopropyl ketone. 9-nitroanthracene. 1 (*p*-nitrophenyl)-1,3-butadiene. Pentaerythrityl tetrabromide. γ-phenylallylsuccinic acid. Phenyldichlorophosphine. Quinacetophenone monomethyl ether Syringic aldehyde. *dl*-4,4 ,6,6 tetrachlorodiphenic acid. 2,2 6,6-tetramethylolcyclohexanol. Tetraphenylethylene. Thiolacetic acid. 2-thiophenecarboxaldehyde Triethyl phosphite. Index t volumes 30 and 31

—— Richard T Arnold editor in-chief Volume 32 New York John Wiley & Sons Inc 1952 119 p illus. 24 cm $3 50 1332

Contents Abietic acid. Acrolein acetal. Alloxan monohydrate. 2-aminobenzophenone. *ε*-aminocaproic acid 1 1 -azo-*bis* 1-cyclohexanenitrile *β*-bromoethylphthalimide *tert*-butyl hypochlorite 1-chloro-2,6-dinitrobenzene. *p*-chlorophenyl salicylate. *β*-chlorovinyl isoamyl ketone. Cyanogen iodide 3-cyano-6-methyl-2(1)-pyridone. 1,2-cyclohexanedionedioxime. Cyclohexene sulfide. Cyclopentadiene and 3-chlorocyclopentene. 2 4-diamino-6-hydroxypyrimidine. 2,2 dichloroethanol. 1 1 -dicyano-1 1 -bicyclohexyl. 1,2-di 1 (1-cyano)-cyclohexylhydrazine. Diethyl Δ²-cyclopentenylmalonate. Diethyl ethylidenemalonate Dimethyl acetylenedicarboxylate. 4,6-dimethylcoumalin. 5,5-dimethyl 2 pyrrolidone *sym*-dimethylurea. *α*,*α*′-diphenylsuccinonitrile. 2-ethylhexanonitrile. Ethyl orthocarbonate. 1 1 -ethynylene-*bis*-cyclohexanol. Flavone. Isodehydroacetic acid and ethyl isodehydroacetate. *β*-ketoisooctaldehyde dimethyl acetal. Methyl *p*-acetylbenzoate Methylglyoxal-ω-phenylhydrazone. Methyl γ-methyl-γ nitrovalerate. N phthalene-1,5-disulfonyl chloride. Neophyl chloride. Phenylacetamide. Sodium nitromalonaldehyde monohydrate. *β*-tetralone Thiobenzoic acid. 10-undecynoic acid. Index to volumes 30–32

—— Charles C Price editor in-chief *Volume* 33 New York John Wiley & Sons, Inc. 1953 115 p illus 24 cm $3 50 1333

Contents 3-acetamido-2-butanone Allomaltin dihydrate. Atrolactic acid. Benzhydryl *β*-chloroethyl ether Benzoguanamine. Butyrchloral. Creosol. Di-*tert*-butyl malonate. Diethyl 1 1-cyclobutanedicarboxylate. Diethyl γ-oxopimelate *p*-dimethylaminobenzaldehyde. Dimethylketene. 2,2-dimethylpyrrolidine. Ethyl *α*-(1 pyrrolidyl)-propionate. 9-fluorenecarboxylic acid. Furfural diacetate. Itaconyl chloride 3-methylcoumarone. 1,5-naphthalenedithiol 1 4-naphthoquinone. Nicotinonitrile. *m*-nitrobenzazide. *m*-nitrobiphenyl. o-nitrocinnamaldehyde. *m*-nitrostyrene. 6-nitroveratraldehyde. 4-pentyn-1-ol. *α*-phenylcinnamic acid. 4-phenyl-*m*-dioxane o-phenylene carbonate, 3-phenyl-1-propanol. Pyridine-N-oxide. 2 (1-pyrrolidyl)-propanol. Stearone. *cis*-stilbene. *α*-tetralone. 3 thenaldehyde. 3-thenoic acid. 3-thenyl bromide. *α*,*β*,*β*-triphenylpropionic acid. Index.

—— William S Johnson, editor-in-chief. Volume 34 New York John Wiley & Sons, Inc., 1954 121 p illus. 24 cm. $3.50 1334

Contents 2 *p*-acetylphenylhydroquinone. Azelanitrile. *β*-(*p*-carboxyphenyl)propionic acid. Cetylmalonic ester 2-chloro-1,1,2 trifluoroethyl ethyl ether Cycloheptanone Cycloheptanone. Di-*tert*-butyl malonate. 3 4-dihydro-2-methoxy-4-methyl-2H-pyran. 9,10-dihydrophenanthrene. *p*,*p*′-dinitrobibenzyl. 1 4-dinitrobutane. Dimethylfurazan. Diphenylacetylene. Diphenyl succinate. Ethoxyacetylene. Ethyl chlorofluoroacetate. Ethyl enanthylsuccinate. Ethyl *β*,*β*-pentamethyleneglycidate. Hemimellitene. *o*-methylbenzyl alcohol. 2 methylbenzyldimethylamine. N-methyl-1,2-diphenylethylamine and hydrochloride. Methylisourea hydrochloride. 3-methyl-1,5 pentanediol. 3-methylthiophene Phenanthrenequinone. 1-phenylpiperidine. *o*-phthalaldehyde. Sodium *β*-styrenesulfonate and *β*-styrenesulfonyl chloride. Tetralin hydroperoxide *p*-toluenesulfinyl chloride. *p*-tolylsulfonylmethylnitrosamide. *o*-xylylene dibromide Subject index.

—— T L Cairns editor in-chief Volume 35 New York John Wiley & Sons, Inc., 1955 122 p illus. 24 cm $3 75 1335

Contents 1-acetylcyclohexanol. 2-amino-3-nitrotoluene. 3-benzyl-3-methylpentanoic acid. *p*-bromomandelic acid. *sec*-butyl *α*-*n*-caproylpropionate. *n*-butyl glyoxylate. 2-butyn-1-ol. Chloro-*p*-benzoquinone N-chlorobetainyl chloride. *α*-(4-chlorophenyl)-γ-phenylacetoacetonitrile. 1 (*p*-chlorophenyl)-3-phenyl-2 propanone. 2-chloropyrimidine. Δ⁴-cholesten-3,6-dione. Δ⁴-cholesten-3-one. Cholesterol. Δ⁵-cholesten-3-one, and Δ⁴-cholesten-3-one. Diacetyl-*d*-tartaric anhydride. Diethyl mercaptoacetal. Diethylthiocarbamyl chloride 2-(dimethylamino)pyrimidine. Ethyl diethoxyacetate. Ethyl isocyanide. Ethyl N phenylformimidate. 2-furfuryl mercaptan. Guanylthiourea. Hexamethylbenzene. *o*-methoxyphenylacetone 3-methyl-furfuryldimethylamine. 4-methyl-6-hydroxypyrimidine. 1-methyl-2-phenylindane. Methyl 2-thienyl sulfide *β*-methyl-*δ*-valerolactone *trans*-*o*-nitro-*α*-phenylcinnamic acid. 2 phenyl-cycloheptanone 1 tetralone. Thiobenzophenone. *p*-toluenesulfonyl chloride Index.

—— N J Leonard editor in-chief Volume 36 New York John Wiley & Sons, Inc. 1956 120 p illus. 24 cm. $3 75 1336

Contents Bischloromethyl ether *α*-chlorophenylacetic acid. N-2-cyanoethylaniline. 1-cyano-3-phenylurea. 1,2-cyclodecanediol. Cyclodecanone. Diazomethane 1 1-dichloro-2,2-difluoroethylene N,N′ diethylbenzidine. N,N-dimethylselenourea. *Ethyl diazoacetate*. *β*-ethyl-*β*-methylglutaric acid. Ferrocene 2-furoic acid. D galactono-γ lactone. *n*-hexyl fluoride. 6-hydroxynicotinic acid. 4-iodoveratrole. Laurylmethylamine. *p*-methoxyphenylacetonitrile. 3-methyl-4-nitropyridine-1-oxide. *α*-naphthyl isothiocyanate. *o*- and *p*-nitrobenzaldiacetate. 1 4-pentadiene *N*-phenylbenzamidine Propiolaldehyde. Putrescine dihydrochloride. 2-pyrrolealdehyde. Sebacil. Sebacoin. *α*-sulfopalmitic acid. Tetraethyltin. Tetrahydrothiophene. *p*-toluene-sulfonic anhydride 2,4 6-tribromobenzoic acid. Subject index.

Note An internationally known series which has been published since 1921 For the synthesis of each substance named in the contents practical laboratory methods are given, the apparatus is described and, if necessary illustrated; notes on special points of procedure are given, other published methods for synthesis of the same compound are mentioned, and references are made to pertinent original publications. Before acceptance for publication in the series, each synthesis is carried out by t least two chemists in laboratories ith which the submittee is not associated.

ORGANIC SYNTHESES *Collective volume* I being a revised edition of annual volumes I–IX Henry Gilman editor in-chief Second edition, edited by A H Blatt New York John

Contents: Part I. The chemistry of the hydrocarbons and certain of their univalent derivatives. The structure and reactivity of organic compounds. Chemistry of the alkanes. Chemistry of the cycloalkanes (alicyclics). Chemistry of the ethylene linkage. Aromaticity—chemistry of the aromatic hydrocarbons. Chemistry of the alkynes (acetylenes). Part II. The chemistry of carbonyl compounds. Nature of the carbonyl group. Methods of preparation of carbonyl compounds. Addition reactions of the carbonyl group. Reaction of carbonyl compounds dependent upon active hydrogen. Author index. Subject index.

Note: In this book, the primary theme is the understanding of the behavior pattern of organic substances in terms of the electronic theory of valence. Basic notions, including the covalent bond, wave function, resonance, and the electromeric and inductomeric mechanisms of electron displacement are discussed in the first chapter. Except for this chapter, most of the book is devoted to discussions of the mechanism of the reactions of classes of organic compounds and individual compounds. A wide range of reactions is covered; nevertheless, the volume is not intended as a reference book. Applications of reaction mechanisms to practical syntheses and degradations are integrated with the discussions of their theoretical foundations. The book is based on the literature, and literature citations occur on practically every page. It contains an author index to the cited literature and a fully detailed subject index.

SHIRLEY DAVID ALLEN

Preparation of organic intermediates New York John Wiley & Sons Inc., 1951 328 p. illus. 23 cm. $8 75 1351

Note: A reference book in which specific directions are given for the preparation of more than 300 compounds useful in the synthesis of other compounds. The write-up of each procedure resembles in organization and content the write-ups in *Organic syntheses*, and in fact the book is intended to complement *Organic syntheses*. According to the author, the following criteria have been followed in selecting compounds for inclusion: (1) The compound either is not available commercially or if available is relatively expensive; (2) directions for preparation of the compound had not been included in *Organic syntheses* through Volume 28; and (3) the compound is one whose structure is simple and contains reactive functional groups which make it useful as an intermediate, or its preparation involves a generally useful type of organic reaction and the directions may be applied to the preparation of related compounds.

SUMPTER, WARD C AND F M MILLER

Heterocyclic compounds with indole and carbazole systems. New York Interscience Publishers, Inc., 1954 307 p. illus 24 cm. (The chemistry of heterocyclic compounds a series of monographs Arnold Weissberger consulting editor) $10.00 1352

Contents: Indole. Carbazole. Isatin. Oxindole. Isatogens. Indoxyl. Indigo. Natural products containing the indole nucleus. Index.

Note: For a descriptive note on the series in which this monograph is published, see the note on Allen, *Six-membered heterocyclic nitrogen compounds*, above. The present monograph, like the others in the series, is essentially a critical survey of the published literature, and its text is keyed to citations of the source articles, in this case printed as footnotes. Literature coverage extends from about the middle of the 19th century into 1951. Condensed and precise information is given on the properties, principal reactions, and methods of synthesis of the compounds and groups named in the chapter titles. The chapter on natural products covers such groups as the Cinchona and the Rauwolfia alkaloids.

SURREY ALEXANDER R.

Name reactions in organic chemistry New York Academic Press, Inc. 1954 192 p. illus. 24 cm. $5.00. 1353

Note: A manual of reactions and syntheses which have been named for their discoverers or in a few instances, for the chemists who established their usefulness. Examples are the Elb reaction, the Grignard reaction, the McFadyen-Stevens reduction, and the Perkin synthesis. About 125 reactions are included, and a short essay is devoted to each. The typical essay contains the following: a biographical sketch of the chemist for which the reaction is named, a brief description of the reaction in chemical terminology with a structural diagram of the equation, a discussion of the mechanism of the reaction, and selected literature references. No attempt is made to give detailed procedures for carrying out the reactions in the laboratory, although some information is included on conditions and yields in most instances.

SUTER, CHESTER MERLE

The organic chemistry of sulfur tetracovalent sulfur compounds New York John Wiley & Sons, Inc., 1944 858 p. 22 cm. $13.50. 1354

Contents: Esters of sulfuric acid. Aliphatic sulfonic acids. The preparation of aromatic sulfonic acids. Properties and reactions of aromatic sulfonic acids. Derivatives of aromatic sulfonic acids, 1: Sulfonyl halides, esters, and anhydrides. Derivatives of aromatic sulfonic acids, 2: Sulfonamides and related compounds. Sulfones. Index.

Note: The practical value of compounds is considered, as well as their chemical properties. Numerous references to the patent literature are given. Chemists in petroleum products and dyestuff laboratories, and those dealing with surface active agents in soaps or textile processing, find this book of wide scope and usefulness. Many compounds of biological or medicinal interest are described, including saccharin, sulfonamides, sulfones, sulfonaphthaleins and aminosulfonic acids.

TOBOLSKY, ARTHUR V AND ROBERT B MESROBIAN

Organic peroxides their chemistry decomposition and role in polymerization. New York Interscience Publishers Inc., 1954 197 p. 24 cm. $5 75 1355

Contents (abridged): Preparation, properties, and structural classification of organic peroxides: Peroxides of structure ROOH (hydroperoxides). Peroxides of structure ROOR (dialkyl and diaralkyl peroxides). Peroxides of structure RC(=O)OOC(O=)CR (diacyl and diaroyl peroxides). Peroxy derivatives of aldehydes and ketones. Analytical methods for determination of organic peroxides. Decomposition of organic peroxides: Decomposition of di-t-butyl peroxide and related peroxides. Decomposition of benzoyl peroxide and related peroxides. Decomposition of peroxides by one-electron transfer reactions. Initiation of vinyl polymerization by peroxide decomposition. General nature of vinyl type polymerization. Kinetics of vinyl polymerization. Appendices: Physical constants of selected organic peroxides. Explosive nature of peroxides. Some commercially available organic peroxides. Catalyst efficiency. Author index. Subject index.

Note: A thorough treatment of a class of organic compounds and reactions which have broad application in vinyl polymerization and in such important organic reactions as the oxidation of hydrocarbons. The first part is an introductory descriptive account of the organic peroxides; parts II and III are more advanced and technical and are addressed to readers who are thoroughly acquainted with both organic and physical chemistry. These parts are based largely on quantitative studies which have appeared in the literature, and citations to the source articles are supplied. Literature references are given also for the useful reference data assembled in the appendixes.

WAGNER, ROMEO B AND HARRY D ZOOK

Synthetic organic chemistry New York John Wiley & Sons, 1953 887 p. illus. 24 cm. $11.50 1356

Contents: Paraffinic, naphthenic, and aromatic hydrocarbons. Olefinic compounds. Acetylenic compounds. Halides. Hydroxy compounds. Ethers. Oxides. Acetals and ketals. Aldehydes. Ketones. Quinones. Ketenes and ketene dimers. Carboxylic acids. Carboxylic esters. Lactones. Ortho esters. Acyl halides. Anhydrides. Amides, imides, hydrazides, hydroxamic acids, and azides. Cyanides. Imino esters (imino ethers) and amidines. Isocyanates. Carbamates (urethanes), semicarbazides, and ureas. Amines. Imines. Hydrazines. Oximes and nitroso compounds. Nitro compounds. Azo and azoxy compounds. Diazo and diazonium compounds. Mercaptans. Sulfides. Disulfides. Sulfoxides and sulfones. Sulfinic acids. Sulfonic acids. Derivatives of sulfonic acids. Thioanalogs of other oxygenated compounds. Heterocyclic compounds. Index.

Note: A reference book in which some hundreds of organic syntheses are summarized in a compact text and 110 tables. Text and tables are keyed to each other by numbers. For each synthesis, there are presented in the text an equation representing the principal reaction, a discussion of the reaction with attention to such points as

Hopkins Press, 1935 204 p illus. 23 cm. $4 50 1345

Contents Introduction. Early history Historical 1912–1934 Preparation and identification. Properties and reactions. Activation energies of elementary reactions. Paraffin hydrocarbons. Ketones and aldehydes. Ethers. Olefinic hydrocarbons. Other organic compounds. Larger molecules. Alicyclic compounds. Reactions in the liquid phase. Appendixes. Index of names. Index of subjects.

Note. An account of the preparation and properties of those aliphatic free radicals which were discovered during the few years prior to 1934 together with a presentation of hypothetical free radical mechanisms for the thermal decomposition of numerous aliphatic compounds. The work is based largely on a summary of the pertinent literature of the field, and is intended as an aid to those physical, organic, and biologic chemists working in this and related fields. References are given in footnotes.

RICHTER, GEORGE HOLMES

Textbook of organic chemistry Third edition. New York John Wiley & Sons, Inc. 1952 762 p illus. 23 cm. $6 75 1346

Contents Aliphatic series. Introduction. Hydrocarbons. Unsaturated hydrocarbons—olefins. Acetylenic hydrocarbons—alkines or alkynes. Alcohols. Ethers. Aldehydes and ketones. Monobasic acids—geometrical isomerism. Halogen derivatives—Grignard reaction. Acyl halides—acid anhydrides. Esters—oils—fats—waxes. Amides. Cyanides and nitro compounds. Amines. Compounds of sulfur Polybasic acids. Halogenated acids, hydroxy acids, and optical isomerism. Aldo and keto acids—tautomerism. Aromatic series: Aromatic compounds. Chemistry of the simple aromatic hydrocarbons. Arylamines. Phenols and aminophenols. Aromatic arsenic derivatives—aromatic alcohols, aldehydes, and ketones. Aromatic acids. Polynuclear aromatic compounds. Coal-tar dyes. Some natural products Carbohydrates. Amino acids—proteins. Natural products—terpenes, sterols. Heterocyclic series: Heterocyclic systems. Ureides and purine derivatives. Alkaloids. Index.

Note An introduction to organic chemistry intended for use in undergraduate college courses. It is intermediate in length and detail, between the very simplified texts and those of cyclopedic nature. The first edition was published in 1938 and the second edition in 1943 Revisions and additions made in this third edition pertain to advances in theory nomenclature radioisotopes and a selection of new reactions and new organic chemical products. The author is Dean of Rice Institute and Chairman of its Department of Chemistry

ROBERTSON, J MONTEATH

Organic crystals and molecules Theory of X ray structure analysis with applications to organic chemistry Ithaca Cornell University Press 1953 340 p illus 23 cm (The George Fisher Baker Non resident Lectureship in Chemistry at Cornell University) $5 00 1347

Contents. Part one, The nature of crystals geometrical aspects The crystal as geometrical figure. The crystal as a lattice structure. The intimate structure of crystals X-ray diffraction. Structure factor and calculation of electron density The phase problem and methods of solution. Part two, The analysis of some organic molecular structures Fundamental structures and early work on organic crystals. Bond length measurements in condensed ring hydrocarbons and some related structures. Molecular arrangement and hydrogen-bonded structures. Applications to complex and partially known chemical structures. Macromolecules and biological applications—evidence from the electron microscope. Index of names. Index of subjects.

Note In the first part of this book the author has surveyed the main concepts, theories and methods of present-day crystallography In the second part, he has dealt specifically with X-ray methods of analyzing the structure of organic molecules and with some of the results that have been achieved. The potential importance of X-ray analysis in elucidating the structures of highly complex organic molecules as well as simpler ones is made clear The book is both authoritative and up to date Included in one of the chapters is short account of the use of digital and analog computers in X-ray structural analysis. The book is based on lectures given in 1951 at Cornell University It will serve well as an introduction to the subject for graduate students and professional chemists alike. There are 132 figures and numerous citations of the pertinent literature.

THE ROGER ADAMS SYMPOSIUM, papers presented at a symposium in honor of Roger Adams at the University of Illinois, September 3 and 4, 1954 New York John Wiley & Sons, Inc., 1955 140 p illus. 24 cm. $3 75 1348

Contents. Remarks at the symposium honoring Roger Adams, University of Illinois, September 3–4 1954 by E. H. Volwiler. Steric effects in dyes, by W R. Brode. The structure of gliotoxin, sulfur-containing antibiotic substance, by J R. Johnson. The structure of aspetalic acid, by S. M. McElvain. Chemistry of flavylium salts—reactions with amines, by R. L. Shriner Some chemical studies on viruses, by W M. Stanley

Note Dr Roger Adams of the University of Illinois is one of the greatest living American chemists. At symposium held in his honor in September 1954 five of his former students, all of them now eminent chemists in their own right, delivered the five papers printed in this volume. The papers are scientific reports of research and are designed for reading by chemists just as if they had appeared in professional periodicals. They report the results of research projects carried out over a considerable period of time and are aimed at the elucidation of fundamental chemical questions.

ROSSINI, FREDERICK D , AND OTHERS

Hydrocarbons from petroleum, the fractionation, analysis, isolation, purification, and properties of petroleum hydrocarbons. An account of the work of the American Petroleum Institute Research Project 6 By Frederick D Rossini, Beveridge J Mair and Anton J Streiff New York Reinhold Publishing Corporation, 1953 556 p illus 24 cm. (American Chemical Society monograph series) $20 00. 1349

Contents Introduction. Fractionation and fractionating processes. Regular distillation. Azeotropic distillation. Regular distillation at different pressures. Distillation at very low pressures. Extraction. Adsorption. Crystallization. Solid molecular compounds, clathrate compounds. Boiling points and vapor pressures. Densities. Refractive indices. Freezing points evaluation of purity from freezing points. Molecular weights. Analysis for carbon and hydrogen. Purification of hydrocarbons. Summary of work of other laboratories on the composition of petroleum. Analysis of the gasoline fraction of petroleum. Analysis of the kerosine fraction of petroleum. Analysis of the gas-oil fraction of petroleum. Analysis of the lubricant fraction of petroleum. Hydrocarbons in one crude petroleum. Hydrocarbons in different crude petroleums. Analysis of the hydrocarbons in certain gasoline distillates. Analysis of alkylates and hydrocodimers. Analysis of codimers. Appendixes List of publications of the American Petroleum Institute Research Project 6. Index of authors of the publications of the American Petroleum Institute Research Project 6. Index of subjects in the publications of the American Petroleum Institute Research Project 6. Author index. Subject index.

Note A reference book based chiefly on the research work and resulting publications of the American Petroleum Institute's Research Project 6. The exception is the single chapter entitled "Summary of the work of other laboratories on the composition of petroleum. The book is a rich storehouse of information on the laboratory preparation of petroleum hydrocarbons of high purity on distillation and other fractionating processes applied to petroleum, on the physical and chemical properties of petroleum hydrocarbons, and on analytical methods applicable to petroleum and petroleum products. Essentially it is an organized summary of the information first presented in approximately 140 publications originating in this research project and published in numerous periodicals. It will immediately take its place as a standard tool for chemists concerned with the properties and chemistry of hydrocarbons found in petroleum.

ROYALS, E EARL

Advanced organic chemistry Englewood Cliffs, N J Prentice Hall Inc. 1954 948 p illus. 23 cm. (*Prentice Hall chemistry series, Wendell M Latimer, editor*) $12 00 1350

—— Volume VI. Micro and semimicro methods. By Nicholas D. Cheronis with contributions by A. R. Ronzio and T. S. Ma. New York Interscience Publishers, Inc., 1954 628 p. illus. 23 cm. 1364

Contents. Introduction. Part I, General methods: Crystallization and collection of crystals. Distillation, sublimation, and extraction. Miscellaneous laboratory operations and tools. Measurements of physical constants. Part II, Preparative reactions: Introduction. Reduction. Oxidation. Halogenation. Acylation. Esterification, and hydrolysis. Nitration and sulfonation. Amination and deamination. Use of organometallic compounds. Dehydration, cyclization, and condensation. Microsyntheses with tracer elements, by A. R. Ronzio. Part III, Analytical procedures and reactions: Micromethods for characterization of organic compounds. Tests for functional groups. Preparation of derivatives. Quantitative micromethods for the estimation of functional groups. Index. Cumulative index, Volumes I–VI.

—— Volume VII. Organic solvents, physical properties and methods of purification. On the basis of the first edition by Arnold Weissberger and Eric S. Proskauer. Completely revised second edition, by John A. Riddick and Emory E. Toops, Jr. New York Interscience Publishers, Inc., 1955 552 p. illus. 23 cm. $8.50 1365

Contents: Classification of solvents. Physical properties—discussion of properties and criteria for their selection. Physical properties—tabulations. Tables of physical constants. Criteria of purity—drying and determination of water. Purification methods. Bibliography. Index.

—— Volume VIII. Investigation of rates and mechanisms of reactions. Editors S. L. Friess and A. Weissberger. New York Interscience Publishers, Inc. 1953 760 p. illus. 23 cm. $13.50 1366

Contents: General theory of rate processes, by R. Livingston. Fundamental operations and measurements in obtaining rate data, by R. Livingston. Special experimental methods for determination of rate data—Part I, Use of tagged atoms, groups, and isotopes in reaction rate studies, by P. R. O'Connor—Part II, Competing reactions, by T. S. Lee—Part III, Measurement of instantaneous reaction rates in stirred constant-flow reactors, by E. Grunwald—Part IV, Determination of the concentration of active intermediates in reactions, by G. M. Burnett and H. W. Melville. Evaluation and interpretation of rate data, by R. Livingston. Homogeneous gas phase reactions, by W. D. Walters. Reactions in the liquid phase—Part I, General methods of study, by J. E. Leffler and E. Grunwald—Part II, Specific experimental techniques, by [illegible] and R. L. [illegible]. Homogeneous catalysis in solution, by T. H. James. Polymerization and polymer reactions, by W. J. Priest. Biological reactions—Part I, Measurement and general theory, by F. M. Huennekens—Part II, Reaction kinetics of enzyme-substrate compounds, by B. Chance. Rapid reactions—Part I, General principles of measurement of velocity of rapid reactions in solution, by F. J. W. Roughton—Part II, Accelerated and stopped flow methods using spectrophotometric measurements, by B. Chance—Part III, Thermal measurement of rapid reactions in solution, by F. J. W. Roughton—Part IV, Quenching, electrometric, and other rapid reaction techniques, by F. J. W. Roughton. Subject index. Cumulative indexes, Volumes I–VIII.

—— Volume IX. Chemical applications of spectroscopy. Editor W. West. New York Interscience Publishers Inc., 1956 787 p. illus. 23 cm. $15.00 1367

Contents: Introductory survey of molecular spectra, by W. West. Microwave and radiofrequency spectroscopy, by W. Gordy. Theory of infrared and Raman spectra, by A. B. F. Duncan. The application of infrared and Raman spectrometry to the elucidation of molecular structure, by R. N. Jones and C. Sandorfy. Electronic spectra in the visible and ultraviolet regions—Part I, Theory of electronic spectra, by A. B. F. Duncan—Part II, Applications of the theory of electronic spectra, by F. A. Matsen. Fluorescence and phosphorescence, by W. West. Subject index. Cumulative indexes, Volumes I–IX.

—— Volume X. Fundamentals of chromatography. By Harold Gomes Cassidy. New York Interscience Publishers Inc. 1957 447 p. illus. 23 cm $9.75 1368

Contents: Introduction. The nature of chromatography. The molecular interactions on which chromatographic separations rest. General theory. Gas-liquid partition chromatography (vapor-liquid partition chromatography). Column partition chromatography. Paper partition chromatography and some closely related methods. Adsorption chromatography (Tswett-column analysis). Ion exchange. Electron exchange polymers (Redox resins or polymers). Foam and capillary fractionation. On recognizing and evaluating zones. On the relation of R or Rf to molecular structure. On locating mobile and stationary phases (solvents, developers, adsorbents). On using chromatography. Appendix. References. Subject index. Cumulative indexes.

Note: An important and useful series which covers comprehensively and at graduate level the techniques used in organic chemistry laboratories, including both analytical and preparative techniques. Although the approaches of the various authors differ somewhat, generally speaking, theoretical background, basic data, techniques, and instruments are covered in all of the volumes. Another noteworthy feature is the inclusion of numerous references to the literature; cumulative indexes make the contents readily available for reference. As noted, several of the volumes have appeared in second editions. In all cases, the degree of revision and quantity of added material are substantial in the second editions. Volume X, containing Cassidy's *Fundamentals of chromatography*, supersedes the chapters on chromatography in Volume of the series, and is a much expanded treatment of them. However the treatment of adsorption in Volume has not been superseded, and the volume will therefore be kept in print by the publisher.

WERTHEIM, E., AND HAROLD JESKEY

Introductory organic chemistry, with certain chapters of biochemistry. Third edition. New York McGraw-Hill Book Company Inc., 1956 476 p. illus. 23 cm. $5.50 1369

Contents (abridged): Saturated hydrocarbons. Unsaturated hydrocarbons. Halogen derivatives. Aliphatic alcohols. Ethers. Aldehydes and ketones. Aliphatic monocarboxylic acids, acid chlorides—acid anhydrides. Esters—fats, oils, and waxes—soaps. Hydroxy acids. Dicarboxylic acids and similar compounds. Amides—amines. Carbohydrates. Aromatic hydrocarbons. Aromatic nitro compounds. Aromatic alcohols—phenols. Aromatic aldehydes. Terpenes. Dyes. Heterocyclic compounds. Amino acids—proteins. Glycosides—[illegible] [illegible]—steroids. Digestion and absorption of foods. Metabolism. Foods and dietary necessities. Glossary of chemical, biological, and medical terms. Reference books. Index.

Note: A textbook specifically designed for the instruction of students whose interests in organic chemistry are practical. It is used in courses offered to students preparing for medicine, dentistry, agriculture, veterinary science, nutrition, etc. Such elementary and basic matters as nomenclature, reactions of the functional groups, properties of the principal classes of organic compounds, and uses of organic substances are stressed. Chapters are included as noted on certain topics in elementary biochemistry. The first edition was published in 1945 and the second edition in 1948. In comparison to the second edition, there has been no change in the book's plan or scope but accounts, usually short, have been inserted on new developments, including new industrial applications of organic chemistry and new pharmaceutical compounds.

WERTHEIM, E.

Textbook of organic chemistry. Third edition. New York McGraw-Hill Book Company Inc., 1951 958 p. illus. (part col'd) 23 cm. $7.25 1370

Contents (abridged): Part I, Aliphatic compounds: The methane series of hydrocarbons. Unsaturated hydrocarbons. Halogen derivatives. Alcohols. Ethers. Aldehydes and ketones. Monocarboxylic acids, salts, thio acids. Acid derivatives. Substituted acids. Dicarboxylic acids. Urea, thiourea, guanidine, uric acid. Amines. Compounds of phosphorus, arsenic, sulfur, silicon, and metals. Isomerism; optical activity. Carbohydrates. Part II, Aromatic compounds:

its speed, convenience, effects of alternative reactants, yields, etc. The tables contain data on groups of compounds, such as the ethers and the following information is presented for each compound its name, a numbered reference to the section of the text where the method of preparation is discussed, the yield expressed in percentage, a reference to the citation of the source article in the appropriat bibliography and a statement of properties. The typical reference list runs to several hundred periodical and book citations.

WATERS, WILLIAM ALEXANDER

Physical aspects of organic chemistry Fourth edition (completely rewritten) Princeton D Van Nostrand Company, Inc., 1950 537 p illus 22 cm $9 25 1357

Contents Chemical affinity Valency bonds. The study of molecular structure. Electrical dipoles. Chemical reactivity Unsaturation. Free radicals and their reactions. Radical-catalysed reactions. Ionisation and ionic reactions. Acidity General polarity Substitution reactions of organic halogen compounds. Ester hydrolysis and esterification. Isotropic change. Molecular rearrangement. Reactions of conjugated systems. Aromatic compounds. Index of authors. Subject index.

Note The present edition of this well-known book on the mechanisms of organic reactions, published eight years after the third edition, contains numerous revisions in order to incorporate such advances as the concept of resonance. However the book has not been completely rewritten in the new terminology In the words of the author "Since the essential purpose is the interpretation of experimental facts we shall make use of whichever conceptual model appears to be the most helpful in attaining clarity in the discussion of each group of experimental data. The book is of interest to advanced students of organic chemistry and to teachers of the subject.

WEISSBERGER, ARNOLD, editor

Technique of organic chemistry Volume I, Physical methods of organic chemistry Second completely revised and augmented edition Parts I III New York Interscience Publishers, Inc., 1949–54 1 vol. in 3 parts illus 23 cm Part I $14 50 part II $14 50 part III $8 50 1358

Content Part I Temperature measurement, by J M. Sturtevant. Temperature control, by J M. Sturtevant. Determination of melting and freezing temperatures, by E. L. Skau and H. Wakeham. Determination of boiling and condensation temperatures, by W Swietoslawski and J R. Anderson Determination of vapor pressure, by G. W Thomson. Determination of density by N Bauer Determination of solubility by R. D Vold and M. J Vold. Determination of viscosity by T K. McGowry and H. Mark. Determination of surface and interfacial tension, by W D Harkins. Parachor by G W Thomson. Determination of properties of monolayers and duplex films, by W D Harkins. Determination of osmotic pressure, by R. H. Wagner Determination of diffusivity by A. L. Geddes. Determinations with the ultracentrifuge, by J B Nichols and E. D Bailey Calorimetry by J M. Sturtevant. Microscopy by E. E. Jelley Determination of crystal form, by M. A. Peacock. Crystallochemical analysis, by J D H. Donnay Index. Part II X-ray diffraction, by I. Fankuchen. Electron diffraction, by L. O Brockway Refractometry by N Bauer and K. Fajans. Spectroscopy and spectrophotometry by W West. Colorimetry photometric analysis, fluorimetry and turbidimetry by W West. Polarimetry by W Heller Determination of dipole moments, by C. P Smyth. Conductometry by T Shedlovsky Electrophoresis, by D H. Moore. Potentiometry by L. Michaelis. Polarography by O H. Müller Determination of magnetic susceptibility by L. Michaelis. Determination of radioactivity by W F Bale and J F Bonner jr Mass spectrometry by D W Stewart. Index. Part III Electron microscopy by F A. Hamm. Microspectroscopy by E. R. Blout. Determination of streaming birefringence, by R. Signer Measurement of dielectric constant and loss, by J G. Powles and C. P Smyth. Radio-frequency spectroscopy by B P Dailey Neutron diffraction, by J M. Hastings and L. M. Corliss. [Chapter] VIII, Supplement Viscometry of dilute polymer solutions, by T K. McGowry and H. Mark. [Chapter] XVIII, Supplement Determination of crystal structure of organic compounds by X-ray diffraction, by D. Harker [Chapter] XIX, Supplement: Electron diffraction by the sector-microphotometer method, by L. O Brockway [Chapter] XXIX, Supplement Determination of magnetic susceptibility by P W Selwood. [Chapter] XXX, Supplement Determination of radioactivity by scintillation counting, by J F Bonner Subject index. Cumulative indexes, Volumes I–VIII.

—— Volume II Catalytic reactions, photochemical reactions, electrolytic reactions. Second completely revised and augmented edition New York Interscience Publishers, Inc, 1956 543 p illus 23 cm $11 50 1359

Contents Catalytic reactions, by V I. Komarewsky and others. Photochemical reactions, by C. R. Masson and others. Electrolytic reactions, by S. Swann jr Subject index. Cumulative indexes, Volumes I–IX.

—— Volume III. Second *completely revised* and augmented edition. Part I, Separation and purification New York Interscience Publishers, Inc., 1956 873 p illus. 23 cm. $17 50 1360

Contents Part I, Separation and purification. Diffusion methods: Thermal diffusion of organic liquids, by A. L. Jones. Barrier separations, by K. Kammermeyer. Dialysis and electrodialysis, by R. E. Stauffer Zone electrophoresis, by E. MacWilliam Laboratory extraction and countercurrent distribution, by L. C. Craig and D Craig. Liquid-liquid extraction for increased quantities, by E. G. Scheibel. Crystallization and recrystallization, by R. S Tipson. Centrifuging, by C. M. Ambler and F W Keith, jr. Filtration by A. B Cummins and F B. Hutto, jr. Solvent removal, evaporation, and drying, by G. Broughton. Subject index. Cumulative indexes.

—— Volume III. Second completely revised and augmented edition Part II Laboratory engineering New York Interscience Publishers, Inc., 1957 391 p illus 24 cm. $8 00. 1361

Contents Part II, *Laboratory engineering* Selection of materials for the construction of equipment, by R. F Ebersberg and R. R. Kraybill. Heating and cooling, by R. S. Egly Grinding, screening and classifying, by J W Axelson and W C. Streib. Mixing, by J H. Rushton. Operations with gases, by G. H. Miller Subject index. Cumulative indexes.

—— Volume IV *Distillation New York Interscience Publishers* Inc., 1951 668 p. illus 23 cm. $15 50 1362

Contents Theory by A. Rose and E. Rose. Ordinary fractional distillation, Part I—Apparatus, by A. L. Glasebrook and F E. Williams—Part II, Procedure by F E. Williams. Extractive and azeotropic distillation, by C. S Carlson. Distillation of liquefied gases and low-boiling liquids, by A. Rose and E. Rose. Distillation under moderate vacuum, by J R. Bowman and R. S. Tipson. Distillation under high vacuum, Part I—Distillation, by E. S. Perry—Part II, The vacuum system, by J C. Hecker. Sublimation by R. S. Tipson. Index. Cumulative indexes, Volumes I–V

—— *Volume V Adsorption* and chromatography By Harold Gomes Cassidy New York Interscience Publishers Inc., 1951 360 p illus 23 cm $7 50 1363

Contents. Definitions—molecular aspects of adsorption. Measurement of adsorption—treatment of data. Relations between relative adsorbability and properties of phases. Relations between relative extent of adsorption and properties of adsorptive. Summary of relations—graded eluents and adsorbents. On the nature of separation processes. Batchwise adsorption and decolorization—lists of adsorbents—chromatography (Tswett-column analysis, chromatographic adsorption analysis, differential countercurrent adsorption analysis) Ion exchange methods. Partition chromatography On the use of adsorption. Author index. Subject index. Cumulative indexes, Volumes I–V

—— Volume vi. Micro and semimicro methods. By Nicholas D Cheronis with contributions by A. R. Ronzio and T S. Ma. New York Interscience Publishers Inc., 1954 628 p. illus. 23 cm. 1364

Contents Introduction. Part i, General methods: Crystallization and collection of crystals. Distillation, sublimation, and extraction. Miscellaneous laboratory operations and tools. Measurements of physical constants. Part ii, Preparative reactions. Introduction. Reduction. Oxidation. Halogenation. Acylation. Esterification, and hydrolysis. Nitration and sulfonation. Amination and deamination. Use of organometallic compounds. Dehydration, cyclization, and condensation. Microsyntheses with tracer elements, by A. R. Ronzio. Part iii, Analytical procedures and reactions: Micromethods for characterization of organic compounds. Tests for functional groups. Preparation of derivatives. Quantitative micromethods for the estimation of functional groups. Index. Cumulative index, Volumes i–vi.

—— Volume vii. Organic solvents physical properties and methods of purification. On the basis of the first edition by Arnold Weissberger and Eric S Proskauer Completely revised second edition, by John A. Riddick and Emory E. Toops, Jr New York Interscience Publishers, Inc., 1955 552 p. illus. 23 cm. $8.50 1365

Contents: Classification of solvents. Physical properties—discussion of properties and criteria for their selection. Physical properties—tabulation. Tables of physical constants. Criteria of purity—drying and determination of water. Purification methods. Bibliography. Index.

—— Volume viii. Investigation of rates and mechanisms of reactions. Editors S. L. Friess and A. Weissberger New York Interscience Publishers, Inc. 1953 760 p. illus 23 cm. $13.50 1366

Contents: General theory of rate processes, by R. Livingston. Fundamental operations and measurements in obtaining rate data, by R. Livingston. Special experimental methods for determination of rate data—Part i, Use of tagged atoms, groups, and isotopes in reaction rate studies, by P R O'Connor—Part ii, Competing reactions, by T I. Lee—Part iii, Measurement of instantaneous reaction rates in stirred constant-flow reactors, by K. Greenwald—Part iv Determination of the concentration of active intermediates in reactions, by G M Sunner and H. W Melville. Evaluation and interpretation of rate data, by R. Livingston. Homogeneous gas phase reactions, by W D Walters. Reactions in the liquid phase—Part i, General methods of study by J. E. Leffler and E. Grunwald—Part ii, Specific experimental techniques, by K. Mayo and R. L. Frans Homogeneous catalysis in solution, by T H. [illegible] Polymerization and polymer reactions, by W J. Prims Enzymatic reactions—Part i, Measurement and general theory by F M. Huennekens—Part ii, Reaction kinetics of enzyme-substrate compounds, by B Chance. Rapid reactions—Part i, General principles of measurement of velocity of rapid reactions in solution, by F J. W Roughton—Part ii, Accelerated and stopped flow methods using spectrophotometric measurements, by B. Chance—Part iii, Thermal measurement of rapid reactions in solution, by F J W Roughton—Part iv Quenching, electrometric, and other rapid reaction techniques, by F J. W Roughton Subject index. Cumulative indexes, Volumes i–viii

—— Volume ix. Chemical applications of spectroscopy Editor W West. New York Interscience Publishers, Inc. 1956 787 p. illus. 23 cm. $15.00 1367

Contents Introductory survey of molecular spectra, by W West. Microwave and radiofrequency spectroscopy by W Gordy Theory of infrared and Raman spectra, by A. B F Duncan. The application of infrared and Raman spectrometry to the elucidation of molecular structure, by R. N Jones and C. Sandorfy Electronic spectra in the visible and ultraviolet regions—Part i, Theory of electronic spectra, by A. B. F Duncan—Part ii, Applications of the theory of electronic spectra, by F A. Matsen. Fluorescence and phosphorescence, by W West. Subject index. Cumulative indexes, Volumes i–ix.

—— Volume x. Fundamentals of chromatography By Harold Gomes Cassidy New York Interscience Publishers Inc., 1957 447 p illus 23 cm. $9 75 1368

Contents. Introduction. The nature of chromatography The molecular interactions on which chromatographic separations rest. General theory Gas-liquid partition chromatography (vapor-liquid partition chromatography) Column partition chromatography Paper partition chromatography and some closely related methods. Adsorption chromatography (Tswett-column analysis) Ion exchange Electron exchange polymers (Redox resins or polymers) Foam and emulsion fractionation. On recognizing and evaluating zones. On the relation of R or Rf to molecular structure. On choosing mobile and stationary phases (solvents, developers, adsorbents) On using chromatography Appendix. References. Subject index. Cumulative indexes.

Note: An important and useful series which covers comprehensively and at graduate level the techniques used in organic chemistry laboratories, including both analytical and preparative techniques. Although the approaches of the various authors differ somewhat, generally speaking, theoretical background, basic data, techniques, and instruments are covered in all of the volumes. Another noteworthy feature is the inclusion of numerous references to the literature[illegible] cumulative indexes make the contents readily available for reference. As noted, several of the volumes have appeared in second editions. In all cases, the degree of revision and quantity of added material are substantial in the second editions. Volume x, containing Cassidy' *Fundamentals of chromatography* supersedes the chapters on chromatography in Volume [illegible] of the series, and is a much expanded treatment of them. However the treatment of adsorption in Volume [illegible] has not been superseded, and the volume will therefore be kept in print by the publisher.

Wertheim E. and Harold Jeskey

Introductory organic chemistry, with certain chapters of biochemistry Third edition. New York McGraw Hill Book Company Inc., 1956 476 p. illus. 23 cm. $5.50 1369

Contents (abridged) Saturated hydrocarbons. Unsaturated hydrocarbons. Halogen derivatives. Aliphatic alcohols. Ethers. Aldehydes and ketones. Aliphatic monocarboxylic acids. acid chlorides—acid anhydrides. Esters—fats, oils, and waxes—soaps. Hydroxy acids. Dicarboxylic acids and similar compounds. Amides—amines. Carbohydrates. Aromatic hydrocarbons. Aromatic nitro compounds. Aromatic alcohols—phenols. Aromatic aldehydes. Terpenes. Dyes. Heterocyclic compounds Amino acids—proteins. Glycosides—enzymes [illegible] Vitamins—steroids. Digestion and absorption of foods. Metabolism. Foods and dietary necessities. Glossary of chemical, biological, and medical terms. Reference books. Index.

Note: A textbook specifically designed for the instruction of students whose interests in organic chemistry are practical. It is used in courses offered to students preparing for medicine, dentistry agriculture, veterinary science, nutrition, etc. Such elementary and basic matters as nomenclature, reactions of the functional group, properties of the principal classes of organic compounds, and uses of organic substances are stressed. Chapters are included as noted on certain topics in elementary biochemistry The first edition was published in 1942 and the second edition in 1948 In comparison to the second edition, there has been no change in the book's plan or scope; but accounts, usually short, have been inserted on new developments, including new industrial applications of organic chemistry and new pharmaceutical compounds.

Wertheim E.

Textbook of organic chemistry Third edition. New York McGraw Hill Book Company Inc., 1951 958 p illus. (part col d) 23 cm. $7.25 1370

Contents (abridged) Part i, Aliphatic compounds. The methane series of hydrocarbons. Unsaturated hydrocarbons. Halogen derivatives. Alcohols. Ethers. Aldehydes and ketones. Monocarboxylic acids, salts, fats, soaps. Acid derivatives. Substituted acids. Dicarboxylic acids. Urea. Chlorine, cyanides, uric acid. Amines. Compounds of phosphorus, arsenic, sulfur silicon, and metals. Isomerism; optical activity Carbohydrates. Part ii, Aromatic compounds:

Aromatic hydrocarbons. Sulfonic acids. Nitro compounds. Aromatic amines. Diazo compounds and derivatives. Aromatic alcohols, phenols. Aromatic acids. Aromatic aldehydes, ketones, and quinones. Grignard and Friedel-Crafts reactions. Naphthalene, anthracene, and related compounds. Alicyclic compounds. Terpenes. Heterocyclic compounds. Alkaloids. Dyes. Proteins. Glycosides, enzymes, hormones, vitamins, antibiotics. Identification of organic compounds. Some electronic reaction mechanisms. Appendix. Index.

Note An established introductory text, used in full-length introductory courses. Although the standard range of subject matter is covered, the exposition is less a catalogue of compounds and properties than are some textbooks. In general the author's method has been to put physical properties such as boiling points in tables rather than in the discussions of groups of compounds. A very generous use of structural diagrams in representing reactions and relations between compounds further simplifies the presentation. The second edition appeared in 1945. Fairly substantial changes were made in preparing the third edition.

WHELAND, GEORGE WILLARD

Advanced organic chemistry Second edition New York John Wiley & Sons, Inc., 1949 799 p illus 24 cm $9 00 1371

Contents: Some fundamental concepts. Addition compounds. Modern concepts of acids and bases. Structural isomerism. Stereoisomerism. The configurations of carbon compounds. The stereochemistry of carbon. The configuration and the stereochemistry of elements other than carbon. Strain theory and steric hindrance. The theory of resonance. Electrostatic effects in organic chemistry Molecular rearrangements the 1 2-shifts—further types. Tautomerism. Free radicals. Author index. Subject index.

Note Advanced topics not covered in first-year courses in organic chemistry are discussed in this textbook for second-year undergraduate courses. The exposition is built upon modern structural theory The discussions f such phenomena as electrostatic effects, free radicals, strain theory and steric hindrance can be read separately with profit by persons who have the requisite knowledge of elementary organic chemistry The author has taken pains to state full structural formulas and t give clear definitions of advanced technical terms. There are numerous references to the related literature. The first edition of the book was not regularly published but was produced in mimeographed format for use at the University of Chicago.

WHELAND, GEORGE WILLARD

Resonance in organic chemistry New York John Wiley and Sons, Inc., *1955* 846 p illus 24 cm. $15 00 1372

Contents The theory of resonance. The nature of valence. Resonance energy Steric effects of resonance. Resonance and dipole moments. Resonance and molecular spectra. Resonance and chemical equilibrium. Resonance and chemical reaction. Mathematical basis of resonance. Appendix Bond lengths and bond angles in organic molecules. Author index. Subject index.

Note: A successor to the author's *The theory of resonance and its application to organic chemistry* (1944) As indicated in the title, the emphasis is not on theory but on the implications and applications of the theory in organic chemistry In this book (but not in the earlier one) the molecular-orbital theory of valence is also considered. Although the dependence of the resonance theory on quantum mechanics is mentioned early mathematics is not introduced until the final chapter which is devoted to quantum mechanics, or more particularly wave mechanics, in relation to the resonance theory A special feature is 90-page table of "Inter atomic distances and bond angles in organic molecules. Literature citations are supplied for the data given in this table. Obviously an essential book for graduate chemists doing research concerned with the structure and structural basis of reactions of organic substances.

WHISTLER, ROY LESTER, AND CHARLES LOUIS SMART

Polysaccharide chemistry New York Academic Press Inc., 1953 493 p illus 24 cm. *$10.80* 1373

Contents Occurrence, nomenclature and classification of the polysaccharides. Methods used in the general characterization and proof of structure of polysaccharides. Cellulose. Hemicelluloses. Xylan. Mannans. Pectic substances. Araban Galactans. Starches. Fructans of higher plants. Galactomannans. Glucomannans of amorphophallus. Tragacanth. Mesquite gum. Other plant gums and mucilages. Lichenan, isolichenan and pustulan. Alginic acid. Laminaran. Floridean starch. Fucan. Pneumococcal polysaccharides. Mycobacterial polysaccharides. Dextrans and dextran-like polysaccharides. Levan (bacterial fructans) Other polysaccharides of microorganisms. Chitin. Chondroitin sulfuric acid. Mucoitin sulfuric acids. Heparin. Hyaluronic acid. Carbohydrates of egg white. Blood group polysaccharides. Glycogens. Author index. Subject index.

Note A thoroughly documented, monographic survey of "natural high polymers of the carbohydrate type. The wide scope is indicated by the chapter titles noted above. After the first two chapters, which are general and introductory each chapter is devoted to a specific group of substances. The organization of the chapters on substances follows a uniform pattern which is designed to bring out the available information on the following points for each substance: occurrence, preparation, composition, structure, properties, derivatives and uses (if any) Literature published to about the middle of 1952 is cited in footnotes, and the names of the authors of the references are assembled in the author index. The book is of potential interest and usefulness in variety of fields of chemical research and study It is addressed primarily to graduate chemists. The authors are members of the Department of Agricultural Chemistry of Purdue University

WHITMORE, FRANK CLIFFORD

Organic chemistry With assistance of a committee of colleagues Second edition. New York D Van Nostrand Company, Inc., 1951 1,005 p illus 24 cm $12 75 1374

Contents (abridged) Aliphatic compounds. Alicyclic compounds. Aromatic compounds. Heterocyclic compounds. Organophosphorus and organometallic compounds. Index.

Note. A standard American college textbook of the semi-reference type. Practically all of the important organic reactions are described briefly and all of the compounds mentioned in the text are brought out in the 139-page index. Footnotes and literature references throughout the work serve to guide the reader to fuller treatment of the specific reactions that are of interest. The first edition, published in 1937 was reprinted ten times. The present edition, prepared from manuscript left incomplete upon the author's death in 1947 contains number of useful revisions, among which are a completely new index, fuller literature references, and numerous revisions in the treatment of the aliphatic compounds.

WILLIAMS, ROGER JOHN, AND LEWIS F HATCH

An introduction to organic chemistry Fifth edition. New York D Van Nostrand Company Inc., 1948 668 p illus. 22 cm. $6.50. 1375

Contents (abridged): Saturated hydrocarbons. Halogen substitution products of saturated hydrocarbons. Unsaturated hydrocarbons. Alcohols. Ethers. Aldehydes and ketones. Acids. Grignard reagents. Amines. Nitriles, cyanates, and other nitrogen compounds. Sulfur compounds. Polyalcohols and their derivatives. Dicarboxylic acids. Hydroxy acids. *Unsaturated acids.* Amino acids, proteins and related substances. Carbohydrates. Cycloparaffins, terpenes and camphors. Benzene and its homologs. Aromatic nitro derivatives and sulfonic acids. Diazo and related compounds. Phenols. Aromatic alcohols, aldehydes and ketones. Aromatic carboxylic acids. Quinones. Naphthalene and its derivatives. Anthracene and its derivatives. Dyes— Indicators. Alkaloids. Organic substances of special biochemical interest. Appendices. Index.

Note In this college textbook, the main types of compounds are considered, but there is considerably less detail than in some introductory texts in the subject. Reactions are presented for the most part in terms of electronic configurations, and the phenomena of organic chemistry are related to the student's previous study of inorganic chemistry The revisions in this edition are fairly numerous and important. Such developments as *DDT* gammexane, fluorocarbons, and folic acid are discussed and more detailed treatments are given of chemical reactivity in relation to atomic structure, unsaturated hydrocarbons, petroleum, nitro-paraffins, and other topics.

WINCHELL ALEXANDER N

The optical properties of organic compounds. Second edition, enlarged and completely revised. New York Academic Press, Inc., 1954 487 p illus. 24 cm $12 00 1376

Contents (abridged) Descriptions of substances. Acyclic compounds. Isocyclic compounds. Heterocyclic compounds. Organic compounds not assigned places in the three preceding groups. References. References added for the second edition. Supplementary determinative tables based on refringence. Index.

Note A reference book of data on the crystallographic and optical properties of organic compounds. Its purpose is to aid chemists in the identification of organic compounds. It is arranged in accordance with the scheme of Beilstein's *Handbuch der Organischen Chemie*, and there is a comprehensive, alphabetically arranged index. The first edition, published in 1943 contained data on about 1,500 compounds. In this second edition, data are given on more than 2,500 substances. As in the earlier edition, literature references are supplied for all of the data presented.

CELLULOSE CHEMISTRY

HAYNES, WILLIAMS

Cellulose the chemical that grows. Garden City N Y Doubleday & Company Inc., 1953 386 p. illus. 21 cm. $4.00. 1377

Contents A cellulose chronology Oldest materials: Newest uses. Cellulose becomes a chemical. Guncotton from war to peace. The celluloid mystery Celluloid to film. Finer than cobwebs. Materials from cotton to America. New fibers Better fabrics. Clean, fresh, and visible. Pyroxylin for protection. Protection plus decoration. Plastics pioneering. Materials for modern industries. Chemical cotton. Wood cellulose. Cellulose, today and tomorrow. Glossary of technical terms. Appendices: Statistical and technical data. Acknowledgments. Index.

Note The title notwithstanding, this is a book about the great variety of synthetic materials which have been developed from cellulose by chemists and chemical engineers. There is nothing in it about the growing of cotton or wood, but there is much in it about the development of rayon, acetate, plastic, paints, etc. Although intended for popular reading, it is full of anecdotes and other facts which will hold the attention of readers who are interested in chemistry and the chemical industries. For the reader who is primarily interested in the chemical industries, there are accounts of the parts played by American Viscose, Celanese, Commercial Solvents, Dupont, Eastman, and a host of others in the development of the synthetics based on cellulose. The appendix material includes data on such matters as the production and prices of cotton linters, the consumption of various chemicals in the production of rayon and acetate yarn, exports and imports of synthetics based on cellulose, and the properties of synthetic fibers and plastics.

HEUSER, EMIL

The chemistry of cellulose. New York John Wiley & Sons, Inc., 1944 660 p illus. 22 cm. $9 75 1378

Contents Introduction. Morphology of the fiber and composition of the cell walls. Reactions of cellulose with water. The reaction of cellulose with aqueous alkalies. Reactions of cellulose with organic bases, ammonia, and concentrated salt solutions. The action of cuprammonium hydroxide on cellulose. Cellulose esters. Cellulose xanthate. Cellulose ethers. The oxidation of cellulose. The decomposition of cellulose by acids. The thermal decomposition of cellulose. The decomposition of cellulose by biological processes. The chain structure of cellulose. The molecular weight of cellulose. Author index. Subject index.

Note This book supplies the reader with a comprehensive and critical digest of the literature on the chemistry of cellulose up to the present time, with due consideration of the microscopic and submicroscopic structure of the cellulose fiber. Emphasis is placed on the scientific aspect of the subject. The format is designed so that through the use of different-sized types the reader can readily distinguish between essential subject matter, illustrative material, and those references that pertain to industrial applications. An excellent guide for industrial, research laboratory and younger chemists.

OTT EMIL, AND OTHERS editors

Cellulose and cellulose derivatives. Second completely revised and augmented edition. Prepared under the editorship of Emil Ott, Harold M. Spurlin and Mildred W Grafflin. New York Interscience Publishers 1954–55 3 v. 24 cm. (High polymers a series of monographs on the chemistry physics and technology of high polymeric substances editorial board H. Mark and others) $12 00 per volume. 1379

Contents Part I Introduction. Occurrence of cellulose. Chemical nature of cellulose and its derivatives. Structures and properties of cellulose fibers. Properties of substances associated with cellulose in nature. Part II Preparation of cellulose from its natural sources. Bleaching and purification of wood cellulose. Properties and treatment of pulp for paper. Derivatives of cellulose. Part III Physical properties of cellulose and its derivatives in solution, by H. M. Spurlin. Mechanical properties of cellulose and its derivatives, by H. Wakeham. Tests for cellulose and its derivatives, by A. F. Martin and others. Appendixes. Author index. Subject index.

Note The first edition of this monograph was published in 1943 and appeared as one volume of 1,176 pages. In this new edition the scope of the work has not been materially changed, but the large number of studies published since the writing of the first edition has necessitated a substantial increase in length. It is still essentially a digest of published literature and is comprehensive in scope. The presentation, however is critical within a framework of historical development. In most instances, the chapters are the work of several authors. All important statements and data are key-numbered to citations of the source articles. In comparison to the corresponding parts in the first edition, chapters in the second edition show extensive revision and reorganization with new authors or co-authors for many of the parts.

WEST CLARENCE JAY

Chemical testing methods. Part 1, Viscosity of cellulose. Appleton The Institute of Paper Chemistry 1952 85 p. 27 cm. (The Institute of Paper Chemistry Bibliographic series. No. 179) $5.00 1380

Note The limitations on the scope of this bibliography have been stated by the compiler as follows: Many articles dealing with the viscosity of cellulose have not been included because the work was carried out by known methods. Further articles concerned with factors influencing viscosity will not be found in the following pages. More than 180 articles selected from the international literature are listed. The entries are annotated.

POLYMERS AND POLYMERIZATION

ALFREY TURNER, JR. AND OTHERS

Copolymerization. By Turner Alfrey Jr John J Bohrer and H. Mark. New York Interscience Publishers Inc., 1952 395 p. illus. 24 cm. (High polymers a series of monographs on the chemistry physics and technology of high polymeric substances editorial board H. Mark and others. Vol. 8) $8.00 1381

Contents Introduction. Kinetics of copolymerization. Monomer structure and reactivity with free radicals. Detailed discussion of monomer reactivities in terms of resonance and polarity. Effect of temperature and environment on copolymerization reactivity ratio. The polymerization of tri- and multicomponent systems. Detailed structure of copolymer chains. Drift of copolymer composition with increasing conversion. Copolymerization involving divinyl monomers. Copolymerization behavior of 1,3-dienes. Rates and molecular weights in copolymerization. Copolymerization by ionic mechanisms. Influence of copolymerization on physical properties of polymeric systems. Author index. Subject index.

Note A monographic survey of the development and present state of the knowledge of copolymerization, a complex chemical process that is basic to the synthetic rubber and plastics industries. The emphasis is on the scientific foundations, and applications are mentioned only incidentally. The book is addressed to graduate chemists. Bibliographies that include both journal and patent citations are appended to the chapters.

ALFREY, TURNER, JR

Mechanical behavior of high polymers New York Interscience Publishers, Inc., 1948 581 p illus 24 cm (High polymers, a series of monographs on the chemistry, physics, and technology of high polymeric substances Vol vi) $11 00 1382

Contents Introduction. The plastoelastic behavior of amorphous linear high polymers. Three-dimensional cross-linked polymers. Crystallization of high polymers. Plasticization and solution Systems containing high polymers and materials of low molecular weight. Ultimate strength and lated properties. Appendices. Subject index.

Note Practically all f the high polymers that ha e found applications as synthetic rubbers and textiles or as plastic materials owe their usefulness to such mechanical characteristics as plasticity and elasticity In this book, plasticity lasticity creep, and other mechanical phenomena are considered from a scientific viewpoint and are related to molecular structure. The work is based on an extensive survey of the published literature and statements in the text are keyed to the chapter bibliographies.

BOUNDY, RAY H, AND OTHERS

Styrene, its polymers, copolymers and derivatives Edited by Ray H Boundy, Raymond F Boyer, and Sylvia M Stoesser, editorial assistant New York Reinhold Publishing Corporation, 1952 1,304 p illus. 23 cm (American Chemical Society monograph series No 115) $22 50 1383

Content Introduction, by A. J Warner History by R. H. Boundy and S. M. Stoesser Manufacture of styrene monomer by J E. Mitchell. Physical properties of styrene monomer by D R. Stull. The chemistry of styrene monomer by G. H. Coleman. Analysis of styrene monomer by E. N Luce Handling styrene monomer by L. R. Lloyd. The polymerization of styrene, by L. C. Rubens and R. F Boyer Summary of uses for styrene monomer by J W Everson. Molecular weight and solubility f polystyrene, by R. F Boyer and R. Simha. The general physical properties of polystyrene, by J L. Williams and K. J Cleereman. Optical and electrical properties of polystyrene, by L. A. Matheson and J L. Saunderson. Rheological properties of polystyrene, by R. S. Spencer The degradation of polystyrene, by H. H. G Jellinek. Chemical alteration of styrene polymers, by G. D Jones α-methylstyrene by J L. Amos and others. Ethylvinylbenzene and divinylbenzene mixture and its copolymers, by J L. Amos and others. Halostyrenes and other vinyl aromatic compounds, by J L. Amos and J W Everson. Styrene resins, by G A. Griess. A survey of styrene and polystyrene in Germany by W C. Goggin Copolymerization by R. Simha and L. A. Wall. A survey of patent literature on styrene copolymers, by W J LeFevre. Fabrication f polystyrene, by W C. Goggin. Author index. Subject index.

Note A comprehensive work in which the very extensive literature of the subject, together with unpublished information in possession of the editors and uthors, is expertly digested and organized The literature including patents appears to have been fully covered through 1950, and there are some references to 1951 publications A full-scale presentation of the scientific knowledge can be expected in this series this book contains also much explicit information on the fabrication of polystyrene and other plastic materials based on the styrene. It is fundamental book in both the literature of polymerization and that f the plastic materials.

BOVEY, F A, AND OTHERS

Emulsion polymerization By F A Bovey I M Kolthoff A I Medalia and E J Meehan. New York Interscience Publishers Inc. 1955 445 p 24 cm (High polymers a series of monographs on the chemistry physics and technology of high polymeric substances editorial board H Mark and others Vol. ix) 1384

Contents Historical background and general considerations. Nature of free radical polymerization. Initiating systems. Chain-transfer agents. Solubilization in detergent micelles. Role f detergent in emulsion polymerization. The kinetics of emulsion polymerization. Inhibition and retardation of polymerization. Copolymerization in emulsion systems. Experimental methods in emulsion polymerization. The standard GR S recipe. Activated recipes. Author index. Subject index.

Note Emulsion polymerization is the chief process employed in the production of synthetic rubber (GR S) hence, it has been rather intensively studied. This book presents in organized form the results and conclusions of an extensive systematic investigation of its kinetics and mechanisms. The historical background is sketched in the first chapter and the basic facts on free radical polymerization are stated in the second and third chapters. The remaining chapters deal more particularly with the results of U.S.A. government-sponsored investigations carried on as part of the synthetic rubber program during World War II and subsequently in which the authors took significant parts. Literature citations are included. The book is of interest not only to chemists who are directly concerned with research and production of synthetic rubber but also to those interested in the phenomena of polymerization in general.

CAROTHERS, WALLACE HUME

Collected papers by Wallace Hume Carothers on high polymeric substances, edited by H. Mark, and G Stafford Whitby With 35 illustrations New York Interscience Publishers, Inc, 1940 459 p illus 23 cm. (High polymers, a series of monographs on the chemistry, physics and technology of high polymeric substances Vol. I) $8 75 1385

Content Preface Biography Studies on polymerization and ring formation. Acetylene derivatives and synthetic rubber. Miscellaneous papers. Bibliography and list f patents. Subject index. Author index.

Note This volume presents in systematic order with critical comments, all the classical papers of W H. Carothers on polymerization and acetylene derivatives which led to the discovery of nylon and neoprene. The first part of the book is concerned essentially with condensation polymers. The second part deals with polymers produced by the self-addition of conjugated systems, and considerable attention is also given to the chemical reactions f vinylacetylene and divinylacetylene. A complete bibliography includes list of Carothers' 37 patents.

CARSWELL, THOMAS SMYTH

Phenoplasts, their structure, properties, and chemical technology New York Interscience Publishers, Inc., 1947 267 p. illus. 24 cm. (High polymers, a series of monographs on the chemistry, physics and technology of high polymeric substances Vol. vii) $6 50 1386

Contents History of the development of phenoplasts. Chemical structure of the phenoplasts. Phenoplasts from higher aldehydes. Phenoplasts from polyhydric phenols. The physical structure of the phenoplasts. Fillers for phenoplast molding powders. Fillers and resins for phenoplast laminates. Mechanical properties of molded phenoplasts. Mechanical properties of laminated phenoplasts. Electrical properties of phenoplasts. Thermal properties of phenoplasts. Chemical resistance of phenoplasts. Oil-soluble phenoplasts. Phenoplasts as ion-exchange resins, by D S. Herr Technical manufacture of phenoplasts. Molding technique for phenoplasts, by C. H. Whitlock. Miscellaneous technical applications of phenoplasts. Author index. Subject index.

Note The discovery of the phenoplasts, phenolics, dates back to 1872 when Adolf Baeyer first described the reaction between phenols and aldehydes. However it was not until 1910, when Leo H. Baekeland began the manufacture of Bakelite, that they achieved commercial importance This olume presents survey and review f present-day knowledge regarding their structure and chemical and physical properties. The greater part of the volume deals with the theoretical aspects of the subject, but manufacturing and molding methods are briefly described. No formal bibliography is provided, but references to the literature f the subject, are given as footnotes.

D'ALELIO, GAETANO FRANCIS

Fundamental principles of polymerization rubbers, plastics and fibers. New York John

Wiley & Sons, Inc., 1952 517 p. illus. 24 cm. $13.50. 1387

Contents: Polymers—rubbers, plastics, and fibers. Polymerization reactions and functionality. The existence of macromolecules. The non-homogeneity of polymers and their properties. Polyreactions. Polymerization processes. Molecular weight determinations. Kinetics of polymerization. Reaction loci in polymerization systems. Copolymer compositions and stability of polymers. Author index. Subject index.

Note: A very wide range of information is presented in this book, and so many papers are cited that the author index runs to 10 columns. Nevertheless, the author has been very selective in choosing the material and has not attempted a comprehensive monograph. The book presents—as the title indicates—the basic knowledge of polymerization and in addition covers historically the development of important theories, etc. It is addressed to such readers as graduate chemists and chemical engineers. The author is Manager of Research for the Koppers Company, Inc.

FLORY, PAUL J

Principles of polymer chemistry. Ithaca, Cornell University Press, 1953 672 p. illus. 24 cm. $8.50 1388

Contents: Historical introduction. Types of polymeric substances—definitions and classification. Molecular size and chemical reactivity; principles of condensation polymerization. Polymerization of unsaturated monomers by free radical mechanisms. Copolymerization, emulsion polymerization, and ionic polymerization. The structure of vinyl polymers. Determination of molecular weights. Molecular weight distributions in linear polymers. Molecular weight distributions in nonlinear polymers and the theory of gelation. Configuration of polymer chains. Rubber elasticity. Statistical thermodynamics of polymer solutions. Phase equilibria in polymer systems. Configurational and frictional properties of the polymer molecule in dilute solution. Glossary of principal symbols. Author index. Subject index.

Note: The basic scientific knowledge on the structure and properties of polymers and on the phenomena of polymerization constitutes the subject of this book. Some of the experiments and experimental techniques by which the knowledge has been gained are described, but this material is incidental to the statements of principles. The subject is treated at graduate level, and the book is potentially of interest both to graduate students majoring in organic chemistry and to graduate organic chemists, especially those who are engaged in teaching or research. The author is himself a prominent investigator of polymerization and has of course incorporated the results of his own research, but the 10-page author index indicates the extent of reference to the work of others. Oddly the citations of the author's own papers are not listed in this index, although many of them appear in the chapter bibliographies.

JELLINEK, H. H. G

Degradation of vinyl polymers. New York, Academic Press, Inc., 1955 329 p. illus. 24 cm. $8.50. 1389

Contents: Formal mathematical theories of degradation. Bulk degradation in vacuo. Degradation in solution and oxidative degradation. Mechanical and ultrasonic degradation. Appendix. Author index. Subject index.

Note: The degradation or break-down of macromolecules is of considerable interest in experimental and theoretical chemistry. With such macromolecules as vinyl polymers it can be accomplished through a variety of agencies, notably light, ultrasonic radiation, X-rays, and attack by chemical substances. The phenomena of the process lend themselves to study and analysis in the terms of chemical kinetics. This book is a critical survey of the studies which have been published to date and of the hypotheses or theories which have been advanced to account for observed results. Experimental methods have also been described, and there are a few illustrations of apparatus set-ups. Data and important statements in the text are keyed to literature references. Very recent work (publications as late as 1954) is reviewed in the appendix.

MARK, HERMANN FRANZ, AND A. V TOBOLSKY

Physical chemistry of high polymeric systems. Second completely revised and augmented edition. New York, Interscience Publishers, Inc., New York, 1950. 506 p. illus. 24 cm. (High polymers; a series of monographs on the chemistry, physics and technology of high polymeric substances; editorial board, H. Mark, C. S. Marvel, H. W. Melville, G. S. Whitby. Vol. II) $7.50 1390

Contents: Geometry of molecules as revealed by diffraction methods. Behavior of molecules in electric and magnetic fields. Molecular spectra. Primary and secondary valence forces. Crystal structure and crystal forces. Crystal structure and crystal symmetry. Liquids, mesophases and the amorphous-crystalline character of polymers. Thermodynamics of solutions. Kinematics of liquids and solutions—viscosity—diffusion—and sedimentation. Mechanical behavior of high polymers. Step reaction polymerization. Chain reaction polymerization. Degradation of high polymers. Author index. Subject index.

Note: A revision of a well-known work on the physical chemistry of macromolecules. As in the first edition, the book is concerned with the molecular structure and properties of high polymers as a group, rather than of individual compounds. Also emphasis is placed on the results obtained from experimental methods rather than on the methods themselves. This edition has been revised and enlarged to include developments since 1940, particularly those relating to the thermodynamic and kinematic behavior of polymer solutions and the kinetics of polymer formation. New chapters have also been added on molecular spectra and step reaction polymerization.

PRICE, CHARLES COALE

Mechanisms of reactions at carbon-carbon double bonds. New York, Interscience Publishers, Inc., 1946 120 p illus. 23 cm. (Lectures on progress in chemistry; H. Mark, editor) $4.50. 1391

Contents: Electronic structure of unsaturated organic molecules. Ionic reactions involving double bonds. Free radical reactions involving double bonds. Free radical addition polymerization. Copolymerization. Emulsion and suspension polymerization. Polar polymerization. Index.

Note: The book presents a short but meaty survey of theories and experimental data on the mechanisms of reactions which are entered into by molecules and free radicals that contain one or more unsaturated carbon atoms. These mechanisms are then related to polymerization processes. The material originated as a series of lectures delivered at the Institute of Polymer Research of the Polytechnic Institute of Brooklyn.

UNITED STATES NATIONAL BUREAU OF STANDARDS. ORGANIC PLASTICS SECTION

Polymer degradation mechanisms. Proceedings of the NBS Semicentennial Symposium on Polymer Degradation Mechanisms held at the NBS on September 24–26, 1951. Washington, D. C. Government Printing Office, 1953 280 p. illus. 24 cm. (United States. National Bureau of Standards. Circular 525) $2.25 1392

Contents: Mechanism of degradation of vinyl polymers with special reference to polystyrene, by H. H. G. Jellinek. Mechanism and kinetics of thermal and photodegradation reactions, by R. Simha. Photodegradation of polymethyl methacrylate, by P. R. E. J. Cowley and H. W. Melville. Effect of heat and light on polyvinyl chloride, by D. Druesedow and C. F. Gibbs. Photodegradation of polyvinyl chloride, by A. S. Kenyon. Role of hydrogen chloride in polyvinyl chloride degradation, by A. L. Scarbrough and others. Aging of vinyl chloride and vinylidene chloride polymers, by C. B. Havens. Alkaline degradation of polyacrylonitrile, by J. R. McCartney. Aging of polyethylene, by R. J. Biggs. Photo-oxidation and stabilization of polyethylene, by A. R. Burgess. Oxygen-absorption studies on olefins with structures related to GR-S, by J. R. Shelton. Breakdown of cellulose esters by heat and light, by G. C. DeCroes and J. W. Tamblyn. Oxidative degradation of ethyl cellulose, by L. F. McBurney. Study of degradation of polystyrene, using mass spectrometry, by S. G. Achhammer and others. Rates of thermal degradation of polystyrene and polyethylene in a vacuum, by S. L. Madorsky. Pyrolysis of copolymers, by L. A. Wall. Mechanism of the degradation of polyamides, by B. G. Achhammer and others.

Note The papers in this volume record progress made in explaining the structure of the polymers and the mechanisms of their breakdown. The symposium at which they were first presented was held to present various aspects of research in mechanisms by which polymers degrade a subject of practical importance to the National Bureau of Standards and the Office of Naval Research, in order to help predict more accurately the expected service life of polymers and to inhibit more effectively the degradation of polymers. The papers are accompanied by lists of bibliographical references and by transcripts of the informal discussions which took place in the course of the symposium.

PHYSICAL CHEMISTRY

ADVANCES IN CATALYSIS AND RELATED SUBJECTS Volume VI. Edited by W G Frankenburg, V I Komarewsky, and E K. Rideal Advisory board Peter J Debye and others New York Academic Press, Inc., 1954 467 p illus 23 cm $10 50 1393

Contents. Catalysis and reaction kinetics at liquid interfaces, by J T Davies. Some general aspects of chemisorption and catalysis, by T Kwan. Noble metal—synthetic polymer catalysts and studies on the mechanism of their action, by W P Dunworth and F F Nord. Interpretation of measurements in experimental catalysis, by P B. Weisz and C. D Prater Commercial isomerization, by B L. Evering. Acidic and basic catalysis, by M. Kilpatrick. Industrial catalytic cracking, by R. V Shankland. Author index. Subject index. Cumulative title index Volumes I–VI

—— Volume VIII. Edited by W G Frankenburg, V I Komarewsky and E K. Rideal, associate editor, Paul B Weisz. Advisory board Peter J Debye, D D Eley P H. Emmett W E Garner, W Jost, P W Selwood, H S Taylor New York Academic Press Inc., 1956 353 p illus 23 cm $10 00 1394

Contents Current problems of heterogeneous catalysis, by J A. Hedvall. Adsorption phenomena, by J H. de Boer Activation of molecular hydrogen by homogeneous catalysts, by S. W Weller and G. A. Mills. Catalytic syntheses of ketones, by V I. Komarewsky and J R. Coley Polymerization of olefins from cracked gases, by E. K. Jones. Coal-hydrogenation vapor-phase catalysts, by E. E. Donath. The kinetics of the cracking of cumene by silica-alumina catalysts, by C. D Prater and R. M. Lago. Author index. Subject index.

Note The volumes listed above are two representative ones selected from a series, other volumes of which are still in print. The series is organized on the now-familiar pattern of periodical publication of volumes containing several monographic reviews of progress in the state of knowledge or of recent advances in a specific area of the general field. The series is not a review of literature published during a single year or other specified interval of time. Recent advances are emphasized, but each writer takes in whatever sweep of literature he deems necessary to provide an adequate review of his specific topic. All the monographs are based on the literature, and include extensive lists of references.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

Monomolecular layers. A symposium presented on December 27 1951 at the Philadelphia meeting of the American Association for the Advancement of Science Edited by Harry Sobotka. Washington, D C American Association for the Advancement of Science, 1954 207 p illus. 23 cm. $4 25 1395

Contents Modern film techniques and their application to biochemical reactions, by H J Trurnit. The determination of molecular weights of proteins by the horizontal surface balance by E. Mishuck and F Eirich. Mechanical properties of the surface films on aqueous solutions of detergents, by A. P Brady and A. G. Brown. Study of adsorption at solution-air interface by radiotracers, by J K. Dixon, C. M. Judson, and D J Salley Deposited radioactive monolayers, by D E. Beischer Hydrophobic monolayers and their adsorption from aqueous solution, by E. G. Shafrin and W A. Zisman. A review of the properties of films at oil-water interfaces, by E. Hutchinson. Chemical reactions of simple and mixed monomolecular layers, by H. Sobotka and S. Rosenberg Chemical reactions and electric potential in monolayers, by L Havinga. Index.

Note The purpose of the symposium of which this volume is a product has been stated as follows "Far from trying to be comprehensive in their treatment, the contributors hope to have assembled a symposium that will illustrate the scope and the strength of their methods and techniques, that will direct the reader to more detailed publications on the subject and that will, in general, stimulate interest in a field of chemistry that has many riddles yet to be solved. The contributors were scientists doing research in the field, and several of them described new techniques and results not published previous to the date of the symposium. However each one also took into account the related work of others and included literature references.

AMIS, EDWARD STEPHEN

Kinetics of chemical change in solution. New York The Macmillan Company, 1949 332 p illus 22 cm $6 00 1396

Contents Introduction. The Debye-Hückel theory Liquid dielectrics and polar moments. The Brönsted-Christiansen-Scatchard equation. The temperature coefficient of reaction rates: energy of activation. The temperature coefficient of reaction rates: the Arrhenius frequency factor Semiempirical calculation of activation energies. the theory of absolute reaction rates. Reactions between ions and dipolar molecules and between dipolar molecules and dipolar molecules. Reaction rates and the solvent. Photochemistry chain reactions. Homogeneous catalysis. Adsorption, heterogeneous catalysis, and heterogeneous reactions. Index.

Note: A concise yet thorough presentation of the fundamental principles of rate processes in solution, and such related topics as the activity coefficients of ions, polar moments in solution, and dielectric constants of liquids. The book is written for advanced chemistry students, and the mathematical calculations involved in the development of kinetic and rate equations require a sound knowledge of differential and integral calculus. Emphasis is placed on the theoretical aspects of the subject, but practical applications of solution processes are briefly discussed.

AMSDEN, JOHN PAGE

Physical chemistry for premedical students. Second edition. New York McGraw Hill Book Company Inc., 1950 317 p illus. 23 cm. (International chemical series, Louis P Hammett consulting editor) $5 50 1397

Contents Dimensions and units. Gases. Liquids. Solutions. Properties of solutions of nonelectrolytes. Properties of solutions of electrolytes. Chemical equilibrium. Thermodynamics. Hydrogen ion. Oxidation and reduction Speed of reaction—catalysis—adsorption. The colloidal state—the Donnan equilibrium. List of visual materials. Index. Table of logarithms.

Note The special viewpoint of this introductory textbook is indicated by the title. In it, selected basic principles of physical chemistry are discussed in a comparatively elementary manner, and applications to physiological phenomena are pointed out. Only elementary mathematics is used. Problems for the student to solve are included. The first edition was published in 1944. The book's purpose and general plan are the same in this edition; however, significant revisions have been made. The chapter on thermodynamics is newly added, and the exposition of protolytic equilibrium has been revised.

ANNUAL REVIEW OF PHYSICAL CHEMISTRY Volume 7 H Eyring editor C J Christensen, associate editor H. S Johnston associate editor Palo Alto, Calif Annual Reviews, Inc. 1956 503 p illus. 23 cm $7 00 1398

Contents: Cryogenics, by R. Berman and others. Heterogeneous equilibria and phase diagrams, by J W Tierney and J M Smith. Solutions of nonelectrolytes, by R. L. Scott. Statistical mechanics, by J E. Kilpatrick. Radiation chemistry by C. J Hochanadel and S. C. Lind. Quantum theory by W Moffitt and C. J Ballhausen. Ion exchange by H. C. Thomas and G. R. Frysinger

stage. Polymers, by A. V Tobolsky. Kinetics of reactions in solution, by R. M. Noyes. Kinetics of reactions in gases, by G. Porter. Combustion and flames, by C. E. H. Bawn and C. F. H. Tipper. High temperature chemistry, by L. Brewer and A. W Searcy. Thermochemistry and thermodynamics of substances, by C. W Beckett and others. The solid state, by F. J. Blatt and others. Isotopes, by J. Bigeleisen and K. Cohen. Magnetic resonance, by C. A. Hutchison, Jr. Surface chemistry and catalysis, by L. H. Reyerson. Molecular electronic spectroscopy, by M. Kasha and R. F. McGlynn. Vibration-rotation spectroscopy, by R. E. Hiebert and I. Ichishima. Experimental molecular structure, by S. Mizushima and T. Shimanouchi. Author index. Subject index.

Note: Papers authored and titled as above are contained in the seventh volume of a series which serves both as a summary of recent developments and a guide to the recent literature. The papers are concisely written and are keyed to bibliographies which run in some instances to several hundred references. The subject index covers all of the papers in detail, and the author index lists the names of authors of the cited literature.

BRUNAUER, STEPHEN

The adsorption of gases and vapors. Volume 1 Physical adsorption. Princeton Princeton University Press 1943 520 p. illus. 23 cm. $9 00. 1399

Contents: Introduction. The data of adsorption. Experimental methods. The adsorption isotherm I. The adsorption isotherm II. The adsorption isotherm III. The heat of adsorption I. The heat of adsorption II. The surface of the adsorbent I. The surface of the adsorbent II. The pore structure of the adsorbent. The adsorbate. The kinetics of physical adsorption. Mixed adsorption. Index.

Note: Treating adsorption as a branch of physical chemistry it examines the facts yielded by adsorbents about the phenomenon of adsorption itself, and discusses in detail all theories to date. It also investigates what adsorption reveals about the structure of the adsorbent, analyzing surface and pore structure of all the important adsorbents. For physical chemists, either academic workers studying further theoretical developments, or industrial workers intent on immediate practical application to gas purification, separation and recovery of gases, or catalysis.

COHEN KARL

The theory of isotope separation as applied to the large scale production of U^{235} Edited by G M Murphy New York McGraw Hill Book Company Inc., 1951 165 p illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division III —Vol. 1B) $2.50. 1400

Contents: Ideal cascades. Square cascades. Equilibrium time of square cascade. Determination of cascade constants. The control problem. Centrifuges. Other separation methods. Appendices. Roots of a transcendental equation. Equilibrium time of square cascades for $N \rightarrow 1$. The holdup function. Rayleigh distillation. Properties of countercurrent two-phase elements. Index.

Note: This volume is based on reports of the Substitute Alloy Materials Laboratories (SAM) which were operated by Columbia University from 1940 to 1945 as part of the development program on the atomic bomb. The treatment is theoretical, and much of it is expressed in mathematical equations. The discussions of the various methods of isotope separation, such as centrifuges, electrolysis, chemical exchange, thermal diffusion, and distillation, are concerned with general principles rather than technical details. Lists of declassified reports are included in the chapters.

DANIELS FARRINGTON AND OTHERS

Experimental physical chemistry By Farrington Daniels, Joseph Howard Mathews, John Warren Williams, Paul Bender, and Robert A. Alberty Fifth edition. New York McGraw Hill Book Company Inc., 1956 482 p. illus. 24 cm. $6.50 1401

Contents: Part I, Laboratory experiments: Gases. Optical-chemical methods. Thermochemistry. Liquids. Solutions. Homogeneous equilibria. Heterogeneous equilibria. Chemical kinetics. Electric conductance. Electrode phenomena. Electromotive force. Dielectric constant. Colloids. Photochemistry. Radioactive isotopes and tracers. General experimental techniques. Part II, Apparatus and methods: Treatment of experimental data. Physical properties of gases. Optical-chemical measurements. Thermal measurements. Physical properties of liquids and solutions. Electrical measurements. Electronics. Photochemistry. Isotopes and radioactivity. Purification of materials. Appendix. Index.

Note: An established textbook used in college laboratory courses. In the first part, basic theory, calculations and laboratory procedures are covered for students who are taking their first laboratory course in physical chemistry. Special features of this part are compact discussions of practical applications, suggestions for further work, and literature references. The second part is more advanced, in the sense that the reader is assumed to have possession of the basic knowledge covered in the first part. However, the topics treated in it, such as the discussion of errors of measurement, are discussed at a level appropriate to readers making their first acquaintance with the topic under discussion. The second part can be characterized as an introduction to advanced techniques for students who wish to prepare themselves for specialized research. The first edition was published in 1929 and the third in 1949. Although the revision represented by this fifth edition is not extensive, many experiments illustrating relatively new techniques and areas of development have been added. Some changes have been made also in the presentation of theory and of procedures.

DANIELS, FARRINGTON AND ROBERT A. ALBERTY

Physical chemistry New York John Wiley & Sons, Inc. 1955 671 p. illus. 23 cm. $6.50 1402

Contents: Introduction. Gases. The crystalline state. Molecular structure and physical properties. Heat, work, and heat capacity. Thermochemistry. Thermodynamics. The liquid state. Solutions. Solutions of nonvolatile solutes. Homogeneous chemical equilibria. Heterogeneous equilibria. Chemical kinetics. Electric conductance. Electromotive force. Ionic equilibria. Colloids. Quantum theory. Photochemistry. Nuclear chemistry. Appendix. Author index. Subject index.

Note: A well-written introductory textbook designed for use in undergraduate college courses. It has a long lineage, tracing back to Outlines of theoretical chemistry by F. H. Getman, published in 1913. After several editions, the title was changed to Outlines of physical chemistry and Dr Daniels became a collaborating author. In 1948, Outlines of physical chemistry by Daniels alone and bearing no edition number because the author regarded it as the first edition of a new work, was published. The present work supersedes Outlines of physical chemistry. It is a substantial but not encyclopedic introduction and is written in a style that is comparatively easy to read, provided that the reader has acquired familiarity with chemical terms and concepts. It is not primarily mathematical, although mathematics is used in all the chapters. In comparison to the preceding edition, or both, there has been considerable revision, both in the text and problems.

DIETZ VICTOR R.

Bibliography of solid adsorbents, an annotative bibliographical survey of the scientific literature on bone char activated carbons and other technical solid adsorbents for the years 1900 to 1942 inclusive a contribution from the United States Cane Sugar Refiners and Bone Char Manufacturers and the National Bureau of Standards. Washington, D C. United States Cane Sugar Refiners and Bone Char Manufacturers, 1944 877 p. 26 cm. 1403

This original volume is currently available from the Bone Char Research Project, Inc., care of J M Brown Secretary Revere Sugar Refinery 333 Medford Street, Charlestown 29 Mass $12.50.

Contents (abridged): Industrial sponsors of the project. Research committee members. History of commercial adsorbents in relation to the sugar refining industry. Adsorption of gases and vapors on solid adsorbents. Adsorption from solutions on solid adsorbents. Thermal effects in adsorption processes. Theories of adsorption. Refining of sugars and other applications of adsorbents. General information on adsorbents and special methods of investigation. Preparation of carbon adsorbents. Sources of bibliography. Author index. Subject index.

—— Bibliography of solid adsorbents 1943–1953, an annotative bibliographical survey Washington, D C. Government Printing Office, 1956 1,528 p 27 cm. (National Bureau of Standards Circular 566) $8 75 1404

Content Adsorption of gases and vapors on solid adsorbents. Adsorption from solutions on solid adsorbents. Thermal effects in adsorption processes. Theories of adsorption. Refining of sugars and other applications of adsorbents. General information on adsorbents and special methods of investigation. Preparation of adsorbents. Sources of bibliography List of commercial solid adsorbents. Author index. Subject index. Abbreviations used in abstracts.

Note Together these two volumes constitute a classified bibliography of the world literature on solid adsorbents from 1900 through 1953 Six-thousand-two references are listed in the first volume, and 13 763 in the second volume. For each reference is given the authors' names and title of the paper the title, volume number pagination, and year of the periodical in which it appeared, and, in the majority of cases, an abstract copied from *Chemical abstracts* The first volume contains also a substantial historical chapter The second volume contains a list by trade name of the solid adsorbents commercially available in the United States of America when the book was compiled.

DORSEY, NOAH ERNEST

The freezing of supercooled water Philadelphia The American Philosophical Society, 1948 245–328 p illus 30 cm. (American Philosophical Society Transactions. New series, vol 38 part 3) $2 45 1405

Contents Introduction. Experimental data Thermal initiation of freezing. Mechanical initiation of freezing. Miscellanea. Theoretical considerations Embryos. Recognized theories of freezing. *Failure* of the homogeneous theory A new theory Summary Appendix. Sealed bulbs—contents and histories. References. Index.

Note A detailed account of original investigations conducted by the author to determine the effect of such factors as heating, prolonged chilling, distillation, filtration, and age of specimen on the supercooling and freezing of water The series of investigations was undertaken because the author's curiosity was aroused by inconsistencies in results reported and theories offered by previous investigators. As a result of his investigation he puts forth here a new theory of freezing, which is designed to account for previously unexplained phenomena. The bibliography of related literature is extensive.

EASTMAN, ERMON DWIGHT, AND GERHARD K ROLLEFSON

Physical chemistry New York McGraw Hill Book Company, Inc, 1947 504 p illus 24 cm (International chemical series Louis P Hammett, consulting editor) $6 50 1406

Contents (abridged) Interactions of material systems Thermochemistry Properties of gases. The kinetic theory of gases. The crystalline state. Energy and heat capacity of gases and crystals. The liquid state. Atomic structure. Molecular structure. Radioactivity and nuclear reactions. Solutions. Phase equilibria in one-component systems Vapor pressure and related properties of ideal solutions and dilute solutions. Phase equilibria in two-component systems. Phase equilibria in three-component systems. Equilibrium in chemical reactions Chemical kinetics. Electrical conductance and transference. Electromotive force in galvanic and electrolytic cells. Interactions of light with matter Surface phenomena. Index.

Note An introduction to the fundamentals of physical chemistry based on courses given at the University of California The book is intended for use as a text and reference tool by third- or fourth-year college students. The treatment, although not necessitating a detailed knowledge of higher mathematics, does require knowledge of calculus. Review problems are given at the end of each chapter

EMMETT, PAUL H editor

Catalysis Volume I Fundamental principles (Part 1) New York Reinhold Publishing Corporation, 1954 394 p illus 23 cm. $12 00 1407

Contents Physical adsorption, by H. E. Ries, jr Measurement of the surface area of solid catalysts, by P H. Emmett. Chemisorption by K. J Laidler Kinetic laws in surface catalysis, by K. J. Laidler The absolute rates of surface reactions, by K. J Laidler. Catalyst carriers, promoters, accelerators, poisons, and inhibitors, by W B Innes. Catalyst preparation by F G. Ciapetta and C. J. Plank. Magnetism and catalysis, by P W Selwood. Author index. Subject index.

—— Volume II Fundamental principles (Part 2) New York Reinhold Publishing Corporation 1955 473 p illus. 23 cm. $12.50. 1408

Contents Classification of heterogeneous catalytic vapor phase reactions, by W B Innes. Reaction rates and selectivity in catalyst pores, by A. Wheeler The nature of catalytic surfaces, by R. M. Hulburt. Nature of complexes of catalyst surfaces, by H. M Hulburt. General theories of heterogeneous catalysis, by R. B Parlin and others. Catalysis in homogeneous reactions in a liquid phase, by E. L. King. Author index. Subject index.

—— Volume III Hydrogenation and dehydrogenation. New York Reinhold Publishing Corporation 1955 499 p illus. 23 cm. $13 50 1409

Contents The parahydrogen and orthodeuterium conversions and the hydrogen-deuterium exchange, by B. M. W Trapnell. The catalytic hydrogenation of ethylene, by D D Eley Catalytic hydrogenation of olefinic hydrocarbons, by R. P Corson. The addition of hydrogen to carbon-carbon triple bonds, by G. C. Bond. The catalytic hydrogenation of nitro compounds, by H. A. Smith and W C. Bedoit, jr The catalytic synthesis of ammonia from nitrogen and hydrogen, by W G Frankenburg. Research on ammonia synthesis since 1940, by C. Bokhoven and others. Synthesis of methanol, by G Natta. Hydrogenation of glyceride oils, by R. O Feuge. Catalytic dehydrogenation, by K. K. Kearby Author index. Subject index.

—— Volume IV Hydrocarbon synthesis, hydrogenation and cyclization. New York Reinhold Publishing Corporation, 1956 570 p illus 23 cm. $12 50 1410

Contents The thermodynamics of the hydrogenation of carbon monoxide and related reactions, by R. B Anderson. Catalysts for the Fischer Tropsch synthesis, by R. B Anderson. Kinetics and reaction mechanism of the Fischer Tropsch synthesis, by R. B Anderson. Crystalline phases and their relation to Fischer Tropsch catalysts, by L. J E. Hofer The isosynthesis, by R. M. Cole. Methanation, by M. Greyson. Catalysis in the liquid-phase hydrogenation of coal and tar by S. W Weller Catalytic cyclization and aromatization of hydrocarbons, by H. Steiner Author index Subject index.

Note. The number of volumes projected for this monumental series has not been announced. However the purpose of the series is to present a full treatment of both the theoretical and practical aspects of catalysis. Each volume consists of signed monographic chapters written especially for this work. Most of the chapters are compactly written reviews documented with numerous references to the literature. The treatment in all is on a graduate-professional level.

EYRING, HENRY, AND OTHERS

Quantum chemistry, by Henry Eyring John Walter and George E Kimball. New York John Wiley & Sons, Inc. 1944 394 p. 22 cm $7 50 1411

Contents. Introduction The old quantum theory The principles of classical mechanics. The principles of quantum mechanics. The differential equations of quantum mechanics. The quantum mechanics of some simple systems. The hydrogen atom. Approximate methods. Time-dependent perturbations: Radiation theory Atomic structure. Group theory Electronic states of diatomic molecules. The covalent bond. Resonance and the structure of complex mole-

cules. The principles of molecular spectroscopy. Elements of quantum statistical mechanics. The quantum mechanical theory of reaction rates. Electric and magnetic phenomena. Special topics. Appendix. Index.

Note: This book is neither an exhaustive treatise on quantum mechanics nor an elementary introduction to the subject, rather it is a consistently condensed and mathematical presentation of almost all those aspects of the science which are of particular interest to chemists. In addition to the subjects usually treated in an introductory work in quantum mechanics, the book includes four or five other major fields. Reaction rates, optical activity, molecular structure, spectroscopy, and the methods of group theory are developed and employed extensively. The book is devoted to a great extent to applications in the field of quantum chemistry and is written at an advanced level.

Findlay, Alexander

The phase rule and its applications. Ninth edition, by A. N. Campbell and N. O. Smith. New York, Dover Publications, Inc., 1951. 494 p. illus. 20 cm. $2.00 1412

Contents: Section I. Introduction. General. The phase rule. Section II. One-component systems: Systems of one component. Typical systems. Section III. Two-component systems: Different systems of two components. Systems consisting of two liquid phases only—liquid and vapour phases only—solid liquid phases only. Metastable extension of freezing point curves. Systems consisting of solid and gas phases only. Coexistence of solid, liquid, and gas phases. Dynamic isomerism and pseudo-binary systems. Section IV. Three-component systems: General—systems consisting of liquid phases only—liquid and vapour phases only—solid and liquid phases only. Aqueous systems. Practical applications of equilibrium diagrams. Section V. Systems of more than three components. Four-component systems. Systems of more than four components. Appendices: Some thermodynamic definitions. Determination of binary solid-liquid equilibria. Author index. Subject index.

Note: Findlay's *The phase rule* remained as the standard introductory textbook on chemical equilibria for several decades. In this ninth edition, it has been largely rewritten by Professor Campbell of the University of Manitoba and Professor Smith of Fordham University. However, the treatment is still introductory and largely nonmathematical. Terms are defined clearly, the exposition is largely in physical terms, and most discussions are very detailed. The book has been partly reorganized; numerous sections have been completely rewritten; some new sections have been added; and many of the old diagrams have been redrawn or replaced by clearer ones. Some citations of recent literature have been added to the bibliographies. Author and subject indexes—both rather frequently drawn—are included.

Frost, Arthur A., and Ralph G. Pearson

Kinetics and mechanism: a study in homogeneous chemical reactions. New York, John Wiley & Sons, Inc., 1953. 343 p. illus. 24 cm. $6.50. 1413

Contents: Introduction. Empirical treatment of reaction rates. Experimental methods and treatment of data. Elementary processes—kinetic theory of gases. Transition-state theory. Comparison of theory with experiment—simple gas reactions. Reactions in solution. Complex reactions. Homogeneous catalysis. Chain reactions. Some reactions whose mechanisms have been investigated by kinetic and other methods: Hydrolysis of ethylene chlorohydrin and ethylene oxide. The ammonium cyanate-urea conversion. The hydrolysis of benzene—the H₀ function. The aldol condensation and the cleavage of diacetone alcohol. The nitration of aromatic compounds. The decomposition of Di-t-butyl peroxide. The thermal isomerization of cis- and trans-butene. The decomposition of nitrogen pentoxide. Author index. Subject index.

Note: In contrast to most other books on chemical kinetics, the emphasis in this one is on the mechanisms of reactions. Insofar as possible, reactions are studied step by step rather than in terms of starting materials and end products. Experimental methods for discovering intermediate steps, such as the trapping of extremely reactive free atoms or radicals, are described. The final chapter contains detailed descriptions of certain reactions which have been investigated by the methods described in the book. The level of treatment is approximately that of first-year graduate students. The book is organized for use as a text, but it is suitable also as a guide for professional chemists. Literature references are included, and the names of authors of cited papers are brought together in the author index.

Glasstone, Samuel

The elements of physical chemistry. New York, D. Van Nostrand Company, Inc., 1946. 695 p. illus. 24 cm. $6.50 1414

Contents: Introduction. Atomic theory. The structure of the atom. Electronic structures of atoms and molecules. The properties of gases. Liquefaction and the properties of liquids. The solid state. Thermodynamics and thermochemistry. The second law of thermodynamics. Dilute solutions. Chemical equilibrium. Free energy and chemical equilibrium. Phase equilibria. The conductance of electrolytes. Electromotive force. Equilibria in electrolytes. Hydrolysis and neutralization. Surface chemistry and colloids. Kinetics of chemical reactions. Photochemistry. Miscellaneous problems. Physical constants and atomic weights. Logarithms. Answers to problems. Index.

Note: An introductory textbook designed not only for college students intending to specialize in chemistry but also for those who are interested in other branches of science and technology and need only an elementary knowledge of physical chemistry. There is approximately one-half as much textual matter as in the author's *Textbook of physical chemistry*. However, this book is not a condensation of that work, but is a fresh treatment of the subject from a more elementary viewpoint. In many cases, the new work will be more satisfactory for library use and reference because the exposition of basic laws and phenomena is easier to understand.

Glasstone, Samuel

Textbook of physical chemistry. Second edition. New York, D. Van Nostrand Company, Inc., 1946. 1,320 p. illus. 24 cm. $12.95 1415

Contents: Atomic structure and atomic spectra. Radioactivity and isotopes. First and second laws of thermodynamics. The gaseous state. The solid state. Changes of state. The liquid state. Physical properties and molecular structure. Dilute solutions. Phase equilibria. Chemical equilibrium and free energy. Electrochemistry. Chemical kinetics. Surface phenomena. Index.

Note: This standard work follows the same comprehensive plan of organization, which includes an historical approach to the topics discussed and a consideration of the experimental methods involved, as the first edition of 1940. Many revisions have been made throughout to bring the material up to date or to make the treatment clearer, and the already extensive bibliographies have been increased by references to recent work. The thermodynamic symbols used in the first edition have been replaced, though with some misgivings on the author's part, by those more widely used and hence more familiar to students. The book is intended for use in advanced courses and as a reference work for teachers, students, and chemical engineers.

Glasstone, Samuel, and others

The theory of rate processes: the kinetics of chemical reactions, viscosity, diffusion and electrochemical phenomena, by Samuel Glasstone, Keith J. Laidler and Henry Eyring. New York, McGraw-Hill Book Company, Inc., 1941. 611 p. illus. 23 cm. (International chemical series. L. P. Hammett, consulting editor) $10.00. 1416

Contents: Introduction. Quantum mechanics. Potential-energy surfaces. Statistical treatment of reaction rates. Homogeneous gas reactions. Reactions involving excited electronic states. Heterogeneous processes. Reactions in solution. Viscosity and diffusion. Electrochemical processes.

Note: Representing an original approach to the subject of reaction rates, this book describes the development and application of a general theory of the kinetics of physical and chemical processes, usually known as the "theory of absolute reaction rates." The authors explain the fundamental bases, and consider homogeneous and heterogeneous gas reactions, reactions in solution, viscosity, diffusion, and electrochemical phenomena in terms of the theory

Glasstone, Samuel

Thermodynamics for chemists. New York, D. Van Nostrand Company, Inc., 1947. 522 p. illus. 23 cm. $6.50 1417

Content Heat, work, and energy Properties of thermodynamic systems. The first law of thermodynamics. Heat changes and heat capacities. Thermochemistry Calculation of energy and heat capacity The second law of thermodynamics. Entropy relationships and applications. Entropy determination and significance. Free energy Phase equilibria. Fugacity and activity Free energy and chemical reactions. The properties of solutions. Activities and activity coefficients. Solutions of electrolytes. The Debye-Hückel theory Partial molar properties. E. M. F s and the thermodynamics of ions. Appendix Constants and conversion factors. Properties of gases and liquids. Heat capacities of gases. Heat capacities of solids. Standard free energies and heats of formation, and entropies. Integral heats of solution of salts. Index.

Note This new textbook has those characteristics of thoroughness and clarity which have come to be expected in the books of this author It offers an extended treatment of thermodynamics from the viewpoint of chemistry and particularly chemical engineering. A considerable number of problems are worked out in this text, and an even larger number of exercises are included for solution by the student, the handling of differential equations being required in both cases. The discussions of the applications of statistical methods to problems in chemical thermodynamics are a special feature. There are footnote references to pertinent literature.

GUCKER, FRANK THOMPSON, JR., AND WILLIAM BUELL MELDRUM

Physical chemistry New York American Book Company, 1950 683 p illus 22 cm $5.50 1418

Contents Introduction The composition of matter The structure of atoms and molecules. The ideal gas. The behavior of real gases. Liquids. Solids. Thermochemistry Solutions of nonelectrolytes. Osmosis and osmotic pressure. Reaction kinetics. The ionic theory Ionic equilibria. Electrolytic conductance. Electromotive force. Hydrogen ion concentration and *p*H. Indicators. Adsorption. Colloids. Catalysis. Enzymes. The phase rule Thermodynamics and mathematical derivations. Appendix. Index.

Note. First published in 1942 this book has been used as an introductory text in American colleges and universities for a decade and half. It is a relatively simple introduction and the simplification has been achieved largely by emphasizing physical concepts rather than mathematics. However some mathematics is necessarily employed in the exposition and, in order to solve the problems, the reader needs an elementary understanding of logarithms and calculus. The first-named author is Professor of Chemistry in Indiana University and his colleague is Professor of Chemistry in Haverford College Although it bears 1950 copyright date the pagination of this edition is identical with that of the 1942 edition. Chapter titles also are the same, and there has been no revision of the literature references.

GURNEY, RONALD W

Ionic processes in solution New York McGraw Hill Book Company, Inc., 1953 275 p illus. 23 cm (International chemical series, Louis P Hammett consulting editor) $6 50 1419

Contents (abridged) The electrical analogue of magnetic cooling. The dissociation of molecule into ions. Complete and incomplete ionic dissociation. The contrast between solvent and solute particles. Ideal and non-ideal solutions. Heat of precipitation. Different types of proton transfers. The dissociation constant of nitric acid. The viscosity of ionic solutions. Conventional partial molal ionic entropies. Properties of different solvents The number of dipoles per unit volume Electrodes and galvanic cells. Proton transfers in various solvents Proton transfers in more concentrated solutions. The orientation of water molecules adjacent to an ion. Appendix Name index. Subject index.

Note Although it bears essentially the same title as an earlier work by the author this book is a new work, with an entirely different approach to the study of ions in solution. The chapter titles listed above are unsatisfactory from the standpoint of indicating its scope, because each one of those listed is only the title of the first section of chapter which contains, in all cases, several more sections with equally indicative titles. However the first six chapters are devoted to theory that is to say the basic principles and ideas of the subject. The chapters that follow these present the experimental data and relate them to the basic concepts. The level of the treatment suits the book to use in graduate courses and to individual study by graduate chemists and physicists interested in

HAMMETT, LOUIS PLACK

Physical organic chemistry, reaction rates, equilibria, and mechanisms New York Mc Graw Hill Book Company, Inc., 1940 404 p. illus. 21 cm (International chemical series J F Norris and L P Hammett, consulting editors) $7 50 1420

Contents Table of symbols and of values of constants. Structural theory—nonelectrolytes—electrolytes. Equilibrium and energy of reaction. Reaction rates and mechanism—energies, free energies, and entropies of activation. The displacement reaction. Stereochemistry of the displacement reaction. The effect of structure of reactivity Enolization and related reactions. The quantitative study of acids and bases. Carbonium-ion reactions. Carbonyl-addition reactions. Atom and radical reactions—other redox reactions. Index.

Note A pioneer text which now enjoys the status of semi-classic. It deals with the application of the methods of physical chemistry to procedures in organic chemistry and is addressed to advanced students and other readers with some previous education in basic chemistry both physical and organic.

HARKINS, WILLIAM DRAPER

The physical chemistry of surface films. With a foreword by Peter Debye. New York Reinhold Publishing Corporation, 1952 413 p illus 24 cm. $10 00 1421

Contents The nature and energetics of surfaces. Films on liquids. Films on solids. Properties of soap solutions. Mechanism of emulsion polymerization. The role of the electric double layer in the behavior of lyophobic colloids, by E. J W Verwey Index.

Note Even though a considerable part of the contents of this work was published previously the book represents a major addition to chemical literature. The author made many original contributions to the knowledge of surface films and emulsion technology and all of his work is covered in it. Chapters one two, and three have been reprinted with modifications from various volumes of Dr. Jerome Alexander's *Colloid chemistry* Chapters four and five are original but contain many quotations from articles by Dr. Harkins that were published elsewhere. Chapter six, by Dr Verwey is another reprint with minor changes, from Alexander's *Colloid chemistry* Although the basis of each chapter except the sixth was original research carried out by Dr Harkins and his associates, the pertinent work of others is also described, and each of the chapters is accompanied by substantial list of references. The bibliography of Harkins' own publications is arranged chronologically from 1907 to 1950.

HIRSCHFELDER, JOSEPH O , AND OTHERS

Molecular theory of gases and liquids. By Joseph O Hirschfelder, Charles F Curtiss and R. Byron Bird With the assistance of the staff of the University of Wisconsin Naval Research Laboratory New York John Wiley & Sons, Inc. 1954 1,219 p illus 24 cm. $22 50 1422

Contents Note on notation. Vector and tensor notation. Introduction and background information. Part I, Equilibrium properties Statistical mechanics. The equation of state of gases at low and moderate densities. The equation of state of dense gases and liquids. Quantum theory Vapor-liquid equilibria and critical phenomena. Quantum theory and the equation of state, by J de Boer and R. B. Bird. Part II, Non-equilibrium properties The kinetic theory of dilute gases. Transport phenomena of dilute gases. The transport properties of dense gases and liquids. Quantum theory and transport phenomena, by J de Boer and R. B Bird. Hydrodynamic applications of the equations of change. Part III, Intermolecular forces Electromagnetic basis of intermolecular forces. The theory of intermolecular forces. Quantum mechanical calculations of intermolecular forces Appendix (tables) Symbols and notation. Chemical index. Author index. Subject index.

Note This large treatise is detailed presentation of progress made to date in analyzing and expressing mathematically the interrelations of fundamental interactions between molecules and their properties on bulk behavior of dense gases and liquids. The authors state that the molecular approach gives complete description in terms of small number of constants characteristic of the sub-

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INTERNATIONAL UNION OF PURE AND APPLIED CHEMISTRY

Experimental thermochemistry: measurement of heats of reaction. Prepared under the International Union of Pure and Applied Chemistry by the Subcommission on Experimental Thermochemistry. Edited by Frederick D. Rossini. New York, Interscience Publishers, Inc., 1956. 326 p. illus. 24 cm. $7.50. 1423

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LAIDLER, KEITH JAMES

Chemical kinetics. New York, McGraw-Hill Book Company, Inc., 1950. 408 p. illus. 23 cm. $7.50 1424

[illegible]

LUDER, WILLIAM FAY AND SAVERIO ZUFFANTI

The electronic theory of acids and bases. New York, John Wiley & Sons, Inc., 1946. 165 p. illus. 22 cm. $4.75 1425

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MACDOUGALL, FRANK HENRY

Physical chemistry. Third edition. New York, The Macmillan Company, 1952. 50 p. illus. 22 cm. $6.50 1426

[illegible]

MILLARD, E. B.

Physical chemistry for colleges: a course of instruction based upon the fundamental laws of chemistry. Seventh edition. New York, McGraw-Hill Book Company, Inc., 1953. 618 p. illus. 23 cm. $6.50. 1427

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MOORE, WALTER J.

Physical chemistry. Second edition. Englewood Cliffs, N. J., Prentice-Hall, Inc., 1955. 633 p. illus. 24 cm. (Prentice-Hall chemistry series, Wendell M. Latimer, editor) $7.50. 1428

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chemistry Physical constants and conversion factors. Name index. Subject index.

Note A textbook for introductory courses in physical chemistry offered to college students who have completed basic courses at the college level in physics, chemistry and calculus. The treatment is rigorous, but the author has taken pains to make things clear. Certain of the chapters, particularly those dealing with atomic and nuclear physics and surface chemistry, are designed to be read by the student without the guidance of an instructor. The first edition was published in 1950. The terminal chapter on photochemistry and radiation chemistry is new in this edition. Otherwise, the chapters and chapter arrangement are unchanged, except that numerous paragraphs and larger sections of chapters carried over from the first edition have been revised in some degree. The author is Professor of Chemistry in Indiana University

PAUL, MARTIN AMBROSE

Principles of chemical thermodynamics New York McGraw Hill Book Company, Inc., 1951 740 p 24 cm. (International chemical series Louis P Hammett, consulting editor) $9 75 1429

Contents Temperature The first law of thermodynamics. Thermal behavior of simple systems. Thermochemistry The second law of thermodynamics. Thermodynamic behavior of simple systems. Thermodynamic behavior of solutions and heterogeneous mixtures. Chemical equilibrium. Thermodynamics of galvanic cells. Statistical molecular theory of thermodynamics. Appendix. Answers to problems. Index.

Note This substantial textbook is designed for the use of advanced undergraduate and graduate college students who are specializing in chemistry and have completed an introductory course in physical chemistry Due attention is given to the theoretical bases of chemical thermodynamics, and the derivations of commonly used equations are always shown. The 90-page discussion of the statistical molecular theory of thermodynamics is a special feature. Mathematical techniques more advanced than those of elementary calculus are explained in the text when they are introduced and in a special appendix.

PAULING, LINUS CARL

The nature of the chemical bond and the structure of molecules and crystals, an introduction to modern structural chemistry Second edition Ithaca Cornell University Press 1940 450 p illus. 23 cm (The George Fisher Baker Non resident Lectureship in Chemistry at Cornell University Vol 18) $5 75 1430

Contents Resonance and the chemical bond. The partial ionic character of covalent bonds and the relative electronegativity of atoms. The directed covalent bond, bond strengths and bond angles The magnetic criterion for bond type. The resonance of molecules among several valence-bond structures. Interatomic distances and their relation to the structure of molecules and crystals. Types of resonance in molecules. The structure of molecules and complex ions involving bonds with partial double-bond character The one-electron bond and the three-electron bond. The hydrogen bond. The sizes of ions and the structure of ionic crystals. The metallic bond. A summarizing discussion of resonance and its significance for chemistry Index of names. Index of subjects.

Note. A study of the theory of valence and chemical bond, intended for advanced or postgraduate chemistry students, with correlated study of the structure of molecules and crystals. The author considers three general extreme types of chemical bonds electrostatic, covalent, and metallic. Included in the category are not only the directed valence bond of the organic chemist but also such bonds as those between ions in the sodium chloride crystal and the such bonds of other inorganic substances. The discussion on structural chemistry is presented without the use of the mathematics of quantum mechanics. The second edition contains minor changes and about five pages of new material.

PRUTTON, CARL FREDERIC, AND SAMUEL H MARON

Fundamental principles of physical chemistry Revised edition. New York The Macmillan Company, 1951 803 p. illus 22 cm. $6 50 1431

Contents (abridged) Elementary principles of thermodynamics and their application to gases. Liquids. The solid state. Solutions. Colligative properties of solutions of nonelectrolytes. Solutions of electrolytes. Surface phenomena and colloids. Thermochemistry Entropy and the third law of thermodynamics. The free energy Homogeneous chemical equilibrium. Heterogeneous equilibrium. Electrolytic transference and conductance. Ionic equilibria. The electromotive force of cells. Electrolysis and polarization. Kinetics of homogeneous reactions. Kinetics of heterogeneous gas reactions. Physical properties and the structure of molecules. Photochemistry Index.

Note. A somewhat more advanced presentation is given than is customary in introductory texts in the subject. Thermodynamic principles are introduced in the second chapter and are used throughout the book. Although designed for a full-year course offered to students majoring in chemistry and chemical engineering, the authors suggest its use also for such students as physicists and biologists who have taken only an introductory course. Completion of college courses in physics, basic chemistry and calculus are prerequisite In the present edition, the chapter on photochemistry is a new addition and there is a fair number of other changes. The first-named author is technical director of the Food Machinery and Chemical Corporation and the second a member of the faculty of Case Institute of Technology

QUILL, LAURENCE LARKIN, editor

The chemistry and metallurgy of miscellaneous materials thermodynamics. New York McGraw Hill Book Company, Inc, 1950 329 p illus. 24 cm. (National nuclear energy series Manhattan Project technical section. Division IV—Plutonium project record. Volume 19B) $4 50 1432

Contents Paper I. Investigations in the liquid-solid equilibria of the two-component systems composed of the bromides and iodides of strontium and barium, by E. D Eastman and others. Temperature-composition diagrams of metal—metal halide systems, by E. D. Eastman and others. The thermodynamic and physical properties of the elements, by L. Brewer Thermodynamic and physical properties of nitrides, carbides, sulfides, silicides, and phosphides, by L. Brewer and others. The thermodynamic properties of common gases, by L. Brewer The thermodynamic properties of the halides, by L. Brewer and others. The fusion and vaporization data of the halides, by L. Brewer The thermodynamic properties of molybdenum and tungsten halides and the use of these metals as refractories, by L. Brewer and others. The heats of formation of CeS, Ce_3S_4, and Ce_2S_3 at 25 C, by M. W Evans. The heat of reaction of the cerous-ceric couple in 0.3 molal perchloric acid at 25 C, by B. J Fontana.

Note. The papers which form the basis of this volume were prepared during the course of research conducted to develop methods for producing plutonium. The book brings together a great quantity of data regarding the thermodynamic and physical properties of elements and compounds used in high-temperature reactions, and is designed for the use of physicists and chemists engaged in this field of research. Each paper includes a brief summary and list of references. No index is provided.

RICCI, JOHN ETTORE

Hydrogen ion concentration new concepts in a systematic treatment. Princeton Princeton University Press 1952 460 p illus. 24 cm. $10 00 1433

Contents Definitions and fundamental relations. The theorem of isohydric solutions. Special values and limits of the ionization functions for acids and bases. Limits of ionization fractions and the iso-electric point for salts and ampholytes. Application of the exact equations for the determination of the constants. Interpretation of ionization constants. Some direct applications of the general equations as relations of the concentrations. Calculation of the numerical value of *H* from the general equations. Feasibility (sharpness) of titration exact case of strong acid and strong base (pure). Titrations involving one ionization constant. Two weak acids and strong bases. Titration (with strong base or strong acid) of mixtures involving any number of independent ionization constants. Titration with weak acid or weak base Problems involving two interdependent ionization constants (dibasic acid, its salts with strong and weak bases, ampholytes) Some complex cases. Tribasic acids; salts with strong and weak bases. Saturation with respect to acids and bases. Pure saturated aqueous solution of a salt. Saturation with salts of

mandelic acid. Interaction with salts of dibasic acid. Interaction with ... and their salts. Index.

Note: In the words of the author of this original study: "The equations hitherto determining the hydrogen ion concentration of aqueous solutions constitute a purely mathematical problem subject to exact and systematic treatment and capable of simple and uniform presentation. In the book, exact mathematical definitions which are independent of the various theories of the mechanism of hydrolysis are stated. Then on the basis of these definitions formulas are derived for calculations pertaining to hydrogen ion concentrations in aqueous solutions of various degrees of complexity." The book is an important contribution to theoretical chemistry.

RICCI, JOHN ETTORE

The phase rule and heterogeneous equilibrium. New York, D. Van Nostrand Company, Inc., 1951. 505 p. illus. 24 cm. $13.50 1434

Contents (abridged): One-component systems. Binary systems with complete miscibility in all states. Complete immiscibility in the solid state. Polymorphism of the components and peritectic behavior. Binary compounds. Systems with two liquid phases. Condensed binary diagrams and their determination. Ternary systems. Transitions involving pure solid phases. Freezing point equilibria involving two or three liquid phases. Reciprocal ternary systems. Quaternary systems (additive type). Quaternary system of water and reciprocal salt pair. Aqueous quinary systems. General references. Index of systems cited. Name index. Subject index.

Note: A thorough and rather original introduction to the applications of the phase rule, first stated by Gibbs in 1876, and now recognized as one of the basic laws of chemical reactions. It is written on the graduate level. Though specific data for a variety of systems are given, the work is not intended as a reference book of data on equilibria in specific systems. Papers from which examples are drawn are cited in footnotes throughout the work, in addition to the selected list of books at the end.

ROSSINI, FREDERICK DOMINIC

Chemical thermodynamics. New York, John Wiley & Sons, Inc. 1950. 514 p. illus. 21 cm. $6.50 1435

Contents (abridged): Definition of terms. Fundamental constants and conversion factors. Energy and the first law of thermodynamics. Equivalence of mass and energy. Entropy and the second law of thermodynamics. Entropy and thermodynamic engines. Heat capacity of substances. Relations among the thermodynamic properties and functions. Heats and energies of reactions and processes. Thermodynamic functions from statistical calculations. Entropy and the third law of thermodynamics. Equilibrium between different phases of one pure substance. Fugacity—standard states. The ideal solution. The dilute real solution. Electromotive force and free energy. Equilibrium between different phases of two or more components. Special applications of thermodynamics. Thermodynamic calculations. Appendix. Author index. Subject index.

Note: A fairly comprehensive presentation of modern chemical thermodynamics. Pertinent concepts of atomic physics, such as energy levels and nuclear spin, are introduced early in the book and precede the discussion of the third law. The primary use of the book is as a text in college courses, but it has some usefulness as a review for graduate chemists. Literature references accompany the chapters and, in addition, there is a concluding chapter on the periodical and book literature in which data required for calculations of chemical thermodynamics can be found.

ROSSINI, FREDERICK DOMINIC, AND OTHERS

Selected values of chemical thermodynamic properties, by Frederick D. Rossini, Donald D. Wagman, William H. Evans, Samuel Levine, and Irving Jaffe. Washington, D. C. Government Printing Office, 1952. 1,268 p. illus. 27 cm. (United States. National Bureau of Standards. Circular 500) $8.25 1436

Contents: Introduction. Tables of selected values of properties of Series I: Heat of formation at 25° C; Free energy of formation at 25° C; Entropy at 25° C; Heat capacity at 25° C; Logarithm of the equilibrium constant of formation at 25° C; Heat of formation at 0° K. Tables of selected values of properties of Series II: Heat, temperature, and entropy of transition, fusion, and vaporization (including values at pressure). Specific references for the tables of properties of Series I. Specific references for the tables of properties of Series II. General list of references. Index.

Note: A much expanded set of tables compiled for chemists and engineers by the National Bureau of Standards from 1940 to 1950. They take the place of the tables appearing in *The thermochemistry of the chemical substances*, by F. R. Bichowsky and F. D. Rossini, New York, 1936, and many were previously available in looseleaf form. The volume contains values of the heat and free energy of formation, entropy, heat capacity, and heats and temperatures of transition, fusion, and vaporization for all inorganic compounds (containing not more than two carbon atoms) where such data are available. Separate tables give references to the original literature from which the values were derived. Additional material in looseleaf form to supplement the data in this circular and to give thermodynamic properties as a function of temperature are being prepared under the direction of Donald D. Wagman, and are available to laboratories upon request.

SCHRAGE, ROBERT W

A theoretical study of interphase mass transfer. New York, Columbia University Press, 1953. 103 p. illus. 24 cm. $3.50 1437

Contents: Introduction. The absolute rate of vaporization of pure substances. The simple theory of interphase mass transfer of pure substances. Interphase mass transfer in multicomponent systems. Another theory of interphase mass transfer of pure substances. Predicted departures from interfacial equilibrium in typical mass transfer processes. Conclusion. List of symbols. Appendixes. List of sources cited.

Note: A doctoral dissertation which won, in 1951, the Clarke F. Ansley award as an outstanding dissertation submitted in candidacy for the degree of Doctor of Philosophy from Columbia University. It deals with the mechanism of mass transfer across phase boundaries, or in other words, with the processes occurring at the interphase between a liquid or solid and a gas. Early experimental work is reviewed, and there is a critical discussion of theory and experiment on absolute rates of vaporization. Next, a simple theory partly based on the work of Stefan and Brukcher is developed and extended to gaseous mixtures. In the fourth chapter new equations are deduced for the description of interphase mass transfer in multi-component systems. The theory developed in the fifth chapter is more elaborate than the simple theory and includes an empirical correction factor applied to the equilibrium velocity distribution function for the gas. This factor permits the behavior of the gas to be described rigorously in terms of its distribution function. The study was based both on experiments by the author and on work reported by others in the literature. The list of sources runs to 101 citations.

SMYTH, CHARLES PHELPS

Dielectric behavior and structure; dielectric constant and loss, dipole moment and molecular structure. New York, McGraw-Hill Book Company, Inc. 1955. 441 p. illus. 24 cm. (International chemical series. L. P. Hammett, consulting editor) $9.00 1438

Contents: Static dielectric constant and dipole moment. Dielectric constant and loss. Dielectric loss and structure in liquids. The dielectric constants and losses of solids. Measurement of dielectric constant and loss. Calculation of dipole moments from experimental data. The relation of dipole moment to molecular structure. Dipole moments and structures of aliphatic and alicyclic molecules. Dipole moments and structures of aromatic molecules. Dipole moments and intramolecular rotation. Dipole moments and structures of inorganic and organometallic molecules. Dielectric behavior and structure of amino acids, peptides, and proteins. Electronic and atomic polarization. Name index. Subject index.

Note: The relations between the molecular structure of matter and its dielectric behavior are the chief subjects of this book. The first 180 pages are devoted to basic theory, the supporting experimental evidence, techniques of measurement, and a comparative account of various methods of calculating dipole moments. After these pages, approximately 160 pages are given over to the accumulated information on dipole moments and structures of the main types of compounds. The entire book is very compactly written, and the author frequently refers the reader to fuller treatments of specific subjects published elsewhere. Many passages are essentially literature digests, and references to the source articles are included in them. The book is an interesting one, not only in relation to basic understanding of the materials used as electric insulators, but also in various branches of pure and applied science. It replaces the author's *Dielectric constants and molecular structure*, New York, 1931.

chemistry Physical constants and conversion factors. Name index. Subject index.

Note A textbook for introductory courses in physical chemistry offered to college students who have completed basic courses at the college level in physics, chemistry and calculus. The treatment *is rigorous, but the author has taken pains to make things clear* Certain of the chapters, particularly those dealing with atomic and nuclear physics and surface chemistry are designed to be read by the student without the guidance of an instructor The first edition was published in 1950. The terminal chapter on photochemistry and radiation chemistry is new in this edition. Otherwise, the chapters and chapter arrangement are unchanged, except that numerous paragraphs and larger sections of chapters carried over from the first edition have been revised in some degree. The author is Professor of Chemistry in Indiana University

PAUL, MARTIN AMBROSE

Principles of chemical thermodynamics New York McGraw Hill Book Company, Inc., 1951 740 p 24 cm (International chemical series Louis P Hammett, consulting editor) $9 75 1429

Contents Temperature. *The first law of thermodynamics.* Thermal behavior of simple systems. Thermochemistry The second law of thermodynamics. Thermodynamic behavior of simple systems. Thermodynamic behavior of solutions and heterogeneous mixtures. Chemical equilibrium. Thermodynamics of galvanic cells. Statistical molecular theory of thermodynamics. *Appendix. Answers to problems.* Index.

Not This substantial textbook is designed for the use of advanced undergraduate and graduat college students who are specializing in chemistry and have completed an introductory course in physical chemistry Due attention is given to the theoretical bases of chemical thermodynamics, and the derivations f commonly used equations are always shown. The 90-page discussion f the statistical molecular theory of thermodynamics is a special feature. Mathematical techniques more advanced than those of elementary calculus are explained in the text when they are introduced and in special appendix.

PAULING, LINUS CARL

The nature of the chemical bond and the *structure of molecules and crystals an introduction* to modern structural chemistry Second edition Ithaca Cornell University Press 1940 450 p illus 23 cm. (The George Fisher Baker Non resident Lectureship in Chemistry at Cornell University Vol 18) $5 75 1430

Contents Resonance and the chemical bond. The partial ionic character of covalent bonds and the relative electronegativity f atoms. The directed covalent bond, bond strengths and bond angles. The magnetic criterion for bond type. The resonance of molecules among several valence-bond structures. Interatomic distances and their relation to the structure f molecules and crystals. Types of resonance in molecules. The structure f molecules and complex ions involving bonds with partial double-bond character The one-electron bond and the three-electron bond. The hydrogen bond. The sizes of ions and the structure of ionic crystals. Th metallic bond. A summarizing discussion of resonance and its significance for chemistry Index of names. Index *of subjects.*

Note A study f the theory of valence and chemical bond, intended for advanced or postgraduate chemistry students, with correlated study of the structure of molecules and crystals. The author considers three general extreme types of chemical bonds electrostatic, covalent, and metallic. Included in the category are not only the directed valence bond of the organic chemist but also such bonds as those between ions in the sodium chloride crystal and the much bonds of other inorganic substances. The discussion on structural chemistry is presented without the use of the mathematics of quantum mechanics. The second edition contains minor changes and about five pages of new material.

PRUTTON, CARL FREDERIC, AND SAMUEL H MARON

Fundamental principles of physical chemistry Revised edition New York The Macmillan Company, 1951 803 p illus. 22 cm. $6 50 1431

Contents (abridged) Elementary principles of thermodynamics and their application to gases. Liquids. The solid state. Solutions. Colligative properties of solutions of nonelectrolytes. Solutions of electrolytes. Surface phenomena and colloids. Thermochemistry Entropy and the third law of thermodynamics. The free energy Homogeneous chemical equilibrium. Heterogeneous equilibrium Electrolytic transference and conductance. Ionic equilibria. The electromotive *force f cells. Electrolysis and polarization.* Kinetics of homogeneous reactions. Kinetics of heterogeneous gas reactions. Physical properties and the structure of molecules. Photochemistry Index.

Note. A somewhat more advanced presentation is given than is customary in introductory texts in the subject. Thermodynamic principles are introduced in the second chapter and are used throughout the book. Although designed for full-year course offered t students majoring in chemistry and chemical engineering, the authors suggest its use also for such students as physicists and biologists who have taken only an introductory course. Completion of college courses in physics, basic chemistry and calculus are prerequisite. *In the present edition,* the chapter on photochemistry is a new addition, and there is fair number of other changes. The first-named author is technical director of the Food Machinery and Chemical Corporation, and the second a member of the faculty of Case Institute of Technology

QUILL, LAURENCE LARKIN, editor

The chemistry and metallurgy of miscellaneous materials thermodynamics. New York McGraw Hill Book Company, Inc., 1950 329 p illus 24 cm. (National nuclear energy series. Manhattan Project technical section. *Division IV—Plutonium project record* Volume 19B) $4 50 1432

Contents Paper 1. Investigations in the liquid-solid equilibria of the two-component systems composed of the bromides and halides of strontium and barium, by E. D Eastman and others. Temperature-composition diagrams of metal—metal halide systems, by E. D. Eastman and others. The thermodynamic and physical properties of the elements, by L. Brewer Thermodynamic and physical properties of nitrides, carbides, sulfides, silicides, and phosphides, by L. Brewer and others. The thermodynamic properties of common gases, by L. Brewer The thermodynamic properties of the halides, by L. Brewer and others. The fusion and vaporization data of the halides, by L. Brewer The thermodynamic properties of molybdenum and tungsten halides and the use of these metals as refractories, by L. Brewer and others. The heats of formation of CeS, Ce_2S_3, and Ce_3S_4 at 25° C, by M. W Evans. The heat of reaction of the cerous-ceric couple in 0.5 molal perchloric acid at 25° C, by R. J. Fontana.

Note. The papers which form the basis of this volume were prepared during the course of research conducted to develop methods for producing plutonium. The book brings together great quantity of data regarding the thermodynamic and physical properties of gases and compounds used in *high-temperature reactions,* and is designed for the use of physicists and chemists engaged in this field of research. Each paper includes brief summary and list of references. N index is provided.

RICCI, JOHN ETTORE

Hydrogen ion concentration new concepts in a systematic treatment. Princeton Princeton University Press 1952 460 p illus. 24 cm $10 00 1433

Contents. Definitions and fundamental relations. The theorem of isohydric solutions. Special values and limits of the ionization fractions for acids and bases. Limits of ionization fractions and the iso-electric point for salts and ampholytes. Application of the exact equations for the determination of the constants. Interpretation of ionization constants. Some direct applications of the general equations as relations of the concentrations. Calculation of the numerical values of H from the general equations. Feasibility (sharpness) of titration exact case of strong acid and strong base (pure) Problems involving one ionization constant. Two weak acids and strong base. Titration (with strong base or strong acid) in mixtures involving any number of independent ionization constants Titration with weak acid or weak base. Problems involving two interdependent ionization constants (dibasic acid its salts with strong and weak bases; ampholytes) Some complex cases. Tribasic acids salts with strong and weak bases. Saturation with respect to acids and bases. Pure saturated aqueous solution of salt. Saturation with salts of

[illegible] acid. Saturation with salts of [illegible] acid. Saturation with naphthalene and their salts. Index.

Note In the words of the author of this original study "The quantitative relations determining the hydrogen ion concentration of aqueous solutions constitute [illegible] purely mathematical problem subject to exact and systematic treatment and capable of simple and uniform presentation. In the book, exact mathematical deductions which are independent of the various theories of the mechanism of ionization are stated, then on the basis of these deductions formulae are derived for calculations pertaining to hydrogen ion concentrations in aqueous solutions of various degrees of complexity The book is an important contribution to theoretical chemistry

RICCI, JOHN ETTORE

The phase rule and heterogeneous equilibrium. New York D Van Nostrand Company Inc., 1951 505 p. illus. 24 cm. $13.50. 1434

Contents (abridged) One-component systems. Binary systems with complete miscibility in all states. Complete [illegible] in the solid state. Polymorphism of the components and [illegible] behavior. Binary compounds. Systems with two liquid phases. Condensed binary diagrams and their determination. Ternary systems. Transitions involving pure solid phases. [illegible] point equilibria involving two or three liquid phases. Reciprocal ternary systems. Quaternary systems (additive type) Quaternary systems of [illegible] salts and [illegible] salt pairs. Aqueous quinary systems. General references. Index of systems cited. Name index. Subject index.

Note A thorough and rather original introduction to the applications of the phase rule, first stated by Gibbs in 1876, and now recognized as one of the basic laws of chemical reactions. It is written on the graduate level. Though specific data for [illegible] variety of systems are given, the work is not intended as [illegible] reference book of data on equilibria in specific systems. Papers from which examples are drawn are cited in footnotes throughout the work, in addition to the selected list of books at the end.

ROSSINI, FREDERICK DOMINIC

Chemical thermodynamics. New York John Wiley & Sons Inc., 1950. 514 p. illus. 21 cm. $6.50. 1435

Contents (abridged) Definitions of terms. Fundamental constants and conversion factors. Energy and the first law of thermodynamics. Equivalence of mass and energy Entropy and the second law of thermodynamics. Entropy and thermodynamic engines. Heat capacity of substances. Relations among the thermodynamic properties and functions. Heats and energies of reactions and processes. Thermodynamic functions from statistical calculations. Entropy and the third law of thermodynamics. Equilibrium between different phases of one pure substance. Fugacity—standard states. The ideal solution. The dilute real solution. Electromotive force and free energy Equilibrium between different phases of two or more components. Special applications of thermodynamics. Thermodynamic calculations. Appendix. Author index. Subject index.

Note A fairly comprehensive presentation of modern chemical thermodynamics. Pertinent concepts of atomic physics, such as energy levels and [illegible], are introduced early in the book and precede the discussion of the third law The primary use of the book [illegible] text in [illegible] courses, but [illegible] has other usefulness [illegible] survey for graduate chemists. Literature references accompany the chapters and, in addition, there [illegible] concluding chapter on the periodical and book literature in which data required for calculations of chemical thermodynamics can be found.

ROSSINI, FREDERICK DOMINIC AND OTHERS

Selected values of chemical thermodynamic properties, by Frederick D Rossini, Donald D Wagman, William H. Evans, Samuel Levine, and Irving Jaffe. Washington, D C. Government Printing Office, 1952 1,268 p. illus. 27 cm. (United States. National Bureau of Standards Circular 500) $8.25 1436

Contents Introduction Tables of selected values of properties of [illegible] Heat of formation at 25° C Free energy of formation at 25° C Entropy at 25° C Heat capacity at 25° C Logarithm of the equilibrium constant of formation at 25° C Heat of formation at 0° K. Tables of selected values of properties of [illegible] Heat, temperature, and entropy of transition, fusion, and vaporization (including values of pressure) Specific references for the tables of properties of [illegible] Specific references for the tables of properties of [illegible] General list of references. Index.

Note A much expanded set of tables prepared for chemists and engineers by the National Bureau of Standards from 1940 to 1950 They take the place of the tables appearing in *The thermochemistry of the chemical substances* by F R. Bichowsky and F D Rossini, New York, 1936, and many were previously [illegible] in looseleaf form. The volume contains values of the heat and free energy of formation, entropy heat capacity and heats and temperatures of transition, fusion, and vaporization for all inorganic compounds (containing not more than two carbon atoms [illegible] here such data are available. Separate tables give references to the original literature from which the values were derived. Additional material in looseleaf form to supplement the data in this circular and to give thermodynamic properties as [illegible] function of temperature are being prepared under the direction of Donald D Wagman, and are available to laboratories upon request.

SCHRAGE ROBERT W

A theoretical study of interphase mass transfer New York Columbia University Press 1953 103 p illus. 24 cm. $3.50 1437

Contents Introduction. The kinetic [illegible] of vaporization of pure substances The [illegible] theory of interphase mass transfer of pure substances. Interphase mass transfer in [illegible] component systems. Another theory of interphase mass transfer of [illegible] pure substances Predicted departures from interfacial equilibrium in typical mass transfer processes. Conclusions. List of symbols. Appendices. List of sources cited.

Note A doctoral dissertation which won, in 1951, [illegible] Clark F Ansley award as an outstanding dissertation submitted in candidacy for the degree of Doctor of Philosophy from Columbia University It deals with the mechanism of mass transfer across phase boundaries, or in other words, with the processes occurring at the interphase between [illegible] liquid or solid and [illegible] gas. Early experimental work is reviewed, and there is [illegible] critical discussion of theory and experiment on absolute rates of vaporization Next, [illegible] simple theory partly based on the work of [illegible] and [illegible] is developed and extended to [illegible] mixtures. In the fourth chapter new equations are deduced for the description of interphase mass transfer in multi-component systems. The theory developed in the fifth chapter is more elaborate than the simple theory and has [illegible] an empirical correction factor applied to the equilibrium velocity distribution function for the gas. This factor permits the behavior of the gas to be described correctly in terms of its distribution function. The study was based both on experiments by the author and on work reported by others in the literature The list of sources runs to 121 citations.

SMYTH CHARLES PHELPS

Dielectric behavior and structure dielectric constant and loss, dipole moment and molecular structure. New York McGraw Hill Book Company Inc., 1955 441 p. illus 24 cm. (International chemical series L. P Hammett, consulting editor) $9 00 1438

Contents Static dielectric constant and dipole moment. Dielectric constant and loss. Dielectric loss and structure in liquids. The dielectric constants and losses of solids. Measurement of dielectric constant and loss. Calculation of dipole moments from experimental data. The relation of dipole moment to molecular structure Dipole moments and structures of aliphatic and alicyclic molecules. Dipole moments and structures of aromatic molecules. Dipole moments and intramolecular rotation Dipole moments and structures of inorganic and organometallic molecules. Dielectric behavior and structure of amino acids, peptides, and proteins. Electronic and atomic polarization. Name index. Subject index.

Note The relations between the molecular structure of matter and its dielectric behavior are the chief subjects of this book. The first 180 pages are devoted to basic theory the supporting experimental evidence, techniques in measurement, and [illegible] comparative account of various methods of calculating dipole moments. After these pages, approximately 180 pages are given over to the accumulated information on dipole moments and structures of the main types of compounds. The entire book is very compactly written, and the author frequently refers the reader to fuller treatments of specific subjects published elsewhere. Many patterns are essentially literature digests, and references to the source articles are included in them. The book is an important one, not only in relation to basic understanding of the materials used as electric insulators, but also in various branches of pure and applied science. It replaces the author' *Dielectric constant and molecular structure*, New York, 1931

STACEY, K A

Light scattering in physical chemistry New York Academic Press, Inc., *1956* *230* p illus *22* cm. $6 75 1438A

Contents. Introduction. The theory of light-scattering. The practice of light-scattering. High polymers. Proteins. Polyelectrolytes. Glossary of symbols. Author index. General index.

Note A indicative, rather than a comprehensive, survey of the current status of light-scattering effects in the study of macromolecules. The basic theory is expounded in some detail and more than 100 references are given to related studies in periodicals and books. Experimental techniques and instruments are adequately presented—again with many literature references. In the three latter chapters, studies made and knowledge gained by experimental studies based on light-scattering phenomena in the study of high polymers, proteins, and polyelectrolytes are concisely summarized. The book is addressed to graduate chemists engaged in research on macromolecules.

STEACIE, E W R

Atomic and free radical reactions Second edition. New York Reinhold Publishing Corporation, 1954 2 v 24 cm (American Chemical Society monograph series, William A Hamor editor) $30 00 1439

Contents. Volume I: Introduction. Experimental methods. Bond dissociation energies. Free radicals in thermal reactions. Free radicals in photochemical reactions. Volume II: Types of elementary reactions. Systems containing carbon and hydrogen only Systems containing oxygen. Systems containing nitrogen. Systems containing chlorine (and fluorine) Systems containing bromine. Systems containing iodine. Systems containing sodium. Systems containing other metals. Systems containing sulfur. Bibliography Reaction index. Author index. Subject index.

Note. The accumulated knowledge pertaining to atomic and free radical reactions in the gas phase is compactly summarized in this work. The experimental techniques, whereby the information has been gained and which are still used in research, are described in a 60-page chapter in the first volume. Most of the rest of the space is devoted to the facts on specific reactions which are considered first under class of reaction and finally by systems. The knowledge presented is of primary importance in several branches of physics and most branches of chemistry The first edition was published in 1946 and consisted of a single volume of 548 pages. The 900 pages in the present two volumes reflect the considerable increase in knowledge of atomic and free radical reactions in recent years. The bibliography in the new edition runs to 2,080 references, and according to the author is comprehensive for work published to about June, 1953 and the papers published in the main journals to about September 1953 The claim made on the jacket blurb, "Literature references through the end of 1954 are included, is obviously an error

TAYLOR, HUGH S, AND SAMUEL GLASSTONE, editors

A treatise on physical chemistry, a cooperative effort by a group of physical chemists Third edition in five volumes. New York D Van Nostrand Company Inc., 1942–52 2 v illus 23 cm. Vol I $10 00 vol II $12 50 1440

Contents Volume The atomic concept of matter, by H. S. Taylor Quantum theory of atomic spectra and atomic structure, by S. Dushman. The first and second laws of thermodynamics, by H. S. Taylor The third law of thermodynamics and statistical mechanics, by J G. Aston. Appendix Values of physical constants. Index. Volume II The kinetic theory of ideal gases, by K. F Herzfeld. The thermodynamics and statistical mechanics of real gases, by J A. Beattie and W H. Stockmayer The liquid state, by G. E. Kimball. X-ray analysis of the solid state, by J G. White. The colloidal state and surface chemistry by J W Williams and others. Index.

Note Planned as comprehensive presentation of physical chemistry this work is designed to cover not only fundamental principles but also to indicate their applications in problems that confront the chemist, whether he is working in basic research or in industry A detailed historical background is included, so that the account of topic proceeds from the older knowledge to modern developments. The treatment is for advanced students and graduate chemists. More volumes are projected.

TROTMAN DICKENSON, A. F

Gas kinetics, an introduction to the kinetics of homogeneous gas reactions. New York. Academic Press, Inc., 1955 *322* p illus. 23 cm $8 00 1441

Contents: Introduction. The theories of chemical kinetics and energy transfer. Unimolecular decompositions and bimolecular combinations. Transfer reactions. Radical decompositions and radical additions. Subject index.

Note Although an introduction, this book is based on an extensive critical survey of the literature. It is comprehensive but not exhaustive study of the results of experiments on the simpler reactions—results which seem to be valid enough to support quantitative generalizations. Experimental methods are described, but their descriptions are decidedly secondary to the analysis and interpretation of findings. The book will be of interest to advanced students of physical chemistry and graduate chemists engaged in basic research. Very extensive literature lists are a noteworthy feature.

UNITED STATES NATIONAL BUREAU OF STANDARDS

Tables of chemical kinetics homogeneous reactions. Sponsored by the National Bureau of Standards the Committee on Tables of Constants of the National Research Council, and Princeton University N Thon, editor D G Kelemen and G Parravano, assistants G S Forbes M Szwarc, and H. A. Taylor, corresponding expert collaborators. Issued September *28* *1951* Washington, D C. Government Printing Office 1951 731 p. 29 cm. (United States National Bureau of Standards Circular 510) $4 00 1442

Contents Subject index. Alphabetical index. Code abbreviation for periodicals. Introduction. Tables.

—— Supplement. Sponsored by the National Bureau of Standards the Committee on Tables of Constants of the National Research Council and the Office of Ordnance Research, Department of the Army C. H. Stauffer, project director, T W Davis H S Johnston, M Szwarc H. Taube H. A Taylor M H. J Wijnen corresponding expert collaborators. Issued November 14 1956 Washington D C. Government Printing Office, 1956 *472* p. 29 cm (United States National Bureau of Standards Supplement 1 to Circular 510) $3.25 1443

Contents. Corrections to 1951 volume. Subject index. Alphabetical index. Tables.

Note These tables represent critically evaluated compilation of the available factual numerical data on rates and rate constants of homogeneous chemical reactions. Stressing the importance of experimentally ascertained facts, the editors have generally excluded data contingent on interpretations. Reaction equations are written in the simplest possible way on the basis of the observed over-all chemical change. Each table is designated by a six-digit number, the first two of which refer to the type of reaction, gaseous (1) liquid (2) or solid (3) The second three-digit group of the table number refers to the types of substances involved. References to the literature are included. The supplement contains additional tables, additions to tables already printed, revised sheets cancelling and replacing parts of present tables, and corrections. Both the original work and the supplement are issued in the form of loose

sheets punched with three holes and temporarily assembled under paper covers. If the owner wishes to procure [illegible] suitable loose-leaf binder he can thus easily remove the pages from the paper covers and interfile the corrections and additional tables with the original tables for greater facility in use. Further supplements are expected, as the project of compilation continues at Worcester Polytechnic Institute with general supervision by the Subcommittee on Kinetics of Chemical Reactions, Division of Chemistry and Chemical Technology, National Research Council, and with the financial sponsorship of the Office of Ordnance Research.

WETMORE, F E W AND D J LEROY

Principles of phase equilibria. New York McGraw Hill Book Company Inc., 1951 200 p. illus. 24 cm. (International chemical series Louis P Hammett, consulting editor) $4.50. 1444

Contents. Chemical equilibrium. One-component systems. Two-component systems. Two-component systems: types of equilibria involving only one phase of variable composition. Two-component systems: types of equilibria involving more than one phase of variable composition. Three-component systems. Three-component systems at fixed temperature and pressure. Three-component systems: solid diagrams and their plane projections. Four-component systems. Appendices: The thermodynamic derivation of the phase rule. Free energy-composition curves for two-component systems. Index.

Note: A textbook planned for upperclass undergraduate and graduate students. Though considerable previous education in chemistry and physics is assumed, the book is introductory to the subject. The exposition is expressed in (to use the author's words) "terms of laboratory criteria and from [illegible] fundamental point of view without recourse to formal thermodynamics. However the thermodynamic approach is illustrated in the appendices.

SOLUBILITY AND SOLVENTS

AUDRIETH, LUDWIG F., AND JACOB KLEINBERG

Non-aqueous solvents applications as media for chemical reactions. New York John Wiley and Sons, Inc., 1953 284 p. illus. 24 cm. $8.50. 1445

Contents: Properties of solvents. Acids and bases. Liquid ammonia as [illegible] solvent and ionization medium. The nitrogen system of compounds. Reactions in liquid ammonia—experimental techniques and some important type reactions. Metal-ammonia solutions. Nitrogen-containing solvents. Acetic acid. Sulfuric acid. Hydrogen fluoride. Liquid sulfur dioxide. Acid chlorides. Halogens and interhalogens as solvents. High-temperature systems. Index.

Note: A valuable addition to chemical literature. The authors have made [illegible] critical selection of the information on the nonaqueous solvents which they believe to possess the greatest potential utility for laboratory research and synthesis. This information is presented and critically discussed for the benefit of graduate chemists. Literature references are included with each chapter, and there are numerous graphs and tables of data on properties, yields, etc.

HILDEBRAND, JOEL HENRY AND ROBERT L. SCOTT

The solubility of nonelectrolytes. Third edition. New York Reinhold Publishing Corporation, 1950 488 p. illus 23 cm. (American Chemical Society monograph series William A. Hamor editor) $12.00 1446

Contents (abridged): The ideal solution. Nonideal solutions—general. Intermolecular forces. The liquid state. The entropy of athermal mixing. The heat of mixing. Polarity. Hydrogen bonding. Specific interactions. "Solvation" and "association." Vapor pressure of binary liquid solutions. Solubility of gases in liquids. Solubility of liquids in liquids. Solubility of solids in liquids. Solid solutions. Metallic mixtures. High polymer solutions. Surface phenomena. Evaluation of solubility parameters. Appendices: Selected values of solubility parameters. Papers by the authors and co-workers. Solutions of nonelectrolytes—1949. Author index. Subject index. Formula index.

Note: A comprehensive presentation of the development and present state of knowledge pertaining to the solubility of nonelectrolytes. In [illegible] sense it is [illegible] companion work to Harned and Owen's *The physical chemistry of electrolytic solutions*, described below. Following the general pattern of the series, the literature of the subject has been surveyed and is fully cited. The treatment is on [illegible] graduate and professional level. Compared to the previous edition, there are six new chapters including those on solid solutions and high polymer solutions, and there has been much rewriting of the chapters carried over.

SCHEFLAN, LEOPOLD AND MORRIS B JACOBS

The handbook of solvents New York D Van Nostrand Company Inc., 1953 728 p illus. 25 cm. $11.50 1447

Contents: Introduction. [illegible] practices in the use of solvents. Solvent action and power. Vapor pressure. Dilution ratios. Limits of inflammability. Solvent recovery. Solvent recovery by adsorption. Table of solvents. List of sources. Index of synonyms.

Note: The greater part of this reference book (409 of 728 pages) is occupied by the "Table of solvents." In this table the chemical compounds are arranged alphabetically according to their most commonly accepted names. The following information is generally given for each compound: characteristics, boiling point, specific gravity, refractive index, uses, solubility, melting point, and total heating values. The eight chapters that precede this table are written in narrative style and contain information that will be useful to industrial chemists and others [illegible] be are concerned with the selection and use of solvents. The two chapters on solvent recovery are worthy of special mention. The book should find [illegible] place at once as one of the standard reference books in industrial chemistry.

SEIDELL, ATHERTON

Solubilities of inorganic and metal organic compounds a compilation of quantitative solubility data from the periodical literature. Third edition. Princeton D Van Nostrand Company Inc., 1940–41 2 v. 24 cm. $16.00 per vol. 1448

Contents: Volume I, Solubilities of inorganic and metal organic compounds. Volume II, Solubilities of organic compounds.

—— Solubilities of inorganic and organic compounds a compilation of solubility data from the periodical literature. By Atherton Seidell and William F Linke, with sections by Alfred W Francis and Roger G Bates. Supplement to the Third edition containing data published during the years 1939–1949 inclusive. Princeton D Van Nostrand Company Inc. 1952 1,254 p illus. 24 cm. $16.00 1449

Note: The usefulness of the first edition of this work, published in 1907 soon established it as [illegible] standard reference tool in chemical libraries and laboratories. A revised second edition was published in 1919. In the third edition, the arrangement was changed from an alphabetical one based on the English names of the individual compounds to one based on an alphabetical arrangement of the internationally accepted symbols for the chemical elements. This arrangement has been retained in the supplement. Under each element, the separate compounds are listed, and under each compound quantitative solubility data in various solvents, as reported in the published literature, are presented in tabular form. In instances where the reported data vary the compiler has usually chosen one set of data and has made reference to publications in [illegible] which different values are given. Conditions are stated in condensed form except in those instances where they were not reported in the literature. The supplement to the third edition is arranged similarly to the third edition. In it, for each compound there is (1) [illegible] short discussion of the published work bearing on its solubility and (2) tabulation of the available solubility data. In addition, there is [illegible] section of data on ternary systems separating in two liquid layers, and [illegible] monographic chapter "Recent contributions to the theory of electrolyte solubility" by Roger G. Bates. Indexes to authors are found in all volumes; in addition, the first volume con-

tains a "cross-reference index, the second volume contains a name index of compounds, and the third volume contains an organic compound index and an inorganic and metal-organic cross-reference index.

COLLOID CHEMISTRY

BIKERMAN J J

Foams, theory and industrial applications By J J Bikerman, in collaboration with J M Perri, R. B Booth and C C Currie New York Reinhold Publishing Corporation, 1953 348 p illus 24 cm $10 00 1450

Contents Formation and structure of foams. Methods of measuring foaminess. Results of foaming measurements. Foam drainage. Mechanical properties of foams. Optical properties of foams. Electrical properties of foams. Radius of molecular action—black spots. The theory of foams. Separation by foam. Three-phase foams. Fire-fighting foams, by J. M. Perri. Froth flotation by R. B Booth. Miscellaneous uses of foam. Chemical antifoaming agents, by C. C. Currie. Author index. Subject index.

Note Basic chemical and physical information on foams has been given more space in this book than information on the uses of foams. However the chapters on fire-fighting foams, froth flotation and miscellaneous uses constitute an adequate coverage of this phase, especially in view of the long bibliographies attached to each chapter These bibliographies include patent citations as well as citations of papers. The 11 chapters on the fundamental knowledge of foams are written in technical terminology and are addressed to scientists and others with an adequate command of scientific concepts and terms. Essentially they are critical summaries of previously published literature, with important statements carefully cross-referenced to the source articles. Gaps in the existing knowledge are indicated in passages such as the following "Two soap bubbles often can be slightly pressed against each other without coalescence. In the presence of an electrified body (such as rubbed stick of sealing wax) they immediately form one bubble. Apparently this interesting effect has never been studied in quantitative manner"

DEAN, ROBERT BERRIDGE

Modern colloids an introduction to the physical chemistry of large molecules and small particles New York D Van Nostrand Company, Inc., 1948 303 p illus 24 cm. $6 00 1451

Contents Introduction. Methods for determining the size and shape of colloidal particles. Liquid surfaces. Adsorption. Ionic adsorption. High polymers. Plastics, resins and rubbers. Carbohydrates and proteins. Colloidal ions. Emulsions and foams. Hydrous oxides and silicates. Lyophobic colloids or suspensoids. Appendix. Index.

Note In contrast to most textbooks of colloid chemistry this one is designed for use in undergraduate courses. Although comparatively brief it offers sound review f the basic knowledge and some indications of applications. The chapters are accompanied by selected references to original papers and standard authorities. The student is assumed to have had course in organic chemistry In addition to the intended use the book should be helpful lso to working chemists whose college training did not include courses in colloid chemistry

HAUSER, ERNST A

Silicic science a review of the colloid scientific properties and phenomena exhibited by matter composed essentially of the element silicon New York D Van Nostrand Company Inc., 1955 188 p illus 24 cm $5 00 1452

Contents: Historical development. The composition and structure of siliceous compounds. Silicic science terminology Colloidal phenomena in silicic science. Silicic acid and silica gels. History, membrane equilibrium, and theoretical concepts of ion-exchange reactions of silicates. Base exchange, differential thermal analysis, infrared analysis, and X-ray diffraction. Ultra- and electron-microscopy of silicates and clays. Rhythmic precipitations in silicates. Atomic structure, chemical reactions, influence of polarization, and a new surface-chemical viewpoint. Reaction of bentonite with organic compounds. Soil stabilization. Silicones. Applied silicic science. Subject index. Author index.

Note A major addition to the still-scanty book literature on silicon chemistry As indicated in the subtitle it is limited to the colloid chemistry of silicon, and even in this narrowed field it is not comprehensive. Nevertheless, it provides a wide and informative sweep f its subject. The emphasis is on the theoretical knowledge and basic phenomena, but the chapter on applications is one of the longer ones in the book. It includes information on bentonite films and other recent developments, including the use of clay gels in pharmacy Extensive bibliographies are feature of most of the chapters. A series of more than 40 clearly reproduced photomicrographs and electron micrographs of silica gels, clay minerals, bentonite films, etc., is another noteworthy feature.

HAWLEY, GESSNER GOODRICH

Small wonder, the story of colloids. New York Alfred A. Knopf, 1947 220 p illus. 22 cm $3 50 1453

Content What it's all about. Large things and small. Discovery and occurrence of colloids. Colloids become visible. Electrical habits. The purification f water Curds and whey The tears of the weeping tree. Blood. Glues and adhesives. The importance of surface. Soaps, detergents, and emulsifiers. Colloid chemistry and life Design for science. Index.

Note An introduction to colloid chemistry designed to acquaint the reader with what colloids are the way in which knowledge about them has advanced, and the part they play in life and growth and in the production of articles common in everyday life. A provocative book for the adult who wants to know the salient facts about an important subject and who lacks specialized scientific training. It will enable him to follow future developments in colloid chemistry intelligently and may well lead some readers to more intensive study

ILER, RALPH K.

The colloid chemistry of silica and silicates. Ithaca Cornell University Press, 1955 324 p illus 24 cm (The George Fisher Nonresident Lectureship in Chemistry at Cornell University) $5 50 1454

Contents The silica-water system. The soluble silicates. The chemistry of silicic acid. Esters of silicic acid and polysilicic acid. Colloidal silica. Amorphous silica gels and powders. Colloidal silicates. Surface chemistry of silica and silicates. Silica in living organisms. Author index. Subject index.

Note: This book is broad survey of the current scientific knowledge of silica and silicates in the colloidal state. Considerable technology on such matters as the preparation of silica sols is included also. Many sections are essentially literature abstracts and long bibliographies f the journal and patent literature, to which statements in the text are keyed, are a feature. The book is addressed to readers with considerable education in chemistry To chemists who are newcomers to silicat chemistry it will serve both as an introduction to the subject and guide to the literature. Some specialists also will find its broad view valuable.

MCBAIN, JAMES W

Colloid science. New York Reinhold Publishing Corporation, 1950 450 p illus. 24 cm. $10 00 1455

Contents Emulsions and foams. Sorption The effective depth of surfaces. The preparation of colloidal sols. Optical properties and study of colloids. Brownian movement. Ultrafiltration. The lyotropic series of ions. Viscosity, thixotropy and plasticity and dilatancy Jellies and gels. Coagulation, protective action, and sensitization. Electrical and electrokinetic phenomena. Diffusion. Osmotic pressure and membrane equilibrium. Ultracentrifuges and centrifuges. Soaps and other colloidal electrolytes. Solutions of proteins. Nonaqueous systems of colloids. X-ray and other methods of studying colloids and high polymers. Cellulose and its derivatives. Other natural polysaccharides. Natural and synthetic rubber. The proteins silk, wool, keratin collagen, and the globular proteins. Artificial polymers. Resins and plastics. Clay Aerosols. Author index. Chemical and compound index. Subject index.

Note. A well-organized and interesting presentation of basic knowledge of colloid phenomena, together with some discussion of its

applications. Though general and introductory the book contains enough substance to make it useful to any trained chemist in search of an introduction to the field. Each chapter is accompanied by long lists of references to which statements in the text are keyed. In addition, there are briefer lists of more general works on the subject of each chapter. The author index includes the names of authors of literature cited in the references.

McBain Mary Evelyn Laing and Eric Hutchinson

Solubilization and related phenomena. New York Academic Press, Inc. 1955 259 p. illus. 24 cm. (Physical chemistry a series of monographs edited by Eric Hutchinson) $7.00 1456

Contents: Historical background. Solubilization as [illegible] sorption phenomenon. The properties of colloidal electrolytes. Data and facts of solubilization. The mechanism of solubilization. Co-solvency blending, and hydrotropy Physiological aspects of solubilization Some practical applications of solubilization. Appendixes: The theory of light scattering. The behavior of polysoaps. Author index. Subject index.

Note: The addition of soap or [illegible] synthetic detergent to water increases its power to take up dirt. This change is due to the formation of [illegible] colloid by the soap or synthetic detergent. The dirt, insoluble in plain water is sorbed by the colloid. The process is important, not only in cleaning but also in the manufacture of synthetic rubber, the dyeing of textiles, and other applications. Although it contains [illegible] short chapter on applications, this book is actually [illegible] monograph on the pertinent theoretical knowledge. The literature of the subject (including the authors' own contributions) has been surveyed, and the published results and theories are presented critically The authors do not hesitate to indicate [illegible] their own views do not coincide with more-or-less widely accepted ones, for instance, "throughout this book we have thrown out warnings that these conclusions [based on light scattering measurements] may be misleading and may even be incorrect." The writing is on [illegible] graduate level, and the book is of interest to chemists in several fields, including biochemistry polymer chemistry and various areas of industrial chemistry

Marshall Charles Edmund

The colloid chemistry of the silicate minerals. New York Academic Press, Inc., 1949 195 p. illus. 24 cm. (Agronomy a series of monographs. Volume 1) $6.80 1457

Contents: Historical outline. Introduction to silicate structures. Silicates based on [illegible] three-dimensional framework. The colloidal properties of the zeolites. The structures of silicates with planar frameworks. The structural interpretation of chemical analyses of the clay minerals. The sizes and shapes of clay particles. The optical properties of clay aggregates and suspensions. Adsorption by the clays and its consequences. Clay acids and their titration curves. Ionic exchange reactions of the clays. Electrokinetic properties of the clays. The mechanical properties of clay suspensions, gels and pastes The properties of clay aggregates and films. Author index. Subject index.

Note: A monographic survey of the colloid chemistry of clays and other minerals containing [illegible] major proportion of silica. It is of interest to the ceramic industry and other industries which use clays, as well as to agriculture. The presentation stresses the basic knowledge and experimental results. The chapters are accompanied by extensive reference lists. The author is Professor of Soils in the University of Missouri, and is well known for his contributions to the knowledge of the clays.

Weiser, Harry Boyer

A textbook of colloid chemistry Second edition. New York John Wiley & Sons, Inc. 1949 444 p. illus. 24 cm. $6 75 1458

Contents (abridged): Part 1, Adsorption. Surface tension and adsorption. General characteristics of adsorption of gas or vapor. Mechanism of the adsorption of gas or vapor. Adsorption of liquid by solid, wetting. Adsorption from solution of non-electrolytes and weak electrolytes. Adsorption from solution of strong electrolytes. Adsorption of liquid by liquid. Part 11, Sols: Formation of sols. Purification of sols. The optical properties of sols. The kinetic properties of sols. Electrokinetic and electrochemical properties of sols. The stability of hydrophilic sols. Part 111, Gels. Part IV, Emulsions and foams. Part [illegible] Aerosols and solid sols. Part VI, Applications of colloid chemical principles to contact catalysis and dyeing. Index of authors. Index of subjects.

Note: An introductory textbook, [illegible]ich is also [illegible] convenient survey and reference manual for working chemists [illegible] ho are not specialists in colloid chemistry Not only are the main concepts and phenomena explained clearly but [illegible] considerable body of the pertinent literature is digested. The index of [illegible] uthors cited contains approximately 800 names. The organization and general content of this edition are essentially the same as the first edition ([illegible]) but [illegible] numerous revisions have been made throughout the text and in the bibliographies.

ELECTROCHEMISTRY

Creighton Henry Jermain Maude and W A Koehler

Principles and applications of electrochemistry New York John Wiley & Sons Inc., 1943–44 2 v illus 21 cm Vol. 1 $7.50 vol. 11, $8.00 1459

Contents (abridged): Volume 1, Principles of [illegible]ectrochemistry by H. J. Creighton. Faraday' laws of electrolysis. The theory of electrolytic dissociation. The migration [illegible] ions. Electrokinetic phenomena. Electromotive force Polarization and electrolysis. Theories of strong electrolytes. Heterogeneous equilibria. The dissociation of water Hydrolysis. The [illegible]idity of acids and bases. The theory of neutralization indicators and its application to volumetric analysis. Ampholytes. Heterogeneous equilibria. The electrochemistry of gases. Index of names. Index of subjects. Volume 11, Applications of electrochemistry by W A. Koehler Economics of power generation. Primary cells. Secondary cells or storage batteries. Electroplating Electrorefining of metals. Electrometallurgy Electrolysis of [illegible] alt halides. Electrolytic oxidation and reduction. Electroanalysis. Electric furnaces. Electrodes. Miscellaneous electrochemical processes. Index of names. Index of subjects.

Note: A [illegible] udy of the principles and theory underlying electrochemistry and their application in industrial practice. Volume [illegible] is in its fourth edition and contains new sections concerning the structure and properties of the electric double layer streaming potentials, polarographic analysis, the Wien effect, and glow discharge analysis, as well as revision of the sections dealing with fused electrolytes, overvoltage, electrochemical reduction, and electrochemical action in gases. Volume 11, of [illegible]hich the latest edition is the second, includes revision of the material on electroplating, nickel-cadmium alkaline storage battery continuous tin strip plating, magnesium from sea water hydrogen peroxide manufacture new carbon [illegible] furnace, new phosphorus furnace and fluorescent lamps.

Delahay Paul

New instrumental methods in electrochemistry theory instrumentation, and applications to analytical and physical chemistry With a chapter on high frequency methods by Charles N Reilley Foreword by I. M Kolthoff New York Interscience Publishers 1954 437 p. illus. 24 cm. $11.50. 1460

Contents: Part one, Voltammetric and related methods. Review of electrochemical methods. Electrode potentials and kinetics of electrochemical reactions. Voltammetry and polarography at constant voltage—reversible processes—irreversible processes. Voltammetry and polarography at constant potential—kinetic and catalytic processes. Voltammetry and polarography with continuously changing potential. Voltammetry and polarography with periodically changing potential. Voltammetry at controlled current. Current-potential curves obtained in stirred solutions or with moving electrodes. Voltammetric titrations. Part two, Coulometry, electrolytic separations, and related methods: Current efficiency and degree of completion of electrode processes. Electrolysis at controlled potential and related methods. Electrolytic separations and related methods. Coulometry at controlled current. Part three, High-frequency methods. High-frequency methods, by C. N Reilley. Part four Instrumentation. Instrumentation in voltammetry and related methods. Instrumentation in voltammetric titrations. Instrumentation in electrolysis at controlled potential. Instrumentation in coulometry at controlled current. Appendixes: Special forms of the Kernst equation. Solution of some

of the boundary value problems of Chapter three. Author index. Subject index.

Note A critical review of a large group of recently developed physical and analytical chemical techniques based on the phenomena of electrochemistry The first chapter is a short but useful outline of the techniques covered at greater length in later chapters. Here, the historical development and basic principles are covered without resort to mathematics. In contrast, when the individual techniques are taken up again in later chapters, there is considerable emphasis on mathematical analysis. The chapter on kinetics of electrochemical reactions is a noteworthy statement of current knowledge, expressed largely in mathematical equations. Literature references are given in the form of footnotes, and the names of the authors of the cited papers are brought together in the author index, feature that facilitates finding of individual papers. The book is addressed to graduate analytical and physical chemists.

GLASSTONE, SAMUEL

An introduction to electrochemistry New York D Van Nostrand Company, Inc., 1942 557 p illus 23 cm. $7 00 1461

Contents. Introduction. Electrolytic conductance. The theory of electrolytic conductance. The migration f ions. Free energy and activity Reversible cells. Electrode potentials. Oxidation-reduction systems. Acids and bases. The determination of hydrogen ions. Neutralization and hydrolysis. Amphoteric electrolytes. Polarization and over-voltage. The deposition and corrosion of metals. Electrolytic oxidation and reduction. Electrokinetic phenomena.

Note In this textbook many topics in electrochemistry are explained from the standpoint of current ideas. The treatment is based upon four great developments of recent years the activity concept, the interionic attraction theory the proton-transfer theory f acids and bases, and the treatment of electrode reactions as rate processes. Upon this foundation the author has built a presentation of overvoltage, passivity, corrosion, deposition of metals, and other matters important in applied electrochemistry as well as the material commonly treated in theoretical work. A selection of problems accompanies each chapter

HARNED, HERBERT SPENCER, AND BENTON B OWEN

Physical chemistry of electrolytic solutions Second edition, revised and enlarged. New York Reinhold Publishing Corporation, 1950 645 p illus 23 cm. (American Chemical Society Monograph series) 1462

Contents (abridged) General thermodynamic introduction. Theory of thermodynamic properties of aqueous solutions. The theory of irreversible processes in electrolytic solutions. Numerical compilations of physical constants, characteristic slopes, and mathematical functions. Coulomb forces and ion association weak electrolytes frequency and field effects. The calculation of activity and osmotic coefficients from freezing points, boiling points, and vapor pressures. Hydrochloric acid. Polyvalent electrolytes. Mixtures of strong electrolytes. The ionization and thermodynamic properties of weak electrolytes. Appendices. Author index. Subject index.

Note An authoritative treatise in which are combined full discussions of theory experimental methods, and the behavior and properties of electrolytic solutions. A third edition was published in 1958 803 p., $20.00.

ROBINSON R. A, AND R H STOKES

Electrolyte solutions the measurement and interpretation of conductance, chemical potential and diffusion in solutions of simple electrolytes New York Academic Press Inc., 1955 512 p illus 23 cm $9 50 1463

Contents: List of principal symbols. Table of important constants Properties of ionizing solvents. Basic concepts and definitions. The state of the solute in electrolyte solutions. Ionic distribution functions and the potential. The measurement of conductivities and transport numbers. The limiting mobilities of ions. The variation of conductivities and transport numbers with concentration. The measurement of chemical potentials. The theoretical interpretation of chemical potentials. The measurement of diffusion coefficients. The theory of diffusion of electrolytes. Weak electrolytes. The 'strong' acids. Ion association. The thermodynamics of mixed electrolytes. Appendices. Index.

Note This book is an authoritative and useful survey of the principal areas of experimental and theoretical electrochemistry In it is presented a survey of the accumulated knowledge on conductance, chemical potential, and diffusion, together with fairly detailed accounts of experimental methods of measuring and otherwise investigating the basic phenomena. Literature references are included in the chapters. The appendices contain wide range of reference data, with references to the sources from which the data were drawn.

RADIOCHEMISTRY

CALVIN, MELVIN, AND OTHERS

Isotopic carbon, techniques in its measurement and chemical manipulation, by Melvin Calvin, Charles Heidelberger, James C. Reid, Bert M Tolbert, and Peter F Yankwich New York John Wiley & Sons, Inc., 1949 376 p illus 24 cm $9.25 1464

Contents: Production and properties of isotopic carbon. Measurement of carbon 13 Characteristics of carbon tracer radiations. Instruments for radioactivity measurement. Detectors for radioactivity measurements. Sample preparation. Vacuum techniques in organic chemistry Synthesis of carbon-labeled compounds. Criteria of purity. Degradation procedures. Biosynthetic methods. Appendices. Bibliography Author index. Subject index.

Note A reference book and laboratory manual for the use of scientists and technicians who are using isotopic carbon (C^{13} or C^{14}) in laboratory procedures. As indicated by the chapter titles, matters that apply generally to the manipulation of isotopic carbon—and to certain extent, other radioactive isotopes—are first considered, then in the ninth chapter procedures for the actual synthesis of labeled compounds are given. This chapter is 90 pages long, and it summarizes all of the syntheses which have been reported in the literature up to April, 1948. The appendices furnish information on dilution methods, efficiencies of counters, radioactivity assay in induction scheme for a closed system, and other topics. There are numerous bibliographical footnotes and an extensive bibliography

FRIEDLANDER, GERHART, AND JOSEPH W KENNEDY

Nuclear and radiochemistry Revised version of *Introduction to radiochemistry* New York John Wiley & Sons Inc. 1955 468 p. illus 24 cm $7 50 1465

Contents Radioactivity Atomic nuclei. Nuclear reactions Production and study of nuclear reactions. Equations of radioactive decay and growth. Nuclear states and radioactive processes. Interaction of radiations with matter Radiation detection and measurement. Statistical considerations in radioactivity measurements. Techniques for the study of radionuclides. Tracers in chemical applications. Nuclear energy Some cosmic problems. Appendices. Name index. Subject index.

Note An introductory text addressed primarily to advanced undergraduate and graduate students of chemistry It states the fundamental physical knowledge on radioactivity and atomic nuclei, expounds radioactive processes, covers the principles and methods of detection and measurement of radiation, and outlines the use of radioactive isotopes as tracers in chemical investigations. The treatment is more descriptive than mathematical, but the authors have assumed that the reader will be able to read graphs, solve algebraic equations, etc. The book is suitable for home reading by chemistry graduates who desire grasp of the elementary basic knowledge of nuclear science and radiochemistry The first edition was published in 1949 Most chapters of this second edition are considerably revised. In addition, the final chapters on nuclear energy and cosmic aspects of radioactivity are new Literature references have been revised, and there is some new illustrative material.

UNITED STATES ATOMIC ENERGY COMMISSION

Isotopes an eight year summary of distribution and utilization with bibliography

Washington, D. C. Government Printing Office 1955 357 p. illus. 26 cm. $2.00. 1466

Contents: Introduction. Principles of isotope utilization. Medical and biological research. Medical diagnosis. Medical therapy. Agricultural studies. Physical and chemical research. Industrial uses. Available materials and services. Technical services and training opportunities. Appendices: Special sources of information on isotopes. Chronological outline of development of isotopes distribution program. Statistics on isotope distribution. Extent of chief medical uses of radioisotopes. Bibliography. Abbreviations used in bibliography. Author index for bibliography.

Note: An official résumé of isotope utilization during the first eight and one-half years of the United States Atomic Energy Commission's distribution program. It summarizes the uses that have been developed in various fields of research and industry, outlines the principles of each use, and provides information on radioactive materials and special services, such as encapsulation of radioisotope sources, available from the United States Atomic Energy Commission. The appendix section is the larger part of the book, and it provides reference information of the types indicated in the appendix titles quoted above. The bibliography, which is a classified list of more than 3,000 literature references published during the three and one-half year period ending February 1955, is a major feature of the appendix section. This publication partly supplements and partly supersedes a three-year summary and a five-year summary bearing the same title, published in 1949 and 1951.

WAHL, ARTHUR CHARLES, AND NORMAN A. BONNER editors

Radioactivity applied to chemistry. New York John Wiley & Sons, Inc., 1951 604 p. 24 cm. $10.50 1467

Contents (abridged): Part I: Introduction. Isotopic exchange reactions, by O. E. Myers and R. J. Prestwood. Radioactivity applied to chemical kinetics, by C. E. Crompton. Radioactivity applied to structural chemistry, by V. J. Linnenbom. Radioactivity applied to self-diffusion studies, by J. H. Wang. Radioactivity applied to analytical chemistry, by V. J. Linnenbom. Behavior of carrier-free tracers, by N. A. Bonner and M. Kahn. Radioactivity applied to the discovery and investigation of the newer elements, by C. D. Coryell. Chemical phenomena accompanying nuclear reactions ([illegible] chemistry) by J. W. Barnes and others. Emanation methods, by A. C. Wahl. Radioactivity applied to surface determinations, by J. H. Wang. Part II: Tables. Appendices. Bibliography. Index.

Note: A comprehensive survey written on the professional level. It is based on literature searches that were designed to cover all of the published literature pertinent to the subject published in American journals through 1949 and in foreign journals to various dates in 1949. The published information has been summarized in essay form in the signed chapters in Part I, and presented in tabular form in 13 tables in Part II. Source publications are cited in both parts.

THE EARTH

GEOPHYSICS AND GEODESY

ADVANCES IN GEOPHYSICS Edited by H. E Landsberg Volume 1 Editorial advisory committee Bernhard Haurwitz, Walter D Lambert, James B Macelwane and Roger Revelle. New York Academic Press, Inc., 1952 362 p illus 24 cm. $8 50 1468

Contents Automatic processing of geophysical data, by J C. Bellamy Some new statistical techniques in geophysics, by A. Court. Studies of the general circulation of the atmosphere, by B. Bolin. Exploration of the upper atmosphere by meteoritic techniques, by F L. Whipple. Unsolved problems in physics of the high atmosphere by N C. Gerson. Estuarine hydrography by D W Pritchard. The earth s gravitational field and its exploitation, by G. P Woollard. Aeromagnetic surveying, by J R. Balsley Author index. Subject index.

—— Volume 2 Editorial advisory committee Bernhard Haurwitz and others New York Academic Press, Inc., 1955 286 p illus 24 cm. $7 50 1469

Contents Advances in radar weather by J S. Marshall and others. Methods of objective weather forecasting, by I. I. Gringorten. Wind generated gravity waves, by W J Pierson, Jr Geological chronometry by radioactive methods, by J L. Kulp. Earthquake seismographs and associated instruments, by H. Benioff. Author index. Subject index.

Note The purpose of this series is to present periodically monographic reviews of the current status and of recent developments in the various areas of geophysics. Each monograph is based largely on published literature and is accompanied by an extensive list of citations. The first two volumes in the series contain the reviews whose authors and titles are listed above.

BALDWIN, RALPH BELKNAP

The face of the moon Chicago The University of Chicago Press 1949 239 p illus. 25 cm $5 00 1470

Contents Scientists look at the moon. Surface features. Suggested crater-forming processes. Terrestrial meteoritic craters. Fossil terrestrial meteorite craters. Relationships. Correlations. Evaluation The lunar atmosphere. Ancient history The circular Maria. Other planets. Appendixes Derivation of the relationship between the distance of the moon and geologic time. The lunar tidal bulge as function of the moon's distance. The penetrating power of projectiles. The diameters of the meteorites which produced the craters. Bibliography Index.

Note. The greater part of this significant book is devoted to evidence in support of the theory which holds that the craters visible on the surface of the moon were made by explosions resulting from the impact of meteors. Other hypotheses, particularly those which attempt to explain the craters on the basis of volcanic action, are examined, and their faults are pointed out. Much interesting information is included on related topics, such as the question of whether the moon has an atmosphere and the history and characteristics of craters on the earth which appear to have a meteoritic origin. *The work is addressed to both scientists and laymen.* The author made no obvious effort to avoid technical terminology but both his subject and style are suited to serious general readers who are attracted to modern science.

CARNEGIE INSTITUTION OF WASHINGTON DEPARTMENT OF TERRESTRIAL MAGNETISM

Description of the earth s main magnetic field and its secular change, 1905–1945 By E H. Vestine, L Laporte, I Lange, C. Cooper, and W C. Hendrix. Washington, D C. Carnegie Institution of Washington, 1948. 532 p illus 28 cm. (Carnegie Institution of Washington Publication 578) $2 75 1471

Contents: Introduction. Preliminary description of the earth's surface magnetic field. Preparation of tables for reduction to epoch. Method of reduction of magnetic observations. Graphs of selected observatory and survey-station values. Isoporic charts, 1912.5, 1922.5 1932.5 and 1942.5 all elements. Main-field charts, epoch 1945. Literature cited.

Note In tables, graphs, maps, and text, this volume presents data summarizing a world-wide descriptive study of the earth's main magnetic field and its secular change for the period 1905–1945. Many published observations of magnetic surveys on land and sea are here fitted into a consistent picture. A feature of the volume is the set of world-charts descriptive of secular change drawn complete in all magnetic elements for four different epochs, each a decade apart, affording information regarding the deep-seated, rapid, and mysterious physical processes of the earth's interior not known to be reflected in any other way

CARNEGIE INSTITUTION OF WASHINGTON DEPARTMENT OF TERRESTRIAL MAGNETISM

Earth-current results at Tucson Magnetic Observatory, 1932–1942, by W J Rooney Washington, D C Carnegie Institution of Washington, 1949 309 p illus. 28 cm. (Carnegie Institution of Washington Publication 175 Researches of the Department of Terrestrial Magnetism Vol IX) $2.25 1472

Contents. Details of site and apparatus. Reduction of records. Discussion of results. General considerations. The solar diurnal variation. Relation to solar activity Seasonal changes. Comparison with magnetic records. Variations with periods longer than one day Lunar diurnal variations. *Literature cited.* Tables 1–311.

Note: The greater part of this volume consists of a series of tables in which are given the hourly mean values of earth-current potentials, arranged by month, for the years indicated. Apparatus used and methods of registering the potentials are described in the introductory chapters. The data were assembled as a joint project of the United States Coast and Geodetic Survey and the Bell Telephone Company

CARNEGIE INSTITUTION OF WASHINGTON

I Ionospheric research at College, Alaska, July, 1941—June 1946 by S L. Seaton, H H Wells and L. V Berkner II Auroral research at College, Alaska, 1941–1944, by S L Seaton and C. W Malich Washington, D C. Carnegie Institution of Washington, 1947 397 p. illus. 28 cm (Carnegie Institution of Washington. Publication 175 Researches of the Department of Terrestrial Magnetism. Volume XII) $2.35 1473

—— Ionspheric research at Huancayo Observatory Peru, January 1938–June, 1946 by H. W Wells and L. V Berkner Washington D C Carnegie Institution of Wash-

ington, 1947 449 p. illus. 28 cm. (Carnegie Institution of Washington. Publication 175 Researches of the Department of Terrestrial Magnetism. Volume xi) $2.50 1474

—— Ionospheric research at Watheroo Observatory Western Australia, June 1938–June, 1946, by L. V Berkner and H. W Wells. Washington, D C. Carnegie Institution of Washington, 1948. 425 p. illus. 28 cm. (Carnegie Institution of Washington. Publication 175 Researches of the Department of Terrestrial Magnetism. Volume xiii) $2.50. 1475

Note These volumes consist chiefly of tabulated data obtained at observatories geographically remote from each other. The investigations were carried on and the results published in order to facilitate further study of the ionosphere and related phenomena.

CARNEGIE INSTITUTION OF WASHINGTON

Magnetic results from Huancayo Observatory Peru, 1922–1935 and 1936–1944 by H. F Johnston, A. G. McNish, S E. Forbush, W E. Scott, Ella Balsam, and P G Ledig. Washington, D C Carnegie Institution of Washington, 1948. 2 v illus. 28 cm. (Carnegie Institution of Washington. Publication 175 Researches of the Department of Terrestrial Magnetism. Volume x A, x B) Vol. x A, $3.75 vol. x B $2.50. 1476

—— Department of Terrestrial Magnetism, Carnegie Institution of Washington, January 1945–June 1947 Instituto Geofísico de Huancayo July–December 1947 By P G Ledig, A. A. Giesecke, Jr., W. C. Parkinson, W E. Scott, and Ella Balsam. Washington D C. Carnegie Institution of Washington 1951 127 p. illus. 28 cm. (Carnegie Institution of Washington. Publication 175 Researches of the Department of Terrestrial Magnetism. Volume x-C) $1.50. 1477

—— Magnetic results from Watheroo Observatory Western Australia, 1919–1935 and 1936–1944 by J A. Fleming, H. F Johnston, A. G. McNish, S E. Forbush, and W E. Scott. Washington, D C. Carnegie Institution of Washington, 1947 2 v illus. 28 cm. (Carnegie Institution of Washington. Publication 175 Researches of the Department of Terrestrial Magnetism. Volume vii-A, vii B) Vol. vii A, $5.25 vol. vii B o.p. 1478

—— January 1945–June 1947 Australian Commonwealth, Bureau of Geology Geophysics and Mineral Resources, July–December 1947 Compiled, edited and interpreted by W C. Parkinson, F W Wood, W E. Scott, and Ella Balsam. Washington, D C. Carnegie Institution of Washington, 1951 127 p. illus 28 cm. (Carnegie Institution of Washington. Publication 175 Researches of the Department of Terrestrial Magnetism. Volume vii-C) $1.50 1479

Contents. Explanatory text Introduction. Description of instruments. Constants of the magnetographs. Absolute observations and variometer base-line values. Basic hourly values and associated means. Summary of monthly means. Summary of annual means. Magnetic disturbances and sudden commencements. Literature cited. Tables. Observatory staff from 1945 to 1947 Monthly mean and range in temperature. [illegible]. Observed H scale values [illegible] and adopted values of [illegible]. Summary of daily Z scale-value determinations with [illegible] 1945-1947 Observed base-line values for the D variometer and respective adopted values. Abrupt changes in the adopted D base-line value. Observed base-line values at 25°C for the H variometer and respective adopted values. Abrupt changes in the adopted H base-line value. Observed base-line values at 25°C for the Z variometer and respective adopted values. Abrupt changes in the adopted Z base-line value. Summary of monthly means for 1945 to 1947 Summary of annual means for 1919 to 1947 Magnetic disturbances and sudden commencements 1945 to 1947 Hourly mean values of declination, horizontal intensity and vertical intensity 1945 to 1947

Note Data gathered as part of a carefully planned long-range program of investigation of terrestrial magnetism are presented in these volumes. The contents given above for Volume vii-C are typical of the volumes in the series.

CLARKE, FRANK WIGGLESWORTH

The data of geochemistry Fifth edition. Washington, D C. Government Printing Office 1924 841 p. 23 cm. (United States. Geological Survey Bulletin 770) $3.50 1480

Contents: Introduction. The chemical elements. The atmosphere. Lakes and rivers. The ocean. The waters of closed basins. Mineral wells and springs. Saline residues. Volcanic gases and sublimates. The molten magma. Rock-forming minerals. Igneous rocks. The decomposition of rocks. Sedimentary and detrital rocks. Metamorphic rocks. Metallic ores. The natural hydrocarbons. Coal. Index.

Note Though published many years ago, this work is still used as a standard reference book on the chemical composition of the atmosphere, the waters of the earth, volcanic gases, and the solid materials of the earth's crust. The data presented were taken from the international literature, and references are given to source publications. The index, which covers both authors and subjects, is a detailed one. First published in 1908, the work reached its fifth revised edition in 1924 There have been no changes since, but it has been reprinted several times, and is still available, at the price noted above.

FRANKLIN INSTITUTE

Earth satellites as research vehicles. Proceedings of the Symposium held April 18 1956 at The Franklin Institute in Philadelphia. Philadelphia Franklin Institute, 1956 115 p. illus 24 cm. (Journal of the Franklin Institute. Monographs. No. 2) $2.50. 1481

Contents: Introductory remarks, by [illegible] and [illegible]. The International Geophysical Year earth satellite program, by H. E. Newell, Jr. The launch vehicle, by [illegible]. Astronomical and space-medical research with unmanned satellites, by K. A. Ehricke. Astrophysical research with an artificial satellite, by L. Spitzer, Jr. The effect of the earth's oblateness and atmosphere on a satellite orbit, by [illegible]. [illegible] artificial celestial navigation system, by L. Lawrence, Jr. Recovery of data in physical form, by R. W. Porter.

Note A considerable range of information about scientific uses of artificial earth satellites and about Project Vanguard is provided in this collection of papers and discussion. Participants in the symposium that produced the volume included some of the most eminent scientists working on earth satellites, and some of the information presented had not been published previously. The style of most of the papers is only moderately technical, thus making the collection an informative one for general readers and nonspecialists who possess the requisite knowledge of physical terminology.

GAMOW, GEORGE

Biography of the earth its past, present, and future. New York The Viking Press, 1941 242 p illus 22 cm $3 00 1482

Contents (abridged): The age of the earth. The blessed event. The earth bears a daughter The family of planets. Journey to the centre of the earth. The rise and fall of the mountains. The evolution of continents. Climates of the past. Life on the earth. A glimpse into the future. Index.

Note A well-written story of the evolution of the earth designed for the layman interested in science.

GUTENBERG, BENO, editor

Internal constitution of the earth. Second edition New York Dover Publications, Inc., 1951 439 p illus 24 cm. $5 50 1483

Contents Introduction by B Gutenberg. The origin of the solar system, by H. Jeffreys. Relevant facts and inferences from field geology by R. A Daly Elastic properties of materials of the earth crust, by L. H. Adams. The chemical and petrological nature f the earth s crest, by H. S. Washington and L. H. Adams. Observed temperatures in the earth s crest, by C. E. Van Orstrand. The cooling f the earth and the temperature in its interior by B. Gutenberg. Forces in the earth by B Gutenberg. Hypotheses on the development of the earth by B Gutenberg. Evidence on the interior of the earth derived from seismic sources, by J B. Macelwane. Evidence from deep-focus earthquakes, by B Gutenberg and C F Richter Structure of the crust—continents and oceans, by B Gutenberg and C F Richter Density gravity pressure and ellipticity in the interior of the earth, by W D Lambert and F W Darling. The elastic constants in the interior l the earth, by B. Gutenberg. Strain characteristics f the earth's interior by H. Benioff and B. Gutenberg. Summary by B Gutenberg. Appendix. Author index. Subject index.

Note A basic work on geophysics which was published originally as Volume VII f the *National Research Council's Physics f the earth*, Washington, D C., 1939 In preparing this edition—the manuscript of which was apparently completed in 1949—all but two of the chapters have been expanded or extensively rewritten.

HOSMER, GEORGE LEONARD

Geodesy, including astronomical observations, gravity measurements, and method of least squares. Second edition, revised and enlarged New York John Wiley and Sons, Inc. 1930 461 p illus 23 cm $8 75 1484

Contents. Geodesy and geodetic surveying. Triangulation. Baselines. Field-work of triangulation. Measurement of horizontal angles. Astronomical observations. Properties of the spheroid. Calculation of triangulation. Calculation of geodetic positions. Figure of the earth. Gravity measurements. Precise, or first-order leveling. Trigonometric leveling Map projections. Application of method of least squares to the adjustment of triangulation. Appendix. Index.

Note. This textbook emphasizes the theory as well as the practical details of field work. The material includes more detail than can actually be covered in course of moderate length, the purpose being to give the student broad outlook and encourage him to pursue the subject further Methods of observing and computing have been brought into conformity with current U.S. Coast and Geodetic Survey practice. The chapters on astronomy and least squares are intended only as introductions to the standard works. A knowledge of first-year college mathematics is assumed. Short reference lists are given after three of the chapters, and collection of useful formulas and tables is included in the appendix. Principal changes in the second edition cover ew designs for theodolites, vertical collimators, rods, other instruments, and towers, the use of radio signals for determining longitude, and the addition of Clarke's formulas for geodetic positions.

KUIPER, GERARD PETER, editor

The atmospheres of the earth and planets Revised edition. Chicago The University of Chicago Press 1952 434 p illus 24 cm. $8 50 1485

Contents Introduction, by G. P Kuiper On the nature of the general circulation of the lower atmosphere, by C. G. Rossby Scattering in the atmospheres of the earth and planets, by H. C van de Hulst. The upper atmosphere studied from rockets, by J L. Greenstein and others. Seasonal variations in the density of the upper atmosphere by F L. Whipple and others. The spectra of the night sky and the aurora, by P Swings and A. B. Meinel. The terrestrial atmosphere above 100 km., by L. Spitzer, Jr. Geological evidence on the evolution of the earth s atmosphere, by R. T. Chamberlin Rare gases and the formation f the earth s atmosphere, by H. Brown. Selected topics in the infrared spectroscopy of the solar system, by A. Adel. On the presence of atmospheric gases from infrared telluric bands, by M. V Migeotte. Spectroscopic observations of the planets at Mount Wilson, by T Dunham, Jr Planetary atmospheres and their origin, by G. P Kuiper. Laboratory absorption spectra obtained with long paths, by G. Herzberg. Appendix. Index.

Note A collection of papers which were originally prepared for the Symposium on Planetary Atmospheres held at the University of Chicago in September 1947 in connection with the 50th anniversary of the Yerkes Observatory Among the authors are prominent meteorologists, astrophysicists, and specialists in upper atmosphere research. Some of the experimental methods and results reported were not published previous to the appearance of this volume. In all of the papers the presentation is technical; hence, the volume is of primary usefulness only to persons with scientific education pertinent to the field. The first edition appeared in 1949. For the present edition, most of the authors revised their chapters, and some made very substantial revisions.

LANGE, ISABELLE, AND S E FORBUSH

Cosmic ray results from Huancayo Observatory, Peru, June, 1936–December, 1946, including summaries from observatories at Cheltenham, Christchurch, and Godhavn through 1946 Washington, D C. Carnegie Institution of Washington, 1948 182 p. illus. 28 cm. (Carnegie Institution of Washington. Publication 175 Department of Terrestrial Magnetism Researches of the Department of Terrestrial Magnetism. Vol. XIV) $1.50. 1486

Contents Introduction. Cosmic-ray meter installation. Description of cosmic-ray meter Absolute ionization. Reduction of data. Description of tables. Literature cited. Figures 1 12. Tables. Bibliography of published papers of analyses of data from Compton-Bennett cosmic-ray meters.

Note. The major portion of this publication consists of 87 tables presenting daily records of the results of cosmic-ray measurements made between 1936 and 1946 with precision meters installed at magnetic observatories in Peru, Maryland, New Zealand, and Greenland. The tables are arranged one or two to a page. The preliminary text contains descriptions of the methods of collecting the data as well as descriptions of the contents f the tables.

LEY, WILLY

The days of creation New York Modern Age Books, 1941 275 p illus 22 cm. $2.75 1487

Contents The first day "Let there be light. The second day The division of the waters. The third day The conquest of land The fourth day The great new invention. The fifth day The triumph of the reptiles. The sixth day The glory of the mammals. The seventh day The consolidation of brainpower Index.

Note: A popularized account of the evolution of the earth and of the development of life on the planet, written in an informal style for the layman, and based on survey of scientific literature. A comparison is made between the story of the creation in *Genesis* and the scientific account f evolution and geologic development.

MASON, BRIAN

Principles of geochemistry New York John Wiley & Sons Inc. 1952 276 p. illus. 24 cm $6 00 1488

Contents: Introduction. The earth in relation to the universe. The structure and composition of the earth. Some thermodynamics and crystal chemistry Magmatism and igneous rocks. Sedimentation

ous and sedimentary rocks. The hydrosphere. The atmosphere. The biosphere. Metamorphism and metamorphic rocks. The geochemical cycle. Index.

Note: The author states that in this work, "The aim has been to summarize the significant facts and ideas concerning the chemistry of the earth and to synthesize these data into a coherent account of the physical and chemical evolution of the earth." The chapter titles fail to indicate the chemical emphasis. For example, the chapter on the hydrosphere is organized under the following subheads: The composition of sea water. The composition of terrestrial waters. The balance of dissolved matter in sea water. The history and evolution of the ocean, and it contains 6 tables of chemical data. The level of treatment is introductory to this field, but readers need a background in basic chemistry, physics, and geology. The author is a member of the faculty of the Department of Geology of Indiana University.

PHYSICS AND CHEMISTRY OF THE EARTH 1. Editors L. H. Ahrens Kalervo Rankama, and S K. Runcorn New York Pergamon Press, Inc., 1956 317 p. 24 cm. $8.00 1489

Contents: The origin of the solar system, by H. S. Jones. Temperatures within the earth, by J. Verhoogen. Radioactive methods for determining geological age, by L. H. Ahrens. Seismology and the broad structure of the earth's interior, by K. E. Bullen. The hydrodynamics of the earth's core, by R. Hide. Investigations under hydrothermal conditions, by R. Roy and O. F. Tuttle. The geochemistry of the halogens, by C. W. Correns. Geochemistry in the U.S.S.R. (1945–1953), by E. I. Tsuchiell. Name index. Subject index.

Note: The first volume published of a new annual series, the purpose of which is to present reviews of progress in the areas of scientific research embraced in geophysics and geochemistry. It contains the eight chapters whose authors and titles are given above. Each of the authors has presented a comprehensive survey of the current state of his topic; in other words, he has not limited himself to the published literature of the last year or even of the last two or three years. An extensive bibliography is a feature of each chapter. The series is addressed to graduate scientists.

SWICK, CLARENCE HERBERT

Pendulum gravity measurements and isostatic reductions. Washington, D C Government Printing Office, 1942 82 p. illus. 26 cm. (United States. Coast and Geodetic Survey Special publication no. 232) $0.60 1490

Contents: Brown pendulum apparatus. Gravity determination with pendulums. Computation of gravity results. Topographic and isostatic computations and reductions. Index.

Note: This publication supersedes Special publication no. 40, Modern methods for measuring the intensity of gravity, Washington, D. C., 1921, which related principally to the Mendenhall type of pendulum apparatus. In 1932 this apparatus was largely superseded by the Brown gravity apparatus, the principal consideration of which is to speed up the observations without any loss of accuracy. The manual includes a brief description of the Brown pendulum and of the corresponding methods and computations, including isostatic reductions.

THOMPSON, HENRY DEWEY

Fundamentals of earth science. New York D Appleton-Century-Crofts, Inc., 1947 461 p illus. 23 cm. (The Century earth science series Kirtley F Mather editor) $4.50 1491

Contents: Editor's introduction. Scope, methods and historical development of earth science. The earth as a planet. Origin and age of the earth. General composition, structure and processes of the earth. Maps, diagrams and photographs. The elements of weather and climate. Climatic controls. Climatic types. Weathering. The work of streams. The cycle of stream erosion. Ground water. Glaciers and glaciation. Wind work. Lakes and swamps. The oceans and its shores. Minerals. Volcanism. Igneous rocks. Sedimentary rocks. Metamorphism and metamorphic rocks. Movements and structures of the lithosphere. Earthquakes. Landforms. A short sketch of earth history. Useful aspects of earth science. Appendix: Subdivisions of earth science. Publications dealing with earth science. Index.

Note: A college textbook designed for a one-semester freshman course and intended to acquaint the student with the natural processes that are responsible for the structure of the earth and the changes that are constantly taking place in its physical aspects. In addition to geology and physical geography, basic ideas in meteorology, climatology, oceanography, geomorphology, mineralogy and geophysics are discussed in this connection. Commonly accepted, up-to-date knowledge is presented in a clear straightforward manner suitable for beginners but with no effort to popularize or to catch the attention of the layman.

UNITED STATES COAST AND GEODETIC SURVEY

Directions for magnetic measurements by Daniel L. Hazard. Third (1930) edition, corrected 1938 Washington D C. Government Printing Office 1938 129 p. illus. 23 cm. (United States. Coast and Geodetic Survey Serial no 166) $1.00 1492

Contents: Introduction. Bibliography. Theory of magnetic measurements. Directions for magnetic observations on land. Directions for observations at sea. Operation of a magnetic observatory. Earthquakes.

Note: This publication is intended primarily as a manual for the guidance of officers of the Coast and Geodetic Survey doing work in terrestrial magnetism, but is valuable to workers in similar organizations as well. The subject matter is presented in such form that an observer familiar with the use of instruments of precision, but without experience in magnetic work, may be able to make the various observations incident to the determination of the magnetic elements. The third edition omits the detailed directions for the operation of a magnetic observatory given in the second edition, but incorporates the results of accumulated experience in the field obtained during 1921 1931.

UNITED STATES. COAST AND GEODETIC SURVEY

Formulas and tables for the computation of geodetic positions. Seventh edition. Washington, D C. Government Printing Office, 1933 101 p 29 cm. (United States. Coast and Geodetic Survey Special publication no. 8) $0.50 1493

Contents: Introductory remarks. Selection of triangles. Spherical excess. Number of decimal places in angles and lengths. Computation of differences of latitude, longitude and azimuth. Examples of computation. Tables. Constants for the reference spheroid. Appendix.

Note: The main table (71 p.) gives logarithmic values of the factors, which depend on the dimensions of the reference spheroid and the latitude for each degree and minute of latitude from the equator to 72. Formulas are given for the computation of differences of latitude, longitude, and azimuth employing these factors, arranged to give the results in seconds of arc. The appendix contains a historical account of the development of the formulas and their relation to Bessel and Clarke spheroids and to the International ellipsoid. The changes in the seventh edition are outlined in the introductory material.

UNITED STATES COAST AND GEODETIC SURVEY

Formulas and tables for computation of geodetic positions on the International Ellipsoid, by Walter D Lambert and Clarence H. Swick. Washington, D C Government Printing Office, 1935 120 p. illus. 23 cm. (United States. Coast and Geodetic Survey Special publication no. 200) $0 40 1494

Contents: Introduction. The International Ellipsoid of Reference. Selection of triangles. Spherical excess. Number of decimal places in angles and lengths. Computation of differences of latitude, longitude, and azimuth. Arc-sine correction. Examples of computation. Tables.

Note. Although the U. S. Coast and Geodetic Survey uses the Clarke spheroid of 1866 for geographic purposes, the present tables based on the International Ellipsoid of Reference are offered for computations of positions in experimental and scientific work and for the use of other geodetic organizations and individual geodesists. The ellipsoid was adopted in 1924 by the Association of Geodesy of the International Union of Geodesy and Geophysics, and the tables published by that Association in 1928 are used as a basis for the present work. A collection of formulas and number of illustrative examples are included.

UNITED STATES COAST AND GEODETIC SURVEY

Manual of harmonic analysis and prediction of tides, by Paul Schureman. Revised (1940) edition Washington, D C Government Printing Office, 1941 317 p illus 23 cm. (United States Coast and Geodetic Survey Special publication no 98) $1 00 1495

Content (abridged) Introduction. Development of tide-producing force. Analysis of observations. Prediction of tides. Tables. Explanation of symbols. Index.

Note: This volume was designed primarily as working manual for use in the United States Coast and Geodetic Survey and describes the procedure used in that Bureau for the harmonic analysis and prediction of tides and tidal currents. The first edition of the present work was published in 1924 In this revised edition there has been a rearrangement of the material in the first part of the volume to bring out more clearly the development of the tidal forces. Tables of astronomical data and other tables, which comprise about half of the book, and facilitate the computations have not been materially altered in the revised edition. There is a considerable amount of mathematical theory presented, together with sample calculations.

UNITED STATES COAST AND GEODETIC SURVEY

Manual of tide observations Revised (1941) edition Washington, D C. Government Printing Office, 1941 92 p illus 23 cm. (United States Coast and Geodetic Survey Special publication no 196) $0.30 1496

Contents Tide gages. Primary tide station. Secondary tide station. Tabulation and reduction. Temperature and density observations. Index.

Note This pamphlet contains instruction for the observations of tides and the usual reductions necessary for the determination of datum planes and the nonharmonic quantities published in the tide tables of the U.S. Coast and Geodetic Survey Directions for taking temperature and density observations are also included for the convenience of tide observers who take such observations in connection with their regular duties at tide stations. Corresponding instructions for tidal current observations are given in U.S. Coast and Geodetic Survey Special publication no. 215 titled *Manual of current observations* and the harmonic computations required for the prediction of tides and currents are described in Special publication no. 98 titled *Manual of harmonic analysis and prediction of tides.*

UNITED STATES COAST AND GEODETIC SURVEY

Tables for determining the form of the geoid and its indirect effect on gravity, by Walter D Lambert and Frederic W Darling Washington, D C Government Printing Office, 1936 130 p illus 23 cm. (United States Coast and Geodetic Survey Special publication no 199) $0 15 1497

Contents: Fundamental tables. Density of compensation for computing special Bowie tables. Bowie isostatic reduction tables. Determination of the geoid from gravity anomalies. Miscellaneous tables. Index.

Note These are essentially tables of the numerical values of the Newtonian gravitational potential for elements of volume of finite size in polar co-ordinates in space, density being unit. They are intended to facilitate the solution of problems involving the deviation of the geoid from the spheroid of reference, with special reference to the intensity of gravity One set of tables gives values for determining the form of the geoid in terms of the function proposed by Stokes in 1849 while a second set provides data for determining the effect on the form of the geoid of various distributions of matter and the consequent effect on gravity at the geoid surface. A large portion of the latter set is devoted to the computation of general or fundamental tables of the Cassinis type for the warping of a level surface corresponding to assumed distributions or transfers of mass.

UNITED STATES COAST AND GEODETIC SURVEY

United States magnetic tables and magnetic charts for 1945 By Samuel A. Deel and H Herbert Howe Washington, D C. Government Printing Office, 1948 137 p. illus. 23 cm 1498

Contents Errata in Serial 602 Introduction. Magnetic surveys. Secular change. Discussion of main table of data (table 5) Values for 1945 at stations not listed in table 5 Magnetic charts. Tables.

Note The fifth in series of publications issued approximately every 10 years. The series presents the collected results of magnetic observations in the United States of America. The present volume contains the observed values at stations occupied too late to be included in the preceding volume of the series—that which presented the observations for 1935 and was published in 1938. The present volume presents also all observations of the Coast and Geodetic Survey useful for deriving secular change. Four tables present data on the following distribution of magnetic stations in the United States of America secular change of declination; and secular change of horizontal intensity The fifth principal table is arranged by states, and it presents the observed values of magnetic elements and the corresponding values reduced to January 1, 1945 Furnished with the volume and folded in a pocket in the inside back cover are four colored charts entitled as follows. "Lines of equal vertical intensity for 1945 United States, "Lines of equal horizontal intensity for 1945 United States, "Isoclinic chart for 1945, United States, "Isogonic chart for 1945 United States, and "Changes of the magnetic elements from January 1 1935, to January 1 1945.

VAN ALLEN, JAMES A , editor

Scientific uses of earth satellites Ann Arbor University of Michigan Press, 1956 316 p illus 26 cm $10 00 1499

Contents. The orbit of small earth satellite, by R. J. Davis and others. Time available for the optical observation of an earth satellite, by J B. Zirker and others. Satellite tracking by electronic optical instrumentation, by H. J Merrill. Possibility of visual tracking of satellite, by D E. Hudson. Interpretation of observed perturbations on a minimal earth satellite, by J. L Sedwick, Jr Systems design considerations for satellite instrumentation, by L. G deBey Components for instrumentation of satellites, by H. K. Ziegler Experiments for measuring temperature, meteor penetration, and surface erosion of satellite vehicle, by H. E. LaGow Insolation of the upper atmosphere and of satellite, by P R. Gast. Satellite drag and air-density measurements, by L. M. Jones and F L. Bartman. On the determination of air density from a satellite, by L. Spitzer Jr Pressure and density measurements through partial pressures of atmospheric components at minimum satellite altitudes, by H. S. Sicinski and others. Meteorological measurements from satellite vehicle by W G. Stroud and W Nordberg. The radiative heat transfer of planet earth, by J. I F King. Visibility from satellite at high altitudes, by V J. Stakutis and J X. Brennan. A Lyman alpha experiment for the vanguard satellite, by T A. Chubb and others. A satellite experiment to determine the distribution of hydrogen in space by T A. Chubb and others. Ultraviolet stellar magnitudes, by R. J Davis. Quantitative intensity measurements in the extreme ultraviolet, by H. E. Hinteregger Cosmic-ray observations in earth satellites, by J A. Van Allen. Study of the arrival of auroral radiations, by J A. Van Allen. Proposed measurement of solar stream protons, by W H. Bennett. Exploring the atmosphere with satellite-borne magnetometer by E. H. Vestine. Measurements of the earth's magnetic field from satellite vehicle, by S. F Singer Satellite geomagnetic measurements, by J P Heppner. Geomagnetic in-

formation potentially available from satellites, by L. Katz. Ionospheric structure as determined by minimal artificial satellites, by W. W. Berning. Temperature and electron-density measurements in the ionosphere by Langmuir probe, by G. Hok and others. A satellite propagation experiment, by L. M. Hartman and R. P. Harland. Electromagnetic propagation studies with a satellite vehicle, by F. R. Dubin. Study of fine structure and irregularities of the ionosphere with rockets and satellites, by W. Pfister. Meteoric bombardment, by M. Dubin. Measurements of interplanetary dust, by E. P. Ney.

Note: A compilation of 33 papers presented at the 10th anniversary meeting of the Upper Atmosphere Rocket Research panel held at the University of Michigan in January 1956. As their titles indicate, the papers are devoted to specific uses for satellites and, of course, man-made satellites are intended. Generally speaking, the proposed uses are described in detail. Most of the authors are currently engaged in satellite development, upper atmosphere research and related fields, and the papers are addressed to scientists working in these fields or having scientific interests in them for other reasons. The majority of papers contain literature references. There is no volume index.

WALLIS, WILLIAM FISHER, AND J. W. GREEN

Land and ocean magnetic observations, 1927–1944 Washington, D. C. Carnegie Institution of Washington, 1947 243 p. illus. 28 cm. (Carnegie Institution of Washington. Publication 175 Researches of the Department of Terrestrial Magnetism. Volume VIII.) $1.75 1500

Contents: Summary of land work. Secular-variation stations. Descriptions of instruments. Magnetometers. Sine galvanometers. Dip circles and earth inductors. Reductions to standard instruments. Magnetic standards adopted. Magnetometer corrections. Inclinometer corrections. Methods of observation. Observers' field reports. Land magnetic observations. Explanatory remarks. Distribution of stations. Results of land magnetic observations, 1927–1944. Descriptions of stations. Ocean magnetic observations, Cruise VII of the *Carnegie*, 1928–1929.

Note: This volume continues the record of land magnetic observations given in Volumes I, II, IV, VI, and VII (1911–1927) of the same series. Volumes III and V (1917–1926) give the results of magnetic observations at sea on the *Galilee* and *Carnegie*. Volume VIII contains two extensive tables of magnetic results, one for land and one for the oceans, for the years 1927–1944. Methods, stations, instruments, and general particulars pertinent to the results are briefly summarized, but for further details the reader is directed to earlier volumes in the series, particularly to Volume VI for land work and to Volume [illegible] for ocean work.

WHIPPLE, FRED LAWRENCE

Earth, moon and planets Cambridge Mass. Harvard University Press, 1941 293 p. illus. 22 cm. (The Harvard books on astronomy, edited by Harlow Shapley and B. J. Bok) $4.75 1501

Contents: Introducing the planets. How the system holds together. Discoveries of Neptune and Pluto. Weights and measures. The earth. The earth as an abode for life. The moon's influence on the earth. Observing the moon. The nature of the moon. Jupiter, the dominating planet. The other giants—Saturn, Uranus and Neptune. The terrestrial planets—Pluto, Mercury and Venus. Mars. Origin and evolution. Appendices.

Note: This book presents in nontechnical language information about the planets, their atmospheres, and the possibilities for life outside the earth. Special attention is given to the problems of origin and evolution, particularly the origin of lunar craters and the evolution of the planets. Planetary motions and the working of Newton's law of gravitation are explained. The book contains [illegible] figures, more than half of which are actual photographs. Charts of the moon and Mars enable the reader to identify the more conspicuous markings seen in the photographs or through the telescope. A special feature of the book is the planet finder and the star charts which enable the reader to locate directly the planets in the sky at any time from the present through 1970.

GEOLOGY

GENERAL

ADAMS, FRANK DAWSON

The birth and development of the geological sciences New York Dover Publications, Inc., 1956 506 p illus 26 cm $2 00 1502

Contents Introduction. Bibliography and sources. Geological science in classical times. The conception of the universe in the Middle Ages. On the generation of stones. Medieval mineralogy. The birth of modern mineralogy and its development from Agricola to Werner and Berzelius. The birth of historical geology with the rise and fall of the Neptunian theory "Figured stones" and the birth of paleontology The origin of metals and their ores. The origin of mountains. Earthquakes and the nature of the interior of the earth. The origin of springs and rivers. Quaint stories and beliefs. Conclusion. Index.

Note A historical survey of the development of geological knowledge from the time of the early Greeks to the beginning of the 19th century The author has gone back to the original texts of some of the more distinguished writers of classical, medieval, and early modern times and has analyzed their explanations of geological phenomena. There is also an account of the birth of historical geology which took place with the rise and fall of the Neptunian theory toward the close of the 18th century and the emphasis which was then placed on a systematic study of the rocky strata of the earth. For the general reader as well as for the student of geology The edition listed above is a reprint of the original edition, Baltimore, 1938.

FAUL, HENRY, editor

Nuclear geology a symposium on nuclear phenomena in the earth sciences New York John Wiley and Sons Inc., 1954 414 p illus. 23 cm $7 00 1503

Contents Historical introduction, by J P Marble. Fundamental considerations, instruments, and techniques of detection and measurement, by F J Davis and others. Uranium and thorium, by E. S. Larsen, Jr and others. The abundance of potassium, by L. H. Ahrens. Rare gases and fission in nature, by H. Faul and H. G Thode. Heat from radioactivity by F Birch. Radiation damage and energy storage, by H D Holland and others. Hydrocarbons formed by the effects of radioactivity and their role in the origin of petroleum, by W L. Whitehead. Geophysical exploration by nuclear methods, by D. H. Johnson and others. Determination of absolute age, by P M. Hurley and others. The origin of the earth, by H. C. Urey Literature cited. Author index. Subject index.

Note Addressed to graduate students of geology and practicing geologists, this book is designed as an introduction to some of the implications and applications of nuclear physics in geology The first chapter is an elementary survey of the basic ideas of nuclear physics and an outline of techniques in this field. Several chapters summarize the accumulated knowledge on the abundance of radioactive minerals and related it to hypotheses regarding the ages of rocks. The chapter on geophysical exploration is a compact view of techniques based on nuclear physics which are useful in exploring for minerals, including petroleum. The final chapter provides a quick view of current theory and supporting evidence on the origin of the solar system, including the earth. Altogether there are 16 contributors, but not all of the contributors wrote complete chapters. Chapter II, for example was written by six authors, five of whom are covered anonymously by the phrase "and others" in the above table of contents. The book is not a comprehensive treatise, the most notable omission being the geology of stable isotopes. However it presents much information and a wide range of tabulated data of interest to the intended readers.

FENTON, CARROLL LANE, AND MILDRED ADAMS FENTON

Giants of geology Garden City Doubleday & Company, Inc., 1952 333 p illus. 22 cm $4 00 1504

Contents Fields and exhalations. Graybeard scorned deep Nile and ancient volcanoes. Geology by dictum. Those skeptical Ionians. Neptune versus Vulcan. Like goes with like. Knight of the "principles" The Cambrian conflict. Agassiz of the ice age. New science in a new world. Ex-convict professor Geologist at large. Immigrant innovator That a nation might grow Fossils or figments? Hugh Miller of the "Old Red." A great and good man. Railroads and new surveys. Canyon's conqueror Earth blisters and changing land. Law Lathe and Her Majesty's Survey Glaciers to galaxies. Sources and references. Index.

Note The lives and personalities of major contributors to the development of geological knowledge lend interest to what is essentially a popular account of the growth of geology The book is addressed to general readers and is a good example of scientific writing for this group. The narrative is supplemented by portraits and other illustrations of considerable interest. There are no bibliographical references in the text, but the list of "sources and references" at the end of the book is arranged in the same order as the chapters. The first edition was entitled *The story of the great geologists*

FOLSOM, FRANKLIN

Exploring American caves, their history, geology, lore and location A spelunker's guide. New York Crown Publishers, Inc., 1956 280 p illus 24 cm $5 00. 1505

Contents The origin of caves. Caves "living" and "dead." Life in caves. Mammals enter caves. Caves—a clue to human history. Mines, money and mystery. Caves go commercial. The first speleologists. Cowboy cavern. Cave-crawling scientists. Spelunking grows up. Bigger and tougher. What use is a cave? Cave mysteries. How to find a cave. "Stygian caves forlorn. Etiquette in the underworld and other keys to survival. "Spelunk junk." Spelunking specialties. A glossary of speleological terms. A directory of caves open to the public. Speleological societies in the United States. Grottoes of the National Speleological Society A sample cave field report form. Suggested reading list on caves and caving. Index.

Note A popular very readable book about the exploration of caves in the United States of America. Much of the information in it has been taken from the records and publications of the National Speleological Society and its members. Most of the space is given to the adventures and pleasures (and the dangers) of *spelunking* (literally cave-crawling) but the reader is also afforded a sound view of the scientific importance of caves. Inasmuch as the author read *Celebrated American caves*, by C. E. Mohr and H. N Sloane, described below in galley proof and endeavored to avoid duplicating information presented in it, this book is complementary to that one.

GEOLOGICAL SOCIETY OF AMERICA

Bibliography and index of geology exclusive of North America. *Volume 13, 1948* By Marie Siegrist and Eleanor Tatge. New York The Geological Society of America, 1949 386 p 26 cm. $3 25 1506

—— *Volume 14, 1949* By Marie Siegrist. New York The Geological Society of America, 1950 375 p 26 cm $3 00 1507

—— Volume 15 1950 By Marie Siegrist and Marcia Lakeman. New York The Geological Society of America, 1951 429 p. 26 cm. $3.00. 1508

—— Volume 16 1951 By Marie Siegrist, Mary C. Grier Marcia Lakeman. New York The Geological Society of America, 1952 462 p. 26 cm. $4.50 1509

—— Volume 17 1952 By Marie Siegrist, Mary C. Grier Marcia Lakeman. New York The Geological Society of America, 1954 621 p 26 cm. $5 75 1510

—— Volume 18 1953 By Marie Siegrist, Mary C. Grier Marcia Lakeman. New York The Geological Society of America, 1954 599 p. 26 cm. $5.50. 1511

—— Volume 19 1954 By Marie Siegrist Mary C. Grier and others. New York The Geological Society of America, 1955 689 p. 26 cm. $7.50. 1512

Note: A standard, annual guide to the international literature on the geology of the world exclusive of North America, which is covered by the United States Geological Survey's *Bibliography of North American geology*, described below. The arrangement of each volume is by author, with a detailed subject index. Titles in the Cyrillic alphabet are transliterated. Most of the entries are accompanied by a short annotation which indicates the scope or content of the work. The increasing volume of international geological literature has resulted in the accumulation of unindexed backlogs in recent years' issues, several annual volumes no longer cover all of the year's output of literature. The foreword to the last volume noted above contains the following statement on this subject: "This compilation cites as much of the literature received in the Library of the U S Geological Survey and the Library of Congress prior to February 10, 1955, as it has been possible to cover. Due to the abnormally large number of publications received since the closing dates of preceding compilations, and to a variety of other circumstances, it has not been possible to cite and annotate all the material received during the past few years. Annotated titles for such material will be given in succeeding volumes of the bibliography."

GEOLOGICAL SOCIETY OF AMERICA

Geology 1888–1938 fiftieth anniversary volume. New York Geological Society of America, 1941 5 8 p illus. 26 cm. $3.00. 1513

Contents: Physiography by K. Bryan. Glacial geology by R. F. Flint. Oceanography by H. C. Stetson. Invertebrate paleontology by P. E. Raymond. Vertebrate paleontology by A. S. Romer. Prehistoric archeology by C. Stock. Paleobotany by E. W. Berry. Stratigraphy by R. C. Moore. Sedimentation, by P. D. Trask. Structural geology by R. D. Reed. Pre-Cambrian, by M. E. Wilson. Mineralogy by E. H. Kraus. Petrology by A. Knopf. Volcanology by H. Williams. Geochemistry by E. S. Larsen. Geodesy and geophysics, by H. E. Merwin. Seismology by B. Gutenberg. Ore deposits, by L. C. Graton. Petroleum geology by W. B. Heroy. Exploratory geophysics, by D. C. Barton. Engineering geology by W. J. Mead.

Note: A comprehensive volume reviewing the progress of geology in the 50 years of the existence of the Geological Society of America, intended for the investigator or advanced student who wants to know how the science of geology has taken on its present form, and for the specialist desiring a review of his particular field. Each subject is treated from the historical standpoint and covers the development of modern techniques in measurement and investigation. Future work is outlined, and there are lists of references under each chapter.

GILLISPIE CHARLES COULSTON

Genesis and geology a study in the relations of scientific thought, natural theology and social opinion in Great Britain 1790–1850 Cambridge Mass Harvard University Press, 1951 315 p. 22 cm. (Harvard historical studies published under the direction of the Department of History Vol. LVIII) $4 50 1513A

Contents: Through nature up to nature. God, Kirwan and the flood. From vulcanism to paleontology. Catastrophist geology. The uniformity of nature. The vestiges of creation. How useful is thy dwelling place. The place of providence in nature. Bibliographical essay. Notes. Index.

Note: A study of an interesting chapter in the development of geology in particular and of scientific thought in general. It is largely limited to the efforts of scientists themselves to reconcile theology with science. The author states: "… having decided that the issues discussed arose from a quasi-theological frame of mind within science, I have written from that point of view and have excluded the purely clerical opponents of science as a whole." The author shows that the geologists of the time were true forebears of Darwin and that they prepared the stage for the controversy over *Origin of species*. The "Bibliographical essay" is a running account of sources, significant works, popular scientific works, scientific societies, and periodicals.

HUEBNER, WALTER

Geology and allied sciences a thesaurus and a coordination of English and German specific and general terms Part 1 German English New York Liberal Arts Press 1939 405 p. 21 cm. $7.50 1514

Contents: Preface. General remarks on German and English spelling used in the thesaurus. Explanation of signs. List of abbreviations. Thesaurus. Table of comparative nomenclature of "Cambrian" and "Tertiary."

Note: An attempt to coordinate the American and English with the German terminology in regard to geologic work. More than 35,000 entries in each language are provided, with attention to peculiarities of local use of terms in both languages. Abbreviations used in international geologic literature are included, and also names of authors, especially authors on Paleontology. Commercial terms are omitted, and only the more common mining terms are included.

KELLER, WALTER DAVID

The principles of chemical weathering. An integrated review of the principles of chemical weathering as taken from the literature and the relation of weathering to certain aspects of geology pedology and civilization. Columbia, Mo Lucas Brothers, 1955 88 p. illus. 28 cm. $3.00 1515

Contents: Introduction. Definitions of weathering. Places where weathering occurs. Participants in the weathering reaction. Ionic classification of silicate minerals. Processes and agents of chemical weathering. Equations describing the chemical weathering of rocks. Mechanisms of weathering. Response of the common elements in the weathering process. The minerals from weathered rocks. End and environmental products of weathering. The soluble products of weathering. Anions in weathered products. Chemical weathering of organic rock materials. Economic products of chemical weathering. References. Appendix: Formulas of minerals discussed in this book. Index.

Note: A textbook and review bringing together much information on the principles and mechanisms of chemical weathering and providing a bibliography of selected articles on the subject. Since it is considered the geologic process closest to the life of man, the topic is treated as of fundamental importance to students of geology, mineralogy, soils, and ceramics, and of broad interest in other fields of science and in some of the humanities. Written for use at the undergraduate level, the text can also serve as a useful guide to the more advanced worker in this field.

GEOLOGY

GENERAL

ADAMS, FRANK DAWSON

The birth and development of the geological sciences New York Dover Publications, Inc., 1956 506 p illus 26 cm $2 00 1502

Contents Introduction. Bibliography and sources. Geological science in classical times. The conception of the universe in the Middle Ages. On the generation of stones. Medieval mineralogy. The birth of modern mineralogy and its development from Agricola to Werner and Berzelius. The birth of historical geology with the *rise and fall of the Neptunian theory* "Figured stones" and the birth of palaeontology. The origin of metals and their ores. The origin of mountains. Earthquakes and the nature of the interior of the earth. The origin of springs and rivers. Quaint stories and beliefs. Conclusion. Index.

Note A historical survey of the development of geological knowledge from the time of the early Greeks to the beginning of the 19th century. The author has gone back to the original texts of some of the more distinguished writers of classical, medieval, and early modern times and has analyzed their explanations of geological phenomena. There is also an account of the birth of historical geology which *took place with the rise and fall of the* Neptunian theory toward the close of the 18th century and the emphasis which was then placed on a systematic study of the rocky strata of the earth. For the general reader as well as for the student of geology. The edition listed above is a reprint of the original edition, Baltimore, 1938.

FAUL, HENRY, editor

Nuclear geology, a symposium on nuclear phenomena in the earth sciences. New York John Wiley and Sons, Inc, 1954 414 p illus 23 cm. $7 00 1503

Contents Historical introduction, by J P Marble. Fundamental considerations, instruments, and techniques of detection and measurement, by F J Davis and others. Uranium and thorium, by E. S. Larsen Jr and others. The abundance of potassium, by L. H. Ahrens. Rare gases and fission in nature, by H. Faul and H. G. Thode. Heat from radioactivity by F Birch. Radiation damage and energy storage, by H. D Holland and others. Hydrocarbons formed by the effects of radioactivity and their role in the origin of petroleum, by W L. Whitehead. Geophysical exploration by nuclear methods, by D H. Johnson and others Determination of absolute age, by P M. Hurley and others. The origin of the earth, by H. C. Urey Literature cited. Author index. Subject index.

Note Addressed to graduate students of geology and practicing geologists, this book is designed as an introduction to some of the implications and applications of nuclear physics in geology The first chapter is an elementary survey of the basic ideas of nuclear physics and an outline of techniques in this field. Several chapters summarize the accumulated knowledge on the abundance of radioactive minerals and relate it to hypotheses regarding the ages of rocks. The chapter on geophysical exploration is a compact view of techniques based on nuclear physics which are useful in exploring for minerals, including petroleum. The final chapter provides a quick view of current theory and supporting evidence on the origin of the solar system, including the earth. Altogether there are 26 contributors, but not all of the contributors wrote complete chapters. Chapter II, for example, was written by six authors, 5 of whom are covered anonymously by the phrase "and others" in the above table of contents. The book is not a comprehensive treatise, the most notable omission being the geology of stable isotopes. However, it presents much information and a wide range of tabulated data of interest to the intended readers.

FENTON, CARROLL LANE, AND MILDRED ADAMS FENTON

Giants of geology Garden City Doubleday & Company, Inc., *1952 333* p. illus. 22 cm. $4 00 1504

Contents Fluids and exhalations. Grappling around deep. New and ancient volcanoes. Geology by fiction. Those skeptical Ionians. Neptune versus Vulcan. Like goes with like. Knight of the "principles." The Cambrian conflict. Agassiz of the ice age. New science in new world. Ex-convict professor. Geologist at large. Immigrant innovator. That a nation might grow. Fossils or figments? Hugh Miller of the "Old Red." A great and good man. Railroads and *new surveys. Canyon's conqueror. Earth blisters and changing bed.* Law, Latin and Her Majesty's Survey. Glaciers to galaxies. Sources and references. Index.

Note: The lives and personalities of major contributors to the development of geological knowledge lend interest to what is essentially a popular account of the growth of geology. The book is addressed to general readers and is a good example of scientific writing *for this group. The narrative is supplemented by portraits and* other illustrations of considerable interest. There are no bibliographical references in the text, but the list of "sources and references" at the end of the book is arranged in the same order as the chapters. The first edition was entitled *The story of the great geologist*

FOLSOM, FRANKLIN

Exploring American caves, their history geology, lore and location A spelunker's guide. New York Crown Publishers, Inc., 1956 280 p illus. 24 cm $5 00 1505

Contents The origin of caves. Caves "living" and "dead." Life in caves. Mammals enter caves. Caves—a clue to human history. Mines, money and mayhem. Caves go commercial. The first speleologists. Cowboy cavers. Cave-crawling scientists. Spelunking grows up. Bigger and tougher. What use is a cave? Cave mysteries. How to find a cave. "Stygian caves forlorn. Etiquette in the underworld and other keys to survival. "Spelunk junk. Spelunking specialties. A glossary of speleological terms. A directory of caves open to the public. Speleological societies in the United States. Grottoes of the National Speleological Society A sample cave field report form. Suggested reading list on caves and caving. Index.

Note A popular very readable book about the exploration of caves in the United States of America. Much of the information in it has been taken from the records and publications of the National Speleological Society and its members. Most of the space *is given to the adventures and pleasures (and the dangers) of spelunking* (literally cave-crawling) but the reader is also afforded a sound view of the scientific importance of caves. Inasmuch as the author read *Celebrated American caves*, by C. E. Mohr and *H. N Sloane, described below* in galley proof and endeavored to avoid duplicating information presented in it, this book is complementary to that one.

GEOLOGICAL SOCIETY OF AMERICA

Bibliography and index of geology exclusive of North America. Volume *13 1948* By Marie Siegrist and Eleanor Tatge. New York *The Geological Society* of America, 1949 386 p 26 cm. $3 25 1506

—— Volume 14 1949 By Marie Siegrist. New York The Geological Society of America, *1950 375 p 26 cm.* $3 00 1507

mission of the American Association of Petroleum Geologists, with the addition of a review of advances in the field of study of recent marine sediments since 1939. This review includes a bibliography of about 500 titles of books and articles published 1939–54. Tulsa Society of Economic Paleontologists and Mineralogists 1955 736 p. illus. 22 cm. (Society of Economic Paleontologists and Mineralogists. Special publication no. 4) $5.00. 1521

Contents: Part 1, Transportation. Transportation of detritus by moving water, by F. Hjulström. Effects of transportation on sedimentary particles, by R. D. Russell. Part 2, Relation of oceanography to sedimentation. Physical processes in the ocean, by R. H. Fleming and R. Revelle. Biological oceanography, by H. W. Harvey. Part 3, Deposits associated with strand line. Mississippi River delta sedimentation, by R. J. Russell and R. D. Russell. Tidal lagoon sediments on the Mississippi delta, by W. C. Krumbein. Tidal flat deposits, by W. Häntzschel. Beaches, by J. H. C. Martens. Part 4, Near-shore sediments—terrigenous deposits. Continental shelf sediments, by F. P. Shepard. Summary of sedimentary conditions on the Continental Shelf off the east coast of the United States, by E. C. Stetson. Sediments off the California coast, by R. Revelle and F. P. Shepard. Florida and Bahama marine calcareous deposits, by E. M. Thorp. Sediments of the Baltic sea, by S. Gripenberg. Sediments of the North Sea, by K. Lüders. Petrological relations of the sediments of the southern North Sea, by C. H. Edelman. Sediments of the East Indian Archipelago, by P. H. Kuenen. Landlocked waters and the deposition of black muds, by K. Münster Strøm. Part 5, Pelagic deposits. Pelagic sediments of the North Atlantic Ocean, by C. W. Correns. Deep-sea sediments of the Indian Ocean, by W. Schott. Part 6, Special features of sediments. Rate of sedimentation of recent deep-sea sediments, by W. Schott. Occurrence and activity of bacteria in marine sediments, by C. E. ZoBell. Organic content of recent marine sediments, by P. D. Trask. Base exchange in relation to sediments, by W. P. Kelley. Properties of clay, by R. E. Grim. Iodine deposits in marine sediments, by O. E. Radczewski. Synopsis of glauconitization, by Jun-ichi Takahashi. Redox-diagenetic transformation and associated minerals, by E. W. Galliher. Fossil pellets in relation to marine deposits, by H. B. Moore. Part 7, Methods of study. General procedure in studies of recent sediments, by W. H. Twenhofel. Mechanical analysis, by S. Gripenberg. Graphic presentation and statistical analysis of sedimentary data, by W. C. Krumbein. Mineral analysis of sediments, by F. J. Pettijohn. Application of X-ray methods to the investigation of recent sediments, by M. Mehmel. Bottom-sampling apparatus, by J. L. Hough. Author index. Citation index. Subject index.

Note: A reprint of a work originally prepared under the direction of a subcommittee of the Committee on Sedimentation of the Division of Geology and Geography of the National Research Council and published by the American Association of Petroleum Geologists in 1939. The original work has been reprinted without change, but a 54-page section "Recent of progress in studies of recent marine sediments, 1939–1954" by Parker D. Trask, has been inserted at the front of the reprint volume. This inserted section summarizes the research work published since the original volume was prepared and published to the end of 1954. It contains also a comprehensive bibliography of the pertinent publications during these years and a subject index to this bibliography. The original papers, although written 15 years ago and more, are still of value to geologists.

Pearl, Richard Maxwell

Guide to geologic literature. New York McGraw Hill Book Company Inc., 1951 239 p. 24 cm. $5 75 1521A

Contents: Part I, Introduction. The problem of geologic literature. Conducting the search. Part II, Library technique. Arrangement of the library. Library catalogues. Indexing. Library services. Part III, Kinds of geologic literature. Index tables and bibliographies. Abstracts. Periodicals. United States government documents. Organization bulletins. State bulletins. County and city bulletins. Bulletins of other countries. Books. Newspapers. Theses. Unpublished manuscripts. Maps. Index.

Note: A reference manual which contains descriptions of the standard and useful geologic literature and advice on searching it for published information. Under each of the headings given above the utility of a specific class of literature is discussed briefly and the chief publications are named and briefly described. The scope has not been restricted to strictly geological books and journals, but journals that include information of interest to geologists along with information on other topics have also been included. Publications of only historical interest are described, along with those of value in current geological work.

Ray, Richard G

Photogeologic procedures in geologic interpretation and mapping. A discussion of the general categories of photogeologic procedures and photogrammetric instruments. Washington D C. Government Printing Office 1956 21 p. illus 23 cm (United States Geological Survey Bulletin 1043–A) $0.20 1521B

Contents: Introduction. Interpretation and notation of geologic data on photographs. Determination of quantitative geologic data from photographs. Planimetric base-map compilation. Transfer of geologic data from photographs to base maps. The ER 55 projector. Literature cited.

Note: During recent years, increasing use has been made of aerial photographs for geologic interpretation and mapping within the United States of America. This bulletin discusses the procedures employed, which pertain largely to vertical aerial photography. The photographic illustrations show equipment used in photogeology.

Reiche, Parry

A survey of weathering processes and products. Revised edition. Albuquerque University of New Mexico Press 1950 95 p illus 23 cm. (University of New Mexico publications in geology Stuart A. Northrop editor No 3) $1 00 1522

Contents: Introduction. Physical processes. Chemical processes and reagents. The results of chemical weathering. Soil-forming processes and soils. The factors of relief and time. Appendix. Bibliography.

Note: Essentially this work is a concise review of the current knowledge of the weathering of rock by chemical processes. Physical processes are outlined in the first chapter but are given comparatively little space. The treatment of the chemical processes assumes a knowledge of basic chemistry on the part of the reader. Although compact, the presentation is not so condensed that every reader will have to resort to the literature. A bibliography of 88 citations is included. The book is suitable for upperclass undergraduate college students who are majoring in geology and for college graduates doing work in geology or in related fields, such as the physics or chemistry of soils, where a general knowledge of weathering processes is useful.

Shuler, Ellis William

Rocks and rivers. New York Ronald Press Company 1945 300 p illus. 24 cm (Humanizing science series Jacques Cattell editor) $4 50 1523

Contents: A personal foreword. Earth stuff. The landscape has multiple minds. Carving the crust. Removing the waste. The hills. The sculptured lands. Springs. Caves, sinkholes, and natural bridges. Wind and sheets. The volcanic landscape. Perched boulders reveal an age of ice. How the rivers crossed the ridges. Lakes, waterfalls, and canyons. Mountains. The economic landscape. Time and change. Appendices: The landscape in art—Photographing the landscape. Index.

Note: An outstanding popular account of physical geology. The author himself an eminent geologist, has written the book from the viewpoint of a traveler without education in geology and not interested in studying it as a science but interested instead in understanding the landscape he sees. It is almost entirely free of scientific jargon and is not only easy to read but also interesting.

LAWRENCE, JOE, JR., AND ROGER W BRUCKER

The caves beyond, the story of the Floyd Collins' Crystal Cave exploration. By Joe Lawrence, jr, and Roger W Brucker for the National Speleological Society, New York Funk & Wagnalls Company, 1955 283 p illus 24 cm. $4 75 1516

Contents (abridged): Preparing for the assault, by J Lawrence, jr Penetrating the barrier by R. W Brucker Another barrier and caves beyond, by J Lawrence, jr Appendices Organization report, by J Lawrence, jr Medical report, by H. Wanger. Supply report, by A. E. Snell. Communications report, by R. L. Lutz. Geological report, by T C. Barr jr Meteorological report, by D N Cournoyer Biological report, by T C. Barr jr.

Note. An account of large well-organized exploration of caves adjacent to Crystal Cave in Kentucky Although new caves were discovered, the primary contribution was the experience of planning and managing speleological exploration engaging the services of many persons both above and below ground. The main part of the book is written in popular style with much emphasis on the drama and adventures of the undertaking. However 33 pages at the end of the volume are devoted to brief scientific reports.

MASON, BRIAN, compiler

The literature of geology New York Brian Mason, c/o The American Museum of Natural History, 1953 155 p 21 cm. $2 00 *1517*

Content Part I General. Abstracts. Bibliographies. Biographies. Data tables. Dictionaries. Directories. Glossaries. Selected references in specific fields. Part II Regional The world. North America. South America. Europe. Africa. Asia. Australia, New Zealand, Pacific Islands, Antarctica. Appendix Publications of the International Geological Congress, 1878–1952

Note A handbook listing the basic geological reference and text books with brief annotations. Part I is a classified list of the principal general publications on geology first the reference books and serials, then the books, including those in English, German, and French, in the following special fields economic geology general geology geochemistry geomorphology geophysics, history of geology mineralogy paleontology petrology sedimentation, stratigraphy and structural geology Part II is useful listing by country of the official publications of the various national geological surveys, their reports, bulletins, and geological maps, as well as the names of any books giving general accounts of the geology of the country under Canada and the United States the various provincial and stat geological surveys also are listed with brief accounts of their respective histories and publications. This bibliography should be useful not only to individual geologists but also to librarians charged with building or modernizing their collections in this field.

MOHR, CHARLES E, AND HOWARD N SLOANE editors

Celebrated American caves With a foreword by Alexander Wetmore. New Brunswick Rutgers University Press *1955 339* p illus 22 cm $5 00 1518

Contents: Introducing the American underworld, by W E. Davies. The devil's sinkhole by P J White. Cave of the vampires, by C. E. Mohr Assault on schoolhouse, by L V Sawtelle. The impossible pit, by R. W Brucker The miners' bathtub, by W R. Halliday Mammoth Cave underground wilderness, by H. W Lix. Medicine, miners and mummies, by H. N Sloane. *The Valley of Virginia*, by W E Davies. Carlsbad Caverns, by T H. Black. The death of Floyd Collins, by R. W Brucker Bones and railway by G. Nicholas. Earliest Americans, by F C. Hibben. Hidden skeletons of the mother lode, by W R *Halliday* Bats and bombs, by C. E. Mohr and bands, by C. E. Mohr The one who cries, by H. N Sloane. The idol of the cave, by M. R. Harrington. No eyes in the darkness, by W Bridges. Ozark cave life, by C. E. Mohr *The leather man*, by L. W Foote. The Cave in Rock murderers, by G. F Jackson. Mark Twain Cave, by H. N Sloane. *Lost footprints*, by G. F Jackson. Index.

Note Cave exploration rather than cave geology or zoology is the central theme of most of the chapters f this book, but there are exceptions. For instance, C. E. Mohr' article, "Ozark cave life," deals with the life forms found in the caves of the Ozark Mountains. History and legend associated with some caves is the theme of several articles. The book is not a scientific treatise on caves. Rather it is an anthology of interesting reading intended for laymen and amateur speleologists. Its compilation and publication were sponsored by the N tional Speleological Society

MOORE, RUTH

The earth we live on the story of geological discovery Drawings by Sue Allen New York Alfred A Knopf, 1956 416, l-x p illus 22 cm. $6 00 1519

Contents I. Myth and reason Gods, reason, and the earth Sed—of the flood and the earth. II. An unexpected past. Guettard—past of fire. Desmarest and Werner—fire versus water. Hutton—no sight of beginning or end. Cuvier—monsters and revolution. Agassiz—ice! Lyell—the changed and changing earth. III. Earth change Logan—an ancient core. Hall—mountains down. Powell—Grand Canyon. Dutton—mountains up. Chamberlin—ice, sun, and beginnings. IV Into invisible forces Urey—the origin of the earth. Jeffreys, Bullard, and Runcorn—the interior of the earth. Wilson—the growing continents. Waters—great and fiery outpourings. Goldschmidt and Mason—assortment of riches. Kulp—the age of the earth. Note on books and materials. Index.

Note: A popular account of the evolution of geological knowledge. The first two chapters are condensed accounts of mythological and biblical views of the earth's history The whole of the remainder is devoted to the gradual development of our present-day scientific knowledge of geology By presenting the story as a dramatic one, with many sidelights on the personalities of geological discoverers, the author has succeeded in conveying the many interesting facts of geology in a form palatable to general readers. *The list of sources* at the end of the book contains a discussion of a select list of general texts on geology and also a chapter-by-chapter listing of principle sources.

NATIONAL RESEARCH COUNCIL

Handbook of physical constants, edited by *Francis Birch chairman, J F* Schairer and H. Cecil Spicer New York Geological Society of America 1942 325 p. illus. 25 cm. (Geological Society of America. Special papers No 36) *$1 70* 1520

Contents Composition of igneous rocks, stony meteorites, and iron meteorites, by R. A. Daly and others. Density at room temperature and one atmosphere, by H. Berman and others Density at high temperatures thermal expansion, by E. B. Dane, jr Density at high pressure compressibility by F Birch. Elasticity (except compressibility) by F Birch. *Internal friction in vibrating* solids, by F Birch. Seismic velocities, by L. D Leet and F Birch Geodetic constants data concerning the interior of the earth, by F Birch. Strength and plasticity by D Griggs. Viscosity by F Birch and E. B. Dane, jr *Melting and transformation temperatures* of mineral and allied substances, by F C. Kracek. Effect of pressure on temperatures of melting and solid-solid equilibrium, in systems with one component, by F Birch. Effect of pressure on phase equilibria in binary condensed systems, by R. E. Gibson. Temperature-pressure-volume and phase relations of water by R. W Goranson. Aqueous inorganic salt solutions at high temperatures, by N B. Keevil. Heat capacity heat of fusion, by R. W Goranson. Radioactivity Thermal conductivity and diffusivity by F Birch. Radioactivity the earth's heat and geological age measurements, by R. D Evans and others. Observed temperatures in the earth's crust, by H. C Spicer Magnetic properties of rocks, by L. B. Slichter Electrical properties of rocks and minerals, by L. B. Slichter and M. Telkes. Index.

Note. A collection of tables of interest primarily to geologists, including brief introductions to the various tabulations explaining the use and limitations of the data. The subject of optical mineralogy is omitted, and manufactured materials such as porcelain, refractory bricks, and structural metals are omitted or treated very briefly Bibliographies are given under each section. The work was compiled under the direction of a committee of the National Research Council.

NATIONAL RESEARCH COUNCIL DIVISION OF GEOLOGY AND GEOGRAPHY

Recent marine sediments a symposium, edited by Parker D Trask Reprinted by per

of igneous rocks. Running water. Ground water. The ocean. Sedimentary rocks. Metamorphic rocks. Snow and ice. The wind. Structures and diastrophism. Earthquakes. Part II. Historical geology. Origin of the earth. The Paleozoic—Mississippian, Pennsylvanian and Permian periods. The Mesozoic era. Lower Mesozoic—Triassic period. Middle Mesozoic—Jurassic period. Upper Mesozoic—Cretaceous period. The Cenozoic era. The Pleistocene or glacial epoch. Index.

Note: A standard textbook for college courses offered to students who are not majoring in geology but need the subject for cultural background. It is clearly written and fully illustrated. The second edition was published in 1941. In the present edition changes have been made in both the text and illustrations. The chapters have been rearranged somewhat, and accounts of certain new developments of fairly broad interest, such as the birth of the volcano Paricutin, have been added. Because little technical terminology is used it has some utility as a survey and general reference work for lay readers.

CRONEIS, CAREY GARDINER AND WILLIAM C. KRUMBEIN

Down to earth an introduction to geology Decorative drawings by Chichi Lasley Chicago University of Chicago Press, 1936 501 p. illus. 23 cm. $7.00 1537

Contents: Introduction. Second-rate planet. Solid, liquid, and gas. Energy aside. The teeth of time. Winds and turbulent motion. Streams and valleys. The everlasting hills. Underground water and hidden flow. Rivers of ice. End of the ice. The boundless main. Flux and reflux. Excursions among the sand grains. Brief interludes. What price continents? Folds and faults. Earthquakes. Journey to the center of the earth. Vulcan's chimneys. Igneous intrusions. Frozen seas of lava. Heredity versus environment. The evolution of rocks. Ancient history. Universal cemetery. Correlation. Older floods. Mountains and climates. Vestiges of creation. Earth's birth. Gargantuan calendar. Pre-Cambrian. Life begins. Early Paleozoic events. Invertebrate heyday. Late Paleozoic events. The forest primeval. Crossing the strand. An earlier depression. Early Mesozoic events. End of an era. Medieval life. Megadinosaurs. Cephalopods. The Tertiary. The Quaternary. The warm-blooded. Homo sapiens, history and politics. Prospects of an end. Index.

Note: A "new plan" text at the University of Chicago. Geology is explained in its relationship to physics, chemistry, mathematics, and biology. The growth of the earth is traced, with the processes which have actively shaped its surface features.

DUNBAR, CARL OWEN

Historical geology New York John Wiley & Sons, Inc., 1949 567 p. illus. 24 cm. $6.95 1538

Contents: Prologue. Records in stone. The scale of time. Fossils, living record of the dead. The constant change of living things. Before the Cambrian. Origin of the earth. The Cryptozoic eon—pre-Cambrian history of the earth. The Paleozoic world. The Cambrian period. The Ordovician period. The Silurian period. The Devonian period. The Mississippian period. The Pennsylvanian period. The Permian period. ... crisis in earth history. The Mesozoic world. The Triassic period. The Jurassic period. Cretaceous time and the end of an era. The modern world unfolds. Physical history of the Cenozoic era. Ice sculptures the final scene. Mammals inherit the earth. The coming of man. Epilogue. Appendices. Index.

Note: This work is a revision of Textbook of geology, Part II, *Historical geology*, fourth edition, by the author and Charles Schuchert. Written for use in a beginning course in historical geology it offers a survey of the physical and biological changes on the earth from the earliest records to the time of prehistoric man, with emphasis on the North American continent. The text has been recast in parts, and recent advances in the field have been included. New publications have been added to the bibliographies. The book is profusely illustrated with photographs, maps, and diagrams, many of which are new.

EMMONS, WILLIAM H. AND OTHERS

Geology principles and processes. By William H. Emmons, George A. Thiel, Clinton R. Stauffer and Ira S. Allison. Fourth edition. New York McGraw-Hill Book Company Inc., 1955 638 p. illus. 24 cm. $6.75 1539

Contents: The scope and methods of geology. Gross features of the earth. Elements, compounds, minerals, rocks. Atmosphere, weather and climate. Rock weathering and soils. Wind as an agent of gradation. Ground water. Gradation by mass movement of surface materials. Rivers and valleys. Snow, ice, and valley glaciers. Piedmont and continental glaciers. Lakes and swamps, or marshes. The oceans—general features—ocean movements and their effects. Sedimentation and sedimentary rocks. Volcanic phenomena. Igneous rocks. Diastrophism and its resulting structures. Differential stream erosion and its effects. Mountains. Metamorphism. Earthquakes and the interior of the earth. Mineral resources. Appendices. Index.

Note: An established textbook, likely used in "cultural" courses offered to students who are not majoring in geology. Although a broad view of geological science is given, landscape features and geological processes that are easily observed are emphasized. The text is written in a simple style and is beautifully illustrated. The book can be recommended to lay readers who wish an informative account of geology suitable for reading without the guidance of an instructor. The third edition was published in 1949. In this fourth edition, the level of treatment and the plan of the book have not been materially changed, however numerous revisions have been made in both the text and illustrative material.

GARRELS, ROBERT MINARD

A textbook of geology New York Harper & Brothers 1951 511 p. illus. 24 cm. (Harper's geoscience series Carey Croneis editor) $6.00 1540

Contents (abridged): The general setting. Surface features of the earth. The problem of the history of the earth. Earth history from study of running water. Work of the waves. The work of the wind. The work of ice. The sedimentary rocks. Igneous rocks. Metamorphic rocks. Evidence of earth movement. The interior of the earth. Mechanics of earth movement. The origin of the earth. Fossilization. A survey of geologic history. The mechanism of evolution. The interpretation of geologic environments—reconstruction of typical area. The origin of man. Appendices: The use of graphs. Field identification of common igneous rock and minerals. Classification of plants and animals. Index.

Note: In this introductory college textbook the approach to the subject is analytical rather than descriptive. Such geological processes as wind erosion are treated first from the viewpoint of the physical principles and second with regard to the geological effects. Some mathematics is used, but it is relatively simple. The illustrations are numerous and of excellent quality. The author is on the staff of the U.S. Geological Survey.

GILLULY, JAMES AND OTHERS

Principles of geology By James Gilluly, Aaron C. Waters, and A. O. Woodford. Illustrations by Robert R. Compton. San Francisco W. H. Freeman & Company 1951 631 p. illus. 24 cm. $6.50 1541

Contents: Introduction. The earth's broad pattern. Gravity, isostasy, strength. Minerals. Rocks. Climates, weathering, and soils. Erosion. Geologic maps, fossils, and time. Movements of the earth's crust. Records of earth movement. Downslope movements of soil and rock. Stream erosion and deposition. Glaciers and glaciation. Ground water. Deserts. The oceans. Igneous activity. Earthquakes and the earth's interior. Mountains. Mineral resources. Appendices. Index.

Note: A general introductory textbook in which the emphasis is placed on geological processes rather than on rock classification, etc. Basic terms and concepts, such as isostasy, are explained with care. Also, the authors leave the accounts from time to time by including such material as the controversy over the origin of basalt. The text reads easily and the book is excellently illustrated.

HOLMES, CHAUNCEY D

Introduction to college geology New York The Macmillan Company 1949 429 p. illus. 22 cm. $5.25 1542

Contents: Earth records its own history. The planet earth. Minerals of the earth. Common igneous rocks and minerals. Sedimentary rocks and minerals. Archeozoic era. Proterozoic era. Paleozoic lands and seas. Some Paleozoic rocks and historic events. Paleozoic life in Cambrian—Silurian. Paleozoic life. Devonian—Permian. Background events of Mesozoic environment. Mesozoic life, reptiles—earth's other animals and plants during the reptilian reign. Survey of Cenozoic history. Cenozoic mammals. The ice age. The geologic history of man. Rivers and landscapes. Water beneath the land.

STOKES, WILLIAM LEE, AND DAVID J VARNES

Glossary of selected geologic terms with special reference to their use in engineering Denver Colorado Scientific Society, 1955 165 p 24 cm (Colorado Scientific Society Proceedings Vol 16) $3 50 1524

Contents Introduction Literature cited. Glossary of selected geologic terms.

Note A useful reference volume for engineers and others concerned with the meanings of geological terms. The glossary is an alphabetical list of about 2 470 words and phrases common in geological literature with scientific or technical definition of each. Beyond the definition itself many of the entries contain a paragraph or two of additional information which should prove of value to nongeological users of the volume. Included also are a few tables, as at the words *gradation screen* and *time scale* The work had the advantage of pre-publication review and criticism by several score geologists and engineers.

UNITED STATES GEOLOGICAL SURVEY

Bibliography of North American geology Volume 1, 1929–1939 By E M Thom Washington, D C. Government Printing Office 1944 1 vol in 2 pts 23 cm (United States Geological Survey Bulletin 937) $4.25 1525

—— Volume 2, 1940–1941 By E M Thom Washington D C Government Printing Office, 1942 479 p 23 cm (United States Geological Survey Bulletin 938) o p 1526

—— Volume 3 1942 and 1943 By E M Thom Washington D C Government Printing Office 1945 460 p 23 cm. (United States Geological Survey Bulletin 949) o p 1527

—— Volume 4 1944 and 1945 By E M Thom. Washington D C Government Printing Office 1947 496 p 23 cm. (United States. Geological Survey Bulletin 952) o p 1528

—— Volume 5 1946 and 1947 By E M Thom Marjorie Hooker and R. R. Dunaven. Washington, D C. Government Printing Office 1949 568 p 23 cm (United States. Geological Survey Bulletin 958) o p. 1529

—— Volume 6, 1948 By E M Thom M Hooker and R. R Dunaven Washington D C Government Printing Office 1950 309 p 23 cm. (United States. Geological Survey Bulletin 968) o p. 1530

—— Volume 7, 1949 By E M Thom M Hooker and R R. Dunaven Washington D C Government Printing Office 1951 273 p 23 cm (United States Geological Survey Bulletin 977) o p. 1531

—— Volume 8, 1950 By M Hooker Washington, D C Government Printing Office, 1952 394 p 23 cm (United States. Geological Survey Bulletin 985) $1.00 1532

—— Volume 9 1951 By R. R. King, V M Jussen, J S Pomeroy, and V L Skitsky Washington, D C. Government Printing Office, 1955 378 p 23 cm. (United States Geological Survey Bulletin 1025) $1.25 1533

—— Volume 10, 1952 and 1953 By R. R. King, V M Jussen, J S. Pomeroy and V L Skitsky Washington, D C Government Printing Office, 1956 23 cm (United States. Geological Survey Bulletin 1035) $2.00 1534

Note A continuing work, and itself continuation of Nickles *Bibliography of North American geology 1785–1918 and 1919–1928*, Washington, D C., 1924–25 and 1931 out of print. The work lists thousands of titles relating to North American geology including paleontology petrology and mineralogy published in the years 1919 to 1953 covering publications on the geology of the entire continent, including Greenland, the West Indies, the Hawaiian Islands, and Guam. It includes books, textbooks, papers published in transactions, and periodical articles. The entries, which are arranged alphabetically by author give full titles and publication details. The author lists are followed by extensive subject indexes giving detailed cross-references to the content of the literature cited. Lists of the serial publications analyzed are given in the front of the volumes.

WILMARTH, MARY GRACE

Lexicon of geologic names of the United States (including Alaska) (Also includes the names and ages, but not the definitions of the named geologic units of Canada, Mexico, the West Indies, Central America, and Hawaii) Washington, D C Government Printing Office 1938 2 v 23 cm (United States. Geological Survey Bulletin 896) $8 00 1535

Note A comprehensive lexicon in one alphabetical order providing ready reference for the geologist to the lithology thickness, age, underlying and overlying formations, and type locality of geologic formations in the regions indicated in the title. Each definition begins with the bibliographical citation of the report on which the definition is based. Due to the fact that many geologic names have been redefined, some of them several times during the history of their acceptance, the work contains more than one entry or definition for many of the names listed, accompanied by brief mention of divergent views regarding their usage. Definitions and re-definitions are given of only the units found in the United States and Alaska, but the names and current age designations of the geologic units of the continent of North America and Hawaii are also listed, together with citations to the publications in which they were first defined. A few widely used paleontologic names by which some units have been designated have also been listed along with the geographic names by which they are now known. Names and age assignments in current use by the United States Geological Survey are printed in bold-face type.

TEXTBOOKS

BRANSON, EDWIN BAYER AND W A TARR

Introduction to geology Third edition Revised by Carl C. Branson and W D Keller New York McGraw Hill Book Company Inc., 1952 492 p illus. 24 cm. $6 00 1536

Contents (abridged) Part 1, Physical geology: The organization of matter (of the earth) Volcanism and igneous rocks. Weathering

[illegible] is paid to the numerous practical aspects of geology, including its application in engineering projects such as dams, aqueducts, and tunnels. The work is based on the material contained in the authors' *A textbook of geology*, New York, 1939–41 and contains more illustrations but [illegible] shorter text than the earlier work.

LONGWELL, CHESTER RAY AND OTHERS

Physical geology by Chester R. Longwell Adolph Knopf and Richard F Flint. Third edition. New York John Wiley & Sons, Inc., 1948. 602 p. illus. 23 cm. $6.50. 1549

Contents: Geology, the science of the earth. The method and scope of geologic study. Weathering and its part in erosion. Mass-wasting at the earth's surface. Running water: Sculpture of the land by streams and mass-wasting. Subsurface water. Lakes and swamps. Glaciers and glaciation. Erosion and deposition by wind. Marine erosion and deposition. Sedimentary rocks. Igneous rocks. Volcanoes and volcanism. Deformation of the earth's crust. Earthquakes. Metamorphism. The earth's interior. The origin and history of mountains. Land forms. Mineral resources. Appendices. Index.

Note: An outstanding text that has been widely used in college courses since the publication of the first edition in 1932. It is commonly referred to as "The Yale geology" since the authors are members of the faculty of Yale University. A considerable number of changes have been made in this edition. The second chapter is new; various parts of other chapters have been rewritten or expanded, and many of the illustrations that appeared in the earlier editions have been replaced with better ones. No colored plates are used in the text, but a set of Kodachrome slides to accompany it in teaching is available from the publisher.

MILLER, WILLIAM JOHN

An introduction to historical geology with special reference to North America. Sixth edition. New York D Van Nostrand Company Inc., 1952 555 p. illus. 23 cm. $6.00. 1550

Contents: Introduction. Geologic time. Fossils. Organic evolution. [illegible] Relations of continents and ocean basins. Origin and pregeologic history of the earth. The earth's interior. The Archeozoic era. The Proterozoic era. The Cambrian period. The Ordovician period. The Silurian period. The Devonian period. The Mississippian period. The Pennsylvanian period. The Permian period. Paleozoic life. The Triassic period. The Jurassic period. The Cretaceous period. Mesozoic life. The Cenozoic era (including Pleistocene glaciation). Pleistocene glaciation. Cenozoic life. Appendix. Index.

Note: A widely used college textbook. It is designed for use in first courses in the subject offered to students who have had an introductory course in general geology. The fifth edition was published in 1942. In the preparation of this edition, substantial changes were made in both the text and illustrations. There are now 404 figures, including [illegible] number of reproductions of photographs.

MILLER, WILLIAM JOHN

An introduction to physical geology with special reference to North America. Fifth edition. New York D Van Nostrand Company Inc., 1949 482 p. illus. 24 cm. $3.50. 1551

Contents: Introduction. Materials of the earth [illegible]. Instability of the earth's crust—diastrophism. Structure of the earth's crust. Volcanoes. Rock weathering. The work of streams. Glaciers and their work. The work of the wind. The sea and its work. Subsurface water and its work. Mountains, plateaus, and plains. Lakes. Economic geology. Appendices: [illegible] and useful minerals. Selected references on physical geology. Index.

Note: A standard textbook for college students, the first edition of which appeared in 1924, and the fourth edition in 1941. It is distinguished by [illegible] clear readable style and many excellent illustrations.

MONNETT, VICTOR E., AND HOWARD E. BROWN

The principles of physical geology New York. Ginn and Company 1950. 450 p. illus. 24 cm. $5.50 1552

Contents: Geology: its meaning and methods. The earth, its materials and processes. Weathering. Transportation of weathered material as [illegible] result of gravitation. The work of running water. Ground water. Lakes and swamps. The atmosphere. Glaciers and their work. The oceans. Deformation of the rocks. Mountains. Volcanoes. Development of landscapes. Minerals. Rocks. The earth's mineral wealth. Geology, the servant and ally of man. Appendix: Basic facts about the earth. Important rock-forming minerals. Common rocks. Topographic maps (introduction and keys). Index.

Note: An elementary work addressed primarily to college students. However, it is written and illustrated in [illegible] manner that makes it readable to any literate person who is interested in landscape features and the processes that produced them. The style is lucid, and even when dealing with theoretical topics, the authors usually express themselves in concrete terms that are readily comprehensible by the average educated reader. Most of the illustrations are reproductions of excellent photographs. A special point is made of the value of large-scale topographic maps in the study of landscape features.

MOORE, RAYMOND CECIL

Historical geology New York McGraw Hill Book Company Inc., 1933 673 p. illus. 23 cm. $9.50 1553

Contents (abridged): Introduction. The pre-Cambrian eras. The Paleozoic [illegible] of ancient life. The early Paleozoic [illegible]. The late Paleozoic [illegible]. The Mesozoic era. The Cenozoic era. Selected references. Index.

Note: A textbook designed for use in introductory college courses. Its 33 chapters are arranged in seven parts [illegible] are listed above. Although the author is best known for his contributions to paleontology, more space is given in this book to the physical history of the earth's evolution and to rock formations than to paleontology. However, each of the sections except the first contains a chapter on the life of its time, and the discussion of the Cenozoic era ends with [illegible] chapter on the geologic history of man. The basic principles of interpreting the geologic record are developed on the basis of study of a definite region, the Grand Canyon region. The book contains more than 400 figures. At the time of its publication, the selected and classified list of references was [illegible] useful guide to further reading, but since there has been no new edition of the book, no recent [illegible] is listed.

MOORE, RAYMOND CECIL

Introduction to historical geology New York McGraw Hill Book Company Inc., 1949 582 p. illus 23 cm. $6.75 1554

Contents: Materials and methods of historical geology. Evolution of life. The beginning of the earth. The Pre-Cambrian period. The Cambrian period. The Ordovician period. The Silurian period. The Devonian period. The Mississippian period. The Pennsylvanian period. The Permian period. Nature and evolution of Paleozoic life. The Triassic period. The Jurassic period. The Cretaceous period. Nature and evolution of Mesozoic life. The Tertiary period. The Quaternary period. Nature and evolution of Cenozoic life. The geologic record of man. Appendix. Index.

Note: An introductory text for college students enrolled in courses in historical geology and for lay readers [illegible] to inform themselves about the past history of the world in which they live. It is written in simpler language, and principles rather than details are emphasized. The treatment is more elementary and more graphic than in the author's *Historical geology*, New York, 1933. The total number of illustrations, including maps, sections, diagrams, photographs of typical rock exposures, topographic features, characteristic fossils, and photographs of restorations, amounts to 344, each with descriptive comments. Most of the illustrations are original. There is [illegible] detailed index.

NEVIN, CHARLES MERRICK

Principles of structural geology Fourth edition. New York John Wiley & Sons, Inc., 1949 410 p. illus. 24 cm. $7.00 1555

Contents: Stress and strain relations. Physical properties of rocks. Flexures. Faults. Joints. Cleavage. Structures associated with igneous intrusion. Structures in unconsolidated sediments. Reflection of rock structure in the topography. Some facts, inferences, and hypotheses regarding the earth. Continents and ocean basins. Mountain systems. Laboratory exercises. Index.

Note: A standard college textbook which is noted for its concise but lucid discussion of the deformations of the earth that form the subject matter of dynamic and structural geology. Because it

Winds. Petroleum. Supplements: How to identify the common minerals. Rock identification. Index.

Note. A short, well-illustrated work in which the traditional division of the subject into physical geology and historical geology is avoided. The style is very readable hence, the book is suitable for general readers as well as college students.

HUSSEY, RUSSELL CLAUDIUS

Historical geology, the geologic history of North America. Second edition. New York McGraw Hill Book Company, Inc., 1947 465 p illus 23 cm. $6.25 1543

Content Introduction The origin of the earth. Organizing the geologic record. Fossils reveal the life of the past. The concept of evolution. The Archeozoic era. The Proterozoic era. The Paleozoic era (the Cambrian period) The Paleozoic era (the Ordovician period) The Paleozoic era (the Silurian period) The Paleozoic era (the Devonian period) The Paleozoic era (the Mississippian period) The Paleozoic era (the Pennsylvanian period) The Paleozoic era (the Permian period) The Mesozoic era (the Triassic period) The Mesozoic era (the Jurassic period) The Mesozoic era (the Cretaceous period) The Cenozoic era (the Tertiary period) The Cenozoic era (the Pleistocene epoch) Life of the Cenozoic. The geologic history of man Index.

Note A concise but clear survey suitable for cultural reading as well as in undergraduate college courses. The first edition was published in 1944 Numerous small revisions in text and illustrations were made in the second edition.

LANDES, KENNETH KNIGHT, AND RUSSELL C HUSSEY

Geology and man New York Prentice-Hall, Inc., 1948 518 p illus 24 cm $7 00 1544

Contents: Part I Introduction: The science of geology Earth materials. Part II, Geologic processes Work of the atmosphere. Ground water Running water Ice as a geologic agent. Direct action of gravity Oceans and lakes. Sedimentary rocks. Volcanism and igneous rocks. Diastrophism and its effects. Part III, Beneath the crust The earth's interior Part IV Earth history: Origin and age of the earth. The study of earth history The history of life on the earth. The geologic story of the earth. Part V, Practical applications The search for mineral deposits. Geology in engineering projects. Index.

Note A textbook for use in introductory courses in colleges. Physical geology is emphasized, but material is included from other branches also The subject is made especially interesting by emphasis on the effects of geological processes on man. Gradual processes such as erosion, soil formation, and the movement of ground water are discussed and in addition, there is good deal of description of catastrophic processes such as floods, hurricanes, and earthquakes. There are 188 figures, many of which are reproductions of photographs. The senior author's *Physical geology and man*, New York, Prentice-Hall, Inc., 1948 414 p., $5.00, is an abridged version of the same work with the material on historical geology omitted.

LEET, L DON, AND SHELDON JUDSON

Physical geology New York Prentice Hall, Inc 1954 466 p illus 26 cm. $7 00 1545

Contents The scope of physical geology Materials of the earth. Igneous rocks. Weathering and soils. Sedimentary rocks. Mass movement of surface material. Running water Underground water Glaciation. Work of the wind. The oceans. Rock mobility and mountain-building. Earthquakes and the earth's interior Igneous activity and metamorphism. The earth's age and place in the universe. Mineral deposits and fossil fuels. Glossary Appendices. Index.

Note An introductory book designed primarily as a text for freshman college students. It is generously illustrated, and the publisher has given it an attractive format. Probably few lay readers will be interested in tackling the whole book however such individual chapters as those on glaciation, earthquakes, and the age of the earth can be read independently of the others and are unsurpassed as authoritative expositions for nonspecialist readers. Professor Leet is Chairman of the Division of Geological Sciences of Harvard University and his co-author is Associate Professor of Zoology in the University of Wisconsin.

LOBECK, ARMIN KOHL

Geomorphology, an introduction to the study of landscapes New York McGraw Hill Book Company, Inc., 1939 731 p. illus. 24 cm $9 00 1546

Contents Introduction. Rocks and structures. Weathering. Underground water Streams in general. Young streams. Mature streams. Alpine glaciation. Continental glaciation. Waves. Wind. Organisms. Coastal plains. Plains and plateaus. Dome mountains. Block mountains. Folded mountains. Complex mountains. Volcanoes. Meteor craters.

Note. Systematically explains all types of landscapes in terms of their origin and stage of development. The first part of the book deals with the forms produced by destructive forces, such as streams, glaciers, waves, wind, and organisms, while the last part describes plains, plateaus, and the several kinds of mountains. Many photographs and diagrams, comprising about one-half of the volume, supplement the text.

LONGWELL, CHESTER RAY, AND RICHARD FOSTER FLINT

Introduction to physical geology New York John Wiley & Sons, Inc., 1955 432 p. illus 24 cm. $4 95 1547

Contents The science of the earth. A general view of the earth. Materials of the earth's crust. Geologic time. Igneous geology Weathering and soils. Mass-wasting. Running water Sculpture of the land by streams and mass-wasting. Ground water Lakes and basins. Glaciers and glaciation. Wind action and arid lands. The sea submarine geology Waves, currents, and the sculpture of coasts. Sedimentary rocks. Deformation of the earth's crust. Metamorphism. Earthquakes the earth's interior Mountains and geosynclines. Geology in industry Appendices. Index.

Note A college text written by two widely known authors of such books, members of the Yale University Department of Geology It is well organized and is adequately though not spectacularly illustrated. The style is much more readable than is typical of geology textbooks. In addition to its intended use, it is suitable for laymen who wish to acquire an elementary knowledge of physical geology so as to understand landscape features better or to be armed against acceptance of such folklore as the finding of water with the divining rod.

LONGWELL, CHESTER RAY, AND OTHERS

Outlines of geology A combination of *Outlines of physical geology*, by Chester R. Longwell, Adolph Knopf and Richard F Flint and *Outlines of historical geology* by Charles Schuchert and Carl O Dunbar Second edition New York John Wiley and Sons, Inc., 1941 672 p 24 cm. $7 95 1548

Contents: Part I, Outlines of physical geology Preview of geology Minerals and rocks. Weathering and mass-wasting. Running water. Sculpture by streams and mass-wasting. Subsurface water Lakes and swamps. Glaciers and glacial sculpture. Erosion and deposition by wind. The sea. Sediments and sedimentary rocks. Volcanism and deep-seated igneous action. Bending, fracturing, and metamorphism of rocks. Earthquakes the earth's interior Mountains and related land forms. Mineral resources. Geology and engineering. History the central theme of geology Topographic maps. Index. Part II, Outlines of historical geology Prologue Records in stone. The scale of time. The constant change of living things. A living record of the dead. Earth's changing features: Before the Cambrian. Glimpses of Paleozoic landscapes. The Mesozoic world. The modern world unfolds. Ice sculptures the final scene. The pageant of life Paleozoic inhabitants of the earth. The reign of reptiles. Mammals inherit the earth. The coming of man. An introduction to animals and plants. Index.

Note. Each of the parts which make up this combined volume is also published separately The present work is intended for use in short courses covering the whole field of elementary geology and while the two parts are still paged separately the authors state that in this second edition they have been welded together in a unified whole. Physical geology is explained as key to the reading of geologic history and an attempt is made to give the student or lay reader an appreciation of earth-features as the results of processes that are still active. Considerable at-

of Kentucky by A. C. McFarlan and W. H. White. Kentucky subsurface by C. D. Hunter

Note: The papers collected in this volume represent an attempt to assemble, chiefly for the benefit of petroleum geologists, the available information about the Ordovician rocks of the Appalachian basin, especially the Trenton and sub-Trenton. They reflect the current interest in the petroleum industry in the oil and gas potentialities of these strata. Full references are made to the related literature and the production records of wells already drilled in the Trenton.

ANDERSON ROBERT VAN VLECK

Geology in the coastal Atlas of western Algeria. New York The Geological Society of America, 1936 450 p. illus. 25 cm. (Geological Society of America. Memoir 4) $4.20 1562

Contents (abridged) Introduction. Geography General stratigraphic considerations. Pre-Cretaceous terranes. Cretaceous system. Eocene and Oligocene groups. Cartennian group. Tellian group. Marnal stage. Beida stage. Mellah stage; tuff beds of the Tellian group. Upper Miocene or Lower Pliocene beds. Pliocene series. Tafna stage. [illegible] stage. Hamel stage. Chylemath stage. Quaternary stages. Igneous rocks. Structure. Features of structural history. Index.

Note A study of the geology of an area of approximately 3,800 square miles along the Mediterranean coast. Numerous features of the general geology and geography are dealt with, but special emphasis is placed on [illegible] discussion of the Cenozoic stratigraphic sequence and structural history with particular reference to the Miocene and Pliocene periods. A geologic map on the scale of 1/200,000 is presented, showing in detail the distribution of the formations representing the latter periods.

ATWOOD WALLACE WALTER

The physiographic provinces of North America. Boston Ginn and Company 1940 537 p illus. (part col d) 24 cm. $7.25 1563

Contents: The regional idea in geography. The Atlantic and Gulf coastal plain. The Appalachian highlands—the New England-Acadian division. The Appalachian highlands—the Southeastern division. The Laurentian upland. The central lowlands. The interior highlands. The great plains. The Rocky Mountains. The Cordilleran plateaus. The Pacific borderlands. Index.

Note: Less detailed than some textbooks on the landscape geology of North America, this book is, nevertheless, [illegible] useful survey. It is organized into units of distinctive land surface as noted in the above contents. For each region the geomorphology, climatology, soils, and native vegetation are described. The illustrations, of which there are 351, are [illegible] principal feature. Most of them are clear reproductions of excellent photographs.

EARDLEY ARMAND JOHN

Structural geology of North America. New York Harper & Brothers, 1951 624 p. illus. (part col d) 22 cm. (Harper's geoscience series Carey Croneis editor) $13.50 1564

Contents (abridged) Structural terminology and classification. Stable interior of the continent. Paleozoic Cordilleran geosyncline. Appalachian Mountain systems. Eastern Triassic basins. Atlantic coastal plain. Ouachita, Marathon, and Coahuila systems. Wichita and ancestral Rockies systems and the Texas foreland. The late Paleozoic areas of faulting and cryptovolcanic structures. Mesozoic systems along the Pacific. Canadian and Montana Rockies. Idaho batholith. Central Rockies. Colorado and New Mexico Rockies. Rockies of northeastern Mexico. Coast ranges of the Pacific. Baja California and Sierra systems. Pacific submarine system. Antillean-Caribbean region. Bibliography. Index.

Note A compact but fairly detailed treatment of the structural evolution and present landscape features of the North American continent. The arrangement is by region, but even small areas are discussed if they are of special interest to the structural geologist. A series of 14 colored maps portrays the tectonic evolution of the continent from the Cambrian period to the late Cretaceous. The work is an outstanding contribution to geological literature. In the whole book there are 343 figures containing reproductions of about 730 maps and diagrams.

FENNEMAN, NEVIN MELANCTHON

Physiography of eastern United States. New York McGraw-Hill Book Company Inc., 1938. 714 p. illus. 23 cm $10.00 1565

Contents: Coastal plain province. Piedmont province. Blue Ridge province. Ridge and valley province. Appalachian plateaus province. New England province. Adirondack province. Interior low plateau province. Central lowland east of the Mississippi. The Superior upland. Central lowland west of the Mississippi. Ozark plateaus. Ouachita province.

Note: A standard description in the terms of geomorphology of the landscape features of continental United States of America including the Mississippi Valley and the regions east and of it. It describes the present features of this area and their geologic history. There are 197 figures and six folded maps.

FENNEMAN NEVIN MELANCTHON

Physiography of western United States. New York McGraw-Hill Book Company Inc. 1931 534 p illus. 23 cm. $9.00. 1566

Contents Great Plains province. Southern Rocky Mountain province. Wyoming basin. Middle Rocky Mountain province. Northern Rocky Mountain province. The Columbia plateau. Colorado plateau province. Basin and range province. Sierra Cascade province. Pacific border province.

Note A companion volume to the work described above. It is organized on the same plan and written in the same style but covers the landscape features of the western portion of continental United States of America.

GREGORY HERBERT E

Geology and geography of the Zion Park region, Utah and Arizona a comprehensive report on a scenic and historic region of the Southwest. Washington D C. Government Printing Office 1950 200 p. illus. (part col d) 29 cm. (United States. Geological Survey Professional paper 220) $2.50 1567

Contents: Introduction. Geography Location, extent, and accessibility. Historical sketch of southwestern Utah. Climate of southwestern Utah. Soil. Vegetation. Animals. Inhabitants. Sedimentary rocks. General stratigraphic relations. Permian formations. Erosion interval. Triassic formations. Jurassic formations. Cretaceous formations. Eocene interval. Tertiary formations. Quaternary formations. Stratigraphic sections. Igneous rocks. General features and relations. Volcanic areas. Structure. Regional features. Hurricane fault. Sevier fault. Minor faults and folds. Joints. Physiography: General features. Factors that influence erosion. Profiles and form of valleys. Features of individual valleys. Physiographic history. Physiographic features. Economic geology: Oil. Coal. Surface water. Ground water. Index.

Note Based upon detailed reconnaissance in the field during the years 1915–24, 1933, and 1934–38, this professional paper describes the geology and geography of 3,800 square miles of plateau and canyon lands in southwestern Utah and northwestern Arizona within and bordering Zion National Park. Accessible via Federal highways, it is [illegible] region of scenic beauty. The publication is illustrated by reproductions of more than 100 photographs and by five folded plates, two of which are large maps in color.

HEWETT D F

Geology and mineral resources of the Ivanpah quadrangle California and Nevada the geology of an area covering 3 900 square miles in the northeastern part of the Mojave Desert, including mountain ranges 6,000–7,000 feet in altitude. Washington, D C. Government Printing Office, 1956 172 p illus. 29 cm. (United States. Geological Survey Professional paper 275) $2 50 1568

Contents: Introduction. Geography. Geology: Orogenic epochs. Pre-Cambrian era. Paleozoic era. Mesozoic era. Post-Cambrian

is brief and because the language is semitechnical, the book is also suitable for general readers who are more than superficially interested in the subject. The most prominent change in the present edition is the addition of the section of laboratory exercises near the end of the book, but the whole work has been revised, and the type has been reset.

RICHARDS, HORACE G

Record of the rocks, the geological story of Eastern North America. New York The Ronald Press Company, 1953 413 p illus 23 cm. $6 00 1556

Contents How rocks are formed. The geologic timetable. How geologists read rocks. Movements of land and sea. What is a fossil? A classification of animals—plants. Origin of the earth. Pre-Cambrian. Cambrian. Ordovician. Silurian. Devonian. Mississippian Pennsylvanian. Permian. Triassic. Jurassic. Cretaceous. Cenozoic era. Eocene (including paleocene) Oligocene. Miocene. Pliocene. Pleistocene. Recent. Index of names. Index of subjects.

Note. A clearly written introduction to the historical geology of the eastern part of continental United States of America and Canada with particular emphasis on the Atlantic Coastal Plain and the Appalachian Mountain area. So much material on fossils is included that the book can serve also as an introduction to the paleontology of this region. It is illustrated with 294 figures, many of which are reproductions of photographs. Literature references intended as guides to further reading are supplied. The book is suitable for use both as a text in college courses and as informative reading for lay readers interested in geology and paleontology. The author is Associate Curator of Geology and Paleontology on the staff of the Academy of Natural Sciences, Philadelphia.

STOVALL, J WILLIS, AND HOWARD E BROWN

Principles of historical geology Boston Ginn and Company, 1955 471 p illus 24 cm $6.25 1557

Content The earth in the universe. Time and the geological time scale. Life on the earth. Plants and animals. Keys to the past. The Archeozoic era. The Proterozoic era. The Cambrian period. The Ordovician period. The Silurian period. The Devonian period. The Mississippian period. The Pennsylvanian period. The Permian period. The Triassic period. The Jurassic period. The Cretaceous period. The Tertiary period. The Quaternary period. Appendix Geologic structures of North America. The identification and classification of fossils. Index.

Note. A lucidly written introduction to the evolution of the earth as it can be read in rocks and geological structures. The subject matter covered is the traditional content of introductory texts. However the treatment of it is less cyclopedic than in many elementary texts, and the various topics are correlated in such a way as to present the study of historical geology as the study of a continuing drama. The verbal text is supplemented by numerous illustrations of geologic structures, fossil forms of life, and reconstructions of prehistoric animals. Aside from its use by college students, the book is suitable also for mature lay readers.

THORNBURY, WILLIAM D

Principles of geomorphology New York John Wiley & Sons, Inc , 1954 618 p illus 23 cm. $8 00 1558

Contents Backgrounds of geomorphology Some fundamental concepts. An analysis of the geomorphic processes. Weathering, soil processes, and mass-wasting. The fluvial geomorphic cycle. Complications of the fluvial cycle. Stream deposition. The peneplain concept. Topography on domal and folded structures. Topography upon f ulted structures. The arid cycle. Eolian land forms. Karst topography Types and characteristics of glaciers. Mountain glaciation. Ice caps and their topographic effects. Geomorphology of coasts. Topography of the ocean floors. Land forms resulting from volcanism. Pseudovolcanic features. Tools of the geomorphologist. Applied geomorphology Author index. Subject index.

Note: A college textbook with several distinctive and valuable features. It presents geomorphology or the study of landforms, as a science with potential practical applications. It emphasizes basic processes, and the illustrations have been selected as examples of the effects of these processes rather than as scenes of natural beauty The various theories on the evolution of specific varieties of landforms are presented critically with references to source articles.

VON ENGELN, OSCAR DIEDRICH, AND KENNETH E CASTER

Geology New York McGraw Hill Book Company, Inc., 1952 730 p illus. (part col'd) 24 cm. $7 50 1559

Contents (abridged) Introduction to geology Materials of the earth. History of early geologic ideas. The natural history of igneous rocks Origin and composition of magma. Phenomena of intrusion. Phenomena f extrusion. Volcanic cones and associated phenomena. Igneous rock classes and varieties. Structure, process, forms of sedimentation. Underground water. Diastrophism. Structural geology Metamorphism. Mountains and plateaus. Sculpture of the land in humid regions. Sculpture and modeling of the land in arid regions. Geology of the shores and floor of the ocean. Nature and functions of glaciers. Geologic history Cenozoic era. Mesozoic era. Paleozoic era. Cryptozoic eon. Index.

Note. An introductory college text suitable for use by both students who will take only an introductory course and those who plan to pursue the subject further. It provides a view of the basic content of the main branches of geology including paleontology. Also, there is a brief presentation of current theories of cosmology. The book is written in a clear style and is adequately supplied with literature references and illustrations.

VON ENGELN, OSCAR DIEDRICH

Geomorphology, systematic and regional. New York The Macmillan Company, 1942. 655 p illus. 23 cm. $8 00 1560

Contents (abridged) Definitions and backgrounds. Relief features of the first order Relief of the ocean bottoms. Geomorphic units. The peneplain concept. The normal or fluvial geomorphic cycle on a coastal plain. Factors of rock strength, in relation to processes and results in the fluvial geomorphic cycle. Waterfall sites. Interruptions of the fluvial geomorphic cycle and their consequences. Geomorphic features associated with weathering and mass translocation of rock waste. History of the folded Appalachians. Fault-block mountains and topography resulting from faulting. The desert (or arid) geomorphic cycle. The glacial geomorphic cycle. Geomorphology of coasts. Karst topography Land forms from volcanicity Index.

Note A still useful introduction to landscape geology It is directed primarily to college students, but is written in a style that suits it to reading outside of organized courses by any interested person. One of its special features is inclusion of chapter on the geomorphological tenets of the school of German geomorphologists lead by Walther Penck as opposed to the ideas of the American school of thought associated with W M. Davis. There are 177 figures of which a considerable proportion are reproductions of photographs of landscape features.

GEOLOGY OF VARIOUS REGIONS

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Appalachian basin Ordovician symposium. Papers read at the meeting of the Pittsburgh Geological Society at Pittsburgh, Pennsylvania, May 16, 1947, and published in the Bulletin of the American Association of Petroleum Geologists August, 1948 Editorial committee John T Galey, chairman, J F Pepper, C. E Prouty R. E Sherrill, R. E. Somers, Tulsa American Association of Petroleum Geologists, 1948 1 657 p. illus. 23 cm. $2 00 1561

Contents: Foreword, by J T Galey Summary of Middle Ordovician bordering Allegheny synclinorium, by M. Kay Cambrian and Ordovician rocks in Michigan basin and adjoining areas, by G V Cohee. New York subsurface geology by E. T Heck. Subsurface Trenton and sub-Trenton rocks in Ohio, New York, Pennsylvania, and West Virginia, by C. R. Fettke. Trenton and sub-Trenton outcrop areas in New York, Pennsylvania, and Maryland, by F M Swartz. Trenton and sub-Trenton stratigraphy of northwest belts of Virginia and Tennessee, by C. E. Prouty Trenton and pre-Trenton

Sierra Mts. General problems of pre-Cambrian rocks. Economic geology. References cited. Appendix. Index.

Note: Published in this volume is the report of a systematic, detailed study of the pre-Cambrian rocks which are exposed in the vicinity of the town of Van Horn, Texas. The region is of interest not only for the age of the exposed rocks, but also because of its mineralization. Both the geology and the economic geology are covered. The illustrative matter includes 24 figures in the text and 34 plates. Most of the latter—which includes both landscape features and photomicrographs of rock structures—are reproduced from photographs. Nineteen of the plates are maps, and some of them are in color.

KING, PHILIP B

Geology of the southern Guadalupe Mountains Texas. Washington, D C. Government Printing Office, 1948 183 p. illus 29 cm (United States. Geological Survey Professional paper 215) $3.25 1573A

Contents: Introduction. Physical features of the region. Stratigraphy of Permian rocks. Mesozoic era. Tertiary igneous rocks. Tectonics. Cenozoic deposits and land forms. Economic geology. Selected stratigraphic sections. Bibliography. Index.

Note: This paper deals with an area of 411 square miles in the western part of Texas, immediately south of the New Mexico line. The main economic interest of the area is indirect. Knowledge of the area is valuable to petroleum geologists because features exposed at the surface here are analogous to features in the east known only from drilling in the oil fields. The geology of the region is exceptional in its record of variations in physical conditions, both in space and in time.

LADD HARRY S AND J EDWARD HOFFMEISTER

Geology of Lau Fiji. Includes Petrography of igneous rocks, by Harold L. Alling Petrography of limestones, by Geoffrey W Crickmay Chemical composition of limestones by J W Sanders, jr., and Geoffrey W Crickmay Larger foraminifera by W Storrs Cole Echinoidea, by Hubert Lyman Clark Barnacles, by H. A. Pilsbry Decapod crustacea, by Mary J Rathbun. Honolulu Bernice P Bishop Museum, 1945 399 p 62 plates. illus. 25 cm. $6.00 1574

Note: The results of an extensive geological study of the Lau group of islands in the Fiji Islands are published in this work. These islands are noted for their shells and coral reefs. The field work was carried out in 1934. The physiography, geological history and present geology of the principal islands in the group are described. In addition, the volume contains special studies of rocks and fossils as noted in the subtitle. The illustrations in the text include maps, and the section of plates contains photographs of igneous and other geological features as well as of fossils collected.

LADD HARRY S

Geology of Vitilevu Fiji. Includes Petrography by Arthur A. Pegau Smaller Foraminifera, by Joseph A. Cushman Larger Foraminifera, by G Leslie Whipple Corals by J Edward Hoffmeister Smaller echinoids, by H. L. Hawkins Decapod crustaceans, by Mary J Rathbun. Honolulu, Hawaii Bernice P Bishop Museum, 1934 263 p. illus. 25 cm. (Bernice P Bishop Museum. Bulletin 119) $4.00 1574A

Contents: Introduction. Physiography Stratigraphy Petrographic study of the rocks of Vitilevu, Fiji. Introduction. Wainimala series. [illegible] series. Vei limestone. [illegible] formation. Geological history Geomorphology Economic geology List of stations. Paleontology Smaller Foraminifera from Vitilevu, Fiji Larger Foraminifera from Vitilevu, Fiji. Fossil corals from Vitilevu, Fiji. Fossil Echinoidea Vitilevu, Fiji. Molluscoidea. Mollusca. Fossil decapod crustacea from Vitilevu, Fiji. Vertebrata. Bibliography Paleontological census from Vitilevu, Fiji. Index.

Note: A detailed summary of the results of two expeditions to Fiji in 1926 and 1928, the primary purpose of which was to work out the geological history of Vitilevu, one of the three largest islands in the open Pacific, with the aid of detailed paleontological studies. There are 44 plates of photographs and drawings, mostly of fossil shells collected by the expedition, plus 111 bibliographic references.

LARSEN, ESPER S., JR., AND WHITMAN CROSS

Geology and petrology of the San Juan region southwestern Colorado a comprehensive geologic and petrologic study of the occurrence and origin of the rocks in an area of 12,000 square miles in southwestern Colorado. Washington, D C. Government Printing Office 1956 303 p. illus. 29 cm. (United States Geological Survey Professional paper 258) $5.25 1575

Contents (abridged): Introduction. Pre-Cambrian rocks. Paleozoic rocks. Mesozoic rocks. Cenozoic rocks. Structure. Geologic history General petrology Selected bibliography Index.

Note. The main interest in this publication lies in its detailed study of the igneous rocks of the San Juan Mountains. The rock formations, the relations among them, and the chemical composition of the many varieties of igneous rocks found in this region were investigated both in field and laboratory studies, and the results of the studies are presented in this report addressed to graduate geologists and petrologists. A geological map in color and drawn to the scale 1:250,000, and a colored plate, drawn to the same scale, of 12 geologic sections of the region, are included in the volume.

LOVERING T S, AND E N GODDARD

Geology and ore deposits of the Front Range, Colorado prepared in cooperation with the Colorado State Geological Survey Board and the Colorado Metal Mining Fund. Washington D C. Government Printing Office 1950 319 p illus. (part col d) 29 cm (United States. Geological Survey Professional paper 223) $8.50 1576

Contents: Summary of mining districts. Introduction. Physiography Geology: Pre-Cambrian metamorphic and igneous rocks. Paleozoic, Mesozoic, and Cenozoic sedimentary rocks. Laramide igneous rocks. Post-Eocene igneous rocks. Structure. Ore deposits Pre-Cambrian deposits. Laramide (late Cretaceous—early Tertiary) deposits: Mineral belt of the Front Range. Mining districts in the mineral belt. Laramide deposits outside the mineral belt. Deposits of the "cathedral vapour" type. Post-Laramide deposits. Index.

Note: The Front Range is the main Colorado range of the Rocky Mountains running north and south through the state, west of Denver and including Pikes Peak and the Cripple Creek district. This publication presents a summary geological account of the structure of the entire region and detailed histories and descriptions of the various mines and ore deposits located in the Range. In pocket are 30 folded maps and diagrams, few of them in color

MATTHES, FRANÇOIS EMILE

Geologic history of the Yosemite valley Washington, D C. Government Printing Office 1930. 137 p. illus. (part col d) 29 cm. (United States. Geological Survey Professional paper 160) $5.25 1577

Contents: Geographic sketch of the Yosemite region and the Sierra Nevada. Early history of the Yosemite Valley Glacial history of the Yosemite Valley? Glaciation of the Sierra Nevada. Evidence of glacial action in the Yosemite region. Evidence of

and pre-Tertiary intrusive rocks. Laramide orogeny Cenozoic era. Mineral deposits. Metal deposits. Metallogenic epochs. Regional controls of the Laramide ore deposits. Supergene processes. Outlook for mining. Discovery and development of mineral resources. Mineralogy Laramide ore deposits: Gold deposits. Silver deposits. Copper deposits. Lead deposits. Zinc deposits. Molybdenum deposits. Tungsten deposits. Tin deposits. Antimony deposits. Iron deposits. Late Tertiary gold deposits. Nonmetallic resources. Literature cited. Index.

Note. The Ivanpah quadrangle, of which the geology and mineral resources are detailed in this paper is about 69 miles in length and 54 miles in width. It lies south of Las Vegas, Nevada, and east of Baker California, and its eastern boundary is about 15 miles west of the Colorado River The publication is based upon field work by the author The structural geology of the quadrangle is described in the first 111 pages. The next 55 pages contain accounts of the minerals of the region and of the 141 mines.

HUNT, CHARLES B , AND OTHERS

Geology and geography of the Henry Mountains region, Utah A survey and restudy of one of the classic areas in geology By Charles B Hunt, assisted by Paul Averitt and Ralph L Miller Washington, D C. Government Printing Office, 1953 234 p illus (part col d) 29 cm (United States. Geological Survey Professional paper 228) $6 25 1569

Contents Introduction. Economic geography Stratigraphy of the sedimentary rocks. Structural geology and forms of the igneous intrusions. Petrography ! the igneous rocks. Physical geography Tertiary history of the region. Resources. Bibliography Index.

Note The Henry Mountains region in southeastern Utah is one of the classic areas in geology because of the study made there by Grove Karl Gilbert in 1875 and 1876. The area is virtually an arid, treeless plateau from which arise the Henry Mountains. The present publication presents thoroughgoing study of its geography and geology based upon field work in the summers of 1935 to 1939 In a pocket are 12 folding maps and diagrams, of which 12 are in color

JENKS, WILLIAM F , editor

Handbook of South American geology An explanation of the Geologic Map of South America. New York The Geological Society of America 1956 378 p illus 25 cm (The Geological Society of America. Memoir 65) $5 50 1570

Contents Selected general references on South American geology Morphostructural regions of South America, by H. J Harrington. Brazil, by A. I. de Oliveira (with the collaboration of F F M. de Almeida and others) French Guiana, by B. Choubert. Surinam, by H. Schols. British Guiana, by S. Bracewell. Paraguay by H. J Harrington. Uruguay by H. J Harrington. Argentina, by H. J Harrington. Bolivia, by F Ahlfeld. Chile, by J Muñoz Cristi. Peru, by W F Jenks. Ecuador by G. E. Lewis and others. Colombia, by A. A. Olsson. Venezuela, by V M López and others. Trinidad, by H. G Kugler Index.

Note This handbook, written by experts from North and South America, is an explanatory text to accompany the colored Geological Map of South America (scale, 1 5,000,000) published in 1950 by the Geological Society of America in co-operation with the American Geographical Society and the United States Geological Survey The handbook summarizes in some detail the geology and principal geologic problems of each country together with sections and charts reproduced on folding plates. In most of the articles, there is specific reference to the symbols used on the Geologic Map of South America, in order to facilitate direct reference between map and text. Selected bibliographical references accompany the individual articles.

KELLEY, VINCENT C , AND CASWELL SILVER

Geology of the Caballo Mountains, with special reference to regional stratigraphy and structure and to mineral resources, including oil and gas Albuquerque University of New Mexico Press, 1952 286 p. illus 23 cm. (University of New Mexico publications in geology No 4) $5 00 1571

Contents: Introduction Geography Climate. Soil and vegetation. Culture and history Previous work. Present investigation Stratigraphy: General statement. Precambrian rocks. Cambrian rocks. Ordovician rocks. Silurian rocks. Devonian rocks. Mississippian rocks. Pennsylvanian rocks. Permian rocks. Triassic and Jurassic rocks. Cretaceous rocks. Tertiary rocks. Quaternary rocks. Structure Precambrian deformation. Lower Paleozoic deformation. Upper Paleozoic deformation. Mesozoic deformation. Cenozoic deformation. Physiography Mountainous uplands. Jornada surface. Palomas surface. Inner Rio Grande valley Physiographic history Ground water: Las Palomas valley Truth or Consequences area. Derry Warm Springs. Caballo Mountains. Jornada del Muerto valley Mineral deposits Hypogene deposits. Supergene deposits. Placer deposits. Sedimentary rock deposits. Coal. Oil and gas. Jornada del Muerto valley Las Palomas and Eagle valleys. Appendix: Descriptive stratigraphic sections. Mud Springs Mountains section. South Ridge section. Cable Canyon section. Mattias Canyon section. Palomas Creek section. Derham Ranch section. Mescal Canyon section. Bibliography Index.

Note: A complete account of the geology of the Caballo Mountains in central southern New Mexico. Prior to this work, little or no geologic mapping had been done in these mountains. Rocks representative of the entire Paleozoic, as well as of the Cretaceous, Tertiary and Recent, are found in the area. Thirty-seven photographic illustrations appear on 19 plates, and 10 folding maps and charts are contained in a pocket.

KELLEY, VINCENT C

Regional tectonics of the Colorado plateau and relationship to the origin and distribution of uranium Prepared in cooperation with U S Atomic Energy Commission, Division of Raw Materials. Albuquerque University of New Mexico Press, 1955 120 p illus. 23 cm. (University of New Mexico publications in geology No 5) $2 00 1572

Contents Introduction: Geography Nature of the investigation. Tectonics: Boundaries. Major primary rock masses. Structural elements. Lineaments. Regional mechanics of deformation. Geologic history Tectonic influence on distribution and genesis of ore Distribution. Theories of origin. Sources of ore-bearing sediments. Paleohydrology Hydrothermal activity Conclusions. References.

Note. The object of the project reported in this publication was to determine the relationship between regional structure and regional concentration of uranium deposits. To accomplish this, the author made special study of the regional structure and the tectonic history f the Colorado plateau, which consists of roughly one-fifth of the areas of the states of Utah, Colorado, Arizona, and New Mexico converging on the junction point of the four states, where much uranium is found. A new tectonic map of the area was compiled by the author which is reproduced in color on sheet folded into a pocket of the publication. The report itself consists f three principal parts. description and analysis of the regional tectonics f the Colorado plateau, geologic history of the region, and a discussion of the tectonic influence on distribution and origin f uranium deposits in the plateau.

KING, PHILIP B , AND PETER T FLAWN

Geology and mineral deposits of pre-Cambrian rocks of the Van Horn area, Texas. Bureau of Economic Geology John P Lonsdale Director prepared in co-operation with the United States Geological Survey Austin The University of Texas, 1953 218 p. illus 25 cm (University of Texas. Publication no. 5301) $5 00 1573

Contents I troduction. Northwest Van Horn Mountains (mine area) Northeast Van Horn Mountains. Wylie Mountains. Eagle Mountains. Carrizo Mountains. Sierra Diablo foothills. Pump

deposited in Michigan and Ohio. The paleogeographic map of Bedford and Berea time. Paleogeography at the beginning of early Bedford time. Paleogeography of early Bedford time. Paleogeography at the beginning of late Bedford time. Paleogeography at the end of late Bedford time. Paleogeography of early Berea time. Paleogeography of middle Berea time. Paleogeography of late Berea time. Paleogeography of latest Berea time. Paleogeography of Sunbury time. Literature cited. Index.

Note The Berea sand of eastern Ohio and adjacent states has long been an important producer of gas and oil. Studies of the Berea sand were made by the U. S. Geological Survey beginning in 1943 as part of an expanded program of oil and gas investigations, and as a result of these studies nine preliminary maps and preliminary chart were published to show the variation in the thickness of the sand from place to place and the relationship of the accumulation of oil and gas to the variations in sand thickness. The professional paper is a compilation and an evaluation of the large amount of data accumulated in the preparation of the preliminary maps. It will be chiefly of interest to petroleum geologists. The work is illustrated by photographic reproductions, geologic diagrams, charts, maps, a series of nine colored maps showing the Ohio region in Bedford and Berea times, and a set of detail maps, some in color, folded into a pocket.

RICHARDS HORACE GARDINER

Geology of the coastal plain of North Carolina. Philadelphia The American Philosophical Society 1950 83 p. illus. 30 cm. (American Philosophical Society Transactions. New series—Vol. 40 part 1) $1 50. 1584

Contents Introduction. Stratigraphy of the North Carolina coastal plain. Lower Cretaceous. Upper Cretaceous. Eocene. Oligocene. Miocene. Pliocene. Early Pleistocene. Late Pleistocene. Recent formations. "Carolina bays." Structure of North Carolina coastal plain. Economic geology. Correlation of North Carolina coastal plain formations. Historical geology. Bibliography. Index.

Note A comprehensive study based both on field work and study of the literature. The bibliography covers the literature published since 1912 and also some papers published before 1912 which were omitted from the bibliography in Volume III of the North Carolina Geological and economic survey, 1912. Most of the 78 figures are reproductions of photographs of landscape features or of fossil specimens.

RICHARDS PAUL W

Geology of the Bighorn Canyon—Hardin area, Montana and Wyoming A description of the geography stratigraphy structure geomorphology and mineral resources of the area. Washington, D C Government Printing Office, 1955 93 p. illus. 23 cm. (United States. Geological Survey Bulletin 1026) $4.00 1585

Contents Introduction. Geography. Stratigraphy. General features. Cambrian system. Ordovician system. Devonian system. Carboniferous systems. Permian system. Permian and Triassic systems. Jurassic system. Cretaceous system. Tertiary (?) and Quaternary systems. Quaternary system. Structure. Geomorphology. Economic geology. Literature cited. In pocket: seven folding plates, including one map (in two sections) in color.

Note This bulletin describes and illustrates the geography stratigraphy and geomorphology of an area of 1,000 square miles in south-central Montana and adjoining Wyoming. Fieldwork for the report was accomplished by the author and his associates during the months of June to October in 1947 and 1948. The fourfold purpose of the investigation is described in the following terms: "(1) to map and study the terraces below the mouth of Bighorn Canyon in order to provide information as to the type of aggregate available for construction of the proposed Yellowtail dam, and show the distribution of terraces, some of which would be irrigated by water diverted from the Bighorn River by the dam; (2) to map the geology of Bighorn Canyon and show formations that would be covered in part by the Yellowtail reservoir; (3) to locate and describe mineral deposits of possible economic importance; and (4) to map and describe the rock formations, some of which contain known or potential oil-bearing strata elsewhere in Montana and Wyoming." The area is mostly within the Crow Indian Reservation in southwestern Big Horn County Montana.

SCHUCHERT CHARLES

Atlas of paleogeographic maps of North America. With an introduction by Carl O Dunbar New York John Wiley and Sons, Inc., 1955 177 p. illus. 29 cm. $4 75 1586

Note [illegible] paleogeographic map is designed to show the distribution of lands and seas, and of areas of sedimentary deposition, at a given time in geologic history. [illegible] This statement from the introduction to the present volume indicates the purpose of the maps contained in it. The maps themselves were redrafted from maps upon which Charles Schuchert worked during most of his lifetime and which he intended to publish as an atlas in his projected comprehensive review of the stratigraphy of North America. The maps as published are all printed on the same base map. Each appears full-page on a right-hand page with a tabulation on the facing left-hand page of the stratigraphic units represented. The maps are printed in a key which shows such things as marine waters on present continental areas, areas of nonmarine deposits, outcrops of nonmarine strata, areas of Permian evaporites, and shore lines. They have not been brought down to date but represent, generally speaking, the accumulated knowledge as of 1942. A useful feature is the inclusion of a list of published correlation charts of the Committee on Stratigraphy of the National Research Council which should be used with the maps.

SCHUCHERT, CHARLES

Historical geology of the Antillean-Caribbean region, or the lands bordering the Gulf of Mexico and the Caribbean Sea. New York John Wiley & Sons Inc., 1935 811 p. illus. 23 cm. $16 00 1587

Contents Introduction and summary. The three Middle American lands. Physiography. The lands: Mexico. The Gulf coastal plain of the United States. Nuclear Central America. The Antilles and their Bahamas foreland. The young isthmian link connecting Central and South America. Northern South America. The outer islands. Index.

Note A comprehensive treatise on the historical geology of the lands bordering the Gulf of Mexico and the Caribbean Sea. It summarizes the stratigraphy and historical geology of Mexico, Central America, all of the Antillean islands, and northern South America (Venezuela and Colombia) as well as the Gulf coastal plain of the United States. Formations are correlated within each region and also interregionally. The paleogeography and the geosynclines are illustrated on a new series of 14 maps. Geologic maps are included for most of the regions, either compiled or taken from the best sources available. The book is not only an interpretation of the geologic history but also a voluminous compilation of the structure, stratigraphy and paleontology of the region under discussion.

SCHUCHERT CHARLES AND CARL O DUNBAR

Stratigraphy of western Newfoundland. New York The Geological Society of America, 1934 123 p. illus. 26 cm. (Geological Society of America. Memoir 1) $2.00 1588

Contents (abridged) Introduction and summary. Cambrian systems. Ordovician system of western Newfoundland. Green Point series, St. George series, Table Head series, Long Point series, Cow Head limestone breccia. Humber Arm series. Ordovician and Silurian systems of northeastern Newfoundland. Devonian system. Mississippian system. Newfoundland as a part of Greater Acadia. Bibliography. Index.

Note A summary of data based on four expeditions from 1910 to 1933, analyzing the complex structure of the region and presenting composite stratigraphic sections of the Cambrian and Ordovician strata of the coastal lowland, divisible into 10 named formations or series.

SCHWARTZ GEORGE M., AND GEORGE A. THIEL

Minnesota s rocks and waters a geological story With the assistance of Peggy Harding

an earlier ice invasion. Ancient glaciers of the Yosemite region. Transformation of the Yosemite Valley by the ice. Postglacial history of the Yosemite region. Filling of the glacier lakes. Filling of Lake Yosemite. Production of rock waste in the Yosemite Valley. Evolution of cliff sculpture. Summary and conclusions. Appendix: The granite rocks of the Yosemite region, by F. C. Calkins. Bibliography. Index.

Note. This paper offers a detailed study of the geologic history of the Yosemite Valley with emphasis upon the problem of to what extent the valley is a product of glacial action and product of stream erosion. The principal result of the investigations upon which this report is based is the determination within narrow limits of the preglacial depth of the Yosemite Valley and of other facts concerning its preglacial development which permit fairly definite estimates of the proportionate shares of work performed by stream and by glacier. The investigations comprise a detailed survey of the glacial and geomorphologic features and an intensive study of the valley's rock formations. The bibliography contains 63 references, and there are numerous photographs, maps, and charts.

MATTHES, FRANÇOIS ÉMILE

The incomparable valley, a geologic interpretation of the Yosemite. Edited by Fritiof Fryxell. Berkeley, University of California Press, 1950. 160 p. illus. 25 cm. $1.95 1578

Contents. The Sierra Nevada. The Yosemite region and its high Sierra. Yosemite Valley. The Yosemite through the ages. The sculpturing of the walls. The domes. The marks of time. The waterfalls. The little ice age of historic times.

Note. A fascinating exposition of the geology of the Yosemite Valley. Though definitely written for non-geologists, even geologists who are about to spend their first vacation in the Yosemite Valley will find it good reading. The lucid but compact text is supplemented by 50 reproductions of remarkable photographs. The author was long recognized as an authority on Sierra Nevada and Yosemite Valley geography. This book was assembled after his death from his *Geologic history of the Yosemite Valley* (1930), other professional publications, and unpublished notes made in preparation for this book.

MATTHES, FRANÇOIS ÉMILE

Sequoia National Park, a geological album. Edited by Fritiof Fryxell. Berkeley, University of California Press, 1950. 136 p. illus. 25 cm. $1.95 1579

Contents. The great Sierra block. Erosional features due to successive uplifts. Evidences of glacial action. Glacial canyons, cirques, and lake basins. Avalanche sculpture. Effects of frost action at high altitudes. Rock forms composed of massive granite. Effects of prolonged chemical weathering. Metamorphic rocks and their folded structure. Features due to solution in marble. Features due to volcanic action. Glossary.

Note. In this interesting and unusual book the contents of three "Sequoia albums," originally prepared by the author for the use of the U. S. National Park Service, have been combined and the text edited so as to make it consistent and available to laymen. Most of the space is occupied by good reproductions of 124 excellent photographs, each of which depicts an interesting geologic feature. The text consists largely of short legends which accompany the illustrations and describe the geologic aspects. The region covered is outstanding for its scenery which has been produced by a wide range of geomorphic processes.

MEYERHOFF, HOWARD A.

Geology of Puerto Rico. San Juan, University of Puerto Rico, 1933. 306 p. illus. (part col'd) 23 cm. (University of Puerto Rico Monographs. Series B: physical and biological sciences, no. 1) 1580

Contents. Part I, The geologic background. The physical setting. The historical setting. Part II, Geologic history. The volcanic core. The ancient mountains. The coastal plain. The island's present form. Part III, Geologic materials. The rocks. Rock structures. Natural resources. The soils. Part IV. The geologic present. The rivers. The sea. Earthquakes. Part V. Geologic problems. Unanswered questions. Conclusions. Bibliography. The geologic map. Glossary. Index.

Note. A readable general survey developed from a series of lectures given by the author in 1931. It was based on the literature extant in 1931 and on the author's own study of not only the geology of Puerto Rico but of other islands in the Caribbean. Folded in at the end of the volume is a geologic map prepared by the author in 1933 and reproduced in color.

NEWELL, NORMAN DENNIS

Geology of the Lake Titicaca region, Peru and Bolivia. New York, The Geological Society of America, 1949. 111 p. illus. 26 cm. (The Geological Society of America. Memoir 36) $5.00 1581

Contents: Abstract. Introduction. Geography. Geologic structure. Stratigraphic summary. Devonian rocks. Permian rocks. Jurassic rocks. Cretaceous rocks. Tertiary rocks. Glaciation of the Titicaca region. Igneous intrusive rocks. Geologic history. Petroleum policy. Works to which reference is made. Index.

Note. The region described in this monograph has a complex geology which is distinct from adjoining Andean areas to the south and northwest. It contains the world's highest oil field. The book is based on previously published studies and on a field study made by the author during 12 months spread over the years 1943 to 1946. The illustrations include photographs of 36 views of landscape features having geologic interest. The book is supplemented by two geological maps and two diagrams of the structural sections of the Lago Titicaca and Pirin areas.

NOLAN, THOMAS B., AND OTHERS

The stratigraphic section in the vicinity of Eureka, Nevada, by T. B. Nolan, C. W. Merriam, and J. S. Williams. Revision of the pre-Tertiary stratigraphy of east-central Nevada. Washington, D. C. Government Printing Office, 1956. 77 p. illus. 29 cm. (United States. Geological Survey. Professional paper 276) $1.00 1582

Contents. Introduction. Structural setting. Cambrian system. Ordovician system. Silurian system. Devonian and Mississippian systems. Carboniferous systems. Pennsylvanian system. Late Paleozoic (Permian?) rocks. Cretaceous system. References cited. Index. 2 folded maps (in pocket)

Note. The stratigraphic section to which this work pertains has been used as a standard in the central Great Basin for more than three-quarters of a century. Detailed mapping and continued paleontologic study have modified some of the earlier conclusions about this section. The suggested revisions presented in this paper are based on field work in the vicinity of Eureka in east-central Nevada undertaken by the writers and their associates at intervals over a period of 22 years.

PEPPER, JAMES F., AND OTHERS

Geology of the Bedford shale and Berea sandstone in the Appalachian basin. A study of the stratigraphy, sedimentation and paleogeography of rocks of Bedford and Berea age in Ohio and adjacent states. By James F. Pepper, Wallace De Witt, jr. and David F. Demarest. Washington, D. C. Government Printing Office, 1954. 111 p. illus. (part col'd) 29 cm. (United States. Geological Survey. Professional paper 259) $4.25 1583

Contents. Introduction. Character and extent of the Berea sandstone. Method of investigation. Well records. A description of some of the more common terms used by the oil- and gas-well drillers in the Appalachian basin. Historical summary of the stratigraphic nomenclature. The age relation of the Bedford shale and Berea sandstone. Correlations and stratigraphy: Upper Devonian rocks. Mississippian rocks. Sedimentation. Bedford sedimentation. Cussewago sedimentation. Sedimentation of the Berea sandstone. Sedimentation of the Sunbury shale. Petrographic studies of the Berea sand. Paleogeography: Paleogeography of Bedford and Berea time. The Appalachian basin. Cincinnati arch. Climate of Bedford and Berea time. Source of the sediments of the Bedford and Berea

and the detailed measurements of selected stratigraphic sections are included in the text. The verbal text is supplemented by 11 plates containing reproductions of 42 photographs. Related literature cited in [illegible] page list of references.

WANLESS HAROLD R.

Pennsylvanian geology of a part of the southern Appalachian coal field. New York The Geological Society of America. 1946. 162 p. illus. 25 cm. (The Geological Society of America. Memoir 13) $3.90 1595

Contents (abridged) Abstract. Part i, Introduction. Part ii, General characteristics of the southern Appalachian coal field. Topography. Structure. Part iii, Previous studies of Pennsylvanian stratigraphy. Part iv, [illegible]. Part [illegible] Pennsylvanian strata younger than the Lee. Part vi, Deposition of southern Appalachian coal measures. Part vii, Problems deserving further study in the southern Appalachian coal field. Part viii, Glossary and index of stratigraphic names. References cited. Index.

Note A stratigraphic study based on field work by the author, aimed at clarifying the details of [illegible] geologically complex area. Lithologic descriptions of the formations studied are included, and [illegible] of places showing [illegible] sections throughout the area is provided. Geologists and geology students will be the principal users.

WEAVER, CHARLES EDWIN

Eocene and Paleocene deposits at Martinez, California. Seattle University of Washington Press 1953 102 p. 26 cm. (University of Washington. Publications in Geology Volume 7) $4.00. 1596

Contents Abstract. Introduction. Literature. Geography of the area. Problems involved in the mapped area. Stratigraphy. Cretaceous. Tertiary. Oligocene. Miocene. Structure. Fossil localities.

Note One of many contributions by the author to the geology and paleontology to the stratigraphy of the state of California. Its purpose is [illegible] to place on record [illegible] of the obtainable geologic field data concerning the stratigraphy of the Paleocene and Eocene formations in the vicinity of the area where the Martinez group was first established. [illegible] In it [illegible] type section of the Paleocene rocks is designated and is described in detail with measurements of the strata for [illegible] total thickness of 2,110 feet. Several other type sections are designated and described with measurements. Detailed correlations of fauna with strata are presented, mostly in tabular form. The printed volume is accompanied by [illegible] collection of 11 large detailed geologic maps upon which the positions of the [illegible], fossil localities, faults, contacts and positions of cross sections are indicated. [illegible] are tied in to their exact stratigraphic positions in each cross section and in the columnar sections.

WEAVER, CHARLES EDWIN

Geology of the Coast ranges immediately north of the San Francisco Bay region, California. New York The Geological Society of America, 1949 242 p. illus. 26 cm. (The Geological Society of America. Memoir 35) $6.50. 1597

Contents Abstract. Introduction. Geography. Stratigraphy. Igneous rocks. Structure. Geologic history. Economic geology. Literature. Index.

Note The geography, [illegible] geology, structure and economic deposits of an area of approximately 2,211,000 square miles in the Coast ranges of central California are described in this professional study. The structure of the region is complex. Although it contains no producing oil wells, several wells were drilled, and the log of one [illegible] drilled to 3,330 feet is included. The book was written for use by professional geologists.

WILLIAMS HOWEL

Geology of Tahiti, Moorea, and Maiao. Honolulu. Bernice P Bishop Museum, 1933 89 p. illus. 25 cm. (Bernice P Bishop Museum. Bulletin 105) $2.25 1598

Contents Introduction. Tahiti. Volcanoes of Tahiti-nui and Taiarapu. Coral reefs and lagoons. Moorea. Maiao. Recent movements of South Pacific islands. Literature cited.

Note This paper deals with the results of [illegible] two months' visit to the Society Islands in December, 1928, and January, 1929. The greater part of the study [illegible] is devoted to the island of Tahiti, where the work was confined mainly to the coastal regions, particularly to the [illegible] reef and to features [illegible] indicate recent vertical movement of the island. Caves, geomorphology, volcanic and plutonic rocks, origin of lagoons and passes, and chemical analysis of rocks are among the [illegible] covered. There are eight plates of photographs and [illegible] list of 41 references.

WOODRING W P., AND OTHERS

Geology and paleontology of Palos Verdes hills California. by W P Woodring M N Bramlette and W S W Kew Washington, D C. Government Printing Office, 1946 145 p. illus. 29 cm. (United States. Geological Survey Professional paper 207) $1.50 1599

Contents Introduction. Physiography. Geography. Stratigraphy and paleontology: Outline of stratigraphy. Jurassic (?) system. Miocene series. Pliocene series. Pleistocene series. Pleistocene to recent series. [illegible] rocks of Miocene age. Structure. Physiography. [illegible] Fossil localities. Index.

[illegible] This report, part of [illegible] series of publications dealing with the geology of areas [illegible] and bordering the Los Angeles basin, describes the geology, paleontology, and mineral resources of the Palos Verdes hills otherwise [illegible] known as the San Pedro hills. The strata that crop out in the hills are penetrated in oil fields in the southern part of the Los Angeles basin, and special emphasis in the report is given to data that may aid in studying the subsurface section in the basin. Oil in commercial quantities has not so far been found in the Palos Verdes hills. The illustrations include folding maps and plates.

WOODRING W P., AND M N BRAMLETTE

Geology and paleontology of the Santa Maria district, California, including a summary of the geologic features of producing and potential oil fields Washington, D C. Government Printing Office 1950. 185 p. illus. (part col'd) 29 cm. (United States. Geological Survey Professional paper 222) $2.25 1600

Contents Introduction. Location and geographic features. Stratigraphy. Outline of geologic history. Upper Jurassic series. Miocene series. Miocene and Pliocene series. Pliocene series. Pliocene and Pleistocene series. Pleistocene series. Recent series. Mineralogy of sandstone. [illegible] Foraminifera. [illegible] Invertebrates [illegible] by [illegible]. Age and correlation of formations. Igneous rocks. Structure. Physiography. Occurrence of oil. Fossil localities. Index.

Note This preliminary paper describes the geography, the outcrop geology, the subsurface stratigraphy, and the occurrence of oil in the Santa Maria district of California, an area of 400 square miles situated north of the Santa Ynez Mountains and west of the San Rafael Mountains, the northernmost major oil-producing region of coastal California. Included in the area are four potential oil fields and seven producing oil fields, including the Santa Maria Valley field, one of the largest producing fields in California. Aside from the oil possibilities, the district is also of importance to paleontologists interested in the relations of late Miocene and early Pliocene Foraminifera. The publication contains 17 full-page plates picturing mollusks and Foraminifera of the region. A pocket contains five large colored, folded maps and [illegible] large folded, colored chart.

WOODWORTH JAY BACKUS AND EDWARD WIGGLESWORTH

Geography and geology of the region including Cape Cod, the Elizabeth Islands Nantucket, Marthas Vineyard, No Mans Land and Block Island. With thirty-eight

Love. Minneapolis University of Minnesota Press, 1954 366 p illus 24 cm (University of Minnesota. Minnesota Geological Survey, George M Schwartz, director) $4 00 1589

Contents Part I, The story of the rocks. The face of the land. Rivers and lakes. Minerals and rocks. Clues to the span of geological time. The most ancient rocks in Minnesota. Minnesota under Paleozoic seas. The age of reptiles. The great ice age. Minnesota's mineral resources. Part II Geological excursions through Minnesota Northeastern Minnesota. Northwestern Minnesota. North and West Central Minnesota. The Minnesota River valley Southwestern Minnesota. Southeastern Minnesota. The St. Croix River valley A list of the minerals of Minnesota. Minnesota Geological Survey publications. Glossary Index.

Note. Addressed primarily to residents of the state of Minnesota, but of interest also to residents of neighboring regions and to laymen interested in geology and the landscape features, this book is an outstanding example of descriptive geology written for nonspecialists. It covers a region possessing many interesting and varied geological and landscape features. The style is necessarily semitechnical, but an excellent glossary is included for the aid of readers who are unfamiliar with the technical terms. A majority of the 161 figures are reproductions of photographs of geologic and landscape features of the state.

TERRY, ROBERT A

A geological reconnaissance of Panama. San Francisco California Academy of Sciences, 1956 91 p illus 26 cm (California Academy of Sciences Occasional papers, No 23) $3 00 1590

Contents Introduction. General features. Geomorphology Igneous rocks. Metamorphic rocks. Sedimentary rocks. Structure. Economic geology Bibliography

Note The scope of this monograph is well indicated by its title It is a reconnaissance or general overview of the geology of Panama, rather than a detailed study Surface features are described, and rock formations and strata are identified as accurately as possible from the available data. The accumulated paleontological knowledge is included. Also described and indicated on the maps are faults and earthquake epicenters. The study is based partly on field work done by the author between 1920 and 1949 partly on the literature, and partly on material from the files of petroleum companies. Four folded maps show the locations of rock formations, faults, and earthquake epicenters. The bibliography is a comprehensive one, providing references to literature published as early as 1852 and as recently as 1955.

UNITED STATES GEOLOGICAL SURVEY

Bikini and nearby atolls Parts A–R. Washington, D C Government Printing Office, 1954–1955 12 parts in 8 illus 29 cm (United States. Geological Survey Professional paper 260 A–R) Part A $9 00 parts B C D $0 75 parts E F, G, $0 60 part H, $1 75 part I, $5 50, parts J, K, L, $0 45, parts M N, O P $2 50 part Q, $0 25, part R $0.35 1591

Contents (abridged) Part I (A) Geology by K. O Emery and others. Part II (B C, D) Oceanography (physical)—Circulation systems of Bikini and Rongelap lagoons, by W S. von Arx—Adjustment of Bikini Atoll to ocean waves, by W H. Munk and M. C. Sargent—Sea temperature in the Marshall Islands area, by M. K. Robinson. Part II (E, F G) Oceanography (biologic)—Biologic economy of coral reefs, by M. C. Sargent and T S. Austin—Plankton of Northern Marshall Islands, by M. W Johnson—Recent brachiopods, by G. A. Cooper Part II (H) Oceanography (biologic)—Recent Foraminifera of the Marshall Islands, by J A. Cushman and others. Part III (J K, L) Geophysics—Seismic studies of Bikini Atoll, by M. B. Dobrin and B Perkins, Jr—Seismic refraction studies of Bikini and Kwajalein atolls, by R. W Raitt—Magnetic structure of Bikini atoll, by L. R. Alldredge and others. Part IV (M N O P) Paleontology—Fossil calcareous algae from Bikini Atoll, by J. H. Johnson—Smaller Foraminifera from Bikini drill holes, by R. M. Todd and R. Post—Larger Foraminifera and smaller diagnostic Foraminifera from Bikini drill holes, by W S. Cole—Fossil corals from Bikini drill holes, by J W Wells. Part (Q) Marine annelids from the northern Marshall Islands. Part (R) Physical oceanography in the Marshall Islands area, by H.-L. Mao and K. Yoshida.

Note Contained in this Professional paper are reports of some of the results of an extensive scientific survey of Bikini and nearby atolls undertaken prior to the use of the area as a site for tests of nuclear energy devices by the United States Government. The studies undertaken were both broad and thorough. The information presented in these volumes refers to no military or naval applications, but is addressed to such readers as graduate geologists, oceanographers, specialists in paleontology etc. It is conveyed in a technical style, the narrative text of which is supplemented by tables, figures, maps, and literature references. Together the reports constitute the most comprehensive study of atoll geology and related features published in recent times.

VEATCH, ARTHUR CLIFFORD, AND P A. SMITH

Atlantic submarine valleys of the United States and the Congo submarine valley New York The Geological Society of America, 1939 101 p illus 24 cm. (Geological Society of America. Special papers no 7) $4.80. 1592

Contents Continental shelf and slope of the northeastern United States. The Congo submarine valley Geologic implications. Marine surveying and submarine contouring. Works to which reference is made. Appendixes.

Note. This paper contains an outline and description of the methods and results of the marine surveys of some of the submerged continental margins of the United States and the West Africa region of the Congo river based on the data accumulated by the United States Coast and Geodetic Survey between 1923 and 1939 The bulk of the work is represented by nine Atlantic continental shelf and slope charts to the scale of 1 120,000, covering the area roughly between Chesapeake Bay Virginia, and Georges Bank, Massachusetts. A large number of soundings are presented in substantiation of the contours shown on these charts.

VEATCH, ARTHUR CLIFFORD

Evolution of the Congo basin New York *The Geological Society of America,* 1935 183 p illus. 25 cm (The Geological Society of America. Memoir 3) $2 10 1593

Contents (abridged) Introduction. Historical review Features and surficial deposits of Kasai-Lunda. Basement rocks. Lubilash beds. Lukuga and associated beds. Stanleyville and associated beds. Stanleyville and associated beds of north central Angola. Dwyka glaciation. Conditions in Kasai-Lunda and Bushimaie diamond regions in Karroo time and source of the diamonds. General summary and conclusions. Bibliography Index.

Note A memoir summarizing the available geological knowledge on the Congo basin, with a critical estimate of the various theories of geologic evolution and new data based on the author's field work in that region between 1924 and 1930.

WANLESS, HAROLD R , AND OTHERS

Paleozoic and Mesozoic rocks of Gros Ventre, Teton, Hoback and Snake River ranges, Wyoming By Harold R. Wanless, Ralph L. Belknap and Helen Foster New York Geological Society of America, 1955 90 p illus 25 cm. (Geological Society of America. Memoir 63) $2 75 1594

Contents (abridged) Precambrian rocks. Cambrian system, by H. R. Wanless and J Hellerty Ordovician system. Devonian system, by H. R. Wanless and others. Mississippian system, by H. R. Wanless and W Price. Pennsylvanian system, by H. R. Wanless and L. M. C and others. Permian system, by H. R. Wanless and H. H. Gray Krauskopf. Triassic system, by H. R. Wanless and H. H. Gray Cretaceous Jurassic system, by H. R. Wanless and H. H. Gray Cretaceous system. Tertiary systems. Pleistocene and recent systems. Summary Problems deserving further study References cited. Index.

Note The present Memoir presents the results of studies made in a region which is remarkable for its long and nearly complete stratigraphic column. All of the formations studied are described

[illegible] in the specimen. The author shows that estimates of high accuracy are possible if the technique is understood and correctly used. The importance of good experimental design is emphasized. [illegible] and methods of using them are described. One of the appendixes is [illegible] of books on statistical theory and sampling techniques.

Dake, Henry Carl, and others

Quartz family minerals a handbook for the mineral collector by H. C. Dake, Frank L. Fleener and Ben Hur Wilson. New York Whittlesey House, McGraw Hill Book Company Inc., 1938 304 p. illus. 21 cm. $4 5 1607

Contents. Why know quartz. The kaleidoscopic lore of quartz. The way to quartz. The nature of crystallization. The quartz crystal. The crystalline forms of quartz. The massive forms of quartz. The [illegible] forms of quartz. The crypto-crystalline and amorphous forms of quartz. Agate—chalcedony. Geodes and thunder eggs. Unusual quartz types. The opal. Silicification and petrified woods. The art of cutting quartz gems. Appendix. Index.

Note Gives the amateur and the student definite information concerning types, varieties of quartz, its location and composition, its place in history and commerce, and the proper methods of cutting and polishing. The authors have attempted to check from original sources as many as possible of the statements made. Selected references and topics are given in the appendix.

Daly Reginald Aldworth

Igneous rocks and the depths of the earth containing some revised chapters of "Igneous rocks and their origin" (1914) New York McGraw Hill Book Company Inc., 1933 598 p. illus. 23 cm. $12.00 1608

Contents: Abstract. Part [illegible] Leading facts. Types of igneous rocks. [illegible] [illegible] Index.

Note In this work, the [illegible]

Dana, Edward Salisbury

Minerals and how to study them revised by Cornelius S. Hurlbut, jr Third edition. New York. John Wiley & Sons Inc., 1949 323 p illus. (part col'd) 22 cm. $3 5 1609

Contents: Minerals and mineralogy. [illegible] Index.

Note The first edition of this manual was published in [illegible]

Dana, James Dwight

Dana's manual of mineralogy Sixteenth edition. Revised by Cornelius S Hurlbut, jr New York John Wiley & Sons Inc., 1952 530 p. illus. 24 cm. $7.00 1610

Contents: Mineralogy. Crystallography. Physical mineralogy. Chemical mineralogy. Descriptive mineralogy. Occurrence and association of minerals. Mineral tests. Determinative mineralogy. Subject index. Mineral index.

Note The first edition of this work was published in [illegible]. In its various editions it has spanned more than a century. In it are covered both the general techniques of mineral identification and detailed, systematic descriptions of individual minerals. [illegible] The book is used both as an introductory text and as a reference book in libraries and in the field. It has been substantially revised in this edition. [illegible]

Emmons R. C., editor

Selected petrogenic relationships of plagioclase. New York Geological Society of America, 1953 142 p illus. 24 cm. (Geological Society of America. Memoir 52) $2.00 1611

Contents: [illegible] References cited.

Note [illegible]

English George Letchworth

Getting acquainted with minerals. With 258 illustrations New York. McGraw Hill Book Company Inc., 1934 324 p. illus 23 cm. $5.00. 1612

Contents: Part I, About minerals in general. [illegible] Index.

Note An introduction to the science of mineralogy for the [illegible]

plates. Cambridge, Mass Museum of Comparative Zoology, 1934 322 p illus 31 cm (Museum of Comparative Zoology at Harvard College. Memoirs Volume LII) $15 00 1601

Contents Part I, Outline of the geography and geology of the region, by J B. Woodworth Introduction. Topography General geology Summary of the geological history of the region. Mineral resources. Part II Geology of particular areas Geology of Nantucket and adjacent islands, by J B. Woodworth. Geology of Marthas Vineyard, by Edward Wigglesworth, with notes by J B. Woodworth. Geology of No Mans Land, by J B Woodworth. Geology of Block Island, by J B Woodworth. Part III, Geology of Cape Cod and the Elizabeth Islands, by J B Woodworth Geology of Cape Cod. Geology of the Elizabeth or Gosnold Islands. Plates.

Note A comprehensive description of the physical geography and geology of Cape Cod and certain nearby islands in the vicinity of Boston, Massachusetts. It is largely based on field work done in 1914 and 1915 The 38 plates include reproductions of photographs and colored maps.

MINERALOGY AND PETROLOGY

AHRENS, L H

Quantitative spectrochemical analysis of silicates, a scheme of quantitative DC arc analysis of the silicate minerals, rocks, soils and meteorites Reading, Mass Addison-Wesley Publishing Company, Inc , 1955 122 p illus. 23 cm $3 75 1602

Contents Introduction. Miscellany Standards. Lognormal distribution of spectrochemical error The alkali metals. The volatile group. The involatile elements. Fluorine. The common elements (other than N and K) Bibliography Index.

Note. Spectrochemical analysis of minerals is a rapid method usually employed in qualitative detection. In this book a scheme for quantitative determinations which is reasonably rapid and gives results which are in error by no more than 2½ to 10 per cent is presented. It is based largely on the work of the author and his associates however the relevant publications of other scientists are critically reviewed. The book is addressed particularly to mineralogists and spectrochemists who already have some familiarity with the field. The bibliography runs to more than four pages.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS

Problems of clay and laterite genesis Symposium at annual meeting of The American Institute of Mining and Metallurgical Engineers St. Louis, Missouri February 19–22 1951 Sponsored by the Karl Eilers Memorial Fund New York American Institute of Mining and Metallurgical Engineers, 1952 244 p illus 23 cm $6 00 1603

Contents The genetic significance of mineralogy by A. F Frederickson. Origin of the Arkansas bauxite deposits, by M. Gordon, Jr and J I. Tracey Jr Examples of bauxite deposits illustrating variations in origin, by E C. Harder Investigations on cold-precipitated hydrated ferric oxide and its origin in clays, by R. C. Mackenzie. Studies in the system alumina-silica-water by R. Roy and E. F Osborn. Mineralogy and origin of the Mercer fireclay of north-central Pennsylvania, by R. C Bolger and J H. Weitz. The structure of hydrous aluminum oxides and hydroxides, by W O. Milligan and J L. McAtee Genesis of clay minerals, by E. A. Hauser Prospecting for useful clays in relation with their conditions of genesis, by G Millot. Observations on the origin of Missouri high-alumina clays, by *W D Keller New* clay mineral evidence concerning the diagenesis of some Missouri fireclays, by J F Hurst. Interrelationships of structure and genesis in the kaolinite group, by T F Bates. The genesis and morphology of the alumina-rich laterite clays, by G. D Sherman. Occurrence and exploration of Georgia's kaolin deposits, by T L. Kesler. Kimmeet Bay clay deposit, by E. A. Hauser Recent advances in clay mineral technology by R. E. Grim. Discussion. Name index. Subject index.

Note A collection of technical papers written by geologists, mineralogists, chemists, and specialists in soil science. The symposium (and the book) was designed to bring together the contributions and ideas of scientists from various fields. The papers were addressed to graduate scientists and engineers with theoretical or practical interests in clay minerals. Literature references are included.

BASTIN, EDSON SUNDERLAND

Interpretation of ore textures. New York The Geological Society of America, 1950. 101 p illus 26 cm (The Geological Society of America. Memoir 45) $1 75 1604

Contents Introduction. Textures of magmatic ores. Common textures indicative of deposition in open spaces. Principles of colloidal deposition. Colloidal ore textures. Replacement textures. Microscopic inclusions. Paragenesis or order of deposition. Textures of sedimentary ore deposits. Ore textures formed by dynamometamorphism. References cited. Explanation of plates. Index.

Note The textures of ores when viewed under the microscope are correlated in this book with the genesis or methods of formation of ores. Only aspects such as would concern an ore analyst or practicing mineralogist are treated. In other words, there is little discussion of the physical chemistry principles underlying ore deposition. The author has included information from the literature and from his own work. The 18 plates show photographs or microphotographs of approximately 100 prepared ore specimens.

BOWEN, N L

The evolution of the igneous rocks. With a new introduction by J F Schairer New York Dover Publications Inc., 1956. 334 p illus. 21 cm $1 85 1605

Contents Part I The problem of the diversity of igneous rocks. Liquid immiscibility in silicate magmas. Fractional crystallization. Crystallization in silicate systems. The reaction principle. The fractional crystallization of basaltic magma. The liquid lines of descent and variation diagrams. The glassy rocks. Rocks whose composition is determined by crystal *sorting. The* effects of assimilation. Part II The formation of magmatic liquid very rich in potash feldspar The alkaline rocks Lamprophyres and related rocks. The fractional resorption of complex minerals and the formation of strongly femic alkaline rocks. Further effects of fractional resorption. The importance of volatile constituents. Petrogenesis and the physics of the earth. The classification of igneous rocks. Indices. *General* index. Index of systems Index of components and compounds of systems.

Note When it was first published in 1928, this work was a pioneer treatise on the application of physicochemical concepts and methods to the study of the formation of the igneous rocks of the earth's crust, particularly in stressing the necessity of understanding the laws of chemical equilibrium and the processes of crystallization in silicate systems. It is still regarded as an essential work in collections on petrology although advances since *1927* are not represented in it. The edition listed here is an unabridged and unrevised reprint of the 1928 edition, except for the introduction by Schairer and a bibliography of the writings of Bowen from 1909 to 1954 both of which are new

CHAYES, FELIX

Petrographic modal analysis an elementary statistical appraisal New York John Wiley & Sons, Inc. *1956 113 p Illus.* 24 cm. $5 50 1606

Contents The geometrical basis of modal analysis. The modal analysis of banded rocks. *Methods* of measuring *relative areas* in thin sections. The reproducibility of thin-section analyses. Identification and tabulation conventions. A working definition of analytical error in modal analysis. Effect of grain size *and* area of measurement on analytical error A measure of coarseness in the granular fabric. *The* control of analytical error by replication. The Holmes effect and the lower limit of coarseness in modal analysis. Appendices. References. Index.

Note. An important addition to the literature of petrography The technique with which it deals is based on a visual inspection *of a* polished *slab of* mineral or thin section of rock, and its purpose is a qualitative estimate of the relative amounts of minerals

Contents: Granites and granites, by H. H. Read. Origin of granitic rocks of the northwest Adirondacks, by A. F. Buddington. Origin of granite, by F. F. Grout. Origin of granites, by G. E. Goodspeed. The granite problem and the method of multiple prejudices, by N. L. Bowen.

Note: The papers and discussion in this volume are the result of an experiment planned by the Society to focus attention on some of the unsolved problems in geology. Some of the hypotheses put forth are that granite was formed by the cooling of magmas, by replacement, by migmatization and metamorphism, and by ultrametamorphism. Most of the scientists agreed that granite may be formed by different processes, but there was no agreement on the origin of most granite masses. The discussions are reported in full, and the literature of the problem is freely cited.

GRIM, RALPH E.

Clay mineralogy New York McGraw Hill Book Company Inc., 1953 384 p. illus. 24 cm. (McGraw Hill series in geology Robert R. Shrock, consulting editor) $9.50. 1619

Contents: Introduction. Concepts of the composition of clay materials. Classification and nomenclature of the clay minerals. Structure of the clay minerals. X-ray diffraction data. Shape and size—electron micrographs. Ion exchange. Clay-water systems. Dehydration, rehydration, and changes taking place on heating. Clay-mineral—organic reactions. Optical properties. Miscellaneous properties. Origin and occurrence of the clay minerals. Appendix: Chemical analyses. Index.

Note: The extensive knowledge so far accumulated on the chemistry and physics of the clay minerals has been collected and organized in this work. Older concepts are reviewed briefly but most of the space is devoted to the knowledge gained in the last three decades. The chapters are essentially literature digests with numbered references from statements in the text to footnote citations of the literature. These footnote bibliographies are supplemented by lists of "additional references" at the end of the chapters. The book will be useful to such scientists as geologists, specialists in soil science, and chemists associated with the ceramic industries.

GROUT, FRANK FITCH

Petrography and petrology a textbook. New York McGraw Hill Book Company Inc., 1932 522 p illus. 23 cm. $8.50. 1620

Contents: Introduction. The petrography of igneous rocks. The petrology of igneous rocks. The petrography of sedimentary rocks. The petrology of sedimentary rocks. The petrography of metamorphic rocks. The petrology of metamorphic rocks. Mineral tables and readings.

Note: A combined text and laboratory guide. The descriptive part is a guide to laboratory work on collections of rocks and thin sections with the polarized microscope. The text material consists of a study of the common interpretations of the peculiarities of rocks in terms of their origin and history.

HEINRICH, E. WM

Microscopic petrography New York McGraw Hill Book Company Inc., 1956 296 p. illus. 24 cm. (McGraw Hill series in the geological sciences Robert R. Shrock, consulting editor) $6.50 1621

Contents: Methods of microscopic study. Igneous rocks—general. Descriptions of igneous rocks. Sedimentary rocks—general. Descriptions of sedimentary rocks. Metamorphic rocks—general. Descriptions of metamorphic rocks. Bibliography. Index.

Note: A practical and up-to-date manual on the identification and analysis of rocks by techniques based on the petrographic polarizing microscope and its accessories. Although the first chapter is devoted to methods and selected instruments, the book is addressed to readers who are already acquainted with the basic techniques of mineralogical optical microscopy and the optical characteristics of common rocks. One useful feature of this first chapter is a condensed description of instruments, including the Chayes point counter. The greater part of the book is devoted to descriptions of rocks as they appear in thin sections under the microscope and to other information useful in their identification. Along with concise descriptions of textures, microstructures, etc., there are paragraphs on occurrences of specific varieties of rocks and minerals. The book is potentially useful as a text for the instruction of advanced students and as a reference book for practicing geologists. The author is a member of the faculty of the Department of Mineralogy of the University of Michigan.

JOHANNSEN, ALBERT

A descriptive petrography of the igneous rocks. Chicago University of Chicago Press 1932–39 4 v illus 25 cm. Vol. I $6.00 Vol. II, $8.00 Vol III, $7.00 Vol. IV, $10.00 1622

Contents (abridged): Volume I, Introduction, textures, classifications, and glossary. The constituents of the igneous rocks. The structures and textures of igneous rocks. Classification of igneous rocks. Chemical classifications. The system of Osann. The C. I. P. W. system. The system of Hommel. The system of Niggli. The system of von Wolff. Qualitative mineralogical classifications. Quantitative mineralogical classifications. Appendix: Glossary of mineralogical terms. Glossary of textural and structural terms. Definitions of rocks. Tables. Index of authors. General index. Volume II, The quartz-bearing rocks. Family 0. Family 1. Family 2. Family 3. Family 4. Family 5. Family 6. Family 7. Family 8. Index of rock names. Volume III, The intermediate rocks. Family 9. Family 10. Family 11. Family 12. Index of rock names. Volume IV. Part I, The feldspathoid rocks—Part II, the peridotites and perknites. Part I, The feldspathoid rocks. Family 13. Family 14. Family 15. Family 16. Family 17. Family 18. Family 19. Family 20. Family 21. Family 22. Family 23. Family 24. Family 25. Part II, The peridotites and perknites. Dunites of Family 0. Dunites of Family 1—of Family 2—of Family 3—of Family 4. Peridotites of Family 5—of Family 6—of Family 7—of Family 8—of Family 9—of Family 10—of Family 11—of Family 12. The ores of Family 41Z. Appendix. Index of authors. Index of localities. Index of rocks.

Note: A postgraduate grade textbook and handbook dealing primarily with the more minute phases of the science of petrology, such as the megascopic and microscopic features, the individual mineral and chemical compositions, and the various textures found in rocks. The first volume describes the textures and structures of rocks and rock systems with a summary of the various classifications according to the author's own system. The other three volumes describe the textures and structures of rocks and rock systems with a summary of the various classifications according to the author's own system. The other three volumes describe and classify the various families of rocks. A glossary of petrographic terms, bibliographic references and tables for calculation are provided. The current edition of the other three volumes is the first edition. These volumes were published in the following years: Volume II, 1932; Volume III, 1937; Volume IV, 1938.

KEMP, JAMES FURMAN

A handbook of rocks, for use without the petrographic microscope. Sixth edition, completely revised and edited by Frank F. Grout. New York D. Van Nostrand Company Inc., 1940. 300 p. illus. 23 cm. $5.00 1623

Contents: Introduction. General introduction to the igneous rocks. The igneous rocks (three chapters). General remarks on the igneous rocks. General introduction to sedimentation. The sedimentary rocks. Generalities on metamorphism. The metamorphic rocks. The rocks produced by contact and hydrothermal metamorphism. Summaries of metamorphic rocks. Calculations in rock study. Rock descriptions. Appendix. Index.

Note: This college textbook explains the chemical composition of rocks, based upon methods of calculation. Its purpose is to present co-ordinated methods for recognizing the various rocks without use of the microscope or other optical equipment. A comprehensive classification of rocks is included for reference purposes.

KRAUS, EDWARD HENRY, AND OTHERS

Mineralogy an introduction to the study of minerals and crystals. By Edward Henry Kraus, Walter Fred Hunt and Lewis Stephen Ramsdell. Fourth edition. New York McGraw Hill Book Company Inc., 1951 664 p. illus. 24 cm. $8.00 1624

Contents: Introduction. Crystallography. Cubic system. Hexagonal system. Tetragonal system. Orthorhombic system. Monoclinic system. Triclinic system. Compound crystals. Physical properties. Optical

tion, while more difficult procedures are mentioned as goals to be reached by more advanced study if desired. A table of identification properties and a pronouncing vocabulary are given in the appendixes.

FAIRBAIRN, HAROLD WILLIAMS, AND OTHERS

A cooperative investigation of precision and accuracy in chemical, spectrochemical and modal analysis of silicate rocks, by H. W Fairbairn and others, an investigation by staff members of Department of Geology, Massachusetts Institute of Technology, Cambridge, Mass. (in collaboration with Office of Naval Research, Washington, D C), Geophysical Laboratory, Carnegie Institution of Washington, Washington, D C , Geochemistry and Petrology Branch, U S Geological Survey, Washington, D C. Washington, D C Government Printing Office, 1951 71 p illus 23 cm. (Contributions to geochemistry, 1950–51 United States Geological Survey Bulletin 980) $0.35 1613

Contents Preparation and distribution of the samples, by H. W Fairbairn. Results of chemical analysis of samples of granite and diabase, by W G. Schlecht and R. E. Stevens. Spectrochemical analysis of major constituent elements in minerals and rocks, by W H. Dennen and others. Spectrochemical analysis of some of the rarer elements in the granite and diabase samples, by L. H. Ahrens. Modal analysis of the test rocks, by Felix Chayes. Summary of results, by H. W Fairbairn.

Note. The first part of this progress report is introductory to the bulletin as a whole the second, third, fourth, and fifth parts deal with particular aspects of analysis, and the sixth part summarizes. The authors express the hope that similar studies will follow in the future because the accuracy and precision of analytical methods used by petrologists, geochemists, and mineralogists are relative rather than absolute.

FAIRBAIRN, HAROLD WILLIAMS

Structural petrology of deformed rocks with supplementary chapters on statistical analysis by Felix Chayes. Reading Mass Addison Wesley Publishing Company Inc., 1949 Second edition 344 p illus. 24 cm $12 50 1614

Contents (abridged) Part I, Petrofabric and experimental facts. Orientation patterns of minerals. Orientation of composite elements. Relation of folds to grain orientation. Experimental deformation. Reversible flow and rupture. Irreversible flow and recrystallization. Part II, Interpretation and application Development of quartz orientation. Development of orientation in minerals other than quartz. Rotation and relative movement. Recrystallization in tectonites. Folds and folding. Hypotheses of rock flowage. Tectonic transport. Remarks on foliation and lineation. Part III, Methods and analytic procedures Field and hand specimen procedure. Microscope and X-ray procedure. Presentation of data. Statistical analysis of two-dimensional fabric diagrams. Statistical analysis of three-dimensional fabric diagrams. Bibliography Index.

Note A reference book for specialists in petrology and graduate students preparing to enter this field. It deals with the fundamental processes of the formation of rocks and certain geological structures. Its primary purpose is to enable the petrologist to analyze rocks and to study geological formations on the basis of crystal structures, behavior of rocks under pressure and related processes. Much new material has been added in this edition, including the two chapters on statistical methods applied to the analysis of petrofabrics.

FENTON, CARROLL LANE, AND MILDRED ADAMS FENTON

The rock book, illustrated with color plates, photographs and line drawings Garden City Doubleday and Company, Inc., 1940 357 p illus. (part col'd) 25 cm. $7.50. 1615

Contents Rocks in our world. Atoms to minerals. Important minerals. Rocks, minerals and ages. Up from the depths. Coarse-grained igneous rocks. Fine-grained, glassy and fragmental rocks. Rocks from the sky. New rocks from old. Clastic rocks, coarse-grained, fine-grained. Rocks from solutions. Limestones and related rocks. Rocks once living. Records in strata. Heat, movement and change. Rocks that have changed. Ores and their origins. Collect, travel, and read. Index.

Note In addition to a general discussion of how rocks originated, this volume describes specific types of rocks in the world, with particular reference to those commonly encountered in the United States and Canada. It outlines the recognizable features, origin, occurrence, and uses of each type, and supplements the description with numerous photographs of typical specimens. A final chapter tells how to build up, organize, and prepare a rock collection. The volume will be of interest to the general reader and nature student.

GEOLOGICAL SOCIETY OF AMERICA

Sedimentary facies in geologic history (Conference at meeting of The Geological Society of America held in New York, New York, November 11, 1948) Chester R. Longwell, chairman. New York Geological Society of America, 1950 171 p illus. 26 cm. (Geological Society of America Memoir 39) $1 75. 1616

Contents Principal addresses Meaning of facies, by R. C. Moore. Facies changes in the Colorado plateau, by E. D. McKee. Sedimentary facies and geologic structures in the Basin and Range province, by S. W Muller Sedimentary facies and associated diastrophism in the Upper Cretaceous of central and eastern Utah, by E. M. Spieker Oligocene faunas, facies, and formations, by H. E. Wood, 2nd. Integrated facies analysis, by L. L. Sloss, W C. Krumbein and E. C. Dapples. Discussion.

Note A series of papers written for a symposium, organized similarly to the Society's symposium on the origin of granite, have been collected in this volume, together with transcripts of the discussion at the meeting. Various current views on the classification of sedimentary rocks and the interpretation of their history are presented. The papers are supplemented by lists of references, but the book contains no index.

GEORGE, RUSSELL D

Minerals and rocks their nature, occurrence, and uses New York D Appleton-Century Company Inc., 1943 595 p. illus. 23 cm. (Century earth science series, K. F Mather, editor) $6 00 1617

Contents (abridged) Metallic elements and minerals. Nonmetallic elements and minerals. Rock-making minerals. Determinative mineralogy The common rocks. Appendix. Glossary Index.

Note. A textbook for use in college courses on mineralogy and petrology the purpose being to present a general view of the increasing number and volume of earth materials which have become fundamental to industry today The basis of mineral classification used is the element, and all the economically useful or potentially useful minerals containing the same element are treated together in order of importance. Tabular arrangements are given of physical and chemical properties, mode of occurrence, identifying tests, and uses. There are 48 plates of photographs which considerably augment the text descriptions.

GILLULY, JAMES

Origin of granite (Conference at meeting of the Geological Society of America held in Ottawa, Canada, December 30, 1947) New York The Geological Society of America, 1948 136 p illus. 25 cm (Geological Society of America. Memoir 28) $1.80 1618

Mineralogy and Petrology

PEARL, RICHARD M

How to know the minerals and rocks. New York McGraw Hill Book Company Inc., 1955 192 p. illus. 21 cm. $3 75 1629

Contents This fascinating mineral hobby How rocks and minerals are formed. Building a mineral collection. Seven keys to recognizing minerals. How to read chemical formulas. How to use the outlines. Identifying the minerals—outline of keys Four keys to recognizing rocks. Identifying the rocks—outline of keys. Magazines for the collector Books for the collector. Index.

Note The identification of minerals and rocks is reduced to simple terms in this book. Certain general aspects of mineralogy and especially mineral collecting, are covered briefly in the first three chapters. Actual identification techniques begin in Chapter four with the description of seven keys which are easy to apply. Individual descriptions of about 125 minerals begin on page 56 and account for most of the rest of the space in the book. Line drawings are included in each description and, on pages separate from the descriptions, there are colored illustrations of 46 of the minerals.

PETTIJOHN FRANCIS JOHN

Sedimentary rocks. New York Harper & Brothers, 1949 526 p. illus. 24 cm. (Harper's geoscience series Carey Croneis, editor) 1630

Contents Introduction Textures. Composition. Structures. Color Classification. Conglomerates and breccias. Sandstones. Shales and argillites. Limestones and dolomites. Nonclastic sediments. Weathering. Transportation. Deposition. Lithification and diagenesis. Author index. Subject index.

Note A relatively comprehensive treatment, even though it was intended by the author as an elementary work. The processes of sedimentation are covered with relative brevity but their products are covered thoroughly and much data—particularly on chemical composition—are included which have not been published previously in book form. Emphasis is on common gravels and rocks rather than on rocks that are rarely encountered. There are 131 figures and 30 plates. Many of the latter are reproductions of microphotographs. There are many footnote references to the modern literature but no formal bibliography A second edition, 718 p., $12.00, was published in 1957

PIRSSON LOUIS VALENTINE

Rocks and rock minerals. Third edition, revised by Adolph Knopf New York John Wiley & Sons Inc. 1947 349 p. illus. 22 cm. $6.00 1631

Contents: Part 1, Introductory and general: Scope of petrology; history; methods of study Chemical composition of the earth's crust and its component minerals. Part 2, Rock minerals: Important properties of minerals The rock-making minerals. Determination of rock minerals. Part 3, Rocks General petrology of igneous rocks. Classification of igneous rocks. Description of igneous rocks. Origin and classification of sedimentary rocks. Description of detrital sedimentary rocks Description of sedimentary rocks, mainly nondetrital. Origin and classification of metamorphic rocks. Description of metamorphic rocks. Determination of rocks. Index.

Note. Since the publication of the first edition (1908) this work has been known as a reliable and convenient manual of the main elements of petrology including megascopic (but omitting microscopic) petrography It has been extensively used both as a field manual by amateur collectors and professional geologists, and as a textbook in college courses. The scope of the work has not been changed in the present edition, but the text has been revised, rearranged, the type reset. Some parts of the original text have been condensed, new information on chemical analyses has been added, and there are changes in terminology and classification.

POUGH FREDERICK H.

A field guide to rocks and minerals. Second edition. Boston Houghton Mifflin Company 1955 349 p. illus. (part col d) 19 cm. (The Peterson field guide series) $3 95 1632

Contents Part 1, An introduction to the study of rocks and minerals Your mineral collection. Rocks and minerals and where to find them. Physical properties of minerals. Crystal classification. The chemical classification of minerals. Tests, techniques, and tips. Part 2, Mineral descriptions: The elements. The sulphides and sulphosalts. The oxides. The halides. The carbonates. The nitrates, sulphates. The borates. The sulphates. The phosphates, arsenates, vanadates, and uranates. The tungstates (wolframates) and molybdates. The silicates. Uranium ores. Glossary Bibliography Index.

Note: A well-organized and lavishly illustrated reference manual on the identification of rocks and minerals. The descriptions of the individual minerals include all the useful visual characteristics and also a selection of chemical and physical properties that require instruments for determination or measuring. Minerals are described as to environment, crystal condition, physical properties, composition, tests, distinguishing characteristics, and occurrence. The illustrations are a special feature Of the 283 reproductions of photographs, 77 are reproduced in full color The first edition was published in 1953. This second edition contains an enlarged discussion of uranium ores and includes eight photographs of which five are reproduced in full color

RAMBERG HANS

The origin of metamorphic and metasomatic rocks a treatise on recrystallization and replacement in the earth's crust. Chicago University of Chicago Press 1952 317 p. illus. 24 cm. $10 00 1633

Contents Definitions. Natural boundary between metamorphism and magmatism. Thermodynamics of metamorphic processes. Equilibrium diagrams of metamorphic minerals. Chemical kinetics of metamorphism. The kinetics of deformation of rocks and minerals. Stress-minerals, antistress minerals. Brief survey on structural properties of metamorphic rocks. The mineral facies of metamorphic rocks. Metasomatism. The mechanism of metasomatic transfer of matter through rocks. Metamorphic differentiation. The principles of metamorphic differentiation and the question of nuclei formation during metasomatism. Contact metasomatism. Metasomatism in practically unmetamorphosed and low-grade sediments. Metasomatism in regionally metamorphosed complexes. Temperature in regional metamorphism. Appendix Chemical bonds in crystals—a clue to predicting relative stability of minerals and cation distribution among them. References. Author index Subject index.

Note: An important addition to petrologic literature in which the petrogenesis of the metamorphic and metasomatic rocks is studied from the viewpoint of thermodynamics and crystal chemistry It represents the great advances in the understanding of metamorphism which have been made in recent years, advances in which the author himself has taken a considerable part. The first third is devoted to discussions of the physico-chemical processes, the remainder to specific series of petrogenetic events and to discussions of the genesis of specific varieties of rocks. Readers need a fairly substantial knowledge of basic thermodynamics, physical chemistry, and petrology The work is of interest to graduate students of petrology and graduate specialists in this field.

ROGERS AUSTIN FLINT

Introduction to the study of minerals with a section on Microchemical analysis, by Lloyd W Staples. Third edition. New York McGraw Hill Book Company Inc., 1937 626 p. illus. 23 cm. $8.00 1634

Contents (abridged) The morphological, physical, optical, and chemical properties of minerals. The description of important minerals and mineraloids. The occurrence, association, and origin of minerals, including rocks. The determination of minerals by chemical and optical tests. Appendix. Index and glossary

Note: An introductory textbook and reference book for the student of mineralogy for use in the field and in the classroom. Includes a discussion of crystallography blowpipe analysis, descriptive and determinative mineralogy plus a descriptive list of minerals, giving the form, properties, composition, and occurrence of each mineral. The third edition includes new material on crystallography the chemical properties of minerals, additional descriptions of minerals and mineraloids, and new illustrations.

ROGERS AUSTIN FLINT AND PAUL F KERR

Optical mineralogy Second edition New York McGraw Hill Book Company Inc. 1942 390 p. illus. 23 cm. $7 00 1635

Contents: Part 1, Mineral optics: The preparation of thin sections of minerals and rocks. The polarizing microscope. A summary of the properties of light. Refraction. Plane polarized light

mineralogy Crystal structure and X-ray analysis. Chemical properties. Formation and occurrence of minerals. Qualitative blowpipe methods. Descriptive mineralogy Gemstones. Classification of minerals according to elements. Glossary Tabular classification of the 32 classes of symmetry Tables for the determination of minerals. Selected bibliography Index.

Note A college textbook that contains enough material to make it useful also as an elementary reference book in library and personal collections. The general aspects of the subject are discussed in the first 15 chapters which account for approximately 240 pages of the book's length. The sixteenth chapter which contains concise descriptions of representative minerals is 164 pages long. The determinative tables of minerals are arranged so that they may be used by both amateurs and professionals. Both the text and the illustrations have been revised and extended in this edition. The bibliography is a new feature.

KRAUS, EDWARD HENRY, AND WALTER FRED HUNT

Tables for the determination of minerals by means of their physical properties, occurrences, and associates Second edition. New York McGraw Hill Book Company, Inc., 1930 266 p illus 24 cm $5 50 1625

Contents Introduction—physical properties. Glossary Directions for using the tables. General classification and analytical key Minerals with metallic luster Minerals with non-metallic luster Table of minerals arranged according to increasing specific gravity with chemical composition and other physical properties. Index.

Note The tables include approximately 250 of the most common minerals, classified into three groups as (1) very common, (2) common, and (3) not common, but important. Name, chemical formula, crystallization structure, luster transparency color hardness, streak, cleavage, fracture, tenacity specific gravity characteristics, and associated substances comprise the data given for each mineral listed. The second edition contains few new minerals not included in the first edition, as well as additional material in the introduction. A table of minerals arranged according to specific gravity has also been added.

KRUMBEIN, WILLIAM CHRISTIAN, AND F J PETTIJOHN

Manual of sedimentary petrography I Sampling, preparation for analysis mechanical analysis and statistical analysis, by W C Krumbein II Shape analysis, mineralogical analysis chemical analysis and mass properties, by F J Pettijohn. New York D Appleton-Century Company, Inc. 1938 549 p illus 22 cm. (The Century earth science series K. F Mather editor) $6 50 1626

Contents (abridged) Part I, Sampling, preparation for analysis, mechanical analysis, and statistical analysis The collection f sedimentary samples. Preparation of samples for analysis. The concept of a grade scale Principles and methods of mechanical analysis. Graphic presentation of analytical data. *Elements of statistical analysis.* Application f statistical measures to sediments. Orientation analysis of sedimentary particles. Part II, Shape analysis, mineralogical analysis, chemical analysis, and mass properties Shape and roundness. Surface textures of sedimentary fragments and particles. Preparation of sample for mineral analysis. Separation methods. Mounting for microscopic study *Optical methods of identification* f minerals. Description of minerals of sedimentary rocks. Mineral frequencies and computation. Chemical methods of study Mass properties of sediments. The laboratory equipment, and organization of work. Author index. Subject index.

Note. A handbook for students of geology and for field workers, covering the distinctive analytic techniques of sedimentary petrology The material has been compiled from extensive but widely scattered literature. The treatment assumes that the reader is fairly well trained in laboratory technique and has some knowledge f crystallography Subject matter is arranged so that the book may be used as textbook in college or graduate courses.

KRUMBEIN, WILLIAM CHRISTIAN, AND LAURENCE LOUIS SLOSS

Stratigraphy and sedimentation. San Francisco W H Freeman and Company, 1951. 497 p illus 25 cm $6 50 1627

Contents Introduction. The stratigraphic column. Stratigraphic procedures. Properties of sedimentary rocks. Classification and description of sedimentary rocks. Sedimentary processes. Sedimentary environments. Stratigraphic paleontology Sedimentary facies. Principles of correlation. Tectonic framework of sedimentation. Sedimentary tectonics. Stratigraphic maps. Paleogeography Bibliography Index.

Note A substantial treatment, in the form of an upperclass college textbook, of two related fields of geology that do not get full-scale treatment in general texts. The order and relation of strata and the study of sedimentary rocks are important in applied geology such as petroleum geology as well as in numerous areas of historical geology Current techniques, such as the logging of samples from oil wells as they are drilled, are discussed, but most of the book is devoted to the fundamental knowledge. The text is supplemented by a long bibliography that should be useful to graduate geologists. There is a generous number of illustrations, and the format of the book is outstanding.

LEWIS, JOSEPH VOLNEY, AND A. C HAWKINS

A manual of determinative mineralogy, with tables Fourth edition, revised by A. C Hawkins New York John Wiley & Sons Inc., 1931 230 p illus 23 cm $5 00 1628

Contents Properties of minerals. Crystallization. Optical properties. Physical properties. Chemical properties. Physical tests. General classification. Determination by blowpipe tests: Apparatus. Reagents. Blowpipe operations and chemical tests. Reactions of the elements. Blowpipe tables. Laboratory records. General table. Minerals classified according to crystallization and optical constants. Glossary Abbreviations. Chemical elements. Bibliography Index.

Note These tables are intended to furnish means by which minerals may be known, and to lead the reader to acquire first-hand knowledge of what the mineral really is, both chemically and physically In the fourth edition, reduction was accomplished in the amount of repetition in the tables for the determination of minerals by their physical properties. A number of minerals formerly included in the blowpipe tables have been eliminated because of their rarity and lack of practical importance. A chapter on optical methods has been included.

PALACHE, CHARLES, AND OTHERS

The system of mineralogy of James Dwight Dana and Edward Salisbury Dana, Yale University 1837–1892 Seventh edition, entirely rewritten and greatly enlarged by Charles Palache, the late Harry Berman and Clifford Frondel New York John Wiley & Sons, Inc., 1944–51 2 v illus. 24 cm. Vol I, $14.00 vol. II, $16 00 1628A

Contents (abridged) Volume I, Elements, sulfides, sulfosalts, oxides: Introduction. Native elements. Sulfides, including selenides, tellurides. Sulfosalts. Simple oxides. Oxides containing uranium, thorium, and zirconium. *Hydroxides and oxides containing hydroxyl. Multiple oxides.* Multiple oxides containing columbium, tantalum, and titanium. Index. Volume II, The system f mineralogy: Halides. Carbonates. Nitrates. Iodates Borates. Sulfates. Selenates and tellurates. Chromates. Phosphates, arsenates, and vanadates. Antimonates. Vanadium oxysalts. *Molybdates and tungstates.* Organic compounds. Index.

Note A widely known work that has long enjoyed the status of being the recognized authority on the classification of minerals. The sixth edition was published in 1892. *In the seventh edition it is being completely reorganized and rewritten.* The classification is new one based on crystal chemistry Also, there are a system of classification numbers for species, revised morphological lattices based on the structural unit cell, new form of presentation of crystallographic data, revision of specific gravities and new literature references. *Data from X-ray investigations are being included for the first time.* A third volume is in preparation.

Contents: The field study of sediments. Collection of samples and specimens. Preparation of sediments for analysis. Mechanical analysis of sediments. Separation of minerals of sediments. Quantitative determination of mineral content. Graphical representation of sediments. Chemical methods of mineral separation. Various physical properties of sediments. Coals. Thin sections, mounting of mineral grains, and peels.

Note: Presents [illegible] brief, nonmathematical treatment of methods of study of sediments. Standard methods of sampling for various types of sediments are described, methods of analysis are given, and various forms of graphical representation of the characteristics of sediments and sedimentary rocks are shown. The discussions of coal and oil shales, and of igneous rocks as sources of sediments, are especially noteworthy.

TWENHOFEL, WILLIAM HENRY

Principles of sedimentation. Second edition. New York, McGraw Hill Book Company Inc., 1950 674 p. illus. 23 cm. $9.00. 1643

Contents (abridged): The environmental factors. Classification and consideration of environments. Origin of inorganic sediments. Interrelations of organisms and sediments. Transportation and deposition of sediments. Classification of sediments, sedimentary rocks, and schemata of sediments. The clastic sediments. Sediments of chemical deposition: The carbonate sediments. Siliceous, ferruginous and manganese sediments. The carbonaceous sediments. Evaporites. Phosphate sediments. Structural features of sedimentary origin. Textures and colors of sediments. Index.

Note: A college textbook which also has [illegible] fair amount of reference value. It provides an introductory survey of the current knowledge of both the principles of sedimentation and the soils and rocks produced by sedimentation processes. The treatment assumes that the reader will have had some previous work in geology. Throughout the book, there are frequent lists of pertinent literature for the benefit of the student or practicing geologist who wishes to read further on [illegible] particular topic. Substantial additions, both in text and illustrative matter, have been made in the present edition.

WAHLSTROM ERNEST EUGENE

Igneous minerals and rocks. New York John Wiley & Sons, Inc., 1947 367 p. illus. 22 cm. $6.50. 1644

Contents: Part I, Igneous minerals: Introduction. Optical examination of rock-making minerals. Supplementary methods for examining minerals in igneous rocks. Minerals in igneous rocks. Tables for mineral identification. Part II, Igneous rocks: Geological occurrence of igneous rocks. Structure, texture, color, and characters. Chemical composition and classification. Mineral composition and classification. Descriptions of igneous rocks. The microscopic identification of igneous rocks. Index.

Note: The emphasis in this textbook is on the use of the polarizing microscope for examination and identification of igneous rocks and the minerals that form them. Although the work is designed for beginners in petrology [illegible] prior knowledge of optical crystallography is assumed. Much data commonly needed by students, such as definitions of petrologic terms, the behavior of light in passing through mineral slices, and the comparison of rock classification schemes, are presented in readily usable form. There is, however no systematic description of rocks from the standpoint of specific localities. A few footnote references to the related literature are given. The approximately 133 reproductions of rock photographs and photomicrographs are unusually informative.

WAHLSTROM ERNEST EUGENE

Introduction to theoretical igneous petrology New York John Wiley & Sons Inc., 1950. 365 p. 22 cm. $6.50 1645

Contents: Introduction. Heterogeneous equilibrium and the phase rule. Equilibrium in silicate systems. Igneous minerals. The crust and the interior of the earth. Magmas—source and nature. The ascent and emplacement of magmas. Crystallization of magmas. Internal differentiation. Assimilation and syntexis. Geosynclines. Late magmatic and postmagmatic processes. Origin of rock types. Classification of igneous rocks. Appendix: Physical-chemical concepts useful to petrologists. Index.

Note: A short treatment written mainly for students of geology who do not plan to specialize in this branch of geology but nevertheless desire some knowledge of it. A fair acquaintance with basic geological terms and concepts has been assumed, and the reader needs also to be familiar with the concepts and terms of basic physics, chemistry and mathematics. Phase diagrams and other devices of physical chemistry are used freely. The emphasis is on the physico-chemical processes that produced igneous rocks, rather than on descriptions of the rocks themselves.

WAHLSTROM ERNEST EUGENE

Petrographic mineralogy New York John Wiley & Sons Inc., 1955 408 p. illus. 22 cm. $7 75 1646

Contents: Collection and preparation of samples. Petrographic techniques. Microscopic examination of minerals and aggregates. The universal stage. Graphical presentation of data and common petrographic calculations. Rock-making silicates, Nonsilicates. Tables for mineral identification. Composition, properties, and classification of igneous rocks. Composition, physical properties, and classification of sedimentary rocks. Composition, properties, and classification of metamorphic rocks. Index.

Note: A compact, practical introduction to the identification and classification of rocks and minerals by present-day petrographic techniques. The main techniques expounded in examination with the polarizing microscope. Complementary techniques such as X-ray examination are mentioned. Techniques, presentation of data and other general aspects are treated in the first five chapters, which account for 90 pages. The rest of the space, except that given to the index, is devoted to descriptions of specific groups of minerals and individual minerals. [illegible] these descriptions, data are given on general characteristics and also on characteristics which aid in particular identification with the polarizing microscope. The chapter "Table for mineral identification," runs to 50 pages and contains four original tables [illegible] to use the words of the author are constructed so as to permit [illegible] (1) identification in thin sections, (2) identification of fragments in immersion media, (3) identification by birefringence in color or (4) identification by crystal habit.

WILLIAMS HOWEL AND OTHERS

Petrography: an introduction to the study of rocks in thin sections. By Howel Williams, Francis J Turner and Charles M Gilbert. San Francisco W H. Freeman and Company 1954 406 p illus 24 cm. $6.50 1647

Contents: Part one, Igneous rocks: Introduction. Textures and classification of igneous rocks. The gabbro clan. The alkali gabbro clan. The ultramafic clan and the lamprophyres. The diorite, tonalite, and syenite clans. The granodiorite, adamellite, and granite clans. Pyroclastic rocks. Part two, Metamorphic rocks: Metamorphism, its petrographic criteria and its products. Hornfelses and spotted slates. Cataclasites, mylonites, and phyllonites. Slates, phyllites, and schists of low metamorphic grade. High-grade schists, amphibolites, granulites, and eclogites. Part three, Sedimentary rocks: The origin of sedimentary rocks. The composition and texture of sedimentary rocks. Sandstones. Argillaceous rocks. Calcareous rocks. Miscellaneous sedimentary rocks. List of references. Index of subjects. Index of localities.

Note: A college textbook developed by members of the faculty of the University of California. It is concerned primarily with the description of rocks but contains some material on their genesis. The illustrations are reproductions of drawings of microphotographs of rocks in thin section. They are arranged so that different varieties of the same kind of rock are illustrated adjacent to one another. The presentation is not dogmatic: in fact, the authors emphasize [illegible] that all rocks are transitional members of series, and that clear-cut boundaries are not to be expected.

WINCHELL, ALEXANDER NEWTON

Elements of optical mineralogy: an introduction to microscopic petrography New York John Wiley and Sons, Inc., 1933–51 3 v illus. 23 cm. Part I, $5 75 part II $13.50 part III $7.30 1648

Contents (abridged): Part I, Principles and methods: Elementary conceptions of mineralogy. Crystallography. Physical characters of minerals. Optical properties of isotropic minerals. Preparation of material for microscopic study. Microscopic study of anisotropic. Optical properties of uniaxial minerals. The Nicol prism. Uniaxial minerals in polarized light. Optical properties of biaxial minerals. Special methods of study—graphic methods for the improved universal stage, by R. C. Emmons. Index. Part II, Descriptions of minerals with special reference to their optical and microscopical characters. Elements. Halides. Sulfides. Oxides. Carbonates, etc.

in minerals. Convergent polarized light. Color, form or aggregation. Observation of mineral fragments. *Procedure for the identification of minerals in thin sections.* Part II, Descriptions of individual minerals: Elements. Sulfides and sulfosalts. Haloids. Oxides. Aluminates, etc., hydrous oxides. Carbonates. Sulfates. Phosphates. Titanates. Silicates. Mineraloids.

Note A simplified outline of the methods used in the identification of minerals in thin sections of rocks, covering the principles of optics employed in examining minerals with the polarizing microscope, and giving a concise description of the optical properties of common rock forming minerals. Simplified tables for use in determination of unknown minerals are included. Formerly published under the title, *Thin-section mineralogy* New York, 1933

SHAPIRO, LEONARD, AND W W BRANNOCK

Rapid analysis of silicate rocks (A contribution to geochemistry) Revised from Circular 165 Washington, D C Government Printing Office, 1956 38 p illus. 23 cm. (United States Geological Survey Bulletin 1036–C) $0 20 1636

Contents: Introduction. Apparatus and instruments. Preparation of sample solutions. Methods. Experimental results. References cited. Tables.

Note Described in this bulletin are methods for the rapid determination of the major constituents in silicate rocks: SiO_2, Al_2O_3, Fe_2O_3, FeO MgO CaO, Na_2O K_2O TiO_2, P_2O_5, MnO, H_2O, and CO_2. The expanded program of the Geological Survey following World War II led to an increased need for chemical analyses of rocks and other geological materials. The classical methods are slow and complicated. In 1950 a program of research was begun to develop economical and more speedy methods for making approximate analyses. Improvement and expansion of the original rapid methods described in Circular 165 in 1952 and substitution and addition of new methods resulted in the rapid procedures described in this publication.

SMITH, ORSINO C

Identification and qualitative chemical analysis of minerals. Second edition Princeton D Van Nostrand Company, Inc , 1953 385 p illus. 23 cm. $8 50 1637

Contents: Physical properties. History and uses of blowpiping. Blowpipe reactions. Ultra-violet light and fluorochemistry Mineral chemistry Tables of chemical reactions. Qualitative chemical tests. Mineral identification tables. General index. Mineral index.

Note. First published under the title *Mineral identification simplified*, Los Angeles, 1940 this book has undergone an extensive revision and amplification in each succeeding edition. It is recognized as a useful manual of simple, practical methods for the qualitative analysis of minerals. Both chemical and physical methods are explained, with more emphasis on the latter More than 150 pages of the present edition are devoted to series of tables in which minerals are grouped first by their specific gravity and second in order of their hardness. Detailed and specific directions for measuring these properties are included in the book. Comparing the present edition with the preceding one under the same title published in 1946 the identification tables are unchanged however the author indicates that rather extensive changes may be made in the next edition. On the other hand, the material on mineral analysis with the blowpipe has been considerably extended. Some new tests have been added in the chapters on chemical tests As in the preceding edition, the volume includes a remarkable series of pictures in color of minerals.

SPOCK, L E

Guide to the study of rocks New York Harper & Brothers 1953 256 p illus 24 cm. $4 50 1638

Contents: Introduction. The examination of rocks—identification of minerals—physical characteristics. Igneous rocks. The composition of igneous rocks. Petrogenesis of the igneous rocks. Altered rocks. Sedimentary rocks. Metamorphic rocks. Appendixes: Care of specimens. Density weight, and volume. Three-component diagrams. Summary of the igneous rocks. Summary of the sedimentary rocks. Summary of the metamorphic rocks. General review questions. Index.

Note: An elementary introduction to petrology. It is more scientific in style than some of the handbooks written especially for amateur collectors of rocks and minerals. However, it is organized and written so that it can be studied profitably by amateur collectors who are pursuing such study without the guidance of a professional instructor. It is also suitable for use as a textbook in beginning college courses. It is well organized and adequately, though not lavishly illustrated. The author is Professor of Geology at New York University

TICKELL, FREDERICK GEORGE

The examination of fragmental rocks. Revised edition. Stanford Stanford University Press, 1939 127 p illus. 26 cm. $5 00. 1639

Contents Introduction. Size analysis. Porosity and permeability. Preparation of specimens. Identification of minerals. Description of minerals found in sedimentary rocks. Bibliography. Index.

Note An outline of the physical properties of fragmental aggregates and of their mineral constituents, a laboratory manual and guide for students, geologists, petroleum engineers, chemical engineers, and microscopists, and anyone interested in a practical treatment either of identity or of size and shape relationships of fragmental rocks. The mineral tables present a dichotomous classification that makes comparatively simple and rapid the identification of the species commonly found in clastic mineral aggregates.

TRAVIS, RUSSELL B

Classification of rocks Golden Colorado School of Mines 1955 98 p illus. (part col'd) 23 cm (Colorado School of Mines. Quarterly Vol 50, no 1) $1 00 1640

Contents: Igneous rocks. Sedimentary rocks. Metamorphic rocks. References.

Note A compact and useful guide to rock classification on the basis of genesis and petrography It is directed primarily to college students of geology; but is useful also to others, particularly amateur rock collectors, who wish to classify rock specimens accurately. There are three folded charts, one for each of the genetic classes of rocks and 64 figures in the text. Most of the latter are reproductions of photomicrographs.

TURNER, FRANCIS JOHN, AND JEAN VERHOOGEN

Igneous and metamorphic petrology New York McGraw Hill Book Company, Inc., 1951 602 p illus. 24 cm. $9.50 1641

Contents (abridged) Principles of chemical equilibrium applied to rocks. Characteristics and classification of igneous rocks. Variation in associated igneous rocks. Crystallization of igneous minerals from silicate melts. Crystallization of basaltic and granitic magmas in the light of experimental data. The oceanic olivine-basalt trachyte volcanic association. Volcanic associations of orogenic regions. Basic and ultrabasic plutonic associations. The granite granodiorite plutonic association. Pegmatites, lamprophyres, nepheline syenites. Environment, origin, and evolution of magmas. Principles governing chemical adjustment of solid rocks to metamorphic conditions. Correlation of mineral assemblages with specific conditions of metamorphism. Characteristics of individual metamorphic facies. Special features of fabric of deformed rocks. Metamorphism in relation to magmas and to orogeny Index.

Note An advanced treatise of interest to graduate students preparing for work in petrology and to geologists already at work in the field. In it the modern knowledge of igneous and metamorphic petrology is presented from the physicochemical standpoint. The phase rule and other principles of chemical equilibria applicable to the formation of rocks at high temperatures and under moderate temperatures are summarized in the second chapter In the remainder of the book, groups of rocks are discussed from the viewpoint of their genesis, the genetic processes being viewed against the background of the second chapter as multi-component chemical systems. There is no systematic bibliography but selected literature is cited in footnotes.

TWENHOFEL, WILLIAM HENRY, AND S A. TYLER

Methods of study of sediments New York McGraw Hill Book Company Inc., 1941 183 p illus. 23 cm $4.50 1642

of America, 1946 Reprinted 195[illegible] (with supplement) 138 p. illus. 25 cm. (Geological Society of America. Memoir 18) $2.00 1655

Contents: [illegible]

Note: [illegible]

FLINT RICHARD FOSTER
Glacial geology and the Pleistocene epoch. New York John Wiley & Sons, Inc., 1947 559 p. illus. 23 cm. $9.00 1656

Contents: [illegible]

Note: [illegible]

GOLDMAN MARCUS ISAAC
Deformation, metamorphism, and mineralization in gypsum-anhydrite cap rock, Sulphur Salt Dome, Louisiana. New York Geological Society of America, 1952 169 p. illus 26 cm. (Geological Society of America. Memoir 50) $3.00. 1657

Contents: [illegible]

Note: [illegible]

KAY MARSHALL
North American geosynclines. New York Geological Society of America, 1951 143 p. illus. 26 cm. (Geological Society of America. Memoir 48) $2.00 1658

Contents: [illegible]

Note: [illegible]

KING PHILIP BURKE
The tectonics of middle North America middle North America east of the Cordilleran system. Princeton Princeton University Press 1951 203 p illus. 27 cm. $3.75 1659

Contents (abridged) [illegible]

Note: [illegible]

POLDERVAART ARIE, editor
Crust of the earth (a symposium) New York The Geological Society of America, 1955 762 p. illus. 25 cm. (The Geological Society of America. Special paper 62) $6.50 1660

Contents: [illegible]

Other mineral carbon compounds. Borates. Sulfates, etc. Phosphates, etc. Silicates. Index. Part III Determinative tables Table I, Opaque minerals. Table II, Birefringence of minerals. Table III, Color of minerals. Table IV-a, Refringence of isotropic minerals. Table IV-b, Refringence of anisotropic minerals. Table V Dispersion of minerals. Explanation of plates. Index.

Note A standard work used both as textbook in college courses and as a reference book. Part I presents the techniques and background information necessary for the study of minerals in their sections, powders and fragments. Part II is devoted to descriptions of minerals with particular reference to their identification by optical techniques. In the present edition, references to X-ray studies have been included for the first time. Part III contains determinative tables covering all minerals whose optical properties are known. A current set consists of the following parts (actually volumes) Part I fifth edition 1937 Part II, fourth edition, 1951 Part III, second edition, 1939

ZIM, HERBERT SPENCER, AND ELIZABETH K COOPER

Minerals, their identification, uses, and how to collect them New York Harcourt, Brace and Company, 1943 368 p illus. 21 cm $3 75 1649

Contents Minerals in the earth. The rocks and minerals you collect. Discovering physical properties. Mineral tests. Setting up your collection Copper Iron. Aluminum. Lead, tin, and zinc. Other metals. Crystalline quartz. Non-crystalline quartz. Gems. Non-metallic minerals. The rock forming minerals. Identifying the rocks. Rocks and rock structure. The story of the earth. Finding and mining minerals. Minerals and ourselves. Appendix. Index.

Note A nontechnical treatment for the amateur collector of minerals, particularly one of high-school age with no special ized training but with a budding interest in mineralogy Tells how to identify test, and classify minerals, how to start a collection, and where the most likely specimens may be found. The characteristics of many metallic ores and minerals are given in tabular form, and important mineral localities throughout the United States are listed in the appendix.

GEMOLOGY

KRAUS, EDWARD HENRY, AND CHESTER BAKER SLAWSON

Gems and gem materials Fifth edition. New York McGraw Hill Book Company Inc 1947 332 p illus 23 cm $6 00 1650

Contents Introduction. Part I Crystal forms. Physical properties. Optical properties. Crystal structure and X-ray methods. Chemical properties. Formation and occurrence of gem minerals. Cutting and polishing of gems. The naming of gems. Manufactured gems. Metals used for gem mountings. Part II Description of individual gems. Part III Classification of gem materials, according to various properties. Selected bibliography Index.

Note This work, which provides a compact but authoritative review of information on both crude and cut gems, has been a standard text and manual since the publication of the first edition in 1925 Compared to the fourth edition this edition contains newly added material on gem-cutting machinery the evaluation of cut diamonds, new gem materials, and recent progress in the making of synthetic gems. A new chapter on crystal structure discusses the Laue Bragg powder and oscillation methods of determining the internal structure of crystals.

LIDDICOAT, RICHARD T JR.

Handbook of gem identification. With a foreword by *Edward H Kraus. Fourth edi tion. Los Angeles* Gemological Institute of *America, 1953 350 p* illus *21* cm $5 00 1651

Note A standard manual intended for the use of jewelers and others dealing professionally in gem stones. Essentially it is reference book of practical testing procedures. An important feature is fully detailed plan for identifying unknown stones in each of the different colors in which commercially important gems occur Properties of the individual kinds of gem stones are fully covered. A fifth edition, 383 p., $6.00, was published in 1957

PEARL, RICHARD MAXWELL

Popular gemology New York John Wiley & Sons, Inc., 1948 316 p illus 21 cm. $5.50 1652

Contents: The lure of gems. Recognizing gems. Faceted gems. Cabochon and carved gems. Gems of the silica group. Gems and genealogy Man-made gems. Luminescent gems. Selected reading Index.

Note. The information in this work is well selected, clearly presented and reliable. Persons interested in only one variety or kind of gems may find that the treatment of it is too concise to be satisfactory but the book will serve well as a general introduction to the subject and also as an elementary reference book. There are 115 black-and-white illustrations, most of which are clear reproductions of photographs, but no colored illustrations.

SHIPLEY, ROBERT MORRILL, AND OTHERS

Dictionary of gems and gemology, including ornamental decorative and curio stones. A glossary of over 4000 English and foreign words, terms and abbreviations which may be encountered in English literature or in the gem, jewelry or art trades. By Robert M. Shipley assisted by Anna McConnell Beckley, Edward Wigglesworth, and Robert M. Shipley, jr Fifth edition. Los Angeles Gemological Institute of America, 1951 261 p. 20 cm $5 50 1653

Note In this reference book terms of interest in the jewelry trade and in amateur collecting are defined. In addition to definitions of the names of precious and semi-precious stones and other terms that are frequently used in the trade, much useful supplementary information is included. This includes descriptions of famous gems, identifications and descriptions of museums, societies, laboratories of interest in connection with gems and capsule biographies of persons who have contributed to the knowledge of gems. The fourth edition was published in 1948 The fifth edition is essentially a reprint of the fourth edition however there are few new entries.

DYNAMIC AND STRUCTURAL GEOLOGY

BILLINGS, MARLAND P

Structural geology Second edition Englewood Cliffs N J Prentice-Hall Inc., 1954 514 p illus 24 cm $8 00 1654

Contents Structural geology Mechanical principles. Description of folds. Field study and representation of folds. Mechanics of folding. Failure by rupture. Joints. Description and classification of faults. Criteria for recognition of faults. Mechanics of faulting. Thrust faults. Gravity or normal faults. Strike-slip faults. Causes of folding and faulting. Unconformities. Salt domes. Extrusive igneous rocks. Plutons. Emplacement of large plutons. Cleavage and schistosity Lineation. Structural petrology Geophysical methods in structural geology Laboratory exercises. Index.

Note Mechanical principles and their applications in the study of geological structures, such as folds, faults, and intrusions, are emphasized in this standard college textbook. However, due attention is given also to techniques of studying geological structures. The book is well organized and fully illustrated. The first edition was published in 1942 In this second edition, the book's scope is essentially the same, but there have been some reorganization and considerable revision and augmentation. Faults are discussed at greater length and the treatment of them is reorganized. Chapters have been added on the emplacement of large plutons cleavage and schistosity; and lineation. References are made to recent literature; some of the laboratory exercises have been revised and there are ones have been added. The author is Professor of Geology in Harvard University

CLOOS, ERNST

Lineation, a critical review and annotated bibliography New York Geological Society

ton University Press 1954 310 p. illus. 28 cm. $10.00. 1667

Contents: Materials used. Methods used. Classification of shocks. Maps. Frequency and energy of earthquakes. Structure of the earth. Introduction to regional discussions. The Circum-Pacific belt. The Alpide belt. Non-Alpide Asia. [illegible] areas. Oceanic active belts. Rift zones. Seismicity marginal to stable masses. Minor seismicity. Stable masses. Tsunamis (seismic sea waves). Mechanism. Summary. Addenda. References. Tables. Index.

Note: An important systematic study and compilation of data pertaining to the geography and geological character of the areas of the earth where seismic activity occurs and to the relative seismicity of these areas. The seismic regions of the earth are discussed individually in regard to seismic activity and such pertinent features as active volcanoes, gravity anomalies and outstanding topographic features. The tables, which are detailed presentations of observations of earthquake shocks, occupy approximately half of the space. The first edition was published in 1949. In this second edition, the original text and tables have not been revised except for correction of discovered errors. However, new discussions and new data have been added in the form of addenda and extensions of tables. Eight pages of addenda have been added at the end of the text, six pages at the end of the list of literature references, 13 pages at the end of Table 17, etc. The added material has increased the length of the volume by 37 pages.

HECK, NICHOLAS HUNTER

Earthquake history of the United States. Revised (1947) edition. Washington, D. C. Government Printing Office, 1947–51 2 v. 25 cm. (United States Coast and Geodetic Survey Serial No. 609) Part i, $0.45 Part
Survey Serial No. 609) Part i, $0.45 part ii, $0.15 1668

Contents: Part i, Continental United States (exclusive of California and Western Nevada) and Alaska. Earthquake conditions in the various states. Explanation of details in lists of earthquakes. Northeastern region. Eastern region. Central region. Western mountain region. Washington and Oregon. Earthquakes by years and months. Alaska. References. Part ii, Stronger earthquakes of California and Western Nevada, by Harry O. Wood and N. H. Heck. Introduction. Intensity scale. Dates of principal earthquakes. Dates of marginal earthquakes. Description of earthquakes from 1769 to 1950.

Note: Presented in these pamphlets are concise descriptions arranged in chronological order of the chief earthquakes that have occurred in Continental United States of America including Alaska, from the earliest times for which records are available to the close of 1946 in the case of Part i, and to the close of 1950 in the case of Part ii. The work is intended primarily for those who have to deal in a practical way with earthquake problems, or who wish lists for reference on such details as dates and intensities. It is more convenient to use but not a substitute for the fuller reports contained in the annual publication, United States Coast and Geodetic Survey United States earthquakes, described below.

JAGGAR, THOMAS AUGUSTUS

My experiments with volcanoes. Honolulu Hawaiian Volcano Research Association, 1956 198 p. illus. 23 cm. $4.00. 1669

Note: The author of this book devoted a lifetime to the study of volcanoes, and much of his work was done under the sponsorship of the Hawaiian Volcano Research Association. The book itself is an informal account with an autobiographical flavor. However, it describes in considerable detail the author's observations and experiments. The illustrations include some remarkable photographs of volcanic activity.

JAGGAR, THOMAS AUGUSTUS

Origin and development of craters. New York Geological Society of America, 1947 508 p. illus. 25 cm. (Geological Society of America. Memoir 21) $6.00 1670

Contents (abridged): Abstract. Introduction. Part i, Kilauea Crater in 1912–1915. Part ii, Kilauea and Mauna Loa, 1909–1915. Review of Hawaiian volcanic system, 1909–1915. Part iii, Kilauea steam blast eruption, 1924. Part iv, Series of development sketch maps and profiles of Halemaumau, checked by topographic surveys, 1917–1934. Part v, Hawaiian crater histories. Geologic history of Hawaii. Hawaiian activities, 1790–1935. Part vi, Principles of crater evolution. Earth the offspring of the sun. Conclusions in volcanology. General physics and chemistry. Part vii, Summary and conclusions. References cited. Explanation of Plates 1–73. Index.

Note: The motive for spreading these observational maps, sections, diagrams, curves, photographs, reviews, and narrative histories was to outline the field of volcano science that has grown up since James Dwight Dana published his *Characteristics of volcanoes* in 1890. The title of the book follows the precedent of many authors, including Dana, in generalizing from Hawaii.

JAGGAR, THOMAS AUGUSTUS

Volcanoes declare war: logistics and strategy of Pacific volcano science. Honolulu T. H. Paradise of the Pacific, Limited, 1945 166 p. illus. 29 cm. $3 5 1671

Contents (abridged): Hawaiian volcanoes. Broadcasting from Kilauea's fiery caldron. What happened in Halemaumau's steamblast eruption of 1924. Army aviators successfully bomb Mauna Loa. South Sea outbreaks. The Cape Islanders live next to sputtering lava. New Zealand volcanoes fire up [illegible] Tonga. East Indian explosions. Rabaul harbor erupts suddenly in 1937. Krakatoa revives. [illegible] Java's gas warfare and Bali lava flows. The Western Pacific zone. Taal and Mayon are killers. [illegible] beyond the brows of Mount Fuji. Aleutian fire mountains. Bogoslof pops up from under the sea. Alaska declared hidden giant in 1912. The amphibious jeep of the Fried expedition. Canada and the Western States. Our Cascade Mountains are not dead. Lassen Peak in 1915 was as violent as Mount Pelée. California lava [illegible]. From Mexico to Chile the earth breathes fire. The Mexican Cordillera gives birth to new volcanoes. Central America is explosive. The Java. Fireworks [illegible] from Martinique to Cape Horn. Review of volcano science. References. Index.

Note: Volcanoes and volcanic activity in and near the Pacific Ocean are the subject of this book. The author has been Director for a quarter of a century of the volcano experiment station at Kilauea and the leader of several expeditions to investigate volcanoes. However, the book is not for professional workers in this field but is for the general reader. Specific volcanic eruptions and volcanology in general are described in popular, picturesque language. Catastrophic eruptions are usually described in the words of eye witnesses. The text is supplemented by more than one hundred remarkable photographs.

LEET, LEWIS DON

Earth waves. Cambridge Mass. Harvard University Press and New York John Wiley & Sons Inc., 1950. 122 p. 22 cm. $3.90 1672

Contents: The measurement of earth waves. Observed types of earth waves. Transmission of earth waves. Microseisms. Index.

Note: Although earthquake waves are discussed along with other types of waves, this is not primarily a book on earthquake phenomena. Instead, it deals broadly with the subject of waves that are transmitted through the earth. Thus it has bearing on geology, geophysical prospecting, seismology (the [illegible] earth waves), and even the engineering of buildings. The book is intended not for lay readers but for persons who have a fair knowledge of physics and college mathematics. For these it is an introductory work.

LEET, LEWIS DON

Practical seismology and seismic prospecting. New York D. Appleton-Century Company Inc., 1938 430 p. illus. 23 cm. (The Century earth science series K. F. Mather editor) $6.00. 1673

Contents: Part i, Cause and distribution of earthquakes. Cause of earthquakes. Distribution of earthquakes. Part ii, Elasticity and elastic waves: Elastic constants. Propagation of elastic waves: plane waves; earth's curvature neglected. Paths and travel times for earthquake waves. Part iii, Instrumental methods: Instruments. Instrumental observations of earthquakes. Part iv, Descriptive observation of earthquakes: Terminology. Effects of earthquakes. Important earthquakes of history. Mechanism of earthquake occurrence. History of seismology. Part v, Seismic prospecting: Data obtained

Volcanic rocks and the tectonic cycle, by A. C. Waters. Orogeny and epeirogeny through time, by P. B. King. Indexes, by F. B. O'Leary. Subject index. Author index.

Note: The Department of Geology of Columbia University organized a symposium on the crust of the earth which was held in New York, October 14, 15, 16, 1954 in connection with the Bicentennial of the University. In planning the program, the committee chose the subjects for each paper to assure the uniformity of the symposium, then found experts at home and abroad to write and deliver the papers. Although the scope of the symposium was limited to the crust of the earth, the definition of the concept was left to the individual contributors. This volume contains the texts of the 44 papers. Each paper is preceded by an abstract and followed by a list of the references cited. The publication is of interest to graduate geologists and to other scientists concerned with the physical history of the earth.

SHROCK, ROBERT RAKES

Sequence in layered rocks, a study of features and structures useful for determining top and bottom or order of succession in bedded and tabular rock bodies. New York, McGraw-Hill Book Company, Inc., 1948. 507 p. illus. 23 cm. $9.00 1661

Contents: Introduction. Gross relationships. Features of sedimentary rocks. I, Lithological—textural—mineralogical sequences. II, Features on upper and undersurfaces of sedimentary beds. III, Internal features. Features of igneous rocks. Features of metamorphosed rocks. Bibliography. Index.

Note: A description of the principles and methods utilized in determining the order of succession of bedded and layered rocks where the strata are steeply inclined or vertical. The book is planned for use as a text by advanced geology students, and as a manual of practical information for practicing geologists. It is for the latter group, particularly the petroleum and mining geologists, that the author has included detailed discussions of rock features and structures, and numerous photographs and diagrams of layered rocks. The references scattered throughout the text are keyed to the 30-page bibliography.

SOCIETY OF ECONOMIC PALEONTOLOGISTS AND MINERALOGISTS

Finding ancient shore lines, a symposium sponsored by the Society of Economic Paleontologists and Mineralogists. Edited by Jack L. Hough and Henry W. Menard. Tulsa, Society of Economic Paleontologists and Mineralogists, 1955. 129 p. illus. 24 cm. $3.00 1662

Contents: Continental terrace sediments in the northeastern Gulf of Mexico, by H. R. Gould and R. H. Stewart. Sediments of the eastern Mississippi delta, by P. C. Scruton. Sandless coastal terrain of the Atchafalaya Bay area, Louisiana, by W. C. Thompson. Sediment zones bordering the barrier islands of central Texas coast, by F. P. Shepard and D. G. Moore. Dynamic geology of the modern coastal region, northwest Gulf of Mexico, by K. A. Lohse. Particle size distribution in near shore sediments, by D. L. Inman and T. K. Chamberlain.

Note: The papers and accompanying transcripts of discussion in this volume are contributions to the knowledge of the processes of sedimentation and sedimentary deposits. Although slanted toward the discovery and identification of ancient and often buried shore lines, several of the papers report the results of studies of recently deposited sediments and sedimentation still in progress. Literature references are included in the individual papers.

SYKES, GODFREY GLENTON

The Colorado delta. Washington, D. C. Published jointly by Carnegie Institution of Washington and the American Geographical Society of New York, 1937. 193 p. illus. 26 cm. (American Geographical Society. Special publication no. 19, edited by W. L. G. Joerg) (Carnegie Institution of Washington. Publication no. 460) o.p. 1663

Contents: Part I, History of exploration and navigation: History of exploration (1539–1858). Navigation of the lower river (1852–1878). Part II, Physiographic history: The period of relative stability (1890–1900). The decade of the great diversion (1900–1910). The trend southwestward to a blind outlet (1910–1920). Artificial deflection to the south-southwest (1920–1930). Prospects of stability and a tidewater outlet (1930–1935). The Imperial Valley. Part III, Stream dynamics: The detrital load of the Colorado River water. Fluctuation and rhythm in the movement of debris. Deposition of the detrital material. Conclusions. Bibliography. Index.

Note: A survey of the physiographic history of the Colorado delta based on observations made over a 45-year period, showing the rapid changes that have taken place in this area during that time. A physiographic map and aerial photographs are included.

SYKES, GODFREY GLENTON

Delta, estuary and lower portion of the channel of the Colorado River, 1933–1935. Washington, D. C. Carnegie Institution of Washington, 1937. 70 p. illus. 25 cm. (Carnegie Institution of Washington. Publication no. 480) $1.75 1664

Contents (abridged): Deposition in the delta during the past 30 years. The river discharge at the head of the delta from June 1, 1933 to February 1, 1935. Delivery of detrital matter to the delta. River control as affecting the further movement of bed-silt already deposited. Bed-silt movement. Mechanical analysis of bed-silts. Desiccation of the delta area. Appendix. Tables.

Note: A continuation of, and supplement to, the more lengthy investigation of the various problems discussed in Sykes' *The Colorado delta*, described above. The periods immediately preceding and following the closure of the Boulder Dam constitute the main phase of the present studies.

WILLIAMS, HOWEL

Crater Lake: the story of its origin. Berkeley, University of California Press, 1941. 97 p. illus. (part col'd) 19 cm. $2.00. 1665

Contents: Introduction. Part I, The story: Before Mount Mazama was. How Mount Mazama rose. Glaciers of Mount Mazama. The climax of destruction. The growth of Wizard Island. Part II, The evidence: The setting of Crater Lake. Along the rim trail. By boat round the lake. Valleys of 10,000 smokes. How the mountain fell. How old is Crater Lake? List of references.

Note: A popular but scientifically accurate account of the growth and destruction of Mount Mazama, a volcanic peak, and the origin of Crater Lake. There is no index.

VOLCANOLOGY AND SEISMOLOGY

BYERLY, PERRY

Seismology. New York, Prentice-Hall, Inc., 1942. 256 p. illus. 23 cm. (Prentice-Hall geology series, edited by Norman E. A. Hinds) $5.00 1666

Contents: Preface. Part I, Earthquakes. Elasticity and plasticity. Earthquake vibrations. Immediate cause of earthquakes. Underlying causes of earthquakes. Effects of earthquakes. Distribution of earthquakes. Great earthquakes. Part II, Seismography: The seismograph. Elastic waves. Paths of waves and travel time curves. Location of epicenters. Seismograms. Index.

Note: An introductory college text covering in brief the subject of earthquake seismology. Part I, on the general subject of earthquakes, requires little technical knowledge on the part of the reader or student. Part II, which deals with the science of seismography, presupposes a working knowledge of the calculus and of general physics. References are given at the end of each chapter.

GUTENBERG, B., AND C. F. RICHTER

Seismicity of the earth and associated phenomena. Second edition. Princeton, Prince-

cm. (Carnegie Institution of Washington Publication no. 512) o.p. 1679

Contents: Volcanic history of the Lesser Antilles. Montserrat, the island. Narrative of the investigation. Volcanic phenomena of the archives of Montserrat. The earthquakes at Montserrat. Instruments. Summary and conclusions. Notes.

Note: A report on the period of abnormal volcano-seismic conditions at Montserrat based on observations during the period indicated and reliable information from other sources. The investigation deals only with the present, and no attempt is made to deal with past geologic and volcanic formations. There are numerous photographs and a volcano-seismic chart.

UNITED STATES. COAST AND GEODETIC SURVEY

United States earthquakes 1953 By Leonard M. Murphy and William K. Cloud. Washington, D. C. Government Printing Office 1955 51 p. 25 cm. (United States. Coast and Geodetic Survey Serial no. 785) $0.35 1680

Contents: Introduction. Noninstrumental results. Miscellaneous activities. Fluctuations in well-water levels. Seismological observatory results. Strong-motion seismograph results. Tilt observations. Corrections to previous editions.

Note: This work has been published annually since 1928. It presents a practically complete record of earthquakes in the United States of America and regions under its jurisdiction, namely Alaska, Hawaii, Panama Canal Zone and Puerto Rico. The arrangement is by state or region and by date under the name of the state or region. Each annual publication contains the record of a full calendar year. Each earthquake is described as to time, intensity, the latitude and longitude of the epicenter when known, destructive or other reported effects. Intensities are described in terms of the Modified Mercalli Intensity Scale of 1931.

HYDROLOGY

ELLIS CECIL B

Fresh water from the ocean for cities industry and irrigation. By Cecil B Ellis and members of the staff of Nuclear Development Associates, Inc. Sponsored by the Conservation Foundation. New York Ronald Press Company 1954 217 p. illus. 24 cm. $5.00. 1681

Contents: The problem. Types of separation methods. Energy costs. Integrated fuel systems. Actions on the consumer [illegible]. Distillation with conventional fuels. Distillation by waste heat sources. Chemical surface methods. The use of by-product chemicals. A 1000-mgd electrical membrane plant. Conclusions. Appendix: Ideas for by-passing the problem. Index.

Note: Although written in a style that will be intelligible to any educated reader, this book is essentially an engineering study of the problem of de-salting sea water at a cost which is low enough to permit the use of the water by cities, industries, and agriculture. For purposes of the study the problem was stated in terms of the production of 1,000 million gallons a day and all of the promising methods of de-salting ocean water which have been developed or proposed were studied in terms of this quantity. The main conclusions are (1) within the next decade fresh water can be extracted from the ocean at a total cost of about 50 cents a thousand gallons by use of the electric membrane method if cheap electricity is available. (2) there is no practical method in sight which holds the promise of de-salting ocean water at a cost low enough for agricultural irrigation. Literature references are included, and the names of some of the research organizations and private companies which are currently conducting research on de-salting are mentioned in passing.

HOUGH J L., editor

Turbidity currents and the transportation of coarse sediments to deep water A symposium sponsored by the Society of Economic Paleontologists and Mineralogists. Tulsa Society of Economic Paleontologists and Mineralogists 1951 107 p illus 24 cm. (Society of Economic Paleontologists and Mineralogists. Special publication no. 2) $2.75 1682

Contents: Introduction, by R. D. Russell. Applications of hydraulics to the study of marine turbidity currents, by H. W. Menard and J. C. Ludwick. Properties of turbidity currents of high density, by Ph. H. Kuenen. Some quantitative aspects of Lake Mead turbidity currents, by H. R. Gould. Transportation of sand into deep water, by F. P. Shepard. Displaced Foraminifera faunas, by F. B. Phleger. Sedimentary history of the Ventura Basin, California, and the action of turbidity currents, by M. L. Natland and Ph. H. Kuenen.

Note: This publication includes the six papers presented at a symposium held as part of the annual meeting of the Society of Economic Paleontologists and Mineralogists in Chicago in April, 1950. The subject of the symposium was the problem of the origin, transportation, and deposition of the relatively recently discovered layers of coarse sediments (silt and sand) at depths of several thousand feet, and many miles from land, on the floor of the ocean. Basic problems of paleontology, stratigraphy and paleography are involved in the answers to this problem, as well as the interpretation of ancient sediments as related to the origin of petroleum and the location of economically valuable oil deposits. At the end of each paper bibliographical references are given.

HOYT WILLIAM GLENN AND OTHERS

Studies of relations of rainfall and run-off in the United States. Washington, D C. Government Printing Office 1936 301 p illus. 22 cm. (United States Geological Survey Water supply paper 772) o.p 1683

Contents (abridged): Precipitation. Changes in temperature. Changes in run-off. Precipitation, temperature, and run-off, by basins. General accuracy of precipitation, temperature, and run-off data. Changes in rainfall, temperature and run-off, by basins. Storm flow. Surface run-off. The unit-hydrograph method and storm transposition in flood problems. Ground-water run-off. Soil moisture. Ground-water levels. Comparison of graphs of minimum flow. References. Index.

Note: This study is directed along two definite lines of approach—(1) investigation of relations between annual and monthly precipitation, temperature, evaporation, transpiration, direct surface run-off, ground-water run-off, and infiltration as a basis for the quantitative analysis of the hydrologic cycle over broad areas. (2) investigation of relations between storm precipitation and direct surface run-off.

KING THOMSON

Water miracle of nature. New York The Macmillan Company 1955 238 p. 21 cm. $3.75 1684

Contents: Part I, Water and the world. What is water? The three states. As it was in the beginning. The oceans. The great underseas and distribution. Water in the air. Inland waters. Solid water on the land. Life in water. Part II, Water and the life of man. What primitive and ancient man did with water. The struggle for the control of the sea. Pumps and ships [illegible] but man has done with them. Of irrigation, flood control, and water power. The water we drink. A medley—water worship and wells, dew ponds and dowsers. Canals. To conserve water is to conserve life. Index.

Note: A book for general reading. It discusses briefly and in an elementary way the chemical and physical properties of water; water as a geological element; water as a supporter of life; and water in man's life. There are no illustrations and no literature references, but there is an adequate index. The author is Director of the Maryland Academy of Sciences.

LEOPOLD LUNA B., AND THOMAS MADDOCK, JR.

The hydraulic geometry of stream channels and some physiographic implications quantitative measurement of some of the hydraulic

in the field. Reduction of observations. Special commercial applications. Appendix. Index.

Note Although the presentation of the subject is necessarily quantitative and hence numerical at many points, an attempt has been made to arrange the material so that fundamental principles and procedure can be mastered by readers whose mathematical training has not extended beyond trigonometry. To further this end, graphs and line drawings have been used liberally. Intended as a text for college students, the work presents in a descriptive manner the laws common to earthquakes and artificially generated elastic vibrations governing the propagation of elastic waves in materials of the earth. The characteristics and use of instruments designed to record these vibrations are also discussed, together with the laws of free and forced vibration which govern their operation. The discussion of seismic prospecting includes refraction methods of reconnaissance and detail as well as reflection technique, with an extensive list of formulas employed and a summary of the patent situation in the United States.

NATIONAL ACADEMY OF SCIENCES NATIONAL RESEARCH COUNCIL

Symposium on microseisms, held at Arden House Harriman, New York, 4–6 September, 1952 Sponsored by the Office of Naval Research and the Geophysical Research Directorate of the U S Air Force. Washington, D C. National Academy of Sciences—National Research Council, 1953 125 p illus 27 cm (National Academy of Sciences—National Research Council. Publication 306) $1 00 1674

Contents Moderator's comments, by P Byerly. Sketch of the history of microseismology by J B Macelwane. Tripartite stations and direction of approach of microseisms, by J E Ramirez. Amplitude distribution of storm microseisms, by M H. Gilmore. Microseismic period spectra and related problems in the Scandinavian area, by M Båth. Can sea waves cause microseisms? by M. S. Longuet-Higgins. Storm and surf microseisms, by F W van Straten. The ocean as an acoustic system by F Press and M. Ewing. On theories of the origin of microseisms, by J G. Scholte.

Note. The symposium of which this book is a product was arranged for the dual purpose of presenting accumulated information and stimulating further study. It was attended by scientists from the United States of America, England, the Netherlands, Sweden, and Colombia. The papers, together with excerpts of the discussions at the symposium, are published in this volume. Some of the papers are summaries of previously published information; others include some results not previously published. The volume is of interest to specialists in seismology and also to graduate geophysicists and oceanographers. Literature references are included in most of the papers.

NEUMANN, FRANK

Earthquake intensity and related ground motion Seattle University of Washington Press 1954 77 p illus. 21 cm $1 50 1675

Contents (abridged) Introduction. Materials used. Distance versus MM intensity. MM intensity versus maximum acceleration. Discussion of period-acceleration envelopes. Application of intensity grids to the analysis of strong-motion data. Imperial Valley earthquake May 18, 1940. Puget Sound earthquake, April 13 1949. Los Angeles County earthquake, October 2 1933. Long Beach earthquake, March 10 1933. Helena, Montana, earthquake, October 31 1935. Earthquake spectrums and period-acceleration envelopes. Nomenclature, formulas, and quantitative intensity table. Summary and conclusions. References.

Note In this publication—issued as a booklet independent of any series—relationships among earthquake intensity, epicentral distance, and the period and maximum acceleration of recorded ground waves are studied. "Formulas are developed for the distribution of intensity on two formations tentatively designated as basement rock outcrops, a method is suggested for evaluating intensity anomalies on various types of overburden, a new relationship is established between earthquake intensity in an epicentral region and earthquake magnitude as defined by the Gutenberg-Richter magnitude scale" and a method of using intensity data to locate major rock breaks in fault movements is advanced. The author was formerly Chief of the Seismology Branch of the United States Coast and Geodetic Survey

NEUMANN, FRANK

Principles underlying the interpretation of seismograms Washington, D C. Government Printing Office, 1951 41 p. illus. 25 cm. (United States Coast and Geodetic Survey Special publication no 254) $1.00. 1676

Contents. Introduction. Seismic waves and earth structure: Nature of seismic waves. Effect of earth structure on seismic waves. Elementary wave types. Dependent wave types. Response of seismographs to seismic waves: Operating characteristics of seismographs. Motion of a direct-recording seismograph pendulum under the influence of steady state vibrations. Motion of galvanometric recording systems under the influence of steady state vibrations. Travel-time tables and charts: Travel-time tables and charts for long epicentral distances. Travel-times for short epicentral distances. Interpretation of seismograms: Artificial and seismic phenomena common to all types of pendulum seismographs. Characteristics of various phases on the seismogram. Identification of phases and determination of epicentral distance and origin time. Interpretation of seismograms when distance and time of origin are known. Computation of ground amplitude. Direction of ground vibration. Miscellaneous: Operational problems affecting the interpretation of seismograms. Earthquake intensity and earthquake magnitude. Determination of instrumental magnitude. Seismological bulletins. Nomenclature used in instrumental reports. Examples of seismogram interpretation.

Note A handbook for amateur seismologists, seismograph station personnel, etc. Instruments and records for short-period waves in earthquake vibrations are discussed as well as those for intermediate period waves.

PERRET, FRANK ALVORD

The eruption of Mt. Pelée, *1929–1932.* Washington, D C. Carnegie Institution of Washington, 1935 126 p illus. 29 cm. (Carnegie Institution of Washington. Publication no 458) $1 50 1677

Contents (abridged) Author's note. Terminology. Diagnosis and prediction. Mt. Pelée—a historical sketch. Narrative: early phase of the eruption; observations; life at the Field Station; seismic effects. Analytical section: the "nuée ardente." Appendices: Water analysis, by E. G. Zies. Les observations volcanologiques de M. F Perret (offert par le journal "La Paix")

Note. An account of observations made by the author during the eruption of Mt. Pelée in Martinique during the years 1929–1932. Each of the conspicuous eruptive manifestations which occurred is carefully considered, some of them being of comparative rarity. One of the purposes of the study was to collect data for the diagnosis of eruptive conditions, in order to contribute to the saving of human life and the prevention of economic waste by timely warning.

PERRET, FRANK ALVORD

Volcanological observations. Washington, D C Carnegie Institution of Washington, *1950 162 p illus 29 cm* (Carnegie Institution of Washington. Publication *549) $5.00.* 1678

Contents: The greater solid constructions. The volcanic liquid. The gaseous element. Electric and atmospheric phenomena. Volcanic vegetation. Volcanic ejectamenta. Gravitational and volcano-seismic phenomena. Experimentation—field and laboratory. Diagnosis and prediction. Index.

Note A well-written summary of lifetime of observations of volcanic activity, most of which were made in the field during volcanic eruptions. The author describes selected events as he saw them and draws conclusions. The book is written in a style that makes it available to mature lay readers, and its content is substantial enough to attract professional volcanologists. The 117 illustrations include reproductions of many excellent photographs.

PERRET, FRANK ALVORD

The volcano-seismic crises at Montserrat, 1933–1937 Washington, D C. Carnegie Institution of Washington, 1939 76 p illus. 29

PALEONTOLOGY

GENERAL

JONES DANIEL J

Introduction to microfossils. New York Harper & Brothers Publishers, 1956 406 p. 25 cm. (Harper's geoscience series Carey Croneis, editor) $6.50 1690

Contents: Introduction. Collection, preparation, and preservation of microfossils. Synoptic classification of organisms with reference to microfossils. Microfossils of the kingdom Protista. Plant microfossils. Microfossils of the animal kingdom (exclusive of Conodonts, Ostracoda, and Foraminifera). The Conodonts. The Ostracoda. The Foraminifera. Environmental significance of microfossils. Stratigraphy of microfossils. Applied micropaleontology. Appendixes. General index. Index to fossils.

Note: A broad survey of present-day micropaleontology is presented in this work. Advanced undergraduate and first-year graduate college students taking their first course in the subject are the intended audience. The presentation is slanted toward economic geology rather than systematic paleontology although much of the material presented is basic to both fields. Approximately half the space is devoted to descriptions of specific microfossils. These descriptions are brief and are designed only as aids to identification. The chapter on plant microfossils includes [illegible] discussion of fossil pollens and spores as well as of fossil seeds and fossil [illegible]. Though designed as [illegible] textbook the book has many features that will make [illegible] useful to practicing economic geologists who feel the need of an introduction to micropaleontology. It includes specific descriptions of field and laboratory techniques used in both academic and applied work. Literature references, outlines [illegible] [illegible] glossary and detailed indexes are included. The author, at present [illegible] faculty member of the University of Utah, was formerly Chief of the Geological Research Section of the Phillips Petroleum Company

KUMMEL, BERNHARD editor

Status of invertebrate paleontology 1953 Cambridge, Mass. Printed for the Museum, 1954 91-317 p. illus. 23 cm. (Harvard College. Museum of Comparative Zoology Bulletin. Vol. 112 no. 3) $2.50 1691

Contents: Toward [illegible] more ample invertebrate paleontology by R. D. Kesling. Protozoa, by [illegible] Thalmann. Coelenterata, by J. W. Wells. Echinodermata—Pelmatozoa, by R. C. Moore. Eleutherozoa, by J. W. Durham. Mollusca—Pelecypoda, by N. D. Newell—Gastropoda, by J. B. Knight and others—Cephalopoda, by B. Kummel. Arthropoda—Trilobita, by H. B. Whittington. Graptolithina, by O. M. B. Bulman. On development, evolution and terminology of ammonoid suture line, by O. H. Schindewolf. Macroevolution and the problem of missing links, by A. Petrunkevitch. Evolution of late Paleozoic invertebrates in response to major oscillations of shallow seas, by R. C. Moore. Systematic, paleoecologic and evolutionary aspects of skeletal building materials, by H. A. Lowenstam.

Note: Eminent paleontologists of England, Germany and the United States of America contributed to this appraisal of the science of invertebrate paleontology. Each author surveyed the current status of [illegible] particular area of the field and, in most cases, pointed out problems in need of investigation. In the first paper, Dr. Newell of the American Museum of Natural History predicts increasing emphasis on the biological (in contrast to the stratigraphic) aspects of paleontology. All of the papers were first presented at the meeting of the Paleontological Society in 1953.

MOORE, RAYMOND C editor

Treatise on invertebrate paleontology prepared under the guidance of the Joint Committee on Invertebrate Paleontology of the Paleontological Society the Society of Economic Paleontologists and Mineralogists, and the Palaeontographical Society Directed and edited by Raymond C. Moore. New York The Geological Society of America and University of Kansas Press, 1953–56 6 v. illus 25 cm. Part D $3.00 part E $3.00 part F $7.00, part G $3.00 part P $3.50 part V $3.00. 1692

Contents: Part D. Protista 3—Protozoa (chiefly radiolaria and tintinnina) Part E. Archaeocyatha and Porifera. Part F. Coelenterata, by F. M. Bayer and others. Part G. Bryozoa. Part P. Arthropoda 2—Chelicerata, with sections on Pycnogonida and Palaeoisopus, by L. Størmer and others. Part V. Graptolithina, with sections on Enteropneusta and Pterobranchia.

Note: A work of primary importance. It is the co-operative production of the three societies named in the title, and is being written by 117 specialists, resident not only in the United States of America but also in Great Britain and other countries. It is planned as [illegible] present the most comprehensive and authoritative, yet compact statement of knowledge concerning invertebrate fossil groups that can be formulated by [illegible] collaboration of competent specialists in seeking to organize [illegible] has been learned of this subject up to the midpoint of the present century. Each part is issued as [illegible] separate bound volume with separate index. Illustrations are abundant and clearly reproduced. The very concise systematic descriptions which constitute the bulk of the parts so far published are preceded in each volume by discussions of morphological characters, techniques of study etc.

RAYMOND PERCY EDWARD

Prehistoric life. Cambridge Mass. Harvard University Press 1939 324 p. illus 25 cm. $5.00. 1693

Contents (abridged): Fossils. Collecting fossils. First animals and plants. Pre-Cambrian life. Quasi arachnids. The trilobites. Beginnings of the chordates. Origin of the vertebrates. Rise of the air-breathing vertebrates. Amphibia. First reptiles. The earth's floods. Marine reptiles. Flying reptiles. From scales to feathers. Insects. Archaic mammals. Beasts of prey. Mammals of secondary importance of plants. Index.

Note: This volume traces the history of life from the time of its first appearance on the earth up to the present. A broad overall picture is given of the development of animals in each era, without emphasizing specific details. The book is based on lectures given by the author at Harvard University It is of interest to the student of geology and the general reader

SIMPSON GEORGE GAYLORD

Life of the past an introduction to paleontology New Haven Yale University Press 1953 198 p. illus. 24 cm. $4.00. 1694

Contents: Prelude—a walk through time. The remains of ancient life. Fossils and rocks. Fossils as living things. Ancient communities. Fossils and geography The diversity of life. Life and time. Ways of organic change. Theories of evolution. Fossils and mankind. Appendix: A review of the forms of life. Suggestions for further reading. Index.

Note: A book on fossils for the general reader and for the beginning student of paleontology written by the Curator of Fossil Mammals and Birds in the American Museum of Natural History The book does not emphasize descriptions of particular sorts of fossils, but rather gives [illegible] scientific account of the most widely interesting aspects of the biological aspects of geology. It is thus

factors that help to determine the shape of natural steam channels depth, width, velocity, and suspended load and how they vary with discharge as simple power functions Their interrelations are described by the term "hydraulic geometry" Washington, D C Government Printing Office, 1953 57 p illus 29 cm. (United States Geological Survey Professional paper 252) $0 40 1685

Contents: Abstract. General statement. The hydraulic geometry of stream channels. The hydraulic geometry of stream channels in relation to sediment load. Some physiographic implications. Summary and interpretation. References. Appendix. Index.

Note. The important aspect of this study is that it was concerned with quantitative measurements of such hydraulic characteristics of stream channels as depth width, velocity and suspended load. The authors conclude that "the empiric relation between hydraulic characteristics of the channel and suspended load provides, in semi-quantitative terms, a logical explanation of the observed channel shape and that the average river channel-system tends to develop in a way to produce an approximate equilibrium between the channel and the water and the sediment it must transport. There are 52 figures, most of which are graphical representations of data and relationships. There are 43 citations in the bibliography

MEINZER, OSCAR E, editor
Hydrology Contributors Leonard D Baver and others New York Dover Publications, Inc, 1949 712 p illus 24 cm (National Research Council Physics of the earth, IX) $2 95 1686

Contents. Introduction, by O E. Meinzer Precipitation by M. Bernard. Evaporation from free water surfaces, by S. T Harding. Snow and snow surveying ice, by J E. Church. Glaciers, by F E. Matthes. Lakes, by S. T Harding. Infiltration, by L. K. Sherman and G. W Musgrave. Transpiration and total evaporation, by C. H. Lee. Soil moisture, by K. v Terzaghi and L. D Baver. Ground water by O E. Meinzer and L. K. Wenzel. Runoff, by *A. F Meyer and others. Droughts, by W G Hoyt. Physical* changes produced by the water of the earth, by W H. Twenhofel and others. Hydrology of limestone terranes, by A. C. Swinnerton. Hydrology of lava-rock terranes, by H T Stearns. Index.

Note This work was originally published in 1942 as part of series prepared under the sponsorship of the National Research Council. Most of the series is now out of print, and the present volume is a reprint without change in text. It presents detailed technical survey of the knowledge of hydrology as it existed circa 1941 The arrangement is based on the hydrologic cycle as nearly as practicable. After description of the basic principles of precipitation and evaporation, the processes of storage and transfer of water are covered. *References* to the pre-1942 literature are given at the end of each chapter The volume is of interest to such readers as civil and military engineers and geologists who are not specialists in hydrology

UNITED STATES FEDERAL INTER AGENCY RIVER BASIN COMMITTEE
Annotated bibliography on hydrology 1941–1950 (United States and Canada) Prepared by the American Geophysical Union, National Research Council of the National Academy of Sciences in cooperation with the Subcommittee on Hydrology Federal Inter Agency River Basin Committee Washington, D C Government Printing Office, 1952 408 p 25 cm. (Subcommittee on Hydrology Notes on hydrologic activities. *Bulletin no 5) $1 75* 1687

—— Annotated bibliography on hydrology (1951–54) and sedimentation (1950–54) United States and Canada Compiled and edited under the auspices of the Subcommittee on Hydrology and Sedimentation, Inter Agency Committee on Water Resources, by the American Geophysical Union, National Research Council of the National Academy of Sciences, Washington, D C. Washington, D C Government Printing Office, 1955 207 p 25 cm. (Joint hydrology sedimentation bulletin No 7) $1.25 1688

Note: Comprehensive bibliographies of journal articles, books, *university dissertations, etc., bearing on hydrology and sedimentation* in the United States of America and Canada, and published during the years given in the titles. The arrangement is by author, with subject indexes in each volume. The literature on sedimentation prior to 1950 was covered in the Federal Inter-Agency River Basin Committee, Subcommittee on Sedimentation's *Annotated bibliography on sedimentation* 1950.

WARING, GERALD ASHLEY, AND OSCAR E. MEINZER
Bibliography and index of publications relating to ground water prepared by the Geological Survey and cooperating agencies Washington, D C. Government Printing Office 1947 412 p 23 cm. (United States. Geological Survey Water supply paper 992) $1 00 1689

Contents Introduction. Bibliography: Water-supply papers. Annual reports. Monographs. Professional papers. Bulletins. Mineral resources. Geologic folios. Reports published by cooperating agencies. Mimeographed and other duplicated reports. Journal articles. Index.

Note In effect second edition of the bibliography published in 1918 as Water-supply paper 427 (*Bibliography and index of the publications of the United States Geological Survey relating to ground water* by O E. Meinzer) Lists total of 1 777 papers published between 1885 and 1946, including all listed in the 1918 bibliography and 1 168 issued since then In addition to author, title, and other publication information, each entry contains a brief abstract or notation of its references to ground water

Note: The report of an investigation designed "(1) to describe sequences of Upper Cretaceous and Lower Tertiary strata that outcrop in the [illegible] section [illegible] of the [illegible] and that should serve as control for subsequent stratigraphic and micro-paleontologic investigations of North Africa, (2) to place on record the common Foraminifera of the Upper Cretaceous (Unit A) and the basal Tertiary (Unit B) of the section, and (3) to present detailed analysis of the small Foraminifera of the Esna shale (Unit B)." Most of the space is devoted to systematic descriptions of the species of Foraminifera found in the section. They are supplemented by 13 plates, all but two of which are reproduced from drawings of the Foraminifera described.

McKee, Edwin D

Stratigraphy and history of the Moenkopi formation of Triassic age New York The Geological Society of America, 1954 133 p. illus. 25 cm. (The Geological Society of America. Memoir 61) $3.00 1702

Contents: Abstract. Introduction. General character. Stratigraphic traverse from Southwestern Utah to Northeastern Arizona. Moenkopi deposits other than along traverse. Regional stratigraphy. Vertebrates and [illegible]. [illegible]. Organic structures. Fossils. Environment of Moenkopi. Descriptions of sections. References cited. Index.

Note: The geological formation studied in this work lies in the southwestern portion of continental United States of America and is of interest largely because of its fossil content. The object of the study was "(1) to bring together as many data as possible bearing on the paleogeography of the time and the environment in which the vertebrate animals lived, (2) to check the [illegible] based on study of the vertebrates with those based on [illegible] of [illegible] at various horizons in the formation." Included are 13 plates containing reproductions of photographs of structures, rocks, etc. Also of special interest are 40 pages of descriptions of sections, including measurements of strata.

Matthew William Diller

Paleocene faunas of the San Juan basin, New Mexico. Philadelphia The American Philosophical Society 1937 510 p. illus. 30 cm. (American Philosophical Society Transactions New series. Vol. 30) $5.00. 1703

Contents (abridged): Part I. Introduction. Historical review of discovery and [illegible]. Stratigraphic relations of the Cretaceous and Paleocene formations in the San Juan basin. Comparative list of Puerco and Torrejon mammals, of Wasatch and [illegible] mammals. Part II. Systematic and descriptive revision of the Paleocene mammals of New Mexico. [illegible]. Order Carnivora. [illegible]. Creodonta. [illegible]. Order [illegible]. Part III. General observations and conclusions. Salient characters of Puerco and Torrejon mammals. The Paleocene [illegible]. Order [illegible]. Correlation of the Puerco and Torrejon faunas. Origin and relationships of the Tertiary Mammalia. Comparative list of [illegible] with Paleocene faunas of San Juan basin and vicinity. Index.

Note: The report is based in part upon material in the Cope Collection of the American Museum of Natural History and in part upon the collections made in that region by several American Museum expeditions, culminating in that of 1913, which added to the material nearly [illegible] and [illegible]. [illegible] representing various orders and archaic families of placental mammals. The fauna belongs to the two earlier phases of the Paleocene epoch, [illegible] following that of the great reptiles of the Mesozoic era and preceding the Lower Eocene phase, when the direct ancestors of the horses, tapirs, rhinoceroses, ruminants and other progressive placental families first became established in western North America.

Newell, Norman D., and others

The Permian reef complex of the Guadalupe Mountains region, Texas and New Mexico a study in paleoecology By Norman D Newell, J Keith Rigby Alfred G. Fischer A. J Whiteman, John E. Hickox, and John S Bradley San Francisco W. H. Freeman & Company 1953 236 p. illus. 24 cm. $7.50 1704

Contents: Introduction. Geologic setting of the reefs. Stratigraphy. Reef complex and associated sedimentary phases. Sedimentary petrology of the Capitan Reef complex and associated rocks. Paleoecology of the Permian rocks. Permian reef oil. Appendix. References. Localities. Check lists of fossil species. Index.

Note: The fossil reefs [illegible] which were the subject of this study are not only extensive but are well displayed. They have been extensively studied largely because petroleum has been found in association with buried Permian organic reefs in adjacent regions. Most of the studies, however, have been concerned with physical stratigraphy and regional geology. In contrast, the present study centered on an investigation of the environmental conditions which gave rise to the reefs and to the fossil life found in them. It was based on intensive field and laboratory work extending over two years and conducted from the viewpoint of basic science. A chapter on petroleum is included, but it is only three pages long. The results are related to the previous work of other researchers and there is [illegible] bibliography. There are 77 figures in the text and 32 plates.

Newell, Norman D and others

Upper Paleozoic of Peru by Norman D Newell, John Chronic, and Thomas G. Roberts New York The Geological Society of America, 1953 276 p. illus. 25 cm. (The Geological Society of America. Memoir 58) $4.00 1705

Contents: Part I. Formations and geologic history by N. D. Newell and others. Introduction. Stratigraphy. Basal complex. Pre-Mississippian shales. Upper [illegible]. Fossil zones. Stratigraphic sections. Localities. Part II. Invertebrate paleontology (excepting fusulinids and corals) by J. Chronic. Summary of Upper Pennsylvanian faunas. Permian faunas. Systematic paleontology. Brachiopoda. Bryozoa. Mollusca. Echinodermata. Part III. Fusulinids, by T. G. Roberts. Previous studies of Peruvian fusulinids. Method of study. Age of the faunas. Check list of species and localities. Check list of localities and species. Systematic paleontology. Bibliography. [illegible] of Peruvian fusulinids. Selected bibliography. Explanation of plates. Index.

Note: The detailed treatment in three parts is based upon reconnaissance [illegible] of the Upper Paleozoic sedimentary rocks and their fossils in the Peruvian Andes, [illegible] are found extremely thick and extensive sequences of [illegible] Upper Paleozoic rocks. The work was in part instigated by growing interest in the petroleum prospects in the area. The marine invertebrates described and pictured from the Permian and Pennsylvanian show affinities with the faunas of Brazil and the United States of America.

Northrop Stuart Alvord

Paleontology and stratigraphy of the Silurian rocks of the Port Daniel-Black Cape region, Gaspé New York The Society 1939 302 p. illus. 24 cm. (Geological Society of America. Special papers No 21) $2.50 1706

Contents: Part I. Introduction. Part II. General geology. Part III. Stratigraphy of the Chaleur series. Part IV. Systematic paleontology. Works to which reference is made. Index.

Note: A monograph summarizing the geologic structure and stratigraphy of the region, together with [illegible] descriptions of the species and genera of fossil forms, including new specimens of cephalopods, and the entire Chaleur series. With geologic map of the area and 28 pages of photographs.

Rasetti Franco

Middle Cambrian stratigraphy and faunas of the Canadian Rocky Mountains (with 34 plates) Washington D C. The Smithsonian Institution, 1951 277 p. illus. 24 cm. (Smithsonian miscellaneous collections. Vol. 116 no. 5 Publication 4046) $2.50. 1707

a book that falls between the journalistic popularization and the textbook of the subject. There are 48 illustrations from line drawings.

VARIOUS REGIONS

AMSDEN, THOMAS WILLIAM

Stratigraphy and paleontology of the Brownsport formation (Silurian) of western Tennessee. New Haven Yale University Press, 1949 138 p illus. 27 cm. (Peabody Museum of Natural History, Yale University Bulletin 5) $5 00 1695

Contents Introduction. Summary of previous investigations. Stratigraphy General discussion—underlying Dixon formation—overlying *Decatur formation—Brownsport formation. Stratigraphic and* geographic distribution of the fauna. Correlation. Catalogue of localities and of fossil collections. Description of genera and species. Bibliography Index.

Note. The Brownsport formation is noted as a source of Silurian fossils hence this work has considerable paleontological interest. It is based largely on field work and represents a detailed study of both stratigraphy and paleontology The descriptions of genera and species of fossils are presented in the traditional style and include literature references, morphological descriptions, and precise information on distribution. The illustrations include several stratigraphic maps and 34 plates of reproductions of fossils.

CLARK, BRUCE LAWRENCE, AND J WYATT DURHAM

Eocene faunas from the department of Bolivar, Colombia. New York Geological Society of America 1946 126 p illus 25 cm. (*Geological Society of America. Memoir 16*) $2 10 1696

Contents. Previous work. General statement. Part I The molluscan faunas, by B L. Clark. Part II Corals, by J W Durham. Description of localities. Bibliography Explanation of plates. Index.

Note *As indicated in the title*, this monograph contains descriptions of invertebrate fossils collected from the Middle to Upper Eocene strata of western Colombia. The work is intended for paleontologists and petroleum geologists. Most of the species described are also illustrated.

GRABAU, AMADEUS WILLIAM, *AND OTHERS*

The Permian of Mongolia a report on the Permian fauna of the *Jisu Honguer limestone* of Mongolia and its relations to the Permian *of other parts of the world with a chapter on* the relations of the Jisu Honguer formation *to the general geology of Mongolia*, by Charles P Berkey and Frederick K. Morris with 72 *illustrations in the text and 35 plates at end* of volume. New York American Museum of Natural History 1931 665 p illus 28 cm (Central Asiatic expeditions of the American Museum of Natural History Natural history of Central Asia. Vol IV) $10 00 1697

Contents (abridged) General introduction with chapter by Berkey and Morris on the *relations of the Jisu Honguer formation* to the general geology of Mongolia. Description of the genera and species of the Jisu Honguer limestone fauna of Mongolia. *Stratigraphic and faunal relations of the Jisu Honguer limestone* to the Permian formations of other regions. Appendices and list of specimens used in the descriptions of the fauna. Bibliography Index.

Note. This volume deals primarily with the description of fossil invertebrate species, nearly half of them new collected from limestone of Permian age at Jisu Honguer Mongolia, and with the correlation of the various Mongolian horizons of Permian age with those in various parts of the Eurasiatic world.

HOWELL, BENJAMIN FRANKLIN

Revision of the Upper Cambrian faunas of New Jersey New York The Geological Society of America, 1945 46 p. illus. 25 cm. (Geological Society of America. Memoir 12) $1 00 1698

Contents General statement. Lower Kittatinny trilobites at Carpentersville. Lower Kittatinny *fauna at Peapack*. Upper Kittatinny faunas. Age of the faunas. References cited. Explanation of plates. Index.

Note. A report of paleontologic research that has led the author to believe that the Upper Cambrian strata referred to in the older literature as the Kittatinny should be subdivided into stratigraphic members. The results of the author's studies have already been incorporated in his chart, *Correlation of the Cambrian formations of North America*, and the present memoir contains descriptions and photographs of the fossils upon which they were based.

KLEINPELL, ROBERT MINSSEN

Miocene stratigraphy of California. Tulsa, American Association of Petroleum Geologists, 1938 450 p. illus. 23 cm. $5 00 1699

Contents (abridged) The Reliz Canyon section General stratigraphy The Foraminifera. Paleogeographic significance of the foraminiferal assemblages. Correlation and age Historical summary of foraminiferal data. Analysis of stratigraphic distribution. *Chronologic-biostratigraphic classification of the marine* Middle Tertiary of California. Formational correlations within the California province *Age of California stage sequence* with respect to *European Tertiary columns. Systematic catalogue.* Index.

Note The systematic catalogue with 21 plates of illustrations occupies about two-thirds of the text and places in their proper systematic, geographic, and stratigraphic relationships the various Foraminifera which have been recorded from the California Miocene in this and previous publications. No taxonomy has been undertaken beyond establishing the systematic interrelationships of the California Miocene forms which have a distinct bearing on the stratigraphic aspects of the problem. In addition to figuring the Foraminifera from Reliz Canyon and recording their stratigraphic distribution, the writer has tried to ascertain from faunal assemblages as much as possible concerning the geologic history of the area. Five large-scale diagrams and charts are included, and there are bibliographical footnotes.

KNECHTEL, MAXWELL M , AND OTHERS

Mesozoic fossils of the Peruvian Andes. *Baltimore* Johns Hopkins Press, 1947 150 p illus 24 cm. (Johns Hopkins University *studies in geology* no. 15 J T Singewald, jr editor) $4 00 1700

Contents Part I Introduction, by M. M. Knechtel and E. F Richards. List of collections. Description of collecting localities, by J T Singewald, jr. Part II, Echinoidea, Pelecypoda and Gastropoda, by E. F Richards. Part III, Cephalopoda, by M. M Knechtel. Part IV Crustacea, by M. J. Rathbun. Bibliography Description of plates. Plates.

Note The morphology and taxonomy of fossils of invertebrate fossils. The papers *collected here provide descriptions* of Peruvian Mesozoic fossils obtained mostly in expeditions led by the editor of the volume and now housed at the Johns Hopkins University or the *United States National Museum*. They were originally prepared as doctoral dissertations and are reprinted here to aid current paleontological studies in the same region.

LEROY L W

Biostratigraphy of the Maqfi section, Egypt. New York The Geological Society of America, 1953 66 p. illus 25 cm. (Geological Society of America. Memoir 54) $1 75 1701

Contents Abstract. Introduction. *Stratigraphic and paleontologic* summary of the Maqfi section. Upper Cretaceous. Lower Tertiary Comments on local correlation. Conclusions. Description of the Foraminifera. References cited.

the physical environment. The bibliography lists 443 references to the world literature published between 1700 and 1938. There are 400 drawings and photographs of specimens and stratigraphic correlation chart.

WEAVER, CHARLES EDWIN
Paleontology of the marine Tertiary formations of Oregon and Washington. Seattle University of Washington Press, 1943 789 p. illus. 25 cm. (University of Washington publications in geology Vol. 5 December 1943) $15.00 1713

Contents: Part I, Coelenterata, Vermes, Echinodermata, Molluscoidea, Mollusca, Pelecypoda, Scaphopoda. Introduction. Previous work. Correlation table. Description of species. Part II, Mollusca, Gastropoda, Cephalopoda, Arthropoda: Description of species. Additional species. Part III, Bibliography. Faunal localities. Correlation chart. Faunal tables. List of new names. Index

Note: The purpose of this monograph is to place on record the marine invertebrate faunas of the Tertiary formations in Oregon and Washington, with original and supplementary descriptions of the species and illustrations of the holotypes and with better preserved topotype and hypotype material. Due to the greater refinement in biologic classification in recent years many of the earlier descriptions and identifications of genera and species have undergone much revision. The present work attempts to bring these changes up to date and to illustrate the biologic characters of the holotypes of the Tertiary faunas based on collections in the several museums and paleontological institutions in different parts of the United States. The bibliography lists 116 references published between 1837 and 1942. There are 104 plates of photographs. Each of the three parts is bound separately but paged continuously and sold as a set.

WEAVER CHARLES EDWIN
Tertiary stratigraphy of western Washington and northwestern Oregon. Seattle University of Washington 1937 266 p. illus 25 cm. (University of Washington. Publications in geology Vol. 4) $7.50 1714

Contents (abridged) Stratigraphy. Pre-Tertiary formations. Cretaceous. Tertiary. Eocene of western Washington. Puget group. [illegible] formation. Cowlitz formation. Oligocene: [illegible] nomenclature. Stratigraphy of critical oil areas. Miocene. Clallam formation. Astoria formation. Faunal relations. Associated igneous rocks. Pliocene. Montesano formation. Quinault formation. [illegible] formation. [illegible] formation. Geologic structure. Geologic history. Bibliography. Tertiary faunal localities in Washington and Oregon.

Note: A detailed study of the Tertiary stratigraphy and paleontology of western Washington and part of northwestern Oregon. It includes an extensive series of maps and a bibliography of the pertinent literature down to approximately the end of 1934. Out of print for many years, it was reissued in 1937

VARIOUS GROUPS

BASSLER, RAY SMITH AND MARGARET W MOODEY
Bibliographic and faunal index of Paleozoic pelmatozoan echinoderms. New York Geological Society of America, 1943 734 p. 25 cm. (Geological Society of America. Special papers. No 45) $5 70 1715

Contents: Systematic classification of Paleozoic Pelmatozoa. Faunal lists of species. Bibliography of genera and species. Classification of fragmentary crinoidal remains. "Collective group" names.

Note: The index and bibliography is based on the original work of Dr Frank Springer, authority on Paleozoic crinoids. It not only provides an index to the literature of Paleozoic pelmatozoan echinoderms, but also records the geological occurrence of the species

BASSLER, RAY SMITH AND BETTY KELLETT
Bibliographic index of Paleozoic Ostracoda. New York Geological Society of America, 1934 500 p illus. 25 cm (Geological Society of America. Special papers. No. 1) $3.00 1716

Contents (abridged) General considerations. Classification and diagnosis. Faunal lists. Bibliography. Catalogue of genera and species.

Note: An illustrated bibliographic index and synonymic catalogue of fossil Ostracoda. Genera and species are listed in an alphabetical order and each entry is followed by a list of publications from circa 1840 to early in 1934, in which the genus or species has been mentioned or discussed.

BRANSON, CARL COLTON
Bibliographic index of Permian invertebrates New York Geological Society of America, 1948 1,049 p. 25 cm. Geological Society of America. Memoir 26) $9.50 1717

Note: A guide to descriptions and illustrations of all genera, species, and variety of Permian invertebrates which have appeared in available literature through June 1944. The arrangement is by large taxonomic unit, and then alphabetically by genera and species. Bibliographic information including the source of the description, author, and date is given for each generic and specific name. The stratigraphic level and locality are also indicated. All references cited in the index are arranged alphabetically by author at the end of the volume.

BROWN BARNUM AND ERICH M SCHLAIKJER
The structure and relationships of Protoceratops. New York The New York Academy of Sciences, 1940 132 p. illus. 24 cm. (New York Academy of Sciences. Annals. Vol. XL, art. 1) $1 50. 1718

Contents: Introduction. Comparative study of the skull elements. The endocranial cast of *Protoceratops* and a comparison of it with that of later ceratopsians. Summary of the salient growth changes in the skull. Summary of the primitive characters of the skull. Comparative study of the lower jaw. Summary of the salient growth changes in the lower jaw. Summary of the primitive characters of the lower jaw. Comparative study of the teeth. Measurements of the skull and lower jaw. Comparative study of the vertebral column. Comparative study of the ribs and sternum. Comparative study of the appendicular skeleton. Measurements of the appendicular skeleton. Summary of the salient growth changes in the post cranial skeleton. Summary of the primitive characters of the post cranial skeleton. Ontogenetic characters of *Protoceratops* that foreshadow the evolution of later ceratopsians. The eggs of *Protoceratops*. The integument of *Protoceratops*. The family Protoceratopsidae. Appendix. Bibliography

Note: A detailed study of the anatomy and skeletal structure of this dinosaur of the order Ornithischia, based on a thorough re-examination of all the ceratopsian material in the American Museum of Natural History and by reference to the more important specimens in other large museums. There are 33 text figures and 15 plates of photographs.

BROWN BARNUM AND ERICH M SCHLAIKJER
A study of the troödont dinosaurs with the description of a new genus and four new species. New York American Museum of Natural History 1943 44 p. illus 27 cm. (American Museum of Natural History Bulletin Vol 82 article 5) $0 75 1719

Contents: Introduction. Systematic description and comparative study: Order Ornithischia. Suborder Ornithopoda. Family Troödontidae Gilmore. The origin of the dome of the troödont dinosaur skull. The troödont dinosaur skeleton. Affinities of the troödont dinosaurs. References.

Note: A comparative study of all the known troödont specimens, based upon an examination of 43 of the 44 specimens deposited in the American Museum of Natural History the United

Contents Part I Stratigraphy Introduction. Summary of previous work. Method of work. Description of localities and sections Terminology Bow Lake. Hector Creek. Slate Mountains. Mount Niblock. Mount Whyte—Plain of Six Glaciers. Ross Lake. Mount Bosworth. Mount Victoria. Cathedral Mountain. Popes Peak. Eiffel Peak Mount Temple. Pinnacle Mountain. Mount Schaffer Mount Odaray Park Mountain. Mount Field Kicking Horse Mine. Mount Field. Burgess Quarry Mount Stephen. Cambrian formations Lower Cambrian St. Piran sandstone. Middle Cambrian Mount Whyte formation. Cathedral formation. Stephen formation. Faunas General statement. Fauna of the *Bonnia-Olenellus* zone. Lower Middle Cambrian boundary Fauna of the *Wenkchemnia-Stephenaspis* zone. Fauna of the Plagiura-Kochaspis zone. Fauna of the *Albertella* zone. Fauna of the *Glossopleura* zone. Fauna of the *Bathyuriscus-Elrathina* zone. Order of *succession* of the faunules. Species not discussed in this paper Geographic and vertical distribution of trilobites. Environment of deposition. Index of localities. Part II Paleontology General statement. Terminology Classification of Cambrian trilobites. Descriptions of genera and species of trilobites Order Agnostida. Order Redlichiida. Order Opisthoparida. References. Explanation of plates. Plates. Index.

Note The area covered in this study is famous for the great development, high fossil content, and splendid exposures of the entire Cambrian system. The publication is based upon the findings and results of field work in the region covering four months in 1947 and 1948. The work is divided into two parts of equal size one covering the stratigraphy the other the paleontology of the area. The *trilobite fossils described and illustrated* were selected from approximately 4,000 collected by the writer and from others preserved in the United States National Museum collections. These fossils give a clear idea of the succession of trilobite faunas that followed the *Olenellus* fauna and preceded the *Albertella* fauna.

RICHARDSON, EUGENE S, JR

Pennsylvanian invertebrates of the Mazon Creek area Illinois Chicago Chicago Natural History Museum 1956 76 p illus 23 cm (Chicago Natural History Museum Fieldiana Geology Vol. 12 no 1–4) $2 00 1708

Content Introduction. Marine fauna. Trilobitomorpha. Arthropleurida.

Note Four papers on the fossil invertebrate fauna of the Middle Pennsylvanian Francis Creek shale in Will and Grundy counties in the state of Illinois, an area in which much strip mining of coal has been done, are published in this volume. For the most part the material studied and described is from the strip-mine dumps. Although plant remains—which are not described in these papers—predominate in the material studied, there is also a numerous representation of small animals that lived on an aggrading plain, above sea level but not far above it, and near shore. Photographs and drawings of specimens and literature references are included.

ROY, SHARAT KUMAR

The Upper Ordovician fauna of Frobisher Bay, Baffin Land Chicago Chicago Natural History Museum 1941 212 p illus 32 cm (Chicago Natural History Museum Geology memoirs Vol 2) $3 50 1709

Contents Narrative of the Expedition with notes on coastal geology of Labrador and Baffin Land. Description of fossils. Incertae sedis. Phylum Coelenterata Class Anthozoa. Phylum Echinodermata Class Cystoidea. Class Crinoidea. Phylum Molluscoidea. Class Bryozoa. Class Brachiopoda Phylum Mollusca Class Pelecypoda. Class Gastropoda. Class Cephalopoda Phylum Arthropoda Class Crustacea Synopsis of fauna. Previous collections from Silliman's Fossil Mount. Age of Silliman's Fossil Mount. Bibliography Index.

Note The data and material upon which this paper is based were collected by the author during 1927 and 1928 while serving as geologist of the Rawson-MacMillan Expedition of the Field Museum to Labrador and Baffin Land. His chief task was to collect fossils from Silliman's Fossil Mount in Baffin Land and to make observations on the geology of the coasts visited. The main subject matter of the memoir consists of the description and the determination of the stratigraphic range of the fossils collected at Silliman's Fossil Mount. The narrative chapter at the beginning gives a bird's-eye view of the expedition as a whole. The work contains 146 illustrations, most of them from photographs.

SHIMER, HERVEY WOODBURN, AND ROBERT R SHROCK

Index fossils of North America a new work based on the complete revision and reillustration of Grabau and Shimer's "North American index fossils" New York John Wiley & Sons, Inc., and the Technology Press of the Massachusetts Institute of Technology 1944 837 p illus 28 cm. $22 00 1710

Contents Introduction. Protozoa. Porifera. Coelenterata Echinoderma. Worms—Annelida (Annulata) Conodonts. Bryozoa (Polyzoa) Brachiopoda. Mollusca. Arthropoda. Fossil plants. Miscellaneous objects of probable organic origin. Index.

Note A comprehensive description of invertebrate fossils which are used to identify and date geologic formations and strata of North America. While this volume resembles Grabau and Shimer's *North American index fossils*, New York, 1909–10, in general purpose and content, the extensive revision and introduction of new material actually make it a new work. The fossils are grouped into nine divisions or phyla with a further break-down by genera and species. There is a general description of each phylum, and in the case of genera and species, stratigraphic range and geographic distribution are indicated. The acknowledgments of material which has been contributed by specialists or obtained from other publications provide an extensive bibliography These are supplemented by a list of the standard reference works used for research in geology and paleontology The illustrations and diagrams, which serve as a valuable adjunct to the text, occur in most cases after every page of text. Separate indexes to genera and species are provided.

STOYANOW, ALEXANDER

Lower Cretaceous stratigraphy in southeastern Arizona. New York Geological Society of American, 1949 169 p 26 cm. (Geological Society of America. Memoir 38) $2.50. 1711

Content Abstract. Introduction and acknowledgments. General part. Paleontological part—Pelecypoda—Ammonoidea. References. Explanation of plates. Index.

Note A detailed professional study of the stratigraphy and paleontology of an area in southeastern Arizona which is especially rich in ammonite and lamellibranch faunas. Twenty-one new species of ammonites and 22 of lamellibranchs are described. The work is based on a field study and also on a study of several museum and private collections. There are 26 plates, the majority of which contain reproductions of photographs of specimens. One plate is an original geological map of the area.

WEAVER, CHARLES EDWIN

Paleontology of the Jurassic and Cretaceous of west central Argentina. Seattle University of Washington Press 1931 594 p. illus. 34 cm. (University of Washington Memoirs Vol 1) $15 00 1712

Content Introduction. Geography Stratigraphy Geologic formations Paleozoic Leon Mahuida granite. Triassic. Jurassic. Lower Cretaceous. Middle Cretaceous diastrophism. Post Cretaceous history Faunal localities in west central Argentina. Faunal table for the Jurassic and Lower Cretaceous. Literature. Description of species.

Note. A monograph presenting the results obtained from field and laboratory investigations of the Jurassic and Cretaceous formations and faunas in the area lying approximately between the parallels 32 and 40° south latitude and the meridians 41 and 72 west of Greenwich. This area constitutes a single great stratigraphic and faunal province, and it was the desire of the author to investigate the faunas in their relations to former changes in geographic environments as interpreted by the stratigraphy and to compare these faunas with those in similar provinces in the Andean region of South America as well as in Europe, Asia, and South Africa. From the data presented, it is held possible to interpret the history of the physical changes in the environment throughout the entire basin of deposition for each of the epochs during the Jurassic and Cretaceous. After a biological analysis of the faunas of each formation an attempt is made to determine the relations between the variations in the faunas in different parts of the embayment and their adaptation to the interpreted continental changes in

Dalmanellidae. Bibliography. Index. Part II, Plates: Explanation of plates. Plates 1–349.

Note: The monograph describes and illustrates the fossil brachiopods of the Chazyan division of the Ordovician period, including Chazy forms with related Black River and Trenton types. It is based upon collections of fossils made by the author and others in an imposing sequence of rocks in the Appalachians and other parts of North America. In the first volume, in taxonomic order, appear the detailed descriptions of the various genera and species. Most of these genera are pictured in the plates in the second volume.

CUSHMAN, JOSEPH AUGUSTINE

Foraminifera: their classification and economic use. Fourth edition, revised and enlarged, with an illustrated key to the genera. Cambridge, Mass., Harvard University Press, 1948. 605 p. illus. 24 cm. $12.50 1727

Contents: The living animal. The test. Collecting and preparing material. Methods of study. Economic use. Geographic distribution. Geologic distribution. Trimorphism. Classification. Research problems concerning the Foraminifera. Systematic arrangement of the Foraminifera. Bibliography. An illustrated key to the genera of the Foraminifera. Index.

Note: A standard work known throughout the world. It provides an annotated, systematic description of families, genera and species of Foraminifera. The first edition was published in 1928 and the third in 1940. In the case of each succeeding edition, revisions have been made so as to include descriptions of Foraminifera reported in the literature published since the preceding edition. In the case of the fourth edition, an eight-year interval was involved, and the necessary additions were numerous, even though the author omitted some reported new genera which he felt required further study. The volume is 70 pages longer, the classified bibliography runs to 67 pages, and there are 55 plates, each containing from 11 to 33 illustrations.

CUSHMAN, JOSEPH AUGUSTINE

Paleocene Foraminifera of the Gulf Coastal region of the United States and adjacent areas. Descriptions and illustrations of smaller Foraminifera from the Gulf Coastal region, Cuba, Central America, Haiti and Trinidad. Washington, D. C., Government Printing Office, 1951. 75 p. illus. 29 cm. (United States. Geological Survey. Professional paper 232) $1.75 1728

Contents: Introduction. List of localities. Systematic descriptions: Rhizamminidae. Ammodiscidae. Lituolidae. Textulariidae. Verneuilinidae. Valvulinidae. Miliolidae. Ophthalmidiidae. Trochamminidae. Placopsilinidae. Lagenidae. Polymorphinidae. Nonionidae. Buliminidae. Rotaliidae. [illegible] Amphisteginidae. Cassidulinidae. Chilostomellidae. Globigerinidae. Globorotaliidae. Anomalinidae. Index. Plates.

Note: Describes and illustrates the Foraminifera from the Paleocene of the Gulf Coastal Plain, including parts of Texas, Arkansas, Mississippi, Alabama, and Tennessee, and related areas of Trinidad, Cuba, Haiti, and Central America. About 200 species and varieties are recorded, and nearly all are illustrated on the 24 photographic plates. Many of the species are considered excellent index fossils for study of the Paleocene.

CUSHMAN, JOSEPH AUGUSTINE

Upper Cretaceous Foraminifera of the Gulf coastal region of the United States and adjacent areas. Washington, D. C., Government Printing Office, 1946. 241 p. illus. 29 cm. (United States. Geological Survey. Professional paper 206) o.p. 1729

Contents: Introduction. List of localities. Systematic descriptions: Astrorhizidae. Rhizamminidae. Saccamminidae. Hyperamminidae. Reophacidae. Ammodiscidae. Lituolidae. Textulariidae. Verneuilinidae. Valvulinidae. Silicinidae. Miliolidae. Trochamminidae. Ophthalmidiidae. Lagenidae. Polymorphinidae. Nonionidae. Camerinidae. Heterohelicidae. Buliminidae. Ellipsoidinidae. Rotaliidae. Cassidulinidae. Chilostomellidae. Globigerinidae. Hantkeninidae. Globorotaliidae. Anomalinidae. Plates 1–66. Index.

Note: Collections on which this paper is based are largely from the Upper Cretaceous of Texas, where a succession of Foraminifera-bearing strata are exposed; material was also available from Louisiana, Arkansas, Tennessee, Mississippi, and Alabama, and is included, along with records from adjacent areas. Nearly 400 species and varieties are recorded, with description, locality, and bibliographical references, and nearly all are illustrated in the section of plates. Many of the species are known to be excellent index fossils.

DALL, WILLIAM HEALEY, AND OTHERS

A manual of the recent and fossil marine pelecypod mollusks of the Hawaiian Islands, by William Healey Dall, Paul Bartsch, and Harald Alfred Rehder. Honolulu, Hawaii, Bernice P. Bishop Museum, 1938. 233 p. illus. 25 cm. (Bernice P. Bishop Museum. Bulletin 153) $5.00 1730

Contents: Introduction. Phylum Mollusca. Class Pelecypoda. Order Taxodonta: Superfamily Nuculoidea. Superfamily Arcoidea. Order Dysodonta: Superfamily Mytiloidea. Superfamily Pterioidea. Superfamily Pectinoidea. Order Heterodonta: Superfamily Carditoidea. Superfamily Lucinoidea. Superfamily Cyrenoidea. Superfamily Chamoidea. Superfamily Leptonoidea. Superfamily [illegible]. Superfamily Cardioidea. Superfamily Veneroidea. Superfamily Mactroidea. Superfamily Tellinoidea. Order Desmodonta: Superfamily Saxicavoidea. Superfamily Gastrochaenoidea. Superfamily Adesmoidea. Suborder Anomalodesmacea: Superfamily Pandoroidea. Superfamily Poromyoidea. Index.

Note: Intended mainly as a technical manual of the Hawaiian species of marine pelecypod mollusks, which is to serve the people of Hawaii for the determination of their mollusks. General discussion of general relationships with congeners from other corners of the world has been purposely avoided as beyond the scope of the present paper. The material is based on the United States National Museum collection of Hawaiian marine mollusks, the collections made by the U.S. Bureau of Fisheries at much greater depth, and the specimens collected by the authors. There are 58 plates of photographs.

DELO, DAVID MARION

Phacopid trilobites of North America. New York, The Geological Society of America, 1940. 135 p. illus. 25 cm. (Geological Society of America. Special papers. No. 29) $1.20 1731

Contents: Introduction and acknowledgments. Summary of previous work. Principles of classification. Evolutionary development. Systematic description: Superfamily Phacopidacea. Family Phacopidae. Family Dalmanitidae. Bibliography. Index.

Note: A study of the North American representatives of the Phacopidacea, including all available types of species previously described and several new types. Redefinition of many old species has been made in order to place them in their proper systematic relationship.

DENISON, ROBERT H

A review of the habitat of the earliest vertebrates. Chicago, Chicago Natural History Museum, 1956. 359–457 p. 23 cm. (Chicago Natural History Museum. Fieldiana: Geology. Vol. 11, no. 8) $1.50. 1732

Contents: Introduction. Determination of early vertebrate environments. Review of early vertebrate occurrences. Systematic review of the habitat and adaptation of early vertebrates. Discussion of early vertebrate habitats. Summary and conclusions. Addendum. References.

Note: A comprehensive review of the problem of whether vertebrates originated in salt water or fresh water. The author describes criteria for determining whether specific sediments containing fossils were deposited by saline waters, then reviews the recorded occurrences of early vertebrates and evaluates them from the standpoint of their pertinence to the problem of origin. He criticizes the views of A. S. Romer, Homer W. Smith, and others, and concludes: [illegible] vertebrates originated in the sea and did not begin to enter fresh water until some time in the Silurian.

States National Museum, and the Academy of Natural Sciences of Philadelphia. The study involves a redefinition of the family Trolobitidae, the description of one new genus and four new species, and a discussion of the affinities of the trolobites.

CARPENTER, FRANK MORTON

The fossil ants of North America Cambridge, Mass The Museum 1930 66 p. illus 24 cm. (Harvard College Museum of Comparative Zoology Bulletin Vol LXX, no 1) $2 00 1720

Note This monograph presents the report of study of about 12,000 specimens of fossil ants obtained from American Tertiary rocks. More than 4 000 of the specimens were among the unworked material collected by Dr S. H Scudder in early expeditions to the Florissant shales and presented by him to the Museum of Comparative Zoology Other specimens had been acquired by the Museum later and material was also loaned for this study by various museums. Fossils from other American insect deposits, particularly those at Green River Wyoming, are included in this study but those from Florissant form the most important source of information. Illustrations consist of 11 plates, chiefly photographs, many of which show holotypes.

CAMP, CHARLES LEWIS, AND OTHERS

Bibliography of fossil vertebrates, 1939–1943 By C L Camp S P Welles, and Morton Green New York The Geological Society of America, 1949 371 p 26 cm (The Geological Society of America. Memoir 37) $4 50 1721

Contents Preface. List of serials and abbreviations. Supplementary list of serials. Author catalogue. Subject index. Systematic index. Synopsis of classification.

—— 1944–1948 By C. L Camp, S P Welles, and Morton Green New York The Geological Society of America 1953 465 p 26 cm (The Geological Society of America. Memoir 57) $5 50 1722

Contents Preface. Supplementary list of serials. Author catalogue. Subject index. Systematic index. Synopsis of classification.

Not A comprehensive bibliography of world literature. It began publication in 1940 with the appearance f C. L. Camp and V. L. Vanderhoof *Bibliography of fossil vertebrates, 1928–1933* (Geological Society of America, *Special papers*, No. 27) and was continued by C L. Camp and others, *Bibliography of fossil vertebrates* 1934–1938 New York, 1942 (Geological Society f America, Special papers. N 42) These first two publications in the series are now out of print. The third and fourth in the series are described above. The subjects covered in the series are vertebrate paleontology and paleolithic anthropology The coverage of writings on artifacts and other remains of early man is not comprehensive, but the criteria for inclusion and exclusion are stated in the volumes (see particularly the preface to the 1944–1948 volume) The indexes in each volume are exceptionally thorough pieces of work.

COLBERT, EDWIN HARRIS

The dinosaur book the ruling reptiles and their relatives. Illustrated by John C Germann with additional illustrations previously published by C R Knight and others New York McGraw Hill Book Company Inc 1951 156 p illus (part col d) 28 cm. (Man and nature publications Handbook no 14) $6 50 1723

Contents Introducing the dinosaurs. Pioneer students of the dinosaurs. Hunting dinosaurs The age of reptiles. The first land animals. Primitive reptiles. The mammal-like reptiles. Ancestors of the dinosaurs. The kinds of dinosaurs. Adaptations of the dinosaurs. Dinosaurian associations. Flight. Sea serpents. Decline of the dinosaurs. The survivors. Why study fossils? Where the dinosaurs and their relatives are found. How the dinosaurs and their relatives are classified and named. Other sources of information. Index.

Note. An informative and entertaining book for anyone interested in dinosaurs. A considerable amount of rather solid paleontological information is incorporated in the text and in the charts and synoptic tables, but all of it has been made readable and vital within the grasp f interested laymen who frequent natural history museums. *Excellent photographs of dinosaur restorations give the* reader a realistic idea of what these reptiles looked like when alive. A glossary and pronounciation guide is included with the index.

COLBERT, EDWIN HARRIS, AND DIRK ALBERT HOOIJER

Pleistocene mammals from the limestone fissures of Szechwan China. New York. American Museum of Natural History, 1953 134, 80 p illus 26 cm (American Museum of Natural History Bulletin Vol. 102, art. 1) $3.50 1724

Contents (abridged) Introduction. Systematic discussion of Yenchingkou fauna Primates. Lagomorpha. Rodentia. Carnivora. Proboscidea. Perissodactyla. Artiodactyla. Bibliography

Note A thorough study of fossil material collected in 1921–1923 and 1925–1926 and constituting one of the most important collections of Pleistocene mammals. The results of the study are presented in detail in a narrative text, 59 tables, 42 text figures and 40 plates. The plates are reproduced from photographs and most of them contain several photographs. Literature references to related publications are included.

COOPER, BYRON N

Trilobites from the lower Champlainian formations of the Appalachian valley New York The Geological Society of America, 1953 69 p illus 25 cm. (The Geological Society of America. Memoir 55) $1 75 1725

Contents Abstract. Introduction and acknowledgments Stratigraphy Materials studied. Classification and terminology Previous work. Description of species. Significance of the trilobites. References cited. Explanation of plates. Index.

Note A study whose purpose was to make available for biostratigraphic use number of trilobite species, most of which have been confused or misidentified previously Forty-five species of lower Middle Ordovician trilobites, including six new genera and three new species, are described and illustrated from the extensive collections in the United States National Museum. Most of these species occur in beds whose age and correlation have been a matter of controversy for more than a decade. The results of the study are related to previous work, and the pertinent publications of other investigators are cited in the two-page list of references. In the species descriptions, more than the usual amount of space is devoted to descriptions of morphology There are 19 plates of reproductions of photographs of specimens.

COOPER G ARTHUR

Chazyan and related brachiopods. Washington D C The Smithsonian Institution, 1956 2 v illus 24 cm (Smithsonian Institution Smithsonian miscellaneous collections. Vol 127 in two parts Publication 4253) $20 00 1726

Contents Part 1, Text Section I The formations: Introduction and stratigraphic setting. Geographic and geologic setting of the formations. Newfoundland, St. Lawrence and Ottawa valleys and adjacent areas. Champlain, Mohawk, and Hudson valleys. The Appalachians (Pennsylvania to Alabama) The Central basin of Tennessee Wells Creek basin, and High Bridge, Kentucky The disturbed area at Kentland, Indiana. The Mississippi valley The Arbuckle and Wichita Mountains, Oklahoma. The Black Hills, South Dakota. The Great Basin—Nevada and California. Formations in Utah. Section II, The fossils General discussion of the fossils. Annotated list of genera and species. Subclass Gastrocaulia Suborder Atremata. Subclass Pygocaulia suborder Orthoidea. Suborder Clitambonitoidea. Suborder Strophomenoidea. Suborder Pentameroidea. Suborder Triplesioidea. Suborder Dictyonelloidea. Suborder Strophomenoidea.

Society of America, 1939 179 p. 25 cm. (Geological Society of America. Special papers. No. 23) $1.20 1740

Contents: Tentative classification of American Devonian cephalopod genera. Bibliography. Catalogue of genera and species. North American Devonian formation names. References.

Note: Intended as the first unit of a bibliographic index to fill the gap between the following two volumes: E. Weller, *A bibliographic index of North American carboniferous invertebrates*, Washington, D.C., United States Geological Survey Bulletin no. 153, 1898 and R. S. Bassler, *Bibliographic index of American Ordovician and Silurian fossils*, Washington, D.C., Government Printing Office, 1915, Smithsonian Institution Bulletin no. 92. Bibliographic references are arranged under genera and species, covering all literature on North American Devonian cephalopods published prior to January 1, 1939. A list of the various North American Devonian formations with their approximate areal distribution and position in the Devonian system is included.

KUMMEL, BERNHARD

American Triassic coiled nautiloids. A study of the classification and evolution of late Paleozoic and early Mesozoic cephalopods, and description of new species. Washington, D.C. Government Printing Office, 1953 104 p. illus 29 cm. (United States. Geological Survey Professional paper 250) $1.25 1741

Contents: Introduction. Occurrence: [illegible] Rocky Mountain region, Nevada, California, Canada, Alaska, Mexico, South America. Classification of late Paleozoic and Triassic nautiloids. Geologic history. Evolution. Systematic paleontology: Family Tainoceratidae Hyatt, 1883. Family Grypoceratidae Hyatt, 1900. Family Syringonautilidae Mojsisovics, 1902. Family Pleuronautilidae Kummel, 1950. Family Clymenoceratidae Hyatt, 1900. Family Gonionautilidae Kummel, 1950. Bibliography. Index. Plates 1–[illegible].

Note: This study reviews the forms and phylogenetic relationships of late Paleozoic and Triassic coiled nautiloids. At the end of each generic discussion, the ranges and geographic distribution of species in each genus are listed. The systematic part of the text includes a discussion and description of all North American species of Triassic coiled nautiloids. As a systematic treatment of an invertebrate group on both sides of the Paleozoic-Mesozoic boundary, the publication is of value not only to paleontologists working in the Triassic but also to all scientists interested in the biological significance of the great systemic boundaries.

LULL, RICHARD SWANN, AND NELDA E. WRIGHT

Hadrosaurian dinosaurs of North America. New York Geological Society of America, 1942 242 p. illus 24 cm. (Geological Society of America. Special papers. No. 40) $2.70. 1742

Contents (abridged): Abbreviations. History of discovery. Geologic distribution. Geographic distribution. Alphabetical list of genera and species. Ecology, habits, and manner of life. Progressive evolutionary trends and phylogeny. General morphology: [illegible], skull, mandible, teeth, vertebral column, ribs, appendicular skeleton, tendons and ligaments, muscular system, integument, pigmentation and pattern, brain and endocranial cast, organs and special senses. Systematic description of genera and species: classification of hadrosaurs, family Hadrosauridae (Trachodontidae). Bibliography. Index.

Note: A study based on a critical review of the extant literature on the subject, attempting in part to reconcile the various descriptions and reduce them to certain comparable common factors. Redescriptions have been prepared, nearly always in the presence of the original types. A complete morphological study of the animals and an account of their distribution in time and space is also given, with notes on their probable phylogeny and evolutionary trends.

MILLER, ARTHUR K., AND WALTER YOUNGQUIST

American Permian nautiloids. New York Geological Society of America, 1949 218 p. illus 26 cm. (Geological Society of America. Memoir 41) $3.60 1743

Contents: Abstract. Introduction and acknowledgments. Previous work. Occurrence. Classification of Permian nautiloids. Systematic paleontology. Addendum. Bibliography. Explanation of plates. Index.

Note: A systematic catalogue of a group of fossils that had not been comprehensively described before the appearance of this work. It is based on a study of the specimens in the United States National Museum, in other museums, and in the possession of geologists associated with universities and oil companies. The descriptive material includes literature references, morphological data, discussions of occurrences, and illustrations of [illegible] (or other) nearly all [illegible] specimens. There are 19 plates each bearing reproduction of one to 12 or more photographs of specimens.

MILLER, ARTHUR K., AND OTHERS

Ordovician cephalopod fauna of Baffin Island. By A. K. Miller, Walter Youngquist, and Charles Collinson. Containing a study of the *Ordovician trilobites from Silliman's Fossil Mount* by Harry B. Whittington. And shorter supplements and notes by Preston E. Cloud, jr., Charles E. Decker, Y. O. Fortier, A. Scott Warthin, jr., and Alice E. Wilson. New York The Geological Society of America, 1954 234 p. illus 25 cm. (The Geological Society of America. Memoir 62) $4.75 1744

Contents: Introduction. General physical geography and geology of Baffin Island. Occurrence and nature of the cephalopod fauna: Silliman's Fossil Mount, [illegible], Amadjuak and Nettilling lakes, Northern Baffin Island (and [illegible] Island). Correlations. Summary and conclusions. Systematic paleontology: Genus *Endoceras* Hall, 1847. Genus *Cyclendoceras* Grabau and Shimer, 1910. [illegible] Ordovician trilobites from Silliman's Fossil Mount, by H. B. Whittington. Ordovician graptolites and cephalopods from Baffin Island, by C. E. Decker. Notes on Paleozoic outliers west of Silliman's Fossil Mount, by Y. O. Fortier (with lists of fossils identified by A. E. Wilson). Bibliography. Explanation of plates [illegible]. Index.

Note: A group of papers concerning the paleontology of southern Baffin Island, where are located remnants of [illegible] limestone and shale formations [illegible]. The cephalopods, which are the most numerous fossils, and the trilobites and the graptolites are described systematically. The fauna is assigned to the early Upper Ordovician age. A 12-page bibliography and a series of 43 plates are included. The work is mostly based upon fossil collections made in the area in 1947.

MILLER, ARTHUR K.

Tertiary nautiloids of the Americas. New York Geological Society of America, 1947 234 p. illus. 25 cm. (Geological Society of America. Memoir 23) $4.50 1745

Contents: Abstract. Introduction and acknowledgments. Previous work. Occurrence. Modern *Nautilus*, its habits, habitat, anatomy and shell. Glossary of shell terminology. Classification of Tertiary nautiloids. Systematic paleontology: Family Nautilidae d'Orbigny

ELLIS, BROOKS F , AND ANGELINA R. MESSINA

Catalogue of Ostracoda. Volumes I VIII. New York American Museum of Natural History, 1952–56 8 v illus 28 cm 1733

Note A monumental work which parallels the Museum well-known *Catalogue f Foraminifera* It has the same format, although the arrangement of the material is different. The basic arrangement is stratigraphic. *First, the Paleozoic* genera and species will be issued, with each volume arranged alphabetically by genera, and within each genus alphabetically by species. When all pre-*dominantly Paleozoic* forms have been issued, Mesozoic and finally Cenozoic forms will be covered additional references to each unit will be issued separately after the completion of the Catalogue this will permit us to compile more complete set of references, and to furnish references to species under all their generic combinations." "Genus units will comprise the type reference, type description, and type species, while species units will cover the *type reference, type figure, type description type level, type locality and type specimen.* Both types of unit will include synonymy *when given by the original author* Illustrations are included in most of the unit descriptions. Completion of the work is about *20* volumes is expected. Volumes I–VIII had been published to the close of 1956.

GARDNER, JULIA ANNA

Mollusca of the Tertiary formations of northeastern Mexico New York Geological Society of America, 1945 332 p illus 25 cm. (Geological Society of America. Memoir 11) $3 90 1734

Contents. Stratigraphic notes General statement. Paleocene series. *Eocene series.* Oligocene series. Miocene series. U S. Geological Survey station numbers. Systematic descriptions: Phylum Vermes. Phylum Mollusca. Class Pelecypoda. Order Prionodesmacea. Order Anomalodesmacea. Order Teleodesmacea. Class Scaphopoda. Class Gastropoda. Order Pectinibranchiata. Subclass Euthyneura Order Opisthobranchia. Order Pteropoda. Subclass Pulmonata. Class Cephalopoda. Order *N* autiloidea. Phylum Arthropoda. Explanation of plates. Index.

Note Old species of Tertiary mollusks from this area are discussed, and new species are described and illustrated in this systematic study An attempt also is made to correlate the fossils described with similar faunas from known areas. The report is based on oil company collections and is written for paleontologists and petroleum geologists.

GARDNER, JULIA ANNA

The molluscan fauna of the Alum Bluff group of Florida. Washington, D C Government Printing Office 1926–50 9 pts illus 28 cm (United States Geological Survey Professional paper 142 A–I) o p 1735

Note The Alum Bluff deposits consist of a series of sand and clays carrying varied and prolific molluscan fauna. Three distinct faunas are recognized in the deposit and, largely on the basis of them, the Alum Bluff is ranked as a group and divided into three formations. The faunal groups covered in Parts to VIII are Part I, Prionodesmacea and Anomalodesmacea Part II, Astartacea, Carditacea, Chamacea Part III, Lucinacea, Leptonacea, Cardiacea Part IV Veneracea Part Tellinacea Solenacea, Mactracea, Myacea, Molluscoidea Part VI, Pteropoda, Opisthobranchia, and Ctenobranchia (in part) Part VII Stenoglossa (in part) Part VIII, Ctenobranchia (remainder) Aspidobranchia and Scaphopoda. Part IX consists of an index to the whole work. All parts except the last contain a series of illustrations of type specimens.

GILMORE, CHARLES WHITNEY

Fossil snakes of North America New York The Geological Society of America, 1938 96 p illus 25 cm (Geological Society of America. Special papers No 9) $0 90 1736

Contents (abridged): Geological distribution of Serpentes in North America. Serpentes skeleton. Genera and species. List of family assignments. Systematic description. Bibliography Index.

Note A monograph summarizing the technical data on the 24 species of fossil snakes so far described by various authorities.

HENDERSON, JUNIUS

Fossil non marine Mollusca of North America. New York Geological Society of America, 1935 313 p 24 cm. (Geological Society of America. Special papers. No. 3) $2 10 1737

Contents Introduction. Systematic list [redacted] species. Remarks and locality lists of species. Systematic annotated catalogue. Bibliography Index.

Note A catalogue of all the species known to the author, except those from post Tertiary deposits, and the intention is to list all references made for all species. The arrangement is systematic rather than alphabetic. There are [redacted] pages of bibliography and a full index.

IMLAY, RALPH W

Callovian (Jurassic) ammonites from the United States and Alaska, descriptions and illustration of cephalopods of late Jurassic age Parts I II Washington, D C Government Printing Office, 1953 108 p illus. 28 cm (United States Geological Survey Professional paper 249A, 249B) Part I $1.25 part II, $1 75 1738

Content Part I Western interior of the United States Abstract. Introduction. Biologic analysis. Stratigraphic summary Faunal zones and correlations. Comparisons with other faunas Ecologic considerations. Geographic distribution. Summary of results. Systematic descriptions. References. Index. Part II, Alaska Peninsula and Cook Inlet regions Abstract. Introduction. Biologic analysis. Stratigraphic summary Age of the faunas Comparisons with other faunas. Ecologic considerations. Geographic distribution Summary of results. Systematic descriptions. References. Index.

Note Ten genera and 38 species and varieties, of which 19 species and one variety are new are described in the first part of this systematic study Nineteen genera and subgenera and 47 species, of which one subgenus and 18 species are new are described in the second part. In both parts the primary emphasis is on the systematic descriptions, but stratigraphic assignment receives a strong secondary emphasis. In the two parts together there are 55 plates, each of which contains several reproductions of photographs of type specimens in natural size (in most instances)

KELLOGG REMINGTON

A review of the Archaeoceti Washington, D C. Carnegie Institution of Washington 1936 366 p illus 29 cm. (Carnegie Institution of Washington Publication no. 482) $4 50 1739

Contents (abridged) Chronological record of discoveries of archaeocete remains. Classification of the Archaeoceti. characters of families, genera and species. Incertae sedis. Geologic range and geographic distribution of the Archaeoceti. Morphologic history f the Archaeoceti. Genetic relations of the Archaeoceti. Literature Index.

Note The Archaeoceti, or toothed whales with nontelescoped skulls, as now recognized, comprise three families, 10 genera, and 19 species. All of these species are discussed, as well as a number f additional forms for which available skeletal remains are not sufficient for accurate determination The descriptive portion deals chiefly with the dental and osteological details of the archaeocetes. The investigation is based chiefly on a review of the archaeocete material in European and American museums.

KINDLE, EDWARD MARTIN AND ARTHUR K. MILLER

Bibliographic index of North American Devonian Cephalopoda. New York Geological

of which are new; four new subfamilies, 45 new genera, and 66 new species. There are 617 drawings and photographs of specimens included.

PETRUNKEVITCH ALEXANDER IVANOVITCH

A study of the structure classification and relationships of the Palaeozoic Arachnida based on the collections of the British Museum. New Haven Connecticut Academy of Arts and Sciences, 1949 246 p. illus 24 cm (Connecticut Academy of Arts and Sciences. Transactions. Vol. 37 pages 69–315 January 1949) $7 70 1752

Contents (abridged) Introduction. Relationships and evolutionary trends. Phylogeny. Classification—Class Arachnida—subclass Latigastra—subclass Stethostomata—subclass Soluta—subclass Caulogastra. General conclusions. Summary. References. Plates. Index to orders, families and genera. List of species.

Note An exceptionally detailed study carried out with the object of clarifying classification and related aspects of the Palaeozoic Arachnida, in the light of the current knowledge of the developmental and internal anatomy of recent and extant examples of this order. In a long introduction the author has discussed such aspects of the problem as the segmentation of the abdomen, the organs of respiration, the circulatory system, and the sense organs. The heart of the book consists of detailed critical discussions of specific genera. In these discussions the author points out erroneous views of previous writers and states his own conclusions. Specimens examined by him are identified by number. There are 83 plates, most of which contain more than one drawing or photograph.

RATHBUN, MARY JANE

Fossil Crustacea of the Atlantic and Gulf coastal plain. New York The Geological Society of America, 1935 160 p. illus. 25 cm. (Geological Society of America. Special papers. No. 2) $1.30. 1753

Contents Introduction. List of species and distribution. Detailed description of genera and species, Cretaceous, Eocene, Oligocene, Miocene, Pliocene, Pleistocene. Bibliography. Explanation of plates. Index.

Note A study of the comparatively scarce Crustacea, based largely on the collections of the United States Geological Survey and the United States National Museum. Three new genera are listed: *Prehepatus*, *Ophthalmoplax*, and *Scyllarella*. Tables are given showing geographic and stratigraphic distribution of species in each period. Treatment under description is general discussion, and description, measurements, occurrence, and collection in which contained.

ROMER, ALFRED SHERWOOD AND L. I. PRICE

Review of the Pelycosauria. New York Geological Society of America, 1940 538 p illus. 25 cm. (Geological Society of America. Special papers. No 28) $4.20 1754

Contents Methods of study. Classification. Collecting localities. Geological and geographical distribution. General morphology. Habits. Pelycosaur relationships. Systematic descriptions. Measurements. Bibliography. Abbreviations used in skull illustrations. Explanation of plates. Index.

Note A review for professional geologists, zoologists, and paleontologists, of the dominant types in the oldest adequately known reptilian fauna. The work takes into account new material and re-examination of older collections, including nearly every specimen in major American institutions. Descriptions and treatment are general so far as possible and deal with species rather than with single specimens.

ROMER, ALFRED SHERWOOD

Vertebrate paleontology Second edition. Chicago University of Chicago Press 1945 687 p. illus. 25 cm. $8.50 1755

Contents Introductory. Primitive jawless vertebrates. Placoderms. Sharklike fishes. Bony fishes. Amphibians. Primitive reptiles. Varied reptilian types. Synaptosaurian reptiles. Lepidosaurian reptiles. Ruling reptiles. Dinosaurs. Birds. Mammal-like reptiles. The structure of mammals. Primitive mammals. Placental origins. Insectivores. Bats. Primates. Carnivores. Archaic ungulate groups. Subungulates. Perissodactyls. Artiodactyls. Edentates. Whales. Rodents. Vertebrate history: Paleozoic vertebrates. Mesozoic vertebrates. Cenozoic vertebrates. Classification of vertebrates. Bibliography. Index.

Note The only modern work in the English language that treats the whole subject. It is designed primarily for beginners at the undergraduate college level. Besides its uses as a text, it is valuable as a reference book to scientists in other professions, such as zoology, anatomy and physical anthropology. The major structural features of the various groups are discussed in detail. A complete skeleton and skull of a representative member of nearly every group is shown. In the present edition about half of the original work has been entirely rewritten, and the other parts have been somewhat revised. Three new chapters have been added. There are now 377 figures, and the revised bibliography contains 479 entries.

SCOTT, WILLIAM BERRYMAN AND OTHERS

The mammalian fauna of the White River Oligocene, by William Berryman Scott, Glenn Lowell Jepsen, and Albert Elmer Wood Philadelphia The American Philosophical Society 1941 980 p illus. 30 cm (American Philosophical Society Transactions. New series Vol. 28) $7.50 1756

Contents (abridged) Part I, Insectivora and Carnivora, by W. B. Scott and G. L. Jepsen. The White River formation. The White River fauna. Insectivora: Tupaiidae. Erinaceoidea. Soricoidea. Family incertae sedis. Carnivora. Creodonta. Fissipedia. Canidae. Mustelidae. Part II, Rodentia, by A. E. Wood. Introduction. Rodentia. Protrogomorpha. Sciuromorpha. Myomorpha. Rodentia incertae sedis. Conclusions. References. Part III, Lagomorpha, by A. E. Wood. Leporidae. Palaeolaginae. Discussion. Part IV Artiodactyla, by W. B. Scott. Non-Ruminantia: Palaeodonta. Anoplotheria. Suina. Ruminantia. Tylopoda. Hypertragulidae. Systematic position of the Hypertragulidae. Camelidae. Relationships of Leptomeryx. Oreodontoidea. Leptauchenia—Leptauchenia—Cyclopidius tribe. Relationships of Leptauchenia. The habits of Leptauchenia. Part V Perissodactyla, by W. B. Scott. Chalicoidea. Ceratomorpha. Hippomorpha. Remarks on the evolution of the horses and camels. Ancylopoda. Edentata. Palaeanodonta. Didelphidae. Marsupialia. Index.

Note In preparing this monograph of the White River mammalian fauna, use was made of the important collections stored in the various museums of the country: the National Museum in Washington, the American Museum of Natural History, New York, the Carnegie Museum, Pittsburgh, the Chicago Natural History Museum in Chicago and the Walker Museum of the University of Chicago, the State University Museum at Lincoln, Nebraska, the Colorado Museum of Natural History at Denver, the Museum of the State School of Mines at Rapid City, South Dakota, the museums of Amherst College, Yale and Harvard Universities, and the Academy of Natural Sciences in Philadelphia. A comparison of the families and genera of mammals which now inhabit all of North America north of the neotropical region and those which have been found in the White River reveals the great richness and diversity of the latter fauna.

SHIMER, HERVEY WOODBURN

An introduction to the study of fossils (plants and animals) Revised edition. New York The Macmillan Company 1933 496 p. illus. 20 cm. $6 75 1757

Contents General considerations. Plants: Introductory. Phylum I—Thallophyta. Phylum II—Bryophyta. Phylum III—Pteridophyta. Phylum IV—Spermatophyta. Animals: Introductory. Phylum I—Protozoa. Phylum II—Porifera (sponges). Phylum III—Coelenterata. Phylum IV—Ctenophora (comb-jellies). Phylum V—Platyhelminthes (flat-worms). Phylum VI—Nemathelminthes (thread-worms). Phylum VII—Trochelminthes (wheel-worms). Phylum VIII—Annelida (ring-worms). Phylum IX—Echinodermata. Phylum X—Molluscoidea. Phylum XI—Mollusca (mollusks). Phylum XII—Arthropoda. Phylum XIII—Chordata. Index—glossary.

Note A simple introduction to the subject written for college students. To stimulate the student's interest, living forms are often discussed, first as types of their phyla or classes before the fossil

1840, Family Hercoglossidae Spath, 1927 Family Aturidae Hyatt, 1894 Addendum, Bibliography Explanation of Plates 1 100. Index.

Note In this monograph the author has endeavored to assemble all the significant published data relating to the nautiloids in the Tertiary strata of North, Central, and South America and the West Indies, and, adding to them the new facts discovered by him, to make an account as nearly complete as possible. Some original contributions are thus reported. The work is a convenient reference aid for both students and professional geologists and paleontologists. Modern *Nautilus* although not known to be represented in the American Tertiary extends back to the Eocene and is discussed in detail because it is more or less typical of the Tertiary nautiloids.

MOORE, RAYMOND CECIL, *AND OTHERS*

Invertebrate fossils By Raymond C Moore, Cecil G Lalicker and Alfred G Fischer New York McGraw Hill Book Company, Inc., 1952 766 p illus 24 cm. $12 50 1746

Contents The nature of fossils. Foraminifera and radiolaria. Sponges and spongelik fossils. Coelenterates. Bryozoans. Brachiopods. Mollusks. Gastropods. Cephalopods. Pelecypoda. Annelids and other worms. Arthropods. Trilobites. Ostracodes and other crustaceans. Chelicerates, myriapods, and insects. Echinoderms. Primitive attached echinoderms. Crinoids. Holothuroids. Starfishes. Echinoids. Graptolites and pterobranchs. Conodonts. Index.

Note. Although this book is frankly college text for use in first courses in paleontology it has a number of features which make it useful outside of formal classes. Its inclusive scope is indicated by the chapter titles. In general the following points are covered for each of the main zoological groups anatomy and physiology geologic importance geologic history zoological classification, functions and development of shells, modes of life reproduction and ontogeny Also, there are adequately detailed descriptions of the main subgroups. The expository matter is supplemented by glossaries and abundant illustrations and literature references. The index is full.

OKULITCH, VLADIMIR JOSEPH

North American Pleospongia. New York The Geological Society of America, 1943 112 p illus 24 cm (Geological Society of America. Special papers No 48) $1 50 1747

Contents (abridged) Abstract. Introduction and acknowledgments. Previous work. Methods of study Part I, Distribution, morphology and physiology Part II, Affinities and classification. Part III, Description of North American Pleospongia. Literature cited. Explanation of plates. Index.

Note Geographic and stratigraphic distribution of Pleospongia, ecology and faunal associations are considered. Morphology ontogeny and phylogeny are described in detail. All known American species are fully described and illustrated.

OLSON, EVERETT CLAIRE

Diplocaulus, a study in growth and variation Chicago Chicago Natural History Museum 1951 154 p illus 24 cm (Fieldiana Geology Vol 11 no 2) $1 75 1748

Contents Introduction. Problems and methods. Review of Diplocaulus. Species and genus. Growth and variation. References.

Note A study by quantitative methods of *Diplocaulus*, a Permian amphibian. Forty-seven skulls and partial skulls were measured, and *the results are represented in tables and graphs.* Various statistical methods used in analyzing the data are illustrated. The chief purpose of the study was to determine whether quantitative methods are of much applicability in paleontology The author is Associate Dean, Physical Sciences Department, in the University of Chicago.

OSBORN, HENRY FAIRFIELD

Proboscidea. A monograph of the discovery, evolution migration and extinction of the mastodonts and elephants of the world. Edited by Mabel Rice Percy New York Published on the J Pierpont Morgan Fund by the trustees of American Museum of Natural History, the American Museum Press, 1936–42 2 v illus (part col'd) 33 cm. $20.00 per volume. 1749

Contents (abridged) Volume I, Moeritherioidea, Deinotherioidea, Mastodontoidea Discovery of the living and extinct proboscideans. Origin and classification of the Proboscidea. The moeritheres and deinotheres. History of the classification of the Mastodontoidea. *Histories of* the subfamilies Mastodontinae; the subfamily Zygolophodontinae, the subfamilies Longirostrinae and Amebelodontinae origin and geographic distribution. History of the rhynchorostrines. The South American mastodonts. The subfamily Brevirostrinae of Europe and Asia. Stegomastodon of North America. Appendices. Bibliography Volume II, Stegodontoidea, Elephantoidea. The roof-toothed stegodonts. Classification of the Elephantoidea by their cranial and dental characters. The genera Archidiskodon, Parelephas, and Mammonteus. The subfamily Elephantinae. Nomenclature of the Proboscidea. Geologic succession of the Proboscidea. Summary Appendices. Bibliography Index

Note An exhaustive monograph summarizing the author's 35 years of research from 1900–1935 in the evolution and phylogeny of the Proboscidea or group of mammals represented in the present day by the two species of elephant, and in prehistoric times by the mastodon and mammoth. In the detailed treatment of the discovery evolution and migrations of this order of mammals, the author replaces the purely zoologic classification of Linnaeus with an evolutionary and phylogenetic classification, now known as the Osbornian system, and first exemplified by the author in 1921. In this classification, all divisions from the subspecies to the order are placed vertically as succeeding each other during geologic time rather than horizontally as observed in recent or existing time by Linnaeus and all zoologists. The author has accomplished a revision and systematization of generic nomenclature, as well as separation of many direct phyletic lines of descent from each other, with the recognition of many mastodonts and elephants which are alike in certain characters yet which cannot possibly be descended one from the other The evolutionary changes are principally defined and observed by continuously progressive changes in the ontogeny and proportions of the grinding teeth. An intensive study of the teeth of the fossil Proboscidea is therefore a major feature of this monograph, which is written for the specialist in paleontology and not for the layman.

PETRUNKEVITCH, ALEXANDER IVANOVITCH

Paleozoic and Mesozoic Arachnida of Europe. New York The Geological Society of America, 1953 128 p illus 25 cm. (The Geological Society of America Memoir 53) $3 00 1750

Contents Introduction. Order Scorpiones. Order Pseudoscorpiones. Order Opiliones. Order Architarbi. Order Acari. Order Haptopoda. Order Anthracomarti. Order Trigonotarbi. Order Palpigradi. Order Thelyphonida. Order Schizomida. Order Kustarachnae. Order Phrynichida. Order Araneae. Order Solifugae. Order Ricinulei. General considerations. Addendum. References. Index to orders and families. Index to genera. Index to species. Plates 1–44.

Note. "This study is revision of all available types of Paleozoic and Mesozoic Arachnida in European collections, based on personal examination and modern knowledge of living and fossil forms, with complete synonomy and discussion of evolution. Keys and indexes to families, genera, and species are included. There are 114 line drawings and 88 photographs."

PETRUNKEVITCH, ALEXANDER IVANOVITCH

A study of amber spiders. New Haven Connecticut Academy of Arts and Sciences, *1942 345 p illus 23 cm* (Connecticut Academy of Arts and Sciences Transactions. Vol. 34 pages 119–464) $6 00 1751

Contents Introduction. Acknowledgments. Material. Methods of study Relationship of spiders to other Arachnida. Evolutionary trends in spiders. Taxonomic value of characters. Relationship of the spider fauna of the Baltic amber to recent spiders. Remarks concerning the definitions of families and genera. Description of Baltic amber spiders. References. Index.

Note The greater part of this monograph is devoted to systematic description of Baltic amber spiders, suborder Dipneumonomorphae, Cenozoic spiders which left numerous fossil remains in the amber deposits of the Baltic region. Each specimen is described in detail, with body measurements and characteristic features of anatomy *The 140 specimens presented represent 27 families, five*

the cuticle[illegible]. Part III, Systematic descriptions. References. Explanations of Plates I–II. Index.

Note: Due to [illegible] has made possible their extraction by acid, the fossils described in this publication are remarkable for the preservation of their morphological features. Full advantage of the material has been taken, particularly in the part devoted to morphology and development of the cuticle, in the morphological parts of the systematic descriptions, and in the series of plates which are reproduced from photographs and depict hundreds of details. Of the 14 species described, 13 are new.

ZANGERL RAINER

The vertebrate fauna of the Selma formation of Alabama. Chicago Chicago Natural History Museum, 1948 56 p illus. 31 cm. (Chicago Natural History Museum. Fieldiana Geology memoirs. Vol. 3 number 1 and 2) $1.50 1764

Contents: Part I, Introduction. List of illustrations. Geography and geology of region. Earlier finds of fossil vertebrates in Selma deposits of Alabama. References. Part II The pleurodiran turtles. List of illustrations. Introduction. Description of [illegible], sp. nov. Summary. References.

Note: A report of an investigation of fossils found in an investigation of the Selma outcrop in Alabama during two field trips made by the author and others in 19[illegible] and 1944. The locations of finds in relation to geology and geography are described. The second part describes in detail the turtle finds, giving tables of measurements and relationships of finds to the known material. There are 13 large carefully-drawn figures and four photographic plates. Bibliographies are attached to each.

PALEOBOTANY

ARNOLD CHESTER ARTHUR

An introduction to paleobotany New York McGraw Hill Book Company Inc., 1947 433 p. illus. 23 cm. (McGraw Hill publications in the botanical sciences Edmund W Sinnott, consulting editor) $8.50 1765

Contents: Introduction. How plants become fossils. The nonvascular plants. The early vascular plants. The ancient lycopods. Ancient scouring rushes and their relatives. Paleozoic fernlike foliage. The ancient ferns. The pteridosperms. Cycadophytes and ginkgos. The cordaitales. The ancient conifers. Ancient flowering plants. The sequence of the plant world in geologic time. Fossil plants and environment. Paleobotanical systematics. Index.

Note: An introduction to the study of fossil plants which is intended primarily for graduate or advanced undergraduate students in biology and botany rather than in geology. It emphasizes the usual botanic factors of morphology, structure, distribution, phylogeny and ecology of fossilized plants, and pays very little attention to the stratigraphy or lithology involved. There are many excellent photographs and drawings of fossil plant remains. North American plants are discussed and used for illustration wherever possible, and citations to relevant literature are given at the end of each chapter.

AXELROD DANIEL I.

A Miocene flora from the western border of the Mohave desert. Washington, D C. The Carnegie Institution of Washington, 1939 129 p. illus. 25 cm. (Carnegie Institution of Washington. Publication no. 516. Contributions to paleontology) $2.00. 1766

Contents: Physical relationships. Composition of the flora. Modern relationships of the Tehachapi flora. Paleoecology of the flora. Floristic and distributional considerations. Summary. Systematic descriptions.

Note: A study of the Tehachapi flora situated within 150 miles of the southern border of the northern Miocene forest flora and directly linked with the later Tertiary history of western North America. The fossil locality which is in Kern county about eight miles northeast of Tehachapi, California, has yielded representative collection of Miocene flora.

AXELROD DANIEL I

Studies in late Tertiary paleobotany Washington D C. Carnegie Institution of Washington 1950 323 p. illus 25 cm. (Carnegie Institution of Washington. Contributions to paleontology Publication 590) $3.25 1767

Contents: Classification of the Madro-Tertiary flora. A Sonoma florule from Napa, California. Further studies of the Mount Eden flora, southern California. The Anaverde flora of southern California. The Piru Gorge flora of southern California. Evolution of desert vegetation in western North America. Appendix: Systematic revision of fossil plants. Index.

Note: A collection of technical studies titled as given above. The final and longest paper is a critical summary of the present knowledge of the evolution of the contemporary desert vegetation of western North America. In this paper the author distinguishes floras and concludes that "present day desert plants have apparently been derived from species represented in the major Tertiary floras which occupied the regions now deserts.

BERRY EDWARD WILBER

The origin of land plants and four other papers. Baltimore Johns Hopkins Press 1945 186 p illus. 24 cm. (Johns Hopkins University studies in geology number 14 edited by J T Singewald jr) $2.50 1768

Contents: The beginnings and history of land plants. Fossil floras from southern Ecuador. The [illegible] stage in the Andean Cordillera. Late Tertiary land plants from eastern Colombia. The genus Liquidambar in Arber. Index.

Note: A collection of paleobotanical papers, four of which deal with fossil plants from northern South America. Photo-reprints and drawings of some of the fossil specimens are included. The volume is intended for paleontologists and students of historical geology.

CHANEY RALPH WORKS editor

Pliocene floras of California and Oregon edited by Ralph W Chaney Contributors Ralph W Chaney Carlton Condit Daniel I Axelrod. Washington D C. Carnegie Institution of Washington, 1944 407 p. illus 25 cm. (Carnegie Institution of Washington. Publication 553 Contributions to paleontology) o p 1769

Contents: Introduction. History of Pliocene floral studies in western North America. Terminology applied to vegetational units of the Tertiary. Taxonomic principles involved in the study of Pliocene floras. Outline of the floras included in this volume. The Remington Hill flora. The Table Mountain flora. The Black Hawk Ranch flora. The Mulholland flora. The Oakdale flora. The Sonoma flora. The Pliocene sequence in central California. The Alvord Creek flora. The Alturas flora. The Dalles flora. The Troutdale flora. Summary and conclusions. Literature cited. Appendices: Systematic revisions. List of Pliocene species in elements and components. List of Pliocene members of the Arcto-Tertiary flora. List of Pliocene members of the Madro-Tertiary flora. Index.

Note: This monograph contains studies of seven Pliocene floras of California and three of Oregon together with introductory matter concerning previous related studies, and conclusions concerning the relationships of these floras to one another and to 22 other floras of their approximate age in the western United States. One hundred ninety-two references are included in the bibliography and there are 64 plates of photographs.

DAUGHERTY LYMAN HARRY

The Upper Triassic flora of Arizona. With a discussion of its geologic occurrence by Howard R. Stagner Washington, D C., 1941 108 p. illus. 29 cm. (Carnegie Institution of Washington. Publication 526) $1 75 1770

Contents: Introduction. Historical sketch. Geologic considerations. Composition of the flora. Physical considerations. Correlation and age. Systematic descriptions. Literature cited. Index.

forms are taken up. Special effort has been made to keep the discussion free of technical terms. In this edition the classification has been revised, several new genera have been added as illustrations under various classes, and the discussion of each phylum concludes with two new sections—one on its *evolution* and one on the phylum as rock builders. A number of illustrations have been added.

SHROCK, ROBERT R AND WILLIAM H TWENHOFEL

Principles of invertebrate paleontology A *revised and enlarged edition of Twenhofel and Shrock, Invertebrate paleontology* Second edition New York McGraw Hill Book Company, Inc., 1953 816 p illus 24 cm $12 50 1758

Contents Introduction. Protozoa. Porifera. Coelenterata. Ctenophora. Worm phyla (excluding Annelida) Bryozoa (Polyzoa) Phoronida. Brachiopoda. Mollusca. Annelida. Onychophora. Arthropoda. Echinoderma. Hemichordata. Conodontophorida (Conodonts) Index.

Note As indicated in the subtitle this book replaces the authors' *Invertebrate paleontology* which was an introductory college text. The enlarged and retitled edition is essentially a new book. Except for the brief introductory chapter all of the space is given to the descriptions of fossils arranged by phyla. The descriptions are primarily taxonomic, but the valuable information on physiology and reproduction is included. Also there is usually included a description of one living example of each phyla. Extensive literature references accompany each chapter There are nearly 500 illustrations, many of which are originals and nearly all of which are well reproduced. The index is exceptionally detailed.

STAINBROOK, MERRILL ADDISON

Brachiopoda of the Independence shale of Iowa. New York The Geological Society of America, 1945 74 p illus 25 cm (The Geological Society of America. Memoir 14) $1.20 1759

Contents Stratigraphic position of the Independence shale. Relationships of the Independence fauna. Systematic descriptions Order Atremata. Order Neotremata. Order Protremata. Order Telotremata. *Bibliography Explanation of plates.* Index.

Note. The taxonomy and morphology of 40 species of Devonian brachiopods from the Independence shale formation of Iowa are contained in this monograph. All of the species are illustrated, and 27 of them are described here for the first time.

STUMM, ERWIN CHARLES

Revision of the families and genera of the Devonian tetracorals New York Geological Society of America 1949 92 p illus 26 cm. (Geological Society of America. Memoir 40) $2 00 1760

Contents Abstract. Introduction. Classification. Description of families and genera. *Bibliography Explanation of plates.* Index.

Note In this work a new classification, in which the Devonian tetracorals are divided into 14 families, is presented. Three of the families and five of the subfamilies have not been described before. Also given are new descriptions of the genotype species of all known Devonian genera. The descriptions of the genotype species are supplemented by illustrations and comprehensive bibliography

ULRICH EDWARD OSCAR, AND OTHERS

Ozarkian and Canadian cephalopods by E O Ulrich Aug F Foerste, A K. Miller and W M Furnish New York The Geological Society of America, *1942–44* 3 v illus 24 cm. (Geological Society of America. Special papers No 37 49 58) Part 1, $2 40 part 2, $3 00 part 3 $3 00 1761

Contents Part I (Volume I) Nautilicones: Abstract. Introduction. Previous work. Occurrence. Shell morphology Classification. Systematic paleontology Family Deltoceratidae. Family Ellesmeroceratidae. Family Plectoceratidae. Family Tarphyceratidae. Family Trocholitidae. Bibliography Index. Part II (Volume II), Brevicones. Abstract. Introduction. Previous work. Occurrence. Shell morphology Classification. *Systematic paleontology Bibliography* Explanation of plates. Index. Part III, Longicones: Abstract Introduction. Previous work. Occurrence. Shell morphology Classification. Systematic paleontology Family Stenosiphonoceratidae. Family Endocycloceratidae. Family Baltoceratidae. Family Rudolfoceratidae. *Family* Orthoceratidae. Family Robsonoceratidae. Family Syroceratidae. Family Endoceratidae. Family Suecoceratidae. Family Bathmoceratidae. Family Eothinoceratidae. *Supplement.* Family Piloceratidae. Family Cyclostomiceratidae. Family Plectronoceratidae Family Cyrtendoceratidae. Family Trochoiridae. Bibliography Addendum. Explanation of plates. Index.

Note The second in a series of monographs on Ozarkian and *Canadian fauna,* the first being *Ulrich and Cooper's Ozarkian and Canadian Brachiopoda,* New York, 1940 (now out-of-print) Part I of the present study of cephalopods covers the occurrence, morphology and systematic descriptions of the nautilicones, with 37 pages of photographs of fossil shells. Part II deals similarly with the brevicones, and has seventy pages of photographs. The third volume covers the longicones. There are 68 pages of photographs of fossil shells. *Each volume may be used separately*

WETMORE, ALEXANDER

A check list of the fossil and prehistoric birds of North America and the West Indies. Washington *D C* Published by the Smithsonian Institution, 1956 105 p 24 cm. (Smithsonian miscellaneous collections. Vol. *131, no 5 Publication 4228) $0 70* 1762

Note A revision and enlargement of the author's *A check-list of the fossil birds of North America* Washington, D C., 1940, (Smithsonian miscellaneous collections, vol. 99 no. 4) which was in turn a revision of the list of fossil birds which appeared in the American Ornithologists' Union *Check-list of North American birds,* 1931. The list now covers the known fossil birds of Mexico and the West Indies, as well as of continental *United States of America.* All modern forms for which there are fossil records are included and, in addition certain species which are known only from bones are listed. The list now *includes 189 forms still living and 148 species recorded* only in an extinct state

WESTOLL T STANLEY

The Haplolepidae, a new family of late Carboniferous bony fishes, a study in taxonomy and evolution. New York American Museum of Natural History 1944 122 p. illus 27 cm. (American Museum of Natural History Bulletin Vol 83 article 1) $1 75. 1762A

Contents Introduction. *Systematic description.* Phylogeny of *Haplolepis* and *Pyritocephalus.* Comparative morphology Bearing on Holostean evolution. General remarks on the evolution of the Actinopterygii. Summary Addenda. References. Abbreviations used in the text figures.

Note A group of late *Carboniferous* actinopterygian fishes is described and referred to the genera *Haplolepis* Miller 1892 and *Pyritocephalus* Fritsch, 1893 They are from six localities, of which the stratigraphical occurrences are mainly cannel or impure cannel coals, sometimes interbedded with ironstone. The fishes are shown to be closely related, *and sharply marked off* from all other known Carboniferous Actinopterygii, and the new family Haplolepidae, is set up for their reception. One hundred thirty-eight references are listed in the bibliography

WHITTINGTON, H B, AND W R. EVITT, II

Silicified Middle Ordovician trilobites New York The Geological Society of America. 1954 137 p illus. 25 cm. (The Geological Society of America Memoir 59) $3 00 1763

Contents Abstract. Introduction. Part I, Occurrence, technique, and terminology Part II, General morphology and development of

OCEANOGRAPHY

BIGELOW HENRY BRYANT AND W T EDMONDSON

Wind waves at sea, breakers and surf Washington, D C. Government Printing Office, 1947 177 p. illus. (part col d) 24 cm. (United States. Hydrographic Office. Publication no. 602) $2.80 1776

Contents: Foreword, by E. O. Glover. The physical nature of wind waves. The dimensions of waves. The conditions of waves. The effects of currents and of dead water. The measurement of waves and swells. The frequency of high and low seas and swells in different regions. Breakers and surf—their importance and origin. The character of surf under different conditions. Direction and height of breakers in relation to the shape of the coast. Selected references

Note A general account of the phenomena of waves caused by winds, and of breakers and surf. The book is designed for such readers as sailors and residents along seacoasts who have natural curiosity about waves but are not scientifically educated. Most of the descriptions are rather detailed. In addition to the general and theoretical material, there are also interesting facts about the heights of waves, the force exerted by them, and the damage done by waves, surfs, etc.

BUNKER, ANDREW F

Measurements of the vertical water vapor transport and distribution within unstable atmospheric ground layers and the turbulent mass exchange coefficient. Cambridge and Woods Hole, Mass., 1952 42 p. illus. 28 cm. (Papers in physical oceanography and meteorology published by Massachusetts Institute of Technology and Woods Hole Oceanographic Institution, in continuation of Massachusetts Institute of Technology meteorological papers. Vol. XII, no 3 Contribution no. 618 from the Woods Hole Oceanographic Institution) $1.00. 1777

Orders for this number should be addressed to Woods Hole Oceanographic Institution, Woods Hole, Massachusetts.

Contents: Introduction. Instruments and observational procedures. Tabulation and discussion of data. Analysis of transport in terms of turbulent diffusion and convection. Summary. References.

Note Data gathered in measurements of temperature, humidity and turbulence made from an airplane flying through ground layer of continental air blowing over warmer water are presented and analyzed in this publication. Considerably larger values for the coefficient of turbulent mass exchange were found than had previously been reported. The results of other investigators are discussed in the light of these findings.

CALIFORNIA. UNIVERSITY SCRIPPS INSTITUTION OF OCEANOGRAPHY

Contributions, 1954 La Jolla, Calif The Library Scripps Institution of Oceanography 1956 v.p. illus 25 cm. 1778

Note An annual compilation of papers written by members of the Scripps Institution of Oceanography which were published elsewhere than in the Bulletin or the Records of observations of the Institution. It consists of reprints and serves as partial record of the current work of the Institution. The volume is available to research libraries and other research institutions having interests in oceanography. Some of the contributions published in it are available as reprints on request to the Institution itself. There are about 1,200 pages in the present volume.

CARNEGIE INSTITUTION OF WASHINGTON

Scientific results of Cruise VII of the *Carnegie* during 1928–29 under command of Captain J P Ault. Washington D C. Carnegie Institution of Washington 1942–44 10 v illus. 29 cm. (Carnegie Institution of Washington Publication no. 536–7 542 544 545A 547 555–6 562 565) No 536 $3.50 no 537 $2.50 no 542 $2.00 no. 544 $2.00 no 545A $2.50 no. 547 $1.00 no. 555 $1 00 no. 562 $1 25 no. 565 $2.50—all in cloth most numbers are available also in paper at lower prices. 1779

Contents (abridged) Biology I The copepods of the plankton gathered during the last cruise of the *Carnegie*, by C. B. Wilson. Biology II The oceanic Tintinnoina of the plankton gathered during the last cruise of the *Carnegie* by A. S. Campbell. Biology III Studies in the morphology, taxonomy and ecology of the Peridiniales, by H. W. Graham. Biology IV The phytoplankton, by H. W. Graham. Marine algae, by W. A. Setchell. Polychaetous annelids, by A. L. Treadwell. The mysids, by W. M. Tattersall. The isopods, by J. O. Maloney. The holothurians, by H. G. Barber. List of birds, by A. Wetmore. Miscellaneous determinations, by M. W. de Laubenfels and others. Meteorology I Meteorological results of Cruise VII of the *Carnegie*, 1928–1929, by W. C. Jacobs and K. B. Clarke. Meteorology II Upper-wind observations and results obtained on Cruise VII of the *Carnegie* by A. Thomson. Biology VI Oceanography IA. Oceanography II. Chemistry I.

Note A series of reports on the scientific results obtained during the seventh and final cruise of the oceanographic ship *Carnegie*, covering an extensive program of observation in terrestrial magnetism, terrestrial electricity chemical oceanography physical oceanography marine biology and marine meteorology. The material consists for the most part of transcriptions of the original scientific data recorded during the voyage, together with evaluations, summaries, and conclusions based on detailed study of these original records. There are number of photographs, charts, and tables in each volume.

—— Scientific results of Cruise VII of the *Carnegie* during 1928–29 under command of Captain J P Ault. Washington D C. Carnegie Institution of Washington 1945–46 3 v illus. 29 cm. (Carnegie Institution of Washington. Publication no 545B 568 571) No 545B $2.00 no 568 $2 75 no 571 $2.00—all in cloth, also available in paper 1780

Contents (abridged) Oceanography I B Observations and results in physical oceanography graphical and tabular summaries, by J. A. Fleming and others. Oceanography III Ocean atmospheric-electric results, by O. W. Torreson and others. Oceanography IV The work of the *Carnegie* and suggestions for future scientific cruises, by J. P. Ault and others.

Note These volumes complete the important series in which the scientific results obtained during the seventh and final cruise of the oceanographic ship *Carnegie* have been presented.

Note A description and discussion of fossil leaves and wood of the Triassic period found in Arizona. Each specimen is described in detail and illustrated in plates, and is correlated with remains of the same geologic period found in other sections of the world whenever possible.

DORF, ERLING

Upper Cretaceous floras of the Rocky Mountain region. Washington, D C Carnegie Institution of Washington, 1942 168 p illus 29 cm. (Carnegie Institution of Washington Publication 508 Contributions to paleontology) $3 00 1771

Contents (abridged) Part I, Stratigraphy and paleontology of the Fox Hills and Lower Medicine Bow formations of southern Wyoming and northwestern Colorado. Part II, Flora of the Lance formation at its type locality Niobrara county Wyoming. Index of genera and species.

Note. A monograph covering the stratigraphy composition of the flora, climatic conditions, correlation, and systematic paleobotany of the areas mentioned in the contents, with emphasis upon the succession of Upper Cretaceous floras of the West and their relation to succeeding Cenozoic floras.

HU, HSIEN SU, AND RALPH W CHANEY

A Miocene flora from Shantung province, China. Part I, Introduction and systematic considerations Part II, Physical conditions and correlation Washington, D C Carnegie Institution of Washington, 1940 147 p illus 29 cm. (Carnegie Institution of Washington. Publication no 507 Contributions to paleontology) $3 75 1772

Contents Part I, Introduction and systematic considerations Introduction. Geologic occurrence. Composition of the flora: systematic relationships. *Distribution of modern equivalents.* Systematic descriptions. Part II, Physical conditions and correlation Introduction. Physical conditions indicated by the flora: Topography Climate. Summary of physical history Correlation and age. Index.

Note A discussion of Miocene flora discovered near the village of Shanwang in Shantung province, China. Each specimen is described in detail, and compared to living plants in China, Japan and North America. Physical conditions indicated by these flora are discussed, and an effort is made to correlate them with specimens from the same geologic period found in Manchuria, Siberia, and Japan. Each specimen is illustrated in plates.

JOHNSON, J HARLAN

An introduction to the study of rock building algae and algal limestones. Golden Colorado School of Mines 1954 117 p illus. 23 cm (Colorado School of Mines quarterly Vol 49 no 2) $2 50 1773

Contents Classification of rock-building algae. Rhodophyta Family Corallinaceae Systematic descriptions. Subfamily Corallineae. Genera of subfamily Corallineae. Ecology and distribution of crustose coralline algae Family Solenoporaceae. References—red algae. Chlorophyta. Family Dasycladaceae. Family Characeae. References—Chlorophyta. Cyanophyta or Chlorophyta. Porostromata. Cyanophyta: Family Spongiostromata. References—Porostromata and Spongiostromata.

Note A survey of the rock-building algae published in the form of a booklet. It is suitable for use by graduate students and professional geologists and paleobotanists as an introduction to the subject. Most of the space is devoted to outlining the classification of these algae and describing the genera. *The illustrations include* 63 plates, most of which are reproductions of photographs, including microphotographs. The references lists are selected, but cite the basic literature essential for further study of the subject. The author is Professor of Geology in the Colorado School of Mines.

LAMOTTE, ROBERT SMITH

Catalogue of the Cenozoic plants of North America through 1950 New York Geological Society of America, 1952 381 p 26 cm. (Geological Society of America. Memoir 51) $5.50 1773A

Contents. Introduction. Bibliography: Catalogued papers. Phycology Bacteria. Marine and fresh-water algae. Diatomaceae. Catalogue. Biologic classification of genera. Index of families and higher categories.

Note. The main part of this work is a carefully compiled catalogue of fossil plants of the Cenozoic period, which have been identified in North America and reported in the published literature. The catalogue is arranged alphabetically by botanical name. In general for each plant the information given includes the name of the scientist who *discovered the plant, the year it was reported,* citation of the paper in which it was reported, citations of additional papers that deal with the genus from a paleobotanical viewpoint, the formation, locality and age. Preceding the catalogue of plants is a bibliography of papers on paleobotany classified under the headings noted above.

MACGINITIE, HARRY D

Fossil plants of the Florissant beds, Colorado Washington, D C Carnegie Institution of Washington 1953 198 p. illus. 25 cm. (Carnegie Institution of Washington Contributions to paleontology Publication 599) $5 75 1774

Contents: Introduction. Modern vegetation of the region. Geographic and geologic setting. Stratigraphy and structure of the Florissant beds: Basal beds. Lower tuffs. The lake shales. Rhyolite. Later eruptive rocks. *Summary of geologic events in late Eocene,* Oligocene, and later Tertiary Note on the geologic structure of the Florissant beds. Composition and modern relationships of the Florissant beds. Composition and modern relationships of the fossil flora: Systematic list. Floristic composition. *Distribution of similar living* species. Ecological relationships of the flora. The problem of Tertiary grasslands. Age of the flora Relationship to other fossil floras. Evidence for geologic age furnished by fossil vertebrates, and lithologic correlation. Systematic descriptions. *Synonyms and* changes of name. Species rejected from the flora. Bibliography Plates 1–75 Index.

Note. The Tertiary beds of Florissant, Colorado, have since their discovery in the early 1870's been widely known among geologists because of the wealth of fossil plants and insects which they contain. This publication is a comprehensive account of the fossil flora of Florissant. *About one-half of the publication is given over to* the general description of the beds and the other half to the systematic description of the species of fossil plants there found.

MACGINITIE, HARRY D

A Middle Eocene flora from the central Sierra Nevada. Washington, D C. Carnegie Institution of Washington, 1941 178 p. illus. 28 cm. (Carnegie Institution of *Washington.* Publication no 534 Contributions to paleontology) $2 50 1775

Contents Introduction. Geology of the region. Climate and vegetation of the Chalk Bluffs area. Composition of the flora and relationship of the fossil specimens. Environment of the fossil flora. Distribution considerations. Age of the flora. Related pre-flora. Distribution considerations. Bibliography Index.

Note. A survey and systematic description of fossil flora from the Middle Eocene, based on field work among the gravel deposits of the Chalk Bluffs localities, Nevada county California. The author concludes that the flora studied is the oldest of the six well-known Tertiary floras of the Pacific Slope. The book is lithoprinted from typewritten copy

the summers of 1934 and 1935 By Joe R. Goodman, John H. Lincoln, Thomas G. Thompson, and Frederick A. Zeusler Seattle University of Washington Press, 1942 185 p. illus. 25 cm. (University of Washington Publications in oceanography Vol. 3 no. 4) $1.60 1786

Contents: Acknowledgments. Introduction. The area. Previous investigations. Experimental methods. Discussion of data. Temperature. Chlorinity. Phosphate. Dissolved oxygen. Silicate. Nitrites. Currents. Ice. Summary. Literature cited. Appendix. Tables and charts.

Note: The bulk of the material is contained in the 117-page appendix, which presents a transcription of the tables and charts derived from the investigation and studies made by the authors of temperature and chlorinity, dissolved oxygen, phosphate and silicate concentrations of the waters at various depths. Data explaining the origin and movement of the waters are also included, and there is a 65-page introductory analysis of general results with list of 12 references to the world literature.

GRIER, MARY CATHARINE

Oceanography of the North Pacific Ocean Bering Sea and Bering Strait a contribution toward a bibliography Seattle The University of Washington Press 1941 290 p. 25 cm. (University of Washington publications Library series. Vol. 2 May 1941) $2.50. 1787

Contents: General reference. Physical oceanography. General biology. Plankton. Invertebrates. Fishes. Birds. Mammals. Fisheries.

Note: A bibliography giving a fairly comprehensive list of references covering the world literature on the oceanography of the region. There are approximately 3,000 entries of books and publications issued from about 1800 to 1939 arranged alphabetically by author within each subject heading. The section on the invertebrates is subdivided according to order and family. There is a considerable number of Japanese works included. Many deal with technical data on tidal currents, atmospheric conditions, and hydrographic researches. There are no annotations or abstracts.

HAMILTON EDWIN L.

Sunken islands of the Mid-Pacific Mountains New York The Geological Society of America, 1956. 97 p. illus. 25 cm. (The Geological Society of America. Memoir 64) $2.50. 1788

Contents: Introduction. Physiography of the Mid-Pacific Mountains. Geology of the guyots. Introductory. Horizon Guyot. Guyot [illegible]. Guyot [illegible]. Cores at MP 17. Hess Guyot. Cape Johnson Guyot. Paleontology. Introduction. Megafossils. Microfossils. Lithology and sediments. General. Igneous rocks. Limestone and calcareous ooze. Manganese dioxide. Geomorphology. Origin of the submarine. Bearing of conclusions on coral-atoll hypotheses. Modification of theories of faulted margins. Conclusions. Geologic history of the mid-Pacific guyots. Appendix A. Systematic paleontology. Megafossils. Faunal list of Foraminifera. Appendix B. Lithology and sediments. Appendix C. Sampling equipment and techniques. Echo sounding. Location at sea. References cited. Index.

Note: A full-scale scientific study of a portion of the Mid-Pacific Mountains, a great submarine mountain chain extending from the Marianas Islands eastward a distance of 1,500 miles nearly to Wake Island. The work is based upon soundings made and bottom samples taken by the 1950 Scripps Institution—U. S. Navy Expedition to the Mid-Pacific. The findings show for the first time that these undersea mountains form a major well-defined geomorphic feature of the crust of the earth, a great chain of mountains surmounted by sharp peaks and ridges and by numerous flat-topped guyots. Five of these guyots were explored geologically by the expedition. The stations occupied, equipment used, samples gathered, and other pertinent data are tabulated in the tables. Fossils from dredge hauls are pictured on the plates. The appendices give systematic descriptions of fossils, lithology, sampling equipment and techniques, and a short account of echo sounding. In the pocket are four folding charts of the Mid-Pacific Mountains. Geologists concerned with the following matters will have especial interest in this volume: (1) the age, stability and tectonics of ocean basins, (2) coral-reef formation (in general the findings support Darwin's Subsidence Theory for the formation of atolls), (3) changes in the volume and depth of the ocean during geologic time and (4) history.

IGELSRUD IVER AND OTHERS

The distribution of phosphates in the sea water of the northeast Pacific. By Iver Igelsrud Rex J Robinson, and Thomas G Thompson Seattle University of Washington Press 1936 34 p. illus 25 cm. (University of Washington. Publications in oceanography Vol. 3 no. 1) $0.25 1789

Contents: Introduction. Description of region investigated. The method of analysis. Results and discussion. Summary. Literature cited.

Note: A summary of investigations of inorganic phosphate in the waters of the Pacific Ocean off the northwestern Washington and the Vancouver Island coasts and of the Strait of Juan de Fuca and the waterways adjoining it on the north, including study of the movement of deep ocean water, its transportation to waters north of the San Juan Archipelago, and the importance of tidal mixing as found in the various channels and straits.

ISELIN COLUMBUS O DONNELL

A study of the circulation of the western North Atlantic. Contribution no. 108 from the Woods Hole Oceanographic Institution. Cambridge and Woods Hole Mass. Massachusetts Institute of Technology and Woods Hole Oceanographic Institution, 1936 101 p. illus 28 cm. (Papers in physical oceanography and meteorology Vol. IV no. 4) $1.00 1790

Orders for this number should be addressed to Woods Hole Oceanographic Institution, Woods Hole Mass.

Contents (abridged): Introduction. The Bermuda triangle. Distribution of temperature and salinity by the method of sections. Variations of temperature and salinity with depth. Correlation between temperature and salinity. The deep water. Density. Other Atlantic sections. Mid-Atlantic. Antilles current. Florida current. The Gulf Stream system. Previous subsurface investigations. The three subdivisions. Sources and character. The Sargasso Sea. Surface movements in relation to wind. Lateral movements at mid-depths. Internal mixing. Summary and conclusions. Bibliography.

Note: With the opening of the Woods Hole Oceanographic Institution in July 1931, there was inaugurated a program of investigations in the deep waters of the western North Atlantic, where, however, deep stations had been lacking. A general program was launched which would be carried out gradually in order to take advantage of knowledge gained during the course of the work. This paper presents a preliminary report based on the temperature and salinity observations that have been completed. Since the movements of the sea water can together the whole subject of oceanography, it seemed essential that data on ocean circulation be made available as soon as possible for investigators of other problems in the same area.

KETCHUM BOSTWICK H., AND OTHERS

The oceanography of the New York Bight. By Bostwick H. Ketchum Alfred C. Redfield, and John C. Ayers. Cambridge and Woods Hole Massachusetts 1951 46 p. illus. 28 cm. (Papers in physical oceanography and meteorology published by Massachusetts Institute of Technology and Woods Hole Oceanographic Institution, in continuation of Massachusetts Institute of Technology meteorological papers. Vol. XII, no. 1 Contribution no. 549 from Woods Hole Oceanographic Institution) $1.00 1791

CARSON, RACHEL L

The sea around us Drawings by Katherine L Howe. New York Oxford University Press, 1951 230 p illus. (part col'd) 21 cm. $4 00 1781

Contents Part I, Mother sea: The gray beginnings. The pattern of the surface. The changing year The sunless sea. Hidden lands. The long snowfall. The birth of an island. The shape f ancient seas. Part II, The restless sea Wind and water Wind, sun and the spinning of the earth. The moving tides. Part III, Man and the sea about him The global thermostat. Wealth from th salt seas. The encircling sea. Suggestions for further reading. Index.

Note An outstanding example of popularization f scientific knowledge. Addressed to lay readers, it conveys in an engaging style some of the accumulated knowledge of the ocean hitherto locked up in the professional publications of oceanography and other technical literature. The subject is the world's oceans how they came into being, how they were shaped, their influences on the rest f the earth s surface and their potentialities as a source of mineral wealth. The book has won several awards in the United States of America, including the National Book Award and the Henry Bryant Gold Medal of the Geographical Society of Philadelphia.

COKER, ROBERT ERVIN

This great and wide sea. Chapel Hill University of North Carolina Press, 1947 325 p illus 24 cm $6 00 1782

Contents Part I, History and geography: Discovery f the seas. Beginnings of oceanography Pioneers of oceanography Oceanography in America. Sea and land. Part II, Chemistry and physics: The sea as a solution. Some physical properties of sea water Deposits at the bottom of the sea. Sea water in motion—general plans of circulation. Sea water in motion—water moved by the winds. Sea water in motion—tides and other movements. The sea and the sun. Part III, Lif in the sea Life in the seas—general conditions. Pasturage of the sea. *Drifting life*—the plankton. Composition of the plankton. Life on the bottom—the benthos. Life at large—the nekton. More about life at large—the nekton Selected bibliography Index.

Note Based mainly on survey of oceanographic literature, this book for the educated layman avoids highly technical language and any tendency to stress the curious or dramatic. Essentially the author provides an interesting, readable account, covering those aspects of the world's oceans and seas that are dealt with by the various branches of science. The work is well illustrated. There is short bibliography of books for collateral reading and reference.

DOUGLAS, JOHN SCOTT

The story of the oceans New York Dodd, *Mead & Company, 1952 315 p 22 cm* $3 50 1783

Contents Explorers of the depths. Lands beneath the oceans. The far flowing tides. White horses f the sea. The sweeping salt rivers. Island life is different. Laboratories of evolution. Gardens of the ocean. Up from primeval ooze. Insects of the seas. The snail's seafaring family Starfish, urchins and cucumbers. Our cousins, the fishes. Mammals in the sea menagerie. Mammals in fishes' clothing.

Note. A popular account of the oceans written for general readers of all ages. The physical aspects of the ocean, its beds, its tides, its waters, are treated in the first third of the volume the remainder of the volume is devoted t descriptions of oceanic plant and animal life. There are no illustrations or references to other literature.

GALTSOFF, PAUL S , editor

Gulf of Mexico its origin waters and marine life. Prepared by American scientists under the sponsorship of the Fish and Wild life Service United States Department of the Interior Coordinated by Paul S Galtsoff Washington *D C Government Printing Of* fice, 1954 604 p illus 26 cm (United States Fish and Wildlife Service. Fishery bulletin 89) $3 25 1784

Contents Historical sketch of the explorations in the Gulf of Mexico, by P S. Galtsoff Geology: Shorelines and coasts of the Gulf of Mexico, by W A. Price. Geology of the Gulf of Mexico, by S. A. Lynch. Marine meteorology of the Gulf of Mexico, by D F Leipper Physics and chemistry of Gulf waters: Tides and sea level in the *Gulf of Mexico*, by H. A. Marmer. Physical oceanography of the Gulf of Mexico, by D F Leipper. Light penetration in the Gulf f Mexico, by W S. Shoemaker. Distribution of chemical constituents of sea water in the Gulf of Mexico, by R. H. Williams. The recovery of minerals from sea water by C. M. Shigley Plant and animal communities in the Gulf of Mexico Phytoplankton by C. C. Davis. Zooplankton, by H. B. Moore. Red tide, by R. Lasker and F G. W Smith. Marine algal vegetation, by W R. Taylor Marine and strand flowering plants, by R. F Thorne. Bottom communities, by J W Hedgpeth. Bacteria, fungi, and unicellular algae of the Gulf of Mexico. Marine bacteria and fungi, by C. E. ZoBell. Dinoflagellates, by H. W Graham. Diatom studies, by P Conger Gulf of Mexico Protozoa. Foraminifera, by F B. Phleger and F L. Parker. Protozoa, by V Sprague. Sponges, coelenterates, and ctenophores of the Gulf of Mexico, by J Q Tierney and others. Free-living flatworms, nemerteans, nematodes, tardigrades, and chaetognaths of the Gulf of Mexico, by L. H. Hyman and others. Parasitic worms, by A C. Chandler and H. W Manter Bryozoa, brachiopoda, phoronida, and enteropneusta, by R. C. Osburn and others. Echinoderms of the Gulf of Mexico, by A. H. Clark and E. Deichmann. Annelids and miscellaneous worms, by O Hartman and J W Hedgpeth. Arthropods Xiphosura, by J W Hedgpeth. Pycnogonida, by J. W Hedgpeth. Marine Ostracoda, by W L. Tressler Copepoda, by W L. Schmitt. Cirripedia, by D P Henry Mysidacea and euphausiacea, by A. H. Banner Stomatopoda, by F A. Chace, Jr. Decapoda, by E. H. Behre. Biology of commercial shrimps, by M. J. Lindner and W W Anderson. Mollusks of the Gulf of Mexico Biology of the spiny lobster by F G. W Smith. Mollusks, by H. A. Rehder. Cephalopoda, by G. L. Voss. The oyster by P A. Butler. Oyster reefs, by W A. Price. The tunicates and lancelets of the Gulf of Mexico, by W G. Van Name and J W Hedgpeth. Fishes and sea turtles: The origin, relationships, and geographical distribution of the marine fishes of the Gulf of Mexico, by L. R. Rivas. History of the commercial fishes of the Gulf of Mexico, by G. A. Rounsefell. Taxonomy and distribution of sea turtles, by F G. W Smith The birds of the Gulf of Mexico, by G. H. Lowery Jr and R. J *Newman. Mammals f the Gulf of Mexico*, by G. Gunter. Pollution of water: Aspects f water pollution in the coastal area of the *Gulf of Mexico* prepared in the Division of Water Pollution Control, and Shellfish Branch, Division of Sanitation, Public Health *Service, U S. Department of Health, Education*, and Welfare. Index.

Note. This book contains the signed articles hose authors and *titles are listed above. Its purpose is to summarize present-day* knowledge f the Gulf its history its geology its oceanography and its plant and animal inhabitants. A pertinent bibliography is given at the end of each section.

GEOLOGICAL SOCIETY OF AMERICA

1940 E W Scripps cruise to the Gulf of California Part I, Geology of islands and neighboring land areas, by Charles A. Anderson. Part II Megascopic paleontology and marine stratigraphy, by J Wyatt Durham. Part III Submarine topography of the Gulf of California, by Francis P Shepard. *Part IV* Report on the Pleistocene and Pliocene *Foraminifera, by M L Natland.* Part V, Sedimentation and oceanography—survey of field observations, by Roger Revelle New York Geological Society of America, 1950 362 p. illus 26 cm (Geological Society of America. Memoir 43) $6.50 1785

Note This memoir contains fi scientific reports on the results of cruise sponsored by the Geological Society of America and the Scripps Institution of Oceanography in the fall of 1940 in the schooner *E. W Scripps*. The object of the cruise was to investigate the recent geologic history the bottom topography and sediments, and the nature of the marine environment of the Gulf of California

GOODMAN, JOE R , AND OTHERS

Physical and chemical investigations Bering Sea, *Bering Strait, Chukchi Sea,* during

kalten in Tiefen- und Bodenwasser des Atlantischen Ozeans auf Grund dynamischer der Meteor-Profile der Deutschen Atlantischen Expedition, 1925/27, by G. Böhnecke. U. S. participation in conservation in international fishery resources, by W. C. Herrington. Hearing and acoustic orientation in marine animals, by D. R. Griffin. Characteristics of the environment of the Philippine, Kermadec and Tonga trenches, by A. F. Bruun and A. Kiilerich. Polarization of scattered sunlight in deep water, by T. H. Waterman. Elevation of sea level caused by wind in a rectangular channel, by W. Hansen. On the breeding areas of the swordfish (Xiphias) by A. Vedel Tåning. Factors affecting productivity in fertilized sea water, by W. T. Edmondson. Die Ausbreitung des Mittelmeerwassers im Nordatlantischen Ozean, by A. Defant. New directions in fishery research, by L. A. Walford. Coastal currents and the fisheries, by C. O'D. Iselin. Electron microscopy in oceanographic research, by T. Braarud. Long term trends and changes in the hydrography of the Faroe-Shetland channel region, by J. B. Tait.

Note: The reviews and research papers published in this volume represent many segments of contemporary oceanographic research. All are listed by author and title above. Many of the papers include literature references and illustrations.

PIERSON, WILLARD J., JR. AND OTHERS

Practical methods for observing and forecasting ocean waves by means of wave spectra and statistics. By Willard J. Pierson, Jr., Gerhard Neumann, Richard W. James. Washington, D. C. U. S. Navy Hydrographic Office, 1955. 284 p. illus. 23 cm. (U. S. Navy Hydrographic Office. H. O. Pub. no. 603) $3.80. 1796

Contents: The properties of ocean waves. The generation and forecasting of sea waves. Wave propagation and forecasting swell waves—simple models. Wave observation techniques. Synoptic forecasting methods and weather map analysis. Wave refraction. Operational applications of forecasting methods. Conclusions. Bibliography.

Note: The new theory of wave forecasting on which this manual is based is described in the book's foreword as follows: "Basically the Pierson-Neumann-James method describes the sea surface as the result of the combination of an infinite number of infinitely small sine waves of various amplitudes, frequencies, and directions. The distribution of the wave characteristics formed in a combination of these sine waves is described by a Gaussian function. The amplitudes summed over the frequencies and directions can be represented by a spectrum. This method may be called the Wave Spectrum Method. In practice, the wave spectrum is computed from the predicted wind field, and the individual wave characteristics determined by use of graphic methods or simple formulas. The book is concerned primarily with applications of the theory in the forecasting of ocean waves. Methods of observing and forecasting are described explicitly and in detail. Numerous worked examples of calculations are included.

RILEY, GORDON A. AND OTHERS

Oceanography of Long Island Sound 1952–1954. New Haven. Bingham Oceanographic Laboratory. 1956. 414 p. illus. 23 cm. (Yale University. Peabody Museum of Natural History. Bingham Oceanographic Collection. Bulletin. Vol. 15) $7.50 1797

Contents: Harry Payne Bingham, 1887–1955. Introduction, by G. A. Riley. Physical oceanography, by G. A. Riley. Chemical oceanography, by G. A. Riley and S. A. M. Conover. Phytoplankton, by S. A. M. Conover. Zooplankton, by G. B. Deevey. Biology of *Acartia clausi* and *A. tonsa*, by R. J. Conover. Pelagic fish eggs and larvae, by S. B. Wheatland. Chemical composition of the plankton, by E. Harris and G. A. Riley. Production and utilization of organic matter, by G. A. Riley. The biology of marine bottom communities, by H. L. Sanders.

Note: Long Island Sound is a semi-enclosed body of water 100 nautical miles long and with an area of about 930 square miles. It provides a variety of aquatic environments, both marine and fresh-water, and poses many ecological questions. The Bingham Oceanographic Laboratory has been carrying on an investigation of this body of water for some years, and the research is continuing. Papers published in this volume are reports of some of the methods and most of the results to date. Together, they present a considerable range of data on a body of water of much oceanographic interest.

RILEY, GORDON A.

Oxygen, phosphate, and nitrate in the Atlantic Ocean. New Haven. Bingham Oceanographic Laboratory. 1951. 126 p. illus. 23 cm. (Yale University. Peabody Museum of Natural History. Bingham Oceanographic Collection. Bulletin. Vol. 13 article 1) $1.90 1798

Contents: Abstract. Introduction. The distribution of oxygen, phosphate and nitrate in the Atlantic Ocean. Theory of nonconservative properties. Analysis of distribution. Biological discussion. General discussion and conclusions. References. Appendix.

Note: In this essentially mathematical study a qualitative analysis included for background is followed by a detailed quantitative analysis in which the author makes extensive use of mathematical models. Finally the results of the analysis are compared with the known facts on deep-water distribution of marine organisms and their probable metabolic rates.

ROSSBY, CARL-GUSTAF

Dynamics of steady ocean currents in the light of experimental fluid mechanics. Contribution no. 115 from the Woods Hole Oceanographic Institution. Cambridge and Woods Hole, Mass. Massachusetts Institute of Technology and Woods Hole Oceanographic Institution. 1936. 43 p. illus. 28 cm. (Papers in physical oceanography and meteorology. Vol. v no. 1) $1.00 1799

Orders for this number should be addressed to Meteorological Division, Massachusetts Institute of Technology, Cambridge, Mass.

Contents: Introduction. Theoretical discussion. Formulation of problem. Effect of the earth's rotation on lateral stresses. "Coriolis" pressure gradients. Wake stream theory. Wake stream in stratified medium. Application to the Gulf Stream system. Temperature-salinity correlations. Oxygen-salinity correlations. References.

Note: This is a report of an investigation which may be regarded as part of a systematic effort to introduce into meteorology and physical oceanography methods and results which have contributed to the rapid growth and increasing practical significance of experimental fluid mechanics. In this paper the principal inadequacies of the present theory for the oceanic circulation are first set forth. Frictional forces due to horizontal mixing are then introduced and the effect of the earth's rotation on the horizontal eddy velocities analyzed. Tollmien's theory for the mixing along the edges of a steady stream moving through a resting fluid is then discussed and certain experimental verifications are described. With the aid of a principle first stated by G. I. Taylor, Tollmien's results are applied to current systems subject to deflecting forces. Finally certain modifications resulting from the stratification in the ocean are treated. In the second part of the paper the mixing between the Gulf Stream and its surroundings is traced with the aid of the observed distribution of temperature, salinity and oxygen.

SHEPARD, FRANCIS PARKER

Submarine geology. New York. Harper and Brothers. 1948. 338 p. illus. 24 cm. (Harper's geoscience series. Carey Croneis, editor) $6.00. 1800

Contents: Introduction and history. Methods of exploring the ocean floor. Waves and currents. Classification of sea coasts and shorelines. Beaches and sand shifting along the shores. Continental shelves—topography and sediments. Origin and history of the continental shelves. Continental slopes. Submarine canyons. Coral reefs. The floor of the deep oceans. Summary and economic applications. Appendix: Conversion tables. Bathymetric chart of the world. Index.

Note: This work by the Professor of Submarine Geology at the Scripps Institution of Oceanography, University of California, is a major contribution to its field. It embodies the results of many original investigations carried out by the author, some of them with the aid of newly developed and still secret instruments and techniques. In addition, earlier investigations and hypotheses are reviewed and evaluated, particularly in such chapters as the one on the origin and history of the continental shelves. The illustrative

Orders for this number should be addressed to Woods Hole Oceanographic Institution, Woods Hole, Massachusetts.

Contents Introduction. Methods. Distribution of properties. Rate and volume of water transport. Summary References.

Note The waters studied in the investigation covered by this report lie between Cape May New Jersey and Montauk Point, Long Island and comprise an area of complex hydrography because of the outflows of the Hudson River and other adjacent rivers. The hydrographic conditions in the area are considered to be essentially similar to those off the mouths of other large rivers. The investigation centered on the hydrographic processes and the results provide data of potential practical application This is especially true of the findings on distribution patterns of the fresh water and on average flushing times.

LaFond, E C

Processing oceanographic data. Washington, D C U S Navy Hydrographic Office, 1951 114 p illus 27 cm (U S Navy Hydrographic Office. H O Pub no 614) $7.00 1792

Contents (abridged) Part I, Processing procedures Processing of continuous temperature and salinity data. Determination of final values of serial temperature and salinity data. Computation of dependent quantities. Examples of processed serial temperature and salinity data. References. Part II Oceanographic tables.

Note Discussions by an expert of the problems of preparing for analysis the results of physical oceanographic measurements taken at sea, shortcuts in the processing of such data, and a series of tables useful in the processing are published in this volume. The greater part of the space is devoted to the tables, of which there are 20. The work is Section D of a comprehensive laboratory manual of oceanographic methods being prepared under the direction of H. U Sverdrup and the sponsorship of the International Association of Physical Oceanography

National Research Council Division of Physical Sciences

Symposium on oceanographic instrumentation. A conference held at Rancho Santa Fe, California, 21–23 June, 1952, under the sponsorship of the Office of Naval Research Editors John D Isaacs and Columbus O'D Iselin Washington D C National Research Council, 1954 233 p illus 25 cm (National Academy of Sciences—National Research Council Publication 309) $1 75 1793

Contents (abridged) Considerations of oceanographic instrumentation, by J D Isaacs. Measurements of the oceanic circulation in temperate and tropical latitudes, by W S. von Arx. Biological instruments, by E. H. Ahlstrom. Oceanographic instruments for measuring temperature by A. C. Vine. Geophysical measurements, by R. W Raitt. Sea-ice problems, by C. A. Barnes. Acoustic instrumentation as a tool in oceanography by J B Hersey Considerations in the construction of oceanographic vessels, by W V Kielhorn. Wave measurements, by F E. Snodgrass. Chemical measurements, by D E. Carritt. Methods of exploring the ocean floor by R. S. Dietz. Air-sea boundary processes, by W H. Munk.

Note Participation in the conference of which this volume is a product was limited to scientists deeply engrossed in the subject"; in other words, oceanographers and others whose fields of activity favored their being fully informed on available instruments and their limitations, and on needs for new instruments. Papers authored and titled as listed above are contained in the volume and, in addition, there is a transcript of the discussion of each paper Both standard and new instruments are discussed from the standpoint of their uses. Also, there is discussion of measurements that oceanographers would like to make if suitable instruments were available. A case in point is evaporation of water from the ocean surface. Literature references are given for all of the papers, and illustrations are included in some of them.

Neumann, Gerhard

On the dynamics of wind-driven ocean currents New York New York University Press, 1955 32 p illus. 26 cm. (New York University College of Engineering Meteorological papers Vol II no 4) $1.50. 1794

Contents. Introduction. The differential equation for the horizontal mass transport Conditions for stationary frictionless currents. Wind-driven currents in a homogeneous ocean. Wind-driven currents in a nonhomogeneous ocean. The development of a layer of no motion in a nonhomogeneous ocean. The topography of the layer of no motion in the Atlantic Ocean. Relationships between the level of no motion and the general circulation of the Atlantic Ocean. Some simple current systems. Summary and conclusions. References.

Note Results produced in a research project sponsored by the Office of Naval Research and directed toward discovering the interrelationships between the atmosphere and the oceans with special reference to the oceanic circulation and stratification are presented in this large pamphlet. Essentially the investigation involved a re-examination of the problem of wind-driven ocean circulation. The basic data were taken from the literature, and the problem was studied by mathematical analysis. Among the author's conclusions are "the analytical solution for a whole ocean even in the case of very simplified boundary conditions seems difficult, and the best procedure although time-consuming, is the numerical integration of the basic differential equation.

Papers in marine biology and oceanography Dedicated to Henry Bryant Bigelow by his former students and associates on the occasion of the twenty fifth anniversary of the founding of the Woods Hole Oceanographic Institution 1955 New York Pergamon Publishing Company, Inc., 1955 493 p illus (part col'd) 25 cm (Deep-sea research Supplement to Vol III) $10 50 1795

Contents Bibliography of Henry Bryant Bigelow Effect of trawling on animals of the seabed, by M Graham. A further example of the patchiness of plankton distribution, by A. C. Hardy Dissolved organic matter in the sea, by M. A. Plunkett and N W Rakestraw. Marine bacteria—recollections and problems, by S. A. Waksman. The strontium-calcium atom ratio in carbonate-secreting marine organisms, by T G Thompson and T J Chow Variation en mer, de la teneur en oxygène dissous au proche voisinage des sédiments, by J Brouardel and L. Fage. Foraminiferal faunas in cores offshore from the Mississippi delta, by F B Phleger Seasonal changes in the phytoplankton as indicated by spectrophotometric chlorophyll estimations, 1952 53 by P G. Jenkins. Water replacements and their significance to a fishery by H. B. Hachey Sir C. Wyville Thompson's correspondence on the "Challenger" fishes, by D. and M. Merriman. Hydrography and the distribution of chaetognaths over the continental shelf off North Carolina, by D F Bumpus and E. L. Pierce. Experimental feeding of the copepod Calanus *finmarchicus* (Gunner) on phytoplankton cultures labelled with radioactive carbon (C^{14}) by S. M. Marshall and A. P Orr. The hydrography of the Gulf of Venezuela, by A. C. Redfield. The specific characters of the coral *Stylaster roseus* by H. Boschma. External metabolites in the sea, by C. E. Lucas. A revision of Ernst Haeckel's determinations of a collection of Medusae belonging to the Zoological Museum of Copenhagen by P L. Kramp. Some very simple devices for various oceanographical uses, by J N Carruthers. The fauna of an inter-tidal mud flat, by J E. G. Raymont. Distribution of planktonic Foraminifera in some Mediterranean sediments, by F L. Parker Hypotheses connecting fluctuations in arctic climate with biological productivity of the English Channel, by L. H. N Cooper Review of the oceanography of Long Island Sound, by G. A. Riley The larva of *Agalma elegans* (Sars) (Siphonophora physonectae) by A. K. Totton. Observations on the biology of *Microstella norvegica*, by C. J Fish. The production of *Lates niloticus* (Rimo) in Lake Mariut in Egypt, by R. S. Wimpenny The mortality rates of antarctic fin whale stocks, by J T Ruud. Fish origins—fresh or salt water? by A. S. Romer The production of antibiotics by Plankton algae and its effect upon bacterial activities in the sea, by E. S. Nielsen. On the nature and action of ctenidial toxins, by J. H. Welsh. Patterns of deposition at the continental margin, by H. C. Stetson Scaphopods of the Atlantis dredgings in the western Atlantic with a catalog of the Scaphopod types in the Museum of Comparative Zoology, by R. D. Turner Effect of freshets on Passamaquoddy plankton, by A. G. Huntsman. Characteristics of surface water at Weather Ship J by R. B. Montgomery Manganese nodules and oceanic radium, by H. Pettersson. The accumulation of river water over the continental shelf between Cape Cod and Chesapeake Bay by B H. Ketchum and D. J. Keen. Report on the results of exploratory otter-trawling along the continental shelf and slope between Nova Scotia and Virginia during the summers of 1952 and 1953 by W C. Schroeder Strongylocentrotus-

Geodetic Survey Special publication no. 215) $0.55 1805

Contents: General explanation. Instruments for observing. Current surveys. Observations at lightships. Reduction of current records. Index.

Note: This manual gives the general requirements of the United States Coast and Geodetic Survey in the observation and reduction of currents. The publication is designed to serve as a companion to the Manual of tide observations (Special publication no. 196). The first edition was published in 1933. This second edition represents slight revision and enlargement made necessary by changes in accepted procedures of the Coast and Geodetic Survey. The illustrations include a folded drawing of the mechanism of the Roberts radio current meter, original version and Model II.

UNITED STATES. HYDROGRAPHIC OFFICE

Instruction manual for oceanographic observations. Second edition, 1955 Washington, D C. U S Hydrographic Office 1956 210 p. illus. 27 cm. (United States. Hydrographic Office. H. O publication no. 607) $12.00. 1806

Contents: Part I: Introduction to oceanographic observations. Obtaining sea water samples and temperatures. Temperature and depth calculations. Drawing oceanographic graphs and profiles. Reception and sonic soundings. Obtaining bottom sediment samples. Underwater photography. Obtaining biological specimens. Current measurements. Sea and swell observations. Meteorological observations. Water transparency and light absorption measurements. Shipboard chemistry. Instructions for recording oceanographic observations, measurements, and samples on log sheets. Bibliography. Appendix. Part II, Oceanographic codes and tables.

Note: A manual of techniques for carrying out oceanographic observations of the kinds mentioned in the chapter titles listed above. It provides explicit, detailed instructions of good techniques. Explanations of forms for the recording of observations and many illustrations of apparatus and methods of using apparatus. There are 17 tables of useful data.

UNITED STATES HYDROGRAPHIC OFFICE

References on the physical oceanography of the western Pacific Ocean. Washington D C. Government Printing Office 1953 168 p. 26 cm. (United States. Navy Hydrographic Office. H. O. publication no 238) $2 40. 1807

Contents: Abbreviations of periodicals. References. Charts. Addenda. Index of subjects. Index of geographic names and expeditions.

Note: A very extensive but not complete bibliography compiled by Mary C. Grier and first published in 1946. It covers a wide range of oceanographical literature including official publications, the journals of learned societies, the proceedings of congresses, etc. Some references to literature published as recently as 1945 are included. Very brief annotations are included in some of the entries.

UNITED STATES. HYDROGRAPHIC OFFICE

World atlas of sea surface temperatures. Second edition, 1944 Washington, D C. Published by the Hydrographic Office United States Navy 1948. n. p. 56 cm. (H. O no. 225) $2 50 1808

Note: "This world atlas of sea surface temperatures was prepared by the Scripps Institution of Oceanography La Jolla, Calif. from all the surface temperature observations collected by the U. S. Hydrographic Office, together with all available data from other sources, with special attention to regions of few observations. It is believed that the compilation represents the most accurate pattern of sea surface temperatures of the world yet prepared. Isotherms are drawn for intervals of 5° F except that in regions of small horizontal temperature gradients 2.5° isotherms have been entered. A closer spacing of these lines would have created overcrowding and given a false idea of the reliability of the patterns. Information on ice limits is also shown wherever possible." The second edition was first published in 1944 and was reprinted without change in 1948.

UNITED STATES NAVY

Marine climatic atlas of the world Volume 1 North Atlantic Ocean. Volume 2 North Pacific Ocean. Published by direction of Chief of Naval Operations Washington, D C. Government Printing Office, 1955–56 2 v illus (part col d) 34 × 50 cm. (Navaer 50–1C–528–9) $8.00 per vol. 1809

Contents: Volume I, North Atlantic Ocean. Introduction. The charts. The observations and their processing. The individual surface charts. The individual upper air charts. References. Charts index. Chart 1, Map of surface stations and areas. Charts 2–133, Surface section. Chart 133, Map of upper air stations. Charts 134–271, Upper air section. Volume II, North Pacific Ocean. Introduction. The charts. The surface graphs and tables. The observations and their processing. The individual surface charts. The individual upper air charts. References. Chart index. Chart 1 Map of surface section network. Charts 2–133, Surface section. Chart 135 Map of upper air section networks. Charts 136–273, Upper air section.

Note: The two volumes here described are the first and second volumes of a set which when completed will include all the oceans of the world. The volumes present month-by-month meteorological information by graphs, tables, and isopleths superimposed on uniform maps of the entire North Atlantic or North Pacific Ocean. Fourteen different series of charts comprise the surface section. Development of each of the series began with the object of providing as much meteorological information in analyzed form as practicable from data comprised of individual weather observations over the oceans. The work is a valuable reference tool for geographers and other scientists, and technicians concerned with climatic over the oceans.

VAUGHAN THOMAS WAYLAND AND OTHERS

International aspects of oceanography Oceanographic data and provisions for oceanographic research. Washington D C. National Academy of Sciences 1937 225 p. illus. 31 cm. $1.50 1810

Contents (abridged): Serial sections of temperature and salinity in the different ocean basins. General discussion. Atlantic Ocean and connecting seas. Pacific Ocean. Red Sea and Indian Ocean. Charting the bottom of the oceans. Submarine earthquake epicenters, magnetic observations at sea, tidal records. Results of maritime gravity research, 1923–1932, by F. A. Vening Meinesz. Catalogue of institutions engaged in oceanographic work.

Note: This study may be regarded as a companion volume or supplement to H. B. Bigelow *Oceanography, its scope, problems, and economic importance*, Boston, 1931. The present volume does not attempt to cover the ground of Bigelow's work, but rather is planned to show mostly by means of charts, the status of the exploration of the different oceans for several lines of research, and to present a catalogue of institutions engaged in oceanographic work. The material is divided into three main branches, namely the study of water masses in ocean basins, the study of the interaction of the sea and the atmosphere, with a discussion of solar radiation and its penetration into seawater and, finally, the study of the configuration and composition of the ocean bottom. There are numerous maps and charts and a considerable amount of international data.

WIEGEL, ROBERT L.

Waves tides, currents and beaches glossary of terms and list of standard symbols. Berkeley Council on Wave Research—The Engineering Foundation, 1953 113 p. 27 cm. $1.00 1811

Note: In the main part of this book, technical terms pertaining to waves, tides, currents and ocean beaches are arranged in alphabetical order and defined. Then follow 24 pages of illustrations in which technical terms are identified with pictorial representations of the objects that they denote. Following the illustrative section are nine pages of symbols and definitions. The book concludes with a four-page list of books and other literature. The format suggests a trial or preliminary edition, but even in its present form—the only available work—it is a useful reference book for beginners in oceanography and for scientists in other fields who have occasion to read oceanographic literature.

matter includes reproductions of many excellent photographs of shore and submarine formations. A list of references to other literature accompanies each chapter

SKOGSBERG, TAGE

Hydrography of Monterey Bay, California. Thermal conditions, *1929–1933* Philadelphia The American Philosophical Society, *1936* 152 p *illus* 29 cm. (American Philosophical Society Transactions New series, Vol. XXIX, p 1–152) $2 00 1801

Contents Introduction. History and purpose of survey Location. Physiography in relation to hydrography Methods and material. Monthly thermal conditions in the upper *one hundred meters*. Annual thermal conditions in the superficial strata Thermal conditions in the upper 50 meters, in 1929 Thermal conditions in the upper 50 meters, in 1930 Thermal conditions in the upper 100 meters, in 1931 Thermal conditions in the upper *100 meters*, in 1932 Thermal conditions in the upper 100 meters, in 1933 Normal annual rhythm in the upper 100 meters. Comparisons of *the annual thermal conditions in the superficial strata* Thermal conditions at the surface, 50 meters, and 100 meters. Relative amounts of water of different degrees of temperature in the upper 50 meters. Monthly amplitudes of thermal variation. Surface temperatures, by the shore, from 1919 to 1934 Thermal conditions below 100 meters Monthly thermal conditions between 100 and 250 meters. Thermal conditions between 250 and 900 meters. *Annual* thermal rhythm from the surface to 900 meters. Water movements underlying the thermal rhythm Effects of the tides on the thermal rhythm. Water movements underlying the irregularities in the superficial thermal rhythm and causes of these movements. Water movements underlying the annual rhythm. Causes of other thermal characteristics. Special circulatory conditions. Circulation and bottom sediments. Water temperatures and the fisheries. Summary and conclusions. Appendix of tables of monthly average temperatures. Bibliography

Note This paper reports the thermal conditions as obtained in five-year hydrographic survey of Monterey Bay an important center of the fishing industry in California. Because of the extensive nature of the available data, it was found practical to reproduce only limited portion of the available readings. Aside from summarizing the results f the thermal survey the publication attempts to interpret the established thermal characteristics in terms f circulatory phenomena.

STETSON, HENRY C, AND PARKER D TRASK

The sediments of the western Gulf of Mexico Cambridge and Woods Hole, Mass, 1953 120 p illus 28 cm (Papers in physical oceanography and meteorology published by Massachusetts Institute of Technology and Woods Hole Oceanographic Institution, in continuation of Massachusetts Institute of Technology meteorological papers Vol. XII, no 4 *Contribution no 646 from Woods Hole* Oceanographic Institution) $1.25 1802

Orders for this number should be addressed to Woods Hole Oceanographic Institution Woods Hole, Massachusetts.

Contents. Part I, The continental terrace f the western Gulf of Mexico—its surface sediments, origin and development, by H. C. *Stetson* *Introduction.* Laboratory procedure and presentation f data. Sedimentary data by traverses. Distribution of the sediments. Comparison with the Atlantic continental shelf and slope. Geomorphology and evolution of continental terraces. Conclusions. Tables. Bibliography Part II, *Chemical studies of sediments of the western Gulf of Mexico,* by P D Trask Organic content Introduction. Acknowledgments. Procedure of analysis. Program f sampling. Results of analyses. Areal variation of organic content. Relation of organic matter to texture. Relation of organic matter to bottom configuration. Variation f organic matter with depth of burial. Discussion of results. Chemical composition Introduction. Methods of investigation. *Interpretation of* analyses. Water content Water content of Gulf of Mexico sediments. References. Tables.

Note. Published in this volume are two reports of an investigation carried out to determine the texture and organic content of the surface and near-surface sediments with their contained foraminiferal fauna, from the shelf, the slope, and the Sigsbee Deep. The investigation involved both field and laboratory work. In his study Dr. Stetson reached the conclusion that the continental shelves and slopes of the world represent many different stages of development, and that there is no single explanation of terrace formation that is universally applicable. Mr. Trask's report is concerned entirely with the chemical nature of the same sediments studied by Stetson from the viewpoint of mechanical composition. His findings are presented in considerable detail, and the results are discussed in similar fashion. However the author does point out that the interpretation of chemical analyses of sediments is difficult, and that more work on them from the chemical viewpoint is needed.

SVERDRUP, HARALD ULRIK, *AND OTHERS*

The oceans, their physics, chemistry, and general biology, by H. U Sverdrup, Martin W Johnson, and Richard H. Fleming. New York Prentice-Hall, Inc, 1942 1,087 p. illus. *23* cm *$12 50* 1803

Contents Introduction. The earth and the ocean basins. Physical *properties of sea water General distribution of temperature, salinity,* and density Theory f distribution of variables in the sea. Chemistry of sea water Organisms and the composition of sea water The sea as a biological environment. Populations of the sea. Observations and collections at sea. General character of ocean currents. Statistics and kinematics. Dynamics of ocean currents. Waves and tides. The water masses and currents of the oceans. *Phytoplankton in relation to* physical-chemical properties of the environment. Animals in relation to physical-chemical properties of the environment. Interrelations of marine organisms. Organic production in the sea. Marine sedimentation. Appendix Tables for computing geopotential distances between isobaric surfaces. Index.

Note. A comprehensive reference book on the subject. A large amount of factual information is provided, while at the same time the aim is to help the beginner and the specialist to co-ordinate the various fields of oceanography The bibliographies following chapters are extensive. A number of illustrative charts are appended.

UNITED STATES COAST AND GEODETIC SURVEY

Hydrographic manual. Revised (1942) edition Washington, D C. Government Printing Office, 1942 940 p illus. (part col'd) 26 cm. (United States Coast and Geodetic Survey Special publication no 143) $5 75 1804

Contents (abridged) Preliminary Control and signal building. Hydrography Equipment and instruments. Echo sounding. Radio acoustic ranging. The smooth sheet. Records and reports. Miscellaneous. Index.

Note A comprehensive and detailed manual and textbook describing modern methods f *hydrographic surveying* and equipment, including the general requirements of the United States Coast and Geodetic Survey for the execution of hydrographic surveys. The book describes in detail for the first time the instruments and methods used in echo sounding and radio range acoustics. The subject matter has been identified by decimal numbering system to which all references in the extensive index are made. Among the *separate topics treated* are triangulation, topography shore hydrographic stations, signal building, large-scale offshore surveys, survey ships and auxiliary craft, depth finding equipment and instruments, oceanographic instruments, radio acoustic ranging stations, bombs and explosives, plotting control and positions, reductions of soundings, and miscellaneous reports and data. There is large section devoted to symbols and abbreviations for nautical charts used by the Coast and Geodetic Survey with colored illustrations, and list of related publications and reference works. Such subjects as shore astronomic observations, triangulation, topography tides, magnetic observations, etc., *for each of which there is* separate manual, are *either omitted or* treated only briefly

UNITED STATES COAST AND GEODETIC SURVEY

Manual of current *observations.* Washington D C. Government Printing Office, 1950. 87 p illus. 23 cm. (United States. Coast and

NATURAL HISTORY

ALLAN HANCOCK FOUNDATION

Essays in the natural sciences in honor of Captain Allan Hancock on the occasion of his birthday July 26 1955 Los Angeles University of Southern California Press, 1955 345 p. illus. 23 cm. $5.00. 1813

Contents: An appreciation, by R. B. von KleinSmid. A pattern of international deep sea research, by [illegible]. The future of marine invertebrate systematic research, by F. A. Chace, Jr. The importance of systematics in ecology and oceanography, by J. W. Hedgpeth. The case for [illegible] warm-temperature marine fauna on the west coast of North America, by J. S. Garth. The [illegible] distribution of Arctic-Alaskan Bryozoa, by R. C. Osburn. Endemism in the North Pacific Ocean, with emphasis on the distribution of marine Annelida, and descriptions of new or little known species, by O. Hartman. New light on the biology of [illegible]. [illegible], by A. F. [illegible]. Observations on the [illegible] near Santa Catalina Island, by [illegible]. The wood boring habits of Chelura terebrans Philippi in Los Angeles harbor, by J. L. Barnard. Charting the "Enchanted Isles," by J. R. [illegible]. Marine mollusks collected at the Galapagos Islands during the voyage of the Velero III, 1931–1932, by L. G. Hertlein and A. M. Strong. A report on the [illegible] captured during the [illegible] expedition to the Galapagos Islands, by R. W. [illegible] and D. W. [illegible]. A new species of [illegible] from the Pacific [illegible] by J. D. Soule. A new record of [illegible] by E. Deichmann. A review of the genus [illegible] M. & T., by F. Ziesenhenne. [illegible] of the seal, [illegible], with [illegible], by W. E. Martin. Two new [illegible] from [illegible] from South Africa and New Zealand, by R. W. Menzies. The role of [illegible] in the [illegible], by C. R. Schroeder. [illegible] of the North Rim of the Grand Canyon, Arizona, by J. E. Durham. [illegible] of the Caribbean and its [illegible], by W. R. Taylor. A preliminary working key to the living species of Dermatolithon, by E. Y. Dawson. Structure and [illegible] of the two [illegible] Padina and Cymathere in the [illegible], by A. A. [illegible]. [illegible] in the ocean, by K. O. Emery and others. The Pleistocene history of the Channel Island region, Southern California, by T. Clements. Index of scientific names.

Note: Papers [illegible] as indicated above comprise the greater part of this volume in honor of the founder and Director (in the period [illegible]) of the Allan Hancock Foundation. Many of the papers are the reports of recent research in areas of oceanography and particularly marine biology. However, as their titles indicate, some of the papers deal with [illegible] topics. Most of the papers include literature references.

BATES, MARSTON

The nature of natural history New York Charles Scribner's Sons 1950 309 p. 24 cm. $3.95 1814

Contents: The science of natural history. The naming of organisms. The catalogue of nature. The history of organisms. Reproduction. The development of the individual. The environment. [illegible]. Partnership and cooperation. Parasitism. The behavior of individuals. The behavior of populations. Biological geography. [illegible]. The mechanism of evolution. Natural history and human economy. The natural history of naturalists. [illegible] and the [illegible]. Appendix: The literature of natural history. Index.

Note: In this book by an eminent biologist the [illegible] variety of topics in natural history is rendered in nontechnical terms for the general reader. In his discussion of such topics as bird migration, the author does not attempt to cover the subject or even present an outline. Instead, he [illegible] of the [illegible] them, then leaves it to the reader to pursue the subject further if he wishes. The appendix is [illegible] discussion of the literature of natural history with particular mention of [illegible] and the list of references is [illegible] selected list of books designed for the guidance of readers who wish to pursue reading in the field.

BEEBE, WILLIAM

Adventuring with Beebe selections from the writings of William Beebe. With illustrations. New York Duell, Sloan and Pearce Inc., 1955 283 p. illus. 20 cm. $4.50. 1815

Contents: [illegible]. Bermuda [illegible]. Feathered [illegible]. [illegible] (from [illegible]) A [illegible] trip to Davy Jones's locker. [illegible] (from [illegible]). Pacific [illegible]. [illegible]. [illegible] (from [illegible]). [illegible]. River of [illegible]. A [illegible]. [illegible] (from [illegible]). A [illegible]. The [illegible] (from [illegible]). St. Francis of the [illegible] (from [illegible]).

Note: The author of this book, now Director Emeritus of the Department of Tropical Research of the New York Zoological Society, is internationally known both for his scientific work in ornithology and oceanography and for his popular writings on nature subjects. The book is [illegible] designed for general reading. As the author states in [illegible] the selections cover more than 40 years of time: they range from Bermuda to British Guiana and the [illegible] Islands, from the tops of lofty trees to [illegible] beneath the sea. Some of them are taken from the author's previously published books and are so identified in the above table of contents. Except for the reproduction of one painting, the illustrations consist entirely of reproductions of photographs.

CALIFORNIA ACADEMY OF SCIENCES

A century of progress in the natural sciences 1853–1953 published in celebration of the centennial of the California Academy of Sciences San Francisco California Academy of Sciences, 1955 807 p. illus. 25 cm. $10.00 1816

Contents: San Francisco [illegible], by J. [illegible]. A century of astronomy and geodesy in California, by [illegible]. The contribution of natural history to human progress, by G. F. Ferris. [illegible] of the bacteria and [illegible], by C. B. Van Niel. Classification of the [illegible], by G. F. Papenfuss. Mycology, by [illegible]. Bryology [illegible]. Pteridology, by [illegible]. The systematics of the angiosperms, by [illegible]. The systematics of the angiosperms, by L. Constance. Systematic entomology, by E. S. Ross and [illegible]. Introduction, by E. S. Ross. The Apterygota, by [illegible]. Odonata, by [illegible]. Ephemeroptera, by [illegible]. Plecoptera, by [illegible]. Embioptera, by E. S. Ross. Zoraptera, by [illegible]. Some [illegible] insects—Anoplura, Mallophaga, and the [illegible] insects, by G. F. Ferris. Homoptera [illegible], by [illegible]. Thysanoptera, by [illegible]. Hemiptera, by R. L. Usinger. [illegible] and [illegible], by F. M. Carpenter. Trichoptera, by [illegible]. Lepidoptera, by [illegible]. Coleoptera, by [illegible]. Hymenoptera, by [illegible]. Art [illegible] by [illegible]. The [illegible], by P. D. Hurd, Jr. The Aphids, by [illegible]. Diptera, by [illegible]. Siphonaptera, by G. P. Holland. [illegible], by F. M. Carpenter. Herpetology by K. P. Schmidt. Ornithology, by [illegible]. Mammalogy in North America, by W. J. Hamilton, Jr. Invertebrate paleontology and historical geology from 1850 to 1953, by [illegible]. Plant geography, by [illegible]. Animal geography, by K. P. Schmidt. The conservation of wildlife, by A. S. Leopold.

Note: The central topic of this volume is the history of the development of biological systematics during the hundred years ending in 1953. Although some of the authors did not adhere [illegible] to the pattern, considered as [illegible] while the volume is devoted to this subject. The typical paper is [illegible] survey of the area of the field named in its title, and consists of brief discussion

ZERBE, W B , AND C B TAYLOR

Sea water temperature and density reduction tables Washington, D C. Government Printing Office, 1953 21 p illus. 26 cm. (United States Coast and Geodetic Survey Special publication no 298) $0.20 1812

Contents Introduction. Temperature conversion. Density reduction. Salinity from density Density at various temperatures. Freezing point of sea water

Note. The purpose of this publication is to furnish tables and graphs for the reduction and use of the sea-water temperature and density observations as obtained at harbor and coastal stations by the Coast and Geodetic Survey and to present the formulas and methods used in their construction. The introduction describes the instruments used in making the observations and the means of making the observations. The tables are entitled as follows. "Temperature conversion, Fahrenheit to Centigrade "Temperature conversion, Centigrade to Fahrenheit, "Differences to convert hydrometer readings at any temperature Fahrenheit to density at 59°F (15 C.) "Differences to convert hydrometer readings at any temperature centigrade to density at 15 C. (59 F.) "Corresponding densities and salinities (density at 15 C., salinity in parts per 1,000)

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[illegible]

LEY WILLY

Salamanders and other wonders still more adventures of a romantic naturalist. With illustrations by Olga Ley New York The Viking Press, 1955 293 p. illus. 21 cm. $3.95 1824

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NATIONAL RESEARCH COUNCIL. PACIFIC SCIENCE BOARD

Island bibliographies Micronesian botany Land environment and ecology of coral atolls. Vegetation of tropical pacific islands. By Marie-Hélène Sachet and F Raymond Fosberg. Compiled under the auspices of the Pacific Science Board. Washington, D C. National Academy of Sciences—National Research Council, 1955 57 p 28 cm. (National Research Council. Publication 335) $6.00. 1825

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PALMER, EPHRAIM LAURENCE

Fieldbook of natural history New York McGraw Hill Book Company Inc., 1949 664 p. illus. 23 cm. $8.00 1826

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PETERSON ROGER TORY AND JAMES FISHER

Wild America. The record of a 30,000-mile journey around the continent by a distinguished naturalist and his British colleague. Illustrated by Roger Tory Peterson. Boston Houghton Mifflin Company 1955 434 p. illus. 22 cm. $5.00. 1827

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ROOSEVELT THEODORE

Theodore Roosevelt's America selections from the writings of the Oyster Bay naturalist. Edited by Farida A. Wiley With introductory essays by John Burroughs, Gifford Pinchot, Henry Fairfield Osborn, Ambrose Flack, and a foreword by Ethel Roosevelt Derby Illustrated by Ugo Mochi. New York. The Devin-Adair Company 1955 418 p. illus. 21 cm. $5 5. 1828

of the chief contributions, arranged more or less in chronological order Contributions from American scientists are emphasized, but the degree of emphasis varies from one paper to another Most of the authors have written from an international viewpoint. In some of the papers, there are portraits of eminent scientists and occasionally some other illustration of special interest, such as the reproduction of the title page of noted scientific work. The volume is a reference book of considerable authority and usefulness. However the latter quality would have been much enhanced if an index had been provided.

CARSON, RACHEL

The edge of the sea. With illustrations by Bob Hines Boston Houghton Mifflin Company, 1955 276 p illus 22 cm $3 95 1817

Contents The marginal world. Patterns of shore life. The rocky shores. The rim of sand. The coral coast. The enduring sea. Appendix Classification. Index.

Note. A popular and somewhat philosophic book for those interested in the various forms of life to be found in the sea along the coast—"the low-tide world. Written by the author of *The sea around us* and handsomely and profusely illustrated, the book is based upon study and field work from Maine to Florida, made possible by a Guggenheim Fellowship grant. Although based upon researches on the Atlantic coast of the United States, the work has application to many similar shores of the earth. Three basic types of shore are recognized, and to each is devoted a separate chapter the rocky shores represented by the coasts of northern New England, the sandy beaches represented by the coasts from Long Island south to Florida, and the coral reefs represented by the Florida Keys. In the appendix are provided brief descriptions of the chief phyla of plants and animals found on the sea coasts.

COMSTOCK, ANNA BOTSFORD

Handbook of nature study Twenty fourth edition Ithaca, New York Comstock Publishing Company, Inc., Cornell University Press, 1939 937 p illus 27 cm $6 75 1818

Contents. Part I, The teaching of nature-study Part II, Animals birds, fishes, amphibians, reptiles, mammals, insects of the fields and woods, insects of the brook and pond, other invertebrate animals. Part III, Plants wild flowers, weeds, garden flowers, cultivated crop plants, trees, flowerless plants. Part IV Earth and sky the brook, rocks and minerals, the soil, the magnet, climate and weather water forms, the skies. Bibliography Index.

Note A well-known text and reference book. With each of the 700 discussions of subjects in nature, a lesson, containing a leading thought to be emphasized by the teacher is included, with a description of the best method of developing this idea through personal observation. There are nearly 50 pages of bibliography

DUBKIN, LEONARD

The natural history of a yard Illustrations by Carl Kock Chicago Henry Regnery Company 1955 208 p illus 21 cm $3 50 1819

Note. An unusual book of nature observations. The area of observation was a small plot of grass containing a forsythia bush and an elm tree adjacent to an apartment hotel in Chicago. The fauna of this small area was observed by the author and his daughter over a period of three years. What they saw together with a little related material from literature is recounted in the book, which is remarkable on two counts one that so much could be observed in so small an urban area, and, two, the sensitive and charming style in which the observations are communicated. The two observers were both amateurs, and the book is addressed primarily to amateur naturalists and to lay readers who enjoy reading about nature.

GOLDMAN EDWARD ALPHONSO

Biological investigations in Mexico (with 71 plates) Washington D C. The Smithsonian Institution 1951 476 p illus 24 cm. (Smithsonian miscellaneous collections Vol 115 (whole volume) Publication 4017) 1820 $4 50

Contents Introduction. Itinerary of Nelson and Goldman in Mexico and Guatemala, 1892–1906. Localities visited by Nelson and Goldman in Mexico and Guatemala, 1892–1906 Mexico Aguascalientes. Baja California. Campeche. Chiapas. Chihuahua. Coahuila. Colima. Distrito Federal. Durango. Guanajuato. Guerrero. Hidalgo. Jalisco. México Michoacán. Morelos. Nayarit. Nuevo León. Oaxaca. Puebla. Querétaro. Quintana Roo. San Luis Potosí. Sinaloa. Sonora. Tabasco. Tamaulipas. Tlaxcala. Veracruz. Yucatán. Zacatecas. Guatemala. Physiography General features. The tableland or great interior plateau. Mountain ranges. Plains. Drainage. Climatic relations Geographic distribution of species. Life zones Lower tropical zone. Upper tropical zone. Lower austral zone. Upper austral zone. Transition zone. Canadian zone. Hudsonian zone. Arctic-Alpine zone. Biotic provinces. Literature cited. Index.

Note This volume describes a series of expeditions into Mexico between 1892 and 1906 by Edward W Nelson and Edward A. Goldman. At the time of the death of the author in 1946, the work was not entirely completed subsequently the manuscript was ordered, edited, and prepared for publication by his immediate superior, Hartley H. T Jackson, Chief of the Section of Biological Surveys, United States Fish and Wildlife Service. The outline of their itinerary during their time in Mexico is followed by a description of each of the towns visited, giving its altitude, the dates of their visit, and notes about physiography and vegetation. The remainder of the volume lists the species of plants, mammals, and birds found in each of the ten major life zones and subzones of Mexico, with identification provided of the localities where the species were found.

HIGMAN, HARRY WENTWORTH, AND EARL J LARRISON

Union Bay, the life of a city marsh. Illustrated by Edmund J Sawyer Seattle University of Washington Press, 1951 315 p. illus 21 cm $4 00 1821

Contents The marsh in Union Bay How the tule wren acquired summer quarters. The marsh is a hotel. The tail dipper. A worm's a worm. The bill of fare. Shells on Union Bay The white plague. The track near the marsh. Introducing something new. American squaw's toes, and other things. The henpecked blackbird that put to sea. Among the guests registered. A firm seat. How a new water witch came to the marsh. Teeters, nods, and bobs. How the great heron wandered. Marsh symphony Quintet. Pipskins and dowitchers. Sky sweepers. Wild fowl and men. Who killed Cock Robin? Fur is punishment. The specialist loses control.

Note A book of essays about the wildlife in a marsh located in a well-populated district in the city of Seattle Washington. The main theme is the interrelation between the wildlife and the adjacent settlement of man, but this idea is not overemphasized. The book is essentially a collection of sensitive writing about marsh life as observed by these two authors, and it is addressed to lay readers rather than to specialists.

FAIRCHILD, DAVID

The world grows round my door, the story of the Kampong, a home on the edge of the tropics New York Charles Scribner's Sons, 1947 347 p illus. 24 cm $5 00 1822

Contents (abridged) Waves of a long life. First day on the Kampong. The great trees. Doom along the Tamiami trail. Plants that climb. Some nesting habits of humans. Sausage tree and jungle. Among the palms on the Kampong. There's no disorder in a jungle. A plant breeder's moments. Keeping their names straight. Learning to like granddaddy's new fruits. The gorgeous East Indian mango. Stories of some Kampong trees. The ages of trees. Index.

Note Travels to foreign lands and the author's home in southern Florida constitute the background of this fascinating autobiography The real "dramatis personae" in this setting, however are the many tropical and subtropical trees, bushes, and flowers transplanted by Dr. Fairchild to his garden. The vivid narrative, interspersed with philosophical reflections and descriptive details and the many excellent photographs, makes this book by a well-known botanist pleasant and stimulating reading.

LEY, WILLY

Dragons in amber, further adventures of a romantic naturalist New York The Viking Press 1951 328 p illus 21 cm $3 75 1823

Contents: Part one, Records in amber: The tears of the Heliades. The secret of the blue earth. Footprints in red sandstone. The dragon from the Lias epsilon. The mammoth from the permafrost. Part two, Survivors: The last of their kind. The story of the okapi. Stronghold of the [illegible]. A bird known as takahe. Green lizard. The forest of the dinosaurs—cycads. Part three, Wanderers across the planet: The story of the fish *Anguilla*. The return of the native. Wanderers across the planet. The islands of adventure. Index.

Note: An interesting book in which there are several fascinating accounts of zoological discovery and research and also some stories about fossils. It is designed for the general reader. The various chapters are more or less independent accounts and are written in the vein of *The lungfish, the dodo, and the unicorn* by the same author. Drawings are by the author's wife, Olga Ley. Two chapters originally appeared in condensed form in *Natural history* magazine.

LEY WILLY

Salamanders and other wonders still more adventures of a romantic naturalist. With illustrations by Olga Ley New York The Viking Press, 1955 293 p illus. 21 cm. $3 95 1824

Contents: Part I, Problems of the past. Cave salamanders and high politics. The little people. *Natura Abhorret Vacuum*. The Abominable Snowman. Prelude to aviation. Part II, Retained information—three fabulous beasts: The tree of death. The man-eating tree of Madagascar. The emperors' *Araucaria Mirabilis*. Part III, Survivors: The case of the coelacanth. The wildcraps of Switzerland. The fairy old man of the sea. The old coast. Sequence and duration of geological periods. Index.

Note: The author of this book is well known as an interpreter of science for lay readers. He has written on such diverse subjects as rockets, space travel, and nature. This book, one of those on nature, deals with a selected group of "wonders" and remarkable facts and events in natural history. Little, if any, of it is based on the author's own observations of nature. Instead, the book is a critical review of the literature pertaining to the subjects of the various chapters. Although there is some stress on the unusual and "romantic" aspects of the topics discussed, the book was written with a considerable degree of scientific detachment. Viewed as a whole, it is fascinating, not only because of the out-of-the-ordinary subjects of its chapters, but also because of the author's unique way of presenting them.

NATIONAL RESEARCH COUNCIL. PACIFIC SCIENCE BOARD

Island bibliographies Micronesian botany Land environment and ecology of coral atolls. Vegetation of tropical pacific islands. By Marie-Hélène Sachet and F Raymond Fosberg. Compiled under the auspices of the Pacific Science Board. Washington, D C. National Academy of Sciences—National Research Council, 1955 577 p 28 cm. (National Research Council Publication 335) $6.00 1825

Contents: Annotated bibliography of Micronesian botany. Index. Bibliography of the land ecology and environment of coral atolls. Index. Selected bibliography of vegetation of the tropical Pacific islands. Index. List of serial abbreviations. Addenda to the annotated bibliography of Micronesian botany. Addenda to the bibliography of the land ecology and environment of coral atolls. Addenda to the selected bibliography of vegetation of the tropical Pacific islands. Addenda to the list of serial abbreviations.

Note: The three related bibliographies published in this volume are international in scope. Two of them are comprehensive in the sense that the compilers included references to all relevant literature published to November 1, 1954 that they were able to discover. The third one is a selected but nevertheless very extensive list. In each of the lists, the information given for each entry includes author's name, title of the paper or other publication, periodical citation including volume number, pagination, and year, and short annotations. The arrangement is alphabetical by name of author with indexes by localities, subjects, etc.

PALMER, EPHRAIM LAURENCE

Fieldbook of natural history New York McGraw Hill Book Company Inc., 1949 664 p. illus. 23 cm. $8 00 1826

Contents. The sky at night. The solar system. The sun. Planets. The earth. The moon. The mineral kingdom. Rocks. Minerals. The plant kingdom. Thallophytes: Algae. Fungi. Bryophytes: Liverworts. Mosses. Pteridophytes. Ferns. Fern allies. Spermatophytes: Gymnosperms. Angiosperms. Monocotyledons. Dicotyledons. The animal kingdom. Invertebrates: General invertebrates. Mollusks. Arthropods: Arachnids. Insects. Chordates, including vertebrates: Fishes. Amphibians. Reptiles. Birds. Mammals.

Note: This book presents a large amount of encyclopedic information about animate and inanimate nature. The first 39 pages of the volume are devoted to astronomy and geology. The remainder covers the vegetable kingdom and the animal kingdom. The arrangement of the biological material is by phyla and classes, a detailed index giving page references both to scientific and to common names in one alphabet. The illustrative material appears mostly in original line drawings occupying the upper third of each page. The remaining two-thirds of these pages present text in three columns containing detailed descriptions of the species and data on their range, relationships, life history, economic importance, etc. A feature is the inclusion of garden flowers, vegetables, and domesticated animals along with wild-life forms.

PETERSON ROGER TORY AND JAMES FISHER

Wild America. The record of a 30,000-mile journey around the continent by a distinguished naturalist and his British colleague. Illustrated by Roger Tory Peterson. Boston Houghton Mifflin Company 1955 434 p. illus. 22 cm. $5 00 1827

Contents. Prologue. Atlantic gateway. *Sea cliffs of Cape St. Mary.* The rude bridge. Wild trails for the millions. City in the woods. Down the Blue Ridge. *On top of Old Smoky.* Deep South. Wildlife chessboards. World invader—the cattle egret. Kites over the sawgrass. The 'Glades. America's coral islands. Ivory-bill quest. Flying gardens of Avery Island. Lydia Ann. Wilderness lost. South of the border. Sun on the last land. Islands in the sky. Desert gardens. Land of the old people. "Something has happened here." From inferno to valley of torture. The Cliffs of Coronado. Pale-[illegible] giants. Golden coast. Big trees and the big lie. Green country. Deep blue lake. Ghost forest and rain forest. Cr[illegible] dwellers of destruction. Tundra of the emperors. The islands of the seals. Birds of the Seal Islands. Back home. Appendix: History of the fur seal herds. Index.

Note: An interesting account by two naturalists of their journey in 1953 from Newfoundland south through Massachusetts and the Blue Ridge country to Florida, thence via Louisiana, Texas, and old Mexico, west to California, thence north through Oregon and Washington to Alaska and the Pribilof Islands, covering 30,000 miles in 14 weeks. The trip was by automobile, except for the portions from Newfoundland to Boston and from Seattle to Alaska, which were by airplane. National parks, national monuments, fish and wildlife refuges, and bird sanctuaries were focal points. Since the two authors are ornithologists, the major emphasis is on the bird life, but other aspects of wild life are by no means neglected. The book is "woven together" from the combined notes of the authors, each chapter containing an introduction and other portions by Peterson and extracts from the journal kept by Fisher and illustrations in black and white by Peterson. An outline map of the route is reproduced on the end papers.

ROOSEVELT THEODORE

Theodore Roosevelt's America selections from the writings of the Oyster Bay naturalist. Edited by Farida A. Wiley With introductory essays by John Burroughs, Gifford Pinchot, Henry Fairfield Osborn Ambrose Flack, and a foreword by Ethel Roosevelt Derby Illustrated by Ugo Mochi. New York The Devin-Adair Company 1955 418 p illus. 21 cm. $5 75 1828

Contents (abridged) Foreword. Roosevelt as a naturalist, by Ambrose Flack and others. Western cattle country in the 1880's. Frontier types—good, bad, and sometimes dangerous. Law and order on the plains—Roosevelt as sheriff. Roosevelt the ranchman. Providing food and collecting trophies. In defense of accurate scientific writing. In defense of our natural heritage. South American adventure. Important events in the life of Theodore Roosevelt. Sources of quotes. Index.

Note. Theodore Roosevelt, 25th President of the United States of America, was also an outstanding naturalist and writer on nature subjects. This book provides a selection from his writings on nature and related subjects, such as the hunting of game animals. In addition, it contains short appraisals of Roosevelt as naturalist by John Burroughs and the three other naturalists mentioned in the subtitle, a foreword by a daughter of Roosevelt, and a biographical introduction by the editor of the collection.

SETON, ERNEST THOMPSON

Ernest Thompson Seton's America, selections from the writings of the artist naturalist Edited with an introduction by Farida A Wiley With contributions by Julia M Seton and drawings by Ernest Thompson Seton New York The Devin Adair Company, 1954 413 p illus 22 cm $5 00 1829

Contents Impressions, by J M. Seton. Acknowledgments. Introduction by F A. Wiley Boyhood days in Canada. Across Canada by rail. The Manitoba prairies. Birds of Manitoba. Two bird stories. Mammals of Manitoba. Bison and Caribou herds. Studies in the anatomy of animals. Tracking and trailing. Can zoo animals lead normal life? Two life histories—grizzly bear and moose. The horse. A dog story—Hank and Jeff. Life history of the bighorn sheep. Krag, the Kootenay ram. Life history of the gray wolf Two wolf stories. The rise of the woodcraft Indians. Stories for the campfire. Indians real and make-believe. The "Buffalo Wind" calls again. Books by Ernest Thompson Seton. Index.

Note A short anthology of selections from the works of Ernest Thompson Seton, 1860–1946, who achieved fame as an observer of wild animals, as a writer of popular literature about them, as the author of the treatise, *Lives of game animals* and as an artist specializing in the depiction of wild animals. It contains examples of the various kinds of his writings and art work. In addition there is a sketch of his personality written by Julia M. Seton his second wife, and a biographical introduction by the editor of the volume.

TEALE, EDWIN WAY

Autumn across America, a naturalist's record of a 20,000-mile journey through the North American autumn. With photographs by the author New York Dodd, Mead & Company, 1956 386 p illus. 21 cm. $5 75. 1830

Contents Monomoy—turn of the tide. Forests of the sea. Feather clouds. The long valley The autumn stars. Butterflies in the wind. Warbler river Dusty autumn. The great flyway Petrified forests. Mystery sleep. Wonderful eighty-three. Badlands by moonlight. Tumbleweed winds. Ants of the battlefield. Rock rabbit. High autumn. Our million-duck day White desert. Craters of the moon. Lost in the mountains. Horse Heaven hills. The long way home. A day with the fern gatherers. Mysterious mound. The golden squirrel. Land of the windy rain. Tidepools. The [illegible] valley of the west. Otter surf. Butterfly trees. Mountain sea. Windy crag—ebb of the tide. Index.

Note A companion book to the author's *North with the spring*, New York, 1951 Ostensibly the account of a trip by automobile from Monomoy on the tip of Cape Cod to Yosemite valley in California, the book is essentially a volume of miscellaneous writings about nature, and particularly nature in the autumn. It includes also considerable description of the northern and western regions of continental United States of America. It is addressed primarily to amateur naturalists and general readers, and is written in a lucid, sensitive style that effectively evokes the scenes and phenomena that the author observed.

TEALE, EDWIN WAY

The lost woods adventures of a naturalist. Illustrated with 200 photographs by the author New York Dodd, Mead & Company 1945 326 p illus 25½ cm. $5.00 1831

Contents (abridged) The lost woods. The return of the [illegible]. The striking serpent. Audubon's Island. The mangrove wilderness. On the trail of Thoreau. Beaver show Submarine butterflies. Fishing ventures. Natural history in Times Square A memory of the redwoods. A school for fawns. The mystery of the vanishing [illegible]. Hawkways. Dark water World of a wild bee. The cabin of the [illegible]. Wildlife at Walden. The private life of a snowflake. Index.

Note A collection of essays on a variety of subjects by one of the most successful contemporary American interpreters of nature. Several of them have previously appeared in popular periodicals.

BIOLOGY

GENERAL

BONNER, JOHN TYLER

Morphogenesis an essay on development. Princeton Princeton University Press, 1952 296 p. illus. 23 cm. $5.00 1832

Contents: Introduction. Size and pattern. Physics and chemistry in development. Patterns of growth. Patterns of morphogenetic movements. Polarity and symmetry. Patterns of differentiation. An analysis of development. Bibliography. Index.

Note: This study by a member of the faculty of the Department of Biology at Princeton University is primarily an analytical survey of the current state of the knowledge of morphogenesis. The author divides morphogenesis into constructive processes, particularly growth, morphogenetic movements and differentiation, and limiting processes, such as food supply. He draws an analogy between growth and crystal formation but carefully points out that we do not know whether the processes that operate in the growth of crystals also operate in living organisms. The work is substantial enough to be of interest to professional biologists, but the style is not too technical for scientists who are not biologists nor for mature lay readers.

BUTLER, ELMER G., editor

Biological specificity and growth. Princeton Princeton University Press, 1955 233 p. illus. 25 cm. (Society for the Study of Development and Growth. Twelfth symposium, 1953) $5.00 1833

Contents: Ontogeny of the blood and related antigens and their significance for the theory of differentiation, by A. M. Schechtman. Immunobiological approach to some problems of induction and differentiation, by M. W. Woerdeman. Immunogenetics, by M. R. Irwin. Enzyme development as ontogeny of specific proteins, by F. C. Shen. Cellular differentiation and the development of enzyme proteins in plants, by R. Brown and E. Robinson. Some problems of specificity in the sexuality of plants, by J. R. Raper. General aspects of immunological reactions with bacteria and proteins, by J. A. Harrison. Specificity in the relationship between host and animal parasites, by W. H. Taliaferro. Compatibility and incompatibility in tissue transplantation, by H. B. M. Coombs. Specificity in growth control, by P. Weiss. Specificity of nucleic acid [illegible] in embryonic development, by R. Briggs and T. J. King. Index.

Note: Papers presented at a symposium of the Society for the Study of Development and Growth held in 1953 are published in this volume. The central theme is the role of biological specificity in growth and differentiation. The typical paper is a combination of results from the published literature and from recent research in which the author or authors played a prominent part. In some of the papers the recent investigations preliminary and this volume is the first publication of the results reported. All of the papers are written at a professional level and are addressed primarily to graduate biologists. All are accompanied by bibliographies of the literature pertinent to the topic of each paper.

CONN, H. J., AND OTHERS

Biological stains, a handbook on the nature and uses of the dyes employed in the biological laboratory Prepared with the collaboration of various members of the Biological Stain Commission. Sixth edition, revised with the assistance of Elmer H Stotz and Mary A. Darrow Baltimore The Williams & Wilkins Company 1953 367 p. illus. 20 cm. $5.00 1834

Contents: Uses and standardization of biological stains. The general nature of dyes and their classification. The theory of staining. Spectrophotometric and chromatographic analysis of dyes. Nitro and azo dyes. The quinone-imine dyes. The phenyl methane dyes. The xanthene dyes. The natural dyes. Miscellaneous dyes, pigments and biochemical reagents. Neutral stains. Appendixes: Tables relating to stains. Methods for testing biological stains. General laboratory information. Bibliography. Index.

Note: Biological stains are dyes adapted to special purposes, chiefly that of making microscopic objects more clearly visible than they would be unstained. This book is a standard handbook of these special dyes and of related dyes used in biology which are not stains, including medicinal dyes, bacteriostatic agents, and indicators. It is sponsored by the Biological Stain Commission and was formerly published by it. The first edition was published in 1925 and the fifth edition in 1946. In this sixth edition there has been no change in purpose and scope, but considerable material has been added, some of it on new dyes and some of it on biochemical reagents. Other important revisions are the inclusion of a discussion of chromatography and of more information on the identification of stains.

FESSENDEN, G R.

Preservation of agricultural specimens in plastics. Washington D C. Government Printing Office 1949 78 p. illus. 23 cm. (United States Department of Agriculture. Miscellaneous publication no. 679) $0.35 1835

Contents: Introduction. Part I, Preservation of natural color in plant specimens mounted in plastic plates. Equipment and supplies. Types of preserving fluids and their principal characteristics. Collection, storage, and preliminary preparation of specimens. Preparing the specimens for natural color preservation. Preserving and laying out the specimens. Dehydration and preparation for mounting. Mounting between plastic sheets. Care of finished mounts. Part II, Embedment of biological specimens in plastic blocks. Equipment and supplies. Properties of methyl and ethyl methacrylates. Preparation of plastic. Selection of specimens. Preparing specimens for embedment. Casting supporting bases for specimens. Embedment of specimens. Finishing the castings. Care of finished mounts. Literature cited. Patents. Selected bibliography.

Note: Equipment and supplies required for two different methods of preserving agricultural specimens in plastics and the techniques involved are described in this pamphlet. Photographic illustrations show steps in the processes and some samples of results.

GABRIEL, MORDECAI L. AND SEYMOUR FOGEL, editors

Great experiments in biology Englewood Cliffs N J Prentice Hall, Inc., 1955 317 p illus. 23 cm (The Prentice Hall animal science series H Burr Steinbach, editor) $3.75 1836

Note: This anthology, prepared especially for college students in biology and of interest to general readers also, reprints the texts of reports of classical experiments in biology from the earliest days of the introduction of the scientific method to the present time, with convenient chronologies which locate the experiments in their particular places in the history of science. The editors have presented connected sequences in a chain of discovery within a field, in preference to offering representative selections ranging over the entire field. Introductory paragraphs indicate the significance of each experiment. Many of the papers were translated into English especially for this volume, some of them presumably in abridged form, by M. L. Gabriel, O. Jeserich, W. Lewis, and E. R. Wolfe.

GERARD, RALPH WALDO

Unresting cells New York Harper and Brothers, 1949 439 p illus. 22 cm. $4 00 1837

Contents. Out of the nowhere—prologue. Odyssey of an amoeba—simple cell life. Cell substances—protoplasmic chemistry Architecture in miniature—protoplasmic structure. Master craftsmen—enzymes. Molecular traffic—metabolism. Fuel for the lamp of life—energy Action and its consequences—irritability and behavior Through the microscope—cell structure. Reproduction among molecules—specific synthesis. Oaks from acorns—growth, reproduction, and aging. From the general to the particular—differentiation embryogeny Inherited molecules—heredity and genes. Organism—epilogue. Index.

Note A brilliantly written account for lay readers and nonspecialists of the basic life processes. Genes, molecules, enzymes, etc., are discussed rather than the habits and behavior of complex animals. Experimental methods used in gaining such knowledge in biology are described. The latter feature, together with the over-all character of the book, makes it a good introduction for laymen to the methods of modern science. The book was first published in 1940, but publishing difficulties associated with World War II eventually caused it to go out of print. This edition appropriately called a reissue by the publisher has the original text except that errors have been corrected.

GREGG, JOHN R

The language of taxonomy, an application of symbolic logic to the study of classificatory systems New York Columbia University Press, 1954 70 p 21 cm (Columbia bicentennial editions and studies) $2 50 1838

Contents Sets. Sets of ordered pairs, or relations. Hierarchies. An introduction to taxonomic systems. The structure of taxonomic systems. Taxonomic systems and taxonomic categories. Selected bibliography Acknowledgements.

Note. The author of this book proposes application of the terms and rules of mathematical logic to methodological taxonomy The first three chapters are a concise introductory exposition of the applicable terms, concepts and symbols of mathematical logic. The next chapter is an analysis of existing taxonomic systems, and the final two chapters illustrate the construction (or reconstruction) of taxonomic systems according to the rules of set theory The book is potentially of interest to all biologists and is of special interest to those who are primarily concerned with classification. The author is Associate Professor of Zoology in Columbia University

HARVEY, EDMUND NEWTON

Bioluminescence. New York Academic Press, Inc., 1952 649 p illus. 24 cm $13 00 1839

Contents Bacteria. Fungi. Protozoa and Porifera. Calderia Ctenophora. Miscellaneous small groups. Annelida. Mollusca except Cephalopoda. Cephalopoda. Crustacea. Arachnoidea and Myriapoda. Insects except Coleoptera. Coleoptera. Echinodermata. Tunicata or Urochordata. Pisces. Addenda. Bibliography Index.

Note A monograph on the production of light by living organisms, written by one of the world's outstanding authorities on the subject. The arrangement of the book puts the emphasis on the organisms that have been studied, and information on the chemistry of bioluminescence is scattered throughout the book. Passages that contain more than incidental references to chemical processes are indexed under "Biochemistry" in the subject index. The book is of interest first to biologists studying bioluminescence and second to chemists. Among chemists the interest is not limited to those workers investigating the production of light by chemical means but includes chemists concerned with enzymology pharmacology etc. The comprehensive bibliography runs to 76 closely printed pages.

HJORT, JOHAN

The human value of biology Cambridge, Mass. Harvard University Press, 1938 241 p illus 20 cm. $2 50 1840

Contents Philosophy and research. The renaissance. The biological philosophy of the renaissance. Analogies of experience. The study of life. The meaning of species. Mental and physiological experience. Biology and the science of population. Biology and social service. Sociology in the light of biology.

Note This volume is of as much interest to students of sociology and government as it is to biologists. It is based upon the author's work in the marine fisheries and in the whaling industry His research, which has been concerned with population problems in the sea, has made him conscious of the social problems of living populations as distinguished from controlled phenomena in the laboratory The first part of his book is devoted to the history of biological science and its relations to current philosophical systems. The author insists that biology should be interpreted by biologists and should free itself from domination by philosophies derived from physics and mathematics. The method by which it developed as a science seem to him to fit its problems and materials better than those borrowed from the physical sciences. He adds a strong demand for a wider study of population biology the principles of which must be basic to any sound sociology politics, and government.

HOLMES, SAMUEL JACKSON

Organic form and related biological problems Berkeley University of California Press, 1948 169 p 24 cm. $2 50. 1841

Contents. The problem of organic form. Building through functioning. Competition as an integrative factor. The problem of divergent differentiation. Chemical equilibrium and organic integration. How life becomes complex. The regeneration of the blood and its bearing on morphogenic theory The reversal of development. Cancer as a biological problem. Genes versus gradients. The hypothesis of direct adaptation. Autocatalytic enzymes and the origin of life. Recapitulation and its supposed causes. References. Index.

Note. Essentially this book is a collection of more or less unrelated essays on the biological topics which are named in the chapter titles. In most cases, each essay is a critical evaluation of current concepts and theories pertaining to its special subject, but in some there is only discussion of certain interesting aspects, with no attempt to cover the broad topic. Although most of the essays are written so as to be intelligible to educated laymen, they appeal most to persons who have some special training or interests in biology

JAEGER, EDMUND C

A source book of biological names and terms. Third edition Illustrations by Merle Gish and the author Springfield Ill. Charles C Thomas, 1955 317 p illus. 25 cm $5 75. 1842

Note A standard reference book on the origin, meaning and use of the component parts of the scientific names and terms used in biology For each of over 13,000 word elements, including prefixes and suffixes, are shown Greek, Latin, or other origin, meaning and one or more examples of use in scientific terminology Though not lavishly illustrated, there is a fair number of small illustrations. The second edition was published in 1950. The main body of this third edition—that is to say the principal alphabet—appears to be unchanged except for the correction of errors. However a 30-page addendum has been added, 17 pages of which are devoted to another group of terms of the same kinds covered in the main alphabet. Following the supplementary alphabet is a section of short biographical sketches of men in whose honor plants and animals have been given commemorative names, for example, H. B. Rupp whose name is commemorated in the plant genus *Ruppia*.

JOHNSON, FRANK HARRIS, *editor*

The luminescence of biological systems. Proceedings of the Conference on Luminescence March 28–April 2 1954 sponsored by the Committee on Photobiology of the National Academy of Sciences—National Research Council and supported by the National Science Foundation Washington, D C The American Association for the Advancement of Science, 1955 452 p. illus. 24 cm. $7 00 1843

Contents Members of the Conference. Survey of luminescent organisms—problems and prospects, by E. N Harvey. Luminescence

spectroscopy of molecules and the photosynthetic system, by R. [illegible] Becker and M. Kasha. Light emission of delayed light production in green plants, by W Arnold. Fluorescence spectrophotometry of photosynthetic pigments, by C. S. French. Kinetics of chemiluminescence of the 2,3-dihydrophthalazine-1,4-diones, by F C. Wiedemann and others. Spectroscopic investigations of luminescent systems, by C. J. P. Spruit and A. Spruit-van der Burg. Recent studies on the chemistry of Cypridina luciferin, by F. L. Tsuji and others. Biochemistry of firefly luminescence, by W. D. McElroy and J. W. Hastings. Firefly luciferin, by B. L. Strehler. Factors and biochemistry of bacterial luminescence, by B. L. Strehler. Purification and properties of bacterial luciferase, by J. W. Hastings and W. D. McElroy. Inhibition and activation of intracellular luminescence, by F H. Johnson. Physiological control of luminescence in animals, by J. A. C. Nicol. Some reflections on the control of bioluminescence, by J. Buck. Luminous organisms of Japan and the Far East, by Y. Haneda. Ecology of autotrophic marine dinoflagellates with reference to red water conditions, by J. H. Ryther. Bioluminescence in Gonyaulax polyedra, by F. T. Haxo and B. M. Sweeney. Author index. Genera and species index. Subject index.

Note. The conference of which the contributed papers are here published in full was called to consider various types of luminescence found in plants and animals, whether self-luminous organisms or organisms whose light comes from symbiotic luminous bacteria. The authors are eminent biologists, and they addressed themselves to other graduate scientists. The 17 papers, each published with diagrammatic illustrations and bibliographical references, are interspersed in the volume with transcriptions of the chief discussions on the papers which took place at the conference. The preface by the editor synthesizes the papers and their relations to one another.

KEMPTHORNE, OSCAR, AND OTHERS editors
Statistics and mathematics in biology Edited by Oscar Kempthorne, Theodore A. Bancroft, John W Gowen, and Jay L. Lush. Ames Iowa State College Press 1954 632 p. illus. 23 cm. $7.50. 1844

Contents (abridged) General biometrical principles and procedures: Biometry its nature and concepts, by G. W. Snedecor. Multivariate analysis, by H. Hotelling. Efficient and inefficient methods of measuring specific differences, by E. Anderson. Problems in classifying populations, by S. L. Isaacson. Experimental designs in agronomy by W. H. Leonard. The experimental utilization of [illegible] twins, clones, and other genetic subgroups, by M. K. Quenouille. The philosophy of experimentation, by C. W. Churchman. II, Changes in population number: Competition and other interactions between species, by C. L. Chiang. Analyses of populations of mutating bacteria, by F J. Ryan. III, Estimation of populations: General methodology in sampling human populations, by R. J. Jessen. Problems in forest inventory from the statistical point of view by A. A. Hasel. Estimating fish and wildlife populations—a survey of methods, by L. W. Scattergood. On the assumptions underlying estimates of mobile populations, by D. B. DeLury. The growth of human populations, by P. K. Whelpton and R. Gilm. IV Determination of biological response: The quantal response in toxicity tests, by L. C. Miller. Intrathecal assays, by C. I. Bliss. Some statistical aspects of flavor and aroma testing, by J. W. Hopkins. Determinations of the nutritional requirements of dairy animals and swine, by J. K. Loosli. Biomathematical problems of sexual behavior, by J. P. Scott. Genetical analysis of populations: Gene frequencies in nonexperimental populations, by P. Levene. A description of studies on the potential genetic effects of the atomic bombs in Japan, by J. V. Neel and W. J. Schull. Effects of X-rays of different wave lengths on viruses, by J. W. Gowen. Breeding structure of populations, by J. L. Lush and J. F Crow. The cell nucleus in cell growth and division, by C. Leuchtenberger. Bibliography. Index.

Note Papers presented at [illegible] Statisticians Conference held at Iowa State College in June and July of 1 [illegible] are published in this volume. Specialists in biology mathematics, and statistics participated in the conference. Generally speaking, they addressed themselves to graduate and teachers of biology. Forty-four papers are presented in the volume, and the authors and titles of [illegible] selection of them are given above. The 42-page bibliography at the end of the volume [illegible] arranged alphabetically and pertains to the subject of the book as [illegible] whole rather than to that of individual papers.

KINKEAD EUGENE
Spider egg, and microcosm three men and three worlds of science. With an introduction by E. B White. New York Alfred A. Knopf 1955 244 p. 22 cm. $4.50 1845

Contents: Dr Alexander Petrunkevitch, arachnologist. Dr Alexis Romanoff, embryologist. Dr Rene Dubos, microbiologist.

Note: An example of good scientific writing for lay readers. The three parts or essays are biographical in nature, but they are concerned more with the methods and scientific achievements of their subjects than with traditional biographical material. Their effect is not only to make the scientist-subjects appear to be interesting as personalities, but also to make the importance of their activities apparent. The essays were originally published in *The New Yorker* magazine and were revised for book publication.

MINER ROY WALDO editor
Instrumentation. Conference chairman and consulting editor Joseph Greenspan. New York Published by the Academy 1955 807–964 p. illus. 22 cm. (New York Academy of Sciences. Annals Vol. 60 art. 6) $3 00 1846

Contents Part I, The science of instrumentation: Instrumentation research at the National Bureau of Standards, by W. A. Wildhack. Medical research instrumentation, by R. L. Bowman. The relationship between the process of measurement and instrumentation in biology by H. J. Morowitz. Measurement as [illegible] human activity by J. D. Trimmer. Part II, The translation of instrument requirements and specifications: Contribution of the atomic age to instrumentation, by V. L. Parsegian. Instrument requirements and specifications in bioelectric recording, by H. Grundfest. Instrumentation problems encountered in clinical research, by D. A. Holaday. General and specific problems involved in diagnosis and research by means of electronic instruments in [illegible] large general hospital, by R. S. Schwab. Instrumentation requirements in sensory aids, by W. E. Frank. Part III, Some examples of the use of analog instruments: An analog computer for studying biological systems, by C. C. Yang. Electric analog computers—classification, design, and application, by V. Paschkis. Transducers in instrumentation, by D. E. Kerr. Construction and application of membrane analogs, by W. E. Rogers. The application of the electrolytic tank to the solution of potential field problems, by C. Hechtmueller. Field mappers as visual analogs for potential fields, by A. D. Moore. Concluding remarks, by J Greenspan.

Note The papers presented at [illegible] conference held by the Section of Biology of the New York Academy of Sciences in October 1954 have been published in this monograph. The general topic of the conference was instrumentation in biological research and medicine rather than instrumentation in general, as the title might be taken to indicate. The sub-topics are obvious from the titles of the parts and of the individual papers. Biological applications of developed instruments and instrumental needs are both discussed. Short lists of literature references are included for most of the papers.

QUASTLER, HENRY editor
Essays on the use of information theory in biology Associate editors Leroy Augenstine, Robert M. Baer Eleanore B Carver James W Osborne, Kenyon S. Tweedell. Urbana University of Illinois Press, 1953 273 p. illus. 22 cm. $4 00 1847

Contents Section I, Definition and measurement of "information": Some fundamentals of information theory by S. Goldman. Statistical information, by R. A. Fisher. Information and physical entropy by M. Linschitz. Information and thermodynamic entropy, by L. Augenstine. Some general remarks on information theory and entropy by R. M. Baer. A definition of information from the thermodynamics of irreversible processes, by H. R. Branson. The measure of specificity by H. Quastler. Section IIa, Fundamental biological units—structural analyses: Remarks on Pauling's protein models, by L. Augenstine. Information theory and the structure of proteins, by H. R. Branson. A search for intersymbol influences in protein structure, by L. Augenstine and others. Structural interpretation of denaturation data, by L. Augenstine. Section IIb, Fundamental biological units—functional analysis: Protein synthesis and immunochemistry by F Haurowitz. Genes and antigens, by M. R. Irwin. The specificity of elementary biological functions, by H. Quastler. Section III, Bio-systems: The control of the blood sugar level, by D. E. Bergsten and others. Biological systems and information dynamics, by R. M. Baer. Identical twinning and the information content of zygotes, by K. S. Tweedell. The information content of [illegible] bacterial cell, by H. Linschitz. The information content and error rate of living things, by S. M. Dancoff and H. Quastler.

Note A volume of short, technical papers pertaining to entropy in biological systems and processes. The papers in the first section discuss the basic concepts of information theory and definitions. The others discuss those areas of biology indicated in their titles. The volume is a product of a course of lectures and discussions sponsored by the Control Systems Laboratory at the University of Illinois in 1952 It is of interest primarily to graduate biologists who wish an introduction to information theory in relation to their science, and secondarily to scientists who wish to keep abreast with all development in information theory

RUDNICK, DOROTHEA, editor
Aspects of synthesis and order in growth Princeton Princeton University Press, 1954 274 p illus 24 cm (Society for the Study of Development and Growth. Thirteenth symposium, 1954) $6 00 1848

Contents Part I, Physical chemical considerations The duplication of molecules, by L. Pauling. The biosynthesis of proteins and peptides, by J S. Fruton. Part II, Intrinsic and extrinsic growth controls The plasticity of enzymatic patterns in microbial cells, by R. Y Stanier Some aspects of protein biosynthesis in development, by J D Ebert. Review of the pleiotropic effects of W-series genes on growth and differentiation, by E. S. Russell. Virus-induced metabolic transformations and other studies on unbalanced growth, by S. S. Cohen. Photoresponsive growth, by S. B Hendricks and H. A. Borthwick. Part III, Morphogenetic pattern controls The biology of water molds, by R. Emerson. Studies on the organizer center of the early chick embryo by N T Spratt jr Tissue interaction in the morphogenesis of mouse embryonic rudiments in vitro by C. Grobstein. Humoral agents in insect morphogenesis, by D Bodenstein. Index.

Note Papers presented at a symposium of the Society for the Study of Development and Growth in Hanover New Hampshire, on June 23–26, 1954 have been collected in this volume. Most of the papers are reviews of recent research, and some remarkable advances in the understanding of growth processes are recorded. A majority of the papers are devoted to topics which are distinctly biochemical in nature.

SINNOTT, EDMUND WARE
Cell and psyche the biology of purpose Chapel Hill University of North Carolina Press, 1950 121 p 21 cm $2 00 1849

Contents Introduction. Organization the distinctive character of all life. Biological organization and psychological activity Some implications for philosophy Suggested readings. Index.

Note. In this short book an internationally famous botanist presents the view that body and mind are two aspects of the same biological phenomena. In other words, the evolution of living organisms and the development of man's mental qualities and even the individual traits of persons are all manifestations of a basic quality of protoplasm which has as its purpose the survival of living organisms. Although essentially a philosophical view the argument is solidly based on biological science. The contents of the book were first delivered as John Calvin McNair Lectures at the University of North Carolina.

SPECTOR WILLIAM S
Handbook of biological data. Prepared under the direction of the Committee on the *Handbook of Biological Data, Division of* Biology and Agriculture, The National Academy of Sciences the National Research Council Philadelphia W B Saunders Company, 1956 584 p 28 cm $7 50 1850

Contents (abridged) I, Biochemical and biophysical characteristics Standard solutions—pHs Oxidation-reduction (Redox) potentials. Amino acids—ionization constants and pH values. Bile acids—physical and chemical characteristics. Enzymes—chemical composition. The protoplasmic surface—physical, chemical, and electrical characteristics. Changes in stored preserved blood. Cerebrospinal fluid—physical and chemical characteristics. Tears, physical and chemical characteristics—man. Shoots, leaves, seeds—mineral composition. II, Genetics, cytogenetics, and reproduction Chromosome numbers. Cell division frequency—microorganisms. Blood groups and factors—distribution in various populations. Genetic linkage—man. Fertility and infertility—hybrids. Breeding habits—mammals. Ovum morphology—vertebrates. Pregnancy tests—man. Breeding systems—plants. Seed production dormancy and germination—forest trees. III, Development and morphology Size and growth rate—trees, shrubs. Growth rates—plant tissue cultures. Distribution and size of stomata—leaves. Prenatal development, reflex and spontaneous motor activities—mammals. Summary development characteristics—mammals and birds. Body and organ weights—vertebrates. Body weights—insects. Surface area relationships—mammals. Height and weight—man, North America. Temperature effect on life span—seeds. IV Nutrition, digestion, and metabolism. Foods of plant origin—composition. Foods of animal origin—composition. Nutrient losses in cooking. Daily nutrient allowances—beef and dairy cattle. Synthetic culture media—plants. Effect of soil reaction on availability—chemical elements. The Krebs cycle. Pathways of biosynthesis—chlorophyll. Metabolic rates—soil organisms. Comparative standards of basal metabolism—man. V, Respiration and circulation: Respiration rates—animals—plants. Lung ventilation—vertebrates. Artificial respiration—manual. Blood gases—man at atmospheric characteristics—various altitudes. Heart rates. Effect of inorganic ions and pH on the heart. Pulse characteristics and configurations. Blood flow tissues and organs—mammals. Fluid circulation—theories. VI, Other physiological activities and performance Muscle—physical properties. Nerves—man. The visual mechanism—morphology and physiology Bioluminescence. Water balance—animals. Hibernation—vertebrates. Physical training, effects—man. Antimetabolites. Herbicides—physical, chemical, and biological characteristics. Alkaloids—occurrence, physical, chemical, and biological characteristics. VII, Environment and survival Tolerance to extremes of heat and cold—animals. Effects of hypothermia—man. Vitality tests—seeds. Salt tolerance—plants. Shade tolerance—shrubs and herbaceous plants. Effect of light, with temperature interactions, on flowering of plants. Radioisotopes used in biological research. X-radiation—protection. Background and non-occupational exposures to ionizing radiation—man. Radiation biology—plants. IX, Symbiosis and parasitism. Alimentary tract microorganisms. Arthropods in relation to disease—man. Selected disease viruses—animals and bacteria. Selected protozoan and helminthic parasites—vertebrates. Selected fungal parasites—man. X, Ecology and biogeography Population, registered deaths and death rates, by race and sex—U S. A. 1906–1954 Average remaining lifetime in years at specified ages, by race and sex—U S. A. 1900–1953 Life expectancy—man, various nations. Sex ratios—animals. Sea water—characteristics. Appendices: Taxonomic classification—animals Taxonomic classification—plants. Estimated number of species—animal, plant kingdom. World weather extremes. Index.

Note. A well-sponsored, authoritative reference book. It consists almost altogether of tables, of which a somewhat random sampling is listed by title in the above contents. The total numbers of tables in the respective parts are Part I, 71 Part II, 41 Part III, 47 Part IV 64 Part V 48 Part VI, 85 Part VII, 371 Part VIII, 51, Part IX, 15 Part X, 14 and appendices, 7 All of the data were critically evaluated by experts. The names of the contributors and reviewers are given. Literature references also are given for tables taken from previously published literature. The subject index was expertly made and is fully detailed. Though printed four columns to the page, it runs to 39 pages.

SURVEY OF BIOLOGICAL PROGRESS Volume I. George S Avery, jr editor-in-chief New York Academic Press, Inc., 1949 396 p. illus 24 cm. $7.50 1851

Contents Teaching biology today by H. R. Creighton. The gene and gene action, by B Glass. Tracer methods in biological research, by M. D Kamen. Nutrition and reproduction by K. E. Mason. Growth and development, by H P Costello. Virus tumors, by L. M. Black. Hormones and the differentiation of sex, by R. K. Burns. Growth hormones and tissue growth in plants, by P R. White. Newer methods in the rapid development of disease-resistant vegetables, by W A. Frazier Influence of environmental factors on the vitamin content of food plants, by K. C. Hamner. Ecological studies on populations, by G. E. Hutchinson and E. S. Deevey Jr. Author index. Subject index.

—— Volume II George S Avery Jr., editor in-chief New York Academic Press, Inc., 1952 333 p illus 24 cm. $7 00 1852

Contents Effect of radiations on biological systems, by A. H. Sparrow and B A. Rubin. Progress in human genetics, by H Kalmus. Biological oceanography by G. A. Riley Morphogenesis in plants, by E. Bünning. The control of plant growth by the use of special chemicals, with particular emphasis on plant hormones, by L. G Nickell Histochemistry by F Moog. The fine structure of protoplasm, by L. H. Bretschneider Physiology of reproduction in plants, by A. W Naylor. Author index. Subject index.

Note: The first two issues of the new series that follows [illegible] pattern which is rather thoroughly established in several fields of science. Each of the papers is in effect a monograph of the current knowledge of its special subject. It is based on an extensive survey of the pertinent literature, and careful citations are made from the text to the bibliography. The main purpose of the series is to enable graduates to keep informed about the progress in areas in biological research other than their own.

GENERAL TEXTBOOKS

ALEXANDER, GORDON
General biology New York Thomas Y Crowell Company 1956. 881 p. illus 24 cm. $6 75 1853

Contents (abridged) Part I Introduction—fundamental principles. Part II, Metabolism and irritability in vertebrates. Part III, Reproduction and development in vertebrates. Part IV Metabolism and irritability in higher plants. Part V Reproduction and early development in higher plants. Part VI, Heredity Part VII, Survey of the animal kingdom. Part VIII, Survey of the plant kingdom. Part IX, Distribution Ecology Geographic distribution. Conservation. Part X, Organic evolution Organic evolution—evidences—methods. Evolution and mankind. Index.

Note A comprehensive college textbook of biology Distinctive features include an extensive account of the frog for the supplementation of laboratory study, the adoption of new interpretations of animal and plant classification, general principles illustrated with both plant and animal materials, ecology treated as a major division of biology, suggestions of unsolved problems for future investigation, summary and series of review questions at the end of each chapter. The author is professor and Chairman of the Department of Biology at the University of Colorado.

BAITSELL, GEORGE ALFRED
Human biology Second edition. New York McGraw Hill Book Company Inc., 1950 730 p. illus 24 cm. (McGraw Hill publications in the zoological sciences E. J Boell, consulting editor) $6.50. 1854

Contents (abridged) The world of life. Protoplasmic activities. Organization of the human body Biology of nutrition. Biology of respiration. Biology of secretion. Biology of excretion. Biology of the circulatory system. Biology of the skeletal system. Biology of the muscular system. Biology of the nervous system. Biology of growth and reproduction. Biology of inheritance Human heredity The web of life Biology of cancer. Appendix. Index.

Note A successful textbook for introductory college courses in biology Man rather than lower organisms is used as the chief example of life so as to take advantage of the greater interest in man on the part of beginning students. However many other organisms are discussed at appropriate places. The book includes as an appendix a useful cyclopedic arrangement of information in which advanced information on biological developments and personalities is included, along with discussions of such topics as enzymes. Substantial revisions and additions have been made in this edition.

BROWN, RELIS B
Biology Illustrated by R. Paul Larkin. Boston. D C Heath and Company 1956. 658 p. illus (part col'd) 23 cm. $6 75 1855

Contents Introduction. *Part I* Human biology The skeletal system. The muscular system. The digestive system. The respiratory system. The circulatory system. The excretory system. The nervous system. The endocrine system. The reproductive system. Embryology Cell division. Genetics. Part II, The plant kingdom Thallophyta—algae and bacteria, fungi, algae. Bryophyta. Pteridophyta. Spermatophyta—gymnosperms, angiosperms, dicotyledons, angiosperms, monocotyledons. Part III, The animal kingdom Protozoa. Coelenterata. Platyhelminthes and nemathelminthes. Annelida. Arthropoda. Mollusca. Echinodermata. Chordata. Part IV Evolution History of the theory of evolution. Evidence for the evolution theory The evolution story *Part V* Living together Food getting. Relations of organisms. Biogeography of the United States. Heredity and biology Glossary Index.

Note The author of this introductory college text has selected and organized the material so as to present first the human organism as a familiar and interesting example of how a living organism meets the demands of its environment. The different varieties of plant and animal life are then described against this background. Forms of life commonly available for observation are described as living things, not merely as reference frames for the illustration of principles. In the fourth and fifth parts of the work, some of the principles and information presented in the first three parts are used to set the broad evolutionary and ecological concepts. At the end of each chapter two kinds of questions are included: "review questions" to encourage the student to test his grasp of the material and "general questions" to encourage him to see beyond the material and to develop his scientific imagination and vision. An extensive glossary is included. The illustrations are outstanding in plan and detail.

DE LAUBENFELS, MAX WALKER
Life science Fourth edition containing 1024 illustrations 748 drawings by the author 276 photographs. New York Prentice Hall, Inc., 1949 407 p. illus. 29 cm. $6 95 1856

Contents (abridged) I, General biology Biology Biophysics Biochemistry Cytology Embryology Histology II, Human biology Anatomy Physiology Psychology Hygiene Immunology Dietetics. III, Plant biology Botany Phytophysiology Taxonomy Agriculture Forestry IV Animal biology Zoology Oceanography Parasitology Entomology Zoogeography V Social biology Ecology Genetics Eugenics Paleontology Anthropology Philosophy Index.

Note Among the outstanding features of this introductory college text are the large coverage, the exceptionally high number and excellence of the illustrations, and the author's easily read style. The expositions of such topics as heredity vs. environment are so well put that laymen can read the book with pleasure and profit without the aid of an instructor. Annotated reading lists are included.

ETKIN, WILLIAM
College biology Line drawings by Gottfried W Goldenberg. New York Thomas Y Crowell Company 1950. 806 p. illus. 24 cm. $6.25 1857

Contents Part I, The mechanism of our bodies Objectives of biological study The processes of living. The chemical machinery of the body. Part II, Behavior Movement. Irritability The nervous system. Hormones. Behavior patterns. Part III, The individual and the species. Reproduction. Development and growth. Mendel and the laws of heredity Gene action and development. Part IV Plant nutrition and the interdependence of organisms. The basic importance of green plant cells. The physiology of higher plants. The role of bacteria and fungi in nature. The organic community Parasitism and disease. Part V The evolution of plants The thallophytes. Vegetative evolution of higher plants. Evolution of reproduction in higher plants. Part VI, The evolution of animals Evolution of the arthropods. Evidence in invertebrate evolution. Vertebrate ancestry The evolution of mammals and man. The mechanics and control of evolution. Appendix Basic concepts from chemistry and physics. Bibliography Reports on experiments illustrated in figures. Glossary. Index.

Note The content and presentation in this textbook follow recommendations of the Committee on Basic Concepts in Biology of the Carnegie Foundation for the Advancement of Teaching, of which committee the author was a member. The style is concise but lucid. Basic principles, including physiological and biochemical principles, are emphasized, and selected experiments which resulted in advances in biological knowledge are described. Some of the figures are accompanied by detailed legends which provide information for laboratory experiments. These enabled the author to dispense with much purely descriptive material. All of the illustrations are of excellent quality

GARDINER, MARY SUMMERFIELD
The principles of general biology New York The Macmillan Company 1952 657 p. illus. 26 cm. $6.50 1858

Contents (abridged) Section I, The organization of the natural world The development of modern biology Matter and energy. Atomic combinations and chemical reactions. Protoplasm and the cell. Section II, The organization of biological systems The classification of biological systems and the divisions of biological science. Systems below the level of tissue organization. The vascular plants. The tube-within-a-tube plan of metazoan organization. The arthro-

pods. The Chordata. Integrating tissues of the vertebrate body Section III, The operation of biological systems Nutrition—the utilization f food. The dietary requirements f heterotrophs. Metabolism and its regulation. Growth and regeneration—fission, budding and parthenogenesis. Gametic reproduction. The inheritance of the individual. Section IV The evolution of biological systems The doctrine of organic evolution. Index.

Note The title and the content of this textbook for introductory college courses indicate the author's purpose f presenting well-rounded picture with emphasis on principles. There are long discussions of such aspects as nutrition, whereas the discussions of classification are much shorter than in some introductory texts. There is an adequate umber of illustrations, but not a lavish display such as is found in some contemporary textbooks in this field.

HARBAUGH, M J, AND A. L GOODRICH, editors

Fundamentals of biology, edited by M J Harbaugh and A. L Goodrich Contributors P L Gainey, A L Goodrich, M J Harbaugh, H. H. Haymaker, R H Painter, and E J Wimmer New York The McGraw Hill Book Company, Inc., 1953 611 p illus (part col'd) 23 cm $6 50 1859

Contents The nature, value, and scope of biology The living world about us. Naming and classifying plants and animals. The substance of life. Growth and differentiation in plants and animals. Food synthesis and utilization in plants. Digestion. Distribution and related phenomena. Respiration. Excretion and osmotic control. The framework of organisms—its origin and function. Motion and locomotion. Coordination, neural and chemical. Reproduction. Heredity Evolution. Organisms in relation to the environment. Parasitism, pathogenicity and some closely related phenomena. Disease, immunity and disease control. Conservation of natural resources. Appendix. Index.

Note This textbook was written by team of six professors on the faculty of Kansas State College and is designed for two-semester course covering the general field of the biological sciences and emphasizing man place in the living world and his dependence upon living organisms. The work was produced, following the adoption of four basic considerations as follows for the content of such course (1) the course should be general in nature and should emphasize basic principles rather than non-essential details (2) the unity of lif should be stressed (3) the basic manifestations f life are portrayed most clearly in their physiologic or functional activities (4) the position occupied by man in the world f life should be emphasized. Each chapter and each paragraph of the book is the collaborative result of all the authors, acting as committee.

HARDIN, GARRETT

Biology its human implications Second edition Illustrations by Evan L. Gillespie San Francisco W H. Freeman and Company 1952 720 p illus 24 cm (A series of biology texts editors, George W Beadle and others) $6 25 1860

Contents (abridged) Part I, Introduction to the science of biology Part II, The measure of man Skeletal and muscular systems f man. The breathing system. Digestion and utrition. The circulatory system. The endocrine organs. Disease antibodies blood transfusions. Nervous impulses, consciousness, and reflex action. The organism as whole. The senses. Human reproduction. Part III, Heredity The particulate nature of inheritance Genetic aspects of some human problems Sex and genes. Interactions of heredity and environment. Part IV Evolution and the living world The theory of evolution. Names and sizes of organisms. The conquest of the land by plants. Some aspects of reproduction and evolution in plants. Some invertebrate animals, and evolution to the land. Part V The web of lif What is life? The transformations f matter in nature. Energy and population problems. Man—evolution in the future. Bibliography Index.

Note In this textbook for introductory college courses the emphasis is on general principles and on their significance for man A considerable umber of topics not ordinarily discussed in introductory texts—for instance, the logic of blood tests in cases of disputed paternity—are discussed. On the other hand little space is given to systematics. The book is well illustrated and adequately indexed.

JEAN, FRANK COVERT, AND OTHERS

Man and his biological world. Revised edition. By Frank Covert Jean, Ezra Clarence Harrah, and Fred Louis Herman. With the editorial collaboration of Samuel Ralph Powers Boston Ginn and Company, 1952. 630 p illus 24 cm $5 75 1861

Contents (abridged) Unit one Lif became associated its protoplasm, which requires constant supply of food. Unit II, Living organisms must provide for the perpetuation of their own kind. Unit III Living things must adjust themselves to their environment. Unit IV Science has made great discoveries relative to the cause and control of disease. Unit V Synthesis and decomposition form a cycle in nature. Unit VI, The adaptations of plants and animals have been seriously disturbed by man. Unit VII, Living organisms have evolved in response to changing environment. Unit VIII, Mendel discovered genetic principles which make possible the improvement of all living species. Unit IX, Man's cultural development moved slowly at the outset but has been greatly accelerated by science and invention. Glossary Index.

Note An illustrated textbook written by three professors at the Colorado State College of Education for use in general survey courses in biological sciences. The uthors present the subject as one of importance to the individual student in locating himself in the universe and ordering his own life and not merely as body of knowledge to be absorbed. They also emphasize the importance of supplementing the text with field trips, readings, classroom discussions, teacher demonstrations, lantern slides, selected motion pictures, and other modern visual aids. Each of the chapters concludes with lists of questions for study and bibliographical references.

KENOYER, LESLIE, AND OTHERS

General biology Third edition By Leslie A. Kenoyer, Henry N Goddard, and Dwight D Miller New York Harper & Brothers, 1953 662 p. illus 24 cm. $6 00 1862

Contents (abridged) The cellular structure of organisms. The formation of new cells from old cells. Chemical and physical aspects of living things. Metabolism. Protozoa—one-celled animals. Introduction to the multicellular animals. Sponges and coelenterates. Mollusks. The crayfish and other crustaceans. Air-breathing arthropods. Echinoderms. Chordates. Vertebrate morphology and physiology Animal ontogeny The plant kingdom. Thallophytes. Bryophytes—mosses and liverworts. Vascular plants. Genetics. E olution. The organism and the environment. Conservation. Appendix: Classification of organisms. Glossary References. Index.

Note. An established textbook used in first courses in biology in undergraduate colleges. A well-rounded, general view of biological science is presented. The book is well illustrated, and the style is readable. Inclusion of numerous references to plants and animals that are readily available for observation is one of several devices used to make the book attractive to beginning students. The first edition was published in 1937 and the second edition in 1945. In this third edition—on which the name of a new co-author appears—there has been much rearrangement and rewriting. A selection of recent literature has been added to the list of references. There are now 443 figures f which considerable umber are reproductions of photographs.

MARSLAND DOUGLAS

Principles of modern biology A complete reconstruction and modernization of Charles R. Plunkett's *Elements of modern biology* revised edition New York Henry Holt and Company 1951 757 p illus 25 cm 1863

Contents (abridged) Part I, The cell Protoplasm, the cell, and the organism. Cell division in relation to reproduction. The chemical and physical structure of protoplasm. Enzymes—speed and order in cell chemistry Osmosis—material exchanges between the cell and the environment. Cells and their nutrition. Responsiveness in single cells. Part II, Multicellular plants: Reproduction in multicellular plants. Nutrition of multicellular plants. Part III, Multicellular animals, especially man Embryonic development—origin of organs and tissues. The digestive system in man and other multicellular animals. The circulatory system. Absorption, metabolism and the diet. Respiration. Excretion. Reproduction in multicellular animals. The

ductless glands. Responses of higher animals. Part IV Heredity and evolution. Natural selection—the origin of species. The consequences of evolution. Ecology and evolution. Appendices: Classification of organisms. Glossary. Index.

Note: A standard textbook for introductory college courses. The biology is emphasized, but the view given of the living world is sufficiently broad to meet the needs of the intended readers. In this edition a considerable number of illustrations are revised or newly added, there is a new chapter on ecology and evolution, and new discussions of such topics as virology and antibiotics. A third edition was published in 1947 412 p., $4.50.

Mavor, James Watt

General biology Fourth edition. New York The Macmillan Company 1952 875 p. illus. 24 cm. $6 50 1864

Contents (abridged) Part I, The nature of life. The scientific method and its application to biology. The general characteristics of living things. The classification of plants and animals. The cell. Protoplasm. Part II, Plant life: The thallus plants. Bacteria. Liverworts and mosses. The ferns and their relatives. The alternation of generations and its significance. Seed plants. Plant physiology. The economic importance of plants. Part III, Invertebrates: Unicellular animals. Saclike animals with ectoderm and endoderm. Flatworms. The round worms. The segmented worms. The arthropods. Part IV Vertebrate anatomy and physiology based on the frog and man: External features, skeleton, joints, muscles, and body cavity. The digestive system. The respiratory and excretory systems. The circulatory system. The nervous system. The sense organs. The endocrines. Reproduction. Part V Development and heredity. Part VI, The organic world and its evolution. The history of life on the earth. The history of the theory of evolution. The evidences for organic evolution. The mechanism of organic evolution. Early man. Appendix: A synoptic table of the plant and animal kingdoms. Reference and background material in chemistry. Glossary. Index.

Note: An established textbook for use in full-length introductory college courses. The treatment places emphasis on the scientific method and stresses phenomena and facts which can easily be verified in the college laboratory or from common experience. In the present edition there has been some reorganization, also some revision, and some addition of material that did not appear in the third edition. A considerable number of new illustrations have been added.

Milne, Lorus Johnson, and Margery J Milne

The biotic world and man. New York Prentice-Hall, Inc. 1952 588 p illus. 26 cm. (Prentice-Hall biological science series Henry Burr Steinbach, editor) $7.00. 1865

Contents: Approach to biology. The variety of life. The basic materials of life. Energy relations of life. Water relations of life. The form of life: single cells and smaller—multicellular plants—multicellular non-chordates—chordates. Chemical coordination. Factor coordination and behavior. Carriers of heredity. Development of the individual. The abundance of life. The bounds of life. The history of life. The value of life. Looking toward the future. Index.

Note: A college textbook for first courses in biology. The authors emphasize a grasp of the main features of biological panorama rather than the memorizing of the details of classification. Much more space is devoted to functions than to form. The book is written in a clear, factual style that holds the reader's interest, and it is very well illustrated.

Moment, Gairdner B

General biology Second edition. New York Appleton-Century-Crofts, Inc. 1950 680 p. illus. 25 cm. (The Century biological series Dwight E Minnich, editor) $5.50 1866

Contents (abridged) Foundations of biology. Classification of the living world. Universal characteristics of living things. Survey of plant types and ways of life. Plant life—conduction, support, and absorption—metabolism—reproduction—behavior and growth. Relationships of plants and animals. Animal types. Animal life—nutrition—[illegible]—nervous coordination—sense organs—hormonal coordination. Reproduction. Development. Heredity. Evolution—the origin of species. History of life on this planet. Classification of the plant and animal kingdoms. Glossary. Index.

Note: An introductory textbook of inclusive scope. Particular attention is given to the experimental evidence upon which the facts and principles of modern biology rest. Throughout the book human biology is related to the biology of other forms of life. It is generously illustrated. The previous edition was published in 1942. In preparing this edition the author added many new illustrations, a considerable amount of new text, and revised the reading lists.

Pauli Wolfgang F

The world of life, a general biology Boston Houghton Mifflin Company 1949 653 p. illus. 25 cm. (Under the editorship of Bentley Glass) $6 75 1867

Contents: Part one, Backgrounds—the physical world. The universe, the home of life. The behavior and structure of matter. Part two, The nature of life. Metabolism and nutrition. The cell—the unit of structure and behavior. Part three, The principle of evolution. The theory of evolution. The story in the rocks—a survey. The mechanism of evolution. Part four. The world of plants. Primitive plants—bacteria, algae, and fungi. Plants invade the land—mosses and ferns. Full conquest of the land—the seed plants. Specific adaptations of flowering plants. Part five, The rise of animal life: The first animals—Protozoa. Rise of the metazoan pattern—sponges and coelenterates. The metazoans diversify. The highest invertebrates—the arthropods. Forerunners of the vertebrates—echinoderms and primitive chordates. Part six, The vertebrates. The vertebrate pattern—framework and coordination—principal organ systems. Vertebrates in the water—fishes and amphibia. The great transition—reptiles and birds. Mammals—the highest vertebrates. Man, the supreme mammal. Part seven, The bridging of yesterday, today and tomorrow. The physical basis of heredity. Human genetics and eugenics. Appendices: Classification of plants and animals. Biological terms. Index.

Note: A broad, interesting introduction to biology is provided in this college text. Evolutionary rather than taxonomic aspects are stressed, but otherwise there is no overemphasis. The style is straightforward and clear. There are 324 well selected illustrations and a useful glossary of the technical terms of biology.

Rogers, J Speed, and others

Man and the biological world by J Speed Rogers, Theodore H Hubbell C. Francis Byers, with illustrations by William L. Brudon. Second edition. New York Mc Graw Hill Book Company Inc., 1952 690 p. illus. 24 cm. $6 75 1868

Contents (abridged) Part I, The individual organism. The organization of the individual. A, The human body. B, The individual plant. C, The varied patterns of individual organization. Part 2, The continuity of the race: A, Reproduction. B, Inheritance and variation. Part 3 The changing generations. The evolutionary concept. The geological background of evolution. The history of plants. Ancient animals. Man's relatives: the primates. The human species. Part 4 The economic and social interrelationships of organisms. The physical environment of organisms. The biotic environment of organisms. Summary: man and the biological world. Appendix. A survey of the kinds of organisms: The plant kingdom. The animal kingdom. List of visual aids. Index.

Note: A textbook for survey courses in the biological sciences offered to freshmen and sophomore college students. Biological principles are presented, together with the data and reasoning upon which they are based. In this second edition, the discussions of animals and animals and the whole section on evolution have been completely rewritten and brought up to date. Other portions of the book have been revised in the light of recent studies, and there has been some rearrangement of chapters. There is an entirely new set of drawings especially planned and executed for this second edition.

Shull Aaron Franklin

Principles of animal biology with the collaboration of George R. Larue and Alexander G. Ruthven. Sixth edition. New York Mc Graw Hill Book Company Inc., 1946 425 p. illus. 24 cm. (McGraw Hill publications in the zoological sciences A. Franklin Shull, consulting editor) $6.00 1869

Contents The growth and scope of biology Primary organization of living matter Some fundamental physics and chemistry The functions of protoplasm and cells. Cell division. From one cell to many cells. Basic organization of the metazoa. Physical support and movement. Sources of energy and materials. Respiration and release of energy Transportation system. Disposal of wastes. Integration of activities. Reproduction. The breeding behavior of animals. Embryonic development. Genetics. Principles of taxonomy The groups of animals. Animals and their environment. Geographic distribution. Fossil animals. Modification of species. Glossary Index.

Note. This introductory college text discusses the principles of animal biology under such headings as morphology physiology ecology taxonomy geographic distribution, paleontology and evolution. Function is emphasized in order to interest the student in living mechanism, and material on this subject is scattered through the physiological portions of the book. In this edition, there has been some rewriting, and further emphasis is given to function in such sections as those dealing with enzymes, photosynthesis, oxidation, breathing movements, blood composition vitamins, and reflex arcs. Other changes include more detailed discussion of historical zoogeography and prehistoric man, and the addition of marine habitats in the chapter on ecology Names of the phases of mitosis, omitted in the third edition, have been restored.

STANFORD, ERNEST ELWOOD

Man and the living world Second edition New York The Macmillan Company, 1951 863 p illus 22 cm $6 25 1870

Contents (abridged) Unit I, Science and living things. Unit II, The green plant—manufacturer of foodstuffs and of raw materials for industry Unit III, The human body—its structures and functions. Unit IV The maintenance and health of the body—foods, nutrition poisons, and disease. Unit V Microorganisms and their relation to human life. Unit VI, A survey of the animal kingdom. Unit VII, A survey of the plant kingdom. Unit VIII Evolution and heredity Unit IX, Domestication and breeding of plants and animals. Unit X, The biological resources of the United States and their utilization The soil. Forest resources of the United States. Conservation of wild life. Index.

Note A textbook designed for use in introductory courses in biology It offers the beginning student view of not only the nature of biology but also of the applications of biological sciences in many fields, such as nutrition, public health, zoological and botanical systematics, the study of heredity breeding of domestic animals, and conservation of natural resources. Both the text and the illustrations are designed to hold the attention of the beginning student. The first edition was published in 1940. The general plan and a considerable part of the contents of the book remain unaltered in this edition. However information was added on a number of topics, such as the effects of radiation on heredity in human beings. Also, historical and economic data were brought down to the date of publication. There are now 437 figures.

STAUFFER, ANDREW, editor

Introductory biology Second edition Authors Nelly J Bosma E C Colin R. Clark Gilmore S W Howe, W Henry Leigh, P Meglitsch, H C Nelson, J F Schuett, Andrew Stauffer J P Wessel New York D Van Nostrand Company Inc 1954 802 p illus 23 cm $6 85 1871

Contents (abridged) I Introducing living organisms—basic biological concepts. II, How organisms secure food. III, How organisms transport materials within their bodies Types of transporting mechanisms. Corpuscles or cells of the blood. The blood vessels. The flow of the blood. Exchange of materials between the blood and the cells. Disorders of the circulatory system. IV How organisms utilize food and excrete wastes Respiration in man. Muscles as users of energy The role of the skin in metabolism and health. V How organisms coordinate their activities. The endocrines of vertebrates. The hormones of plants. The mechanism of nervous coordination. The basis of human behavior VI, How organisms reproduce The simpler methods of reproduction. Sexual reproduction among land plants Sexual reproduction among animals. Embryonic development of animals in general. Human embryonic development. VII, How organisms inherit One pair of alleles. The factor principle. Multiple alleles. Chromosomes in inheritance. Heredity and environment in development. The hereditary improvement of plants and animals. Heredity in man. VIII, How organisms evolve Domestication and breeding. Comparative studies of living things. The fossil record. The Linnaean system of classification Ancestral relationships among animals. Ancestral relationships of plants. Factors involved in evolution. Historical theories of evolution. IX, How organisms live with one another Some environmental factors. Food-getting relationships. The cycle of elements. Life succession. The conservation of soil. The conservation of forests. Conservation of wild life. The principal biotic formations. X, How man may live healthfully Basic items in healthful living. How to control disease. Food and water as sources of disease. Public health organization. Glossary Index.

Note In this college textbook for introductory courses, emphasis is placed upon the similarities of functional processes in plants and animals and upon the unity found in the whole living world. In the second edition, many chapters have been rewritten, the organization within the units has been changed, and new illustrations have been included.

STRAUSBAUGH, PERRY D , AND BERNAL R WEIMER

General biology Third edition New York John Wiley & Sons, Inc., 1952 813 p. illus. (part col'd) 22 cm $6 50 1872

Contents Biology and the scientific method. Life and living things, protoplasm. Metabolism The manufacture of food, the food-manufacturing plant. Photosynthesis. The digestion and absorption of food. Foods and their uses. Vitamins. Transportation and distribution of food. The release of energy Respiration. Elimination of wastes. The carbon and nitrogen cycles in nature. Coordination and adjustment to environment chemical coordination Adjustment to environment: Nervous coordination. Receptors. The adjustment mechanisms. Adjustment in plants and simple animals Growth. Reproduction in plants. Reproduction in animals. Development of the individual embryology The mechanism of heredity Human heredity and eugenics. Classification and naming of animals and plants. taxonomy Invertebrates Protozoa, Porifera, and Coelenterata. Flatworms, roundworms, and segmented worms. The Arthropoda. Mollusks and echinoderms. Chordates and vertebrates. The plant kingdom Thallophytes Algae, Fungi. The bryophytes. The vascular plants. The relation of organisms to their environment. Ecology Life its nature and origin. The theory of evolution The course of evolution phylogeny Index and glossary

Note A textbook of wide scope for college courses in biology The authors, treating life as a unified concept, develop the study of plants and animals simultaneously only after principles, such as metabolism, heredity and taxonomy have been covered as they apply both to plants and animals are the two kingdoms surveyed separately The scientific method is introduced to the student in the first chapter frequent examples of it are pointed out in later chapters. In the new edition, aside from revisions and corrections throughout the volume, the authors have completely revised the chapters on enzymes, respiration, genetics, and the plant kingdom. Many new illustrations have been added.

WEISZ, PAUL B

Biology New York McGraw Hill Book Company, Inc., 1954 679 p. illus. 24 cm. $6 50 1873

Contents Foreword to the teacher Foreword to the student. The first level living system. The second level the changing environment. The living substance Metabolism. Self-perpetuation. The third level—the living substance Cells. Ways of life—the green plant. The animal. The living community The third level—metabolism Autotrophic nutrition. Heterotrophic nutrition. Energy metabolism. Synthesis metabolism. The third level—self-perpetuation the steady state—cellular steady state The body fluids. The nervous system. The third level—self-perpetuation reproduction. Cellular reproduction. Reproduction of plants. Animal reproduction and development. The third level—self-perpetuation—adaptation. Heredity Evolution. Past and prospect. Appendices: Classification of plants and animals. General reading list. Index.

Note. A textbook for first college courses in biology The author has employed a novel approach. In the first chapter which comprises the "first level," are discussed the four chief fundamentals of biology as a whole. There follow four chapters covering each of the four basic concepts in more detail this is the second level. Three of the four fundamental concepts are then individually expanded still further into three groups of chapters; this is the third level. Through this approach the wholeness of biology is emphasized from the beginning, while principles and concepts rather than separate facts are the central components of the discussion. The text is interestingly written and well illustrated. The "Foreword to the student" contains excellent advice for beginning students of science.

WELLS HARRINGTON, AND PATRICK H. WELLS

General biology New York McGraw Hill Book Company Inc., 1956 520 p. illus 26 cm. $6.50. 1874

Contents: Part I, Basic biology Biology in history The concept of evolution. Protoplasm and the cell. How life develops. Environment and ecology Part II, The living world: Lower plants. Seed plants. Unicellular animals. Lower invertebrates. Worms and mollusks. Arthropods. Echinoderms and lower chordates. Fishes. Amphibians and reptiles. Birds and mammals. Part III, Comparative biology: Nutrition. Respiration and circulation. Excretion. Motion. Reception and response. Growth and reproduction. Part IV Social biology: Biology and human disease. The endocrine control mechanism. Inheritance. Conservation of natural resources. Economic biology Biology and society Appendix: Reference classification of the plant kingdom. Reference classification of the animal kingdom. Index.

Note: A textbook of beginning biology for college students, this work is organized into four parts, each concerned with distinct division of biological science. It is the thesis of the authors that "a foundational biological education may best be acquired upon bases of plant-animal structure, ecology and comparative physiology leading to generalizations in terms of human social interrelationships. The four parts of the text are organized on the basis of this statement and an unusual feature is the emphasis on the social implications of biology. Each of the chapters concludes with set of "questions and answers for group discussion and review" and list of suggested readings.

WHALEY W GORDON AND OTHERS

Principles of biology by W Gordon Whaley, Osmond P Breland, Charles Heimsch, Austin Phelps, and Glenn S Rabideau New York Harper & Brothers, 1954 694 p illus. 24 cm. $6.00 1875

Contents (Abridged) Part I, Introduction The science of biology Part II, The structure and functioning of organisms. Organization. Cells and tissues. Osmosis and permeability Reproduction in plants Photosynthesis and carbon metabolism. Nitrogen assimilation and metabolism. Respiration and oxygen in metabolism Animal nutrition. Circulation. Breathing Excretion Covering and support. Movement. Nervous system. The senses. Endocrine system Reproduction Part III, The development of organisms Protoplasm Cell reproduction. Plant development Animal development Growth. Part IV The kinds of organisms The naming and classification of organisms. The plant kingdom. Algae. Fungi Bryophytes. Vascular plants. Protozoa. Sponges, coelenterates, and ctenophores. Flatworms and roundworms. Segmented worms Arthropods. Mollusks Echinoderms. Chordates. Part The interrelationships of organisms Organisms and environment. Health and disease. Part VI, The continuity of organisms: Heredity Sex determination Human heredity Evolution. Evolution of man. Index.

Note In 1946, the biological science departments of the University of Texas instituted course in general biology in place of separate basic departmental courses in the various branches of biological science. Originally designed as an experiment, the course was freely altered and reworked in the light of experience. After seven years the five authors of this book, all of whom connected with the course, produced this illustrated textbook, which reflects the eventual pattern of the course and places primary emphasis on important principles rather than on cyclopedic presentation of facts.

WINCHESTER, ALBERT MCCOMBS

Biology and its relation to mankind. New York D Van Nostrand Company Inc 1949 777 p illus. 23 cm. $5 75 1876

Contents (abridged) Part I, Foundations of biology The fundamental unit of life—the cell. The nature of protoplasm. Vital life processes. The classification of living things—taxonomy Part II, The plant kingdom Part III, The higher plant body Part IV The animal kingdom Part The higher animal body. The skeletal system The muscular system The nervous system. The respiratory system. The digestive system The circulatory system. The excretory system. The reproductive system The endocrine glands, regulators of the body Part VI, Some important divisions of biology: Microbiology—the study of microscopic organisms. Entomology—the study of insects. The story of insects. The bridge of heredity The principles of heredity Ontogeny of the chordates. Biological evolution—the concept of descent with change. Life of the past. Human life of the past. The founders of biology Glossary Index.

Note: A textbook designed for use in introductory courses in colleges. Life processes are stressed rather than taxonomic aspects. A wealth of material on various phases of the subject is presented to stimulate the interest of the beginning student. Illustrations, many of them from photographs by the author, add to the attractiveness of the volume. A second edition was published in 1957 902 p $7.25.

WOLCOTT, ROBERT HENRY

Animal biology Third edition New York McGraw Hill Book Company Inc. 1946 719 p. illus. 24 cm. (McGraw Hill publications in the zoological sciences A Franklin Shull consulting editor) $6 00 1877

Content (abridged) Part I, Fundamental principles. Part II, The one-celled animals: the Protozoa. Part III Fundamental principles (continued) Part IV, The multicellular animals, the Metazoa. Part General considerations. Glossary List of visual aids. Index.

Note: A standard textbook for use in introductory college courses. This edition was prepared by the staff of the Department of Zoology of the University of Nebraska as memorial to the late author. It has been rather extensively revised and many new illustrations added.

WOODRUFF LORANDE LOSS AND GEORGE ALFRED BAITSELL

Foundations of biology Seventh edition. New York The Macmillan Company 1951 719 p. illus. 22 cm. $6 75 1878

Contents (abridged) The scope of biology Cellular organization of life. The physical basis of life. Metabolism of organisms. The plant body The animal body Nutrition. Respiration. Secretion. Excretion. Circulation. Nervous system. Reproduction and cell division. Reproduction and germ cell formation. Reproduction and fertilization. Animal development. Reproduction in plants. Genetics. Origin of species. Organic adaptation. Biology and human welfare. Origin of life. Survey of the plant kingdom. Survey of the animal kingdom. The human background. History of biology Bibliography Glossary Synoptic classification of the plant kingdom. Synoptic classification of the animal kingdom. Index.

Note. An introductory textbook that has been widely used in American college courses since the publication of the first edition in 1922 Although shorter than many books of the kind, it is general treatment, and the style is not so compact that it is difficult to read. Professor Baitsell is responsible for the seventh edition. The number of chapters has been increased by six, and there has been some rearrangement of chapter order and material within the chapters carried over from the previous edition. Also, there has been some revision of the illustrative matter

YOUNG CLARENCE W AND OTHERS

Introduction to biological science a study of the human body and of the world of plants and animals. By Clarence W Young G Ledyard Stebbins and the late Frank G Brooks. Illustrations by Louise Bush. Harper & Brothers 1956 555 p. illus. 24 cm. $5.00 1879

Contents: Part I, The human organism: Protoplasm and the cell. The functioning of the cell. The architecture of the body The nervous system and the receptors. The circulatory system. The endocrine control of bodily activities. The work of the scientist. Respiration Digestion and absorption of food. The balance of the materials in the body Reproduction Early development of the human organism The principles of heredity The struggle against disease. Part II, The world of life: Metabolism in the plant kingdom and in the world of life The simpler forms of plant life. Maintenance, growth, and reproduction in the higher plants. The animal kingdom—lower invertebrate forms—higher invertebrate forms—phylum chordata. Adaptations of organisms. Communities of organisms. The fact of evolution. The mechanism of evolution. Human evolution. Conclusion. Appendix The branches of biological science. Suggested reading. Index.

Note A briefer textbook based on C. W Young's and G. L. Stebbins' *The human organism and the world of life*, revised edition, described above It presents an elementary but informative view of the nature f biology with some emphasis on the biology of man It contains less material than the original text, and the material has been somewhat reorganized and rewritten. The book is more suitable for short courses offered to undergraduate college students. Also, laymen who wish to undertake the home study of the subject find it an easier book to comprehend.

MARINE AND FRESHWATER BIOLOGY

Allan Hancock Atlantic Expedition

Reports 1–8 Los Angeles The University of Southern California, 1945–56 8 vol illus 23 cm (University of Southern California. Allan Hancock Atlantic Expedition Reports, 1–8) Part 1, $2 00, part 2, $3 50, part 3, $1 00 part 4, $1 00, part 5, $2 00, part 6 $1 50, part 7, $0 50, part 8, $0 90 1880

Contents (abridged) Report I, Geographical account and station records of Valero III in Atlantic waters in 1939 by J S. Garth. Report II Caribbean marine algae of the Allan Hancock Expedition 1939 by W R. T ylor Report III, Polychaetous annelids, by O Hartman. Report IV Hydroids of the 1939 Allan Hancock Caribbean Sea Expedition, by C. McL. Fraser Report V Bryozoa of the Allan Hancock Atlantic Expedition, 1939 by R. C. Osburn. Report VI, Land plants collected by the Allan Hancock Atlantic Expedition of 1939 by H S. Gentry Report VII, Amphipoda of the family Ampeliscidae collected by the Velero III in the Caribbean Sea, by J L. Barnard. Report VIII The Galatheidea (Crustacea anomura) of the Allan Hancock Atlantic Expedition with review of the Porcellanidae of the western North Atlantic, by J Haig.

Note Published in this series are monographs and technical papers in which are presented the results of observations and collections made by the Allan Hancock Atlantic Expedition in 1939 The authors and titles f those published are listed in the above Contents. Additional publications in this series are in preparation.

Allan Hancock Pacific Expeditions

Reports 1932–1955 Los Angeles University of Southern California Press, 1936–55 20 v illus 25 cm. (University of Southern California. Allan Hancock Pacific Expeditions Vol 1–20) Vol I, part 1, $1 00, part 2 $3 50, part 3, $3 00 vol II part 1, $0 25 part 2 $0 50 part 3 $0 75, part 4 $0 50, part 5 $2 00 part 6 $0 75 part 7, $0 50 part 8, $0 75 part 9 $1 00 part 10 $0 50 part 11 $0 50, part 12 $2 00 part 13 $2 50 part 14 $3 50 part 15 $1 00 part 16, $0 50 vol III part 1 $0.25 part 2, $0 75 part 3, $0 75, part 4, $0 75 part 5, $1 50 part 6 $0 75, parts 7–8, $2 00 part 9, $0 50 part 10 $3 50 vol IV, $7 50 vol V, part 1 $0 50 part 2, $1 50, part 3, $2 00, part 4 $3 00 part 5, $0 50 parts 6–8, $1 50, part 9, $1.50 part 10, $3 50, part 11, $1 50 vol VI, part 1, $2 50 part 2 $1 25, part 3 $1 50, part 4 $1 50, part 5 $2 00, part 6 $2 00 vol VII, $8 50 vol VIII part 1, $0 50 part 2 $1 75, part 3, $2 50, part 4, $1 00, part 5 $3 50 vol IX, part 1 $1 00 part 2 $0 50, part 3, $0 50 part 4, $1 50 part 5, $1 50 part 6, $1 00, parts 7–8 $2 00 vol X, part 1, $3 00, parts 2–3, $2 50, parts 4–5, $2.50. vol XI, part 1, $3.50 vol XII, $8 00 vol. XIII, part 1, $0 50, part 2, $3.25, part 3, $2.50. vol XIV $14.25 vol XV, part 1, $3 50, part 2 $1.00 vol XVI, part 1, $3 00 vol. XVII, $6.50. vol XVIII, part 1, $3 00, part 2, $1.25 vol. XIX part 1, $4 50 vol XX, part 1, $3.25, part 2, $1 75 1881

Contents Vol. I General account of the scientific work of the Velero III in the eastern Pacific, 1931–41 by C. M. Fraser. No. 1, Historical introduction; Velero III personnel. No. 2, Geographical and biological associations. No. 3 A ten-year list of the Velero III collecting stations. Appendix of collecting stations of the Allan Hancock Foundation for the year 1942. Vol. II, no. 1, A new brittle star from the Galapagos Islands, by F C. Ziesenhenne. No. 2, Description of a new blennioid fish of the genus *Acanthemblemaria* from the Pacific coast of Panama, by G. S. Myers and E. D Reid. No. 3 A new genus of distomes (Trematoda) with lymphatic vessels, by H. W Manter No. 4 Parasitic copepods taken during the third Hancock Expedition to the Galapagos Islands, by C. B. Wilson. No. 5 Some monogenetic trematodes from the Galapagos Islands and the neighboring Pacific, by F G. Meserve. No. 6, Three new trematodes from the Galapagos marine iguana *Amblyrhynchus cristatus*, by P T Gilbert, No. 7 Eight new species of gobioid fishes from the American Pacific coast, by I. Ginsburg No. 8, Land and brackish water Mollusca of Cocos Island, by G. D. Hanna and L. G. Hertlein. No. 9, Nematode parasites of the Galapagos land iguana, by A. C. Chandler No. 10, New species of Mycetophilidae (Diptera pupipara) from islands in the Gulf of California, by E. Scott. No. 11 A remarkable new genus of sea-urchin (Spatangidae), by H. L. Clark. No. 12 Marine mollusks from Panama collected by the Allan Hancock Expedition to the Galapagos Islands, 1931–1932 by A. M. Strong and L. G. Hertlein. No. 13, Revision of the nemertean fauna of the Pacific coasts of North, Central, and northern South America, by W R. Coe. No. 14 Digenetic trematodes of fishes from the Galapagos Islands and the neighboring Pacific, by H. W Manter No. 15 The Acanthocephala collected by the Allan Hancock Pacific Expedition, 1934 by H. J Van Cleave. No. 16, The geographical distribution of digenetic trematodes of marine fishes of the tropical American Pacific, by H. W Manter Vol. III, no. 1, Mosses of the G. Allan Hancock Expedition of 1934 collected by W. R. Taylor by W C. Steere. No. 2 Myxophyceae of the G. Allan Hancock Expedition of 1934 collected by Wm. R. Taylor, by F. Drouet. No. 3 Lichens of the G. Allan Hancock Expedition of 1934 collected by W R. Taylor by C. W Dodge. No. 4, Plankton diatoms of the Gulf of California obtained by the G. Allan Hancock Expedition of 1937 by W E. Allen. No. 5, Plankton dinoflagellates of the Gulf of California obtained by the G. Allan Hancock Expedition of 1937, by E. E. Cupp and W E. Allen. No. 6, Phycomycetes recovered from soil samples collected by W R. Taylor on the Allan Hancock 1939 Expedition, by F K. Sparrow Jr. Nos. 7–8, Field observations on the algae of the Gulf of California—A review of the genus Rhodymenia with descriptions of new species, by E. Y Dawson. No. 9 Some lichens from the American tropics collected by Wm. R. T ylor by J Hedrick. No. 10, "The marine algae f the Gulf f California, by E. Y Dawson. Vol. IV no. 1–3 Hydroids of the Allan Hancock Pacific Expeditions, by C. McL. Fraser Vol. V no. 1 Three new anomuran crabs from the Gulf of California, by S. A. Glassell. No. 2 New brachyuran crabs from the Galapagos Islands, by J S. Garth. No. 3, Some new species of brachyuran crabs from Mexico and the Central and South American mainland, by J S. Garth. No. 4 The stomatopods of the west coast f America, by W L. Schmitt. No. 5 A new genus and species of barnacle from Ecuador by I. E. Cornwall. Nos. 6–8, The pectinid moths of the Galapagos Islands from the collections of the Allan Hancock Foundation. The genus Bulla W lker in Mexico and Central America. The male genitalia of *Epipompeia multipectinata* (Druce) by A. G. Richards, Jr No. 9 Pycnogonida from the Allan Hancock Expeditions, by W A. Hilton. No. 10, The brachyuran fauna of the Galapagos Archipelago, by J S. Garth. No. 11 Distribution studies of Galapagos brachyura, by J S. Garth Vol. VI, no. 1 A report on some arenaceous foraminifera, by J. A. Cushman and I. McCulloch. No. 2 Some Textulariidae of the Pacific Ocean by C. G. Lalicker and I McCulloch. No. 3, Some nonionidae in the collections of the Allan Hancock Foundation, by J A. Cushman and I. McCulloch. No. 4 Some Virgulininae in the collections of the Allan Hancock Foundation, by J. A. Cushman and I. McCulloch. No. 5 The species of Bulimina and related genera in the collections of the Allan Hancock Foundation, by J A. Cushman and I. McCulloch. No. 6, Some Lagenidae in the collections of the Allan Hancock Foundation, by J A. Cushman and I. McCulloch. Vol. VII Polychaetous annelids, by O. Hartman. Vol. VIII, no. 1 A new genus of brittle stars, Amphicontus, by A. H. Clark. No. 2 New ophiurans of the Allan Hancock Pacific Expedition, by F C. Ziesenhenne. No. 3, The Holothurioidea collected by the

Velero III during the years 1931 to 1936, by E. Deichmann. No. 4, New eastern Pacific sea stars, by F. C. Ziesenhenne. No. 5, A report on the Echinoidea of the warmer eastern Pacific, based on the collections of the Velero III, by H. L. Clark. Vol. IX, no. 1, Report on fishes from Allan Hancock Expeditions in the California Academy of Sciences, by A. Seale. No. 2, A new genus and species of pearl fish, family Carapidae, from off Gorgona Island, Colombia, by E. D. Reid. No. 3, A key to the pipefishes of the Pacific American coasts with descriptions of new genera and species, by E. S. Herald. No. 4, Four new genera and ten new species of eels from the Pacific coast of tropical America, by G. S. Myers and C. B. Wade. No. 5, The Pacific American atherinid fishes of the genera Eurystole, Nectarges, Coleotropis, and Melanorhinus, by G. S. Myers and C. B. Wade. No. 6, New fishes of the family Dactyloscopidae, Microdesmidae, and Antennariidae from the west coast of Mexico and the Galapagos Islands with a brief account of the use of rotenone fish poisons in ichthyological collecting, by G. S. Myers and C. B. Wade. Nos. 7–8, Two new genera and five new species of apodal fishes from the eastern Pacific; new fishes in the collections of the Allan Hancock Foundation, by C. B. Wade. Vol. X: "Polychaetous annelids, by O. Hartman. Vol. XI, no. 1, Sponges of the Gulf of California, by M. G. Dickinson. Vol. XII, Pacific marine algae of the Allan Hancock Expeditions to the Galapagos Islands, by W. R. Taylor. Vol. XIII, no. 1, The Bryophyta of the Allan Hancock Expedition of 1939 by W. C. Steere. No. 2, Land plants collected by the Velero III, Allan Hancock Pacific Expeditions 1932–1941, by H. S. Gentry. No. 3, Plant ecology of the Channel Islands of California, by M. F. Dunkle. Vol. XIV, Bryozoa of the Pacific coast of America, by R. C. Osburn. Vol. XV, no. 1, Goniadidae, Glyceridae and Lumbrineridae, by O. Hartman. No. 2, Some Polyclad turbellarians from the Galapagos Islands, by L. H. Hyman. Vol. XVI, no. 1, Stony corals of the eastern Pacific collected by the Velero III and Velero IV by J. W. Durham and J. L. Barnard. Vol. XVII, Marine red algae of Pacific Mexico, by E. Y. Dawson. Vol. XVIII, no. 1, Amphipoda of the family Ampeliscidae collected in the eastern Pacific by the Velero III and Velero IV by J. L. Barnard. No. 2, The genus Pylopagurus (Crustacea Anomura) in the Pacific with descriptions of two new species, by R. C. Walton. Vol. XIX, Quantitative survey of the benthos of San Pedro Basin, southern California, by O. Hartman. Vol. XX, no. 1, A report on the family Mysidacea (Pelecypoda) by T. Soot-Ryen. No. 2, A report on the family Arcidae (Pelecypoda) by H. Rost.

Note: This series of monographs and technical papers, which is still in the process of publication at this writing, represents the results of observations and collections made by the members of the Allan Hancock Pacific Expeditions between 1931 and 1941. Each of the papers is concerned mainly with systematic descriptions of the numerous specimens collected. The series constitutes a major contribution to marine biology and oceanography. Monographs concerned with organisms in the three contents are described separately under appropriate subjects in this bibliography.

Coker, Robert E.

Streams, lakes, ponds. Chapel Hill The University of North Carolina Press 1954 327 p. illus. 24 cm. $6 00 **1882**

Contents: Part I, Water and its contents. A little about water. Light and heat in water. Gases and heat—distribution, circulation stratification—some chemical and biological relations. Dissolved salts. The basic nutrients in water. Turbidity, color, odor and taste. Part II, Running water. The upland brook. Rivers. Stream pollution. Part III, Still water. The lake or pond as a place of life. Life in the lake—plants and lower animals—jointed-leg animals and vertebrates. The fish pond and its residents. The fish pond and production. Bibliography. Index.

Note: A readable and informative book about inland waters. Except for approximately the first 50 pages, which contain basic chemical and physical information, the book is mainly about the community of life in brooks, rivers, lakes and ponds. The chapters are tightly well packed with facts, hence the book cannot be rated as typical popularization, although it is intended for lay readers rather than specialists. It is quite within the scope of amateur naturalists, sportsmen and educated people in general who have some interest in freshwater biology. The two chapters on fish ponds constitute a useful and up-to-date survey of a topic which is of special interest to progressive farmers. The author is a Professor of Zoology in the University of North Carolina.

Davis Charles C

The marine and fresh-water plankton. East Lansing Michigan State University Press, 1955 562 p. illus. 24 cm. $10.00. **1883**

Contents: Introductory. Special adaptations to planktonic existence. General cycle of production in aquatic environments. The phytoplankton. Phytoplankton-zooplankton interrelationships. Distribution problems. Geographic and seasonal variations of structure. The food of plankters—plankters as food. The kinds of plankton organisms. Glossary of technical terms. Literature cited. Descriptions of figures in plates. Plates. Index.

Note: Essentially a compact reference book directed not to specialists but to readers with some background in biology and a layman's or nonspecialist interest in plankton. It is suitable also for use as a text in courses offered to advanced college students. The first eight chapters present the basic information on ecology, distribution, food supply and the plankton as a source of food for other organisms. They are followed by a long terminal chapter in which the morphology, reproductive cycles, etc., of the principal groups of plankton, ranging from Cyanophyta to the Chordata, are described. Keys to aid in identification are included in this chapter. Illustrations are an important feature. There are 45 figures in the text and 633 presented on a series of plates at the end of the volume. Many of these have been redrawn from the works of other authors, but most of them are reproduced in scale larger than life size. There are a 15-page glossary and a 24-page list of literature references.

Ellis, Max Mapes and others

Determination of water quality by M M Ellis B A. Westfall, and Marion D Ellis. Washington D C. Government Printing Office 1946 122 p illus. 23 cm. (United States. Fish and Wildlife Service Research report 9) $0.30 **1884**

Contents: Introduction. Collection and fixation of water samples. Dissolved oxygen. Oxygen demand and oxygen consumed. Specific conductance. Hydrogen-ion concentration, pH. Alkalinity and acidity. Suspended matter. Water hardness. Calcium and magnesium. Nitrogen determinations. Iron determinations. Manganese. Copper. Zinc. Sulphates. Sulfides, sulfites, and other non-volatile sulfur compounds. Phosphorus determinations. Fluorides. Chlorides. Chlorine. Acetylene. Special determinations. Exploratory tests. Fluorescence. Effluents and trade wastes. Evaluation of pollution hazards. Literature cited. Index.

Note: In this pamphlet are presented methods for the determination of those characteristics of natural waters which are of major importance to the aquatic biologist in connection with fisheries problems. Both unpolluted and polluted waters are considered, and procedures for the evaluation of pollution hazards are outlined. Usually more than one method for each type of determination is offered. The methods chosen have been used by the authors in the Water Quality Laboratories of the United States Fish and Wildlife Service and in field operations, in most cases, over a period of years. Aside from their intended use in aquatic biology many of the procedures would be applicable to problems in sanitary engineering and in trade waste disposal.

Grey Marion

The distribution of fishes found below a depth of 2000 meters. Chicago Chicago Natural History Museum 1956. 265 p. 23 cm. (Fieldiana Zoology Vol. 36 no 2) $4.00 **1885**

Contents (abridged): Introduction. Synonymies and distribution. Tables showing vertical distribution of species. List of benthic fishes found below 1000 fathoms. List of bathypelagic fishes found below 1000 fathoms. References. Addendum. Index.

Note: A summary of the accumulated information on the fish fauna of the waters of the ocean below a depth of 2000 meters. The current state of the knowledge of this subject is well outlined in the first 17 pages of the publication; here, also, the author emphasizes the incomplete state of the accumulated data and the need for much more investigation. Most of the volume is devoted to data on individual species which have been found in deep-abyssal waters. For each species synonyms are listed and literature references to systematic descriptions are given; the location and depth and number of specimens for deep-abyssal catches are currently stated; distribution is indicated, and the length of the specimen or specimens is stated. In addition, there is often a short section entitled "Remarks," in which the author supplies miscellaneous information of which the following is an example: "A brief discussion of the haul made in 4,000 meters may be found in Richards (1902, p. 33). For many years this was the deepest known record for any fish." The data on the vertical distribution of individual species are presented in a series of 31 tables following the text.

MACGINITIE, GEORGE EBER, AND NETTIE MACGINITIE

Natural history of marine animals New York McGraw Hill Book Company, Inc., 1949 473 p illus 23 cm $8 00 1886

Contents Introduction. Food Plankton. Detritus. Other animals. Debris. Seaweed. Comparison between the fauna of land and of ocean. Groupings of animals. Animal relationships To their physical environment. To each other *Sense organs. Luminescence.* Marine animal habitats. Growth rates. Burrowing. Variation and succession. Geological records left by animal activities. Protozoa. Porifera. Coelenterata. Ctenophora. Platyhelminthes· Turbellaria. Trematoda. Cestoda. Nemertea. Nematoda Chaetognatha. Phoronida. Bryozoa. Brachiopoda. Sipunculoidea. Echiuroidea. Annelida. Echinodermata. Asteroidea. Echinoidea. Ophiuroidea. Holothuroidea. Crinoidea. Arthropoda Crustacea. Arachnida. Mollusca: Pelecypoda. Gastropoda. Amphineura. Scaphopoda. Cephalopoda. Protochordata Enteropneusta. Tunicata. Cephalochordata. Vertebrata Cyclostomata. Pisces. Mammalia. The relation of higher vertebrates to shore conditions. Phyla of animals. General habitats of phyla and classes. Books dealing with marine animals. Index.

Note This book on representative marine animals is designed for amateur naturalists and for teachers and beginning students of zoology The longest chapters are those dealing with the Arthropoda and the Mollusca, each about 75 pages the chapter describing the vertebrate forms, including the true fishes, is about half as long. The species include at least one from each of the major groups of marine invertebrate animals, those chosen for description being those most frequently met with and those with the most interesting habits. Information on habits, habitats, and ecologies is included in the descriptions. The majority of the illustrations are from photographs taken by the authors along the Pacific Coast of North America.

MINER, ROY WALDO

Field book of seashore life New York G P Putnam's Sons 1950 888 p illus 19 cm. $7 00 1887

Contents Phylum Protozoa—the simplest animals. Porifera—sponges. Coelenterata—the polyps. Ctenophora—the comb jellies. Platyhelminths—the flatworms. Nemertea—the ribbon worms. Nemathelminths—roundworms, threadworms. Trochelminths—wheel animalcules. Annulata—segmented or ringed worms. Arthropoda—crustaceans, arachnoids, myriapods, and insects. Mollusca—snails, bivalves, chitons, octopuses, and squid. Chaetognatha—arrow worms. Echinoderma—sea-stars, brittle-stars, sea-urchins, sea-lilies, and sea-cucumbers. Prosopygia—moss animals and lamp shells. Chordata—the protochordates and vertebrates. Selected references. Index.

Note. A field manual for use by amateur and professional naturalists in the rapid identification f the invertebrate animals found in the shallow oceanic waters of the Atlantic coast of North America from Labrador to the Cape Hatteras region of North Carolina. Concise semitechnical descriptions of the various animals are supplemented by 251 plates in black and white and also plates in color Most of the plates contain plurality of drawings.

MORGAN, ANN HAVEN

Field book of ponds and streams an introduction to the life of fresh water With about 330 illustrations including 23 plates in color and black and white New York G P Putnam s Sons 1930 448 p illus (part col d) 18 cm (Putnam s nature field books) $5 00 1888

Content Water plants and animals and how they live. Lif in ponds and streams. Collecting and preserving water animals Simpler plants and animals. Higher plants. Sponges (Porifera) The hydras, fresh water jellyfishes (Coelenterata) Free-living flat worms (Planaria) Wheel animalcules (Rotifera) Bryozoans (Bryozoa or Polyzoa) Threadworms (Nematoda) and bristle-worms (Oligochaeta) Leeches (Hirudinea) Crustaceans (Crustacea) *Water-mites (Hydracarina)* Aquatic insects (Insecta) Snails and mussels (Mollusca) Lampreys and fishes. Salamanders, frogs, and toads, found in or near water (Amphibia) Turtles and snakes, found in or near water (Reptilia) Bibliography Glossary Index.

Note. A pocket-size handbook primarily for the amateur naturalist. *Written in nontechnical language* the work gives short descriptions of the various common forms of life, including habits, habitats, size, breeding habits, plus drawing or photograph.

NEEDHAM, JAMES GEORGE, AND PAUL R. NEEDHAM

A guide to the study of fresh-water biology with special reference to aquatic insects and other invertebrate animals and phyto-plankton Fourth edition revised and enlarged Ithaca Comstock Publishing Company, Inc., 1938 88 p. illus 21 cm. $1 00 1889

Contents Part I, Aids in recognition of fresh-water species Insects. Crustaceans. Mollusca. Pisces. Other lower invertebrates. Part II, A program f class work in fresh-water biology: Collecting methods and apparatus. Equipment. Practical exercises. Lentic water studies. Association studies. Adjustment studies. Lotic studies. Demonstrations.

Note. A brief pamphlet designed to facilitate the recognition of fresh-water organisms in the field and in the laboratory It offers umber f keys, tables, and figures which describe and illustrate the various genera. Vertebrate animals and vascular plants as well as inhabitants of salt and alkaline water are omitted. The fourth edition contains additions to the list of genera whose immature aquatic stages were formerly unknown. There are 25 practical exercises for use in elementary college classes.

RILEY, GORDON A , AND OTHERS

Hydrographic and biological studies of Block Island Sound. New Haven Bingham Oceanographic Laboratory 1952 237 p. illus. 23 cm (Yale University Peabody Museum of Natural History Bingham Oceanographic Collection Bulletin Vol 13, article 3) $3.60. 1890

Contents Hydrography of the Long Island and Block Island sounds, by G A. Riley Phytoplankton of Block Island Sound, 1949 by G. A. Riley A survey of the zooplankton of Block Island Sound, 1943–1946, by G. E. Deevey Quantity and composition of Block Island Sound, 1949 by G. B Deevey The pelagic fish eggs and larvae of Block Island Sound, by D Merriman and R. Sclar. The herring (*Clupea harengus*) of Block Island Sound, by H. L. Sanders

Note The reports published in this volume are based largely on observations and collections made on series of cruises from 1943 to 1949 as part of a systematic study of the hydrography and biology of the waters of Long Island and Block Island sounds. These waters, due to the admixture of fresh and salt water and to other factors, are of much interest in the study of oceanography and marine biology The paper on hydrography runs to only 44 pages; the papers on biological subjects account for the rest of the publication. In all of the papers the techniques of observing and collecting and the results are presented in detail. Literature references also are given.

WARD, HENRY BALDWIN, AND GEORGE CHANDLER WHIPPLE

Fresh water biology New York John Wiley & Sons Inc. 1918 1 111 p illus. 23 cm $12 00 1891

Contents I troduction, by H. B. Ward Conditions of existence, by V E. Shelford. Methods of collecting and photographing, by J Reighard. Bacteria, by E. O. Jordan. Blue-green algae (Cyanophyceae) by E. W Olive. The fresh-water algae (excluding the blue-green algae) *by J W Snow* The larger aquatic vegetation, by R. H. Pond. Amoeboid protozoa (Sarcodina) by C. H. Edmondson. Flagellate and ciliate protozoa (Mastigophora et Infusoria) by H. W Conn and C. H. Edmondson. The sponges (*Porif*) by E. Potts. Hydra and other fresh-water hydrozoa, by F Smith. The free-living flatworms (*Turbellaria*) by C. E. Stringer. Parasitic flatworms, by H. B. Ward. The Nemerteans, by W R. Coe. Free-living Nematodes, by N A. Cobb. Parasitic roundworms, by H. B. Ward. The wheel animalcules (Rotatoria) by H S. Jennings. Gastrotricha, by H. B. Ward. Aquatic earthworms and other bristle-bearing worms (Chaetopoda) *by F Smith. The leeches (Hirudinea),* by J P Moore The fairy shrimps (Phyllopoda) by A. S. Pearse. The water fleas (Cladocera) by E. A. Birge Copepods, by C. D. Marsh. The Ostracoda, by R. W Sharpe Higher crustaceans (Malacostraca) by A. E. Ortmann. The ter-mites (Hydracarina) by R. H. Wolcott Aquatic insects, by J G. Needham. Moss animalcules (Bryozoa) by C. B. Davenport. The Mollusca, by B.

Walls. The aquatic vertebrates, by C. H. Eigenmann. Technical and sanitary problems, by G. C. Whipple. Index.

Note: An old but still useful reference book and text. At the time of its writing, the authors of the chapters were among the most eminent biologists working in the United States of America. Each one presented a survey of his particular subject, thus was fair representation of the extant knowledge at the time. In the chapters dealing with forms of life, the authors limited themselves more or less to describing those forms found on the North American continent. The volume contains 1,347 figures, most of which though small are clear.

WELCH PAUL SMITH

Limnological methods. New York McGraw Hill Book Company Inc., 1948. 381 p. illus. 24 cm. $8.00 1892

Contents: Part I, Hydrographic mapping and morphometry: Shoreline surveys of lakes. Soundings. Stream surveys. Water levels. Map construction. Morphometry. Part II, Physical methods: Temperature. Turbidity. Color. Water movement. Light penetration. Wind velocity. Bottom materials. Part III, Chemical methods: Selected chemical methods. Part IV, Biological methods: Plankton methods. Bottom-fauna methods. Methods for plant-inhabiting organisms. Appendix: Lists. Tables. Sources of hydrographic maps and hydrographic information. Location of lakes and streams. Accessory equipment. Sources of limnological apparatus and supplies. Recommendations. Literature aids in the identification of plankton. Index.

Note: A manual of basic and standard methods, most of which have been used by the author in his own work. A certain amount of the material is designed for the guidance of workers limited to simple methods and improvised equipment, but in most of the book professional methods and standard equipment are described and illustrated. Both field and laboratory procedures are given in considerable detail. There are about 100 illustrations. Lists of the related literature are scattered throughout the book.

WELCH PAUL SMITH

Limnology Second edition. New York McGraw Hill Book Company Inc., 1952 538 p illus. 24 cm. (McGraw Hill publications in the zoological sciences E. J Boell, consulting editor) $9.50 1893

Contents: Part I, Preliminary considerations: Introduction. Inland waters. Lakes, their origin and diversity. Part II, Nature of inland-water environments: Physical conditions and related phenomena. Chemical conditions and related phenomena. Part III, Biological relations: Influence of physical conditions. Influence of chemical conditions. Organisms in inland waters. Plankton. Bacteria, other fungi, and the nonplankton algae. Larger aquatic plants and their biological significance. Nekton. Benthos. Biological productivity. Part IV, Some special types of lentic environments: Ponds. Bog lakes. Part V, Lotic environments: Running waters in general. Bibliography. Index.

Note: An advanced college text on fresh-water life first published in 1935 and now extensively revised and enlarged. The level of treatment presumes completion of basic introductory courses in biology, physics, and chemistry on the part of the reader. A brief history of the subject and analysis of physical and chemical influences are preliminary to the discussion of the biological aspects. Methods and practices for field and laboratory work are not covered. The extensive bibliography is classified and includes monographs and periodical literature through 1951 in English and other languages. There are 14 tables and 30 explanatory diagrams. The book is of interest not only to students of limnology but also to specialists in related fields such as ecology.

MICROSCOPY

ALLEN ROY MORRIS

The microscope Princeton D Van Nostrand Company Inc., 1940. 286 p. illus. 23 cm $4.75 1894

Contents: Historical. Optical principles of the microscope. Modern instruments. Illumination. Testing of microscope objectives. Getting the most out of the microscope. Preparation of material for microscopical examination. Bibliography. Glossary. Index.

Note: This book explains in detail the construction and use of the microscope. It assumes no previous experience with microscopes on the part of the reader and it requires no knowledge of optics or mathematics. The instruments described include those of both American and European manufacturers. The methods and techniques of using the instrument and preparing specimens for examination, reflect the author's specialized experience of more than 40 years.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on light microscopy Presented at the 55th annual meeting (50th anniversary meeting) American Society for Testing Materials, New York, N. Y., June 25 1952 Philadelphia American Society for Testing Materials 1953 126 p. illus. 16 cm. (American Society for Testing Materials. Publication no. 143) $2.50 1895

Contents: Introduction, by F. G. Foster and R. P. Loveland. The methods of microscopy, by C. W. Mason. Apparatus for microscopy by R. W. Zieler. Some applications of light microscopy and the study of textile materials by V. W. Tripp. Polarized light microscopy and supplementary techniques, by W. C. McCrone. Applications of light microscopy and concrete research, by K. Mather. The microscopical examination of metallic specimens, by J. R. Vilella. Resinography: the microscopy of resins and their plastics, by T. G. Rochow. Methods of particle size analysis, by R. P. Loveland. General discussion.

Note: New developments and methods in light microscopy were emphasized in the symposium of which this pamphlet is a product. These are discussed specifically and at a level that makes the papers of interest primarily to applied physicists and engineers engaged in research in industry. The illustrations include a number of reproductions of photomicrographs. The papers are accompanied by transcripts of discussion in addition to the general discussion that concluded the symposium. Literature references are supplied for most of the papers.

BENNETT ALVA HERSCHEL, AND OTHERS

Phase microscopy principles and applications. By Alva H. Bennett, Harold Osterberg Helen Jupnik and Oscar W Richards. New York John Wiley & Sons Inc., 1951 320 p. illus. 23 cm. $11.00. 1896

Contents: Introduction to phase microscopy. An elementary theory of phase microscopy. Instrumentation. The technics of phase microscopy. Phase microscopy in biology and medicine. Industrial applications of phase microscopy. Appendix. The diffraction theory of phase microscopy with Köhler illumination. Bibliography. Author index. Subject index.

Note: Phase microscopy is a relatively new technique that is especially valuable in viewing transparent and near-transparent material. When used in connection with biological research, it eliminates the need of laborious preparation, staining of tissues and facilitates the examination of living material. Many articles have been written on the subject, but this appears to be the first book. It is a technical, rather than a popular, treatise, and it is designed primarily for research workers who make extensive use of microscopy. Theory, mathematical calculations, and techniques are all covered. There is a comprehensive bibliography. The authors are associated with the research laboratory of the American Optical Company.

BURTON ELI FRANKLIN AND W H KOHL

The electron microscope an introduction to its fundamental principles and applications. Second edition. Drawings by Dorothy Stone. New York Reinhold Publishing Corporation, 1946 325 p. illus. 23 cm. $6.50 1897

Contents (abridged): Vision. Light microscopes. Wave motion and wave motion media. The electromagnetic theory of light. Electron emission. The dual theory of light. The dual theory of the electron. The motion of electrons in electrical fields. The motion of electrons in magnetic fields. Electron optics—magnetic focussing—electrostatic focussing. The electrostatic electron microscope. The magnetic electron microscope. The 1944 Toronto microscope. The

use of the electron microscope. Practical applications of the electron microscope. Bibliography of electron microscopy Indexes.

Note This book is for lay readers who have some background in science and for scientists interested in the uses and manipulation of the electron microscope but who are not specialists in electron optics. The present edition contains nearly 100 more pages than the 1942 edition. Besides extensive textual *revision*, *many* excellent reproductions of microphotographs have been added. Also included is a noteworthy bibliography of some 520 entries which, minus a few recently added references, first appeared in the August, 1944 issue of the *Journal of applied physics*.

CORRINGTON, JULIAN DANA

Working with the microscope. New York Whittlesey House, McGraw Hill Book Company, Inc , 1941 418 p illus 23 cm $6 50 1898

Contents: The microscope. Temporary mounts for immediate study Simple balsam mounts. Procedures in microtechnique. Proceed balsam mounts. Cell mounts. Stained whole mounts. Smear preparations. Bacteria. Microscopic skeletons. Grinding hard objects. Sectioning manual and freezing methods. Sectioning celloidin method. Sectioning paraffin method. The newer techniques. Special preparations. Preparation and use of reagents.

Note A comprehensive, practical manual for those concerned with microscopy and microtechnique, except the advanced professional. Directions cover the operation of the microscope as well as the preparation of all types of slides—whole mounts, smears, sections, and isolations. How to fix stain, section, and mount materials so they may be examined under the microscope to the best possible advantage, proceeding from the simplest of mounts to the highly technical.

FISCHER, ROBERT B

Applied electron microscopy Bloomington Indiana University Press, 1953 231 p illus 22 cm $4 85 1899

Contents Introduction. Resolution. Depth of field and contrast. Design and construction of electron microscopes. Selecting and mounting suitable specimens. Shadow-casting Examination of small particles. Examination of surfaces. Special methods. Related instruments. Index.

Note A broad introduction to the use of the electron microscope in physical and biological research. Some of the basic theory is outlined in the early chapters, but the greater share of the space is devoted to topics of practical concern to scientist users of electron microscopes such matters as microscope elements, the mounting of specimens, and various specialized techniques that have proved useful in the examination of various kinds of specimens. The illustrations include considerable number of micrographs ranging from biological to metallurgical. A selection of the literature is cited in footnotes. The author is Associate Professor of Chemistry in Indiana University

GAGE, SIMON HENRY

The microscope Seventeenth edition, revised. Ithaca Comstock Publishing Company Inc. 1941 617 p illus 23 cm $5 00 1900

Content Introduction Description of the electron microscope. Microscopes and their parts. Bright-field microscopes lighting, natural and artificial experiments with microscopes. Dark-field microscopy and its application. The polarizing microscope some optical principles in microscopy Micro-spectroscope pocket spectroscope. Ultra-violet (or fluorescence) microscope physical analysis. Interpretation of appearances. Magnification and micrometry Drawing with the microscope and projection apparatus class demonstrations. Photographing embryos and small animals photographic enlargements photographing with the microscope Cabinet slips and cover-glasses mounting, labeling, and storing microscopical specimens. Fixing and preservation of tissues, organs, and entire organisms infiltrating imbedding, sectioning, staining, and mounting for the microscope. Serial sectioning of organs, small animals, and embryos preparation of models. *Micro-incinerations and* optical appliances for their examination. History of lenses and microscopes. Bibliography Index.

Note The primary aim of the work is to guide those unfamiliar with the microscope into an understanding of *it*, *of its* limitations and uses. Added attention is given in this *17th* edition to the electron microscope, polaroid for the micro-polariscope, plastics as mounting media, high pressure mercury lamps in ultra-violet radiation, and bright mercury lines *for photography*. Lists of collateral reading follow the chapters in addition to the bibliography on pages 581 594

GRAY, PETER

Handbook of basic microtechnique. New York McGraw Hill Book Company, Inc, 1952 141 p illus. 24 cm $3 00 1901

Contents (abridged) Part 1 Materials and processes of slide making Materials and equipment. Fixation and fixatives. Stains and staining. Dehydrating and clearing. Mounts and mountants Making wholemounts. Making smears. Making sections. Cleaning, labeling, and storing slides. Part 2 Specific examples of slide-making tasks.

Note Explicit information on the preparation of biological material and the making of slides for microscopical examination is presented in this compact handbook. Materials, such as fixatives, and techniques, such as sectioning, are described in the first part. In the second part the making of 15 slides of various complexities is described in detail. These descriptions contain some fine points that could not be incorporated in the more generalized material of the first section. There are 57 figures. The book is suited to the needs of beginners and also to those of experienced laboratory workers who make biological slides only occasionally

GRAY, PETER

The microtomist's formulary and guide. New York The McGraw Hill Book Company, Inc., 1954 794 p illus 23 cm. $12.00. 1902

Contents (abridged) Part 1, The art of making microscope slides Dry wholemounts. Fluid wholemounts. Wholemounts in gum media —in jelly media—in resinous media. Smear preparations. Squash preparations from solid bodies. Ground sections. Sections of loose material. Paraffin sections. Nitrocellulose sections. Sections from double embedded material. Frozen sections. Injections. Part 2, Methods and formulas used in making microscope slides Preservatives. Fixatives. Formulas and techniques for dye stains of general application—of special applications. Accessory dye staining formulas. Formulas and techniques for metal stains. Solvents and [illegible] Mounting media. Embedding media. Various formulas. List of books and journals cited. Index.

Note A cyclopedic reference book of biological microtechnique, addressed to advanced laboratory workers and professional microscopists. The first part, on the making of microscopic slides of biological material, runs to 170 pages. The second and much longer part is a manual of formulas, embedding techniques, staining techniques, etc. In this part, adequate information is given, in most cases, for the making of the formula or carrying out of the technique. However a literature reference is given also. The very detailed author and subject index is 114 pages long.

GUYER, MICHAEL F

Animal micrology Practical exercises in zoölogical micro-technique. With a chapter on drawing by Elizabeth A. (Smith) Bean. Fifth revised edition Chicago University of Chicago Press 1953 327 p illus. 24 cm. (The University of Chicago committee on publications in biology and medicine Emmet B Bay and others) $5 50 1903

Contents Preparation of reagents. *General statement of methods*—Killing and fixing. Simple section methods. The paraffin method—infiltration and sectioning—staining and mounting The double method. The celloidin method. The freezing method. *Metallic substances for color differentiation. Isolation of histological elements*—minute dissections Tooth, bone, and other hard objects. Injection of blood and lymph vessels. Objects of general interest—cell-making, fluid mounts, *in toto* preparations, etc. Blood. Bacteria. Some embryological methods—sections and *in toto* mounts of frog and chick other forms. Some cytological methods *Reconstruction* of objects from sections. Drawing. Appendices The microscope and its optical principles Some standard reagents and their uses. Table of tissues and organs, with methods of preparation Preparation of microscopic material for a general course in *zoölogy* Table of equivalent weights and measures. References. Index.

Note: A standard manual of zoological microtechnique which has been widely used in biological laboratories in the United States of America and other countries since the publication of the first edition in 1906. A wide range of techniques is covered explicitly and in detail. Instruments also are described but less space is devoted to them. Both techniques and instruments pertain to the study of animal life and particularly to the microscopical study of it, but some are applicable also to the study of plant tissues and organs. Techniques are described specifically and in detail. Formulas are given for stains, fixing agents, mounting solutions, etc. Methods of preparation of tissues and organs are concisely tabulated in a long table. The fourth edition was published in 1936. This fifth edition does not represent an extensive revision. Minor, though useful, additions and revisions have been made in several parts, including the table on the preparation of tissues and organs.

HALL, CECIL E.

Introduction to electron microscopy New York McGraw-Hill Book Company Inc., 1953 451 p. illus. 24 cm. (International series in pure and applied physics) $9.50 1904

Contents: Elements of physical theory. Electrons in electrostatic fields. The ideal lens. The electrostatic lens. The magnetic lens. Aberrations and diffraction. The electron microscope. Commercial electron microscopes. Scattering phenomena. Image characteristics. Methods in electron microscopy. Examples from applied electron microscopy. Appendices: Examples of stereoscopic pairs. Answers to some of the problems. Constants and conversion factors. Name index. Subject index.

Note: A formal textbook which evolved from a course of lectures on electron microscopy presented by the author at the Massachusetts Institute of Technology. The course and the book are intended for students above the sophomore level who wish to gain knowledge of the electron microscope for use in varied fields, such as biology, medicine, chemistry, metallurgy and physics. The book presents in systematic fashion the essential principles and information which, when coupled with laboratory experience, will enable the student to understand the theory behind the techniques of operating electron microscopes and of interpreting the resulting records. The author states in his preface: "If the discussion should seem too theoretical at times for the purpose, it may be stated that if all parts were studied that were not [illegible] questions asked at one time or another by practical persons engaged in laboratory work, very little discussion would occur." The first chapter comprises a review of the development of modern physics and includes sections on the following topics basic to an understanding of electron optics: geometrical theory, wave theory and wave refraction, the nature of light, classical mechanics, and wave mechanics. Sample problems appear at the ends of nearly all the chapters, following which in most chapters are selected lists of references and general references.

SHILLABER, CHARLES PATTEN

Photomicrography in theory and practice. New York John Wiley & Sons Inc., 1944 773 p. illus. 22 cm. $16.50. 1905

Contents (abridged): The microscope, its use and adjustment. Lamp houses, lamps, methods of lighting, and photometric units. Light, lenses, lenses, and objectives. Oculars. Illuminating apparatus, slides, cover glasses, and the effect of each on the optical system. Optical light filters and the control of color. Cameras, photosensitive materials, formulas and photographic techniques. Mounting media, stains, reagents, and solvents; their use and application in photomicrography. Analysis of practical photomicrographical problems. Glossary. Addendum. Index.

Note: A text and reference book which presents the fundamental principles of the microscope, some of the related problems in optics and mechanics, the theoretical implications of the subject, and the practical application in the production of evenly exposed and in-focus negatives. Stress is placed on the necessity for exact and precise alignment of all optical parts, and the student is led to judge the accuracy of his own technique independently of all factory or museum adjustments, to find the proper balance for his optical equipment, and to select any required lens combination correctly. Mathematical derivation of optical formulas involves only elementary algebra and trigonometry. There are laboratory exercises and test questions at the end of each chapter and numerous illustrations of apparatus and typical photomicrographs.

WYCKOFF, RALPH WALTER GRAYSTONE

Electron microscopy technique and applications. With 202 illustrations New York Interscience Publishers, Inc., 1949 248 p. 24 cm. $5.00 1906

Contents: Introduction. Electron microscopes. Adjustment of the electron microscope. Preparations for electron microscopy. Metal shadowing and the visualization of very small objects. The use of surface replicas. The electron microscopy of particle suspensions. The electron microscopy of viruses. The photography of macromolecules. The structure of macromolecular solids. Index to text. Index to micrographs.

Note: The purpose of this volume is to provide laboratory technicians and students with brief descriptions of some of the successful applications made of the electron microscope, and to indicate its possibilities and limitations. Introductory chapters deal with the construction, operation and adjustment of such microscopes, but the main emphasis is on fields of application, especially in the biological and medical sciences. Each chapter includes an extensive bibliography and many excellent electron micrographs prepared by the author.

ZWORYKIN, VLADIMIR KOSMA, AND OTHERS

Electron optics and the electron microscope by V. K. Zworykin, G. A. Morton, E. G. Ramberg, J. Hillier and A. W. Vance. New York John Wiley & Sons, Inc., 1945 766 p. illus. 22 cm. $13.25 1907

Contents: Part I, Practical electron optics and electron microscopy: Electron optics. Applications of electron optics. Electron microscopes. Electron optics of high magnification. The magnetic electron microscope. Aberrations and tolerances in the electron microscope. Electron microscope power supplies. Manipulation of the electron microscope. The electron microscope as a research instrument. Part II, Theoretical basis of electron optics and the electron microscope: Theoretical basis of electron optics. Determination of potential distribution. Electron trajectory tracing. Gaussian dioptrics of electrostatic lenses. Magnetic fields. Electron motion in magnetic fields and magnetic lenses. Aberrations of electron lenses. Magnitude and correction of electron lens defects. High-voltage electron optics—light optics. Image formation in the electron microscope. Appendix: The problem of noise in amplification and in the scanning microscope. Miscellaneous tables. Author index. Subject index.

Note: The first part of this comprehensive and authoritative treatise is intended for users of electron microscopes; hence it deals with the general principles of electron optics and with the features of electron microscopes available at the time of preparation of the manuscript. In this part only simple mathematics is employed. Part II is intended chiefly for persons interested in the design and improvement of electron microscopes. Accordingly, it provides an exhaustive survey of both the theoretical and practical knowledge, and higher mathematics is employed. Bibliographies accompany all but one of the chapters, and there is a detailed manual of [illegible].

EVOLUTION

BLUM, HAROLD F.

Time's arrow and evolution. Second edition. Princeton Princeton University Press, 1955 223 p. illus. 24 cm. $4.50. 1908

Contents: Perspectives. The chronology of evolution. The energetics and kinetics of chemical reactions. The origin and early evolution of the earth. Later history of the earth. The fitness of the environment. The energetics and kinetics of living systems. Structure and its reproduction. Stability and variability. The origin of life. Irreversibility and direction in evolution. Some implications. Bibliography. Index.

Note: That the second law of thermodynamics ("time's arrow") has determined the origin of life and the direction of evolution of living organisms is the central theme of this book. The work is mainly an examination of the evidence of various fields of science that appears to support the basic idea rather than a statement of definite hypotheses. It is addressed primarily to scientists, or at least to persons who are moderately familiar with the terminology and concepts of physical and organic chemistry. The style is lucid, and the ideas advanced are well supported by references to the pertinent literature. The first edition was published in 1951. The

second edition represents rather limited revision. A six-page addendum has been added to the chapter on the origin of life. Lesser but important changes have been made in other chapters, and references to 18 recent publications which present more recent developments and points of view the latter not uncommonly in conflict, have been added to the bibliography

DOBZHANSKY, THEODOSIUS

Evolution, genetics and man New York John Wiley & Sons, Inc , 1955 398 p illus 24 cm $5 50 1909

Contents Nature and origin of life. The gene as the basis of evolution. Chromosomes as gene carriers. Heredity environment, and mutation. Elementary evolutionary changes or microevolution. Natural selection and adaptation. Individuals, populations, and races. Species. Evolution under domestication and evolution by polyploidy Evolution of the organic form and function. Evolution of sex. Historical record of organic evolution. Human evolution. Chance, guidance, and freedom in evolution. Index.

Note An illustrated textbook for use in college courses in biological evolution offered to students with an elementary knowledge of biology Because the fundamentals of genetics are basic to an understanding of evolution, the author devotes three whole chapters and parts of other chapters to genetics. Throughout the book wherever appropriate the author has pointed out the bearing of the topics discussed upon human problems. The book is a comprehensive and balanced presentation of the entire subject of evolution and is potentially of value to lay readers as well as to college students. Annotated "Suggestions for further reading appear at the ends of chapters.

DODSON, EDWARD OTTWAY

A textbook of evolution. Philadelphia W B Saunders Company, 1952 419 p illus 24 cm $5 00 1910

Contents (abridged) Part I, A definition of evolution Evolution by natural selection—Darwin's conception. Evidences of evolution I—biogeography Evidences of evolution, II—taxonomy comparative anatomy and comparative physiology Evidences of evolution, III—paleontology and genetics. The history of evolutionary thought. The two main problems of evolution. Part II, Phylogeny (evolution above the specific level): The origin of life and the differentiation of the plant and animal kingdoms. The main lines of evolution among land plants. The main lines of animal evolution. The history of the primates. Part III, The origin of variation (descent with modification) Gene mutation. Chromosomal mutations. Part IV The origin of species or the origin of discontinuity Natural selection. Continuous vs. discontinuous variation. Isolating mechanisms and species formation. Polyploidy Distribution of species. Index.

Note. The background and present status of evolutionary theory are well presented in this book. The author shows that evidence from several areas of scientific research is being fused in modern synthesis to which such men as Dobzhansky Goldschmidt, R. A. Fisher Mayr, and E. B. Babcock have made substantial contributions. The chapter on the primates includes the new light shed on the evolution of man by the discovery of the pithecanthropus skulls. Although designed as an introduction to the subject for college students, the book is suitable for reading by anyone interested in a survey of the contemporary situation in this field.

GREGORY WILLIAM KING

Evolution emerging a survey of changing patterns from primeval life to man. A collaborative work of the American Museum of Natural History and Columbia University New York The Macmillan Company, 1951 2 v illus 26 cm $20 00 1911

Content (abridged) Volume Text Part I, Time and evolution Introduction, the cosmic chorus. The first living things. The world of molluscs. Externally articulated animals (arthropods) Part II Emergence of the vertebrates Codonnui food-sifters of diverse types (brachiopods, polyzoa, echinoderms) The prechordates and the problem of the origin of the vertebrates. The vertebrates come forth (shell-skinned ancestors of the vertebrates and some of their branches) Early experiments among streamlined predators (placoderms) Advanced predators of the shark tribe. The branching tribes of bony fishes. Part III, Air-breathing fishes The air-breathers struggle for life. The air-breathers come up on land. From lowland marsh to forest and desert. Back to the waters and down to the sea. The reign of the archosaurians (thecodonts, crocodilians and dinosaurs) Bat-winged reptiles (pterosaurs) and the feather-clad frames of birds. Part IV The rise and branching of the mammals From sitalking reptiles to running mammals: a critical stage in evolution. The dark ages of mammalian history (mesozoic mammals) Branching evolution in egg-laying and marsupial mammals. Rise of the placental mammals (the outer form and inner frame of insectivores, tree-shrews, bats, edentates, rodents) Archaic and modernized carnivores, including seals (Pinnipedia) Outer form and inner frame among the hoofed mammals (Ungulata) Fish-like by convergence (Cetacea) Part V The devious paths to man Origin, rise and deployment of the primates. Man's debt to the past. Part VI, Evolution emerging, retrospect and prospect: Law and chance. Bibliography Index of authors. General index. Volume II. Illustrations.

Note The publication of this monumental work culminates a plan formulated by three successive generations of Columbia group professors for a textbook covering the evolution of vertebrate animals from earliest times to the present. The first volume contains the text without illustrations but with references to the illustrations. The second volume contains 1,013 pages of illustrations arranged under the same chapter titles as the text volume. In both volumes the details and evidences of vertebrate evolution are presented in logical order with attention centered especially upon the comparison of the skeletal patterns. The study of the skeleton is emphasized because of the opportunity it presents to combine and integrate the knowledge of both fossil and still-existing animals. The bibliography, which is classified to correspond to the chapter arrangement, covers 144 two-columned pages. Both students of comparative anatomy and general readers who are concerned in any manner with the subject will find the work of great interest and importance.

LULL, RICHARD SWANN

Organic evolution. Revised edition with numerous emendations New York The Macmillan Company, 1945 744 p. illus. 22 cm $7 50 1912

Contents (abridged) Part I, Introduction History of evolution. Geographic distribution. Bathymetric distribution. Geologic distribution. Part II, The mechanism of evolution Variation and mutation. Heredity Artificial selection. Natural selection. Sexual selection. Ontogenesis and kinetogenesis. Part III, The evidences of evolution. Section I, Ontogeny: The life cycle. Recapitulation—collection. Section II, Morphology and adaptations Coloration and mimicry Specialization and degeneracy Adaptive radiation. Aquatic adaptation. Volant adaptation. Cave and deep-sea life. Desert adaptation. Section III, Paleontology Fossils, their nature and interpretation. Origin of vertebrates. Rise of reptiles and dominance of dinosaurs. Origin of mammals and rise of archaic mammals. Inception of modernized mammals and evolution of carnivores. Cetaceans. Proboscideans. Horses. Camels. South American mammal radiation. The evolution of man. Index.

Note A distinguishing feature of this standard work is the inclusion of a large amount of material from paleontology It traces the evolution from fossil records is correlated with evidences from extant animal forms. It is used chiefly as college textbook, but it is suitable for reading by educated laymen also. The first edition was published in 1917, and a second edition containing fairly substantial revisions was published in 1929 In the preparation of the present edition rather numerous changes were made in the phrasing and content of scattered sentences and paragraphs, and in the bibliographies; but the revision was carried out so that the plates of the 1929 edition could still be used. There is accordingly no change in pagination and no major change in content.

MOODY, PAUL AMOS

Introduction to evolution New York Harper & Brothers 1953 475 p illus. 25 cm $6 00 1913

Contents (abridged) Changing animals. Evolution as seen in the structure of modern animals. Evolution as seen in embryonic development. Evolution as seen in chemical structure and in metabolism. Evolution as seen in serological tests. Evolution as seen in the geologic record. Evolution as seen in the geographic distribution of animals. Evolution as seen in the classification of animals. Means and methods of evolutionary change. Principles of evolutionary change—genetics of populations—natural selection. What of it— an open letter to students. Index.

Note. An introductory textbook for the instruction of undergraduate college students. An unusual feature is that the level of treatment does not assume previous education in basic biology All of the biological concepts that are essential to an understanding of the book are explained as they are introduced However elementary texts on biology are included among the "Suggested readings" at

the ends of chapters. The evidence for evolution is carefully presented in a series of chapters that constitute the main body of the book. The principles of evolutionary change are given somewhat less space, but the reader is introduced to the current thought on natural selection and the genetics of populations. The volume is adequately illustrated and well indexed.

NEWMAN, HORATIO HACKETT

Evolution, genetics and eugenics. Third edition. Chicago, University of Chicago Press 1932. 620 p. illus. 23 cm. $5.50 1914

Contents (abridged): Part I, Introductory and historical. Introduction. Historical account of the development of the evolution doctrine. Part II, Evidences of organic evolution. Is organic evolution an established principle? The fundamental postulate underlying all evidences of evolution. Evidences from morphology by G. J. [illegible]. Evidences from classification. Evidence from blood tests, by W. B. Scott. Evidences from embryology. Outline of the recapitulation theory by W. B. Scott. Evidences from paleontology. The evolution of man, paleontology by R. S. Lull. Evidences from geographic distribution. Part III, The mechanism of evolution. [illegible]. Introductory statement. The biological background of eugenics. Introduction to the study of [illegible] factors. Heredity in pure lines. Sex determination and sex differentiation. Mendel's laws of heredity. The factor hypothesis as applied to plants, by J. M. and M. C. Coulter. The factor hypothesis as applied to animals. Review of Mendelism. Sex-linked heredity. Linkage, crossing-over, and the architecture of the germ plasm. Part IV: Eugenics. Part [illegible]. Auxiliary reading. Bibliography. Glossary. Index.

Note: Presents an account of the various phases of evolutionary biology condensed within the scope of one volume of moderate size. Although designed to be used in college courses, it is not strictly a textbook, since it consists largely of excerpts from both the classical evolutionary writers and the modern writers. Unification has been accomplished by the aid of editorial comments, [illegible] and original [illegible]. The third edition has an enlarged section on eugenics.

PATTERSON, J. T., AND W. S. STONE

Evolution in the genus *Drosophila*. New York, The Macmillan Company 1952. 610 p. illus. 22 cm. $10.00 1915

Contents: Introduction: The problem. The genus Drosophila. Geographical distribution and speciation. Chromosomal evolution in the genus Drosophila. Salivary gland chromosomes. Gene variation, selection, and genic balance. Isolating mechanisms. The [illegible] and other isolating mechanisms. Hybrids and hybrid sterility. Evolution in the virilis species group. Comparisons and conclusions. References. Index.

Note: By serving as experimental material the fruitflies of the genus Drosophila have contributed much to the development of our present knowledge of genetics. In this book the mass of accumulated knowledge about this genus [illegible] reinterpreted from the standpoint of evidence of evolution. Although the authors state that they have [illegible] certain contributions, the treatment borders on the encyclopedic. The style [illegible] compact, and the text [illegible] supplemented by more than 100 tables. The bibliography runs to 33 pages. The work is a major addition to the scientific literature of evolution.

SHULL, AARON FRANKLIN

Evolution. Second edition. New York, McGraw-Hill Book Company, Inc., 1951. 322 p. illus. 24 cm. (McGraw-Hill publications in the zoological sciences. E. J. Boell, consulting editor) $6.00 1916

Contents: The evidence [illegible] over the centuries. Order in diversity among living things. Lineage [illegible]. Geographic distribution and the time and place of origin of species. Fossils [illegible] by evolution. Origin of man. Mechanism of [illegible] and change. Primary variation. Genetic variation in wild populations. [illegible]. Guidance of evolution. Isolation. Geographic races and speciation. Sequences of [illegible] and [illegible]. Origin of life. Index.

Note: A simple, straightforward introduction. The role of the genes in evolution is stressed, but adequate attention is also given to other aspects. The book is designed and widely used as a text for college courses, but it is equally suitable for a first book for interested lay readers. The first edition was [illegible] [illegible] from the genetic standpoint. In the present edition, published 23 years later, the chapters bearing on the genetic aspects have been largely rewritten. One of the principal changes is an account of polyploidy. There are 141 figures and a good index, but there is no bibliography.

SIMPSON, GEORGE GAYLORD

The major features of evolution. New York, Columbia University Press 1953. 434 p. illus. 23 cm. (Columbia biological series, No. XVII. General editor, L. C. Dunn) $7.50 1917

Contents: Rates of evolution—morphological rates. Taxonomic rates of evolution. Variation. Mutation. Population and selection. Adaptation. The evolution of adaptation. Trends and orientation. Extinction, relicts, and [illegible]. [illegible] and [illegible]. Higher categories. Patterns or modes of evolution. Works cited. Index.

Note: This book is a successor to the author's classic *Tempo and mode in evolution* 1944, which was a pioneer study of the rates and patterns of evolution as shown in the records of fossils. The present work is concerned with essentially the same pattern. In brief, it is a new study of evolution, in which it is shown that the fossil record supports the modern theory of evolution as do genetics—particularly population genetics—systematics, comparative morphology, ecology and other areas of biology. The treatment is at an intermediate level; that is to say, readers need a basic knowledge of biology and genetics, but advanced topics such as population genetics are discussed in descriptive rather than mathematical terms. An extensive list of literature cited is included.

SIMPSON, GEORGE GAYLORD

The meaning of evolution: a study of the history of life and of its significance for man. New Haven, Yale University Press 1950. 364 p. illus. 21 cm. (The Terry lectures) $4.00 1918

Contents: Part I, The course of evolution. Geologic time. The beginnings of life. Major outlines of the fossil record. The history of the vertebrates. Records and radiations of reptiles. Outlines of the history of mammals. The history of the primates. Rates of evolution. First conclusions from the record. Part II, The interpretation of evolution. The problem of problems. Oriented evolution: orthogenesis and trends. The opportunism of evolution. Racial life and death. Forces of evolution and their integration. The concept of progress in evolution. Historical retrospect: the evolution of evolution. Part III, Evolution, humanity and ethics. Man's place in nature. The search for an ethic. The ethics of knowledge and of responsibility. The future of man and of life. Epilogue and summary. Index.

Note: Liberated by readers with more than superficial interest in evolution [illegible], the general audience for this well-written, authentic book. Originally prepared and delivered at Yale University, November, 1948, as the 19th series of Terry lectures, the material has been expanded and augmented without loss of the easy-flowing informal style of scientific lectures addressed to laymen. The evidence in support of evolution and the meaning of the evolutionary process to man are presented in a synthesis that employs evidence from pertinent branches of science and an interpretation that points out the ethical and cultural values. The author is Chairman of the *Department of Geology and Paleontology* in the American Museum of Natural History and Professor of Vertebrate Paleontology at Columbia University.

SMITH, HOMER W.

From fish to philosopher. Boston, Little Brown and Company 1953. 264 p. illus. 21 cm. $4.50 1919

Contents: Earth. Evolution. The [illegible]. The kidney. The [illegible]. The lungfish. The amphibia. The bony fishes. The reptiles. The mammals. Animals that live without water. Man. Consciousness. Technical notes and bibliography. Index.

Note: In this well-written popular story of evolution, the kidney is utilized as the peg on which to hang the story. The author, a professional physiologist and internationally known authority on the kidney, traces the evolution of this organ and at the same time the evolution of the forms of life in which the kidney functions as the major controller of body chemistry. He relates very ingeniously and convincingly the evolution of the kidney and its function to the history of the earth and to the unending succession of vicissitudes that have driven the animal vertebrates from sea into fresh water.

into desiccated swamps, out upon the dry land, from one habitation to another perpetually in search of the free and independent life, perpetually failing, for one reason or another to find it."

STEBBINS, GEORGE LEDYARD, JR

Variation and evolution in plants New York Columbia University Press, 1950 643 p illus. 24 cm. (Columbia biological series Number XVI General editor L. C Dunn) $8 00 1920

Contents Description and analysis of variation patterns. Examples of variation patterns within species and genera. The basis of individual variation. Natural selection and variation in populations. Genetic systems as factors in evolution. Isolation and the origin of species. Hybridization and its effects. Polyploidy—Occurrence and nature of polyploid types—Geographic distribution and significance of polyploidy Apomixis in relation t variation and evolution. Structural hybridity and the genetic system. Evolutionary trends—The karyotype—External morphology Fossils, modern distribution patterns and rates of evolution. Works cited. Index.

Note. An important contribution to the literature of evolution. It epresents a synthesis of knowledge from many fields, particularly paleobotany genetics, cytology and, of course, systematic botany Plant variation and evolution is shown to be a complex process based on the accumulation of many small changes and taking place at three distinguishable levels which the uthor terms variation, microevolution and macroevolution. The work is essentially a masterly interpretation of the published literature including the uthor's own umerous papers. The list of works cited runs to 60 pages. The presentation is technical and is suited to advanced students and graduate scientists interested in such fields as evolution genetics, and botany

GENETICS

ADVANCES IN GENETICS Volume VII Edited by M Demerec. Editorial board G W Beadle and others New York Academic Press Inc., 1955 309 p illus 23 cm $8 00 1921

Contents Microbial drug resistance, by V Bryson and W Szybalski. The "Obscura group of the genus Drosophila, by A. A. Buzzati-Tra erso and R. E. Scossiroli. Chromosomal polymorphism in the Diptera, by A. B. da Cunha. Abnormal combinations of nuclear and cytoplasmic systems in frogs and toads, by J A. Moore. Recent genetics of the domestic rabbit, by P B. Sawin. The origin and evolution of cultivated barley by R. Takahashi. Author index to Volume VII. Subject index to Volume VII. Cumulative subject index to Volumes I–VII.

—— Volume VIII Edited by M Demerec. Editorial board G W Beadle and others New York Academic Press Inc., 1956 402 p illus 23 cm $9 00 1922

Contents Metabolism and spontaneous mutations in plants, by F D Amato and O. Hoffmann-Ostenhof. The complementary genic systems in flax and flax rust, by H. H. Flor The genetic structure of races and species in Gilia, by V Grant. Chromosome repatterning and adaptation, by V Grant, General genetics of bees, by W E. Kerr and H. H. Laidlaw Jr Genetics of ladybettles, by T Komai. The genetics of the sheep by A L. Rae. Cytogenetics of the tomato, by C. M. Rick and L. Butler Author index. Subject index.

Note. Two volumes in a series that began publication in 1947 and which is designed to provide summaries on the professional level of current research and recent advances in genetics. Each of the review papers is written by recognized uthority and is in effect a monographic survey of the recent literature of its topic. Contributors are selected from the scientists f various countries, although scientists working in the United States of America predominat The reviews are addressed to graduat scientists, and are particularly useful to research workers in both pure and applied fields who wish to keep abreast of new developments in areas of genetics outside their own specialties. Extensive keyed lists of literature accompany each of the papers.

ALTENBURG, EDGAR

Genetics New York Henry Holt and Company, 1945 452 p illus 22 cm. 1923

Contents. The physical basis of heredity Heredity and environment. Mendel's principle. Independent assortment. Multiple factors. The determination of sex. Inbreeding and outbreeding The genetical interpretation of sex. Selection. Linkage, crossing over, and chromosome maps. Crossing over and meiosis. Multiple "alleles". Abnormal chromosomal rearrangements. Cytogenetic maps. Gene balance and chromosome number. Mutation. The artificial production of mutations. Balanced lethals and chromosome complexes. Heredity and development. The genetic basis of evolution. Index.

Note. This text, designed for students ith a background of general college biology considers genetics as the study of the germ plasm. The author was among the pioneer investigators in the Drosophila experiments at Columbia University from 1911 to 1916, the influence of which is strongly indicated in this study In the introductory chapters, explanations are made with care and in detail, with an especially full treatment of the Mendelian principle, later the pace is considerably more rapid, and the material would be of little use t the layman studying alone. Human genetics is not considered separately as such, but is treated topically with other forms of life. There are helpful summaries and sets of problems following each chapter but no bibliographical references. A new edition was published in 1957 512 p., $4.50.

ANDERSON, EDGAR

Introgressive hybridization New York John Wiley & Sons, Inc., 1949 109 p illus. 22 cm. (Biological research series, advisory board, Paul A Weiss and others) $4.25 1924

Contents. Introgression in Iris typical example. The ecological basis of introgression. The genetic basis of introgression. Introgression in finite populations. Introgression and evolution. Special techniques for the study of introgression. Epilogue. Bibliography Index.

Note. The term introgressive hybridization designates the repeated backcrossing of hybrids to one or both parents. This book is about the study of such hybridization in the field under natural conditions, that is, introgressive hybridization outside the laboratory and the breeding plot. It deals particularly with how the effects of hybridization can best be measured in natural populations and what is the nature of the forces at work in such populations. All relevant literature dealing with the problem (which has been given intensive study chiefly since 1939) is summarized at the same time, a good deal of the material is original.

BRIDGES, CALVIN BLACKMAN, AND KATHERINE S BREHME

The mutants of *Drosophila melanogaster* Washington, D C Carnegie Institution of Washington, 1944 257 p illus. 25 cm. (Carnegie Institution of Washington. *Publication* no 552) $1 25 1925

Contents Nomenclature and symbolism. Mutants and aberrations listed and described in order of symbols. Descriptions of wild-type stocks. Linkage maps. Appendix *Bibliography of Calvin Blackman Bridges, 1913 to 1944*

Note. The compilation of descriptions of the mutants of *Drosophila melanogaster* contained in this volume was made by the senior author from the mutation list which he had maintained and continually revised from 1914 to his death in 1938, and which included the data concerning all significant mutations and reoccurrences found by himself and other workers in the laboratory of Dr T H. Morgan at Columbia University and later at California Institute of Technology He also used the information then published in Carnegie Institution of Washington Publications 237 (1916) 278 (1919), 327 (1923) and 421 (1931) and in Morgan *The genetics of Drosophila*, New York, 1925. After his death a systematic survey of the literature was made by the junior author covering all available publications on the genetics of Drosophila through December 1942 An attempt was made to include such information concerning the mutations as would be of use to investigators, and to document all data as thoroughly as possible. The mutations are listed in one alphabetical order in the present volume. There are three plates of reference maps of various chromosomes.

CASTLE, WILLIAM ERNEST

Genetics and eugenics a text-book for students of biology and a reference book for animal and plant breeders. Fourth revised edition. Cambridge, Mass Harvard University Press, 1930 395 p. illus. (part col d) 24 cm. $3 00 1926

Contents (abridged) Part I, The biological basis of genetics. The place of life in the universe. Chromatin, the directing agency of life and the material basis of heredity Reproduction. Chromosome reduction. Relation of genetics to the evolution theory Part II, The historical development of genetics: Darwin's theory of evolution and its evidences. Contributions of Lamarck, Weismann, and Spencer. Attempts to classify and measure variation. The mutation theory of De Vries and the modern theory. Discovery and rediscovery of Mendel's law Part III, The essential facts of genetics: Mendel's law. Some Mendelian terms and their uses. The unit-characters of rodents, cattle, horses, swine, sheep, dogs, cats, poultry, plants, and insects. Linkage. Artificial production of mutations. Inheritance of size. Genetic changes and the chromosomes. Hybrid vigor or heterosis. Galton's law Part IV Eugenics: Human crosses. Physical inheritance. Heredity of general mental ability, insanity, epilepsy and feeble-mindedness. Feasibility and prospects of breeding a better race. Bibliographies. Index.

Note: The fourth edition of this standard work on genetics gives a more extended account of human heredity than contained in former editions, and there is new material on the unit-characters of rodents, polyploidy, parthenogenesis, and the artificial production of mutations. The text has been written with the needs of the interested layman as well as the student in mind. The bibliographies contain about 1,000 references to the world literature of the subject, and there are 170 illustrations and charts.

CASTLE, WILLIAM ERNEST

Mammalian genetics. Cambridge Mass. Harvard University Press 1940 169 p. illus. 23 cm. $2.00. 1927

Contents: Heredity in general. Mendelian inheritance. Modified Mendelian ratios. Linkage, as illustrated in the [illegible] of rabbit genes. Known genes of rodents other than the rabbit. Hybridization and hybrid vigor. Self-sterility. Bipolar sexuality. Sex differentiation. Sex determination. Sex-linked inheritance in Drosophila and in mammals. Inheritance of blood groups in man and rabbit. Dominance. Multiple alleles. Lethal genes. Balanced lethals. Genes having pathological effects—"semilethal" genes. Maternal inheritance. The inheritance of body size. Variation and selection, quantitative characters, pure lines. Major contributions of fish genetics. The more important gene mutations of domestic mammals. Index.

Note: A summary of the present knowledge of the genetics of mammals as of 1940. The subject of the heredity of man is not included since it is as yet not subject to laboratory experiment. The reader is assumed to possess a clear knowledge of the anatomy and physiology of mammals and of the cytology of gametogenesis and fertilization. The author emphasizes that the use of the present work as a text requires supplementary laboratory study, for which he has prepared his *Manual for a laboratory course in genetics*, to accompany his textbook *Mammalian genetics*. Cambridge, Mass Harvard University Press, 1940, 34 p., $0.40. There are references at the end of each chapter except Chapter III, and 131 photographs and drawings.

CLAUSEN, JENS CHRISTIAN, AND OTHERS

Experimental studies on the nature of species. I. Effect of varied environments on western North American plants, by Jens Clausen David D Keck, and William M. Hiesey Washington D C. Carnegie Institution of Washington, 1940 452 p. illus. 25 cm. (Carnegie Institution of Washington. Publication no. 520) $2 75 1928

Contents: Introduction. *Potentilla glandulosa* and its allies. *Potentilla gracilis* and its allies. *Potentilla drummondii* and *Potentilla breweri*. Studies in the genus Horkelia. The genus Zauschneria. Penstemon, a study in cytotaxonomy and transplanting. The Achillea millefolium complex. The genus *Artemisia*. Miscellaneous species. Review of literature. Conclusions. List of chromosome numbers found in plants of the present experiments. New species, subspecies, combinations, and names published in this book. Literature cited. Index.

—— II. Plant evolution through amphiploidy and autoploidy with examples from the *Madiinae* by Jens Clausen, D D Keck, and W M Hiesey Washington, D C. Carnegie Institution of Washington 1945 174 p illus. 25 cm. (Carnegie Institution of Washington. Publication 564) $1.50 1929

Contents: Glossary of important terms. Introduction. Madia nutammii, Madia citriodora. Layia prelatissima. Biosystematic relationships and amphiploidy. Classification of experimental polyploids on biosystematic principles. Ecologic characteristics of natural amphiploids. Ecologic characteristics of natural autoploids. Taxonomic and evolutionary aspects of amphiploidy and autoploidy. Literature cited. Index.

—— III. Environmental responses of climatic races of Achillea, by Jens Clausen D D Keck and W M Hiesey Washington D C Carnegie Institution of Washington 1948 129 p. illus. 25 cm. (Carnegie Institution of Washington. Publication no 581) o.p. 1930

Contents: Introduction. Comparison of populations at Stanford. Responses of races in three climates. Growth responses under controlled conditions. The dynamics of climatic races. Literature cited. Index.

Note: The first volume of this series deals with experiments in transplanting wild plants to different natural environments and presents new evidence from the authors' cytological and genetic studies of these materials. The second volume pictures the building of plant species through multiplication of the chromosome sets. On the basis of their own investigations of the patterns of speciation in the Madiinae, a subtribe of the Compositae, the authors assemble representative material from contemporary literature and examine the evolutionary patterns disclosed. The third volume presents the results of an experimental analysis of a series of ecotypes of the Achillea millefolium complex, which was selected for study because of its occurrence over a wide region with a diversity of climatic conditions. Seeds of the ecotypes were sown in greenhouses at Stanford, California; the seedlings were transplanted to experimental gardens nearby and their responses to the different climatic were studied. The results are presented and analyzed. Finally problems that still remain in the understanding of climatic races are briefly described.

CLEVELAND LEMUEL ROSCOE

The whole life cycle of chromosomes and their coiling systems. Philadelphia The American Philosophical Society 1949 100 p. illus. 30 cm. (American Philosophical Society Transactions. New series—vol. 39 part 1) $1.50 1931

Contents: Introduction. The genus *Holomastigotoides*. Species of *Holomastigotoides* in *Prorhinotermes*. *Holomastigotoides* [illegible] species. *Holomastigotoides* [illegible] species [illegible]. Centrioles and achromatic figure. Relation of chromosomes to nucleoli. Relation of chromosomes to nuclear membrane. Single chromatids. Double chromatids Discussion. Summary. References. Explanation of plates. Index.

Note: A thorough study of the complete life cycle of chromosomes. It is based largely on original studies made by the author but a critical digest of the pertinent literature is also incorporated. In the work the author clears up the details of a number of items that have been heretofore treated only in general terms. Among his conclusions are, "all chromosomes have major and major coils some have super coils; and some have repeats in torsion but not in minor." "The minor coils are the only ones that arise throughout the life cycle of chromosomes; major and supers (when present) disappear and reappear during each chromosomal generation." "Chromosomes are of two types, those with single and those with

double chromatids." "Interphase and resting stages are not always synonymous. "There is no longer any question regarding the existence of terminal centromeres. There are 93 illustrations reproduced on 11 plates. All of the illustrations are reproductions of original drawings.

COLIN, EDWARD C

Elements of genetics, Mendel's laws of heredity with special application to man Third edition. New York McGraw Hill Book Company, Inc., 1956 498 p illus 24 cm $6 50 1932

Contents Mendel—student, priest teacher investigator Dominance and the law of segregation. Dihybrids—the law of independent assortment. The rediscovery of Mendel's work. Chromosomes and Mendel's laws. The factor principle—action and interaction of genes. Multiple alleles. Linkage and crossing over Sex determination and sex differentiation Sex-linked heredity Heredity and environment. The gene and mutation. Inbreeding and crossbreeding. Heredity and evolution. Heredity in man Improvement of the human species. Domesticated plants. Domesticated animals. Appendixes English translation of Mendel's autobiography Page one of Mendel's paper on peas in English. Laboratory exercises in genetics. Glossary Index.

Note. Although not limited to the study of heredity in man, this standard work contains much material on it. There are two long chapters specifically on heredity in man, one chapter on *eugenics*, and many references in other chapters to man genetics. Also there are specific discussions of genetics applied to the study and breeding of domesticated plants and animals. The book is, nevertheless, an introductory textbook on genetics in general. It is designed primarily for the instruction of undergraduate college students. However the book is informative also to laymen who are familiar with the basic terminology of biology In this third edition, there are 132 figures. In comparison to the second edition published in 1946, two chapters have been added and numerous revisions have been made in the chapters carried over

DOBZHANSKY, THEODOSIUS

Genetics and the origin of species Third edition, *revised New York Columbia University Press, 1951 364 p illus 24 cm* (Columbia biological series Number xi Edited at Columbia University) $5 00 1933

Contents Organic diversity Heredity and mutation. Mutation in populations. Selection. Adaptive polymorphism. Race formation. Isolating mechanisms. Hybrid sterility Species as natural units. Patterns of evolution. Literature. Index.

Note One of the chief books in the modern literature of evolution in which knowledge from various branches of biological science is synthesized. It is devoted particularly to the origins of variations in plants and animals and perpetuation of these by heredity The author emphasizes that "Mendelian populations" are the natural evolutionary units. The second edition appeared in 1941 The book has been rewritten and reorganized in the present edition. Although many pages shorter the scope is essentially the same. The revised bibliography which now runs to 31 pages, is valuable feature.

DUNN, LESLIE CLARENCE editor

Genetics in the 20th century essays on the progress of genetics during its first 50 years *Edited for the Genetics Society of America* by L. C Dunn New York The Macmillan Company, 1951 634 p illus 22 cm $6 00 1934

Contents The impact of genetics upon science by R. B Goldschmidt. Gregor Mendel's life and heritage, by H. Iltis. The knowledge of heredity before 1900, by C. Zirkle. The beginnings of Mendelism in America, by W E. Castle. The development of the gene theory by H. J Muller The relation of genes and chromosomes, by A. H. Sturtevant. The progress and prospect of biometrical genetics, by K. Mather Some chemical aspects of the cell nucleus, by A. E. Mirsky Cytochemical measurements in the study of the gene, by T Caspersson and J Schultz. Genetics and immunology by M. R. Irwin. Chemical genetics, by G. W Beadle. Research on cell heredity by B Ephrussi. Genetic studies in bacteria, by J. *Lederberg. The role of the genes in cytoplasmic inheritance*, by T. M Sonneborn. Mendel and the determinants, by C. D. Darlington. Evolution of cytogenetic mechanisms in animals, by M. J. D White. Old and new pathways in human genetics, by L. H. Snyder Genetics of the human race, by L. S. Penrose. Genetics and disease resistance, by J W Gowen. Genetics and the cancer problem, by C. C. Little. Genetics and plant breeding, by A. Müntzing. Genetics and animal breeding, by J L. Lush. Genetics and plant pathology, by J C. Walker Hybrid corn its genetic basis and its significance in human affairs, by P C. Mangelsdorf. Mendelian populations and their evolution, by T Dobzhansky Genetics, evolution, and human destiny by J Huxley Index.

Note A collection of original papers written for and presented at the Golden Jubilee of Genetics at *Ohio State University* in September 1950. Though the historical development of genetics is the background of most of the papers, many of them deal with the current state of knowledge of a particular area within genetics. The book is addressed to advanced students of genetics and professional *geneticists. Many of the papers are accompanied by substantial* reference lists.

GOLDSCHMIDT, RICHARD BENEDICT

Understanding heredity, an introduction to genetics. New York John Wiley & Sons, Inc., 1952 228 p illus 22 cm $4 00 1935

Contents Hereditary and non-hereditary traits. The sex cells and fertilization. Elementary Mendelism. More on elementary Mendelism. Chromosomes and Mendelism. Linkage. Mutation. Sex chromosomes and sex-linked inheritance. Collaboration of genes. Penetrance or multiple factors. Multiple alleles. A glimpse of more technical facts and problems of genetics. Problems. Books for further study. Glossary Index.

Note Though an introduction this book is not a popularization. In it the chief known facts pertaining to genetics are presented concisely but in sufficient detail so that thorough reader will gain a clear understanding of the basic genetic mechanisms. The book is *suitable for* use either as a college textbook or as an introduction for serious general readers. Problems for students to solve are suggested in the back of the book.

GOWEN, JOHN WHITTEMORE, editor

Heterosis. A record of researches directed toward explaining and utilizing the vigor of hybrids. Ames Iowa State College Press, 1952 552 p illus 24 cm. $7 50 1936

Contents Early ideas on inbreeding and crossbreeding, by C. Zirkle. Beginnings of the heterosis concept, by *G. H. Shull.* Development of the heterosis concept, by H. K. Hayes. Preferential segregation in maize, by M. M. Rhoades. Inbreeding *and crossbreeding* in seed development, by R. A. Brink. Physiology *of gene action* in hybrids, by W G Whaley Hybrid nutritional requirements, by W J Robbins. Origin of corn belt maize and its genetic significance, by E. Anderson and W L. Brown. Heterosis in population genetics, by A. A. *Buzzati-Traverso. Fixing transgressive vigor in Nicotiana rustica*, by H H. Smith. Hybridization in the evolution of maize, by P C. Mangelsdorf. Biochemical models of heterosis in Neurospora, by S. Emerson. Nature and origin of heterosis, by T Dobzhansky Plasmagenes and chromogenes in heterosis, by D F Jones. Specificity of gene effects, by M. R. Irwin. Genetic hybrids and cytology of saccharomyces, by C. C. Lindegren. Genetic implications of mutations in *Salmonella typhimurium*, by *R. H. Pengra.* Dominance and overdominance by J F Crow Gene recombination and heterosis, by L. Powers. Gene interaction in heterosis, by A. J. Mangelsdorf. Inbred lines for heterosis tests? by G. E. Dickerson. Specific *and general* combining ability by C. R. Henderson. Rotational crossbreeding and heterosis, by L. M. Winters. Genetic selection for specific combining ability by E. L. Pinnell and others. Monoploids in maize, by S. S. Chase. Early testing and recurrent selection by G. F Sprague. Heterosis in new population, by F J. Wellhausen. Recurrent selection and overdominance, by F. H. Hull. Hybrid vigor in Drosophila, by J W Gowen. Estimation of average dominance of genes, by R. E. Comstock and H. F Robinson. Bibliography Index.

Note Original papers first presented in June, 1950, at Iowa State College are collected in this volume. The speakers and audience were drawn largely from scientists engaged in research on genetics, plant breeding, etc., and the papers are addressed to graduate scientists with similar interests. Bibliographical references for all the papers are collected in single bibliography

HILL, J BEN, AND HELEN D HILL

Genetics and human heredity New York McGraw Hill Book Company Inc., 1955 526 p. illus 24 cm. $6.50 1937

Contents (abridged) Section I. The biological background of genetics. Cells, chromosomes, and genes. Section II. Mendelian principles. Segregation of allelic genes. Assortment of genes—Mendel's second law of heredity. Section III. Linkage and crossing over. Complete and incomplete linkage. Chromosomal relations of genes in linkage. Sex linkage. Section IV. Actions and interactions of genes in development of heritable characters. Action of genes in development. Interaction of genes in development—complementary and supplementary genes—inhibitory genes—epistasis. Section V. Influence of multiple genes in development. Duplicate genes. Quantitative characters and the multiple gene hypothesis—inheritance of differences in size. Selection and breeding techniques in relation to quantitative characters. Section VI. Biometry—the statistics of genetics. Statistical consideration of quantitative characters in living organisms. Population genetics. Section VII. Variations and gradual changes. Heteroploidy or variations in chromosome numbers in plants and animals. Chromosome numbers in development of heritable traits. Chromosomal aberrations—changes in the structure of chromosomes. Mutations. Section VIII. Development of heritable characters. Gene action in the development of heritable traits. Extranuclear inheritance. Section IX. Sex determination and sexual types. Sex determination and sex differentiation in animals. Sex determination in plants. Section X. Twins and human heredity. Twins and multiple births. Inheritance of physical traits in human beings. Inheritance of physiological conditions in human beings. Inheritance of mental traits in human beings. Index.

Note Designed as an introduction to genetics, the college textbook offers the view of present-day genetic knowledge, both in general and as applied to human heredity. The classic contents of genetics and the modern knowledge are both presented. In other words, the fundamentals of classic heredity and the newer cytogenetics are both presented. There are more than 100 figures and over 50 tables. Literature references are included in most of the chapters. Although the space devoted to human heredity proper—57 pages—is small in relation to the whole volume, most of the book leads to an understanding of this part.

HOVANITZ, WILLIAM

Textbook of genetics. Princeton D Van Nostrand Company Inc., 1953 419 p. illus. (part col'd) 24 cm. $5 95 1938

Contents The principle of Mendelian segregation. Probability and significance. Segregation in action. Mendel's principle of independent assortment. Chromosomes in cell division and gamete formation. Chromosome structure. Linkage. Linkage groups and chromosome maps. Multiple alleles and gene combinations. Mutations and chromosomal variations. Polyploidy, haploidy, and aneuploidy. Inheritance of intergrading characters (quantitative inheritance). Selection and populations. Mutations and the gene. Gene action and gene structure. Genetics in medicine and agriculture. Species differences, isolation and organic evolution. Appendices. Author index. Subject index.

Note An introductory textbook of general genetics for college students who have completed at least year of college botany or zoology. The author, who Professor of Cytology and Genetics at the University of San Francisco, states, so far as they are known, the mechanisms of heredity in plant and animal life. The general approach through the results of breeding experiments and cytological observations. Selected bibliographies appear at the ends of chapters. There are 187 illustrations and 43 tables in the text and five pages of probabilities of Mendelian ratios for different values of X in an appendix.

KINSEY ALFRED CHARLES

The gall wasp genus Cynips a study in the origin of species. Bloomington University of Indiana, 1930. 577 p. illus. 22 cm. (Indiana University studies Vol. XVI. Waterman Institute for Scientific Research publication no 42 Contribution from the Department of Zoology Indiana University no 220 Entomological series no 7) $2.50 1939

Contents Part I. The origin of species. The taxonomic method. Basis of present study. The species concept. Mutations. Phylogenetic species. The isolation of species. Hybridization. Phylogenetic history. Part II. Systematic data. Subgenus Cynips. Subgenus Antron. Subgenus Besbicus. Subgenus Philonix. Subgenus Atrusca. Subgenus Acraspis. Appendices. Index.

Note An intensive study of 93 species represented by more than 17,000 insects and 54,000 galls, involving an exposition of the nature of species, individual variation, mutation, and hybridization in nature, and the factors affecting the origin of species. The thesis is maintained that species, defined as populations with common heredity, are realities rather than merely mental concepts, and preserve morphologic and physiologic identity under varying conditions, over vast areas, and through periods of time that may extend beyond the present geologic epoch. About 900 works published prior to 1935 are listed in the bibliography

KINSEY, ALFRED CHARLES

The origin of higher categories in Cynips. Bloomington Indiana University 1936 333 p. illus. 25 cm. (Indiana University publications. Science series no 4 Contributions from the Department of Zoology no 242 Entomological series no 10) $2.50 1940

Contents Summary Part I. Evolutionary discussion Current concepts of higher categories. Basis of present study. Modern phylogenetics. Terminology of the higher categories. Characters in higher categories of Cynips. The nature and origin of higher categories. On the correlation of taxonomy and genetics. Part II. Systematic data. Subgenus Cynips. Subgenus Antron. Subgenus Atrusca. Subgenus Philonix. Subgenus Acraspis. Appendices. Index.

Note This is systematic study of 79 species of gall wasps new to the genus Cynips. New data have also been added on some of the species included in the author's earlier monograph, The gall wasp genus Cynips, described above. Most of the new species in the present paper are from Mexico, and the study includes all that is known of the Mexican and Guatemalan representatives of the group. The origin of higher categories in the genus is clarified through the inclusion of these Mexican insects. One hundred and two titles appear in the bibliography

LERNER I MICHAEL

Genetic homeostasis. New York John Wiley & Sons Inc., 1954 134 p. illus 22 cm. $3.25 1941

Contents Part I. Introductory. Homeostasis. The general hypothesis. Part II. Evidence. Selection results. Balanced phenotypes. Selective advantage of heterozygotes. Inbreeding degeneration. Crooked toes in chickens. Wing venation in *Drosophila*. Other phenodeviants. Variability of heterozygotes. Variance of heterozygotes in *Drosophila*. Heterozygote variance in higher animals and plants. Part III. Interpretation. Canalization and buffering. Synchrony of ... Genetic basis for phenodeviants. Relict homeostatic traits. Model of genetic homeostasis. Genetic homeostasis in selection. Stabilizing selection. Evolution of buffering properties. Some general considerations. Bibliography

Note The thesis of this book has been stated by the author as follows: "It is proposed to demonstrate that Mendelian populations possess self-regulating properties, to establish connection between genetic and developmental homeostasis, to suggest that heterozygosity provides basis for both phenomena, and to consider some consequences of these points for evolution and breeding." The development of the concept of genetic homeostasis is outlined in the first part, the evidence in support of it is concisely presented in the second part, and finally the evidence is interpreted and its implications pointed out in the third part. The bibliography is 14 pages long. The book is addressed primarily to graduate biologists.

LI, CHING CHUN

Population genetics. Chicago University of Chicago Press 1955 366 p. illus. 25 cm. (The University of Chicago committee on publications in biology and medicine Emmet B Bay and others) $10.00. 1942

Contents Large random-mating populations. Applications and extensions of the equilibrium law. Genetic variance and correlation. Multiple alleles. Sex-linked genes. Autopolyploids. Self-fertility. Two pairs of genes. Selfing, sib mating. Equilibrium populations with inbreeding. The theory of path coefficients. Path co-

lations between parent and offspring. Systems of inbreeding. Heterozygosis in finite groups. Irregular pedigrees of inbreeding. Phenotypic assortative mating. Gene mutations. Selection. Joint effects of mutation and selection. Subdivision and migration. Small populations and effective size. Stationary distributions of gene frequencies. References. Index.

Note A systematic and relatively lucid introduction to the general field of the genetics of populations is afforded by this book. Readers are assumed to be thoroughly acquainted with the concepts and terms of genetics and to have a knowledge of basic algebra and elementary statistics. To simplify the subject, the first eight chapters are concerned only with the population genetics of random-mating populations while from Chapter IX onward, specific cases of various degrees of inbreeding, selected mating, and other methods of selection are considered. The XII and XIII chapters are devoted to a thorough exposition of the path co-efficient theory originated by Professor Sewall Wright. The author has endeavored to simplify the mathematics as much as possible nevertheless, he has maintained a considerable degree of mathematical rigor Numerous examples of typical problems are fully solved in the course of the exposition. The book is based on an earlier one published by the National Peking University Press in 1948, but it has been revised and augmented. The author is now a member of the faculty of the Graduate School of Public Health of the University of Pittsburgh.

NATIONAL RESEARCH COUNCIL COMMITTEE ON COMMON PROBLEMS OF GENETICS, PALEONTOLOGY, AND SYSTEMATICS

Genetics, paleontology, and evolution Edited by Glenn L Jepson, Ernst Mayr, and George Gaylord Simpson Princeton Princeton University Press, 1949 474 p 24 cm. $7 50 1943

Contents I, Geological time Time in earth history by A. Knopf II, Viewpoints on evolution: Gene and character by C. Stern. Gene homologies and the mutants of *Drosophila hydei*, by W P Spencer. The evidence afforded by fossil vertebrates on the nature of evolution, by D M. S. Watson. Comparative anatomy and the evolution of vertebrates, by D D Davis. Some aspects of plant morphology and evolution, by T Just. III, Evolutionary trends Time series and trends in animal evolution by A. S. Romer On the evolution of the Dipnoi, by T S. Westoll. Evolutionary rates and trends in rhinoceroses, by H. E. Wood, II. Evolutionary trends in the angiosperms, by R. W Chaney IV Evolutionary rates Rates of evolution in animals, by G. G. Simpson. Rates of evolution in plants, by G. L. Stebbins, Jr Rates of evolution in taeniodonts, by B. Patterson. V Speciation Speciation and systematics, by E. Mayr The significance of ecological isolation, by D Lack. *Early stages in allopatric speciation*, by E. B. Ford. *Patterns of* evolution in the genus *Rana*, by J A. Moore. Increased variability in populations following natural hybridization, by W Hovanitz. Evidence for the genetic submergence of *Pinus remorata*, by H. L. Mason. VI, Adaptation Adaptation and selection by S Wright. Progressive adaptations as seen in the fossil record, by E. H. Colbert. VII, Human evolution Human evolution past and future by J B S. Haldane VIII, Summation Reintegration of the Symposium on Genetics, Paleontology and Evolution by H. J Muller Glossary Index.

Note This work represents a planned effort to synthesize thought *from the fields of genetics and paleontology that* has bearing on evolution and to resolve certain differences of terminology The style of the papers is technical, and the volume is intended chiefly for graduate scientists working in the three fields named in the title

PATTERSON, J T, *AND OTHERS*

Studies in the genetics of Drosophila. VIII. Articles on genetics taxonomy cytology and radiation Austin University of Texas, 1954 307 p illus 25 cm $2 00 1944

Contents Genetic variability in geographic strains of *Drosophila virilis*, by J T Patterson. Fate of the sperm in the reproductive tract of the Drosophila female in homogamic matings, by J T Patterson. Fertilizations in multiple matings *of the virilis group*, by W S. Stone and J T Patterson. Note on a case of interspecific hybridization in the affinis subgroup, by J T Patterson. Taxonomic studies of American Drosophilidae, by M. R. Wheeler Species differences in the utilization of wild yeast by Drosophila, by E. Dudgeon. Chromosomal studies of several species of Drosophilidae, by F E. Clayton and C. L. Ward. Chromosome variation in giant forms of *Drosophila montana*, by P S. Moorhead. Cytological studies of the repleta group, by M. Wasserman. The chromosomes of *Drosophila macrospina* and comparisons of the chromosome elements with other species, by R. Weinberg. Note on transplantation experiments in *Drosophila macrospina*—The formation of brown pigment, by J B Price. Population studies with *Drosophila* ..., by M. Wasserman. Phenotypic abnormalities of the eyes of Lozenge compounds, by F E. Clayton. The development of the compound eye of Lozenge Alleles in *Drosophila melanogaster* by F E. Clayton. Comments on the mechanism of action of radiations on living systems, by W S. Stone and others. Heterosis studies with species of Drosophila living in small populations, by W S. Stone and others.

Note This eighth number in an important series devoted to the publication of scientific papers pertaining to the genetics of Drosophila contains the papers whose authors and titles are listed above. The papers are based on research carried out in the genetics laboratory headed by Dr Patterson at the University of Texas, and they are addressed to biologists and other scientists who are interested in advances in genetics. The series began publication in 1940

RIDDLE, OSCAR

Endocrines and constitution in doves and pigeons. Washington, D C Carnegie Institution of Washington, 1947 306 p. illus. 25 cm (Carnegie Institution of Washington Publication 572) $4 00 1945

Contents Part I Introduction. Body weight in dove and pigeon races and in hybrids. The establishment of "thyroid" races in doves. The unequal response of races to prolactin. The establishment of dove races with unequal intestinal length, with consideration of unequal pituitary size in dove and pigeon races. Liver size in study of races. Age at sexual maturity as a racial character. Testis weight as a racial character Egg weight as a racial trait. A race of hermaphrodite-producing pigeons. Data on weight of heart, skeleton, and plumage in certain races and hybrids of doves and pigeons. Part II General statement on basal heat production. The role of race in heat production. Season and temperature as factors in heat production in doves and pigeons. The role of sex in heat production. Organs having special relations to heat production. The influence of age on metabolism. Concluding statement.

Note A detailed report of research conducted over a period of 24 years with the purpose of adding to the knowledge of inherited constitutional differences that characterize races and individuals. Doves and pigeons were selected as experimental animals because (among other reasons) "the degree of mongrelization present in each of these species is apparently comparable with that in the human population of an American city and that many facts relating to constitutional factors in these birds are probably applicable to man."

RILEY, HERBERT PARKES

Introduction to genetics and cytogenetics. New York John Wiley & Sons, Inc., 1948. 596 p illus 22 cm $6 75 1946

Contents (abridged) Genetics, cells, and chromosomes. Genes and characters. Reproduction and meiosis. The genetic distribution of a pair of alleles located in autosomes. Probability The distribution of two or more pairs of alleles in two or more chromosomes. Locating genes on chromosomes. Miscellaneous linkage topics. The nature of and changes in genes. The induction of gene mutations. Radiation, evolution and the position effect. Multiple alleles. Blood groups. Interaction of genes. Inbreeding, selection, and heterosis. Intra-chromosomal aberrations. Aneuploids and nondisjunction. Haploids and allopolyploids. The origin of polyploids. The determination of sex. Cytogenetics and evolution. General references. Specific references. Author index. Subject index.

Note. Although designed chiefly as a textbook for use in introductory courses in genetics in colleges, this work is suitable also for the scientifically trained general reader who is in need of a compact authoritative summary of modern knowledge of the mechanism of heredity The first five chapters are basic and elementary. In the rest of the book the findings and the methods of modern experimental investigations in genetics are presented. Here the treatment is more advanced, but still not over the head of the ardent reader A set of questions and problems follows each chapter. The general bibliography includes modern books of interest in the field. *The specific bibliography is arranged by chapter and refers* chiefly to periodical articles. It runs to more than 20 pages.

SCHRADER, FRANZ

Mitosis, the movements of chromosomes in cell division. Second edition New York

Columbia University Press 1953 170 p illus. 24 cm. (Columbia biological series edited by L. C. Dunn and others) $4.00 1947

Contents: Introduction. Structure. Hypotheses of mitosis. Related problems. Conclusion. Literature. Index.

Note: Essentially the book is a critical appraisal of the various modern hypotheses that have been offered to account for mitotic behavior of the chromosomes. As a prelude to the critical discussion, the current knowledge of mitosis is summarized in a 41-page chapter. The first edition was published in 1944. In preparing the second edition, the author surveyed the literature published since the first edition was written and has incorporated in this second edition a critical evaluation of the results and hypotheses contained in it. Except for a few papers deemed necessary as background, the bibliography is limited to literature published since 1935. Nevertheless, it runs to 33 pages. The concluding chapter in the second edition begins: "The present survey of past attempts to solve the puzzle that is mitosis may well seem disheartening. Not one of the many hypotheses that have been launched has led to the definite promise of a final solution. But we have come to realize that mitosis is composed of a great complex of diverse mechanisms."

SHULL, AARON FRANKLIN

Heredity Fourth edition. New York McGraw Hill Book Company Inc., 1948. 311 p. illus. 23 cm. (McGraw Hill publications in the zoological sciences A. Franklin Shull, consulting editor) $5.00 1948

Contents (abridged): Rise of modern genetics. Origin of new individuals. Mechanism of heredity. Dominance. Recessives and testcross. Sex-linkage. Multiple alleles. Lethal characters. Interactions of genes. Modification by environment. Linkage. Nature and action of genes. Non-Mendelian inheritance. Determination and development of sex. Inheritance of human structural characters. Human heredity—physiological characters. Inheritance of mental characters. Applied genetics. Eugenics. The population problem. Race and heredity. Appendix: Quantitative characters. List of visual aids. Index.

Note: A standard, long-established textbook for introductory college courses. The relationship of genetics to evolution and to current social problems, such as race, is emphasized. In this edition information has been added on the Rh factor, on the biochemical effects of gene mutation, and on the practical applications of genetic knowledge. Other changes are numerous but comparatively minor.

SINNOTT EDMUND WARE, AND OTHERS

The comparative anatomy of extra-chromosomal types in *Datura stramonium* by Edmund Ware Sinnott, Helen Houghtaling and Albert F Blakeslee. Washington, D C. Carnegie Institution of Washington, 1934 50 p. illus. 25 cm. (Carnegie Institution of Washington. Publication no 451) $2.50. 1949

Contents: Introduction. Constitution of extra-chromosomal types in *Datura*. Anatomy of the diploid. Pedicel structure in the diploid. Material and methods. Anatomy of polyploid types. Pedicel anatomy of heteroploid types. Genetic analysis. Morphogenetic analysis. Anatomy of stem, leaf and root in heteroploid types. Summary. Literature cited.

Note: A comparative study of the various polyploid and heteroploid (primary and secondary) types in *Datura stramonium*, special attention being paid to the anatomy of the floral pedicel because of the ease with which comparable material may thereby be secured. The structures are described and measurements are given for the average areas of the various tissue systems as seen in the transverse section of the pedicel in these mutant types and of the average cross-sectional area and the volumes of the component cells of certain of these tissues. There are 19 plates of photomicrographs and a reference to the world literature of the subject.

SINNOTT EDMUND WARE, AND OTHERS

Principles of genetics. Fourth edition. By Edmund W Sinnott, L. C. Dunn, and Th. Dobzhansky New York. McGraw Hill Book Company Inc., 1950. 505 p illus. 24 cm. (McGraw Hill publications in the botanical sciences Edmund W Sinnott, consulting editor) $6.50 1950

Contents: Genetics, the science of heredity and variation. Mendel's principle of segregation. Mendel's principle of independent assortment. Alleles. The expression and interaction of genes. The multiple-factor hypothesis. The physical basis of inheritance. Genes and chromosomes. Linkage and linkage maps. Chromosome aberrations and cytological maps of chromosomes. Mutation. Genes in populations. Genetics of race formation. Genetics of species formation. The determination of sex. Genetics and development. The cytoplasm in heredity and development. Gene action and the nature of the gene. Appendix. Index.

Note: The first edition of this work was published in 1925 and it has held a place since that time as a standard text for college courses. Though introductory it provides a fairly detailed presentation of genetic mechanisms and their effects on heredity and variation. The three chapters on "Genes in populations," "Genetics of race formation," and "Genetics of species formation" are new in this edition. Other important changes include a rewritten presentation of chromosome mechanisms. The translation into English made by the Royal Horticultural Society of London of Mendel's *Experiments in plant hybridization* is quoted in full in the appendix.

SNYDER, LAURENCE H.

The principles of heredity Fourth edition. Boston D C. Heath and Company 1951 515 p. illus. 22 cm. 1951

Contents (abridged): The study of heredity. Simple Mendelian inheritance. Crosses involving two pairs of genes. Modified two-pair ratios. Probability. Sex-linked genes. Lethal genes. Multiple alleles. Sex-influenced characters. Linkage. The cytological basis of crossing over. The mapping of chromosomes. Quantitative inheritance. Multiple genes—additional treatment. Selection and inbreeding. The genetics of domestic animals. The genetics of cultivated plants. Chromosome aberrations. Cytoplasmic inheritance. Genes and mutations. Giant chromosomes. Biochemical genetics. The mutant gene in man. Eugenics. The analysis of human family histories. Index.

Note: A short basic text, primarily for college students taking their first course in heredity but suitable also for serious general readers. A fifth edition written in collaboration with Paul R. David was published in 1957 [illegible] p. [illegible].

SRB, ADRIAN M., AND RAY D OWEN

General genetics. Illustrated by Evan L. Gillespie. San Francisco W. H. Freeman and Company 1952 561 p illus. (part col'd) 24 cm. (A series of biology texts editors, George W Beadle and others) $6.50. 1952

Contents (abridged): Inheritance patterns in living things. Tests of inheritance. Two or more pairs of alleles. The impact of environment. Sex chromosomes and sex linkage. The vehicles of inheritance. Life cycles. Linkage, crossing over and chromosome mapping. Chromosomal aberrations and position effects. Mutations. Extranuclear inheritance. Genetic aspects of sexuality and sex determination. Quantitative inheritance. Inbreeding and selection. Genes and cellular biochemistry. Genes and development. Heredity in populations. Genetics and evolution. Breeding better plants. Genetic aspects of animal productivity. Genetics and the welfare of the human individual. Index.

Note: An introductory textbook for use in college courses. It is written in a clear expository style, and the verbal exposition is supplemented by excellent illustrations. The scientific aspects of the subject are well presented. The authors have included much information on the applications of the knowledge of genetics in plant and animal breeding. An unusually wide selection of problems is included, and the lists of references include short annotations.

WALTER, HERBERT EUGENE

Genetics an introduction to the study of heredity Fourth edition. New York The Macmillan Company 1938 412 p. illus. 22 cm. $6.00. 1953

Contents: Introduction. The observational method of approach. The experimental method of approach. The statistical approach.

The cytological method of approach. The architecture of the germplasm. The contributions of sex. The developmental method of approach. The application to man. Human conservation. Problems for practice. Appendixes. Bibliography. Index.

Note A textbook for the beginning student which emphasizes the historical background out of which modern genetics is arising. The treatment is aimed at simplicity and ease of understanding for the uninitiated. A knowledge of elementary college biology is assumed but no mathematics beyond simple algebra is required. The subject of sex-linked inheritance is given detailed study and the importance of the experimental method is indicated. The appendixes contain statistical data for interpreting measurements, method of tracing characters, list of possible human traits, hereditary or acquired and other related information. The bibliography lists about 180 works of a general nature related to genetics.

WINCHESTER, A M

Genetics a survey of the principles of heredity Boston Houghton Mifflin Company, 1951 371 p illus 25 cm. (Under the editorship of Bentley Glass) $6 00 1954

Contents Heredity—fact and fancy Background of modern genetics. Two cells from one. The bridge of heredity Monohybrid inheritance. Dihybrid inheritance. The determination of sex. Other factors related to sex determination. Inheritance related to sex. Lethal genes. Probability and heredity Multiple alleles and blood group inheritance in man. Multiple gene inheritance and quantitative characteristics. Linked genes, crossing over and chromosome mapping. Chromosomal aberrations. Giant chromosomes. The nature of genes and their actions. Gene mutations. The artificial induction of genetic changes. The survival of man in an atomic age. Modification of gene expression. Cytoplasmic inheritance. Some genetic aspects of evolution. Genetics in plant and animal breeding. Survey of human heredity Eugenics. Selected references. Acknowledgments for illustrations. Index.

Note A textbook designed for use in introductory courses in genetics at the college level In it the author has made the subject of heredity fascinating without oversimplifying it Many illustrations of heredity in man are included, although the subject of the book is general genetics. As shown above, the terminal chapter deals with the question of eugenics. There are 231 figures.

BIOLOGICAL PHYSICS

ADVANCES IN BIOLOGICAL AND MEDICAL PHYSICS Volume III Edited by John H Lawrence and C A Tobias New York Academic Press, Inc. 1953 368 p illus 23 cm $9 00 1955

Contents The dosimetry of artificial radioactive isotopes, by W V Mayneord and W K Sinclair The kinetics of biological processes special problems connected with the use of tracers, by A. K. Solomon. *Antibodies as specific chemical reagents*, by D Pressman. Primary ionization as a test of molecular organization by E. Pollard. Biological actions of ultrasonic waves, by P Grabar Approaches to X-ray microscopy by P Kirkpatrick and H. H. Pattee, Jr Ultraviolet microscopy and ultraviolet microspectroscopy by E. R. Blout. Author index Subject index.

—— Volume IV Edited by John H Lawrence and Cornelius A. Tobias Editorial board H. J Curtis L H Gray and Bo Thorell. New York Academic Press, Inc 1956 356 p illus 23 cm $8 80 1955A

Contents X-ray diffraction applied to crystalline proteins, by D Harker The problem of information transfer from the nucleic acids to proteins, by G Gamow and others. Materials for the biophysical and biochemical study of cell division by D Mazia. Lethal effects of high and low temperatures on unicellular organisms, by T H. Wood. Infrared spectrometry by N K. Freeman. Kinetics of iron metabolism, by R. L. Huff and O. J Judd. The gross composition of the body by W Siri. *A special consideration of the aging process, disease, and life expectancy* by H. B. Jones. Author index. Subject index.

Note Two representative volumes in a series which began publication in 1948 Originally the purpose was to review developments in nuclear physics, particularly in the use of radioactive isotopes in biological and medical research. Later the scope of the series was enlarged to cover other areas in which physical knowledge finds application to biology and medicine. Each of the papers or chapters in the series is a critical review of the existing knowledge pertaining to its specific topic. It is based on the literature and includes an extensive bibliography of sources. The author is in all cases an established authority and in many cases, is a research worker in the area of biochemistry or biophysics about which he writes. The series is addressed to graduate scientists and is useful as a means of keeping informed about developments in areas of research related to but outside the reader's own specialty

BLAIR, HENRY A , editor

Biological effects of external radiation New York McGraw Hill Book Company, Inc , 1954 508 p illus 23 cm $7 00 1956

Contents Part I, Single doses of whole-body X radiation. Studies on the effects of massive doses of X radiation on mortality in laboratory animals, by R. D Boche and F W Bishop. Pathological changes exhibited by animals exposed to single doses of X radiation, by R. G. Metcalf and others. Effects of acute exposure to X radiation on the peripheral blood of experimental animals, by M. Ingram and W B Mason. Callicrein and radiation, by K. F Fink. Cross-circulation experiments, by J B Lawrence and W N. Valentine. *Finger ridge changes in monkeys following X radiation*, by R. A Harvey Experiments on the validity of the linear relation of mutation frequency to X-ray dose in Drosophila melanogaster by W P Spencer and C. Stern. Comparison of X and Beta-radiation effects in rabbits, by F W Bishop Part II, Chronic X radiation Observations on animals exposed to whole-body X radiation in divided doses over long periods—introduction and techniques, by A. E Dowdy and others. Effects of chronic exposure to X radiation on growth and survival by R. D Boche. Effects of chronic exposure to X radiation on the peripheral blood of experimental animals, by M. Ingram and W B Mason. Pathology in animals subjected to repeated daily exposure to X rays, by R. G. Metcalf and F A. Inda. Blood chemistry study in dogs exposed to chronic X radiation, by K. F Fink. Effect of short wavelength radiations on human finger ridge detail, by R. A. Harvey Influence of chronic irradiation with gamma rays at low dosages on mutation rate in Drosophila melanogaster by E. Caspari and C. Stern. Part III, Fractionated doses of fast neutrons Fast-neutron-irradiation procedure, by E. McDonald. Clinical, pathological, and hematological effects of chronic neutron radiation by J O Ely and others. Index.

Note The papers collected in this volume present the results of experiments which were carried out at the University of Rochester in the course of a research investigation planned with the objectives of obtaining a description of the lethality and of the pathological and genetic effects of both acute and chronic irradiation and of developing clinical criteria for detection of radiation effects of radiation in exposed personnel. The papers are written in physical and chemical terminology and are concise. Extensive use has been made of graphs and tables for presenting data. Most of the experiments described were carried out on animals, including monkeys. The book is of interest to graduate scientists who are concerned with research on the pathological and clinical effects of radiation.

BOELL, EDGAR J , editor

Dynamics of growth processes Princeton Princeton University Press 1954 304 p illus. 25 cm $7 50 1957

Contents. Virus reproduction and the replication of protoplasmic units, by L. M. Kozloff. Experiments with the chemostat on the rates of amino acid synthesis in bacteria, by A. Novick and L. Szilard. Cytochemical aspects of *protein synthesis*, by A. W Pollister Interaction of nucleus and cytoplasm in cell growth, by G. Frankhauser Cell and tissue differentiation in relation to growth (animals) by K. R. Porter Cell and tissue differentiation in relation to growth (plants) by D S. Van Fleet. Physical factors affecting growth in plants, by F W Went. Chemical regulation of growth in plants, by F Skoog. Chemical control of growth in animals, by R. Gaunt. The relationship of skeletal status to the physical growth and development of children, by W W Greulich. Regularities in growth curves, *including rhythms and allometry* by D A. Shell. Hereditary mechanisms in animal growth, by G. E. Dickerson. Quantitative aspects of population growth, by F E. Smith Author index. Subject index.

Note. Papers presented at the eleventh Growth Symposium sponsored by the Society for the Study of Development *and Growth* and held at Williams College in June *1952* have been collected in this volume As the titles indicate, a broad view has been taken of the boundaries of the field of growth. *Most of the papers* are accompanied by substantial bibliographies. The authors, all prominent scientists, have addressed themselves to other scientists.

Biology

Biological Physics

BOYD GEORGE A.
Autoradiography in biology and medicine. New York Academic Press Inc., 1955 399 p. illus. (part col d) 24 cm. $8.50. 1955

Contents: Part I, Theory: Introduction. The photographic process. Comparative response of commercial and nuclear emulsions. [illegible] Part II, Technique: [illegible] Part III, Bibliography. Index.

Note: [illegible]

COMAR, C. L.
Radioisotopes in biology and agriculture principles and practice. New York McGraw Hill Book Company Inc., 1955 481 p. illus. 24 cm. $9.50. 1959

Contents: Principles of tracer methodology. [illegible] Autoradiography. Paper chromatography. [illegible] Subject index.

Note: [illegible]

FINK, ROBERT MORGAN editor
Biological studies with polonium, radium, and plutonium. New York McGraw Hill Book Company Inc., 1950 411 p. illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division VI —Volume 3) $5.50 1960

Contents: Part I, Distribution and excretion of [illegible] by H. E. Stannard [illegible] by G. A. Boyd and others. Appendix. Index.

Note: The papers in this volume are [illegible] of the Manhattan Project at the University of Rochester. [illegible] references to related literature are included.

HARRIS R. J C., editor
Biological applications of freezing and drying New York Academic Press Inc., 1954 415 p. illus 24 cm. $10.00 1961

Contents: Effects of low temperatures on living cells and tissues, [illegible] by R. J. C. Harris. [illegible] Author index. Subject index.

Note: [illegible]

HINE, GERALD J., AND GORDON L. BROWNELL, editors
Radiation dosimetry New York Academic Press Inc., 1956 932 p. illus. 24 cm. $22.00 1962

Contents: Fundamental principles of dosimetry: Radiation units and theory of ionization dosimetry, by W. F. Spiers. Interaction of radiation with matter, by G. J. Hine and J. S. Laughlin. Biological and medical effects of radiation, by C. C. Wang and L. L. Robbins. Radiation detectors and their calibration. Ionization chambers, by J. W. Boag. Geiger-Mueller counters and proportional counters, by [illegible] Photographic film dosimetry, by E. A. Dudley. Chemical and calorimetric indicators, by [illegible] Calorimetric methods, by J. S. Laughlin and S. Genna. Survey instruments and pocket dosimeters, by [illegible] X-ray beams and radioactive isotopes, by [illegible] Radiation fields and their dosimetry: X-rays and teletherapy γ-rays, by [illegible] High-energy electron beams, by J. S. Laughlin. Heavy charged-particle beams, by [illegible] and others. Neutrons and mixed radiation, by [illegible] Internally administered isotopes, by [illegible] and others. Internally ad-

ministered radioisotopes, by R. Loevinger and others. Isotope shipment and disposal, by F P Cowan. Appendix: Tables of data useful for dose calculations, by G. J Hine. Author index. Subject index.

Note Essentially a reference treatise this authoritative work contains the chapters whose titles and authors are listed above. The general subject is the determination of the quantities of energy absorbed in media exposed to radiation including not only X-rays but all forms of nuclear radiation and beams of neutrons and charged particles. Biological and medical effects are not stressed—in fact, the chapter on this aspect is one of the shortest in the book. Basic principles, techniques of using, and calibration of the various detecting and measuring instruments are fully covered. In the chapters grouped under Radiation fields and their dosimetry the nature and characteristics of the radiation produced and problems of measuring the doses are discussed for various devices, such as X-ray apparatus, electron accelerators, and encapsulated radioisotopes. The appendix contains nine tables of physical radiological and biological data useful in calculating doses. Extensive bibliographies are included. The book is of interest to medical practitioners and to scientists who are concerned with the calculation of radiation exposures and protection of personnel exposed to radiation.

HOLLAENDER, ALEXANDER, editor

Radiation biology New York McGraw Hill Book Company, Inc., 1954–56 3 v in 4 parts 24 cm Vol I, $17 50, vol. II, $8 00, vol III, $10 00 1963

Contents Volume I, High energy radiation Part I: Principles of radiological physics, by U Fano. The measurement of ionizing radiations for biological purposes, by L. D Marinelli and L. S. Taylor Physical principles underlying photochemical radiation-chemical, and radiobiological reactions, by J Franck and R. Platzman. Basic radiation biochemistry by W M. Dale The effect of X rays on systems of biological importance, by E. S. Guzman Barron. The radiobiological importance of linear energy transfer by R. E. Zirkle The nature of the genetic effects produced by radiation, by H. J Muller The manner of production of mutations by radiation, by H. J Muller Part II Chromosome aberrations induced in animal cells by ionizing radiations, by B. P Kaufmann. Radiation-induced chromosome aberrations in *Tradescantia*, by N H. Giles, jr Immediate effects on division, morphology and viability *of the cell, by J G. Carlson. Genetic effects of radiation in mammals*, by W L. Russell. The effects of radiation on mammalian prenatal development, by L. B Russell. The pathological physiology of radiation injury in the mammal—physical and biological factors in radiation action—specific aspects of the physiology of radiation injury by H M Patt and A. M Brues. The hematologic effects of ionizing radiation, by L. O. Jacobson. Histological changes after irradiation, by W Bloom and M. A. Bloom. Carcinogenesis by ionizing radiations, by J Furth and E. Lorenz. Name index. Subject index. *Volume II, Ultraviolet and related radiations* Photochemistry by R. Livingston. Practical applications and sources of ultraviolet energy by L. J Buttolph. Sunlight as a source of radiation, by J A. Sanderson and E. O Hulburt. Technique of study of biological effects of ultraviolet radiation, by J F Scott and R. L. Sinsheimer Ultraviolet absorption spectra, by R. L. Sinsheimer A critique of cytochemical methods, by A. W Pollister The effect of ultraviolet radiation on the genes and chromosomes of higher organisms, by C. P Swanson and L. J Stadler The effects of radiation on protozoa and the eggs of invertebrates other than insects, by R. F Kimball. Radiation and viruses, by S. E. Luria. Effects of radiation on bacteria, by M R Zelle and A. Hollaender Radiation studies on fungi, by S. Pomper and K. C. Atwood Photoreactivation, by R. Dulbecco. Sunburn, by H. F Blum. Ultraviolet radiation and cancer by H. F Blum. Name index. Subject index. Volume III, Visible and near-visible light Energy exchange in photoreactions, by R. Lumry and H. Eyring. Electronic structure and excitation of polyenes and porphyrins, by J R. Platt. Generation control, and measurement of visible and near-visible radiant energy by R. B Withrow and A. P Withrow Energy efficiency in photosynthesis, by F Daniels. The mechanism of photosynthesis, by E. C. Wassink. The absorption, action, and fluorescence spectra of photosynthetic pigments in living cells and in solutions, by C. S. French and V M. K. Young. Chlorophyll formation and accumulation in plants, by J H. C. Smith and V M. K. Young. Nitrate reduction, by H. Burström. Phototropism, by F W Went. Photoperiodism, by H. A. Borthwick and others. Seed germination, by M. Evenari. Viscosity permeability and protoplasmic streaming, by M. G. Stålfelt. Electrical phenomena in vision by L. A. Riggs. Invertebrate photoreceptors, by L. J Milne and M. J Milne. Photodynamic action and its pathological effects, by N T Clare. Name index. Subject index.

Note A comprehensive presentation of basic scientific information and quantitative data on biological effects of radiation corpuscular and electromagnetic, throughout the energy spectrum from the highest energies to the near-infrared region. It contains the chapters whose authors and titles are listed above. In general, each chapter is a compact critical survey of published literature with references from important statements and data in the text to the source articles from which the information was drawn. Most of the authors surveyed the international literature. The work is addressed to such readers as graduate medical practitioners, medical researchers, and graduate biologists. The fully detailed indexes make it easy to use for reference.

JOHNSON, FRANK H , AND OTHERS

The kinetic basis of molecular biology By Frank H Johnson, Henry Eyring and Milton J Polissar New York John Wiley & Sons, Inc , 1954 874 p illus 24 cm. $15.00. 1964

Contents. Introduction. The basis of thermodynamics. Fundamentals of chemical mechanics. Principles of quantum mechanics. Essentials of statistical mechanics. Calculation of absolute rates; four-atom reactions. Luminescence. Temperature. Hydrostatic pressure and molecular volume changes. Action of inhibitors in relation to concentration, temperature and hydrostatic pressure. Diffusion through membranes and transmembrane potentials. Physical chemistry of cell irritability and of the nerve impulse. Physical chemistry of the nerve impulse. Physical chemistry of the contractile process in muscle. Potential barriers in diffusion. Appendix. Bibliography and author index. Subject index.

Note. In this important book the modern knowledge of the kinetics of reactions in chemical systems, together with knowledge from other areas in physical chemistry is related to the study of basic biological processes. The first six chapters derive the thermodynamical equations and equilibria constants and otherwise lay the necessary mathematical and physico-chemical background. The chapters that follow are studies in the light of physical chemistry and particularly of reaction-rate theory of the basic biological processes named in their titles. A wide range of knowledge gathered from physics, chemistry and biology is correlated in these chapters. The treatment is at a graduate level. The book is of interest to professional biologists, biochemists, and physiologists.

KAMEN, MARTIN DAVID

Radioactive tracers in biology, an introduction to tracer methodology Second edition revised and enlarged New York Academic Press, Inc., 1951 429 p illus. 24 cm. (Organic and biological chemistry, a series of monographs, edited by Louis F Fieser and Mary Fieser) 1965

Contents. Atomic nuclei, radioactivity and the production of radioactive isotopes. Radiation characteristics of tracer atoms. Procedures for radioactive assay Radiation hazards. Survey of tracer methodology—biochemical aspects—physiological and medical aspects. Radioactive hydrogen (*tritium H*[3]) Short-lived radioactive carbon (C^{11}) Long-lived radioactive carbon (C^{14}) Radioactive phosphorus (P^{32}) Radioactive sulfur (S^{35}) Alkali metal and alkaline earth tracers. Tracer isotopes of halogens. Various radioelements. Isotopes of importance in biology Appendix General bibliography Radioactivity units and standards. Some typical working rules for radiochemistry laboratory Radioactive nuclides of interest in biological tracer research. National Bureau of Standards radium E beta standards and their application to analysis of P^{32} and I^{131} Author index. Subject index.

Note. A well-documented work addressed primarily to graduate biologists who are engaged in biological research. In it the fundamental facts of radioactivity are presented, their applications to research problems in biology are evaluated and the preparation, properties, and methods of using the more important radioactive isotopes are reviewed at length. The first edition appeared in 1947. Much material has been added in the present edition, and parts of the first edition that have been carried over have been substantially revised. However the work remains an introductory survey rather than comprehensive presentation of pertinent information. In addition to the bibliography of books included in the appendix, there are hundreds of footnote references to related literature. A third edition, under the title *Isotopic tracers in biology* was published in 1957 474 p., $9.50.

MINER, ROY WALDO, editor

Ionizing radiation and the cell. Conference chairman and consulting editor Leslie F

Nims. New York Published by the Academy 1955 467–664 p. illus. 22 cm. (New York Academy of Sciences. Annals. Vol 59 art. 4) $4.00 1966

Contents: Ionizing radiation methods for determining biological structure, by E. Pollard. Radiation studies of proteins and enzymes, by R. [illegible] Bacterial virus—radiation and function, by D. J. Fluke and E. C. Pollard. Use of charged particles to measure skin thickness and other surface properties, by F. Hutchinson. Irradiation of parts of individual cells—cz, Effects of chromosomal and extrachromosomal irradiation on chromosome movements, by W. Bloom and others. The effects of X rays, 2 MEV electrons, thermal neutrons, and fast neutrons on dormant seeds of barley, by R. S. Caldecott. Comparative studies of X ray-induced forward and reverse mutation, by M. H. Glen and others. Cytochemical studies of changes induced in cellular materials by ionizing radiations, by B. P. Kaufmann and others. Track effect in biochemistry of aqueous solutions, by H. Fricke. The effect of ionizing radiations on systems of biological importance, by E. S. Guzman Barron. Studies on factors affecting the sensitivity of bacteria to high velocity electrons, by W. D. Bellamy and E. J. Lawton. The influence of pretreatments and posttreatments on bacterial inactivation by ionizing radiations, by G. E. Stapleton. Radiation effects in Paramecium, by E. L. Powers. The role of oxygen and peroxide in the production of radiation damage in Paramecium, by R. F. Kimball. Factors in the radiosensitivity of mammalian cells, by H. M. Patt.

Note: Papers first presented at a conference held by the Section of Biology of The New York Academy of Sciences in April, 1954, have been made available in this publication. The titles and authors are listed above. The use of radiation in the study of cells and the deleterious effects of radiation on cells were both considered. Most of the papers were based on the results of recent research, as well as on the related literature. References to literature are included, and in some instances the paper is accompanied by a condensed transcript of the discussion of it at the meeting.

NATIONAL RESEARCH COUNCIL. COMMITTEE ON NUCLEAR SCIENCE. SUBCOMMITTEE ON RADIOBIOLOGY

Symposium on radiobiology the basic aspects of radiation effects on living systems Oberlin College, June 14–18 1950. Edited by James J Nickson. Editorial committee P Morrison and others. Sponsored by the National Research Council of the National Academy of Sciences. New York John Wiley & Sons Inc., 1952 465 p. illus. 24 cm. $11.25 1967

Contents: Radiation in living matter—the physical processes, by P. Morrison. Secondary electrons—average energy loss per ionization, by U. Fano. Beams of high-energy particles, by R. R. Wilson. Neutrons and their special effects—recoil effects, by A. E. Schubert. General statements about chemical reactions induced by ionizing radiation, by R. Livingston. Chemical reactions in the gas phase connected with ionization, by M. Wolfsberg and others. On the primary processes in radiation chemistry and biology, by R. L. Platzman. Elementary chemical processes in radiobiological reactions, by M. Burton. Influence of details of electronic binding on penetration phenomena, and the penetration of energetic charged particles through liquid water, by R. L. Platzman. Some aspects of the biochemical effects of ionizing radiations, by W. M. Dale. Ionizing radiation and cellular metabolism, by G. Hevesy. The effect of ionizing radiations on some systems of biological importance, by E. S. Guzman Barron. Some factors influencing cell radiosensitivity by acting at the level of the primary biochemical action, by R. Latarjet. On the localization of radiation effects in molecules of biological importance, by M. D. Kamen. Recent evidence on the mechanism of chromosome aberration production by ionizing radiation, by H. H. Ozias, Jr. Physical and chemical factors modifying the sensitivity of cells to high-energy and ultraviolet radiation, by A. Hollaender. Gene mutations caused by radiation, by H. J. Muller. Speculations on cellular actions of radiation, by R. E. Zirkle. The dependence of gross biological effects of radiation on the rate of energy loss, by C. A. Tobias. The influence of quantity and quality of radiation on the biological effect, by T. C. Evans. Some physiological factors related to the effects of radiation in mammals, by E. P. Jacobs. Mammalian radiation genetics, by W. L. Russell. Analysis of mammalian radiation injury and lethality, by A. M. Brues and G. A. Sacher.

Note: A collection of original papers which are accompanied by literature references and also transcripts from the discussions at the meeting mentioned in the title. The object of the symposium and of the volume was to present the current state of knowledge in radiobiology and to indicate hypotheses that require further research. The papers are addressed to advanced research workers in physics, chemistry and biology who are concerned with radioactive aspects and also to other graduate scientists interested only in keeping informed about progress in the field.

NATIONAL RESEARCH COUNCIL. COMMITTEE ON PATHOLOGIC EFFECTS OF ATOMIC RADIATION

Report of the Committee on Pathologic Effects of Atomic Radiation from a study of the biological effects of atomic radiation. Washington D C. National Academy of Sciences—National Research Council 1956 200 p. illus. 28 cm. (National Research Council. Publication 452) $1.00 1968

Contents: Summary report. Appendices. Report of the Subcommittee on Acute and Long Term Hematological Effects. Bibliography 1950–1955. Report of the Subcommittee on Toxicity of Internal Emitters. Report of the Subcommittee on Acute and Chronic Effects of Radioactive Particles on the Respiratory Tract. Report of the Subcommittee on Permanent and Delayed Effects of Ionizing Radiation from External Sources. Summaries prepared by various panel members. Effects of radiation on the embryo and fetus, by S. P. Hicks. Radiation exposure and disturbed environment, by H. L. Andrews. Effects of irradiation of the nervous system, by W. Haymaker. Radiation effects on endocrine organs, by J. Furth.

Note. This is the first of six detailed reports on the biological effects of atomic radiation to be issued by the National Research Council. Six committees had been at work, and a summary of the reports of all six committees was published, without appendices, in 1956 by the National Research Council under the title, *The biological effects of atomic radiation summary reports from a study by the National Academy of Sciences*. Simultaneously a popular pamphlet under the title, *The biological effects of atomic radiation a report to the public* was published. Detailed reports will later be issued on five other aspects of the problem of the biological effects of atomic radiation on man, corresponding to the work of the five other committees which have been studying the problem from the point of view of genetics, meteorology, oceanography and fisheries, agriculture and food supplies, and the disposal and dispersal of radioactive wastes.

OSTER, GERALD AND ARTHUR W POLLISTER, editors

Physical techniques in biological research. Volume I, Optical techniques. New York Academic Press Inc., 1955 564 p illus. 24 cm. $13.50. 1969

Contents: Photochemistry and luminescence, by J. L. Rosenberg. Light scattering, by G. Oster. Absorption spectroscopy, by C. F. Hiskey. Ultraviolet absorption spectrophotometry, by J. F. Scott. Infrared spectrophotometry, by C. Clark. The light microscope, by L. C. Martin. Phase and interference microscopy, by H. Osterberg. Birefringence and dichroism, by G. Oster. Electron microscopy, by V. E. Cosslett. Author index. Subject index.

—— Volume II, Physical chemical techniques. New York Academic Press Inc., 1956 502 p. illus. 23 cm. $12.80 1970

Contents: Tracer techniques—stable and radioactive isotopes, by J. Bachs. The measurement and properties of ionizing radiation, by J. S. Kirby-Smith. Sedimentation, diffusion, and viscosity, by A. G. Ogston. Surface film techniques, by A. Rothen. Adsorption and chromatography, by M. Applezweig and T. F. Cleary. Electrophoresis and ionophoresis, by K. G. Stern. Electrical potential differences, by K. S. Spiegler and M. R. J. Wyllie. Magnetic methods, by E. Rich. X-ray diffraction and scattering, by G. Oster. Author index. Subject index.

—— Volume III, Cells and tissues New York Academic Press, Inc., 1956 728 p illus 23 cm. $16 50 1971

Contents Freeze-drying, by L. G. E. Bell. Phase contrast and interference microscopy in cytology by R. Barer Fluorescence microscopy by G. R. Price and S. Schwartz. Birefringence and dichroism of cells and tissues, by F Ruch. Electron microscopy of microorganisms, by T F Anderson. Electron microscopy of cells and tissues, by F S. Sjöstrand. Techniques for the mass isolation of cellular components, by N G. Anderson. Microphotometry with visible light, by H. Swift and E. Rasch. Ultraviolet absorption techniques, by P M. B. Walker Historadiography by A. Engström. Autoradiography at the cellular level, by J H. Taylor Manometric techniques for single cells, by H. Holter and others. Microtomy by M. E. Gettner and L. Ornstein. Author index. Subject index.

Note Techniques of physics and physical chemistry useful in biological research are covered from the viewpoint of graduate biologists in this valuable work. As the above table of contents shows, the work is a collaborative one, consisting of monographic chapters written by specialists. Basic theory apparatus and experimental techniques are covered. Literature references are given in all of the chapters and excellent indexes to authors cited and to subjects are included in each volume.

RASHEVSKY, NICOLAS

Mathematical biology of social behavior Chicago University of Chicago Press, 1951 256 p illus 25 cm. (The University of Chicago Committee on Publications in Biology and Medicine, Emmet B Bay and others) $5.00 1972

Contents Part I, Brain mechanism and behavior The central nervous system. Conflicting stimuli. Applications of the foregoing to psychometric methods. Learning. Satisfaction and hedonistic behavior Part II, Social hierarchies Peck-order Distribution of wealth. A general theory of social distributions. Distribution of conservative quantities, due to chance. Formation of social classes. Part III, Imitative behavior Behavior of a social group in which individuals imitate one another A different approach to the foregoing problem. Some possible generalizations and approximations. Part IV Motivational behavior Altruistic and egoistic societies. Another case of altruistic and egoistic societies. Other types of motivational interactions. Possible relation between imitative and motivational behavior Some examples based on motivational behavior Part V Learned behavior Some aspects of learning of social behavior The learning curve of a social group. Acceptance on faith versus rational thinking. Interaction of imitation and learning. Freedom. Part VI, Miscellaneous problems Hereditary effects in social changes. Some general considerations on social dynamics. A simplified mathematical model of socioeconomic dynamics. General conclusions. Index.

Note The author in this work develops further the postulates presented in his *Mathematical biophysics* (1948, rev ed) and *Mathematical theory of human relations* (1948) Part I contains a brief outline of the mathematical biophysics of the central nervous system, especially for the benefit of readers unfamiliar with the subject. In Part II is developed a mathematical approach to the problem of social hierarchies. The developments of Parts III, IV V are based directly on the mathematical biophysics outlined in Part I, the behavior of an individual in social group and the behavior of the group as whole being interpreted in terms of neurobiophysical mechanisms, and the growth of cultures being interpreted in terms of phenomena which take place in the nervous system of the individual. This leads to suggestions as to how biological measurements, made on large groups of individuals, may lead to the prediction of some social phenomena. The developments are presented largely in mathematical formulas and equations. Bibliographical references are given at the ends of the chapters.

SACKS, JACOB

Isotopic tracers in biochemistry and physiology New York McGraw Hill Book Company, Inc 1953 383 p illus 24 cm. $8.50 1973

Contents. General principles in the use of isotopic tracers Elements of nuclear physics and radioactivity Measurement of radioactivity The measurement of the heavy stable isotopes. Safe handling of radioactive isotopes. The scope of the tracer technique. Movement of ions across phase boundaries. Carbon isotopes in carbohydrate metabolism. Phosphorylated intermediates in carbohydrate metabolism. Metabolism of fatty acids, phospholipids, and sterols. Metabolism of proteins and amino acids. Metabolism of nucleic acids, purines, and pyrimidines. Radioactive iodine and the thyroid. Isotopes in the study of mineral metabolism. Tracer studies on the blood. Photosynthesis and related topics. Appendix. Author index. Subject index.

Note. One of the chief features of this book is survey of experiments in biology in which radioactive isotopes used as tracers have resulted in the extension of biological knowledge Approximately half of the space is devoted to this phase of the subject. Also discussed at some length are the principles and general techniques of using radioactive isotopes in biochemical and physiological research. The chapter entitled "The scope of the tracer technique" is a particularly helpful one for biologists with little or no tracer experience. Actual experimental techniques are not spelled out in detail. However references to wide range of literature published to approximately the close of 1951 are given and experimental details are, of course available in many of the cited papers.

SHANES, ABRAHAM M, editor

Electrolytes in biological systems, incorporating papers presented at a symposium at the Marine Biological Laboratory in Woods Hole, Massachusetts, on September 8, 1954 Sponsored and published under the auspices of the Society of General Physiologists Washington, D C. American Physiological Society, 1955 243 p illus. 23 cm. $4 00 1974

Contents Introduction. Permeability of microorganisms to inorganic ions, amino acids and peptides, by D B. Cowie and R. B. Roberts. Sodium and potassium regulation in *Ulva lactuca* and *Valonia macrophysa*, by G. T Scott and H. R. Hayward. Relationship of the cell surface to electrolyte metabolism in yeast, by A. Rothstein. Absorption of ions by plant roots, by E. Epstein. Electrolyte transport in isolated mitochondria, by G. H. Mudge. Sodium and potassium transport in red blood cells, by D C. Tosteson F[illegible] tors governing ion transfer in nerve, by A. M. Shanes. Biological aspects of active chloride transport, by C. A. M. Hogben. Ion transport and ion exchange in frog skin, by E. G. Huf. Index.

Note: The papers published in this volume represent fundamental advances in the understanding of the role of electrolytes in the biochemistry of biological systems, both plant and animal. [illegible] by scientists who are actively engaged in research in the field, they are addressed to other professional zoologists and biochemists, including those who are currently carrying on investigations on electrolytes. Studies on a variety of organisms and organs are presented in fact, the comparative approach runs as theme throughout the volume. Literature references are included in all of the papers.

SHEDLOVSKY, THEODORE, editor

Electrochemistry in biology and medicine edited by Theodore Shedlovsky Sponsored by The Electrochemical Society Inc. New York John Wiley & Sons Inc., 1955 369 p illus. 24 cm $11 00 1975

Contents Introduction, by T Shedlovsky *Membrane potentials in the Donnan equilibrium*, by D L Hitchcock *Transport of ions across charged membranes*, by G. Scatchard. *The electrochemistry of porous membranes*, by K. Sollner Membranes of high electrochemical activity in studies of biological interest, by K. Sollner and others. Dynamic negative admittance components in statically stable membranes, by O. H Schmitt. *Ions, potentials, and the nerve impulse*, by K. S. Cole *The nature of the electrochemical potentials of bioelectric tissues*, by H. Grundfest. Molecular basis for generation of bioelectric potentials, by D Nachmansohn and I. B. Wilson. Some electrical properties of large plant cells, by L. R. Blinks. Apparent violations of the all-or-none law in relation to potassium in the protoplasm, by W J V Osterhout. Diffusion in liquids and the Stokes-Einstein relation, by L. G. Longsworth. Hydrogen ion titration curves of proteins, by C. Tanford. Determination of ion activity in protein solutions with collodion membrane electrodes, by C. W Carr. Activity coefficients of some sodium and potassium phosphates in aqueous solutions, by F M. Smith. Polarographic behavior of various plasma protein fractions, by G. H. Miller. Some observations on electrocardiographs and electrocardiographic leads, by F D Johnston and J F Cordes. *Prospective electrocardiography*

[illegible] localization of brain tumors, by [illegible]. Electrical signs of epileptic discharge, by H. H. Jasper. Index.

Note: A product of a symposium held in April, 1948, in the city of New York, this volume contains the revised and edited text of 13 papers written by biologists, neurologists, and physicians associated with educational and research institutions in the United States of America and Canada. Bioelectric phenomena are the principal topic. Many of the papers describe the results of recent research and research in progress and relate them to the work of other investigators. References to the literature are included in all of the papers.

SPIEGEL-ADOLF, MONA, AND GEORGE C. HENNY

X-ray diffraction studies in biology and medicine. New York, Grune & Stratton, 1947. 215 p. illus. 23 cm. $5.50. 1976

Contents (abridged): Theory of X-ray diffraction. X-ray diffraction apparatus and techniques. Interpretation of X-ray diffraction patterns. X-ray diffraction studies on: Carbohydrates. Amino acids and derivatives. Proteins. Nucleic acids and nucleoproteins. Muscle. Lipids. Nerve. Steroids. Bone, teeth and concretions. Index of authors. Index of subjects.

Note: A description of X-ray diffraction techniques and apparatus as applied in biological and medical research. Basic principles and methods are discussed, but emphasis is placed on the preparation and interpretation of X-ray diffraction patterns of some of the chief constituents of human and animal bodies. The book is intended to serve as a manual for the guidance of research workers, and each chapter concludes with an extensive bibliography.

STACY, RALPH W., AND OTHERS

Essentials of biological and medical physics, by Ralph W. Stacy, David T. Williams, Ralph E. Worden, and Rex O. McMorris. With an introduction by Otto Glasser. New York, McGraw-Hill Book Company, Inc., 1955. 586 p. illus. 23 cm. $8.50. 1977

Contents (abridged): Fundamental concepts of biophysics. Mechanical biophysical systems. Heat and thermodynamics in life processes. Biophysical studies involving light. Gas physics in biology. Fluid flow systems in biology. Electrical systems in biology. Nuclear physics in biology. Theoretical biophysics. Appendixes. Index.

Note: Planned as a college text in biophysics, this book is a well-organized and authoritative introduction to the field. The authors have made a particular effort to present biophysics as a distinct field of applied science. A quantitative approach to biophysical matters is stressed. There are 43 chapters organized in 10 parts. Only the part-titles are listed in the above contents. The individual chapters are devoted to such subjects as the mathematical analysis of biophysical systems, the body from a mechanical engineering standpoint, the body as a thermodynamic system, the clinical applications of ultrasonics, the physical nature of animal light, the energetics of blood flow, and the biological and medical applications of nuclear radiation. The chapters are compactly written and are accompanied by substantial lists of literature references.

STUHLMAN, OTTO

An introduction to biophysics. New York, John Wiley & Sons, Inc., 1943. 375 p. illus. 23 cm. $6.00. 1978

Contents: Biophysically active X-rays. Applied radioactivity. Biophysical characteristics of the eye. Emission and absorption of biophysically active light. The structure and properties of surfaces and membranes. The biophysical problem of nerve conduction. Auditory biophysics. The compound microscope; the electron microscope. Physical constants. Problems. Name index. Subject index.

Note: An introduction to the applications of physical methods and equipment to the solution of biological and medical problems. The discussions include a fundamental cross-section of physical methods and physical principles applied to biology, the use of isotopes as tracers in physiological investigations, the application of ultraviolet light to physiological problems, the use of microscopy with particular regard to electron microscopy, physiological acoustics, classical physiological optics, important biophysical instruments, and recent developments and applications in radiology.

A SYMPOSIUM ON THE USE OF ISOTOPES IN BIOLOGY AND MEDICINE, by Hans T. Clarke and others. Madison, University of Wisconsin Press, 1948. 445 p. illus. 24 cm. $5.00. 1979

Contents: Address of welcome, by W. A. Middleton. Isotopes in biochemistry: historical background, by H. T. Clarke. Separation of stable isotopes, by H. C. Urey. The preparation of radioactive isotopes, by G. T. Seaborg. Recent developments in the availability of isotopes, by P. C. Aebersold. The detection of stable isotopes, by A. O. Nier. Fundamental principles of the detection and measurement of radioactivity, by C. D. Coryell. Assay of radioactive isotopes in biological research, by M. D. Kamen. Preparation of compounds containing isotopes, by D. B. Melville. Studies on the metabolism of proteins, by D. B. Sprinson. The use of isotopes in the study of intermediary carbohydrate metabolism, by H. G. Wood. The intermediary metabolism of lipids, by K. Bloch. Tracer studies on the metabolism of mineral elements with radioactive isotopes, by D. M. Greenberg. Application of radioactive iodine to studies in iodine metabolism and thyroid function, by I. L. Chaikoff and A. Taurog. Medical applications of radioactive tracers, by J. G. Hamilton. Therapeutic use of radiophosphorus in polycythemia vera, leukemia, and allied diseases, by E. E. Hall. Treatment of thyroid disease by means of radioactive iodine, by S. Hertz. Health hazards in the use of radioactive isotopes, by W. F. Bale. Measures for the protection of property and personnel, by J. J. Nickson. International aspects of atomic energy, by H. C. Urey. Comments on the development of atomic energy, by F. Daniels. Panel discussions on special topics.

Note: The papers comprising this volume were prepared by leading physicists, chemists, and biologists at a conference sponsored by the Wisconsin Alumni Research Foundation in 1947. Taken as a whole they provide a review of the developments in atomic physics that are especially applicable in the fields of biology and medicine. References are given at the end of each chapter, but there is no index.

UBER, FRED MUNEY, editor

Biophysical research methods. New York, Interscience Publishers, Inc., 1950. 667 p. 24 cm. $10.50. 1980

Contents: Avoid fruitless experiments, by F. M. Uber. Osmotic pressure measurements, by D. R. Briggs. Centrifugation, by E. G. Pickels. Viscosity measurements, by L. V. Heilbrunn. Temperature determinations, by L. R. Penney and J. D. Hardy. Calorimetric measurements, by M. Kleiber. Quick-freezing and the freezing-drying process, by E. W. Flosdorf. Bioelectric measurements, by H. J. Curtis. Electrophoresis, by D. R. Briggs. Ultrasonic vibrations, by E. C. Gregg, Jr. When to use special microscopes, by O. W. Richards. Electron microscopy, by J. Hillier. Action spectra, and absorption spectra, by H. F. Blum. X rays and X irradiation, by [illegible]. Electrons, neutrons, and alpha particles, by L. H. Gray. Stable isotopes as tracers, by F. M. Uber. Radioactive tracers, by A. F. Voigt. Subject index.

Note: A full-scale presentation of physical laboratory methods which are applicable to research in biology, medicine, and agriculture. The authors of the various chapters have assumed that their readers will be familiar with standard laboratory methods and instruments. Their papers are addressed to such readers as graduate students of the sciences, laboratory assistants, and experienced research workers who need guidance in the use of recently developed methods. Literature references accompany all of the chapters, and some of the chapters are supplemented by lists of sources of supply.

ZIRKLE, RAYMOND E., editor

Biological effects of external X and gamma radiation. Part 1. New York, McGraw-Hill Book Company, Inc., 1954. 530 p. illus. 23 cm. (National nuclear energy series. Manhattan Project technical section. Division IV—Plutonium project record. Vol. 22B) $7.25. 1981

Contents: Effects of long-continued total-body gamma irradiation on mice, guinea pigs, and rabbits: I. Preliminary experiments, by E. Lorenz and W. E. Heston—II. Physical arrangement, by E. Lorenz—III. Effects on life span, weight, blood picture, and carcinogenesis and the role of the intensity of radiation, by E. Lorenz and others—IV. Actions on the breeding behavior of mice, by M. K. Deringer and others—V. Pathological observations, by A. B. Eschenbrenner and E. Miller—VI. Conclusions and applicability of results

to the problem of human protection, by E. Lorenz. Effects of total-body X irradiation on rabbits I. Mortality after single and paired doses, by C. W Hagen, jr and G. A. Sacher—II. Hematological effects, by L. O Jacobson and others—III. Effects on the leucocytes, by G. A. Sacher and N Pearlman. Effects of total-body X irradiation on a preexisting induced anemia in rabbits I. Response of animals with anemia induced by phenylhydrazine, by L. O. Jacobson and others—II. Response of animals with an anemia induced by bleeding, by L. O Jacobson and others—III. Histopathological studies, by M. H. Block and others. Heparinemia (?) an anticoagulant in the blood of dogs with hemorrhagic tendency after total-body exposure to roentgen rays, by J G Allen and others. An electrophoretic study of the effects of X rays on the plasma protein pattern in dogs, by J A. Muntz and others. Effects of X rays on the activity of enzymes, by E. S. G Barron and others. Effects of X rays on tissue metabolism, by E. S. G. Barron. Effects of X rays on the metabolism of the small intestine and its permeability to glucose, by E. S. G. Barron and others. Effects of X rays on immunity by W H. Taliaferro and L. G Taliaferro Radiation-induced changes in ultraviolet absorption spectra of urine I General effects, by L. Wattenberg and S. Schwartz—II. Quantitative spectrophotometric studies, by L. Wattenberg and S. Schwartz. The effectiveness of drugs in preventing or alleviating X-ray damage, by E. L. Simmons and others. Methods of exposure of animals to X rays, by C. W Hagen jr and R. E. Zirkle, Index.

Note The chapters in this volume are all based on research work pursued during World War II at the National Cancer Institute and the Metallurgical Laboratory of the University of Chicago. They vary in length from abstracts less than one page in length to detailed reports running to many pages. When abstracts only are given a references to the place of publication of the full report is usually supplied. Together the papers in the volume plus the articles abstracted but published elsewhere present in considerable detail the experimental methods and findings of an extensive government-sponsored program of animal research directed toward determining the biological effects of externally applied X-ray and gamma ray radiation

ECOLOGY

CARPENTER, JOHN RICHARD, compiler

An ecological glossary New York Hafner Publishing Company 1938 306 p illus. 20 cm $5 75 1982

Contents: Preface. The development of ecological nomenclature. A—Z. Literature cited in glossary Historical bibliography Appendix Comparison of plant-sociological terminology terms by DuRietz '30. Comparison of sociological units, after DuRietz '30. Community classification, after Shelford 32 Subdivisions of the biotic formation, after Carpenter Biotic areas in North America, after Shelford 26. Life zones and biotic communities in America north of the Amazon after Shelford, Jones, and Goldberg 26. Life zones of North America, after Merriam, *et al.*, 1910. Zoological regions of the world, after Wallace. Vegetation regions of the world, after Grisebach 72. Mammalian geographic realms and regions, after Lydekker '96. F unistic realms of the world, after F Dahl '23 An example f seasonal composition and appropriate nomenclature, after Carpenter 35. The activ processes f erosion, after Malott 28

Note Defines nearly 3,000 terms that occur in ecological literature. Includes variant meanings and gives references to papers in which definitions and concepts are discussed in detail. The appendix includes many ecological maps.

CLARKE, GEORGE L

Elements of ecology New York John Wiley & Sons Inc 1954 534 p illus 24 cm (Woods Hole Oceanographic Institution. Contribution no 704) $7 50 1983

Content Viewpoint of modern ecology The medium. The substratum. Water Temperature. Light. Oxygen and carbon dioxide. Nutrients. Relations within the species. Relations between species. The community Succession and fluctuation. Dynamics of the ecosystem. References. Index.

Note: A book planned to bring together and present in simple way the elements of plant and animal ecology With special emphasis on the modern viewpoint of the science ecology is defined as the study of the interrelations of the organism and its environment, the dynamic interplay of the forces f the living community Since many of these relationships are seen in a relatively simple form in the marine environment, many illustrations are taken from marine habitats. While written primarily for college students, the book can also be read for background by persons concerned with conservation, forestry agriculture, fisheries, wildlife management, and other types of "applied ecology It has also some appeal to general readers interested in biology

CLEMENTS, FREDERIC EDWARD, AND VICTOR E SHELFORD

Bio-ecology New York John Wiley & Sons, Inc., 1939 425 p illus. 23 cm. $9.25 1984

Contents Nature and relations of bio-ecology Community functions the dynamics of the biotic formation. Reaction the influence of community on habitat. Coaction the interrelations of organisms. Aggregation, competition and cycles. Migration. Climax and sere. The North American grassland Stipa-Antilocapra biotic formation (biome) Aquatic climax communities. Marine biotic communities. Appendix. Index.

Note A highly technical survey of the general field of bio-relationships f combined animal and plant communities, valuable not only as manual for the teacher and student of biology but as a reference for the ecologist and biologist. The book shows how in practice, bio-ecological data deal with the study of life communities or microcosms, or the science of community populations of plants and animals. Bio-ecology deals also with the cause-and-effect relations between habitat on the one hand and the organism and community on the other An extensive bibliography is included.

DICE, LEE RAYMOND

The biotic provinces of North America Ann Arbor University of Michigan Press, 1943 78 p illus 26 cm. $4 00 1985

Contents. Introduction. Descriptions of the biotic provinces Eskimoan. Hudsonian. Canadian. Carolinian. Austroriparian. Floridian. Texan. Saskatchewan. Kansan. Comanchian. Aleutian. Sitkan. Oregonian. Montanian. Coloradan. Navahonian. Palusian. Artemisian. Californian. Sonoran. Mohavian. Apachian. Durangan Chihuahuan. Tamaulipan. Yucatan. Literature cited. Index.

Note. A new classification of the natural biological areas of North America from the Arctic zone to middle Mexico, by a biologist whose field trips have brought him into almost all of them. The classification is based primarily on vegetation but takes account also of climate, physiography and animal life. The ecological point of view is maintained throughout, with emphasis on the relationship between the plants and animals and their environment. One hundred and fifty-two titles are listed in the bibliography

DICE, LEE RAYMOND

Natural communities Ann Arbor University of Michigan Press, 1952 547 p. illus. 26 cm. $7 50 1986

Contents (abridged) Some important kinds of communities. Methods for describing and measuring communities. Effects on communities of fluctuations in the physical conditions of their habitats. Food relations within communities. Fluctuations in populations. Fluctuations in community composition. Relations of organisms to their ecosystems. Home ranges and territories. Effects of social behavior on the community Ecologic relations between species. Community equilibrium. Effects of communities on their physical habitats. Ecological succession. Local and geographic variation within communities. Relations between communities. Classification of communities. Relations between communities. Larger units of community classification and microassociations. Larger units of community classification. Evolution of communities. Philosophy of communities. Literature cited. Index.

Note. A substantial introductory survey of the current knowledge of the ecologic principles of plant and animal communities under natural conditions. It is introductory in the sense that no previous acquaintance with ecology on the part of the reader has been presumed. However the reader does need an understanding of the general principles of biology Along with the delineation of principles the author mentions great variety of facts culled from the literature and gives references from the text to the source articles.

ODUM EUGENE P
Fundamentals of ecology Philadelphia W B Saunders Company 1953 384 p. illus. 24 cm. $6.50. 1987

Contents: Part I, Basic ecological principles and concepts: Introduction—the scope of ecology Principles and concepts pertaining to the ecosystem and biogeochemical cycles. Principles pertaining to limiting factors. Principles and concepts pertaining to energy in ecological systems. Introduction to population and community ecology Principles and concepts pertaining to organization at the species population level. Principles and concepts pertaining to organization at the interspecies population level. Principles and concepts pertaining to organization at the community level. Part II, The habitat approach: Fresh-water ecology Marine ecology Terrestrial ecology Part III, Applied ecology: Applications—natural resources—public health and welfare—human society Bibliography Index with reference glossary

Note. A general introduction to ecology is afforded by this book. As the preface indicates, the author has presented the subject from two viewpoints: that of principles and concepts, and that of environment or habitat. The exposition of basic principles and concepts is a substantial one, considering not only definitions of terms and statements of principles, but also the experimental and observational results upon which the principles are based. The section on applications, although it adds interest to the book, is no more than an outline. There are 118 figures and a 33-page bibliography Instead of a glossary the locations of definitions in the text itself are distinguished by use of boldfaced type. The author is Professor of Zoology in the University of Georgia.

STORER, JOHN H.
The web of life a first book of ecology New York The Devin-Adair Company 1953 142 p. illus. 22 cm. $3.00. 1988

Contents: Introduction, by F Osborn. The stream of life. When the rocks crumbled. How the land gets its water. Life prepares its own environment. Life comes to the soil. The soil community. The forest grows. The forest community The community through the seasons. Community life cycles. Life zones. A strand of the web breaks. The grassland community Some laws of life Attacks of life. Land and water meet: the Pacific salmon. The evolution of life. Human intelligence—evolution takes a new direction Man in the web. Summary Bibliography

Note: A book for the average reader who wishes to know something of ecology the fundamental interrelationships of living things, either as a part of his general education or as a practical basis for sound conservation practices. An extensive section of photographic illustrations in the center of the book complements the text.

WOODBURY ANGUS M.
Principles of general ecology New York The McGraw-Hill Book Company Inc., 1954 503 p. illus 24 cm. $7.50. 1989

Contents: Part I, General considerations: Introduction. Historical perspective. Organisms and environment. Part II, The physical environment: The solid earth—soils. The liquid cover of the earth—water. Air and its constituents. Radiant energy Gravity and pressure. Climate. Adaptations that meet the physical environment. Part III, Biotic interrelationships: Biotic communities. Development of biotic communities. Community analysis. Conditions of existence—energy space, shelter, protection, comfort. Food relations. Reproduction and species persistence. Population problems. Dispersal and evolution. Biotic rhythms and migrations. Biotic adaptations. Historical distribution. Geographic distribution. Consortism. Social relations—aggregations. Succession. Ecology and human affairs. Bibliography Index.

Note: An introduction to ecology written and organized primarily for use as a textbook in advanced undergraduate college courses offered to students who have completed basic courses in biology botany or zoology The physical and biotic elements of ecology are described in a style that is easy to read. Numerous references are made to related literature. The author is Director of Ecological Research in the University of Utah.

CYTOLOGY

GORDON MYRON editor
Pigment cell growth proceedings of the Third Conference on the Biology of Normal and Atypical Pigment Cell Growth. New York Academic Press, Inc., 1953 365 p. illus. 24 cm. $7 00 1990

Contents: Origin of the mammalian pigment cell and its role in the pigmentation of hair, by M. E. Rawles. Relations between developing melanophores and embryonic tissues in the Mexican axolotl, by H. C. Dalton. Genetic control of pigmentation in the fowl, by F B. Hutt. Relationship of atypical pigment cell growth to gonadal development in hybrid fishes, by O. Berg and M. Gordon. Thyroid hormone, and the differentiation of pigment cells in the brown leghorn, by J F Trinkaus. Growth and pathology of melanotic and amelanotic derivatives of the Cloudman melanoma S91, by G. H. Algire, and others. Dendritic melanoblasts in metastatic squamous cell carcinoma, by H. Z. Lund and C. Chernov Microscopic analysis of normal melanoblasts, nevus cells and melanoma cells, by S. W Becker Problems concerning melanoma in man, by R. W Raven. The natural history of melanoma in man, by R. L. Clarke, Jr and E. J. MacDonald. Analysis of skin color in living human subjects by spectrophotometric means, by E. A. Edwards. The two types of acanthosis nigricans, by H. O. Curth. End results in the treatment of malignant melanoma—A report of 1190 cases, by G. T Pack, and others. Control of melanization of S91 tumors by reactive transfer and biochemical studies of the tumors produced, by M. L. Hesselbach. Melanin and tyrosinase production in normal and pathological skin pigmentation, by E. Y Traub and R. J. Spenc. Oxidizing enzymes of mouse melanomas—their influence, enhancement and chromatographic separation, by V Riley and others. Phase contrast and electron microscopy of the Cloudman S91 mouse melanoma, by A. J Dalton and M. D Felix. The structure of melanins, by H. S. Mason. The in vitro production of pigment granules, by J L Plummer and M. J Kopac. The control of melanogenesis in human pigment cells, by A. B. Lerner and T. B. Fitzpatrick. Glycolytic activities of tissue and subcellular fractions of the Cloudman S91 mouse melanoma compared to a nonmelanotic hepatoma and normal liver, by H. G. du Buy and others. Index.

Note: Participants in the conference of which this book is a record represented several areas of biological and medical research. The implications for cancer research are obvious in many of the papers but the overall viewpoint is a broader one, including both normal and abnormal processes of pigment cells. Most of the papers are illustrated, some of them with remarkable microphotographs. Literature references are included in the individual papers and the names of the authors of the cited literature are included in the index.

HEILBRUNN L. V
The dynamics of living protoplasm. New York Academic Press Inc., 1956. 327 p. illus. 23 cm. $6.50. 1991

Contents: Introduction. Protoplasmic viscosity Protoplasmic gels. The electrochemistry of the cell. The surface precipitation reaction. Protoplasmic clotting. Muscle contraction. The excitation of nerve. Conduction and transmission. Cell division. The suppression of cell division. Stimulation and anesthesia. The colloidal theory of stimulation and anesthesia. Cellular homeostasis. Conclusion. Bibliography Author index. Subject index.

Note In this monograph the author, who has devoted most of his lifetime to research on protoplasm and closely related areas of biology assembles a wide range of information and interprets it. His object is to organize the accumulated results into a body of knowledge that will throw light on the mechanisms underlying vital activity However, he does not hesitate to point out interesting tangential observations that seem to be worth further investigation, such as the possibility of anticoagulant polysaccharides. Such aspects as stimulation and anesthesia of protoplasm are discussed at considerable length. In the end the author concludes that a great deal has been learned about protoplasm, but that much more must be discovered before the fundamental nature of the vital activity [illegible] can be fully understood. The book is written in a relatively simple style and is designed to appeal to biologists and physiologists generally It includes a 33-page bibliography

MURRAY MARGARET R., AND GERTRUDE KOPECH, compilers
A bibliography of the research in tissue culture, 1884 to 1950: an index to the literature of the living cell cultivated *in vitro* New York. Academic Press Inc., 1953 2 v $24.00. 1992

Note A comprehensive, international bibliography of tissue culture defined as the maintenance of isolated portions of multicellular organisms in artificial containers outside the individual for considerable periods of time. The cultivation of tissue cells from *parts of any plant or animal from sponges to vertebrates and from* thallophytes to spermatophytes therefore is *included* the culture of Protista, bacteria, Rickettsiae and viruses is *excluded*, unless tissue cells are actually cultivated along with them. *Observations* upon blood smears and tissue slices are *excluded* also in vivo observations in chambers utilizing the rabbit's ear tadpole's tail, peritoneal flap etc., as well as all *forms* of grafting (in individuals, eggs and embryos) unless the tissue was first cultivated *in vitro*. The maintenance of whole plants or whole embryos on culture media was omitted, with the exception of some plant embryos. It has been our aim to collect and classify all the available references (within the stipulated limitations) which deal with observations on the structure, growth and behavior of tissue cells maintained *in vitro* as well as with methods of culture, and with generalizations typified by symposia, monographs and reviews." Entries under authors and entries under subjects are arranged in alphabetical order in a single alphabet that extends through the two volumes.

PARKER, RAYMOND CRANDALL

Methods of tissue culture With a chapter by Joseph F Morgan Second edition, revised, with 113 illustrations New York Paul B Hoeber, Inc., Medical Book Department of Harper & Brothers, 1950 294 p illus 24 cm. $7 50 1993

Contents Introduction. The laboratory Special equipment. Cleaning and sterilization procedures. Diluting fluids, pH determinations and osmotic pressure. Preparation of plasma and serum. Preparation of tissue extracts. Development of synthetic media, by Joseph F Morgan. Coverslip cultures Flask techniques for plasma cultures. Flask techniques for fluid cultures. Roller-tube techniques. Flask techniques for tissue fragments in suspension. Watch-glass cultures for embryological studies. Growth measurements and their interpretation. Histological procedures. Photomicrography and microcinematography References. Index.

Note The first edition of this work described techniques in use in the laboratory of Dr Alexis Carrel at the Rockefeller Institute for Medical Research. In this edition the scope has been expanded to include techniques generally in use in biological research laboratories. Accordingly many important revisions and additions have been made throughout the book. Techniques are described explicitly furthermore, references are included in the text to citations of source articles. There are now 73 figures. The book is intended for graduate biologists, pathologists, etc., in need of a practical guide to the field.

RUDNICK, DOROTHEA, editor

Cellular mechanisms in differentiation and growth Princeton Princeton University Press 1956 236 p illus 24 cm. (Society for the Study of Development and Growth Fourteenth symposium, 1955) $7 50 1994

Contents Part I, Intracellular events System analysis for the light growth reactions of phycomyces, by M. Delbrück and W Reichardt. The cytology of nuclear RNA, by H. Swift and others. Plant cells and associated organelles, by I Manton. Pattern and substance in *Stentor* by V Tartar. Part II, Intercellular relations Infection and heredity by J Lederberg and E. M. Lederberg. Cellular interactions during the development of the cellular slime molds, by M Sussman and R. R. Sussman New approaches to the problem of embryonic induction by M. C. Niu. Growth and development in the shoot system of plants, by R. H. Wetmore. Developmental correlations in neurogenesis, by V Hamburger Structural studies of the formation of the myelin sheath in peripheral nerve fibers, by B. B Geren. Acquired tolerance of foreign cells, by R. E. Billingham. Index.

Note. Papers presented at a symposium of the Society for the Study of Development and Growth are published in this volume As their titles, quoted above, show various aspects pertaining to the activities of cells in growth and differentiation are discussed. The typical paper is a combination of results from published literature and reports of research carried on by the author or others. A critical discussion of the results reported in the individual papers is included in some of the papers. All of the papers are supplemented by bibliographies. The volume is of interest to graduate biologists.

SCHERER, WILLIAM F, editor

An introduction to cell and tissue culture, by the staff of the Tissue Culture Course, Cooperstown, New York, 1949–1953 Sponsored by the National Cancer Institute, United States Public Health Service, the Mary Imogene Bassett Hospital and the Tissue Culture Association. The resident staff John H Hanks director, William F Scherer, editor, Don W Fawcett Joseph Leighton, Keith R. Porter Contributors from the visiting staff Esther Carpenter, Wilton R Earle. Minneapolis Burgess Publishing Company, 1955 123 p illus. 28 cm. $4 00 1995

Contents (abridged) Part 1 The practical aspects of tissue culture. Preparation of the laboratory and of reagents The laboratory equipment and supplies. Balanced salt solution, inorganic supplements, and pH control. Plasma, serum, other body fluids and derivatives. Tissue extracts and derivatives. Preparation and management of cell cultures. Basic methods of cell and tissue culture. Cells handled in suspension. Cells in minced tissue fragments. Slide cultures. Test tube and flask cultures. Cultures in sponge and other special matrices. Cultivation of chicken macrophages. Cultivation of cells for virus propagation. Measurement of cell growth. Part 2, Lectures on principles of cell culture Principal cell types and patterns of growth in cell and tissue cultures. Cell differentiation and modulation. Nutrition of cells in vitro. Certain re-orientations of the study of animal cells in vitro. Organ culture. Part 3, Lectures on specialized applications: Cell and tissue culture in virology Cell and tissue culture in cancer biology Part 4 Appendix, The Tissue Culture Course, 1949–1953 Lecture schedule. General work schedule. Staining reagents and procedures. Sources of selected supplies and equipment.

Note In vitro cultivation of tissue cells has become important in the solution of biological problems on many levels, and this publication presents detailed suggestions on techniques of cell and tissue culture for the use of laboratory workers in the biological and medical sciences. It can also be used as a text for college courses in the subject. The publication is a result of a course on tissue culture given in Cooperstown, N Y under the auspices of the Tissue Culture Association. It pools much practical information gained from the experience of many workers in this new field. Bibliographical references appear at the ends of the chapters.

WHITE, PHILIP R

The cultivation of animal and plant cells New York The Ronald Press Company 1954 239 p illus 22 cm $6 00 1996

Contents The cell versus the organism. The history of cell culture The living material. The laboratory Nutrients. Types of cultures. Setting up cultures. Growth measurements and their interpretations. Applications. Appendix Some simple techniques for beginners. Bibliography Index of names. Index of subjects.

Note A useful and fairly comprehensive manual of techniques and related information on the laboratory culture of cells. The author has carefully pointed out that the book does not deal with "tissue culture," because there is no such thing but is concerned... known as tissue culture is the cultivation of groups of cells which make up tissues, or organs made up of tissues The book is, therefore about "cell culture" or for those who prefer the less precise term, "tissue culture." It describes concisely but in a straightforward style, materials, equipment, techniques, and interpretation of results. The appendix on simple techniques for beginners is a useful feature. There are 54 figures and a 16-page bibliography The author is Research Associate on the staff of the Roscoe B. Jackson Memorial Laboratory

BOTANY

GENERAL

AMERICAN JOINT COMMITTEE ON HORTICULTURAL NOMENCLATURE

Standardized plant names. Second edition. A revised and enlarged listing of approved scientific and common names of plants and plant products in American commerce or use. Prepared for the American Joint Committee on Horticultural Nomenclature by its editorial committee, Harlan P Kelsey and William A. Dayton. Harrisburg J Horace McFarland Company 1942 675 p 23 cm $10.50 1997

Note An official list designed to aid in bringing about as far as practicable the consistent use of single standardized scientific names and single standardized common names for every tree, shrub, and plant in American commerce or use, and to establish well-organized machinery for the registration and [illegible] of horticultural varieties and the adoption of standard rules of nomenclature for the guidance of those naming horticultural varieties. Some of the features of the earlier edition which are retained in the present volume are the dropping of capital initials for all species and botanical varieties, the changing of the double "i" ending to single "i", the adoption of one standard common name for each plant, and the consolidation of compound names. [illegible] of the 1942 edition include eliminating the hyphen. The [illegible] of the 1942 edition [illegible] the use of new symbols for the class [illegible] pronunciation guide, the use of new symbols for the class [illegible] and polyploids, a short glossary and a list of 770 new forest-tree names as approved by the United States Forest Service

BLAKE, S F

Guide to popular floras of the United States and Alaska. An annotated selected list of nontechnical works for the identification of flowers, ferns, and trees. Washington, D C. Government Printing Office 1954 56 p. 23 cm. (United States. Department of Agriculture. Bibliographical bulletin no 23) $0.25 1998

Contents Introduction. General publications. Publications listed by regions. Publications listed by states. Index to authors.

Note Under "General publications" in this bibliography are listed 77 works devoted to American plants regardless of region or state. Under "Publications listed by regions" are grouped 51 for the Northeastern region, 11 for the Pacific region, 6 for the Southeastern region, and 20 for the Western region. Under Alaska, the District of Columbia, and the individual states except Rhode Island, are listed the names of 707 additional publications dealing with the flora of these states. Complete publishing details are given for each title, followed by a brief note describing the contents. Out-of-print publications are listed as well as those still in print.

FINAN JOHN J

Maize in the great herbals. With a foreword by Edgar Anderson. Waltham Chronica Botanica Company 1950 191 p illus. 26 cm. $3.00. 1999

Contents (abridged) Maize in post-conquest Hispanic America Descriptions of maize by Spanish chroniclers. Use of maize by the natives of the New World. Maize in the great herbals of Europe Discussions of maize in the herbals—The German herbalists—Herbalists in the Low Countries—The Italian herbalists—The Spanish herbalists—The herbalists in Switzerland—The English herbalists. Appendices The woodcuts of the great herbals. Passages from original texts quoted and translated. Bibliography

Note A scholarly study of the history of the introduction of maize into Europe. It is based on a detailed study of descriptions and illustrations in herbals. The author shows that two general types of maize are represented in these works, one of which may have been brought to Europe from Asia, and the other of which was undoubtedly brought to Europe from America by Columbus and other Hispanic explorers. The book is thoroughly documented; also, it contains reproductions of about 25 illustrations of the maize plant that originally appeared in the herbals.

JOHANSEN DONALD ALEXANDER

Plant embryology embryogeny of the Spermatophyta. Waltham Chronica Botanica Company 1950 305 p illus. 27 cm. (A new series of plant science books edited by Frans Verdoorn. Vol. XXIV) $6.00 2000

Contents Introduction Cycadophyta. Ginkgophyta. Coniferophyta: Pinaceae. Araucariaceae. Sciadopityaceae. Taxodiaceae. Cupressaceae. Podocarpaceae. Pherosphaeraceae. Cephalotaxaceae. [illegible]. Taxaceae. Ephedrophyta: Ephedraceae. Gnetaceae. Welwitschiaceae. Anthophyta General considerations. Types and variations. Special and comparative embryology Apomictic embryogeny Adventitious embryogeny Polyembryony Glossary Index to phyla, orders, and families. Index to genera and species. Recapitulatory tables.

Note A systematic discussion and summary of knowledge in the field of the embryology of gymnosperms and angiospermous plants. It is limited to consideration of embryogenesis, embryotectonics, embryogeny and embryonomy with occasional reference to such topics as megasporogeny and fertilization. References to the literature in English, French, German, and Italian are found at the ends of the sections. The original manuscript was completed in 1944 additions were subsequently made to bring the literature up to the end of 1946

JOHANSEN DONALD ALEXANDER

Plant microtechnique. New York McGraw Hill Book Company Inc., 1940 523 p. illus. 23 cm. (McGraw Hill publications in the botanical sciences E W Sinnott, consulting editor) $8.50 2001

Contents Section I, General methods Introduction. Laboratory rules Apparatus. Reagents. Killing and fixing. Stains. Staining procedures. Special methods. Whole-mount methods. The glycerin method. Celloidin methods. Paraffin methods. Smear methods. Cytological methods. Microchemical methods. Sources of materials. Section II, Special methods for the various phyla Schizophyta. Chlorophyta. Euglenophyta. Pyrrophyta. Chrysophyta. Phaeophyta. Cyanophyta Rhodophyta. Myxothallophyta. Mycophyta (Eumycetae) Bryophyta. Pteridophyta Cycadophyta Coniferophyta Anthophyta. Index.

Note A standard, comprehensive manual of microscopic techniques useful in the study of botany It describes a wide range of methods specifically and in detail It includes also numerous formulas for culture media, stains, etc. As the above Contents shows, it is organized in two sections, one dealing with methods that are generally applicable and one dealing with special methods applicable to the study of individual phyla. Techniques of photomicrography and palaeobotany are not covered.

KELLEY, ARTHUR PIERSON

Mycotrophy in plants, lectures on the biology of mycorrhizae and related structures Waltham Chronica Botanica Company 1950 223 p illus 23 cm. (A new series of plant science books edited by Frans Verdoorn. Vol XXII) $5 00 2001A

Contents The rise of mycotrophic study The occurrence of mycorrhizae. The fungal endophytes. Fossil mycorrhizas. Distribution of mycotrophic plants. Mycotrophic plants and their environment. Mycothalli and mycorrhizomes. Mycodomatia. Structure of mycorrhizae. Obligate symbiosis. Theories of mycotrophy Mycotrophic phagocytosis. Bibliography Subject index. Index of plant names.

Note A survey of the current knowledge of mycotrophy The author believes that the mycorrhizae represent a type of fungus symbiosis, and that they are essential to the existence of many host plants. However he also presents the conflicting views held by other authorities. Although organized as lectures under the subheadings noted above, the book is essentially a digest of the published literature down to 1947

MEDSGER, OLIVER PERRY

Edible wild plants With an introduction by Ernest Thompson Seton. Illustrated with eighty pen and ink drawings and nineteen photographs New York The Macmillan Company, 1939 323 p illus 21 cm. $6 95 2002

Contents Edible wild fruits. Edible nuts. Edible seeds and seed pods. Salad plants and potherbs. Edible roots and tubers. Beverages and flavoring plants. Sugars and gums. Mushrooms. Finding indices Edible plants of northeastern United States and eastern Canada west to the Mississippi River Edible plants of southern United States. Edible plants from the Mississippi River to the Rocky Mountains. Edible plants of the Rocky Mountains and Pacific states. General index.

Note. This manual does not include all the edible plants in the United States and Canada, a few having been omitted intentionally because of their rarity or limited range. In certain large groups, such as the blackberries, blueberries, etc., only a few important species are described. The work includes species from nearly all of the chief orders of flowering plants, as well as a few lower forms of plant life. There are numerous drawings and photographs as well as a "finding index" which gives the names of plants, both common and scientific, with the range, season, and a few of the most pronounced characteristics. The work is based mainly on the existing literature of the field.

MERRILL, ELMER DREW

Merrilleana a selection from the general writings of Elmer Drew Merrill. Waltham Chronica Botanica Company 1946 393 p illus 26 cm. (Chronica botanica. Vol 10, nos 3 and 4) $4 00 2003

Contents The ascent of Mount Halcon. Amboina floristic problems in relation to the early work of Rumphius. Comments on Cook's theory as to the American origin and prehistoric Polynesian distribution of certain economic plants, especially *Hibiscus tiliaceus* Linnaeus. On the flora of Borneo Die Pflanzengeographische Scheidung von Formosa und den Philippinen. An appeal for simplified literature citations. Correlation of the indicated biologic alliances of the Philippines with the geologic history of Malaysia. Lepromy bows to science. One-name periodicals. On Loureiro's "Flora Cochinchinensis. Scuttling Atlantis and Mu. Palisot de Beauvois as an overlooked American botanist. On the technique of inserting published data in the herbarium. On the significance of certain Oriental plant names in relation to introduced species. Domesticated plants in relation to the diffusion of culture. Index Kewensis in improved loose leaf ledger form. A simple change in name. Man's influence on the vegetation of Polynesia, with special reference to introduced species. Some economic aspects of taxonomy Rafinesque's publications from the standpoint of world botany Sir David Prain (1857 1944) In defense of the validity of William Bartram's binomials. Further notes on tobacco in New Guinea.

Note Representative writings of an eminent American botanist are collected in this volume, without change in their text from the original publications. References are given to the original appearances in journals. Also included is a condensed chronological tabulation of the outstanding events in the author's life and a bibliography of all of his writings.

MOLDENKE, HAROLD N, AND ALMA L MOLDENKE

Plants of the Bible. Waltham Chronica Botanica Company, 1952 328 p illus 26 cm (A new series of plant science books edited by Frans Verdoorn. Vol. XXVIII) $7 50 2004

Contents (abridged) Historical sketch. Description of the land. Helps to users of this work. Unidentified plant references. Bibliography Supplementary notes. Index to Bible verses. General index.

Note A study of biblical botany by botanists. It provides botanical identifications for most of the plants mentioned in the Bible, quotes the books and verses in which specific plants are mentioned and, in most instances, provides a discussion of some length on variant names in old manuscripts and in various translations. Uses of the plants and other miscellaneous topics are discussed. Illustrations of some of the plants are provided in a series of plates. An index to Bible verses is supplemented by a very full general index.

PEATTIE, DONALD CULROSS

Flowering earth Wood engravings by Paul Landacre New York G P Putnam's Sons. 1939 260 p illus 21 cm. $3 75 2005

Contents On striking your roots. On branching out. Chlorophyll the sun trap. What a plant is. Protoplasm—the body of life. The seeds of life. The first algae. The seaweeds. The fern forests. Diatoms—grass of the sea. Conifers and cycads. The [illegible] of the modern flora. A transplanting. A garden alliance. The moment of flowering. The sleep of the seed. Growth. The web of life. Bibliography Index.

Note. A readable discussion of the fundamentals of plant history written for the interested layman. The style is intentionally literary and is aimed at conveying a sense of the beauty and mystery of the growth of plants, from the primeval algae to the flora of the present-day forests and gardens. Such topics as the relation of insects and birds to the cross-fertilization of plants, the mystery of life as represented in the longevity and impermeability of the seed, and the extinction of the fern forests of the Carboniferous period are treated in a somewhat poetic and philosophic fashion

PLATT, RUTHERFORD HAYES

This green world. With illustrations from photographs by the author New York Dodd, Mead and Company 1942 222 p illus. (part col'd) 25 cm $6 00 2006

Contents: Trees. Listen to them grow—introductory World's greatest waterworks. Hundred-mile roots Inside information on tree trunks. Green leaves as food factories. The dynamic spiral of plants. What happens to make autumn colors. Winter buds and how they work. Flowers. The spectrum marches across the pasture. Seeing color the year round. The day-length director's [illegible] of flowers. Tree and grass equipment for wind pollination. [illegible] jewelry and how flowers guard it. How flowers and insects [illegible] each other The precision tools of cross-pollination. Flower [illegible] —the products of nature' assembly line. From buttercups to [illegible] worts. From mints to orchids. Supplements. Indexes.

Note. A handsomely illustrated volume presenting an introduction to the world of plant life from the viewpoint of the amateur naturalist and the general reader who desires knowledge of the way plants live The author although primarily a photographer rather than a professional botanist, writes with an estimable degree of scientific accuracy A feature of the book is the collection of 133 excellent photographs by the author 41 of which are in natural color An annotated list of 24 books for the layman on trees, flowers, pollen, and plants in general is given in the appendix.

REED HOWARD SPRAGUE

A short history of the plant sciences. Waltham Chronica Botanica Company 1942 320 p. illus. 27 cm. (A new series of plant science books edited by Frans Verdoorn. Vol. VII) $6.50. 2007

Contents: Introduction. Gardeners and herbalists of antiquity. The ancient period, from the sixth century B.C. to the end of the second century A.D. The interpretative period, from the beginning of the third to the end of the twelfth century. The transitional period, from the beginning of the thirteenth to the end of the sixteenth century. The seventeenth century. The eighteenth century. Gardens and other trends. Plant geography in the nineteenth century. Morphology. Cytology. The water economy of plants. The fixation of carbon by plants. The assimilation of nitrogen. The fixation and metabolism of nitrogen. Plant nutrition. Mineral constituents in metabolism. Mycology. Plant pathology. Significant names in the history of botanical science. Index.

Note: This history of botany is intended for the average graduate student and others of similar educational background. It attempts to give a readable account of the growth of the plant sciences from early times to the present. The discovery and domestication of plants, ancient records, voyages and discoveries are discussed with reference to the progress of the sciences, and to the growth of specialization and the formation of scientific societies and research institutions throughout the world. The progress in various provinces of botany since the beginning of the 20th century receives particular attention. References are given at the end of each chapter.

RICKETT HAROLD WILLIAM

The green earth an invitation to botany Revised printing. New York The Ronald Press Company 1951 359 p. illus. 23 cm $3.50 2008

Contents: Prologue. Of the green color of leaves and what comes of it. Of the anatomy of leaves. Of the architecture of plants. Of the growth of plants. Of the purposes of plants. Of flowers and their fruits. Of the [illegible] of [illegible] . Of [illegible]. Of [illegible] and [illegible]. [illegible] for old. The end of things. Epilogue. Index.

Note: A distinguished book for lay readers. The fundamental principles of plant life are the subject, and no attempt is made to describe a wide range of plants nor to cover even in an elementary way the traditional contents of introductory college courses in botany. On the other hand, the elements of plant physiology, plant evolution, and other basic aspects of botany are described in a style that is a pleasure to read. The illustrations, all from drawings, are in harmony with the text. The book was published in 1943 and a "revised printing" without major changes except for the addition of an index was issued in 1951 and is described here.

RICKETT HAROLD WILLIAM

The Royal Botanical Expedition to New Spain, 1788–1820 as described in documents in the Archivo General de la Nación [Mexico] now translated and collated by Harold William Rickett. Waltham Chronica Botanica Company 1947 86 p. illus. 26 cm. (Chronica botanica. Vol. 11 no 1) $2.50 2009

Contents: Sessé. Establishment of the Royal Botanical Garden. Mociño. Explorations of Mexico. Sessé. The West Indies. Longinos Martínez. Mociño on the expedition. Cervantes. The Botanical Garden and the teaching of botany. Sessé and Mociño. Return to Spain. Appendices: Plants introduced into the Royal Botanical Garden of Mexico. Names and dates of certain graduates of the course in botany of the Royal Botanical Garden. References. Index.

Note: From the incomplete evidence preserved in the Archivo General de la Nación of Mexico the author has compiled a brief account of the expedition sent by King Charles III of Spain in 1787 to survey the flora and fauna of New Spain and to establish a botanical garden. The report, meant primarily as a contribution to the history of botany, sheds also an interesting light on the relation between government and science during that period.

SASS JOHN EUGENE

Botanical microtechnique. Second edition. Ames The Iowa State College Press 1951 228 p. illus. 23 cm. $4.50 2010

Contents. Part I. General principles and methods. Introduction. Collecting and subdividing plant materials. Killing, fixing, and storing plant tissues. Dehydration for embedding. Infiltration and embedding in paraffin wax. Microtome sectioning of material in paraffin. Staining paraffin sections. The celloidin method. Sectioning unembedded tissues. The preparation of whole mounts and smears. Criteria of successful processing. Part II. Specific methods: Introduction. Vegetative organs of vascular plants. Thallophyta and Bryophyta. Reproductive structures of vascular plants. Microscope construction, use, and care. Photomicrography. Index.

Note: An introductory manual designed primarily for use in instruction rather than for reference. Nevertheless, the descriptions of techniques are specific, and a few selected formulas are included. The author is Professor of Botany in Iowa State College.

VENNING FRANK D

Manual of advanced plant microtechnique. Dubuque, Iowa Wm. C Brown Company 1954 96 p. 29 cm. $4 00 2011

Contents: General laboratory procedures and techniques. Dehydration and embedding. Softening and sectioning. Stains and staining procedures. Mounting, coverslipping. Ding. Special techniques for special structures. Microchemical methods. Whole mount methods. Some specific techniques. Cytological methods. Pollen grains and pollen tubes. Smear and squash techniques for chromosome studies. The fixation of cytological material. Techniques involving sections for cytological studies. Author index. Subject index.

Note: Techniques and formulas of particular interest to advanced botanical microtechnicians are published in this volume. Most of the information has been collected from the literature and literature references are given to the sources. However, methods and formulas are both described in detail, thus making reading of the source literature unnecessary in most instances.

WATT LUCITA HARDIE

Fairchild Tropical Garden the first ten years. New York The Ronald Press Company 1948 381 p. illus. 21 cm. $3 00 2012

Contents (abridged): How the garden got its start. Early planting. The Bailey vine collection. The buildings. The expeditions. The Bailey palm glade. The palm products museum and its contents. The library and its books. Publications. The plant and seed distribution. The staff. Finances. Looking forward. Appendix: Trees and plants donated during the ten years.

Note: The Fairchild Tropical Garden, near Miami, Florida, was established in 1938 with the view of maintaining, for purposes of display and study, a representative collection of tropical flora. The garden is particularly noted for its extensive collection of palms and related families of trees. This volume traces the development of the garden and serves as a history and record of what has been accomplished during the first decade of operation.

YOCUM LAWSON EDWIN

Plant growth. New York The Ronald Press Company 1945 203 p illus. 24 cm. $3 40 2013

Contents (abridged): Seeds and seedlings. Cell structure and protoplasm. Roots. Absorption of water and mineral salts. The soil. Stems and buds. Pruning and training plants. Propagation. Leaf structure. Food making. Transpiration. Insects and diseases. Weeds. Flowers. Hybridizing plants. Heredity and variation in plants. Plant hormones. Fertilizers. Rest period of plants. Glossary.

Note: An easy-to-read book in which an exposition of elementary botany is combined with some essentials of successful gardening. It is addressed chiefly to persons whose curiosity about plants and plant life is aroused by their interest in home gardening.

GENERAL TEXTBOOKS

FULLER, HARRY J, AND OSWALD TIPPO

College botany Revised edition. New York Henry Holt and Company, Inc., 1954 993 p illus (part col'd) 24 cm $8 95 2014

Contents (abridged) Part I The nature of plants and plant study Part II The structure physiology and reproduction of flowering plants: Seed structure and germination. The gross structure and activities of seed plants. The microscopic structure of plants, cells and tissues. The physiology of plant cells. The structure and physiology of roots. The gross structure of stems. The internal structure of stems. The properties and uses of wood economic importance of stems. The structure and economic importance of leaves. The physiology of leaves. Growth and irritability The structure and functions of flowers. Fruit development and structure Variation and heredity in plants—plant breeding. Part III, The plant kingdom. Part IV The distribution of plants in time and space Plant evolution. The relation of plants to their environments. Part V Plants and man Glossary Index.

Note A textbook intended for use in full length introductory courses in colleges. The range of material included is broader than in some contemporary texts designed for beginning college students of botany More than the usual amount of material is included on plant physiology and on economic botany Part II on structure, physiology and reproduction is 479 pages long in contrast to the 323 pages of Part III, which contains the descriptions of the chief plant groups. There are a high number of illustrations and a useful glossary The book is suitable for use in courses offered to students who are planning no further work in biology and also to those who are preparing for careers in economic botany or other fields where the applications of botany are important. The first edition was published in 1951 Changes in this revised edition are few

FULLER, HARRY J

The plant world, a text in college botany Third edition. New York Henry Holt and Company, Inc 1955 584 p illus (part col'd) 24 cm $6 95 2015

Content (abridged) The nature of plant science. Seed structure and germination. The gross structure and activities of flowering plants. The microscopic structure of plants—cells and tissues. The physiology of plant cells. Roots and the relation of roots to soils. The origin and gross structure of stems. Wood and the economic uses of stems. The physiology of stems and its practical implications. The origin and structure of leaves. The physiology of leaves. Metabolism. Growth and irritability The structure and functions of flowers. Fruit development and structure Heredity in plants—plant breeding. *The principles of plant classification.* Thallophyta Embryophyta. Tracheophyta. The evolution of plants. The distribution of plants on the earth. Plants and man. Glossary Index.

Note A shorter text than *College botany* written by Professor Fuller in collaboration with Professor Oswald Tippo and described below It is intended for use in one-semester courses. A considerable part of the expository text and many of the illustrations are common to both books. Omitted from this book are such sections as the one entitled "The major groups of plant products" which is to be found in the terminal chapter of the longer book. However not all of the shortening has been accomplished by omission. Numerous sections have been condensed by rewriting. The second edition was published in 1951 This third edition includes various revisions in text and illustrations.

HAUPT, ARTHUR W

An introduction to botany Third edition New York McGraw Hill Book Company Inc., 1956 447 p illus 24 cm (McGraw Hill publications in the botanical sciences Edmund W Sinnott consulting editor) $5 50 2016

Contents Part I, The structure functions, and life relations of seed plants Introduction The plant cell. Protoplasm The root. The stem. The leaf Metabolism. Growth and movement. Environmental relations. The flower and fruit. Floral evolution and pollination Seeds and *seedlings Heredity* and plant breeding. The principle of evolution. Part II, The evolution of the plant kingdom The algae. The fungi. Liverworts and mosses. Club mosses, horsetails, and ferns. *The seed plants.* Chief families of flowering plants. Plant life of the past. Glossary Index.

Note. A textbook designed for use in short courses offered to undergraduate college students. It presents a simple, balanced treatment of elementary but *fundamental* knowledge. There is scarcely more emphasis on structure than on other aspects of the subject. Part I is 258 pages long and Part II, 154 pages. In this third edition, there are 297 figures including portraits of botanists, drawings of plant elements, photographs of habitat scenes, etc. The second edition was published in 1946. Two new chapters, many new illustrations and a 20-page glossary have been added in this third edition.

HILL, JOHN BENJAMIN, AND OTHERS

Botany, a textbook for colleges. By J Ben Hill, the late Lee O Overholts and Henry W Popp Second edition New York McGraw Hill Book Company Inc., 1950 710 p. illus. 24 cm. (McGraw Hill publications in the botanical sciences, Edmund W Sinnott, consulting editor) $7 50 2017

Contents (abridged): Part I, Structure and physiology of seed plants Coloration in plants. Plant cells. Leaves. Metabolism—photosynthesis. Roots. Absorption of water and inorganic salts. Stems. Growth and movement. Flowers. Fruits, seeds and seedlings. Part II, *The plant groups Plant classification and nomenclature.* Thallophyta. Bryophyta. Tracheophyta or vascular plants. Families of angiosperms. Heredity Index.

Note An introductory textbook for full-length college courses. No single aspect of the subject is emphasized Instead, the student is given a broad view of the field and also considerable detail of information. In this edition material has been added on several developments that have occurred since 1936 including antibiotics, hormones, and the uses of radioisotopes in botanical research. Several chapters have been rewritten and many of the 333 figures have been improved.

NORTHEN, HENRY T

Introductory plant science. New York The Ronald Press Company, 1953 601 p illus 24 cm $5 50 2018

Contents Botany in human affairs. Kinds of plants. From seed to plant. Units of protoplasm—cells. Absorption of materials by cells. Food manufacture—photosynthesis. Food utilization—respiration Structure of leaves. Water Roots. Soils. Stems. Water stress. Conduction. Metabolism. Growth. Plant hormones Reproduction of seed plants—asexual methods. Sexual reproduction—flower structure. Sexual reproduction of seed plants. Seeds, seedlings and fruits. Factors affecting flowering. Genetics. Variations. Plant communities. The nature of plant communities. Conservation Evolution. Groups of plants. Algae. Fungi—bacteria. Slime molds and true fungi. True fungi. Mosses, liverworts, and hornworts. *Primitive vascular plants.* Ferns. Gymnosperms. Angiosperms. Index.

Note Botany is made interesting for the average college student in this skillfully written, elementary textbook. A broad view is given of the science, and its importance to man is stressed at appropriate points. The expository text is written in a lively style and the illustrations, which are numerous, have been well selected to stimulate interest on the part of the reader. The book is suitable for use in short courses offered primarily for the benefit of students who do not plan to pursue further *study of* botany It is also suitable for lay readers who wish a more substantial book than the strict popularizations. The author is Professor of Botany in the University of Wyoming.

ROBBINS, WILFRED WILLIAM, AND T ELLIOT WEIER

Botany an introduction to plant science New York John Wiley & Sons Inc., 1950 480 p illus. 25 cm 2019

Contents: Introduction. The plant world. Classification and naming of plants. The plant body of seed plants. The plant cell. The stem. The roots. The leaf The flower The fruit, seed, and seedling. Inheritance. The plant as a living mechanism The groups of plants. The fission plants. The algae. The fungi. The viruses. The bryophytes. The vascular plants. Evolution. Index.

Note: A college textbook which is shorter and more briefly [illegible] than some textbooks written at this level. It is suited to the needs of students whose main interest in the subject is cultural. Its simplicity [illegible] the needs of those [illegible] students who wish to study the subject [illegible] the breadth of its treatment. The authors are members of the faculty of the College of Agriculture of the University of California. A second edition, revised by the authors [illegible] and C. Ralph Stocking, was published in [illegible]. [illegible]

ROBBINS WILLIAM JACOB AND HAROLD W RICKETT

Botany: a textbook for college and university students. Third edition. Princeton D Van Nostrand Company Inc., 1939 658 p. illus. 23 cm. $6.50. 2020

Contents: The living plant: Introduction. Growth. Cells. Roots. Stems. Leaves. Water. Foods and nutrition. Life and energy. [illegible] and response. Reproduction. Heredity. The nature of life. The kinds of plants: Introduction to the plant kingdom. Algae. Fungi. Bryophyta. Filicineae. Lycopodineae and Equisetineae. Gymnospermae. Angiospermae. The origin of life. The evolution of life. The distribution of plants on the earth. Questions for review and discussion. Appendix. References. Index.

Note: This textbook is designed for study by students in their first year at college. It provides a thorough elementary account of the basic [illegible] processes and structures, and of each of the various types of plants and their [illegible] characteristics. The text part includes discussions of the general principles of heredity and such fundamental types of heredity and reproduction.

SINNOTT EDMUND W., AND KATHERINE S WILSON

Botany: principles and problems. Fifth edition. New York McGraw Hill Book Company Inc., 1955 528 p. illus. 26 cm. (McGraw-Hill publications in the botanical sciences Edmund W Sinnott, consulting editor) $6.95 2021

Contents (abridged): Plants and life. Plant science and its development. The physical basis of life. The root. The leaf. The stem. Metabolism. Growth. Development and morphogenesis. Plants and its environment. Plant [illegible]. Reproduction. Heredity and variation. Plant evolution. Algae. Fungi. Bryophyta. Psilopsida. Lycopsida. Sphenopsida. Ferns. Gymnosperms. Angiosperms. Botany and the future. Appendix. Index.

Note: This standard American textbook was first published in 1923; the fourth edition appeared in 1946. The material in this fifth edition has not only been reorganized and revised but given an [illegible] and inviting format. The original conceptual [illegible]; the plant is studied as a functioning structure; the chapter "Questions for thought and discussion" is practical; and the presentation does not assume more scientific knowledge than the beginning student will have. Throughout, the authors include up-to-date scientific information appropriate to an elementary text. Among major changes are [illegible] chapters on metabolism and expanded discussions of photosynthesis and respiration. The numerous illustrations are clearly reproduced; many of the photographs have artistic as well as botanical merit.

SMITH GILBERT M

Cryptogamic botany. Second edition. New York McGraw-Hill Book Company Inc., 1955 2 v. illus. 24 cm. (McGraw Hill publications in the botanical sciences Edmund W Sinnott, consulting editor) Vol. I, $9.50; vol. II, $5.50. 2022

Contents: Volume I, Algae and fungi: The classification of spore-producing plants. Chlorophyta. Euglenophyta. Pyrrophyta. Chrysophyta. Phaeophyta. Cyanophyta. Rhodophyta. Myxomycophyta. [illegible]. Phycomycetes. Ascomycetes. Basidiomycetes. Deuteromycetes. Lichens (Lichenes). Index. Volume II, Bryophytes and pteridophytes: Bryophyta and pteridophyta. [illegible]. Hepaticae. Anthocerotae. Musci. Pteridophyta. [illegible]. Psilophyta. Lepidophyta. Calamophyta. Pterophyta. Index.

Note: A college textbook designed for the instruction of students who have completed introductory courses in general botany. Its subject is the classification and morphology of plants below the level of seed-bearing plants. It is not encyclopedic but instead offers [illegible] through treatment of representative genera in each of the major groups. The illustrations are well executed, and they include many series that show in sequence the development of specific plants. Literature references are given. The first edition was published in 1938. Revisions in the second edition include rewritten discussions of the major taxa, revised descriptions of some genera, and additions to the bibliographies. The number of figures in Volume I is now 311 and in Volume II, 224. Many of the figures contain several drawings.

SMITH GILBERT M., AND OTHERS

A textbook of general botany. Fifth edition. By Gilbert M Smith, Edward M. Gilbert, George S Bryan, Richard I. Evans, John F Stauffer. New York The Macmillan Company 1953 606 p. illus. 24 cm. $6.25 2023

Contents: Plants, animals, and man. The life cycle of a seed plant. Cells—general structure and functions. Nucleus and cell division. Roots. Stems. Buds. Leaves. The nutrition and metabolism of plants. The water relations of plants. Growth and movement. The classification of plants. Meiosis and the life cycle of plants. Algae—Chlorophyceae—Myxophyceae—Phaeophyceae—Rhodophyceae. Fungi—Schizomycetes—Myxomycetes—Phycomycetes—Ascomycetes—Basidiomycetes. Lichens. Bryophyta—Hepaticae and Anthocerotae—Musci. Tracheophyta. Psilopsida. Lycopsida. Sphenopsida—Pteropsida—Filicineae—Pteropsida—Gymnospermae—Pteropsida—Angiospermae. Fruits and seeds. Fossil plants. Inheritance and variation. The major regions of vegetation in North America. Index.

Note: A standard work used in its various editions in introductory college courses since the first edition was published in 1924. It presents a rounded view of the field of botany with slightly less than half of the space devoted to the systematic descriptions of plant groups, and the remainder devoted to anatomy, physiology, genetics, etc. The fourth edition was published in 1942. The book's scope remains essentially the same in this edition but there has been some reorganization and some new material added on such topics as embryology, photosynthesis, and plant hormones. There are now [illegible] illustrations. The group of authors includes two new names. The senior author is presently a member of the faculty of Stanford University and the others are members of the faculty of the University of Wisconsin.

TAYLOR, WILLIAM T., AND RICHARD J WEBER

General botany. Illustrated by Wilma Riley. Princeton D Van Nostrand Company Inc., 1956 346 p. illus. 24 cm. $5 [illegible] 2024

Contents (abridged): Introductory concepts: Botany and its relationships. Chemical principles and the organization of protoplasm. Plant cells. Taxonomy of plants. Phylum Tracheophyta—Pteropsida—Angiospermae: Plant tissues and organs. The root. The leaf. Plant metabolism. The flower. Phylum Thallophyta. The algae. The fungi. The lichens. Phylum Bryophyta. Phylum Tracheophyta—other subphyla. Genetics and evolution. Index.

Note: Although shorter than many of the established introductory college texts in botany and designed by the authors primarily for use in one-semester courses, the book [illegible] presentation of the most simple aspects of the science of botany. Technical terminology is used freely and such aspects as the anatomy of leaves and stems are described in considerable detail. There is more emphasis on plant structure and physiology than on taxonomy and the morphological characteristics of plant groups. In fact, the chapters devoted to individual plant groups cover such matters as the general characteristics of the group, the methods of reproduction, and the chief features of structure; and no attempt is made to present the conventional taxonomic and morphologic descriptions. The illustrations are exceptionally good. A considerable number present three-dimensional views, and all are clear and well reproduced. The authors are members of the faculty of Georgetown University.

TORREY RAY ETHAN

General botany for colleges with 257 illustrations. New York. Appleton-Century Crofts Inc., 1932 449 p. illus. 23 cm. $4.50. 2025

Contents Part I, The structure and classification of seed plants The seed plant and its organs. The seed and its germination. The root. The stem. The leaf. The inflorescence and the flower The fruit and the seed. General ecology Part II, The anatomy and physiology of seed plants The structure of the cell. The activities of the cell-physiology Anatomy of the vegetative system of the seed plants. Coal and its formation The physiology of the vegetative system. The reproduction of seed plants. Part III The evolution of the plant kingdom Schizophyta. Algae (Phycophyta) Fungi (Mycophyta) Embryophyta. Tracheata. Summary Conclusion. Index.

Note A long-established introductory textbook. Although not revised for many years, it is still valuable for its sound factual presentation of the fundamentals of botanical science.

WEATHERWAX, PAUL

Botany Third edition. Philadelphia W B Saunders Company 1956 509 p illus (part col'd) 24 cm $5 75 2026

Contents I, General principles Introduction. Cells and living material. The manufacture of food. How plants use food. The mechanism of metabolism. Transport of materials. Leaves. Roots. The soil. Stems. Tissue systems. Wood and its uses. Specialized organs. Growth. Responses to stimuli. Reproduction—asexual methods. Simple sexual reproduction. Reproduction by seeds. Dormancy and dispersal. Heredity Ecologic relations. Evolution. II, The plant kingdom Classes and names. Thallophyta—algae—bacteria and slime molds—true fungi. Bryophyta. Tracheophyta—the "fern allies, Pteropsida—ferns—gymnosperms—angiosperms Pollination. The course of evolution in plants. Glossary Index.

Note The author designed this book primarily for use in short, introductory courses and for the botany part of elementary general biology courses. It presents the fundamental principles and facts of plant morphology physiology and reproduction in the first part, and in the second part, descriptions of some of the chief plant groups. Lacking are the discussions of applications of botany which are found in some texts of this kind. The style is relatively free of technical terms. In view of the book's purpose a reasonably wide range of material is presented. Also there is a high number of illustrations. The author is Professor of Botany in Indiana University

WILSON, CARL L

Botany With line drawings by Hannah T Croasdale. New York The Dryden Press 1952 483 p illus 26 cm $6 90 2027

Contents. The science of botany Plants, their nature and use. The plant plan and its modifications. The cell as the basis of plant life. The matter and mechanics of cells. Photosynthesis and the leaf Respiration and digestion The structure and growth of stems. Plants and water The root and the soil. Natural cycles and plant life. Growth and movement. Vegetative reproduction. The flower and seed production. The fruit, the seed, and seed germination. Plants in their environment. How plants inherit. The mechanisms of evolution The names and kinds of plants. The algae. The bacteria. Bacteria and man. The fungi. The liverworts and the mosses. The ferns. Early land plants and their evolution. The club mosses and the horsetails. The gymnosperms. The angiosperms. Glossary Index.

Note An introductory textbook written at the college level and designed primarily for students who do not plan to major in botany A general but fairly comprehensive view of the field is given with the emphasis on basic knowledge and functions rather than classification. The illustrations are of excellent quality and are numerous. The printing is in red and black A second edition by Carl L. Wilson and W E. Loomis was published in 1957 518 p $7.25

ECOLOGY

CLEMENTS, FREDERIC EDWARD

Dynamics of vegetation selections from the writings of Frederic E Clements Compiled and edited by B W Allred and Edith S Clements New York Hafner Publishing Company 1949 296 p illus. 23 cm. $4 50 2028

Contents. Plant succession and human problems. Competition in plant societies. Plant indicators. Nature and structure of the climax. The relict method in dynamic ecology Climax, succession and conservation *Climatic* cycles and human populations in the Great Plains. Ecology in the public service. Glossary Index.

Note A compilation of previously published writings by a botanist who made a life-long study of ecology first at the universities of Nebraska and Minnesota, later and until his death at the Carnegie Institution of Washington. The illustrations are from photographs and are reproduced on 70 plates, [illegible] to [illegible] plate.

DAUBENMIRE, REXFORD F

Plants and environment, a textbook of plant autecology New York John Wiley & Sons, Inc., 1947 424 p illus 22 cm. $4 50 2029

Contents Introduction. The soil factor The water factor The temperature factor The light factor The atmospheric factor The biotic factor The fire factor The environmental complex. Ecologic adaptation and evolution. Literature cited. Index.

Note An interesting, well-organized survey of the effects of environmental factors upon plant life. It is more detailed than the chapter titles indicate for example, some of the subtopics in the chapter entitled "The atmospheric factor" are gas exchange between plants and the atmosphere factors that affect soil aeration injuries to plants by wind, salt spray and snow pollination and plant dissemination by wind. The bibliography contains [illegible] references. The work is designed as a college textbook, but other groups such as foresters and amateur naturalists will find it of interest

OOSTING, HENRY J

The study of plant communities, an introduction to plant ecology Second edition. San Francisco W H. Freeman and Company 1956 440 p illus 22 cm. $6 00 2030

Content Part I, Introduction Ecology and its subject matter. Part II, The plant community Nature of the community Vegetational analysis—quantitative methods—phytosociological objectives. Part III, Factors controlling the community The environment. Climatic factors—radiant energy light, and temperature—[illegible] Physiographic factors—Pedogenesis—Edaphology Biological factors. Part IV Community dynamics. Plant succession. The distribution of climax communities—present distribution of climaxes—shifts of climaxes with time. Part V Practical considerations: Applied ecology References cited. Index.

Note Although designed as an introductory text for undergraduate college students taking their first courses in plant ecology the book provides a comprehensive view of the field and detailed discussions of many sub-topics. Plant ecology is presented as an interesting and vital field of knowledge. Techniques of ecological study such as sampling, are described explicitly Many technical topics, such as the movement of soil water, that might have been left out of a less substantial text are accorded several pages of space. The level of treatment assumes a fair amount of knowledge of basic botany including plant physiology The list of references cited contains 419 entries in addition to which there are selected lists of books intended as guides to further reading. There are nearly 200 figures, of which many are reproductions of photographs. The first edition was published in 1948. In this second edition numerous sections have been revised and rewritten including the discussion of succession and climax. The list of references has been substantially extended, and literature published since the first edition was written has been added.

WEAVER, JOHN ERNEST, AND FREDERIC E. CLEMENTS

Plant ecology Second edition. New York McGraw Hill Book Company, Inc., 1938. 601 p illus 23 cm. (McGraw Hill publications in the botanical sciences E W Sinnott, consulting editor) $8 50 2031

Content Vegetation its origin development, and structure Methods of studying vegetation. Plant succession. The units of vegetation. Initial causes of succession. Migration, ecesis, and aggregation. Competition and invasion Soil in relation to plant development. Reaction and stabilization. Climax and community development. Relation of under-ground plant parts to environment. Humidity wind, and evaporation. Temperature. Light. Plant response as a measure of environment. Adaptation to water Plant and plant communities as indicators. Climax formations of North America.

Note: A comprehensive textbook for students of plant ecology and guide for workers in related fields, written from the standpoint of development, instrumentation, and experiment. The book discusses the habitat's substance between plants or groups of plants and their environment—the relations of plant to habitat, whether the latter be natural or modified by cultivation. Experiments and exercises for greenhouse and laboratory are outlined in detail, and field studies are suggested. A long bibliography is included.

MORPHOLOGY AND TAXONOMY

AMERICAN SOCIETY OF PLANT TAXONOMISTS

Plant genera their nature and definition. A symposium by G. H. M. Lawrence and others. Proceedings of the Symposium on Plant Genera, organized by the American Society of Plant Taxonomists and the Systematic Section of the Botanical Society of America, at the meetings of the American Institute of Biological Sciences Cornell University Ithaca, N. Y., U. S. A. on September 10, 1952 Waltham Chronica Botanica, 1953 89–160 p. illus. 26 cm. (Chronica Botanica edited by Frans Verdoorn. Vol. 14 no. 3) $2.00. 2032

Contents: Editor's foreword. Introductory essay—generic concepts and modern taxonomy, by T. Just. Plant genera, their nature and definition—the need for an expanded outlook, by G. H. M. Lawrence. The anatomical approach to the study of genera, by I. W. Bailey. Floral anatomy as an aid in generic limitation, by A. J. Eames. Cytogenetical approaches to the study of genera, by R. C. Rollins. Cytology and embryology in the delimitation of genera, by R. E. Cave. Plant geography in the delimitation of genera—the role of plant geography in taxonomy, by H. L. Mason.

Note: The symposium of which this publication is a product was the second on plant genera held under the same sponsorship. The first one dealt with the concept of the genus and papers presented at it were published in the May 1951, issue of the *Bulletin* of the Torrey Botanical Club. The papers presented at the second one are published in full here, together with a long foreword by the editor of *Chronica Botanica* and the introductory essay by Theodor Just which runs to 12 pages. In both the foreword and the introductory essay the importance of the genus in botanical taxonomy and the need for intensive work in this area of botany are stressed. In the symposium papers, the dominant theme is that morphology is an inadequate basis for classification and that the modern taxonomist must take into account contributions from other scientific fields such as cytology, genetics, embryology and plant geography in setting up genera.

BAILEY, IRVING W.

Contributions to plant anatomy. Waltham Chronica Botanica Company 1954 259 p. illus. 24 cm. (Chronica Botanica edited by Frans Verdoorn. Vol. 15 nos. 1–6) $7.50 2033

Contents (abridged): Irving W. Bailey. Biographical sketch, by K. S. [illegible]. Author's bibliography. Part I, Cytology and ontogeny: Phenomena of cell division in the cambium of arborescent gymnosperms and their cytological significance. The formation of the cell plate in the cambium of higher plants. The cambium and its derivative tissues—III. A reconnaissance of cytological phenomena in the cambium—IV. The increase in girth of the cambium—V. A reconnaissance of the vacuome in living cells. Part II, Biochemistry and biophysics: The orientation of cellulose in the secondary wall of tracheary cells (in collaboration with M. R. Vestal). The significance of certain wood-destroying fungi in the study of the enzymatic hydrolysis of cellulose (in collaboration with M. R. Vestal). Part III, Phylogeny: The development of vessels in angiosperms and its significance in morphological research. Evolution of the tracheary tissue of land plants. Part IV, Taxonomy: Degeneriaceae—a new family of flowering plants from Fiji (in collaboration with A. C. Smith). The comparative morphology of the Winteraceae—II. Carpels (in collaboration with C. G. Nast). Part V, Ecological anatomy: Notes on neotropical ant-plants—I. *Cecropia angulata*. Part VI, Paleobotany: The cambium and its derivative tissues—VII. Problems in identifying the wood of Mesozoic coniferae. Part VII, Wood technology: The preservative treatment of wood—II. The structure of the pit membranes in the tracheids of conifers and their relation to the penetration of gases, liquids and finely divided solids into green and seasoned wood. Part VIII, Cooperation in scientific research: The role of research in the development of forestry in North America (in collaboration with H. A. Spoehr). References. Subject index. Author index. Index of plants and animals.

Note: A selection made by the author of his own papers at the request of the editor of *Chronica Botanica*. To use the author's words, "the papers in this book have been selected and arranged to illustrate successive attempts between 1909–1953 to bridge the gaps between Plant Anatomy and other fields of scientific endeavor." There are 20 papers arranged in eight groups, the titles of which are given above. References are given to the journal or book in which the paper was first published. A complete bibliography of the author's publications from 1909 to 1953 is included.

CORE, EARL L.

Plant taxonomy. Englewood Cliffs N. J. Prentice Hall, Inc., 1955 459 p. illus. 23 cm. $7.50 2034

Contents (abridged): The development of taxonomy. Modern classification. Plant exploration. The evolution and migration of floras. Climate and natural vegetation. Gardens and herbaria. The principles of taxonomy. Nomenclature. The literature of systematic botany. The vascular plants—pteridophytes, ferns, Psilopsida—Filicineae. Gymnospermae. Angiospermae—Monocotyledoneae—Dicotyledoneae. Glossary of common Greek and Latin roots. Index to technical terms. General index.

Note: Although undoubtedly designed as a text for introductory college courses in plant taxonomy, this book is also an elementary reference manual of the subject. The first part, which amounts to approximately half of the length of the work, is written from the historical point of view. It covers not only the history of plant taxonomy, both classical and modern, but also the history of plant exploration, the history of plants, the great gardens and herbaria, the development of nomenclature, and in addition contains a chapter on the literature of the field. The second part contains the expected and necessary descriptions of the major plant groups. The descriptions are, however, written for beginners and cover more than strict taxonomy. If, for example, the plant has economic importance, there is almost always a short statement about the nature and extent of the uses to which it is put. The illustrations are not particularly distinguished. However there are 115 figures, many of which contain several drawings. The author is Head of the Department of Biology of the University of West Virginia.

EAMES, ARTHUR JOHNSON AND LAURENCE H. MACDANIELS

An introduction to plant anatomy. Second edition. New York McGraw-Hill Book Company Inc., 1947 427 p. illus. 23 cm. (McGraw-Hill publications in the botanical sciences Edmund W. Sinnott, consulting editor) $7.50 2035

Contents: Introductory. General structure of the plant body—an outline. General histology: The cell. Meristem. Tissues and tissue systems. The primary body. The secondary body: The origin and development of the secondary body and its relation to the primary body. The cambium. Secondary xylem. Secondary phloem. Periderm and abscission. The organs. The root. The stem. The leaf. The flower. The fruit. The seed. Ecology: Ecological anatomy. Index.

Note: A well-organized and illustrated textbook designed for first college courses. Extensive lists of the pertinent literature give it some value as a reference book also. The first edition was published in 1925, and fairly extensive changes have been made in this edition to bring it abreast of current knowledge. The authors are professors at Cornell University.

EAMES, ARTHUR JOHNSON

Morphology of vascular plants, lower groups (Psilophytales to Filicales). New York McGraw-Hill Book Company Inc.,

1936 433 p illus 23 cm (McGraw Hill publications in the agricultural and botanical sciences, E W Sinnott consulting editor) $8 50 2036

Content Lycopodiaceae Club mosses. Selaginellaceae Small club mosses. Isoetaceae. Quillworts. Psilotaceae Equisetaceae Horsetails. Filicineae. Ferns. Ophioglossaceae Adder's-tongue ferns. Marattiaceae. Marattiaceous ferns. Filicales. Leptosporangiate ferns. Osmundaceae Gleicheniaceae, Schizaeaceae. Marsileaceae. Water ferns. Cyatheaceae Dicksoniaceae Polypodiaceae. General discussion and summary for ferns. Paleobotany and the fossil record. Psilophytales. Lepidodendrales. Calamitales, Hyeniales, Sphenophyllales, Coenopteridales. The plant body alternation of generations, classification of vascular plants. Index.

Note A textbook of advanced level covering the morphology and life histories of vascular plants. Emphasis is placed on broad comparative study of the various groups, with the development of natural classification and of phylogenetic relationships as a goal. Especial attention is given to the more recently acquired information, particularly that concerning fossil groups, and the bearing of these discoveries upon the older view of relationship and upon theories of the nature of the plant body and the relation of gametophyte and sporophyte.

ESAU, KATHERINE

Plant anatomy New York John Wiley & Sons, Inc., 1953 735 p illus 24 cm $9 75 2037

Contents The plant body The protoplast. The cell wall. Meristems and their differentiation Apical meristems. The vascular cambium. The epidermis. Parenchyma. Collenchyma. Sclerenchyma. Xylem. Phloem. Laticifers. The periderm. The stem. The leaf The root. The flower The fruit. The seed. Plates. Author index. Subject index.

Note Plant anatomy is covered at a mature level in this distinguished textbook which is designed for the instruction of advanced college students of botany including those who are preparing to teach this science. Basic anatomical terms and concepts are carefully defined when first introduced. Although written in a straightforward style that is not difficult to read, the discussions of most topics are concise. Much ground is covered, but the author did not attempt an exhaustive treatment of the subject. Much of the exposition is written from the developmental point of view There is a high number of illustrations. Figures consisting of clearly reproduced line drawings are scattered throughout the text. At the end of the volume, 85 plates printed from halftones are assembled. These plates are largely reproductions of microphotographs, but a few photographs of gross anatomical features are also included. Extensive lists of literature references are found in all of the chapters, and the names of the authors of the cited literature are indexed. The author is Professor of Botany in the University of California.

FEATHERLY, H. I

Taxonomic terminology of the higher plants Ames Iowa State College Press, 1954 166 p 19 cm $3 95 2038

Contents. Glossary of botanical technical terms. Subject classification Aestivation Agents of pollination Corolla. Dehiscence. Direction. Dispersal. Fruits. Habitats. Inflorescence. Leaves. -onymus. Ovules and seeds. *Pistils. Positions. Sepals Sex distribution.* Stamens. Stems. Surfaces and ventures Texture Time and season. Tropisms. Type terminology Vernation. Specific epithets with their meanings. Greek and Latin components of scientific words. Appendix Bibliography

Note A unique and useful reference book The glossary which occupies about half the space, is an alphabetical arrangement of the technical terms currently used in the literature on botanical taxonomy plant distribution and speciation. Definitions are brief but clear and, in many instances, are expressed in the common language rather than in the technical terminology of botany In the subject classification which follows the glossary terms are arranged under subject hence, the reader who wishes to find the terms associated with the description of stems, for example, will find them grouped under this heading. The appendix contains an outline of the indications of the evolution of flowers, concise descriptions of important laws, theories and hypotheses and an outline of phyllotaxy or leaf arrangement. The author is Professor of Botany in Oklahoma Agricultural and Mechanical College.

FOSTER, ADRIANCE S

Practical plant anatomy Second edition Princeton D Van Nostrand Company, Inc. 1949 228 p 21 cm $4 00 2039

Content The protoplast. The cell wall. Meristems. Principles of the classification of cell types, tissues and tissue systems (including tabular summary of main cell types in seed plants) The epidermis. Parenchyma. Collenchyma. Sclerenchyma—sclereids—fibers. Tracheids and vessel elements. Sieve cells and sieve-tube elements. Laticiferous tubes. Stem. Leaf Root. Appendix. Index.

Note This book for college students combines the functions of text and laboratory manual. The 13 chapters that comprise the body of the book are called "exercises. In each of them, there is an introductory discussion of basic theory and this is followed by a scientific discussion of a specific plant part, directions for obtaining study material and for its study in the laboratory and literature references. The appendix provides suggestions and specific information on microtechniques. The first edition was published in [illegible] In this second edition, there is one new exercise and most of the exercises carried over from the first edition have been revised and extended More recent literature has been added to the bibliography

HAUPT, ARTHUR W

Plant morphology New York McGraw Hill Book Company, Inc., 1953 464 p illus 24 cm (McGraw Hill publications in the botanical sciences, Edmund W Sinnott, consulting editor) $8 00 2040

Contents Introduction. Thallophyta—algae—fungi. Bryophyta Pteridophyta. Spermatophyta. Evolution in the plant kingdom Selected references. Glossary Index.

Note A standard textbook used in college courses following a course in general botany The primary theme is the evolution of the principal plant groups in the light of the evidence gained in studies of their structure and reproduction. The arrangement is from simple forms of plants to complex ones, as the chapter titles indicate. There are 338 figures, most of which contain several drawings arranged as series. An extended glossary and a [illegible] classified bibliography are included. The author is Professor of Botany in the University of California.

LAWRENCE, GEORGE HILL MATHEWSON

An introduction to plant taxonomy Illustrations by Marion Ruff Sheehan. New York The Macmillan Company, 1955 179 p illus 22 cm $3 65 2041

Contents. Introduction Plant classification. Evolution and systems of classification. Plant structures. Collecting and identifying techniques. Nomenclature Phylogeny and biosystematics. Taxonomy in North America. Important families and their characters. Glossary and index.

Note A brief and relatively simplified introduction based partly on the author's *Taxonomy of vascular plants,* described below It covers the elements of the taxonomy of vascular plants and includes a useful glossary in which the technical terminology of systematic botany is defined. The chapter on taxonomy in North America outlines the development of this important area of botany in the United States of America, names the eminent botanists, and mentions the titles of their more important works. The book is suitable for use in short courses in taxonomy at the college level and for the guidance of amateur botanists who have progressed far enough in their hobby to be interested in the elements of taxonomy

LAWRENCE, GEORGE HILL MATHEWSON

Taxonomy of vascular plants New York The Macmillan Company, 1951 823 p illus 22 cm $9 00 2042

Contents. Part I, Principles and practices of plant taxonomy Introduction. Taxonomy and its significance History of classification. Principles of taxonomy Phylogenetic considerations. Current systems of classification. The geography of vascular plants. Biosystematics and cytogenetics. Plant nomenclature. Plant identification. Field and herbarium techniques. Monographs and revisions. Floristics. Literature of taxonomic botany Part II, Selected families of vascular plants Pteridophyta. Embryophyta Siphonogama—Gymnospermae—

[illegible]

Merrill, Elmer D.

Index Rafinesquianus: the plant names published by C. S. Rafinesque with reductions, and a consideration of his methods, objectives, and attainments. Jamaica Plain, Mass., The Arnold Arboretum of Harvard University, 1949. 295 p. 30 cm. $10.00 2043

Contents (abridged): Rafinesque's methods, [illegible]. Index Rafinesquianus. Unplaced names. Index.

Note: The principal part of this volume is the "Index Rafinesquianus" [illegible]

Swingle, Deane Bret

A textbook of systematic botany. Third edition. New York, McGraw-Hill Book Company, Inc., 1946. 343 p. illus. (part col'd) 2 cm. (McGraw-Hill publications in the botanical sciences. Edmund W. Sinnott, consulting editor) $3.?5 2044

Contents: [illegible]

Note: [illegible]

VARIOUS REGIONS

Abrams, Le Roy

An illustrated flora of the Pacific states: Washington, Oregon, and California. Stanford University, Calif., Stanford University Press, 1940–44. 2 v. illus. 27 cm. $15.00 2045

Contents (abridged): [illegible]

Note: [illegible]

—— Volume III: Geraniaceae to Scrophulariaceae, geraniums to figworts. Stanford, Calif., Stanford University Press, 1951. 866 p. illus. 26 cm. $17.50 2045A

Contents (abridged): [illegible]

Note: The third volume [illegible]

Bailey, Liberty Hyde

Manual of cultivated plants most commonly grown in the continental United States and Canada, by L. H. Bailey and the staff of the Bailey Hortorium at Cornell University. Revised edition, completely restudied. New York, The Macmillan Company, 1949. 1116 p. illus. 2? cm. $18.50 2046

Contents (abridged): [illegible]

Note: [illegible]

e.g., *Lupinus albus* The revised edition is the first since the original edition of 1924 It follows the general plan of the earlier edition, omitting only the single mushroom family representing the allophytes in that edition The increase in the number of descriptions between the old and new editions is as follows families from 167 to 194 genera from 1,346 to 1,523, and species from 3,665 to 5,347 The number of illustrations has been increased from 14 to 195

BAKER, MARY EVANS (FRANCIS)

Florida wild flowers, an introduction to the Florida flora. Photographs by the author New edition New York The Macmillan Company, 1938 245 p illus 19 cm $4 50 2047

Contents Preface. Introduction. Explanations. Key Descriptions of plants. Index.

Note In this edition of a popular work for amateur naturalists the author has selected 800 of the more common and more interesting herbs, shrubs, and trees native to Florida and has indicated in simple terms their more noticeable characteristics. Common names are given first, followed by names of genera, nontechnical description, habits, habitat, and varieties. The nomenclature follows that of the International Code. There are 50 full-page photographs.

BARRETT, MARY FRANKLIN

Common exotic trees of south Florida (Dicotyledons) Gainesville University of Florida Press, 1956 414 p illus 24 cm $8 50 2048

Content Introduction. List of plates. Explanations. Plate Section. General abbreviations. Keys. Descriptions, Illustrations, and Florida locations. Sight-seeing trips in greater Miami. References. Index.

Note Although limited in scope, this is a well-written and useful book. It includes only trees which have been introduced into Florida and of which living specimens are to be found in readily accessible locations. It is directed primarily to amateur botanists and to laymen who wish to know the names and characteristics of interesting trees they see. The species descriptions emphasize taxonomy and morphology Scientific names and popular names are given and—an unusual feature—pronunciation of the scientific names be indicated. The accounts of the individual trees are longer than is usual in books of this nature. Morphology and miscellaneous distinguishing characteristics are described in reasonable detail and largely in terms of the common language. Other information usually given includes statement on distribution both outside and inside the state of Florida specific locations of living specimens in Florida, economic uses and selected literature references. Well executed leaf drawings supplement the verbal descriptions.

BENSON, LYMAN, AND ROBERT A DARROW

The trees and shrubs of the Southwestern deserts Line drawings by Lucretia Breazeale Hamilton Second edition Tucson University of Arizona Press Albuquerque University of New Mexico Press 1954 437 p illus 23 cm $8 50 2049

Contents (abridged) Introduction Vegetation of the Southwestern deserts. Medicinal value of plants. Arrangement of flowers and fruits. Leaves. Systems of measurement. Scientific names. Policy in classification. Popular names. How to use the keys for plant identification. Classification of Southwestern desert trees and shrubs Class I, Gymnospermae, cone-bearing plants. Class II, Angiospermae, flowering plants. Appendix. Index.

Note A slightly revised edition of a book first published in 1945 by the University of Arizona under the title, *A manual of Southwestern desert trees and shrubs*. The region covered by it is one composed largely of desert and semi-desert land. Another unusual characteristic is range in altitude from below sea level to approximately 5,000 feet above sea level. The book is directed primarily to amateur naturalists and botanists, and its chief purpose is to aid such readers in the identification of desert plants of the region. Even so, it incorporates good deal of scientific botany Th illustrations, which include reproductions of number of color photographs, range maps in two colors, and well-executed drawings, are of high quality The species descriptions include nontechnical descriptions of morphology statements on range and habitat, and often an additional commentary covering miscellaneous [illegible] information. The appendix lists scientific synonyms and [illegible] lections and gives literature references. This feature, [illegible] the excellent coverage of a varied desert flora, makes the book of interest to professional botanists, also.

BILLINGTON, CECIL

Shrubs of Michigan. Second edition Bloomfield Hills, Mich Cranbrook Institute of Science, 1949 329 p illus. 24 cm. (Cranbrook Institute of Science. Bulletin no. [illegible]) $4 00 2050

Content Introduction. Ecology Distribution. [illegible] species. Plant names and their authors. Plant names and their origin. The form and structure of shrubs. Keys to the [illegible] Michigan shrubs. Shrubs of Michigan. Glossary Bibliography. Index.

Note Although intended primarily for amateur use and limited to the shrubs that have been found in the state of Michigan, the work is of more than local interest. Many of the shrubs described are found also in many other states of the United States and in Canada. Drawings of the leaf fruit and (sometimes) the [illegible] included for most of the plants described. The descriptions include the botanical name, the local popular name, information [illegible] growth of flowering and of ripening of the fruit in addition [illegible] descriptions in botanical terminology of the plant itself. The first edition was published in 1943 A number of new descriptions have been added in this edition and many descriptions carried over from the previous edition have been revised or augmented.

BLACKBURN, BENJAMIN COLEMAN

Trees and shrubs in eastern North America, keys to the wild and cultivated woody plants growing in the temperate regions exclusive of conifers New York Oxford University Press 1952 358 p 21 cm $6 00. 2051

Contents. How to use the keys. Preliminary key. General key. Plants with scale-like, needle-like, or linear leaves. Plants with opposite or whorled simple leaves. Plants with opposite or whorled compound leaves. Plants with alternate simple leaves. Plants with alternate compound leaves. Key to species. Selected bibliography. Glossary Index.

Note A reference book designed to aid amateur naturalists and gardeners in identifying the wild and cultivated woody plants of eastern North America. It consists of series of general and specific tabular keys which, by means of brief descriptions of outstanding features, lead from broad groups of plants to specific genera and species. The preliminary identifying keys are followed by an alphabetical listing, by genera, of more than 2,500 species and subspecies. For each species and subspecies, there are included short descriptive statement, the common and scientific names, area of distribution and country of origin.

BOWERS, NATHAN A.

Cone-bearing trees of the Pacific coast. Fifth printing in which is included new material on an introduction to tree ring analyses Palo Alto Calif Pacific Books 1956 169 p illus 21 cm $3 50 2052

Contents Foreword. An introduction to tree-ring analysis. Directions for use of this manual What to observe. Reference [illegible] abbreviations. List of tree groups. How to use the needle key. The [illegible] needle key. How to use the elevation key. The elevation [illegible] How to use the geographical key. The geographical key. Geographical districts. Species grouped by geographical districts. Descriptions of species. Glossary Index.

Note. A compact field manual designed to aid in the quick identification of conifers native to the Pacific coast. All distinguishing features—needles, cones, shape, coloring, etc.—are uniquely grouped and classified to save time and assure accuracy in identifying species. The descriptions of species are written largely in the common language and cover such points as occurrence appearance and other characteristics of needles, cones and bark appearance and dimensions of mature trees distribution in and outside of California common names and general comments on economic uses, etc. Each species description is accompanied by illustrations, and these include drawing of needle and cone, photograph of living tree [illegible]

natural habitat, and often close-up view of the trunk, showing details of the bark. The book was first published in New York in 1942. In this fifth printing, the new material consists of preface, foreword by Dr Waldo E. Glock, and 19-page prefatory section on tree-ring analysis.

Brown Forest B H., and Elizabeth D W Brown

Flora of southeastern Polynesia. Honolulu Bernice P Bishop Museum 1931–35 3 v illus. 25 cm. (Bernice P Bishop Museum. Bulletin 84 89 130 Bayard Dominick Expedition publication nos. 20–22) Pt. i, $2.25 pt. ii $2.50 pt. iii, $3.50 2053

Note In these monographs the authors report on collections obtained between April, 1921 and September, 1922 in an intensive survey of all the inhabited islands of the Marquesas as well as of many islands visited enroute. The discovery of considerable new material in the collections from the latter islands made it necessary to identify numerous extra-Marquesan species and varieties before the systematic position of close relatives in the Marquesas could be determined. These new data are of value not only in respect to taxonomy but also in connection with the ecology of the Pacific flora and problems dealing with the migration of the Polynesians. Bulletin 84 presents an outline of the geology and geography of the Marquesas and of the floral regions of southeastern Polynesia. The native names are given in all three bulletins, and especial attention is paid to the botanical knowledge displayed by the Polynesians, their development of an extensive agriculture which supported dense populations in small areas, and particularly to their system of botanical nomenclature which appears to be an ancient Polynesian discovery and is therefore a well-preserved remnant of the pre-Linnaean botany of the continent

Christophersen Erling

Flowering plants of Samoa i–ii. Honolulu Bernice P Bishop Museum, 1935–38 2 v illus. 25 cm. (Bernice P Bishop Museum. Bulletins 128 154) Vol. i, $2.50 vol. ii $2.50. 2054

Note These two papers constitute a report on a collection of plants made from August to November, 1929 and from June, 1931 to January 1932 and on other Samoan collections in the Museum not previously studied with access to types, and other plants which can be treated satisfactorily only in herbaria with a general, world-wide scope. The Pandanaceae were reported on in the Museum's Occasional papers, 9 (13) by Martelli, the *Peperomia* in *Bulletin* 41, by Yuncker. At the time of publication of Part ii, *Peperomia*, *Ficus*, Urticaceae (*Laportea*, *Elatostema*, and *Cypholophus*) were still being studied by specialists. In Part i, 34 species and varieties are described as new to science, and in Part ii, 11 species and one variety while various species are new records for Samoa. With the inclusion of 10 new species and records of Pandanaceae, the total number of species of flowering plants known in Samoa is about ,033

Clokey Ira Waddell

Flora of the Charleston Mountains, Clark county Nevada. Berkeley and Los Angeles University of California Press, 1951 274 p. illus. 27 cm. (University of California publications in botany editors, H L. Mason and others. Vol. 24) $3 75 2055

Contents Introduction History of botanical exploration. The Charleston Mountains. Vegetational and floristic considerations Vascular plants of the Charleston Mountains. Pteridophyta. Spermatophyta. Index

Note A detailed professional study of the flora of an isolated mountain range in the northern part of the Mojave Desert. In the middle and higher elevations, the region contains a flora which has been botanically isolated for many thousands of years. The author made field studies and massive collections in the years 1935–1942. He was aware of the significance of the ecological aspects, but most of the present book is devoted to systematic descriptions of the collected plants. A map of the region studied is included.

Coker, William Chambers and Henry R. Totten

Trees of the southeastern states including Virginia, North Carolina South Carolina Tennessee Georgia, and northern Florida. Third edition Chapel Hill University of North Carolina Press, 1945 419 p. illus. 20 cm. $4 00 2056

Note A field book and reference manual that is addressed primarily to the amateur botanist. Over 200 trees and some shrubs are described, and most of the descriptions are accompanied by an illustration which is, in most cases, a carefully-rendered line drawing of a twig with leaves and fruit. In this edition, the principal changes are concerned with more complete information on ranges of many trees.

Degener Otto

Flora Hawaiiensis or The new illustrated flora of the Hawaiian Islands. New edition. Honolulu O Degener 1946 4 v in one illus. 24 cm. $6 00 2057

Contents Introduction and scope. The Hawaiian Islands. Origin and relationship of the Hawaiian flora. Historical sketch of Hawaiian botany. Rules governing botanical nomenclature. Abbreviations of the names of authors. Glossary of botanical terms. Key to families of ferns and fern allies. Key to families of monocotyledonous plants. Key to families of dicotyledonous plants. List of families of vascular plants. Descriptive flora. Index. Maps.

Note This work is designed to present illustrated descriptions of all the native and foreign ferns and flowering plants growing in the Hawaiian Islands. It gives the common English, Hawaiian, and scientific names for each plant as well as the synonym by which it is known in other publications. It states whether the plant is endemic, indigenous, or introduced, the exact range of the plant in the islands, its general range elsewhere, and its present and former uses. It includes keys for the determination of family genera, and species and maps. It was first published 1932–1940 as four loose-leaf volumes designed for the insertion of new sheets as they were issued. The present edition, copyrighted 1946, is, in effect, a facsimile copy of the first one, except that the indices have been deleted and some of the individual sheets revised.

Eliot Willard Ayres and G B McLean

Forest trees of the Pacific Coast including a brief account of the outstanding characters distribution and habitat of the trees native to Alaska, British Columbia, Washington and Oregon. Illustrated principally from original photographs by George C. Stephenson. New York G P Putnam's Sons 1938. 565 p. illus. 21 cm. $7.50 2058

Contents Acknowledgments This book, definitions and general comments. Needle-leaved trees, Gymnospermae. Broad-leaved trees, Angiospermae (dicotyledons) Odds and ends. Appendix: List of the forest trees of the Pacific Coast. Alphabetical index to common and scientific names of trees described in this book.

Note Designed as a field book for the ready identification of trees by students without technical botanical training, as an introductory textbook for beginning forestry students, and as a manual for nature teachers, forest rangers, park naturalists, and lumbermen. Detailed and technical descriptions are not provided, emphasis being placed upon showing, by photographs and brief descriptions, the characteristics of a tree which distinguish it at sight from other trees around it. Some information about wood, flowers, fruit, habit of growth, range, and habitat is included, as well as brief notes on facts of general or commercial interest. A revised edition with the same number of pages and the same table of contents was published in 1948. It contains a photograph of the blossoms *Garrya elliptica* which did not appear in the first edition.

FOSTER, MULFORD B, AND RACINE SARASY FOSTER

Brazil New York The Ronald Press Company 1946 314 p illus (part col'd) 24 cm. $3 50 2059

Note. The title of this book is somewhat misleading, since it is by no means a routine guide to the country or a general travel description, but an informal account of the explorations of two plant collectors in eastern and southern Brazil. As such, it is highly informative, and although generally flavored with descriptive observations of the people, the cities and the countryside, its primary appeal will be to students of tropical and semitropical botany The principal objective of the expeditions was the collection of "air plants"—bromeliads—and rare orchids, and a full account is rendered of the difficulties, the thrills, and the very rich botanical rewards encountered. The text is liberally illustrated with drawings and some 150 excellent photographs.

FRY, WALTER, AND JOHN R WHITE

Big trees Stanford Stanford University Press 1938 126 p illus 22 cm $2 00 2060

Contents Significance of the Big Trees. Discovery of the Big Trees. Saving the Big Trees. Big Tree and Coast Redwood. Age of the Big Trees. The record of the rings. Size of the Big Trees. The birth of a giant. Seedlings and the study tree. The harvest and the first fruit. The cone pigment and propagation. General appearance and foliage The bark and the root system. The death of a giant. The General Sherman Big Tree Geologic history of the Big Tree. Naming of the Big Tree The California Big Tree groves. Index.

Note A book about the world's largest trees, the *Sequoia gigantea* their size age, where and why they grow best, their discovery and the difference between the big sequoias that grow on the coast of California and those found in the Sierra Nevada, with photographs and a map showing the location of every grove of these trees known to exist. For readers interested in trees and our national parks.

GILKEY, HELEN M

Handbook of Northwest flowering plants. Second edition By Helen M Gilkey, assisted by Garland M Powell Portland Binfords & Mort, 1951 412 p illus 20 cm $3 50 2061

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GLASSMAN SIDNEY F

The flora of Ponape Honolulu Bernice P Bishop Museum 1952 152 p illus. 25 cm (Bernice P Bishop Museum Bulletin 209) $2 50 2062

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GLEASON, HENRY A

The new Britton and Brown illustrated flora of the northeastern United States and adjacent Canada, by Henry A. Gleason, with the assistance of specialists in certain groups Illustrated by original drawings. New York The New York Botanical Garden, 1952 3 v illus 27 cm $30 00 2063

Contents Vol. 1 The Pteridophyta, Gymnospermae and Monocotyledoneae Introduction. General keys. List of botanical authors. Glossary Pteridophyta. Order Lycopodiales. Order Selaginellales. Order Isoetales. Order Equisetales. Order Ophioglossales. Order Filicales. Spermatophyta. Gymnospermae Order Coniferae Angiospermae. Monocotyledoneae Order Pandanales. Order Najadales. Order Alismales. Order Hydrocharitales. Order Graminales. Order Arales. Order Xyridales. Order Liliales. Order Scitamineae. Order Burmanniales. Order Orchidales. Index to Vol. 1. Vol. 2, The Choripetalous Dicotyledoneae Order Piperales. Order Salicales. Order Myricales. Order Leitneriales. Order Juglandales. Order Fagales. Order Urticales. Order Santalales. Order Aristolochiales. Order Polygonales. Order Caryophyllales. Order Ranales Order Papaverales. Order Sarraceniales. Order Rosales. Order Geraniales. Order Sapindales. Order Rhamnales. Order Malvales. Order Parietales. Order Cactales. Order Thymelaeales. Order Myrtales. Order Umbellales. Index to vol. 2 Vol 3, The Sympetalous Dicotyledoneae Order Ericales. Order Primulales. Order Plumbaginales. Order Ebenales. Order Gentianales, Order Polemoniales. Order Plantaginales. Order Rubiales. Order Cucurbitales. Order Campanulales. Order Asterales. Appendix. General index. Summary

Note A systematic work describing and picturing all known rooted plants found growing in the wild state in the northern United States and its adjoining parts of Canada, with keys for their identification. In preparation for more than 10 years, the work is based upon and is the successor to the illustrated three-volume flora written by Nathaniel Lord Britton and Addison Brown, first edition 1896–98, second edition 1913. The original work was entirely rewritten, much new material was added and the illustrations were newly drawn from original material. Under 53 orders, 175 families are described, under the families 1 137 genera are described, and under the genera 4 660 species are described. Range and blooming season as well as morphological description are given for each species. The illustrations, from line drawings, are unusually complete; degree of magnification is indicated when the illustration is larger or reduced from life size. While published primarily for layman and amateurs, the work can serve as a useful guide for anyone, layman or professional botanist, concerned with the identification of American plants found north of the southern boundaries of Virginia, Kentucky and Missouri, and east of the western boundaries of Missouri, Iowa, and Minnesota.

GOTTSCHO, SAMUEL H.

Wildflowers how to know and enjoy them. Pictures and text by Samuel H. Gottscho. New York Dodd, Mead & Company, 1951 192 p illus (part col d) 17 cm. $2 75 2064

Contents Introducing the book. The pursuit of a hobby The enjoyment of wildflowers. With the seasons. Wildflower lore. Of things botanical. Flower names and families. Flower colors. Pink flower section. Yellow flower section. White flower section. Blue flower section. The travels of seeds. Wildflower conservation. Wildflowers in the house. Books. Coloring guide. Photography. Index.

Note Illustrated by photographs, 172 in black and white, 93 in color this pocket-sized volume is an excellent guide to the common wildflowers of the United States of America east of the Mississippi River and north of the Carolinas. The book is arranged so that flowers of the same color are described and pictured in the same section, in the approximate order of their month of bloom. The descriptions, ranging from eight to 12 lines each, include common name scientific name, family name, locality where commonly found, size of flowers and plants, range, and season of bloom, together with special details if any Symbols indicate rarer wildflowers, the picking of which is restricted. The photographic illustrations, most of them one-fourth page in size are successfully reproduced from pictures taken by the author

GRAVES ARTHUR HARMOUNT

Illustrated guide to trees and shrubs a handbook of the woody plants of the northeastern United States and adjacent regions. Revised edition New York Harper & Brothers 1956 271 p illus 24 cm $6 00. 2065

Contents: Introduction. How to use the keys. Summer key. Winter key. Distinguishing characters of species. Short cuts to naming. Some helpful references. Glossary. Index.

Note: A popular reference book for amateur naturalists and amateur and professional gardeners. Its purpose is to aid such readers in the identification of the trees and shrubs which grow in the northeastern portion of continental United States of America and in Canada. The descriptions of specific plants are preceded by keys for determining family and genus. Descriptions of species are concise, and some abbreviations are used in order to keep them short. Common and scientific names and features useful in field identification, such as twig characteristics, appearance of bud, leaf and bark, are given. The illustrations are numerous and of high quality. They depict leaves, terminal buds, fruit, and sometimes flowers. The leaves are usually shown in life size, and the buds in three to five times life size. The first edition was published in 1932. A "Winter key" complementary to the "Summer key" has been added in this revised edition. The nomenclature has been somewhat revised, and descriptions of a few species have been added.

GRAY, ASA

Gray's manual of botany. Eighth (centennial) edition—illustrated. A handbook of the flowering plants and ferns of the central and northeastern United States and adjacent Canada. Largely rewritten and expanded by Merritt Lyndon Fernald, with assistance of specialists in some groups. New York American Book Company 1950. 1 632 p. illus. 23 cm. $9 75 2066

Contents: Preface. Synopsis of the orders and families of vascular plants. Artificial analytical key to the families. Explanation of abbreviated names of authors. Other abbreviations and signs. Summary of the families. Descriptive flora. Glossary. Index to Latin names of families, genera and species. Index to English, French-Canadian and colloquial names.

Note: Forty-two years had passed since the publication of the seventh edition of this classical reference book. Since the period was one of the most active in botanical research on the part of both professional botanists and amateurs, the changes in this edition are many. In the seventh edition, 4,441 species, varieties, and minor forms were described; the comparative number for this edition is 8,000. The number of illustrations has been increased to 1,306. In addition, important changes have been made in groupings, nomenclature, and literature. The book remains the standard systematic description of the flora found in the region named in the subtitle.

GREENE, WILHELMINA F., AND HUGO L. BLOMQUIST

Flowers of the South, native and exotic. Chapel Hill University of North Carolina Press, 1953 208 p. illus. (part col d) 25 cm. $5.00. 2067

Contents: Introduction. Natives. Exotics and wild flowers for the [illegible]. Exotics. Index.

Note: In this book, about 600 species of flowering plants that grow in the southern portion of the United States of America are described and illustrated, some of them in line drawings, some in natural color. Both wild and cultivated plants are included. The line drawings are three to the page, with verbal description adjoining. The colored illustrations are on 23 separate plates. The illustrations are by Mrs. Greene, the descriptions by Dr. Blomquist. Both technical and common names are given, and the arrangement is by family. The book is addressed to gardeners, amateur botanists and laymen rather than to professional botanists.

GREY, ROBERT M AND F TRACY HUBBARD

List of plants growing in the botanical garden of the Atkins Institution of the Arnold Arboretum at Soledad Cienfuegos, Cuba. Cambridge, Mass Harvard University Press 1933 245 p. 27 cm. $3.00 2068

Note: The list gives genera, species, and common names in alphabetical order with synonymy, original literature, and names of first describer or classifier, plus a shorter list of genera and species arranged according to families. There are approximately 1,970 species belonging to 911 genera and 165 families, with all nomenclature revised and corrected to conform to the International Code and the interpretations of genera and species delimitations current at the time of publication. The names of certain invalid genera have been retained because the earlier use or uses of the name is either obsolete or placed in synonymy and recently has not been in common use. Common or vernacular names are provided.

HARLOW, WILLIAM MOREHOUSE, AND ELLWOOD S HARRAR

Textbook of dendrology covering the important forest trees of the United States and Canada. Third edition. New York McGraw Hill Book Company Inc., 1950 555 p. illus 23 cm. (American forestry series Walter Mulford, consulting editor) $7.50 2069

Contents: Introduction. Nomenclature. Classification. Identification. Variation. Description of species. Gymnospermae. Cycadales. Ginkgoales. Coniferales. Angiospermae. The plant families. Amentiferae. Fluviforae. Apetalae. Polypetalae. Sympetalae. Glossary. Derivation of some scientific names. Selected references. Index.

Note: The authors of this book describe the important forest trees of the United States and Canada. Nearly 250 species of trees are covered in detail, and most of the descriptions include distinguishing characteristics, general description, range, and botanical features. Many other species of less importance are also mentioned, making the book one of the most comprehensive treatments of the subject available. The second edition was published in 1941. Nomenclature was revised for this third edition. The bibliography was extended to include literature published since 1940.

HARRAR, ELLWOOD SCOTT AND JACOB GEORGE HARRAR

Guide to southern trees New York Whittlesey House McGraw Hill Book Company Inc. 1946 712 p. illus. 18 cm. (Whittlesey House field guide series) $6.00 2070

Contents: Introduction. Keys to the generic groups. The conifers. The broadleaved trees. Glossary. Selected references. Index.

Note: A field manual designed to aid in the identification and study of trees indigenous to the southern states of the United States. More than 350 species are described. For each species are given common name or names, scientific name and descriptions of habit, leaves, flowers, fruit, twigs, bark, habitat, distribution, importance. Two-hundred-one full-page plates depict the foliage, fruit, flowers, etc. of different species, in illustrations prepared by Mrs. Helene E. Miller from living materials and authentic herbarium sheets. Keys and synopses of the different groups and families are given to aid in the identification of specimens.

HARRINGTON H. D

Manual of the plants of Colorado for the identification of the ferns and flowering plants of the state. Authorized by the Colorado State Board of Agriculture and prepared with the cooperation of Colorado A & M College. Denver Sage Books 1954 666 p. 28 cm $8.00 2071

Note: Because Colorado is a state that includes both plains and mountainous areas, its flora is characterized by much variety. This manual provides descriptions of all of the species that have been recorded in the state. Specimens of most of them have been seen by the author. However, he has included in the keys and lists, but not in the species descriptions, about 130 plants recorded by others but not seen by him. Most of the space is devoted to the descriptions of species. These are fully detailed in regard to morphology but are somewhat abridged as to taxonomy. Notes on range and habitat are also included. There are no illustrations.

FOSTER, MULFORD B., AND RACINE SARASY FOSTER

Brazil New York The Ronald Press Company, 1946 314 p illus. (part col'd) 24 cm $3 50 2059

Note. The title of this book is somewhat misleading, since it is by no means a routine guide to the country or a general travel description but an informal account of the explorations of two plant collectors in eastern and southern Brazil. As such, it is highly informative, and although generally flavored with descriptive observations of the people the cities and the countryside, its primary appeal will be to students of *tropical* and *semitropical* botany. The principal objective of the expeditions was the collection of air plants'—bromeliads—and rare orchids, and a full account is rendered of the difficulties, the thrills, and the very rich botanical rewards encountered. The text is liberally illustrated with drawings and some 150 excellent photographs.

FRY, WALTER, AND JOHN R WHITE

Big trees. Stanford Stanford University Press 1938 126 p illus 22 cm $2 00 2060

Contents Significance of the Big Trees. Discovery of the Big Trees. Saving the Big Trees. Big Tree and Coast Redwood. Age of the Big Trees. The record of the rings. Size of the Big Trees. The birth f a giant. Seedlings and the study tree. The harvest and the first fruit. The cone pigment and propagation. General appearance and foliage. The bark and the root system. Th death f a giant. The General Sherman Big Tree. Geologic history f the Big Tree Naming of the Big Tree. The California Big Tree groves. Index.

Note A book about the world's largest trees, the *Sequoia gigantea*, their size, age, where and why they grow best, their discovery and the difference between the big sequoias that grow on the coast of California and those found in the Sierra Nevada, with photographs and map showing the location f every grove f these trees known to exist. For readers interested in trees and our national parks.

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Note. A systematic work describing and picturing all known rooted plants found growing in the wild state in the northeastern United States and in adjoining parts of Canada, with keys for their identification. In preparation for more than 10 years, the work is based upon and is the successor to the illustrated three-volume flora written by Nathaniel Lord Britton and Addison Brown, original edition 1896–98 second edition 1913. The original work was entirely rewritten, much new material was added and the illustrations were newly drawn from original material. Under 53 orders, 173 families are described, under the families 1 117 genera are described, and under the genera 4,660 species are described. Range and flowering season as well as morphological description are given for each species. The illustrations, from line drawings, are unusually complete; power of magnification is indicated when the illustration is larger or reduced from life size. While published primarily for laymen and amateurs, the work can serve as a useful guide for anyone, layman or professional botanist, concerned with the identification of American plants found north of the southern boundaries of Virginia, Kentucky and Missouri, and east of the western boundaries of *Missouri, Iowa, and Minnesota.*

GOTTSCHO, SAMUEL H.

Wildflowers, how to know and enjoy them. Pictures and text by Samuel H. Gottscho. New York Dodd, Mead & Company, 1951 192 p illus (part col d) 17 cm. $2 75 2064

Contents. Introducing the book. The pursuit of a hobby The enjoyment of wildflowers. With the seasons. Wildflower lists. Of things botanical. Flower names and families. Flower colors. Blue flower section. Yellow flower section. White flower section. Pink flower section. The travels of seeds. Wildflower conservation. Wild flowers in the house. Books. Coloring quiz. Photography Index.

Note Illustrated by photographs, 122 in black and white, 95 in color this pocket-sized volume is an excellent guide to the common wildflowers of the United States of America east of the Mississippi River and north of the Carolinas. The book is arranged so that flowers of the same color are described and pictured in the same section, in the approximate order of their month of bloom. The descriptions, ranging from eight to 13 lines each, include common name scientific name, family name, locality where commonly found size of flowers and plants, range and season of bloom, together with special details if any Symbols indicate rare wildflowers, the picking of which is restricted. The photographic illustrations most of them one-fourth page in size, are excellently reproduced from pictures taken by the author

GRAVES, ARTHUR HARMOUNT

Illustrated guide to trees and shrubs, a handbook of the woody plants of the northeastern United States and adjacent regions. Revised edition New York Harper & Brothers 1956 271 p illus 24 cm $6 00 2065

Contents: Introduction. How to use the keys. Summer key. Winter key. Distinguishing characters of species. Short cuts to naming. Some helpful references. Glossary. Index.

Note: A popular reference book for amateur naturalists and amateur and professional gardeners. Its purpose is to aid such readers in the identification of the trees and shrubs which grow in the northeastern portion of continental United States of America and in Canada. The descriptions of specific plants are preceded by keys for determining family and genus. Descriptions of species are concise, and some abbreviations are used in order to keep them short. Common and scientific names and features useful in field identification, such as twig characteristics, appearance of bud, leaf and bark, are given. The illustrations are numerous and of high quality. They depict leaves, terminal buds, fruit, and sometimes flowers. The leaves are usually shown in life size, and the buds in three to five times life size. The first edition was published in 1932. A "Winter key" complementary to the "Summer key" has been added in this revised edition. The nomenclature has been somewhat revised, and descriptions of a few species have been added.

GRAY, ASA

Gray's manual of botany. Eighth (centennial) edition—illustrated. A handbook of the flowering plants and ferns of the central and northeastern United States and adjacent Canada. Largely rewritten and expanded by Merritt Lyndon Fernald, with assistance of specialists in some groups. New York American Book Company 1950 1,632 p. illus. 23 cm. $9.75 2066

Contents: Preface. Synopsis of the orders and families of vascular plants. Artificial analytical key to the families. Explanation of abbreviated names of authors. Other abbreviations and signs. Summary of the families. Descriptive flora. Glossary. Index to Latin names of families, genera and species. Index to English, French-Canadian and colloquial names.

Note: Forty-two years had passed since the publication of the seventh edition of this classical reference book. Since the period was one of the most active in botanical research on the part of both professional botanists and amateurs, the changes in this edition are many. In the seventh edition [illegible] species, varieties, and minor forms were described; the corresponding [illegible] for this edition [illegible]. The number of illustrations has been increased to [illegible]. In addition, important changes have been made in grouping, nomenclature, and illustrations. The book contains the standard systematic description of the flora found in the regions named in the subtitle.

GREENE, WILHELMINA F., AND HUGO L. BLOMQUIST

Flowers of the South, native and exotic. Chapel Hill University of North Carolina Press 1953 208 p. illus. (part col'd) 23 cm. $5.00 2067

Contents: Introduction. Native [illegible] and wild flowers for the [illegible]. Index.

Note: In this book, about 500 species of flowering plants that grow in the southern portion of the United States of America are described and illustrated, some of them in line drawings, some in natural color. Both wild and cultivated plants are included. The line drawings are those in the page, with verbal descriptions adjoining. The colored illustrations are on 21 separate plates. The illustrations are by Mrs. Greene, the descriptions by Dr. Blomquist. Both technical and common names are given, and the arrangement is by family. The book is addressed to gardeners, amateur botanists and laymen rather than to professional botanists.

GREY, ROBERT M., AND F. TRACY HUBBARD

List of plants growing in the botanical garden of the Atkins Institution of the Arnold Arboretum at Soledad, Cienfuegos, Cuba. Cambridge, Mass. Harvard University Press 1933 245 p. 27 cm. $3.00. 2068

Note: The list gives genera, species, and common names in alphabetical order with synonymy, original literature, and some [illegible] described [illegible] alphabetical list of genera and species arranged according to families. There are approximately 1,970 species belonging to [illegible] genera and 155 families. [illegible] nomenclature revised and corrected to conform to the International Code and the interpretation of genera and species as they were current at the time of publication. The names of certain [illegible] genera have been retained [illegible] use of some of the names in either obsolete or placed in synonymy [illegible] has not been in common use [illegible] revised.

HARLOW, WILLIAM MOREHOUSE, AND ELLWOOD S. HARRAR

Textbook of dendrology covering the important forest trees of the United States and Canada. Third edition. New York McGraw-Hill Book Company, Inc., 1950 555 p. illus. 23 cm. (American forestry series Walter Mulford, consulting editor) $7.50 2069

Contents: Introduction. Nomenclature. Classification. Identification. Variation. Description of species. Gymnosperms. Cycadales. Ginkgoales. Gnetales. Coniferales. Angiosperms. The palm families. [illegible]. Glossary. [illegible]. Selected references. Index.

Note: The authors of this book describe the important forest trees of the United States and Canada. Nearly 115 species of trees are covered in detail, and with [illegible] the description has the distinguishing characteristics, general description, range and botanical features. Many other species of less importance are also mentioned, making the book one of the most comprehensive treatments of the subject available. The first edition was published in 1937. Nomenclature was revised for this third edition. The bibliography was extended to include literature published since 1945.

HARRAR, ELLWOOD SCOTT, AND JACOB GEORGE HARRAR

Guide to southern trees. New York Whittlesey House McGraw-Hill Book Company, Inc., 1946 712 p. illus. 18 cm. (Whittlesey House field guide series) $5.00. 2070

Contents: Introduction. Keys to the generic groups. The conifers. The broadleaved trees. Glossary. Selected references. Index.

Note: A field manual designed to aid in the identification and study of trees indigenous to the southern [illegible] of the United States. More than 1[illegible] species are described. For each species are given common name or names, scientific name, and description of habit, leaves, flowers, fruit, [illegible], bark, habitat, distribution, importance. Two-hundred-one full-page plates depict the leaves, fruit, flowers, etc., of different species, in [illegible] as prepared by Mrs. Helene K. [illegible] from live material and authentic herbarium sheets. Keys and synopses of the different groups and families are given to aid in the identification of specimens.

HARRINGTON, H. D.

Manual of the plants of Colorado for the identification of the ferns and flowering plants of the state. Authorized by the Colorado State Board of Agriculture and prepared with the cooperation of Colorado A & M College. Denver Sage Books 1954 666 p. 25 cm. $8.00. 2071

Note: Because Colorado is a state that includes both plains and mountainous areas, its flora is characterized by much variety. This manual provides descriptions of all of the species that have been recorded in the state. Specimens of most of them have been seen by the author. However, he has included in the keys and lists, but not in the species descriptions, about 150 plants recorded by others but not seen by him. Most of the space is devoted to the descriptions of species. These are fairly detailed in regard to morphology but are somewhat abridged as to taxonomy. Notes on range and habitat are also included. There are no illustrations.

FOSTER, MULFORD B, AND RACINE SARASY FOSTER

Brazil. New York The Ronald Press Company, 1946 314 p illus (part col'd) 24 cm $3 50 2059

Note The title of this book is somewhat misleading, since it is by no means a routine guide to the country or a general travel description, but an informal account of the explorations of two plant collectors in eastern and southern Brazil. As such, it is highly informative, and although generally flavored with descriptive observations of the people the cities and the countryside its primary appeal will be t students of tropical and semitropical botany The principal objective of the expeditions was the collection of "air-plants"—bromeliads—and rare orchids, and full account is rendered of the difficulties, the thrills, and th very rich botanical rewards encountered. The text is liberally illustrated with drawings and some 150 excellent photographs.

FRY, WALTER, AND JOHN R WHITE

Big trees Stanford Stanford University Press, 1938 126 p illus 22 cm $2 00 2060

Contents Significance of the Big Trees. Discovery of the Big Trees. Saving the Big Trees. Big Tree and Coast Redwood. Age of the Big Trees. The record of the rings. Size f the Big Trees. The birth of a giant. Seedlings and the study tree. The harvest and the first fruit. The cone pigment and propagation. General appearance and foliage. The bark and the root system. The death of a giant The General Sherman Big Tree. Geologic history of the Big Tree. Naming of the Big Tree. The California Big Tree groves. Index.

Note A book about the world's largest trees, the *Sequoia gigantea*, their size age, where and why they grow best their discovery and the difference between the big sequoias that grow on the coast of California and those found in the Sierra Nevada, with photographs and a map showing the location f every grove f these trees known to exist. For readers interested in trees and our national parks.

GILKEY, HELEN M

Handbook of Northwest flowering plants Second edition. By Helen M Gilkey, assisted by Garland M Powell Portland Binfords & Mort 1951 412 p illus 20 cm $3 50 2061

Note A concise manual of the flowering plants of the states of Washington and Oregon, except that the eastern areas of both states and the northern area of Washington are not completely covered. It is directed to students and amateurs and is primarily an aid in identification. The descriptions of families and species are concerned mainly with morphology but include in many instances statement on habitat. The illustrations, reproductions of line drawings, are numerous but small. In some instances their details are not clear. This second edition contains some corrections and additions, but is not an extensive revision

GLASSMAN, SIDNEY F

The flora of Ponape Honolulu Bernice P Bishop Museum 1952 152 p illus 25 cm (Bernice P Bishop Museum Bulletin 209) $2 50 2062

Contents Introduction. Geography and climate. Botanical history Agriculture and economic botany Vegetation. Flora. Literature cited. Index.

Note A general report on th botany f Ponape small tropical island in the Pacific, where the limat is characterized by high temperatures, very heavy rainfall, and high humidity Thirty-three pages are devoted to brief discussions of the geography climate history f the botanical exploration, agriculture, economic botany and general characteristics of the vegetation of the island. The remainder of the spa is devoted to list, arranged systematically of all species of vascular plants, except plants cultivated in the agricultural experiment station on t island, that have been reported from Ponape.

GLEASON, HENRY A

The new Britton and Brown illustrated flora of the northeastern United States and adjacent Canada, by Henry A. Gleason, with the assistance of specialists in certain groups Illustrated by original drawings. New York The New York Botanical Garden, 1951 3 v illus 27 cm $30 00 2063

Contents Vol. 1 The Pteridophyta, Gymnospermae and Monocotyledoneae Introduction. General keys. List of botanical authors Glossary Pteridophyta: Order Lycopodiales. Order Selaginellales Order Isoetales. Order Equisetales. Order Ophioglossales. Order Filicales. Spermatophyta. Gymnospermae: Order Coniferae. Angiospermae. *Monocotyledoneae: Order Pandanales.* Order Najadales Order Alismales. Order Hydrocharitales. Order Graminales. Order Arales. Order Xyridales. Order Liliales. Order Scitamineales. Order Burmanniales. Order Orchidales. Index to Vol. 1 Vol. 2, The Choripetalous Dicotyledoneae Order Piperales. Order Salicales. Order Myricales. Order Leitneriales. Order Juglandales. Order Fagales Order Urticales. Order Santalales. Order Aristolochiales. Order Polygonales. Order Caryophyllales. Order Ranales. Order Papaverales. Order Sarraceniales. Order Rosales. Order Geraniales. Order Sapindales. Order Rhamnales. Order Malvales. Order Parietales. Order Cactales. Order Thymelaeales. Order Myrtales. Order Umbellales. Index to vol. 2 Vol. 3 The Sympetalous Dicotyledoneae Order Ericales. Order Primulales. Order Plumbaginales. Order Ebenales. Order Gentianales. Order Polemoniales. Order Plantaginales. Order Rubiales. Order Cucurbitales. Order Campanulales. Order Asterales. Appendix. General index. Summary

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GOTTSCHO, SAMUEL H

Wildflowers how to know and enjoy them. Pictures and text by Samuel H Gottscho. New York Dodd, Mead & Company, 1951 192 p illus. (part col d) 17 cm $2 75 2064

Contents Introducing the book. The pursuit of a hobby The enjoyment of wildflowers. With the seasons. Wildflower lists. Of things botanical. Flower names and families. Flower colors. Pink flower section. Yellow flower section. White flower section. Fall flower section. The travels of seeds. Wildflower conservation. Wild flowers in the home. Books. Coloring guide. Photography Index.

Note Illustrated by photographs, 122 in black and white, 69 in color this pocket-sized volume is an excellent guide to the commoner wildflowers of the United States of America east of the Mississippi River and north of the Carolinas. The book is organized so that flowers of the same color are described and pictured in the same section, in the approximate order of their month of bloom. The descriptions, ranging from eight to 12 lines each, include common name scientific name, family name locality here commonly found, size of flowers and plants, range and season of bloom, together with special details if any Symbols indicate rarer wildflowers the picking of which is restricted The photographic illustrations, most f them one-fourth page in size are successfully reproduced from pictures taken by the uthor

GRAVES ARTHUR HARMOUNT

Illustrated guide to trees and shrubs, a handbook of the woody plants of the northeastern United States and adjacent regions. Revised edition New York Harper & Brothers 1956 271 p illus 24 cm $6.00 2065

watercolors by Andrey Avinoff Pittsburgh University of Pittsburgh Press 1953 2 v illus. (part col'd) 36 cm. $60.00 2078

Contents (abridged) Author's introduction. The botany of the region. Bibliography. Glossary. Analytical key to the families. Summary of plants included in the text. Descriptive text. [illegible]. Index.

Note Few works on wild flowers combine the authority and magnificence of this one. The author of the descriptive text is Director Emeritus of the Carnegie Museum and [illegible] botanist, and the illustrator was eminent both in botany and in art. The work was published under [illegible] grant from the Buhl Foundation to the Carnegie Institute and the University of Pittsburgh, [illegible] large to make it possible to offer the book for sale at less than the cost of production. The first volume is devoted to the introductory material and to concise systematic descriptions of the species. [illegible] are illustrated in the second volume. The descriptions of species give the botanical name and in most cases the popular name, describe the plant in morphological terms, and indicate its range. The second volume is devoted to the illustrations. These rank high in artistic merit and all are reproduced in color as accurately as possible with the best techniques of present-day color printing. The reproductions were made without reduction from the original watercolors which were painted in life size. Flowers are always shown, compound buds and leaves are shown in many instances, and in some cases the entire plant is depicted. There are 200 of the plates, and each one is accompanied by [illegible] legend which includes [illegible] on the plant's habitat and [illegible] statement of [illegible] when the specimen that the artist used was collected.

JEPSON WILLIS LINN

A manual of the flowering plants of California. Berkeley University of California Press, 1951 1,238 p. illus. 22 cm. $6.50 2079

Note This book was the first comprehensive manual published of the flowering plants of the state of California, [illegible] region that has very rich flora. The number of species described is [illegible] of which more than [illegible] are endemic. The manual [illegible] intended as an aid in identification. The descriptions of families include keys to identification. The descriptions of species deal primarily with morphology but also indicate range and habitat. A 13-page glossary defines the technical terms used. There are 1,023 illustrations, [illegible] of which are small but clear reproductions of line drawings. The complete work was first published in [illegible] and [illegible] reprinted, apparently without change, in 1951 and in 1957.

JOHNSTON IVAN MURRAY

The botany of San Jose Island (Gulf of Panama) With seventeen plates and two text-figures. Jamaica Plain, Mass. The Arnold Arboretum of Harvard University 1949 306 p. illus. 25 cm. (Sargentia, a continuation of the Contributions from the Arnold Arboretum of Harvard University No. 8) $6.00 2080

Contents Physical features and history of the island. General characteristics of the flora. Types of natural vegetation. Grassland. Thicket. North forest. South forest. Mature forest. Deciduous forest and other vegetation on thin soil. Streamside forest. Coastal-swamp forest. Beach vegetation. Growth on clearings. Immigrant weeds. Economic plants. Natural history of forest vegetation. The forest floor. Trunks of the forest canopy. Tree trunks. Vines and their role in the forest. Epiphytes. Ant plants. Display of flowers. Characteristics of tropical foliage. Fall and renewal of leaves. Fruits and seeds in humid dark. Identification. Key to the trees and shrubs. Key to the vines. Key to the orchids. Catalogue of flowering plants. New botanical names. Index.

Note A treatise that provides [illegible] detailed description and discussion of the vegetation and flora of San José, an island 5 miles long about 30 miles off the Pacific end of the Panama Canal. The study was executed in 1944 because of the interest on the island of [illegible] tropical testing ground for the Chemical Warfare Service of the United States Army. The data are presented with [illegible] of botanical phenomena to that Army personnel working in the forests of the island and other visitors from the United States of America may find the report as intelligible as the professional botanist. Technical matter interesting only to botanists is included, but [illegible] appears in segregated paragraphs, so that the general reader may skip it. The catalogue of flowering plants, which comprises about three-fourths of the text, contains descriptions of 621 species known to grow without cultivation on the island. Included in the account of each species are the author's observations regarding its behavior and distribution on the island, together [illegible] some descriptive details useful in identifying the plant.

JONES GEORGE NEVILLE

A botanical survey of the Olympic peninsula Washington. Seattle Published by the University of Washington 1936 286 p illus. 25 cm. (University of Washington publications in biology Vol. 5) $3.00 2081

Contents (abridged) Introduction. Physiography and geology. Climate. The zonal distribution of the vegetation. The geographical relationship of the flora. Life-forms according to the Raunkiaer system. A phytogeographical summary. Botanical exploration. Bibliography. The annotated catalogue of plants. Index.

Note A [illegible] for the botanist, of an [illegible] area on the Pacific Coast. It comprises [illegible] description of the vegetation, [illegible] facts about the physical environment, [illegible] catalogue of the vascular flora, and [illegible] comparison of the flora [illegible] that of adjacent areas.

JONES GEORGE NEVILLE

Flora of Illinois. Second edition. Notre Dame University of Notre Dame Press 1950 368 p 24 cm (The American midland naturalist. Monograph no 5 Edited by John D Mizelle) $4.25 2082

Contents Flora and vegetation. Description of the area. Vegetational divisions. Systematic treatment. Key to the sections. Key to the families. Keys to the genera and species. Bibliography. Taxonomic monographs and revisions. Author index. Glossary. Index of plant names.

Note A manual based on material in the herbarium of the University of Illinois and in other herbaria in the state. It covers 65 [illegible] and [illegible] species, [illegible] plants recorded by the writer as growing spontaneously in Illinois. Approximately 2,500 species are described. The descriptions are in technical terminology and the arrangement is conventional. Taxonomic keys are included to facilitate identification. The bibliography lists also the taxonomic monographs that are useful in the study of Illinois plants. Since the flora of Illinois is similar to the flora of [illegible] considerable adjacent area, the work is of some interest to botanists [illegible] outside of that state.

KEARNEY THOMAS HENRY AND OTHERS

Arizona flora. By Thomas H. Kearney Robert H. Peebles and collaborators Berkeley and Los Angeles University of California Press, 1951 1,032 p. illus. (part col'd) 24 cm. $7.50. 2083

Contents Introduction. Botanical exploration. Part one, The physical background and vegetation of Arizona. Topography. Geology and soils. Climate. Vegetation in relation to physical conditions. Life forms. Part two, The flora of Arizona. Plan of the book. Geographic [illegible] of the flora. Taxonomic composition of the flora. Key to the phyla. Pteridophyta—ferns and fern allies. Spermatophyta—flowering plants. Plates. Literature consulted. Glossary. Index.

Note A work designed as [illegible] reference book to be used in identifying "the approximately 3,370 species of flowering plants, ferns and fern allies known to be growing (or to have grown) without cultivation in the state of Arizona." A diverse flora ranging from arctic-alpine to subtropical is covered, reflecting the great ranges of altitude, rainfall, and soils found within the state of Arizona. Keys to families, genera and species are [illegible] special feature of the book. Geographical range is indicated for not only the state but also adjoining states. The illustrations consist of the frontispiece in color and 45 black-and-white reproductions of photographs.

LUNDELL, CYRUS LONGWORTH AND OTHERS

Flora of Texas. By Cyrus Longworth Lundell and collaborators. Volume 1 part 1 Volume 3 parts 1 v Dallas University Press in Dallas, Southern Methodist University 1942–

HAUSMAN, ETHEL HINCKLEY

Beginner's guide to the wild flowers Illustrated by the author New York G P Putnam's Sons 1948 376 p illus 22 cm $3 50 2072

Contents How to use this beginner's guide. Flowers white or whitish. Flowers yellow or orange. Flowers pink or red. Flowers blue or violet. Flowers green or brown Index.

Note. A pocket-sized reference book, arranged in a way that makes sense to the beginner To facilitate identification in the field, the flowers are classified in five color groups, named above. The typical description of a specific plant covers the common name, scientific name, color size, shape odor whether the plant is sticky hairy or smooth, whether the leaves are rough, soft, rigid or flexible the type habitat geographic range, and season of flowering. This matter is supplemented in every case by a clear line drawing.

HITCHCOCK, C LEO, AND OTHERS

Vascular plants of the Pacific Northwest, by C Leo Hitchcock Arthur Cronquist, Marion Ownbey, J W Thompson Illustrated by John H. Rumely Part 5 Compositae, by Arthur Cronquist. Seattle University of Washington Press, 1955 343 p illus. 29 cm (University of Washington publications in biology, Vol 17 part 5) $7 50 2073

Contents Introduction. Technical description and discussion of the family Compositae. Key to the tribes. Key to the genera of the Anthemideae. Key to the genera of the Astereae. Key to the genera of the Cichorieae. Key to the genera of the Cynareae (see also Echinops) Key to the genera of the Eupatorieae. Key to the genera of the Heliantheae. Key to the genera of the Inuleae. Key to the genera of the Senecioneae. Artificial keys to the genera. Achillea. Adenocaulon. Agoseris Ambrosia. Anaphalis. Antennaria. Anthemis. Apargidium Arctium. Arnica. Artemisia. Aster Baccharis. Baeria. Bahia. Balsamorhiza. Bellis. Bidens. Blepharipappus. Boltonia. Brickellia. Carduus. Centaurea. Chaenactis. Chrysanthemum. Chrysopsis. Chrysothamnus. Cichorium. Cirsium. Cnicus. Conyza. Coreopsis. Cotula. Crepis. Crocidium. Dimeresia. Dyssodia. Eatonella. Echinacea. Echinops. Enceliopsis. Erechtites. Erigeron. Eriophyllum. Eupatorium. Filago. Franseria. Gaillardia. Galinsoga. Gnaphalium Grindelia Gutierrezia. Haplopappus. Helenium. Helianthella. Helianthus. Heliopsis. Hemizonia. Hieracium. Hulsea. Hymenopappus. Hymenoxys. Hypochaeris. Inula. Iva. Jaumea. Kuhnia Lactuca. Lagophylla. Lapsana. Lasthenia. Layia. Leontodon. Liatris. Luina Lygodesmia. Madia. Malacothrix. Matricaria. Microseris. Micropus. Onopordum. Petasites. Prenanthes. Psilocarphus. Raillardella. Ratibida. Rigiopappus. Rudbeckia. Saussurea. Senecio. Silybum Solidago Sonchus. Stephanomeria. Stylocline. Tanacetum. Taraxacum Tetradymia. Thelesperma. Townsendia. Tragopogon. Viguiera. Wyethia. Xanthium. Disposition of certain names. Appendix.

Note. The first published part of a systematic botanical study of the vascular plants of the Pacific Northwest section of the United States of America, including the state of Washington, the part of Oregon north of the 44th parallel, Idaho north of the Snake River plains, and the mountainous portion of Montana, including also the southern fringe of British Columbia. Described and illustrated in line drawings are the species of 103 genera of Compositae. The manuscript was prepared on the basis of the examination of collections in the chief institutional herbaria and in two private herbaria.

HOUGH ROMEYN BECK

Handbook of the trees of the Northern States and Canada east of the Rocky Mountains. Illustrated with photographs New York *The Macmillan Company,* 1907 470 p illus. 24 cm. $7 50 2074

Note Although originally published in 1907 this book is still in demand and still useful. In fact, the copy examined for purposes of this review was of a printing made in 1956. It covers both the native and the naturalized trees of northeastern United States of America and Canada north from North Carolina, Tennessee, Arkansas and Oklahoma and east of the Rocky Mountains. For each species included there are photographs of the trunk showing details of the bark, the leaves and fruit, a twig with buds, and a map of the continental *United States* and Canada showing distribution of the species in these regions. The pictures are accompanied by a short descriptive text designed for general reading.

HOWELL, JOHN THOMAS

Marin flora. Manual of the flowering plants and ferns of Marin county, California. Photographs by Charles T Townsend. Berkeley University of California Press, 1949 322 p. illus 22 cm $4 50 2075

Contents (abridged) Introduction Location and physiographic features. Geologic structure and rocks. Soils. Climate and weather Life zones and plant associations. Effect of fire. Numerical analysis of the flora. Geographic distribution of plants in Marin county. Marin county flora and flora of Coast Ranges. Endemic plants. Naturalized plants. Early botanical explorers. Later botanical explorers. Keys to the groups and families. Enumeration of the flora. Principal references. Glossary of technical terms. Index. scientific and common names in the enumeration of the flora. Map of Marin county California. Place names on map of Marin county Mt. Tamalpais and vicinity Place names on map of Mount Tamalpais and vicinity

Note. Marin county is the county occupying the peninsula immediately to the north of the Golden Gate. It covers 529 square miles, yet it is estimated its flora represents approximately 25 per cent of the flora of the entire state of California. This volume is a complete guide to the flora of the county published for amateur and professional botanists alike. Following the introductory pages, the plants of the county are named in systematic order and then the names are recorded the localities in Marin county where found, with occasional other descriptive and taxonomic notes. Keys are provided for the identification of families, tribes, genera, and species, with an extensive glossary for those unfamiliar with the language of botany The book is based upon field work by the author in Marin county over a 10-year period. Totals of 1,313 species and 144 named varieties and forms are recognized. The 25 photographic plates show landscapes and plants, especially trees, of the county

HYLANDER, CLARENCE J

The Macmillan wild flower book Illustrations by Edith Farrington Johnston. New York The Macmillan Company, 1954 480 p illus (part col d) 26 cm $8 95 2076

Note A popular book on the wild flowers of continental United States of America, particularly the eastern portion from the coast of the Atlantic Ocean westward to the Rocky Mountains. The illustrations are the principal feature. There are 230 plates, all of which are faithful reproductions in color of paintings of the plants described. The paintings depict the flowers and associated leaves in all cases, and in some cases show the whole plant. The plates are accompanied by a brief descriptive text which gives the common and scientific names for the genus and the family then a short commentary in the common language of which the following is typical "This roughly hairy species is a tall-stemmed plant reaching 6 or 7 feet in height. Opposite, stemless leaves have margins of rounded teeth. Small, white flowerheads are borne in a small flat-topped cluster each head consisting of 8 tubular flowers. Rough-Thoroughwort grows in wet sandy soil from southern New England to Florida and Louisiana, and flowers in August and September

JAEGER, EDMUND CARROLL

Desert wild flowers. Revised edition. Stanford *Stanford University Press* 1941 322 p. 2077 illus. 21 cm *$5 00*

Note This book for the layman and amateur botanist contains descriptions of 764 desert plants Each plant is illustrated by a line drawing or in a few cases, a photograph. The derivations of the botanical names are given Practically all known plants of the deserts of California and related portions of Nevada, including the Lake Mead area at Boulder Dam, are included.

JENNINGS O E

Wild flowers of western Pennsylvania and the upper Ohio basin. Text by O E Jennings

ceming the contents of the articles. Botanists of all nationalities from Linnaeus to the present time are included. The index, by Egbert H. Walker, designed to facilitate reference to the bibliography, is published as a separate paper though under the same cover as the main work.

MERRILL, ELMER DREW
Plant life of the Pacific world. New York The Macmillan Company 1945 295 p. illus. 21 cm. (The Pacific world series) $4.50. 2090

Contents: The rain forests and jungles of the tropics. General principles of botanical classification. Plants of the seashore. The mangrove forest. The secondary forests and open grass-lands. The primary forest. Noteworthy plants of special interest. Weeds and their significance. The cultivated plants. Jungle foods. Problems of Malaysian plant distribution. Problems of Polynesian plant distribution. The significance of certain local plant names. Notes on specific islands and island groups. Notes on botanical history, exploration, and bibliography. Simple directions for preparing botanical specimens. Botanical arrangement of the species. Glossary. Index.

Note: A survey of plant life in the whole Pacific area, together with descriptions of some of the commonest plants and those having the widest geographical distribution. The material is arranged under types of vegetation, and the short discussions has been to interpret in simple terms the interrelations of plant and animal life in the tropical forests, in the open grass-lands, and along the seashore. The book, as others in the series, was written especially for the information of members of the United States armed forces stationed in the Pacific area during World War [illegible] but it is useful to any reader who desires information about these regions. There is [illegible] bibliography listing botanical works on the [illegible] area but [illegible] publications on individual islands and regions.

MERRILL, ELMER DREW
Polynesian botanical bibliography 1773–1935 Honolulu Bernice P Bishop Museum, 1937 194 p. 25 cm. (Bernice P Bishop Museum. Bulletin 144) Gratis 2091

Note: This work represents [illegible] revised, and much more complete edition of the author's *Bibliography of Polynesian botany* published in 192[illegible] by the Museum in Bulletin 13. The present work lists 2,600 titles as against 1,370 titles in the first edition, the additions consisting of papers published between 1923 and 1935 and also references from the older literature previously overlooked. An innovation adopted is the inclusion of brief abstracts indicating the general scope of the papers which will assist the investigator in judging of their relative value. The region covered is essentially that of the original work, the islands in the Pacific basin lying between 30° North latitude and 35° South latitude excluding the Bonin Islands, Juan Fernandez, New Caledonia, Lord Howe, Norfolk, the Kermadec Islands, and the New Hebrides are also included.

MUENSCHER, WALTER CONRAD LEOPOLD
Aquatic plants of the United States. Ithaca. Comstock Publishing Company Inc., 1944 374 p. illus 24 cm. (Handbooks of American natural history edited by A. H Wright. Vol. IV) $5.00 2092

Contents (abridged): Introduction. Key to the families. Aquatic plants arranged by families: Typhaceae. Sparganiaceae. Potamogetonaceae. Najadaceae. Juncaginaceae. Alismaceae. Butomaceae. Hydrocharitaceae. Gramineae. Cyperaceae. Araceae. Lemnaceae. Mayacaceae. Xyridaceae. Eriocaulaceae. Pontederiaceae. Juncaceae. [illegible] Polygonaceae. Chenopodiaceae. Amaranthaceae. Caryophyllaceae. Ceratophyllaceae. Nymphaeaceae. Ranunculaceae. Cruciferae. Podostemaceae. Crassulaceae. Rosaceae. Callitrichaceae. Elatinaceae. Lythraceae. Onagraceae. Trapaceae. Haloragidaceae. Umbelliferae. Primulaceae. Menyanthaceae. Hydrophyllaceae. Scrophulariaceae. Lentibulariaceae. Acanthaceae. Plantaginaceae. Lobeliaceae. Campanulaceae. [illegible] Equisetaceae. Marsileaceae. Salviniaceae. Parkeriaceae. Glossary. Index.

Note: A systematic classification and description of those species which normally start in the water and must grow for at least part of their life cycle in water either completely submersed or emersed. A few borderline species occurring in bogs and marshes are also included, but land plants which are periodically inundated or submersed are omitted. The general plan of the work includes

key to the families [illegible] generic species, keyed by [illegible] detailed treatment [illegible] description, [illegible] range and [illegible] botanical [illegible] each species treated. Most of the species are illustrated, and there are numerous distribution maps.

MUENSCHER, WALTER CONRAD LEOPOLD
Poisonous plants of the United States. Revised edition. New York. The Macmillan Company 1951 27[illegible] p illus 22 cm $4.95 2093

Contents (abridged): Part I, Nature and [illegible] of poisonous plants. The classification of poisonous plants. The [illegible] of [illegible] of plants. The chemical nature and properties of the toxic principle. The physiological action of the toxic principle. The conditions under which poisoning is produced. Plants poisonous or injurious under special conditions. Plants causing dermatitis. Plants causing photosensitization. Cyanogenetic plants. Introduced poisonous ornamental plants. Plants producing poisonous seeds. [illegible] plants. Plants causing [illegible] by stored [illegible]. Plants producing undesirable flavors in milk and milk products. Plants causing mechanical injury. Part II, Poisonous plants arranged according to families. Literature references. Index.

Note: A standard manual of information on the poisonous plants of continental United States of America and Canada. Poisonous has been interpreted liberally so that the book includes all plants in which poisoning has been attributed. Thus the onion and [illegible] are included, even though they are [illegible] used for food. [illegible] cases the author makes it clear that the plants are [illegible] generally [illegible] and refers to the literature in which the specific cases of poisoning are described. Plants poisonous to livestock are included, along with those poisonous to man. The first part is only [illegible] pages long and is devoted to a brief discussion of the groups of poisonous [illegible] and of the types of poisoning and injury caused by plants. The second part is devoted to descriptions of species of poisonous plants. The space given to each species [illegible] from several pages to species [illegible] poisonous nature to man or grazing animals is well established, down to [illegible] paragraph or two on species [illegible] in few cases [illegible] poisoning have been reported. The information given for each species is designed to aid in its identification and to give the conditions under which it is poisonous [illegible] the symptoms of poisoning by it. Treatment for poisoning is described very briefly. Clearly reproduced drawings supplement the verbal descriptions [illegible] the more important plants. The first edition was published in 1[illegible] [illegible] this revised ed[illegible] descriptions of 21 species have been added and some other changes have been made.

NEAL, MARIE C
In gardens of Hawaii. Honolulu Bernice P Bishop Museum, 1948. 805 p. illus. 23 cm. (Bernice P Bishop Museum. Special publication 40) $8.00 2094

Contents: Introduction. Descriptions of the plants: Plant [illegible] [illegible] allies. Ferns. Gymnosperms. Angiosperms. Illustrated glossary. Approximate flowering [illegible] of some plants in Hawaii. Color keys. Color key to flowers. Color key to fruits and seeds. Index.

Note: Rather than [illegible] book on gardening in Hawaii, as the title might be taken to indicate, this is [illegible] guide for amateur botanists and nature observers to the identification of plants of horticultural interest, both introduced and endemic, that grow in Hawaii. It is not [illegible] complete list. In fact, the author states that it covers chiefly "plants found at warm, low altitudes where the great majority of gardens are located." Nevertheless, more than 2,000 species are described, and nearly 400 are illustrated. The coverage is not limited to cultivated plants, since many of those described grow in the wild state in Hawaii. The descriptions of taxa are nontechnical and cover chiefly morphology though uses for the economic plants are mentioned. Identification keys for families and other taxa are included.

NORTH AMERICAN FLORA. H. A. Gleason, H. W Rickett, and Fred J. Seaver editorial committee New York The New York Botanical Garden, 1907–57 2095

Note: The monumental *North American flora* is designed to present in one work descriptions of all plants growing, independent of cultivation, in North America, here taken to include Greenland, Central America, the Republic of Panama, and the West Indies, except Trinidad, Tobago, Curaçao and other islands off the north coast of Venezuela, [illegible] flora is essentially South American. The work is *still* in the process of completion as of January 1958, al-

55 6 pts illus 26 cm Vol 1, pt. I, $5 00, vol 3, pt I, $1 50 Vol 3, pt. II, $1 50, vol 3, pt. III, $3 00, vol 3, pt IV $1 50, vol 3 pt. V, $3 00 2084

Content Vol 1 pt. I Pteridophyta contributed by D S. Correll Vol 3 pt. I, Eriocaulaceae Avicenniaceae, Verbenaceae, by H. N Moldenke. Vol 3 pt. II, Anacardiaceae, Cyrillaceae Aquifoliaceae, contributed by F A. Barkley Genus Cuscuta, Convolvulaceae, contributed by T G. Yuncker Vol. 3 pt. III, Orchidaceae, contributed by D S. Correll. Vol. 3 pt. IV Palmaceae, contributed by L. H. Bailey bromeliaceae contributed by L. B. Smith. Onagraceae, contributed by P A. Munz. Vol. 3 pt. V Umbelliferae, contributed by M E. Mathias and L. Constance Campanulaceae, contributed by R. McVaugh.

Note The parts listed above are all which had been published at the close of 1956 of projected ten-volume publication designed to present descriptions of all ferns and flowering plants which grow without cultivation within the state of Texas. The species descriptions include literature references, technical descriptions of morphology known distribution within the state, and vernacular name Illustrations which are reproductions from drawings are included in some of the parts.

MACBRIDE, JAMES FRANCIS

Flora of Peru Chicago Chicago Natural History Museum, 1936–51 12 v 23 cm (Chicago Natural History Museum Fieldiana Botany Vol XIII, pt. I, no 1 3 pt. II, no 1–3, pt III, no 1–3, pt. IIIA no 1, pt. IV, no 1 pt. VI, no 1–2) Pt. I, no 1 3, o p pt. II, no 1, $1 50 no 2 3 o p, pt III, no 1, $3 50, 2, $2 00 3, $1 75, pt. IIIA, no 1, $2 50 pt IV, no 1, $3 00 pt. VI no 1, o p, 2, $1 50 2085

Note A comprehensive compilation of the taxonomic data based on the world literature relating to the seed plants of Peru. The work attempts to bring together descriptions of all known Peruvian seed plants and ferns, most of which have been published during the last century Except as the taxonomic relationship of the plants listed has already been determined, no effort has been made at critical disposition of them, and synonyms are therefore not particularly numerous and are mostly the result of transfers and name changes. In the case of widely distributed species usually there are listed only the original name if it has been transferred, and the synonyms based on Peruvian material. The compilation is intended primarily as an aid to the determination of Peruvian plants, while the monographs cited supply such information as exists regarding relationships. The descriptions are adapted from the original publication or reference work.

MCMINN, HOWARD EARNEST

An illustrated manual of California shrubs Berkeley University of California Press 1951 663 p illus 24 cm $6 50 2086

Content Introduction. Key to the genera. Key to the families. Descriptive account of the shrubs 1 Gymnospermae or cone-bearing shrubs and their allies. 2 Angiospermae or true-flowering shrubs. Addenda. Glossary of botanical terms. Index to names f species. *Nomenclatorial changes. Bibliography Index.*

Note. A systematic and descriptive account of the shrubs f California, written on the basis of 20 years of study of them in their native habitats. About 800 species are included, and the number of separate illustrations runs to 775 The work is of more than local interest, for most of the plants described are found in other regions also. The above is the second printing of the title, which was copyrighted by th uthor in 1939 and first published in that year by J W Stacey Inc.

MATHEWS, F SCHUYLER

F Schuyler Mathews Field book of American wild flowers. Completely revised and enlarged by Norman Taylor With 30 colored plates and over *300 black and white illustrations* drawn from nature by F Schuyler Mathews and Eduardo Salgado. New York G P Putnam's Sons, 1955 601 p. illus (part col'd) 18 cm $5 00 2087

Contents (abridged) How t use this book. Color rank Glossary f terms. The field guide. Index.

Note First published in 1902 this book has been used for over half century as standard guide to the identification of the wild flowers that grow in the central and eastern portion of continental United States of America. In this new edition—the result of a thorough revision of the original work, the number species described has been increased, and the classification and descriptions have been corrected on the basis of the eighth edition of Gray *Manual of botany* and H. A. Gleason's new edition of Britton and Brown *Illustrated flora* The greater part of the text is devoted to the descriptions of species. These give the scientific and common names, the color of the flower and the time of blooming, a semitechnical description of morphology a short range and sometimes one on habitat. Every alternate page in the body of the book is devoted to black-and-white drawings and in addition there are 31 plates in color

MERRILL, ELMER DREW, AND EGBERT H. WALKER

A bibliography of eastern Asiatic botany Sponsored by the Smithsonian Institution Arnold Arboretum of Harvard University New York Botanical Garden, Harvard-Yenching Institute. Jamaica Plain, Mass. The Arnold Arboretum of Harvard University 1938 719 p 30 cm $6 50 2088

Contents Bibliography proper: Introduction, Reference list of serial abbreviations. Authors and titles. Appendix: Older Oriental works. Reference lists of Oriental serials. Reference list of Oriental authors. Subject index Index I, General. Index II, Regional. Index III, Systematic. Family index of generic names of vascular cryptogams (Pteridophyta) and seed plants. Index of principal geographic names.

Note: The regional scope of this monumental work comprises China, Japan, Formosa, Korea, Manchuria, Tibet, eastern and southern Siberia, the Philippines, Indo-China, Siam, Burma, India and central and northern Asia. Its subject scope is the taxonomic, economic, and geographic botany of this region, and it lists all the pertinent literature that could be discovered by the compilers that was published through December 1936, together with inclusion of the parts published in 1937 of continued papers whose publication began before 1937 of continued papers whose publication began before 1937 The arrangement is alphabetical by authors' names with titles arranged in chronological order under the names of individual authors. Titles in non-Roman alphabets are transliterated Three separate indexes are provided as noted in the above contents. Together these indexes run to 140 pages.

MERRILL, ELMER DREW

A botanical bibliography of the islands of the Pacific. Washington D C. Government Printing Office, 1947 404 p. 25 cm. (Smithsonian Institution United States National Museum Contributions from the United States National Herbarium Vol 30 part 1) 2089

Contents A botanical bibliography of the islands of the Pacific by Elmer D Merrill Introduction Reference list of abbreviations Bibliography A subject index to Elmer D Merrill's A botanical bibliography of the islands of the Pacific, by Egbert H. Walker Introduction General index. Regional index. Systematic index. Index of principal references t geographic names.

Note About 3800 titles are recorded in this bibliography which is a revision of two papers published in 1924 and 1937 with the addition of numerous titles. Included are works upon the botany, cryptogams, ferns, and seed plants, and on economic, taxonomic, ecological and other botanical studies on the flora of the Pacific islands from Juan Fernández on the east to New Caledonia and New Hebrides on the west and from Midway Island on the north t the Kermadec Islands on the south. The bibliography is arranged by author and under each author his publications are listed in order the titles being supplemented by brief descriptive notes on

Contents: Introduction. Plant areas of Oregon. Numerical summary of groups. Key to the higher groups. Descriptive flora. Glossary. Illustrations of plant parts. Explanation of abbreviations of authors' names. Index.

Note: A manual for those students of higher plants who are interested in the classification and naming of species, but who have neither time nor technical training for detailed taxonomic study. The work is based upon the herbarium of Willamette University collected through many years from nearly every portion of the state. Data provided for each specimen described includes scientific and popular names, general description, measurements, general range, and conditions under which found. Illustrations are used sparingly.

Preston Richard Joseph Jr.

North American trees (exclusive of Mexico and tropical United States) a handbook designed for field use with plates and distribution maps. Ames Iowa State College Press, 1948 371 p. illus. 20 cm $3 75 2102

Contents: Introduction. Natural relationship of trees. Forest regions of North America. Tree characters. Key to the genera. Handbook of North American trees. Glossary. Index.

Note: Designed to meet the needs of scientists, students, and general public, this up-to-date field manual is a guide to the trees of North America north of Mexico. Both trees native to the area and trees naturalized or commonly planted are included. The principal trees (231 species of importance or general interest) are described in the following respects: habit, leaves, fruit, twigs, bark, wood, [illegible] characters; the leaves, fruit and other parts are illustrated in line drawings. [illegible] range map to show the distribution of the species. An additional 176 less important species are more briefly described or mentioned in the keys. The arrangement is by family with numerous keys to assist in identification. The nomenclature follows the 1944 revision of the United States Forest Service check list.

Raup Hugh Miller

The botany of southwestern Mackenzie. With thirty-seven plates and sixteen text figures. Jamaica Plain, Mass The Arnold Arboretum of Harvard University 1947 275 p. illus. 25 cm. (Sargentia, a continuation of the Contributions from the Arnold Arboretum of Harvard University vi) $5.00 2103

Contents: Introduction and acknowledgments. Topography of southwestern Mackenzie. History of exploration. Geology and soils. Climate and agriculture. Plant communities of southwestern Mackenzie. Geographic affinities of the [illegible] of southwestern Mackenzie. Origins of the flora of southwestern Mackenzie. Catalogue of the vascular flora of southwestern Mackenzie. Literature cited. Plates. Index.

Note: Conceived as a contribution toward the description [illegible] botany of boreal America, this volume deals with the southwestern part of the District of Mackenzie, Northwest Territories. The publication, which was founded upon fieldwork in the District, divides roughly into four parts: the general description of the region, an account of the plant communities there, a study of the geographic affinities of [illegible] species, and an annotated catalogue of the vascular plants known to occur in southwestern Mackenzie. The last does not presume to be complete, as areas of the region are still unexplored botanically. The aim of the author was chiefly to bring printed knowledge of the flora up to date in order to furnish a sounder basis for further work. Twenty-five of the plates at the end of the book contain 71 species of plants in Canada and Alaska.

Rehder, Alfred

Bibliography of cultivated trees and shrubs hardy in the cooler temperate regions of the northern hemisphere. Jamaica Plain Mass. The Arnold Arboretum of Harvard University 1949 825 p 30 cm. $20.00 2104

Contents: Introduction. Explanation of abbreviations of periodicals and titles. Systematic enumeration of cultivated trees and shrubs. Additions and emendations. Index.

Note: A monumental reference work of value to botanists and horticulturists. It provides literature references to the sources of the botanical names, valid names and synonyms, of the [illegible] trees and shrubs of the north temperate zone. It is [illegible] complemental to the author's *Manual of cultivated trees and shrubs hardy in North America, exclusive of the subtropical and warmer regions*, second edition, New York, 1940. All tree and shrub names in the *Manual* are to be found here in the *Bibliography* [illegible] in addition all genera, species, and varieties introduced or described to the end of 1947. The index provides an alphabetical reference to the plants included. In [illegible] the system [illegible] and the index the names are [illegible] following the international rules of botanical nomenclature. The work is not a bibliography of books and periodicals on trees and shrubs, but is rather a bibliography of original sources for the names of each tree and shrub.

Rehder Alfred

Manual of cultivated trees and shrubs hardy in North America, exclusive of the subtropical and warmer temperate regions. Second edition revised and enlarged. New York The Macmillan Company 1940 996 p illus 22 cm. $12.50 2105

Contents: Preface to the second edition. Introduction. Abbreviations of authors' names. Abbreviations of references to illustrations. Further abbreviations and explanations of signs. Synopsis of the orders and families contained in this book. Analytical key to the families and aberrant genera. Description of trees and shrubs. Glossary of botanical terms. Index. Additions and emendations.

Note: This handbook describes from the botanical and horticultural point of view the cultivated woody plants which are grown in the colder and cooler temperate regions of North America. It presents in concise form a complete [illegible] of [illegible] trees and shrubs known to be in cultivation and capable of enduring the [illegible] under consideration. Woody vines, bamboos, cacti, and suffruticose plants are included. Revised and enlarged, it covers the new species and varieties that have been introduced in the past [illegible] years, the new hybrids that have appeared in cultivation, and includes new data on the zones of hardiness. It incorporates the changes in names necessitated by the amendments and changes in International Rules of Botanical Nomenclature adopted by the Botanical Congress in 1930 and 1935.

Rickett H W

Wild flowers of America 400 flowers in full color based on paintings by Mary Vaux Walcott as published by the Smithsonian Institution of Washington. With additional paintings by Dorothy Falcon Platt Edited with an introduction and detailed description by H W Rickett. New York Crown Publishers Inc., 1953 400 p colored illus. 30 cm. $10.00 2106

Contents: Introduction. Glossary. Flower descriptions. Identification chart. Index.

Note: The colored plates of which there are 400 are the principal feature of this volume. As noted in the title, the Walcott plates were first published by the Smithsonian Institution. The original format was one of loose prints in a portfolio, whereas in this book the plates are bound in as pages of the volume. The majority of reproductions in this volume are sharp and of high quality. Some are a little fuzzy but are nevertheless sufficiently clear for identification purposes. The plates are preceded by an introduction and plant descriptions written by Dr Rickett of the New York Botanical Garden. The book is addressed primarily to amateur naturalists, but it has appeal for anyone, professional or nonprofessional, who is interested in wild flowers of the North American continent.

Rydberg Per Axel

Flora of the prairies and plains of central North America. New York New York Botanical Garden 1932 969 p. illus. 23 cm. $5.50 2107

Contents: Abbreviations, signs, and measurements. Pteridophyta. Spermatophyta. Gymnospermae. Angiospermae. Monocotyledoneae. Dicotyledoneae. Errata. Summary. Abbreviations of authors' names. Glossary. Index.

though more than 130 of the separate parts have been published. The completed work will form a series of volumes with the following sequence Volume 1 Myxomycetes, Schizophyta volumes 2 to 10, Fungi volumes 11 to 13 Algae volumes 14 and 15 Bryophyta volume 16, Pteridophyta and Gymnospermae volumes 17 to 19 Monocotyledones volumes 20 to 34 Dicotyledones. Four or more parts are required for each volume, the subscription price for all parts published prior to 1936 being fixed at $1.50 for each part for later parts it is approximately two cents per page. Several parts are ow out of print. The material has been prepared by a large number of specialists in each of the orders, classes, and families described. Original citations, synonymy characters, measurements, type locality distribution references to previously published illustrations, and special notes are given in the systematic descriptions. A complete list of available volumes and parts, ith prices, can be obtained from the New York Botanical Garden.

PALMER, ERNEST JESSE, AND JULIAN STEYERMARK

An annotated catalogue of the flowering plants of Missouri St. Louis, Mo The Missouri Botanical Garden 1935 383 p illus 25 cm (Missouri Botanical Garden Annals Vol XXII, no 3) $5 00 2096

Note. The principal sources drawn upon in compiling this catalogue and in working out the distribution of species were first, the collections in the herbarium of the Missouri Botanical Garden the Gray Herbarium, the Arnold Arboretum, the National Herbarium (for the grasses) and other public and private collections second lists and monographs in which Missouri specimens are cited and third, the unpublished notes and correspondence of the two authors, supplemented by notes and correspondence from other collectors. Free use has also been made of manuals and general works on botany and a list of 300 titles on the phanerogamic botany of Missouri which have been consulted is given in the bibliography A umber of ew combinations in plant ames have been made there are one new species, three new varieties, and six new forms described, and names are proposed for four hybrid oaks. The index lists valid names, synonyms or otherwise invalid names, new species varieties, forms, hybrids, and new combinations, and family names. There are six plates of photographs. A 20-page supplementary paper has been prepared by the same authors, entitled *Additions, corrections and revisions to the Annotated catalogue of th flowering plants of Missouri St. Louis, Mo., 1938* and published as part of its *Annals*, Volume XXV no. 3

PARSONS, MARY ELIZABETH

The wild flowers of California their names haunts, and habits. Illustrated by Margaret Warriner Buck. San Francisco California Academy of Sciences 1955 423 p illus (part col'd) 20 cm $3 95 2097

Contents How to use the book. Explanation of terms. Key to the flowering plants. Plant families or orders. Some important genera. Index to technical terms. English index to plant families. Latin index to plant families. Introductory Prelude. Flower descriptions white—yellow—pink—blue and purple—red—miscellaneous Index to Latin names. Index to English names. Glossary

Note A standard manual of the wild flowers of the state of California. The first edition as published in 1897 and several other editions have followed It is addressed primarily to amateur botanists, and the descriptions of species contained in it are brief and largely ritten in the common language. Concise morphological descriptions are supplemented by comments directed to amateur nature observers. The present edition has been printed from the plates f the 1930 edition without change in the main body f the book However six reproductions in color of water-colors, have been added to the illustrations, and short appendix of currently accepted scientific names has been inserted at the end of the volume

PEATTIE, DONALD CULROSS

Flora of the Indiana dunes, a handbook of the flowering plants and ferns of the Lake Michigan coast of Indiana and of the Calumet district Chicago Field Museum of Natural History 1930 432 p illus. 19 cm $2 00 2098

Contents List of illustrations. Preface. Flora of the Indiana dunes. Plant hunting in the dunes. How to use a key Analytical key t the families. Systematic list of the families, genera, and species Glossary Index.

Note This guide for the beginner and student is written in simplified language. It contains more than 1,100 species of flowering plants and ferns and is arranged primarily to assist in field identification The descriptions are based largely on easily visible characters. The region covered contains sand-dunes, lagoons, bogs, swamps, strands, lakes, slow rivers, and prairies.

PEATTIE, DONALD CULROSS

A natural history of trees of eastern and central North America. Illustrated by Paul Landacre. Boston Houghton Mifflin Company, 1950 606 p illus 23 cm $5 00 2099

Contents. Notes on nomenclature and distribution. The trees The pines (*Pinus*) The larches (*Larix*) The hemlocks (*Tsuga*) The spruces (*Picea*) The firs (*Abies*) The arbor-vitaes (*Thuja*) The false cypresses (*Chamaecyparis*) The junipers (*Juniperus*) The poplars (*Populus*) The willows (*Salix*) The walnuts (*Juglans*) The hickories (*Carya*) The hornbeams (*Carpinus*) The hop hornbeams (*Ostrya*) The birches (*Betula*) The beeches (*Fagus*) The chestnuts (*Castanea*) The oaks (*Quercus*) The elms (*Ulmus*) The hackberries (*Celtis*) The mulberries (*Morus*) The tuliptrees (*Liriodendron*) The magnolias (*Magnolia*) The pawpaws (*Asimina*) The sassafrases (*Sassafras*) The witch hazels (*Hamamelis*) The sweet gums (*Liquidambar*) The sycamores (*Platanus*) The apples (*Malus*) The mountain-ashes (*Sorbus*) The shadblows (*Amelanchier*) The hawthorns (*Crataegus*) The plums and cherries (*Prunus*) The redbuds (*Cerci*) The coffeetrees (*Gymnocladus*) The sweet locusts (*Gleditsia*) The yellow-woods (*Cladrastis*) The locusts (*Robinia*) The prickly ashes (*Zanthoxylum*) The hoptrees (*Ptelea*) The sumacs (*Rhus*) The hollies (*Ilex*) The maples (*Acer*) The horse chestnuts (*Aesculus*) The lindens (*Tilia*) The Hercules'-clubs (*Aralia*) The tupelos (*Nyssa*) The cornels (*Cornus*) The viburnums (*Viburnum*) The rhododendrons (*Rhododendron*) The mountain laurels (*Kalmia*) The sorreltrees (*Oxydendrum*) The ebonies (*Diospyros*) The silverbells (*Halesia*) The sweetleaves (*Symplocos*) The fringetrees (*Chionanthus*) The ashes (*Fraxinus*) Keys to species and genera. Glossary Index of scientific names. Index of English names.

Not Described in this book are 187 species divided into 57 genera. For each species are given common name, scientific name other names, range, description of leaves, flowers, fruit, seeds, bark wood, and brief essay telling something of the use and the lore of the species and of its place in American history especially in pioneer times. T assist in identification, illustrations are given in black and white f the mature leaves and flower or fruit of each species, together with 19 full-page drawings showing the general aspect of 19 of the genera. A book for reading and reference rather than field book.

PEATTIE DONALD CULROSS

A natural history of Western trees Illustrated by Paul Landacre. Boston Houghton Mifflin Company, 1953 751 p illus 23 cm $6 00 2100

Content The trees of western North America. Keys t species and genera. Glossary Index of scientific names. Index of common names.

Note This book is both popular guide to tree identification and an example of excellent writing on natural history It describes the nath trees of continental United States f America in the region that lies westward of the 100th meridian. Alaska is included The greater part of the volume is devoted to descriptions of individual species. In all f the descriptions th accepted botanical name is given and, in addition, one or more common names. The names are followed by statement on the range of the species and nontechnical description of morphology Then follows short essay of interesting miscellaneous information on the species. I the case of species outstanding for their grandeur or beauty the author pays full tribute to these qualities. The volume is generously illustrated with woodcuts and drawings of high artistic quality

PECK, MORTON EATON

A manual of the higher plants of Oregon Portland, Ore Binfords and Mort 1941 866 p illus 22 cm $6 00 2101

Contents Introduction. Plant areas of Oregon. Numerical summary of groups. Key to the higher groups. Descriptive flora. Glossary. Illustrations of plant parts. Explanation of abbreviations of authors' names. Index.

Note A manual for those students of higher plants who are interested in the classification and naming of species, but who have neither time nor technical training for detailed taxonomic study. The work is based upon the herbarium of Willamette University, collected through many years from nearly every portion of the state. Data provided for each specimen described includes scientific and popular names, general description, measurements, general range and conditions under which found. Illustrations are used sparingly.

PRESTON RICHARD JOSEPH JR.

North American trees (exclusive of Mexico and tropical United States) a handbook designed for field use with plates and distribution maps. Ames Iowa State College Press 1948. 371 p. illus. 20 cm. $3 75 2102

Contents Introduction. Natural relationship of trees. Forest regions of North America. Tree characters. Key to the genera. Handbook of North American trees. Glossary. Index.

Note Designed to meet the needs of scientists, students, and general public, this up-to-date field manual is a guide to the trees of North America north of Mexico. Both trees native to the area and trees naturalized or commonly planted are included. The principal trees (132 species of importance or general interest) are described in the following respects: habit, leaves, fruit, twigs, bark, wood, special characters; the leaves, fruit, and other parts are illustrated in line drawings, with 2-inch-square range map to show the distribution of the species. An additional 114 less important species are more briefly described or mentioned in the keys. The arrangement is by family with numerous keys to assist in identification. The nomenclature follows the 1944 revision of the United States Forest Service check list.

RAUP HUGH MILLER

The botany of southwestern Mackenzie. With thirty-seven plates and sixteen text figures. Jamaica Plain Mass. The Arnold Arboretum of Harvard University 1947 275 p. illus. 25 cm. (Sargentia, a continuation of the Contributions from the Arnold Arboretum of Harvard University vi) $5 00. 2103

Contents Introduction and acknowledgements. Topography of southwestern Mackenzie. History of exploration. Geology and soils. Climate and agriculture. Plant communities of southwestern Mackenzie. Geographic affinities of the vegetation of southwestern Mackenzie. Origins of the flora of southwestern Mackenzie. Catalogue of the vascular flora of southwestern Mackenzie. Literature cited. Plates. Index.

Note Conceived as a contribution toward the description of the botany of boreal America, this volume deals with the southwestern part of the District of Mackenzie, Northwest Territories. The publication, which was founded upon fieldwork in the District, divides roughly into four parts: the general description of the region, an account of the plant communities there, a study of the geographic affinities of the species, and an annotated catalogue of the vascular plants known to occur in southwestern Mackenzie. The last does not pretend to be complete, as some of the region are still unexplored botanically. The aim of the author was chiefly to bring printed knowledge of the flora up to date in order to furnish a broader base for further work. Twenty-five of the plates at the end of the book contain 271 species of plants in Canada and Alaska.

REHDER ALFRED

Bibliography of cultivated trees and shrubs hardy in the cooler temperate regions of the northern hemisphere. Jamaica Plain Mass. The Arnold Arboretum of Harvard University 1949 825 p. 30 cm $20.00 2104

Contents Introduction. Explanation of abbreviations of periodicals and titles. Systematic enumeration of cultivated trees and shrubs. Additions and emendations. Index.

Note A monumental reference work of value to botanists and horticulturists. It provides literature references to the sources of the botanical names, valid names and synonyms, of the cultivated trees and shrubs of the north temperate zone. It is complementary to the author's Manual of cultivated trees and shrubs hardy in North America, exclusive of the subtropical and warmer regions, second edition, New York 1940. All tree and shrub names in the Manual are to be found also in the Bibliography with full synonymy and with additional genera, species and varieties listed and described to the end of 1947. The index provides an alphabetical reference to the plants included in the systematic enumeration, and in the index the names are in Latin following the latest International rules of botanical nomenclature. The work is not a bibliography of books and periodicals on trees and shrubs but is rather a bibliography of original sources for the names of each tree and shrub.

REHDER, ALFRED

Manual of cultivated trees and shrubs hardy in North America, exclusive of the subtropical and warmer temperate regions. Second edition revised and enlarged. New York The Macmillan Company 1940 996 p illus 22 cm. $12.50 2105

Contents Preface to the second edition. Introduction. Abbreviations of authors' names. Abbreviations of references to illustrations. Further abbreviations and explanation of signs. Synopsis of the orders and families contained in this book. Analytical key to the families and aberrant genera. Descriptions of trees and shrubs. Glossary of botanical terms. Index. Additions and emendations.

Note This handbook describes from a botanical and horticultural point of view the cultivated woody plants which are grown in the colder and cooler temperate regions of North America. It presents in concise form a complete list of all trees and shrubs known to be in cultivation and capable of enduring the winter in the region under consideration. Woody vines, bamboos, and suffruticose plants are included. Revised and enlarged, it covers the new species and varieties that have been introduced in the past 13 years, the new hybrids that have appeared in cultivation, and includes a new map on the zones of hardiness. It incorporates the changes in names necessitated by the amendments and changes in the International Rules of Botanical Nomenclature adopted by the Botanical Congress in 1930 and 1935.

RICKETT H W

Wild flowers of America. 400 flowers in full color based on paintings by Mary Vaux Walcott, as published by the Smithsonian Institution of Washington. With additional paintings by Dorothy Falcon Platt. Edited with an introduction and detailed description by H. W. Rickett New York Crown Publishers Inc., 1953 400 p colored illus. 30 cm. $10.00 2106

Contents Introduction. Glossary. Flower descriptions. Identification chart. Index.

Note The colored plates of which there are 400 are the principal feature of this volume. As noted in the title, the Walcott plates were first published by the Smithsonian Institution. The original format was one of loose prints in a portfolio, whereas in this book the plates are bound in as pages of the volume. The majority of reproductions in this volume are sharp and of high quality. Some are a little fuzzy but are nevertheless sufficiently clear for identification purposes. The plates are preceded by an introduction and plant descriptions written by Dr. Rickett of the New York Botanical Garden. The book is addressed primarily to amateur naturalists, but has appeal for anyone, professional or nonprofessional, who is interested in wild flowers of the North American continent.

RYDBERG PER AXEL

Flora of the prairies and plains of central North America. New York New York Botanical Garden 1932 969 p illus 23 cm. $5 50 2107

Contents Abbreviations, signs, and measurements. Pteridophyta. Spermatophyta: Gymnospermae. Angiospermae, Monocotyledoneae, Dicotyledoneae. Errata. Summary. Abbreviations of authors' names. Glossary. Index.

though more than 110 of the separate parts have been published. The completed work will form a series of volumes with the following sequence Volume 1 Myxomycetes, Schizophyta volumes 2 to 10, Fungi volumes 11 to 13 Algae volumes 14 and 15 Bryophyta volume 16 Pteridophyta and Gymnospermae volumes 17 to 19 Monocotyledones volumes 20 to 34 Dicotyledones. Four or more parts are required for each volume the subscription price for all parts published prior to 1936 being fixed at $1.50 for each part for later parts it is approximately two cents per page. Several parts are now out of print. The material has been prepared by a large number of specialists in each of the orders, classes, and families described. Original citations, synonymy characters, measurements, type locality distribution, references to previously published illustrations, and special notes are given in the systematic descriptions. A complete list of available volumes and parts, with prices, can be obtained from the New York Botanical Garden.

PALMER, ERNEST JESSE, AND JULIAN STEYERMARK

An annotated catalogue of the flowering plants of Missouri St. Louis, Mo. The Missouri Botanical Garden, 1935 383 p illus. 25 cm (Missouri Botanical Garden Annals Vol XXII no 3) $5.00 2096

Note The principal sources drawn upon in compiling this catalogue and in working out the distribution of species were first, the collections in the herbarium of the Missouri Botanical Garden, the Gray Herbarium the Arnold Arboretum, the National Herbarium (for the grasses) and other public and private collections second, lists and monographs in which Missouri specimens are cited and third, the unpublished notes and correspondence of the two authors, supplemented by notes and correspondence from other collectors. Free use has also been made of manuals and general works on botany and a list of 300 titles on the phanerogamic botany of Missouri which have been consulted is given in the bibliography A number of new combinations in plant names have been made there are one new species, three new varieties, and six new forms described, and names are proposed for four hybrid oaks. The index lists valid names, synonyms or otherwise invalid names, new species varieties, forms, hybrids, and new combinations, and family names. There are six plates of photographs. A 20-page supplementary paper has been prepared by the same authors, entitled *Additions, corrections and revisions to the Annotated catalogue of the flowering plants of Missouri* St. Louis, Mo., 1938, and published as part of its *Annals*, Volume XXV no. 3

PARSONS, MARY ELIZABETH

The wild flowers of California their names haunts, and habits Illustrated by Margaret Warriner Buck. San Francisco California Academy of Sciences 1955 423 p illus (part col'd) 20 cm $3 95 2097

Contents How to use the book Explanation of terms. Key to the flowering plants Plant families or orders. Some important genera. Index to technical terms. English index to plant families. Latin index to plant families. Introductory Prelude. Flower descriptions white—yellow—pink—blue and purple—red—miscellaneous. Index to Latin names. Index to English names. Glossary

Note A standard manual of the wild flowers of the state of California. The first edition was published in 1897 and several other editions have followed. It is addressed primarily to amateur botanists and the descriptions of species contained in it are brief and largely written in the common language Concise morphological descriptions are supplemented by comments directed to amateur nature observers. The present edition has been printed from the plates of the 1930 edition without change in the main body of the book. However six reproductions in color of water-colors have been added to the illustrations, and a short appendix of currently accepted scientific names has been inserted at the end of the volume

PEATTIE, DONALD CULROSS

Flora of the Indiana dunes, a handbook of the flowering plants and ferns of the Lake Michigan coast of Indiana and of the Calumet district Chicago Field Museum of Natural History, 1930 432 p illus 19 cm $2 00 2098

Contents. List of illustrations. Preface. Flora of the Indiana dunes. Plant hunting in the dunes. How to use a key Analytical key to the families. Systematic list of the families, genera, and species. Glossary Index.

Note This guide for the beginner and student is written in simplified language. It contains more than 1,300 species of flowering plants and ferns and is arranged primarily to assist in field identification. The descriptions are based largely on easily visible characters. The region covered contains sand-dunes, lagoons, bogs, swamps, strands, lakes, slow rivers and prairies.

PEATTIE, DONALD CULROSS

A natural history of trees of eastern and central North America. Illustrated by Paul Landacre. Boston Houghton Mifflin Company, 1950 606 p illus 23 cm $5 00 2099

Contents. Notes on nomenclature and distribution. The trees The pines (*Pinus*) The larches (*Larix*) The hemlocks (*Tsuga*) The spruces (*Picea*) The firs (*Abies*) The arbor-vitaes (*Thuja*). The false cypresses (*Chamaecyparis*) The junipers (*Juniperus*) The poplars (*Populus*) The willows (*Salix*) The walnuts (*Juglans*) The hickories (*Carya*) The hornbeams (*Carpinus*) The hop hornbeams (*Ostrya*) The birches (*Betula*) The beeches (*Fagus*). The chestnuts (*Castanea*) The oaks (*Quercus*) The elms (*Ulmus*) The hackberries (*Celtis*) The mulberries (*Morus*) The tuliptrees (*Liriodendron*) The magnolias (*Magnolia*) The pawpaws (*Asimina*) The sassafrases (*Sassafras*) The witch hazels (*Hamamelis*) The sweet gums (*Liquidambar*) The sycamores (*Platanus*) The apples (*Malus*) The rowantrees (*Sorbus*) The shadblows (*Amelanchier*) The hawthorns (*Crataegus*) The plums and cherries (*Prunus*). The redbuds (*Cercis*) The coffeetrees (*Gymnocladus*) The sweet locusts (*Gleditsia*) The yellowwoods (*Cladrastis*) The locusts (*Robinia*) The prickly ashes (*Zanthoxylum*) The hoptrees (*Ptelea*) The sumacs (*Rhus*) The hollies (*Ilex*) The maples (*Acer*) The horse chestnuts (*Aesculus*) The lindens (*Tilia*) The Hercules'-clubs (*Aralia*) The tupelos (*Nyssa*) The cornels (*Cornus*) The viburnums (*Viburnum*) The rhododendrons (*Rhododendron*) The mountain laurels (*Kalmia*) The sorreltrees (*Oxydendrum*) The ebonies (*Diospyros*) The silverbells (*Halesia*) The sweetleaves (*Symplocos*) The fringetrees (*Chionanthus*) The ashes (*Fraxinus*) Keys to species and genera. Glossary Index of scientific names. Index of English names.

Note Described in this book are 187 species divided into 57 genera. For each species are given common name scientific name other names, range description of leaves, flowers, fruit, seeds, bark, wood, and a brief essay telling something of the use and the lore of the species and of its place in American history especially in pioneer times. To assist in identification, illustrations are given in black and white of the mature leaves and flower or fruit of each species, together with 11 full-page drawings showing the general aspect of 19 of the genera. A book for reading and reference rather than a field book.

PEATTIE, DONALD CULROSS

A natural history of Western trees. Illustrated by Paul Landacre Boston Houghton Mifflin Company 1953 751 p illus. 23 cm $6 00 2100

Contents The trees of western North America. Keys to species and genera. Glossary Index of scientific names. Index of common names.

Note This book is both a popular guide to tree identification and an example of excellent writing on natural history It describes the native trees of continental United States of America in the region that lies westward of the 100th meridian Alaska is included. The greater part of the volume is devoted to descriptions of individual species. In all of the descriptions the accepted botanical name is given and, in addition, one or more common names. The names are followed by a statement on the range of the species and a short semitechnical description of morphology Then follows an essay of interesting miscellaneous information on the species. In the case of species outstanding for their grandeur or beauty the author pays full tribute to these qualities The volume is generously illustrated with woodcuts and drawings of high artistic quality

PECK MORTON EATON

A manual of the higher plants of Oregon Portland Ore Binfords and Mort 1941 866 p illus. 22 cm $6 00 2101

—— Part III. Chicago Chicago Natural History Museum, 1952 432 p. illus. 23 cm. (Chicago Natural History Museum. Fieldiana Botany Vol. 24 part III) $6.00 2113

Contents: Families included in Part III: [illegible]

—— Part IV. Chicago Chicago Natural History Museum, 1946 493 p. illus. 23 cm. (Chicago Natural History Museum. Fieldiana Botany Volume 24 Part IV) o.p. 2114

Contents: Families included in Part IV: [illegible]

—— Part V. Chicago Chicago Natural History Museum, 1946 502 p. illus. 23 cm. (Chicago Natural History Museum. Fieldiana Botany Vol. 24 part V) o.p. 2115

Contents: Families included in Part V: [illegible]

—— Part VI. Chicago Chicago Natural History Museum, 440 p. illus. 23 cm. (Chicago Natural History Museum. Fieldiana Botany Vol. 24 part VI) $6.00 2116

Contents: [illegible]

Note: Listed above are the parts published to the end of 1946 of [illegible] treatment of the flora of Guatemala. The work is based partly on extensive collections made by the authors and partly on [illegible] of specimens in earlier collections. The species descriptions include the customary literature references, notes on habitat and distribution, descriptions of morphology and, in some instances, [illegible] that may pertain to uses of the plant, its local names, its virtues or other miscellaneous information.

STANDLEY PAUL CARPENTER

Flora of the Lancetilla valley Honduras Chicago Chicago Natural History Museum 1931 418 p illus. 23 cm. (Chicago Natural History Museum. Publication 283 Botanical series. Vol. X) $6.00 2117

Contents: Introduction. Geography and inhabitants. Climate. Vegetation. Relationships of the flora. [illegible] plants. [illegible] Exploration of the region. Plan of the flora. Acknowledgments. Annotated list of genera and species. Index.

Note: Following an introductory section on the general [illegible] and climatic conditions of the region, this monograph presents an annotated systematic description of genera and species based almost wholly upon the collections made by the author in 1927-28 [illegible] plates of photographs.

STANDLEY PAUL CARPENTER

Flora of Yucatan Chicago Chicago Natural History Museum 1930 338 p illus 24 cm. (Chicago Natural History Museum. Publication 279 Botanical series Vol III no 3) $4.00 2118

[illegible]

STANDLEY PAUL CARPENTER AND JULIAN A. STEYERMARK

Studies of Central American plants. Chicago Chicago Natural History Museum 1940-47 7 v illus 23 cm (Chicago Natural History Museum. Publication nos. 480 482 524 549 556 565 and 609 Fieldiana Botany Vol 22 nos 4-5 vol 23 nos. 1-5) Part I $0.75 part II $0.50 part III $0.15 part IV $0.50 part V $0.30 part VI $0.35 part VII $0.75 2119

Note: [illegible]

STEVENS WILLIAM CHASE

Kansas wild flowers. Lawrence University of Kansas Press, 1948 463 p. illus (part col d) 26 cm. $7.50 2120

Contents (abridged): Introduction. The Kansas [illegible]

Note: A comprehensive, detailed description in words and photographs of the [illegible] flowers of Kansas. [illegible]

Note A standard manual for the botanist. It covers fully the states of Kansas, Nebraska, Iowa, Minnesota, South Dakota, and North Dakota, and the Canadian provinces, Manitoba, the southern part, and Saskatchewan, the southeastern part. Less fully it covers the prairie regions of Illinois, southern Wisconsin northern Missouri, eastern Colorado eastern Montana, and southern Saskatchewan *The editorial* ork as completed by Marshall A. Howe

RYDBERG, PER AXEL

Flora of the Rocky Mountains and adjacent plains Colorado Utah, Wyoming Idaho, Montana, Saskatchewan Alberta, and neighboring parts of Nebraska, South Dakota, North Dakota, and British Columbia Second edition (reprint) New York Hafner Publishing Company, *1954 1,144* p *24* cm. $15 00 2108

Contents: Introduction Tables—abbreviations, signs and measurements. Descriptive flora. Spermatophyta Key to the families—Gymnospermae—Angiospermae. Pteridophyta. Appendix Summary New genera and species and new combinations. Abbreviations of the names of authors. *Glossary* Index. Second appendix: Additions and corrections. Extensions of ranges. New species and new combinations published in the second edition. Index to the additions.

Not First published in 1917 and published again in second edition in 1922 this book was out of print for a number of years. However it is still useful, and demand for it has continued in sufficient volume to justify this reprint. It was commenced as study of the flora of the Rocky Mountains, but the author eventually elected to include also the flora of the plains adjacent to the Rocky Mountains. It remains, however primarily manual of mountain flora, useful as an aid in identification. The arrangement is systematic however the descriptions of species and other forms are limited to the scientific names concise descriptions of morphology *brief statements on habitat and distribution, life zone,* such as subalpine zone and month of flowering. Described in this style are 6,029 species in 1,055 genera.

SHREVE, FORREST

Vegetation of the Sonoran desert. Washington D C Carnegie Institution of Washington, *1951 192 p illus (part col d) 25 cm* (Carnegie Institution of Washington. Publication 591 Vegetation and flora of the Sonoran desert by *Forrest Shreve* and Ira L Wiggins Vol 1) $3 25 2109

Contents Introduction. Physical features Geography Drainage systems. Mountain ranges. Climate. Soils. Perennial egetation. *General characteristics of deserts. The North American desert* and its parts. Vegetational features of the Sonoran desert. Vegetational subdivisions of the Sonoran desert. Ephemeral herbaceous vegetation Winter ephemerals Summer ephemerals. Ecological features of characteristic species. Literature. Plates. Index.

Note. A monograph written on the basis of 40 years of study and field investigation of the subject. The final chapter describes th distribution, habitats, and ecological characteristics of 26 of the commonest plants of the Sonoran desert 24 full-page distribution maps illustrate this chapter

SMALL JOHN KUNKEL

Manual of the southeastern flora being descriptions of the seed plants growing naturally in Florida Alabama, Mississippi eastern Louisiana, Tennessee, North Carolina, South Carolina and Georgia. Chapel Hill University of North *Carolina Press* 1933 1 554 p illus *23 cm* $12 50 2110

Content Preface. Introduction Key to the orders. Descriptive flora. Appendix. Genera and species published in this flora. Table of orders and families. Index

Note This extensive volume is designed to record and describe the species f native and naturalized flowering plants known by the author to grow naturally in the southeastern United States south of the northern boundaries of North Carolina and Tennessee and east of the Mississippi river The species are grouped in genera, families, and orders, and are so arranged and described that they may be identified by means f the analytical keys and synopses gi en under each group, mainly by study of the morphology of the flowers and fruits. The arrangement of the natural plant families is essentially that f Engler and Prantl's *Die Natürlichen Pflanzenfamilien* Leipzig, *1887 1915* although in a few cases modifications of the sequence there adopted have been desirable. The descriptive material has been made very short, and a drawing showing flower and its gross morphology and a fruit of the first species under each genus, is also given. The present manual, which includes *259* new genera and species, supplants in part the author's *Flora f th southeastern United States,* second edition, New York, 1913 The Pteridophyta were intentionally omitted.

STANDLEY, PAUL CARPENTER

Flora of Costa Rica. Chicago Chicago Natural History Museum, 1937–38 4 v 24 cm. (*Chicago Natural History* Museum Publication nos 391, 392, 420, and 429 Botanical series Vol XVIII, parts 1–4) $2.50 per vol 2111

Contents Introduction Plant geography Atlantic *tierra caliente.* Pacific *tierra caliente.* Temperate region (*tierra templada*). Cold region (*tierra fria*) Relationships of the Costa Rican flora. Botanical exploration in Costa Rica. Plan of the flora. Acknowledgments. *Bibliography Systematic list of families, genera, and species.*

Note. The bulk of the work is a systematic annotated list of the phanerogamic plants of Costa Rica. For each family there have been cited all Costa Rican species known to the author, with indication f their distribution within and outside the country For names based on Costa Rican material, there is cited the place of publication, and for each species, there are cited also the synonyms with place of publication. Type collections of synonyms are cited in parentheses after the citation of the synonym. Cultivated plants are included in the list so far as they are known, and all the species known or reported for Cocos Island are also listed The bibliography lists 13 publications held to be the most important or useful for study of the Costa Rican flora, and there is detailed index.

STANDLEY, PAUL CARPENTER, AND JULIAN A STEYERMARK

Flora of Guatemala Part II. Grasses of Guatemala, by Jason R Swallen. Bamboos by F A McClure. Chicago Chicago Natural History Museum, 1955 390 p illus. 23 cm (Chicago Natural *History* Museum. Fieldiana Botany Vol 24 part II) $6.00. 2112

Content Genera included in Volume 24 Part II: Aegopogon. Agrostis. Andropogon. Anthephora. Aristida. Arthraxon. Arthrostylidium. Arundinaria. Arundinella. Avena. Axonopus. Bambusa. Bouteloua. Brachiaria. Brachypodium. Briza. Bromus. Calamagrostis. Cathestecum. Cenchrus. Chaetium. Chloris. Chusquea. Cinna. Coix. Cryptochloa. Cymbopogon. Cynodon. Dactyloctenium. Dendrocalamus. Diectomis. Digitaria. Distichlis. Echinochloa. Echinolaena. Eleusine. Elyonurus. Eragrostis. Eriochloa. Eriochrysis. Euchlaena. Festuca. Gigantochloa. Glyceria. Gouinia. Guadua. Gymnopogon. Gynerium. Hackelochloa. Heteropogon. Hierochloe. Hilaria. Homolepis. Hymenachne. Hyparrhenia. Ichnanthus. Imperata. Isachne. Ischaemum. Isophorus. Jouvea. Lamarckia. Lasiacis. Leersia. Leptochloa. Leptocoryphium. Lithachne. Lolium. Luziola. Manisuris. Melinis. Melocanna. Merostachys. Mesosetum. Microchloa. Muhlenbergia. Olyra. Oplismenus. Orthoclada. Oryza. Panicum. Pappophorum. Paspalum. Pennisetum. Pentarrhaphis. Pereilema. Pharus. Phragmites. Phyllostachys. Piptochaetium. Poa. Polypogon. Pseudechinolaena. Rhipidocladum. Saccharum. Sacciolepis. Schizachyrium. Setaria. Setariopsis. Sorghastrum. Sorghum. Spartina. Sporobolus. Stenotaphrum. Stipa. Streptochaeta. Thrasya. Trachypogon. Trichachne. Trichloris. Tripsacum. Trisetum. Tristachya. Triticum. Uniola. Zea. Zeugites. Emendations. Index.

of which were not recorded by Dr Cheeseman. On the other hand, of the 72 species of ferns named by the latter author Dr Wilder could find only 15, while recording 54 not present in the Cheeseman collection.

WILLIAMS LLEWELYN

Woods of northeastern Peru. Chicago Chicago Natural History Museum 1936 588 p. illus. 24 cm. (Chicago Natural History Museum. Publication 377 Botanical series Vol xv) $6.50 2128

Contents: Introduction. Route. Geography of Peru. The montaña. Formations and associations. Climate. Inhabitants. Communications. Agriculture. Forest products. Descriptions of the woods. Tables of anatomical characters of Peruvian woods. Vernacular names. Bibliography. Index.

Note: Following a brief introductory section describing the general features of the montaña or forest region, which constitutes more than half the total area of the republic of Peru, the present monograph offers an annotated descriptive catalogue of genera and species of trees and shrubs found growing in that area. The families are arranged according to the classification of Engler and Prantl, and the genera and species are listed alphabetically. The résumé of general characters for families and genera is based on the author's collection of 22,500 specimens obtained in the locality during 1929–30. The work includes an account of the principal characters of the leaves, flowers, and fruits, followed by a summary of the salient structural features of the dried woods with their macroscopic and microscopic physical properties. The bibliography lists 1[illegible] articles and monographs from the pertinent world literature.

WOODSON ROBERT EVERARD JR. AND OTHERS

Contributions toward a flora of Panama. Based upon collections by expeditions from the Missouri Botanical Garden Tropical Station, Balboa C.Z. By Robert E. Woodson, jr Robert W Schery and collaborators St. Louis The Missouri Botanical Garden 1937–51 illus. 26 cm. (Missouri Botanical Garden Annals) 2129

Contents (abridged): Part i Collections in the provinces of Chiriquí, Coclé and Panamá, by R. J. Seibert during the summer of 1935, by R. E. Woodson, jr and R. J. Seibert. Part ii, fascicle 1 Cycadaceae. Taxaceae. Typhaceae. Alismaceae. Butomaceae. Triuridaceae. Gramineae. Part ii, fascicle 2 Cyperaceae. Palmaceae. Cyclanthaceae. Part ii, fascicle 3 Araceae. Lemnaceae. Mayacaceae. Xyridaceae. Eriocaulaceae. Rapateaceae. Bromeliaceae. Commelinaceae. Pontederiaceae. Part iii, fascicle [illegible] Juncaceae to Marantaceae. Part iii, fascicles 2–3 Orchidaceae. Part iv fascicle 1 Piperaceae. Miscellaneous collections. Part [illegible] fascicle 1 Lauraceae to Cruciferae. Part [illegible] fascicle 2 Rosaceae. Leguminosae. Part [illegible] fascicle [illegible] Leguminosae (second part)

Note: A comprehensive descriptive catalogue which is still in the process of publication. Most of the parts published are still in print. However apply to the publisher for [illegible] list of those available and the prices.

VARIOUS PLANT GROUPS

ALEXOPOULOS CONSTANTINE JOHN

Introductory mycology Art work by Mrs Sun Huang Sung. New York John Wiley & Sons, Inc 1952 482 p. illus. 24 cm. $8.50 2130

Contents: The fungi. Phylum Schizomycophyta. Phylum Myxomycophyta. Phylum Eumycophyta—class Phycomycetes. Series Uniflagellatae. Series Biflagellatae. Series Aplanatae. Class Ascomycetes. Sub-class Protoascomycetes. Sub-class Euascomycetes—series Plectomycetes. Series Pyrenomycetes. Series Discomycetes. Form-class Deuteromycetes. Class Basidiomycetes. Sub-class Homobasidiomycetes. Sub-class Heterobasidiomycetes. The lichens. Glossary. Index.

Note: Designed as a textbook for college students who are beginning the study of fungi, this book [illegible] presentation of basic information rather than [illegible] comprehensive treatise. The main facts on occurrence, importance to man, general characteristics, structure, reproduction, life cycle and classification are given for selected groups of fungi. The classification followed is conservative yet modern. The illustrations are mostly clear reproductions of excellent [illegible]. The illustrations are mostly clear reproductions of photographs, drawings, but there are [illegible] some reproductions of photographs. Fairly extensive bibliographies are included. The author is Professor of Botany and Plant Pathology in Michigan State College.

AMES OAKES AND DONOVAN STEWART CORRELL

Orchids of Guatemala. Chicago Chicago Natural History Museum 1952–53 2 v. illus. 23 cm. (Chicago Natural History Museum Fieldiana Botany Vol 26 nos 1–2) $4.00 2131

Contents: Vol. xxvi, no. [illegible] Cypripedium. Phragmipedium. Habenaria. Triphora. Pogonia. Vanilla. [illegible] Sobralia. Cyrtopodium. [illegible] Ponthieva. Cranichis. Prescottia. Spiranthes. Goodyera. Erythrodes. [illegible] Corymborchis. [illegible] Physurus. [illegible] Scaphyglottis. Liparis. [illegible] Malaxis. Hexalectris. [illegible] Vol. xxvi, no. [illegible] Isochilus. Cattleya. Laelia. Brassavola. [illegible] Epidendrum. [illegible] Pleurothallis. [illegible] Stelis. [illegible] Polystachya. Calanthe. Epidendrum. [illegible] Bletia. Chysis. [illegible] Cyrtopodium. Govenia. [illegible] Catasetum. Cycnoches. [illegible] Lycaste. [illegible] Maxillaria. [illegible] Trichocentrum. [illegible] Oncidium. [illegible] Brassia. [illegible] Leochilus. [illegible] Ornithocephalus. [illegible] Notylia. [illegible] Trichopilia. [illegible] Index.

Note: A treatment of the known orchids of Guatemala [illegible] British Honduras. Described from the taxonomic and morphological viewpoints, are 5[illegible] species and 2[illegible] varieties in [illegible] genera. Included are the orchids collected by Paul C Standley and Julian A. Steyermark from 1938 to 1941 as well as those collected by other collectors. Descriptions of individual species contain, in addition to taxonomic and morphologic data, information on habitat and range. There are 1[illegible] figures most of which contain reproductions of several drawings. The drawings are [illegible] executed and clearly reproduced. Although published as two volumes, the set is continuously paged, and there is only one index.

BABCOCK ERNEST BROWN AND G LEDYARD STEBBINS JR.

The American species of *Crepis* their interrelationships and distribution as affected by polyploidy and apomixis. Washington D C. Carnegie Institution of Washington 1938 199 p. illus. 25 cm. (Carnegie Institution of Washington Publication no 504) o p 2132

Contents: Taxonomic history of the indigenous species. Present distribution of the species. Cytology of the species. Genetic interrelationships of the species. Factors affecting the distribution of the species. Origin and development of the species. The effects of polyploidy and apomixis on evolution. The systematic treatment of the agamic complex. Summary of the preceding sections. Materials and methods. Literature cited. Generic description. Key to the western American species of *Crepis*. Descriptions of species. Indexes.

Note: A cyto-taxonomic treatment of the 12 indigenous and 7 introduced North American species of *Crepis*, being an attempt to apply directly some of the best-established principles of modern cytogenetics to the species problem.

BABCOCK, ERNEST BROWN AND G LEDYARD STEBBINS JR.

The genus *Youngia* Washington D C. Carnegie Institution of Washington, 1937 106 p illus. 25 cm. (Carnegie Institution of Washington Publication no 484) $1.75 2133

STEYERMARK, JULIAN ALFRED, AND OTHERS

Contributions to the flora of Venezuela. Chicago Chicago Natural History Museum, 1951–57 1,190 p illus 24 cm (Chicago Natural History Museum Fieldiana Botany Vol 28, nos 1–4) Parts I–II, $4 00 each, part III, $4 25, part IV, $7 50 2121

Note This work is the report of three botanical explorations in Venezuela by the author from December 1943 to June 1945 during which large number of plants was collected. Numerous species were collected that were previously unrecorded for Venezuela, and some new genera and a large number f new species were found. Th first three parts—except for three pages of introduction in the first part——are devoted to systematic descriptions of th new taxa and new combinations made necessary as result of the taxonomic studies. The genera are divided among the three parts as follows Number 1 Mixed through Sarraceniaceae Number 2 Droseraceae through Umbelliferae Number 3 Ericaceae through Compositae. The fourth part consists of summaries in systematic order of (1) additions t the flora f the regions explored (2) f species new to Venezuela (3) of the new taxa with bibliographic citations and localities, and (4) groups described as new arranged as a table

STEYERMARK, JULIAN ALFRED

Studies of the vegetation of Missouri Chicago Chicago Natural History Museum 1940–41 2 v illus 23 cm (Chicago Natural History Museum Publication nos 485 and 491 Botanical series Vol IX, no 5–6) Part I $1 00 part II $1 25 2122

Contents Part I Natural plant societies and succession in the Ozarks of Missouri: Introduction. Natural plant associations and succession in th Ozarks of Missouri. Subclimax stages I the Ozarks. Plant indicators of acidity and alkalinity Ecological variations induced by burning, logging, clearing, and other unnatural causes. Examples taken from specific areas showing particular stages within an sociation. Part II Phanerogamic flora of the fresh-water springs in the Ozarks f Missouri General discussion of Ozark springs. Description f the chief springs in the Ozarks.

Note This two-part monograph records the uthor's observations and conclusions on the ecological and phytogeographical conditions prevailing in the Ozark flora f Missouri The first part of the work presents a critical study of the natural plant succession and the related variations in the environment and past geological history of the region. The effect upon pla ts in the Ozarks of the presence or absence I limestone in the soil is discussed at length. Part II describes the vegetation of the Ozark springs as a distinct unit in the flora of the stat including list of the various species found in each spring with the dominant species noted in each case. There are 16 full-page distribution maps and over 50 photographs.

TAYLOR, WILLIAM RANDOLPH

Plants of Bikini and other northern Marshall Islands Ann Arbor University of Michigan Press 1950 227 p illus. (incl col d frontispiece) 24 cm (University of Michigan studies Scientific series Vol XVIII) $5 50 2123

Content Previous botanical exploration f the Marshall Islands Description f the atolls and the marine flora. Characteristics of the land flora Detailed botanical features Annotated catalogue I the plants Algae. Fungi. Bryophyta. Spermatophyta. Diagnoses of new species and new forms. Bibliography Plates 1 79 Index.

Note Before carrying out the gigantic tomic-bomb tests of "Operation Crossroads of 1946 the commanding officers of the joint task force directed that comprehensive scientific studies be made f the site f the test Part of these studies was an analysis f the plant and animal life of Biki i toll nd of other atolls in the same latitude for comparison The present report describes the plants, excepting phytoplank on of these areas The book contains sketches f the physical haracteristics of Eniwetok Bikini, Rongelap, and Rongerik atoll as they affect the vegetation report on the botan ical aspects I each atoll, and brief technical descriptions of the plants observed Th plates are photographic illustrations f the plants.

VERMONT BOTANICAL CLUB

The flora of Vermont, an annotated list of the ferns and seed plants of the state of Vermont Compiled by a committee of the Vermont Botanical Club E J Dole, editor Third revised edition Burlington, Vt. The Vermont Botanical Club 1937 353 p. illus. 23 cm $1 50 2124

Content Catalogue of fernworts and seed plants: Pteridophyta. Spermatophyta. Supplementary tables. Index of scientific names. Index to English names.

Not A systematic tabulation with references to the original literature on each of the genera and species described. Each species or group listed is cited with statement of habitat, distribution within the stat of Vermont, and degree of frequency Plants rare in Vermont are cited with a record of the first collector and, in some cases, the latest modern collector of the species. All recorded type-stations in Vermont are also cited. The work contains 1,5?? annotated records of fernworts and seed plants, in which there are 36 new combinations. The third edition represents revision and enlargement of the 1915 list and includes new species and some reclassification of names.

WEST, ERDMAN, AND LILLIAN E ARNOLD

The native trees of Florida. Revised edition Gainesville University of Florida Press, 1956 218 p illus 24 cm $4 50 2125

Contents Foreword, by H. H. Hume Introduction How to use the key Key to the native trees of Florida. Descriptive account of the trees. List of references. Glossary Index.

Note A manual f the trees of state hich is rich in tree flora. It is directed t amateur botanists and other laymen, and its chief purpose is to aid in identification. The descriptions of species give the scientific name and one or more common names, describe morphological characteristics in nontechnical language name distinguishing character nd include general comment on range, uses of the wood, etc. The first edition was published in 1946. This second edition contains descriptions f six additional species and a umber f other additions and corrections.

WHERRY, EDGAR THEODORE

Wild flower guide, northeastern and midland United States Illustrated by Tabea Hofmann Sponsored by The Wild Flower Preservation Society Washington D C. Garden City Doubleday & Company Inc. 1948 202 p illus (part col d) 20 cm $3 95 2126

Content I troduction. Wild flower conservation. Glossary Flower parts. Classification. Monocots. Illustrations of monocots Free-petal dicots. Illustrations f free-petal dicots. United-petal dicots. Illustrations f united-pet l dicots. Appendices Flowers according to color I troduced wild flowers. An outline f plant ecology Wild flower literature. Index.

Not A compact and simplified guide to the identification of some 400 species of wild flowers growing in the United States east of longitude 100° and north of latitude 37 The plants are grouped according to family and each species is described as to common name, technical name, features, range habitat, and culture Drawings of each plant, many of them in color are included. The appendix listing f flowers by color ill be of value to the layman, for hom the book is designed.

WILDER, GERRIT PARMILE

Flora of Rarotonga. Honolulu Bernice P Bishop Museum 1931 113 p. illus. 25 cm. (Bernice P Bishop Museum. Bulletin 86) No 1 $4 00 no 2 $4 00 2127

Not I this paper are recorded the data obtained by the uthor during three isits made in 1925 1927 and 1929 to Rarotonga, the largest f the Cook Islands. In 1903, Dr T F Cheeseman published book on the same subject, and it is of interest to not he hanges in the flora—and also in the number of the genera and species f some plants— hich ha taken place in the interval This bulletin records 560 species of plants, 135

of which were not recorded by Dr. Cheesman. On the other hand, of the 72 species of ferns named by the latter author Dr. Wilder could find only 11, while recording 34 not present in the Cheesman [illegible].

WILLIAMS LLEWELYN

Woods of northeastern Peru. Chicago Chicago Natural History Museum, 1936 588 p. illus 24 cm. (Chicago Natural History Museum. Publication 377 Botanical series Vol. xv) $6.50 2128

Contents: Introduction. Route. Geography of Peru. The materials. Formations and associations. Climate. Inhabitants. Communications. Agriculture. Forest products. Descriptions of the woods. Tables of anatomical characters of Peruvian woods. Vernacular names. Bibliography. Index.

Note: Following a brief introductory section describing the general features of the materials or forest region which constitutes more than half the total area of the republic of Peru, the present monograph offers an annotated descriptive catalogue of genera and species of trees and shrubs found growing in that area. The taxa are arranged according to the classification of Engler and Prantl, and the genera and species are listed alphabetically. The selection of general characters for families and genera is based on the author's collection of [illegible] specimens obtained in the herbarium during [illegible]. The work includes an account of the principal characters of the leaves, flowers, and fruits, followed by a summary of the [illegible] structural features of the dried woods with their macroscopic and microscopic physical properties. The bibliography lists [illegible] articles and monographs from the pertinent wood literature.

WOODSON ROBERT EVERARD JR., AND OTHERS

Contributions toward a flora of Panama. Based upon collections by expeditions from the Missouri Botanical Garden Tropical Station, Balboa, C.Z. By Robert E. Woodson Jr Robert W Schery and collaborators. St. Louis The Missouri Botanical Garden, 1937–51 illus. 26 cm. (Missouri Botanical Garden. Annals) 2129

Contents (abridged): Part 1: Collections in the provinces of Chiriquí, Coclé, and Panamá, by R. J. Seibert during the summer of 1935, by R. E. Woodson, jr. and R. J. Seibert. Part II, fascicle 1 [illegible]

Note: A comprehensive descriptive catalogue [illegible] in the process of publication. Most of the parts published are still in print. However, apply to the publisher for [illegible] list of those available and the prices.

VARIOUS PLANT GROUPS

ALEXOPOULOS CONSTANTINE JOHN

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Contents: The fungi. Phylum Schizomycophyta. Phylum Myxomycophyta. Phylum Eumycophyta—class Phycomycetes. [illegible] Class Ascomycetes. Sub-class [illegible] Class Basidiomycetes. Sub-class [illegible] The lichens. Glossary. Index.

Note: Designed as a textbook for college students who are beginning the study of fungi, this book [illegible] presentation of basic information rather than comprehensive treatise. The main facts on occurrence, importance to man, general characteristics, structure, reproduction, life cycle, and [illegible] are given for selected groups of fungi. The illustration is [illegible] and good. [illegible] are mostly line reproductions of [illegible], but there are some reproductions of photographs. Fairly extensive bibliographies are included. The author is Professor of Botany and Plant Pathology in [illegible].

AMES OAKES AND DONOVAN STEWART CORRELL

Orchids of Guatemala. Chicago Chicago Natural History Museum 1952–53 2 v illus 23 cm. (Chicago Natural History Museum. Fieldiana Botany Vol. 26 nos 1–2) $4.00 2131

Contents: Vol. xxvi, no. [illegible]

Note: A revision of the known orchids of Guatemala and British Honduras. Described from the taxonomic and morphological viewpoints, are [illegible] species and [illegible] varieties in [illegible] genera. Included are the orchids collected by Paul C. Standley and Julian A. Steyermark from 1938 to [illegible] as well as those collected by earlier collectors. Descriptions of [illegible] species [illegible] taxonomic and morphologic data, information on habitat and range. There are [illegible] figures, most of which contain reproductions of several drawings. The drawings are [illegible] executed and [illegible] reproduced. Although published as two volumes, the work is consecutively paged, and there is only one index.

BABCOCK ERNEST BROWN AND G LEDYARD STEBBINS JR.

The American species of *Crepis* their interrelationships and distribution as affected by polyploidy and apomixis. Washington D C Carnegie Institution of Washington, 1938 199 p. illus. 25 cm. (Carnegie Institution of Washington. Publication no. 504) o.p 2132

Contents: Taxonomic history of the indigenous species. Present distribution of the species. Cytology of the species. Genetic interrelationships of the species. Factors affecting the distribution of the species. Origin and development of the species. The effects of polyploidy and apomixis on evolution. The systematic treatment of the agamic complex. Summary of the preceding sections. Materials and methods. Literature cited. Generic description. Key to the western American species of *Crepis*. Description of species. Indexes.

Note: A cytotaxonomic treatment of the 12 indigenous and [illegible] introduced North American species of *Crepis*, being an attempt to apply directly some of the best-established principles of modern cytogenetics to the species problem.

BABCOCK, ERNEST BROWN AND G LEDYARD STEBBINS JR.

The genus *Youngia*. Washington, D. C. Carnegie Institution of Washington, 1937 106 p. illus. 25 cm. (Carnegie Institution of Washington. Publication no 484) $1.75 2133

Contents (abridged) History of the genus. Diagnosis of the genus. Relationships of *Youngia*. Geographic distribution. Artificial key to the species. *Doliphyllum Stenophytum*, *Hieracioidea*, *Crepidopsis Mesomeris*, *Euyoungia*. Species incertae sedis. Species exclusae. Index to species, subspecies, and synonyms.

Note A monographic treatment of the species of the herbaceous plant *Youngia*, with the purpose of redefining the genus and its relations to *Crepis* and the neighboring genera, and of clarifying the interrelationships of the species.

BAILEY, LIBERTY HYDE

The cultivated conifers in North America, comprising the pine family and the taxads, successor to *The cultivated evergreens* New York The Macmillan Company, 1933 404 p illus 24 cm $13 50 2134

Contents Book I, The kinds of conifers Preview of the systematic treatment. The taxads, or yews and their kindred. The true cone-bearers pines. Firs and spruces. Cedars, larches, cypresses, and others. Junipers. Book II, The growing of conifers for ornament and interest Conifers in the landscape. Cultivation and propagation of conifers. Experiences with conifers. Insects, diseases, and injuries of conifers in North America. Index.

Note A complete manual, abundantly illustrated, of the North American cone-bearing evergreens, intended both for the student of forestry and for the practicing silviculturist. The volume is the successor to *The cultivated evergreens*, edited by L. H. Bailey New York, 1923 bringing that work up to date where necessary Its first book is a systematic treatment of the subject and includes descriptions of about 1,000 species and varieties. The second book contains practical information on the growing of conifers and includes contributions by 10 specialists other than the author

BARNETT, H L

Illustrated genera of imperfect fungi. Minneapolis Burgess Publishing Co 1955 218 p illus 28 cm $4 00 2135

Contents Introduction. Key to genera. Descriptions and illustrations Conidial phycomycetes. Moniliales. Sphaeropsidales. Melanconiales. Mycelia sterilia. General references. Index to genera.

Note The chief purpose of this book is to teach identification of the imperfect fungi. It is designed for the instruction of college students, particularly students majoring in plant pathology and other fields where the identification of these plants is of practical importance. Most of the space is devoted to descriptions and reproductions of drawings. The drawings are printed on right-hand pages, and the identifying captions on facing left hand pages. The drawings are clear and well reproduced, but the degree of magnification is not stated. The author is Professor of Mycology in the University of West Virginia.

BARTRAM, EDWIN BUNTING

Manual of Hawaiian mosses Honolulu Bernice P Bishop Museum 1933 275 p illus 25 cm (Bernice P Bishop Museum Bulletin 101) $4 00 2136

Content (abridged) Introduction: Scope life history and structural features of mosses key to the genera Sphagnales. Andreaeales. Bryales Arthrodonteae, Nematodonteae. Excluded and uncertain species. Literature cited. Glossary Additions. Index to genera and species.

Note Because the literature relative to the Hawaiian mosses is widely scattered and much of it is difficult of access to any but professional botanists, the author has embodied the available information in this manual for the use of students interested in these forms of plant life. With this purpose in mind, he has presented descriptions, distributional data, and sketches illustrating the characteristics of the respective species of mosses Collections which he made during 1930 supplemented by other collections in the herbarium of the Museum formed the groundwork of these studies, which deal with one of the most unique phytogeographical areas in the world The *Supplement* was published in 1939 in the Museum Occasional papers, volume 15 no 6, $0.50.

BARTRAM, EDWIN BUNTING

Mosses of Guatemala. Chicago Chicago Natural History Museum 1949 442 p illus 24 cm (Fieldiana Botany, Vol 25) $6.00 2137

Note. A systematic description of approximately 500 species and 203 genera. Its taxonomic importance is indicated in the following sentences of the author "As this is the first attempt at a similar analysis of the mosses of any restricted tropical American country the task is, to some extent, explorative. For until many of the tropical American genera are disencumbered of numerous dubious species by careful revisional studies, the specific entities involved are open to a wide variety of interpretations. The individual descriptions include statements on distribution and also on the site from which the particular specimen was collected. The author points out that some of these habitats pose interesting problems in ecology and plant migration.

BARTRAM, EDWIN BUNTING

Mosses of southeastern Polynesia. Honolulu, Hawaii Bernice P Bishop Museum, 1941 29 p illus 23 cm. (Bernice P Bishop Museum. Occasional papers Vol. xv, no. 27, May 29, 1940) $0 50 2138

Note. The material on which this study is based consists of the collections made during the Mangarevan Expedition from the Museum in 1934 Previous records from the Austral Islands and the Tuamotus (*Occasional papers* Vol. 10, no. 10) have also been included. The total number of species reported is only 63 a circumstance probably to be explained by the fact that the islands are low and the rain-forest flora is nearly or quite absent. This material gives for the first time a fairly comprehensive outline of the moss flora of the numerous islands in the extreme southeastern corner of the Polynesian area, which includes the Tuamotu Archipelago, the Austral Islands, the Mangareva (Gambier) Islands, and Pitcairn and Henderson Islands. In this flora there are clear indications of an intimate connection with the New Zealand flora which is apparently confined to these southernmost islands. The author has published in the same series several other studies of the mosses of this region.

BENSON, LYMAN

The cacti of Arizona Second edition. Line drawings by Lucretia Breazeale Hamilton. Albuquerque University of Arizona Press, Tucson, *published at the University of New Mexico Press*, 1950 134 p illus. (part col d) 24 cm $4 00 2139

Content Introduction The structure of cacti. Juvenile forms. How to identify cacti. Problems in the naming of cacti. The geographical distribution of cacti. Classification of cacti Key to the genera. *Opuntia* (cholla prickly pear) Cereus. *Echinocereus* (hedgehog cactus) *Echinocactus* (barrel cactus, bisnaga, or biznaga) *Mammillaria* (pincushion and fishhook cacti) Culture and care of Arizona native cacti General considerations. Special groups.

Note A semitechnical manual organized and written so that it is useful both to amateurs and to professional botanists who are interested in the collection or identification of the cacti found in the state of Arizona, a state noted for its abundant flora of this plant group. Also included is a short discussion for gardeners of the culture of transplanted and seedling cacti. The first edition appeared in 1940 A number of revisions of classification and nomenclature have been incorporated in this edition, and some changes have been made in the illustrations. The book now contains 33 figures and 19 plates. Five of the latter have been reproduced in color

BENSON, LYMAN

A treatise on the North American Ranunculi Notre Dame *University of Notre Dame* 1948 264 p 23 cm (The American midland naturalist. Vol 40 no 1) $1 25 2140

Content Methods of investigation. Diagnostic characters. Geographical distribution. Policy in classification Concept of genera. Concepts of species and varieties. References. Ranunculus L. List of species and varieties by subgenera and sections Index.

Note The accumulation of specimens collected since the last revision of the North American Ranunculi has created a need for a more complete coverage which is offered by this publication. The reclassification is based on extensive field studies, and the following conservative policy in the segregation of groups, considering

[illegible] ... from the same publisher for $0.75.

BESSEY ERNST ATHEARN

Morphology and taxonomy of fungi. New York The Blakiston Division McGraw Hill Book Company 1950 791 p. illus. 23 cm $9.50 2141

Contents (abridged) Introduction. Myxomycetes. Phycomycetes. The higher fungi—Carpomycetae. Class Ascomycetes. Class Basidiomycetes. Fungi Imperfecti—the imperfect fungi. The phylogeny of the fungi. Guide to the literature for the identification of fungi. Index.

Note Although this book [illegible]

BILLINGTON CECIL

Ferns of Michigan. Bloomfield Hills Mich. Cranbrook Institute of Science, 1952 240 p. illus. 24 cm. (Cranbrook Institute of Science. Bulletin no. 32) $5.00. 2142

Contents Introduction. Pictorial glossary. Systematic check-list. [illegible] Glossary. Fern literature. Index.

Note [illegible]

BLOMQUIST HUGO LEANDER

The grasses of North Carolina. Durham Duke University Press 1948 276 p. illus. 26 cm. $7.50. 2143

Contents Introduction. Introduced grasses. Native grasses. [illegible] Index.

Note Three hundred and sixty species and varieties of grasses [illegible]

BRITTON MAX EDWIN

A catalog of Illinois Algae Evanston Northwestern University Press 1945 177 p 24 cm $3.00 2144

Contents Review of the literature. [illegible] Index.

Note A summary of information on the algal species found in the state of Illinois. [illegible] Literature references are given throughout the catalog.

BROWN CLAIR ALAN AND DONOVAN S CORRELL

Ferns and fern allies of Louisiana. Baton Rouge Louisiana State University Press 1942 186 p. illus. 23 cm. $3.00 2145

Contents Introduction. [illegible] Bibliography. Index.

Note The aim of this publication is to aid those interested in Louisiana ferns to identify the various native species [illegible]

CARLSON RAYMOND editor

The flowering cactus an informative guide, illustrated in full-color photography to one of the miracles of America's Southwest. Photographs and technical data by R. C. and Claire Meyer Proctor Sketches and design by George M Avey New York Mc Graw Hill Book Company Inc., 1954 96 p. illus. (part col d) 30 cm. $7.50 2146

Contents Land of the flowering cactus. Saguaro. Queen of the night. Organ-pipe. Barrel. Cholla. [illegible] Orchid. Cultivation. Photography. Guide to the flowering cactus.

Note A series of more than 50 color photographs [illegible] *Arizona Highways*.

CHRISTENSEN, CARL FREDERIK ALBERT

A revision of the Pteridophyta of Samoa. (Selaginella by A H G Alston) Honolulu Bernice P Bishop Museum 1943 138 p illus 25 cm (Bernice P Bishop Museum Bulletin 177) $2 00 2147

Note This report presents a complete revised list of all known Samoan species of Pteridophyta, based on an examination of all Samoan collections. The material employed in this study consisted of collections made in 1929 and 1931 by Dr Erling Christophersen supplemented by loans from various museums. The author disagrees with the naming of the specimens in previously published lists of the fern flora of Samoa. A further difference between these papers and the present report is due to the change of the species concept and to the totally different nomenclature employed.

CHRISTENSEN, CLYDE MARTIN

Common fleshy fungi. Revised edition Minneapolis Burgess Publishing Company 1955 246 p illus 21 cm $3 00 2148

Contents (abridged) Introduction How to use the keys. Edible and poisonous mushrooms. Keys and descriptions White spored mushrooms. Yellow-brown spored mushrooms. Pink spored mushrooms. Purple-brown spored mushrooms. Black spored mushrooms. Polyporaceae—pore fungi. Hydnaceae—tooth fungi. Boletaceae. Clavariaceae—club fungi. Gastromycetales—puffballs and relatives Lycoperdaceae. Sclerodermataceae Secotiaceae. Nidulariaceae Phallaceae—stink horns. Tremellales—jelly fungi. Ascomycetes—cup fungi and relatives. References. Glossary Index.

Note This manual for amateur naturalists provides in relatively small space keys and descriptions of species for the identification of a considerable range of fungal forms. It is concerned with such fungi as mushrooms and puffballs however it is not a guide to the collecting of edible mushrooms In fact, the author refers his readers to other books for the detailed descriptions of the common edible mushrooms.

CHRISTENSEN, CLYDE MARTIN

The molds and man an introduction to the fungi. Minneapolis University of Minnesota Press 1951 244 p illus 22 cm $4 00 2149

Contents What fungi do and how they grow The reproduction and dissemination of fungi. Fungus partnerships with other plants Fungus partnerships with animals Fungus parasites of plants Rusts, ... and heart rot. Fungi that destroy commercial products ... of microorganisms and insects Fungus parasites of ... Fungi exploited industrially Appendix ... fungi Index

... but general account of ... as an introduction ... laymen who ... of fungi. ... necessary ... of fungi ... he ends ...

BARTRAM EDWIN B ...

Manual of Hawaiian mosses ... Museum 1933 2... Bishop Museum Bu... 215...

... history and struc... Andreaeales. ... and uncertain genera and ...

CLEMENTS, FREDERIC EDWARD, AND CORNELIUS L SHEAR

The genera of fungi Illustrated by E... S Clements New York Hafner Publishing Company 1931 (2nd printing, 1954) 496 p illus 26 cm $15 00 ...

Contents Introduction. System of classification List of the ... General key to families. Key to the genera. List of genera and synonyms. Bibliography Glossary Index.

Note This volume constitutes a second edition of the ... earlier reference work of the same title published in 19... contains slightly more than 5,000 generic names or an increase of about 2 100 over the earlier edition. ... brought in ... form in which tentative identification can be ... The original publications are cited so that detailed descriptions of the forms may be found. Intended as a guide for students of ... amateurs of mycology as well as for professional mycologists ... pathologists. There are 58 plates of drawings illustrating ... 650 type specimens of fungi. The Myxomycetes, lichens and Myxobacteria have been omitted in this volume.

COKER WILLIAM CHAMBERS, AND ALMA HOLLAND BEERS

The Boletaceae of North Carolina. Chapel Hill University of North Carolina Press 1943 96 p illus. (part col'd) 26 cm. ...

Contents The genus Boletus. Key to the species of Boletus. Supplementary key to the species of Boletus. Description of species. The genus Boletinus. The genus Strobilomyces. Literature Index.

Note A systematic description of a group of fungi found in the region of Orange county and in the Blue Ridge and ... Mountains of the state. The work is intended for ... the species descriptions include information on ... spores, region where found, and references to the pertinent ... including previously published illustrations. Most of the ... are reproductions in black and white of photographs. ... are five plates of camera-lucida drawings and ... The bibliography gives 30 references to literature published ... 1801 and 1941 The work represents observations and ... over a period of 40 years.

COKER WILLIAM CHAMBERS, AND JOHN NATHANIEL COUCH

The Gasteromycetes of the eastern United States and Canada. With 123 plates. Chapel Hill University of North Carolina Press 1928 201 p illus. 27 cm $12 00. ...

Contents Artificial key to the families. Family ... Family Hysterangiaceae. Family Hymenogastraceae ... Secotiaceae. Family Lycoperdaceae. Family ... Sphaerobolaceae. Family Tylostomaceae. Family Sclerodermataceae ... Family Nidulariaceae. Family Calostomataceae Literature Index.

Note A comprehensive handbook in which all members of the genera that have been recorded from the eastern portion of ... nental United States of America and Canada, up to the time of writing are described, and many are illustrated. The ... descriptions of families and species are designed primarily ... identification. The morphological descriptions are fully ... addition, many of the species are represented by ... photographs of specimens. Literature references are included ... ... and species descriptions, and there is also ... works on the Gasteromycetes.

BENSON ...

A tre... ... Not... 1948 264 ... naturalist ...

Contents Meth... geographical distributio... concepts of species a... cies and varieties ...

Note The accumula... ... of the North A... complete coverag... classification is based ... a conservativ... pol...

... WILLIAM CHAMBERS, AND ALMA HOLLAND BEERS

... stipitate Hydnums of the eastern ... States Chapel Hill University of North Carolina Press, 1951 211 p illus 00

...-Introduction. Key to the genera treated. Key to the ... of fleshy stipitate Hydnums of the eastern United States. ... Steccherinum. Genus Steccherinum. Genus Auriscalpium. Genus ... Genus Hydnum. Genus Phellodon. Genus Bankera. Genus ... Genus Hydnellum. Genus Sarcodon. Literature ...

Note: A systematic description of ... family of fungi, ... members grow on rotting wood or on the soil in ... It is based on studies made by the senior author over ... able period of time and represents ... of articles by ... that were published from 1918 to 194[illegible]. The species descriptions ... arranged along traditional lines with literature references, including descriptions of morphology, references to illustrations, and ... notes on habitat. The discussions of habitat usually include ... statement on ... such as "Under conifers, often ... mixed with rhododendron." There are 60 plates of ... 33 bear reproductions of photographs of specimens ... which were ... photographed.

COPELAND, EDWIN BINGHAM

Ferns of Fiji. Honolulu, Bernice P. Bishop Museum, 1929. 105 p. illus. 25 cm. (Bernice P. Bishop Museum. Bulletin 59) $1.25 2154

Contents: Part ... New species. Part ii. Fern flora of Fiji. Key ... the families. Ophioglossaceae. Marattiaceae. Osmundaceae. Hymenophyllaceae. Schizaeaceae. Gleicheniaceae. Polypodiaceae. ... Index.

Note: A tentative description of the ferns of Fiji published ... to stimulate interest in increased collecting of ferns, not only in Fiji but in other tropical islands ... have the fern flora has not been completely explored. It ... based largely on collections made in 1927 by H. E. Parks and in 1927 and 1928 by J. ... Gillespie. However, information from other collections has been incorporated. In fact, the report describes all species collected in Fiji to the time of its writing. The descriptions of taxa are primarily morphological, but in the species descriptions, in addition to the morphological diagnoses, information is included on range and habitat. Ten of the new species described are shown on the plates in the form of reproductions of photographs of herbarium specimens.

COPELAND, EDWIN BINGHAM

Ferns of southeastern Polynesia. Honolulu, Bernice P. Bishop Museum, 1938. 58 p. illus. 23 cm. (Bernice P. Bishop Museum. Occasional papers. Vol. xiv, no. 5. May 31, 1938) $0.[illegible] 2155

Note: The material on which this study ... based consists of 429 collections, two from ... Island, 117 from the Society Islands, ... from islands to the south and southeast of the Society Islands. Bulletin ... of the Museum contained ... preliminary description of the ferns of the Society Islands. The present study adds three species, two of them new. The flora of southeastern Polynesia was described in Bulletin ... of the Museum, and the only changes in conclusions stated there are in respect to detail. The types of the new species are in the herbarium of the Bishop Museum. The illustrations for this paper consist of ... plates.

COPELAND, EDWIN BINGHAM

Genera filicum: the genera of ferns. Waltham, Chronica Botanica Company, 194[illegible]. 247 p. illus. 27 cm. (Annales cryptogamici et phytopathologici. Vol. v) $6.50 2156

Contents: Introduction. Order Ophioglossales. Ophioglossaceae. Order Marattiales. Marattiaceae. Order Filicales. Osmundaceae. Schizaeaceae. Gleicheniaceae. Loxsomaceae. Hymenophyllaceae. Plagiogyriaceae. ... Dicksoniaceae. ... Cyatheaceae. Aspidiaceae. ... Aspleniaceae. ... Polypodiaceae. ... Marsileaceae. Salviniaceae. Index. Plates.

Note: This is ... systematic work describing the 305 genera of the ... recognized families of ferns. Under each genus there are one or more bibliographical citations and the name of ... type species with range. The work is not illustrated except for the ... plates. The introduction contains ... brief history of pteridology from the time of Linnaeus to the present.

COPELAND, EDWIN BINGHAM

Pteridophytes of the Society Islands. Honolulu, Bernice P. Bishop Museum, 1932. 86 p. illus. 25 cm. (Bernice P. Bishop Museum Bulletin 93) $1.50. 2157

Contents (abridged): Introduction. New species. Fern flora of the Society Islands. Filicineae. Lycopodiaceae. Index.

Note: This study was based on material collected in Tahiti and most of the other islands in 1922, the total number of specimens being about 343. The author identified this and other collections of Bishop Museum and prepared this bulletin to serve as ... companion to Bulletin 89 from the Museum, on the ferns of Fiji. This study differs from the other in that it includes the Lycopodiaceae and excludes almost all species previously reported but ... in the Museum herbarium. The fern flora of Tahiti ... found to be naturally poorer than that of Fiji, ... circumstance which may be explained by the fact that Tahiti is younger and lies farther out in the ocean, away from the source of immigrants.

COPELAND, JOSEPH JOHN

Yellowstone thermal Myxophyceae. New York, New York Academy of Sciences, 1936. 229 p. illus. 23 cm. (New York Academy of Sciences. Annals. Vol. xxxvi, p. 1-232) $2.00 2158

Contents: Introduction. Location and nature of the Yellowstone National Park. Geological history. Algological studies in the Yellowstone. Survey of the Yellowstone hot springs. Descriptive list and keys. Chroococcaceae. Chamaesiphonaceae. Oscillatoriaceae. ... temperature ... Nature of thermal ... and tolerance. Thermal distribution of the Yellowstone Myxophyceae. Origin and relationships of the Yellowstone thermal flora. Bibliography. Index.

Note: A study of the Myxophyceae of the Yellowstone hot springs, in which ... genera belonging to ... families in three orders are described.

CORRELL, DONOVAN STEWART

Ferns and fern allies of Texas. Renner, Texas, Published by Texas Research Foundation, 1956. 188 p. illus. 27 cm. (Texas Research Foundation. Contributions, a series of botanical studies edited by Cyrus Longworth Lundell. Vol. 2) $5.50 2159

Contents (abridged): Introduction. Ecology and distribution of Texas ferns. Fern structure. Reproduction. Hybridization—propagation and culture. ... Pteridophyta—key to the families. Fern allies. Equisetaceae. Lycopodiaceae. Selaginellaceae. Isoetaceae. The ferns. Ophioglossaceae. Osmundaceae. Schizaeaceae. Marsileaceae. Polypodiaceae. Salviniaceae. Appendix. Glossary. Bibliography. Index.

Note: Texas, covered in this study of ferns and fern allies, is not only the largest state of the United States of America, but has an unusually diverse geography and climate. Its fern flora is especially rich. The 1?? species which have been found in the state are described in this book. The species descriptions cover literature references, morphology, range in continental North America and distribution within Texas. They are supplemented by clear well-reproduced drawings.

CORRELL, DONOVAN STEWART

Native orchids of North America north of Mexico by Donald Stewart Correll, with illustrations by Blanche Ames Ames and Gordon Winston Dillon; cultural notes contributed by Edgar Theodore Wherry and John Vertrees Watkins; foreword by Charles Schweinfurth. Waltham, Chronica Botanica Company, 1950. 399 p. illus. 27 cm. (A new series of plant science books, edited by Frans Verdoorn. Vol. xxvi) $7.50 2160

Content Introduction Distribution of our native orchids. General characteristics of orchids. Cultural notes on extra-tropical orchids. Explanation of the text. Use of keys. Orchidaceae Cypripedium Orchis. Habenaria. Listera. Epipactis. Cephalanthera. Triphora. Isotria. Pogonia. Cleistes. Vanilla. Arethusa. Calopogon. Prescottia Cranichis. Ponthieva. Spiranthes. Centrogenium. Goodyera. Erythrodes. Zeuxine Tropidia. Pleurothallis. Lepanthopsis. Malaxis. Liparis. Tipularia. Calypso. Epidendrum. Basiphyllaea. Polystachya. Galeandra. Aplectrum. Hexalectris. Corallorhiza. Bletia. Eulophia. Cyrtopodium. Maxillaria. Ionopsis. Brassia. Oncidium. Macradenia. Campylocentrum. Harrisella. Polyrrhiza. Glossary Selected bibliography Index of scientific names. Index of common names.

Note A systematic treatise in which are assembled for the first time accounts of all recorded North American orchids north of Mexico. Described and discussed are 170 species divided into 46 genera. A key to the genera and keys to the species are furnished. Typical information given for each species includes scientific name or names, etymology of same, common names, botanical description discussion of distinctive features, range geographical distribution, preferred locations, and cultural notes. The cultural notes are for the benefit of collectors interested in growing wild orchids in their own gardens. Careful and detailed line drawings are included for most species.

COUCH, JOHN NATHANIEL

The genus *Septobasidium* with frontispiece, 114 plates and 60 text figures Chapel Hill University of North Carolina Press 1938 480 p illus 26 cm $5 00 2161

Content Preface. The fungus-insect relationship. Pathological considerations and control methods. Geographical distribution host trees and host insects. Structural features of taxonomic importance. Hybridization. Cytology Relationship. Generic description. Key to species. Description of species. Notes on incompletely known species. Notes on excluded species. Literature list. Index.

Note The purpose of this work is to assemble descriptions and illustrations of the type species of *Septobasidium*. It includes descriptions with photographs and line drawings of about 175 species. About 90 of the descriptions are of the old original types, most of which have never been adequately described, and only a few of which have been illustrated. Of the remainder 27 have been previously described by the author and 55 new ones are described and illustrated here for the first time. The genus is practically worldwide in distribution, is very abundant in certain localities, and occurs on a great variety of wild and cultivated woody plants, as *citrus, apple tea, rubber etc* sometimes causing much damage.

DAWSON E YALE

Marine red algae of Pacific Mexico Los Angeles University of Southern California Press 1952–54 396 p illus 22 cm (University of Southern California Allan Hancock Pacific Expeditions Vol 17 no 1–2) $6 50 2162

Content Part I, Bangiales to Corallinaceae Subf Corallinoideae Introduction. Bangiales. Nemalionales. Gelidiales. Cryptonemiales Literature cited. Part II, Cryptonemiales (cont.) Introduction Dermocorynidaceae. Grateloupiaceae. Callymeniaceae Choreocolaceae. Literature cited.

Note A systematic description of the Rhodophyceae based largely on collections made by the author on four *Allan Hancock Pacific* expeditions but including also material from some other collections and specimens collected by other collectors The species descriptions contain the customary literature citations and diagnoses of morphology In addition they identify the type specimen and type locality and give information on the Mexican distribution. In most cases, there is also a paragraph of miscellaneous information on such points as variability in the species and distinguishing characteristics. Part I contains 33 plates and Part II, 44 plates. The majority of plates are reproductions of photographs of specimens. The two parts published so far are continuously paged, but may be purchased separately Part I $3.00 Part II, $3.50

EVANS ALEXANDER W

The *Cladoniae* of Florida. New Haven The Connecticut Academy of Arts and Sciences 1952 87 p illus 24 cm (Connecticut Academy of Arts and Sciences Transactions Vol 38 pages 249–336) $2 00 2163

Content Introduction. Systematic arrangement of the species. Section *Clausae* Koerb. Subsection *Cocciferae* Del. Subsection *Foliosae* Bagl & Carest. Subsection *Podostelides* (Wallr.) Vain. Subsection *Thallostelides* Vainio. Section *Perviae* (F.) Fr. Subsection *Chasmariae* (Ach.) Floerke. Subsection *Cenodes* (Del.) Vainio, Subsection *Cladinae* (Nyl.) Mattick. Census of the *Cladoniae* in Florida. Literature cited.

Note A systematic study of an important component of the lichen-flora of the state of Florida. It is based on collections made by the author and several assistants during a series of explorations in Florida 1903 to 1950, and on personal examinations of specimens of *Cladoniae* from Florida in five herbaria, including the Eckfeldt collection in the Philadelphia Academy of Sciences and the large collection in the University of Florida. After classifying and describing all of the species that have been found in Florida, the author presents a census by counties of numbers of species reported. Mattick's classification of *Cladoniae* has been followed and all of the species described belong to his subgenus Eucladonia.

FASSETT, NORMAN CARTER

Grasses of Wisconsin the taxonomy ecology, and distribution of the Gramineae growing in the state without cultivation. With an essay "The vegetation of Wisconsin" by John T Curtis Madison University of Wisconsin Press 1951 173 p illus 22 cm. $3.00 2164

Content Introduction Limitations of range maps. To identify a grass. Structure of grasses. Key to subfamilies and tribes. Characteristics and distribution of the Gramineae of Wisconsin. Festuceae Hordeae. Aveneae. Agrostideae. Chlorideae. Phalarideae. Oryzeae Paniceae. Andropogoneae. Tripsaceae. The geological setting The vegetation of Wisconsin, by John T Curtis. Figures. Glossary Index.

Note The grasses covered in this study include more than 90 natives of Wisconsin and others that have been introduced either intentionally or unintentionally into the state. The different grasses are listed and described in systematic order Small county maps of the state six to a page, show distribution of 176 species of grass. Following the text is a section of 59 pages containing 136 line drawing figures, many of them in magnified size to assist in identification.

FASSETT, NORMAN CARTER

A manual of aquatic plants. New York McGraw Hill Book Company Inc., 1940. 382 p illus 23 cm. 2164A

Content Part I, General key Part II, Descriptive treatment. Appendix. Uses by wildlife. Uses of aquatic plants by birds and mammals. Animal index. Bibliography The relation of plants to fish. Bibliography Glossary

Note In this simple, practical book the author provides keys and illustrations for macroscopic plants which normally grow in water (saline, tidal and bog habitats excluded) from Minnesota to Missouri and eastward to the Maritime Provinces and Virginia. Part I is a key based on vegetative characters, for identifying aquatic plants. The key to sterile plants is unique. Part II is a taxonomic treatment of all the plants. A revised edition was published in 1957 by the University of Wisconsin Press, 406 p., $4.50

FAULL, JOSEPH HORACE

Taxonomy and geographical distribution of the genus Milesia. With nine plates. Jamaica Plain Mass The Arnold Arboretum of Harvard University 1932 138 p. illus. 25 cm. (Arnold Arboretum of Harvard University Contributions II) $3 00 2165

Contents Introduction. Nomenclature Historical résumé. Fern hosts Geographical distribution. The taxonomy of Milesia. Fern hosts and the species of Milesia that occur on them. The species of Milesia, the two generations of which are known, and their alternative hosts. Species of Milesia and their fern hosts. Excluded species. Acknowledgments. Summary Bibliography Addendum to the species on Dryopteris. Explanation of plates. Index.

Note A comprehensive treatise in monographic form of the most unique and least understood genus of all the rust fungi. In taxonomic treatment it evaluates each historical reference both as to genus and species, and for geographical distribution embraces

[illegible] material throughout the world. Consistent with the accepted definition of the genus, [illegible] is defined in this paper as a genus of white-spored rusts, characterized by [illegible], [illegible] spermogonia, peridermia, uredinia with [illegible] peridium and [illegible] teliospores, and many-celled, [illegible] teliospores. Fifty-one references are listed.

FISCHER GEORGE WILLIAM

Manual of the North American smut fungi New York The Ronald Press Company 1953 343 p. illus. 24 cm. $8.75 2166

Contents: Introduction. Host genus index and key to the species of North American smut fungi. Key to the genera of the North American smut fungi. North American smut fungi: [illegible]. [illegible]. Literature cited. Index.

Note: A reference manual designed [illegible] to enable persons with some botanical and mycological background to identify with reasonable certainty any of the species of smut fungi known to occur in North America. The introduction and the two keys at the beginning of the volume run to only 31 pages, and the taxonomic descriptions occupy the rest of the space. Most of the species descriptions were based on personal examination of specimens by the author. Known hosts are listed for each species. In cases where two or more species of similar morphology are found on hosts of different families, the species are maintained as distinct. Twenty-two genera, 276 species, and [illegible] few varieties, on species of 747 host genera are described. There are 136 figures. In many instances [illegible] single figure contains [illegible] reproduction of [illegible] photograph which shows the gross appearance of the affected host and one or more microphotographs of spores. The author, one of the most [illegible] American authorities on the smut fungi, has also written The smut fungi, 1951, described below, and with C. S. Holton, Biology and control of the smut fungi, New York, Ronald Press, 1957. 622 p. $10.00.

FISCHER, GEORGE WILLIAM

The smut fungi a guide to the literature, with bibliography New York The Ronald Press Company 1951 387 p. 24 cm. $8.50 2167

Contents (abridged): Part I, Subject-matter guide to the literature. Part II, Bibliography. Index.

Note: In this book the first part is arranged by genera and species, and under each species references are given to published literature bearing on the following aspects: control, culture on artificial media, cytology, [illegible], hybridization and genetics, life history, parasitism, longevity of spores, miscellaneous records, spore germination, and varietal resistance and susceptibility. Of course, headings are omitted in instances [illegible] the author found no pertinent literature. Furthermore, species were omitted if no literature bearing on their biology was found. The number of entries under individual species varies from one to 100 and more. The second part of the book is [illegible] bibliography of 3,[illegible] citations of the [illegible] literature. This part is arranged alphabetically by author but is keyed by numbers to the first part. The whole constitutes [illegible] very useful literature index and guide for plant pathologists and other scientists interested in the biology of the smut fungi.

FOSBERG FRANCIS RAYMOND

The genus Gouldia (Rubiaceae) Honolulu Bernice P Bishop Museum, 1937 82 p illus. 26 cm. (Bernice P Bishop Museum. Bulletin 147) $1.50 2168

Contents (abridged): Introduction. History of the genus, relationships, criteria used in classification, hybridism, geographical distribution. Artificial keys. Systematic treatment. Hybrids. Literature cited. Index to names and synonyms.

Note: This study was undertaken because the classification of this group had proved [illegible] stumbling block ever since extensive plant collecting began in the Hawaiian Islands. The material employed consists of specimens preserved in the herbarium of the Museum and other collections. The genus [illegible] [illegible] in most of the Hawaiian moist or wet forests and in some localities it forms [illegible] considerable component of the forest. Further collecting is necessary for the establishment of relationships of the groups within the genus, and also for the study of [illegible] phylogenetic and geological history—information which may contribute to the knowledge of the geological history and relative age of the islands.

FOSBERG FRANCIS RAYMOND

The Hawaiian geraniums. Honolulu Bernice P Bishop Museum, 1936 19 p illus 23 cm (Bernice P Bishop Museum. Occasional papers Vol XII no 16) $0.50 2169

Note: The native Hawaiian geraniums forming the section [illegible] Gray are of considerable phytogeographic interest, since the section is endemic to these islands and lacks close relationships within the genus. They are members of the [illegible] and subalpine flora of the Hawaiian high mountains. [illegible] their genetic variability, the diversity of habitat and the [illegible] variation in growth habit, there has been much confusion in the taxonomy of the group and it was the fact which awakened the author's interest and led to the research on which this paper is based.

FRYE THEODORE CHRISTIAN AND LOIS CLARK

Hepaticae of North America. Seattle University of Washington 1937–47 1,022 p. illus 25 cm. (University of Washington. Publications in biology Vol. 6) Pt. 1 $1.50 pt. 2 $2.00 pt. 3 $3.00 pt 4 $2.50 pt. 5 $4.50 2170

Contents: Part 1: Ricciaceae. Marchantiaceae. [illegible]. [illegible]. Part 2: Jungermanniaceae. [illegible]. [illegible]. Part 3: [illegible]. Brief index to Parts 1–4. Part [illegible]. [illegible]. Part 5: [illegible]. References. Abbreviations. Corrections. Explanation of [illegible] terms. Index.

Note: A systematic classification of the liverworts and [illegible] of North America with descriptions, illustrations or references to illustrations, type locality, geographic range and citations to original literature.

FULFORD MARGARET

The genus Bazzania in Central and South America. Waltham Chronica Botanica Company 1946 175 p. illus. 27 cm (Annales cryptogamici et phytopathologici edited by Frans Verdoorn. Vol. III) $5.00 2171

Contents (abridged): Characteristics of the genus Bazzania. Description of the American species. Key to the subgenera. Subgenus [illegible]. Subgenus [illegible]. Section I, [illegible]. Section II, [illegible]. Section III, [illegible]. Section IV, [illegible]. Section [illegible]. Excluded species. List of species not available for this study. Distribution. Literature. Index.

Note: An important taxonomic classification and description of [illegible] large genus of the class Hepaticae. The descriptions of species, their habitat, distribution, etc., follow the usual pattern of monographs of this type, but the author's comments on the species, particularly in regard to distinguishing characteristics, are full and very clearly expressed.

GERBING GUSTAV GEORGE

Camellias. Fernandina, Fla. G G Gerbing 1943 264 p illus (col'd) 24 cm. $15.00 2172

Contents: The author's story. Camellias in full color. New and unusual camellias. An introduction to camellias. Growing camellias month by month. Further cultural notes. Camellia pests and diseases. How to cut and pack camellia blooms. Camellias for indoor culture. Index.

Note: The main portion of this book consists of 108 beautiful reproductions of full-color photographs, each accompanied by descriptive notes on the flower.

GILL, LAKE S

Arceuthobium in the United States New Haven Connecticut Academy of Arts and Sciences 1935 135 p illus 24 cm (Connecticut Academy of Arts and Sciences Transactions Vol 32 p 111–245) $1 80 2173

Content (abridged) Part I, Characters of the genus The shoot. Flowers. Fruit. Seed. The endophytic system. Summary Part II, Classification of the species *Arceuthobium pusillum americanum douglasii vaginatum campylopodum*. Part III Pathological considerations *Effects on the form of attacked trees*. Physiological relationships. Other biotic relationships. Economic importance. Methods of control Summary Bibliography

Note The species of *Arceuthobium*, or dwarf mistletoes, are economically among the most important indigenous parasites in the coniferous forests of the western United States. As the cutting of virgin timber increases and the supply of forest products from this region becomes more and more dependent upon second-growth, the control of these mistletoes will doubtless take a foremost place among the problems of applied forest pathology It has also become increasingly evident that the species are in need of more critical taxonomic consideration than they have received, and the study here reported was undertaken to supply this need.

GOODSPEED, THOMAS HARPER

The genus Nicotiana origins relationships and evolution of its species in the light of their distribution morphology and cytogenetics Parts 1–5 Distribution morphology cytology of species cytology of F_1 Interspecific hybrids phylesis by T H Goodspeed Part 6 Taxonomy by T H Goodspeed H-M Wheeler and P C Hutchison Waltham Chronica Botanica Company 1954 536 p illus 25 cm (Chronica Botanica, an international collection of studies in the method and history of biology and agriculture edited by Frans Verdoorn. Vol 16 nos 1–6) $12 50 2174

Contents Objective and argument. Part I Distribution World distribution. South America—distribution. North America—distribution. Australia and the South Pacific—distribution Part II, Morphology General morphology Anatomy and trichomes. Part III Cytology of species Chromosome number and morphology Cytology of reproduction. Euploidy aneuploidy and amphiploidy Part IV Cytology of F interspecific hybrids Categories of pairing and meiotic sequences Nature and significance of MI behavior Part Phylesis Species origins, relationships and evolution. The future of the genus. Part VI, Taxonomy of *Nicotiana* Historical résumé Remarks. Herbaria cited. Description of genus Key to subgenera and sections. Descriptions of subgeneric categories with keys to species and varieties. Subgenus *Rustica*. Subgenus *Tabacum* Subgenus *Petunioides*. Insufficiently known. Excluded Hybrids Literature cited. Author index. Subject index

Note A full-scale monograph on the genus *Nicotiana* concerning origin evolution and relationships of the modern species of the genus, with accompanying geographic morphological cytogenetic and taxonomic considerations Most of the research reported including the cytogenetic analysis of the results of large-scale interspecific hybridization was conducted at the Botanical Garden of the University of California, Berkeley of which the author is director A total of 60 species of *Nicotiana* are recognized and described in detail in the part covering the taxonomy of the genus, which occupies the final one-third of the book.

GUBERLET MURIEL LEWIN

Seaweeds at ebb tide Illustrated by Elizabeth L Curtis Seattle University of Washington Press 1956 182 p illus 22 cm $3 50 2175

Note Amateur naturalists and other laymen who are curious about the algae that they see along the seacoast, particularly along the Pacific coast of continental United States of America, are the intended readers of this book The scientific names of the plants are given, along with common names (some of them coined by the author) but otherwise there is nothing of scientific botany in the book. First, there is an introduction in which the author makes clear the book's limitations. This is followed by three pages of suggestions on the collecting of algae. The rest of the volume is devoted to pictures of individual species and nontechnical descriptions of them. The pictures are reproductions of exquisite drawings Throughout the volume they are printed on right-hand pages and the descriptive captions are printed on facing left-hand pages for convenience in using the book.

GUNDERSEN, ALFRED, AND OTHERS

Families of dicotyledons By Alfred Gundersen with introductory chapters by C. A. Arnold and others Drawings by Maud H. Purdy Waltham Chronica Botanica Company, 1950 237 p illus 23 cm. (A new series of plant science books edited by Frans Verdoorn Vol XXV) $4 75 2176

Content Part I, Introduction Fossil dicotyledons, by C. A. Arnold. Wood anatomy by O. Tippo. Carpels and ovules, by T. Just. Embryology by H. F. Copeland. Cytotaxonomy by J. R. Taylor Plant geography by W. H. Camp. Part II, Characters of dicotyledons Stem. Leaf. Inflorescence. Flowers and insects. Floral anatomy Perianth. Stamens and nectaries. Pollen. Placentation Ovule and seed. Part III, Historical notes Seventeenth century Eighteenth century Nineteenth century Systems since 1900. Orders compared. Part IV *Systematic arrangement* Beginning of the system. Sequence of groups. Nomenclature. Scope of orders and families. Magnoliflorae Magnoliales. Ranales Piperales. Cistiflorae Cactales. Cistales. Salicales. Papaverales. Sarraceniales. Aristolochiales. Tamaricales. Thea group Theales. Ebenales. Ericales. Rosiflorae Rosales. Hamamelidales. Thymelaeales. Myrtales. Urticales group Proteales. Santalales. Urticales. Balanopsidales. Juglandales Leitneriales. Casuarinales. Malva group Malvales. Euphorbiales Geranium group Rutales. Juglandales. Sapindales. Celastrales. Cyrilliales. Dianthiflorae Caryophyllales. Polygonales. Primulales. Plantaginales. Jasminiflorae Loganiales Polemoniales. Boraginales. Campanales. Rubiiflorae Umbellales. Rubiales. Asterales. Incertae sedis. Concluding remarks. Literature cited. Index of plant names.

Note A systematic reclassification of the dicotyledons written on the basis of more than 20 years' study of the group. Two hundred forty families are grouped into 47 orders in an arrangement which the author recognizes as tentative and subject to future improvement. Comparisons with other classifications are touched upon, for in large part the systems of Engler and Bentham and Hooker have been followed. The accounts of the separate families, each including brief descriptions and citations from recent literature, occupy more than half the volume. The illustrative drawings, mostly prepared from living plants, show the details of seeds, buds and flowers of typical species in the various orders.

HITCHCOCK ALBERT SPEAR

Manual of the grasses of the United States. Second edition Revised by Agnes Chase Washington D C Government Printing Office 1950 1 051 p illus 24 cm (United States Department of Agriculture. Miscellaneous publication no 200) $3 75 2177

Content Introduction Uses of grasses. Distribution of grasses. Morphology of grasses. *Classification* of grasses Nomenclature Common names. Scope of the manual Gramineae (Poaceae) the grass family Descriptions of the subfamilies and keys to the tribes *Festucoideae*. *Panicoideae*. Descriptions of the tribes and keys to the genera Bambuseae. Festuceae Hordeae. Aveneae Agrostideae Zoysieae Chlorideae. Phalarideae. Oryzeae Zizanieae Melinideae Paniceae Andropogoneae. Tripsaceae Description of genera and species Bambuseae Festuceae Hordeae Aveneae Agrostideae Melinideae Zoysieae Chlorideae. Phalarideae Oryzeae Zizanieae Melinideae Paniceae Andropogoneae Tripsaceae Synonymy Unidentified names Persons for whom grasses have been named Glossary Append. Place of publication and type species of new genera described Addenda. Index

Note A comprehensive systematic catalogue based mainly on the very extensive collection in the United States National Herbarium. Botanical descriptions of the grasses are supplemented in most instances by drawings of good quality In contrast to the 159 genera and 1 100 species described in the first edition (1935) 169 genera and 1,398 species are described There are now 1,200 illustrations

HITCHCOCK CHARLES LEO

A revision of the Drabas of western North America. Seattle University of Washington, 1941 132 p. illus. 25 cm. (University of Washington. Publication in biology Vol xi) $3.00 2178

Contents: Introduction. Key to species. Description of species. Excluded species of uncertain identity. List of specimens seen. Table of comparison of species. Index.

Note: A systematic and descriptive catalogue which includes [illegible] species on the basis of [illegible] study of this genus of herbaceous herbs of temperate and arctic regions. The key is intended to be concise rather than exhaustive. It contains [illegible] species included in two or more places. [illegible] however there is any possibility of confusion. Descriptions, measurements, distribution, and citations of the original literature are included, together with eight plates of line drawings.

HITCHCOCK, CHARLES LEO

A revision of the North American species of Lathyrus. Seattle University of Washington Press 1952 104 p. illus. 25 cm. (University of Washington. Publications in biology Vol. 15) $2.50 2179

Contents: Introduction. Description of species. Index to collection [illegible]. Representative collections examined. Index to pertinent names. Illustrations.

Note: A new systematic description based on extensive field and herbarium studies and incorporating recently developed data on chromosome number and on crossing among species. The information on interbreeding has been derived largely from cultural experiments conducted by the author. The author's studies and observations have led him to believe that "many of the species interbreed rather freely, producing hybrid populations of great variability." This characteristic is taken into account in the species descriptions.

HITCHCOCK CHARLES LEO AND BASSETT MAGUIRE

A revision of the North American species of Silene. Seattle University of Washington Press 1947 73 p illus 25 cm. (University of Washington publications in biology Vol. 13) $1.50. 2180

Contents: History. Relationship. Infrageneric categories. Meaning of terms. Material examined. Taxonomic treatment. Key to species. Descriptions of species. Representative collections examined. Index to collections area. Index to pertinent names.

Note: A systematic work for botanists which classifies and describes 54 species of Silene found in North America. There are five plates containing drawings of representative Silene plant structures, and two plates of maps showing areal distribution. The descriptions are based on the authors' study of these plants in the laboratory, in the field, and in various herbariums.

HOWARD GRACE E

Lichens of the state of Washington. Seattle University of Washington Press 1950 191 p. illus. 25 cm $3.00 2181

Contents: Introduction. Key to genera. Plant section. Literature. Glossary. Index.

Note: Based upon field work by the author in the [illegible] of Washington during many of the years between 1929 and 1942 and upon examination of specimens in leading herbarium collections in the United States of America, this publication lists and describes 333 species and varieties belonging to 69 genera and 33 families of lichens in the state of Washington. The names and bibliographical reference of each species are followed by detailed description, locations where found in the state, and annotations as to distinguishing characteristics.

JENNINGS O E

Manual of the mosses of western Pennsylvania and adjacent regions. Second edition Notre Dame Ind. University of Notre Dame Press, 1951 396 p. illus 23 cm (American midland naturalist. Monograph no. [illegible] Edited by J D Mizelle) $4.25 2182

Contents: Introduction. Directions for collecting, preparing and preserving specimens of mosses. Abbreviations of names used in the manual. Analytical key to the genera of mosses of western Pennsylvania. Systematic treatment: Sphagnaceae. Andreaeales. Bryales—Acrocarpi—Pleurocarpi. Glossary of [illegible] terms used in the manual. Plates [illegible]. Index.

Note: Designed primarily as an aid in identification of the mosses of the territory covered, this book is of interest both to amateur and professional bryologists. Most of the space in it is devoted to the systematic descriptions and the plates. The plates are reproductions of original drawings made directly from specimens. The systematic descriptions include detailed morphological diagnoses and also information on habitat, range in continental United States and Canada, and distribution within western Pennsylvania and adjacent regions. The first edition [illegible] different [illegible] written and was published in 1913. Twenty [illegible] species not included in it are described in this second edition, and, in addition, changes have been made in nomenclature and more drawings have been added.

JOHNSON TERRY W., JR.

The genus Achlya—morphology and taxonomy. Ann Arbor University of Michigan Press 1956. 180 p. illus. 24 cm (University of Michigan studies. Scientific series Vol. xx) $4.50 2183

Contents: Introduction. Systematic account of *Achlya*. Subgenus *Centroachlya*. Subgenus *Subcentrica*. Subgenus *Achlya*. Taxa of doubtful alliance. Excluded taxa. Bibliography. Plates. Index.

Note: A systematic catalog of the *Achlya*, comprising over 100 taxa, the largest genus of the water molds. Dr. Johnson, Assistant Professor of Botany at Duke University, has included the results of both his own observations and those of other botanists. He admits the difficulties of resolving some of the taxa, even in the light of present-day knowledge. The bibliography is presumably a complete compilation of the published literature.

JONES GEORGE NEVILLE

American species of Amelanchier with 14 maps and 23 plates. Urbana University of Illinois Press 1946 126 p illus 27 cm. (Illinois biological monographs Vol. xx, no. 2) $2.00 2184

Contents: Introduction. Taxonomy. Bibliography and description of the genus. Keys to species. Description and discussion of species. List of numbered exsiccatae. Plates. Index to plant names.

Note: A description for botanists of American species of *Amelanchier*, a genus of shrubs and small trees. The work is based on a survey of the related literature and on the author's personal study of these plants in various herbariums. Each species is described botanically and its range is given. Type localities and literature references are cited. A set of plates reproduces photographs of branchlets and leaf types.

KILLIP ELLSWORTH PAINE

The American species of Passifloraceae. Chicago Chicago Natural History Museum 1938 2 v illus 24 cm. (Chicago Natural History Museum. Publication nos 407 and 408 Botanical series Vol. xix, parts i–ii) $5.00. 2185

Contents: Introduction. Historical survey. Varying concepts of classification. General morphology. Economic uses. General remarks. List of abbreviations for herbaria cited. Bibliography. Systematic treatment. List of exsiccatae. Index.

Note: An annotated systematic description of all the known genera and species of passionflowers native to North and South America, Mexico, and Central America, including [illegible] reviews of the earlier catalogues. A total of 355 species of *Passiflora* and 10 belonging to closely related genera are recognized in the

present monograph of which 17 are proposed for the first time plus 13 varieties of *P saltera foetida* newly described. Little or no attention has been given to the numerous hybrids in the family developed in horticulture. The work is based mainly on the author's studies of collections in 46 herbaria located throughout the world. Description, type locality distribution, and species numbers for each country are included in the annotations.

LEONARD, EMERY C

The Acanthaceae of Colombia, I Washington D C Government Printing Office 1951 117 p illus 24 cm. (Smithsonian Institution United States National Museum. Contributions from the United States National Herbarium. Vol. 31, pt. 1) $0 50 2186

Contents Introduction Systematic treatment Subfamily Nelsonioideae. Subfamily Mendoncioideae. Subfamily Thunbergioideae. Subfamily Acanthoideae: Series Contortae Tribe Trichantheraee. Tribe Hygrophileae. Tribe Petalidieae. Tribe Ruellieae. Tribe Barlerieae. Index.

Note This is the first part of a work to be completed in three parts describing and discussing in systematic fashion the known Colombian species of the family Acanthaceae. It is a reference work for botanists, so that they may identify their collections of acanthaceous plants or use the keys for detecting further undescribed species.

—— II Washington, D C Government Printing Office, 1953 119–322 p illus 24 cm (Smithsonian Institution United States National Museum Contributions from the United States National Herbarium Vol 31 pt 2) $0 70 2187

Contents Introduction Systematic treatment Subfamily Acanthoideae (continued from Part I) Series Imbricatae. Tribe Aphelandreae. Tribe Rhombochlamydeae Tribe Asystasieae Tribe Graptophylleae. Tribe Pseuderanthemeae. Index.

Note The second part of a projected three of systematic description of the known Colombian species of the family Acanthaceae It covers the genera, including 106 species of which 73 are described as new

LI, HUI LIN

The Araliaceae of China. With 14 text figures Jamaica Plain Mass The Arnold Arboretum of Harvard University 1942 134 p illus 25 cm (Sargentia a continuation of the *Contributions from the Arnold Arboretum* of Harvard University II) $2 25 2188

Note A systematic study of the family Araliaceae of woody plants common to China. An attempt is made to account for every published binomial belonging to the family as recorded from China in botanical literature from 1753 to the present date. A total of 17 genera, 121 species, 32 varieties, and three forms are recognized, the study being based on the extensive collection of Chinese plants at the Arnold Arboretum, supplemented by collections from other Chinese and American herbaria. Complete systematic descriptions are given for all species treated.

LLOYD, FRANCIS ERNEST

The carnivorous plants Waltham Chronica Botanica Company 1942 352 p illus 27 cm (A new series of plant science books edited by Frans Verdoorn. Vol IX) $7 50 2189

Content Introduction. *Heliamphora. Sarracenia. Darlingtonia californica. Nepenthes. Cephalotus follicularis. Genlisea. Byblis. Drosophyllum lusitanicum. Pinguicula. Drosera.* The carnivorous fungi. *Dionaea. Aldrovanda. Utricularia Biovularia,* and *Polypompholyx.* The *Utricularia* trap. Indices.

Note This monograph embodies the results of 13 years of intensive study of representatives of all the various types of carnivorous plants. Much work was done in the field (in South Africa, Australasia, and North America) and this has been amplified by extensive laboratory studies. The illustrations are nearly original and include numerous halftone plates and a large number of line drawings.

MCKELVEY, SUSAN DELANO

Yuccas of the southwestern United States. Part I–II Jamaica Plain, Mass. The Arnold Arboretum of Harvard University, 1938–47 2 v illus 27 cm Part I o p part II $10.00 2190

Note A detailed, monographic description of species and varieties of the genus Yucca known to grow naturally in southwestern continental United States of America. In the second part, one species so far identified only with Lower California in Mexico is also included. The first part is devoted to species classified in the sections *Sarcocarpa* Engelm. and *Clistocarpa* Engelm., and key characters for use in identifying these species are described. Part II describes 19 species, nine of which are new and three new varieties, all classified in the sections *Hesperoyucca* Engelm. and *Chaenocarpa* Engelm. The study was based on a review of the literature, on specimens in the author's own collection and in all the important herbaria, and on field work. The descriptions are monographic in nature, covering not only the morphology but also describing the range containing long comments on comparative morphology and on uses and sometimes quotations from the studies of other writers. The verbal descriptions are supplemented by 65 plates in the first volume and 80 plates in the second volume, all of which are reproductions of photographs of Yucca in their natural habitats.

MACKENZIE KENNETH KENT

North American Cariceae, illustrated by Harry Charles Creutzburg edited by Harold William Rickett. New York New York Botanical Garden 1940 2 v illus 35 cm. $17 50 2191

Content Plates. Descriptions. Index. Appendix: Collectors of specimens used for illustrations.

Note This collection of 539 plates, with technical descriptions is for the botanist. The text follows the author's monograph in the Carex, which appeared in volume 18 of *North American flora*. The same numbers are assigned to the species in both works. For synonymy keys, descriptions of genera and of varieties, and statements of type localities, and citations of previous illustrations are not repeated in this work.

MCVAUGH ROGERS, AND JOSEPH H PYRON

Ferns of Georgia. Sponsored by the Garden Club of Georgia Inc. Athens University of Georgia Press 1951 195 p illus. 24 cm $5.00. 2192

Content Introduction Life history of ferns. Classification of ferns. How plants get their names. Arrangement of genera and species. How to use the manual. Key to the genera of ferns and species. How to use the manual. Key to the genera of ferns and fern allies. Keys to the species. Descriptions and illustrations. Explanation of special terms. Index.

Note A semitechnical manual suitable for use by amateur botanists in the study and identification of ferns and by professional botanists interested in the geographical distribution of fern species in southern United States of America. It is based on three-year field study and on the examination of herbarium collections. Each fern is described in a one-page entry which covers the Latin name and the common name (when one exists) description, habitat range, and general remarks. Opposite the entry there is in each instance a drawing of fronds or of the whole plant, together with a map showing the portions of Georgia in which the fern may be found.

MARSHALL WILLIAM TAYLOR, AND THOR METHVEN BOCK

Cactaceae. With illustrated keys of all tribes sub-tribes and genera. Arranged and published by Scott E Haselton Supplement

ing the work of Doctors Britton and Rose this volume describes all of the acceptable new genera and species since nineteen nineteen and the changes in classifications necessitated by recent discoveries Pasadena Calif Abbey Garden Press 1941 227 p. illus. 30 cm. $7.50 2193

Contents. The Cactaceae. Key to tribes. Illustrated key to the genera. Descriptions of the genera. Tribe I, Pereskieae. Tribe II, Opuntieae. Tribe III, Cereeae: Cereanae, Hylocereanae, Echinocereanae, Echinocactanae, Cactanae, Coryphanthanae, Epiphyllanae. Appendices. Index.

Note This illustrated systematic description includes generic names, synonymy, habitat, culture, desirability, desirable species, recent introductions, and recent new species since the publication of Britton and Rose's *The Cactaceae*, Washington, D. C., 1919–23. There is a short bibliography and many excellent photographs and drawings.

MATTHEWS VELMA DARE

Studies on the genus Pythium. Chapel Hill University of North Carolina Press 1931 136 p. illus. 26 cm. $3.00 2194

Contents. Introduction. Methods and culture media. Taxonomy. Distribution and habitat. Mycelium. Sporangia. Conidia. Zoospores. Sexual organs. Family Pythiaceae and key to the genera. Genus Pythium and key to the species. Descriptions of the species of Pythium. Species omitted. Literature. Index.

Note. An attempt is made to give descriptions of all the species of Pythium which had been discovered at the time of publication, and to report on 28 species which have been isolated by the writer. Of these 4 are considered new. Keys are given to the genera of the family Pythiaceae and to the species of the genus Pythium. Several species are reported from the United States of America for the first time. There are 29 fine line plates, 26 from original drawings, and three copies from illustrations of species which the writer has not seen. There is an extensive bibliography.

MIDDLETON JOHN TYLOR

The taxonomy host range and geographic distribution of the genus *Pythium* Lancaster Pa. Lancaster Press Inc. 1943 171 p illus 23 cm. (Torrey Botanical Club. Memoirs Harold W Rickett editor Vol 20 no 1) $2.00 2195

Note A contribution towards a better understanding of the species, their taxonomic status, and their phylogeny. An effort has been made to secure from various hosts and localities as many cultures as were available of the described species, since a study of a group of isolates is held to be more representative than the study of a single isolate, and enables the investigator to determine the extent and nature of variations within a natural species. As further aid to students of the genus and plant pathologists encountering members of the genus as plant pathogens, information relative to host and geographic distribution is included. In addition to a summary and condensation of the available literature on this phase of the work, the extent and variety of hosts have been materially amplified. About 600 references are listed in the bibliography.

MINER, ROY WALDO editor

Speciation and variation in asexual fungi. Conference chairman and consulting editor Kenneth B Raper New York Published by the Academy 1954 182 p illus. (part col d) 22 cm. (New York Academy of Sciences. Annals Vol. 60 art. 1) $3.50 2196

Contents Introduction by K B Raper. Some interrelationships of speciation, [illegible], and nomenclature in bacteria, by R E Buchanan. Variation and speciation in the genus *Fusarium*, by W C Snyder and H N Hansen. The evolution of species concepts in *Aspergillus* and *Penicillium*, by C. Thom. Spontaneous and induced variation in selected stocks of the *Penicillium chrysogenum* series, by J F Stauffer and M P Backus. Experimental control of morphogenesis in microorganisms, by W J Nickerson. Natural and cultural variation in entomogenous fungi imperfecti, by D. M. MacLeod. Types of variation in actinomycetes, by B. M. Duggar and others. Variation in *Streptomyces aureofaciens*, by E. J. Backus and others. Criteria of speciation in the genus *Streptomyces*, by P. R. Burkholder and others. Variation in *Streptomyces*, by K. L. Jones. Useful criteria for species differentiation in the genus *Streptomyces*, by C. W. Hesseltine and others. [illegible] as aids in actinomycete classification, by A. Dietz. Induced mutation and strain selection in some industrially important microorganisms, by E. L. Dulaney. Morphological studies in the genus *Nocardia*—III The morphology of young colonies, by N. M. McClung.

Note Papers first presented at a conference held by the Section of Biology and the Division of Mycology of the New York Academy of Sciences in June 1954 have been made available in this publication. The conference was concerned primarily with the taxonomy of the asexual fungi. As noted above, several papers were directed to the genus *Streptomyces*, a troublesome group from the viewpoint of classification. Literature references are included.

MUNZ PHILIP ALEXANDER

A revision of the genus Fuchsia (Onagraceae) San Francisco California Academy of Sciences 1944 138 p illus 26 cm (California Academy of Sciences Proceedings. 4th series. Vol xxv no 1 December 11 1943 Alice Eastwood semi-centennial publications) $1.75 2197

Note This article was written because the genus Fuchsia has been cultivated widely in recent years and has had no botanical revision since many of the species have become known. In addition to the taxonomic analysis, he also gives an account of the history of the plant, its introduction into England from Santo Domingo, and its earliest description by Plumier. Photographs of the title page and the pages containing the original description of the new genus Fuchsia are reproduced from Plumier's book as Plate 16 of this account.

NEARING G G

The lichen book handbook of the lichens of northeastern United States. Illustrations by the author Ramsey N J., P O Box 402 Published by the author 1947 648 p illus. 22 cm. $8.00 2198

Note A manual for beginners and amateurs in which the lichens are described primarily from the standpoint of their identification. The author has described the book's purpose in the following words: "It is not the aim of this book to present original findings, but to describe known lichens, especially the more common ones, in greater detail than elsewhere in similar form. Its drawings, to compare them with at least some of the species they resemble, and thus to present this hitherto not widely known group for students, beginners, and non-specializing botanists." The author's aim has been fulfilled in the detailed descriptions of species and in the drawings. The book is organized in six divisions and 75 groups, and keys arranged in tabular form are provided for each of the groups. The index, compiled by Robert L. [illegible], is a thorough one.

OVERHOLTS LEE ORAS

The polyporaceae of the United States Alaska and Canada. Prepared for publication by Josiah L. Lowe Ann Arbor University of Michigan Press 1953 466 p illus. 24 cm (University of Michigan studies Scientific series. Vol xix) $7.50 2199

Contents Introduction. *Keys and descriptions*: Family Polyporaceae. Key to the genera. Genus *Fomes*. Genus *Lenzites*. Genus *Cyclomyces*. Genus *Daedalea*. Genus *Hexagona*. Genus *Trametes*. Genus *Favolus*. Genus *Polyporus*. Bibliography. Glossary. Index.

Note A systematic description of the pileate Polyporaceae native to the North American continent, north of Mexico, based on more than 30 years' study by the author. He was during his lifetime the *United States of America* leading authority on this group of

fungi. The 27-page introduction covers briefly such matters as the early history of this family its morphology and terminology economic importance, and its activity in the decay of wood. The keys and descriptions are cast in the traditional style of such monographs. They are followed by 131 plates, many of which are photographs of specimens from the Overholts Herbarium. The author left a virtually complete manuscript when he died in 1946 In preparing it for publication Dr Lowe added descriptions of 30 species and completed the bibliography

POHL, RICHARD W

How to know the grasses pictured keys for determining the common and important American grasses with suggestions and aids for their study Dubuque Wm C Brown Company, 1954 192 p illus 22 cm. (The Pictured key nature series) $2 75 2200

Content What is a grass? Key to grasses, sedges and rushes. What do grasses look like? How to collect and study grasses. How to recognize the tribes of grasses. Some useful books on grasses. Pictured-keys to common American grasses. Tribe Bambuseae Festuceae. Hordeae. Aveneae. Agrostideae. Zoysieae. Chlorideae Phalarideae. Oryzeae. Zizanieae. Paniceae. Andropogoneae Tripsaceae. Index and pictured-glossary

Note An elementary and useful manual designed as an aid in the identification of grasses that grow in continental United States of America. The illustrations, of which there are well over 400 arranged as 385 figures, are a special feature. All are reproductions of small but reasonably clear line drawings. For the most part, they show florets and spikelets, and these are drawn to an indicated scale. Ranges of species are indicated graphically The verbal descriptions are concerned largely with morphological details

PRESCOTT, GERALD WEBBER

Algae of the western Great Lakes area exclusive of desmids and diatoms Bloomfield Hills, Mich Cranbrook Institute of Science 1951 946 p illus 24 cm $10 50 2201

Contents (abridged) Geographical features and algal distribution. Relationships of phytoplankton to lake productivity Morphological characters illustrated. Systematic account Division Chlorophyta. Division Chrysophyta. Division Euglenophyta. Division Chloromonadophyta. Division Pyrrhophyta. Division Cyanophyta. Division Rhodophyta. Analytical key to the genera. Glossary Bibliography Plates. Index.

Note A systematic description of algae collected from lakes and marshes of Wisconsin and Michigan, a region noted for its abundance of algal flora. The work is comprehensive, in that it describes all of the species reported in the publications of earlier workers, as well as species collected by the author It is a substantial contribution to the literature of both phycology and limnology

RAPER KENNETH BRYAN AND CHARLES THOM

A manual of the Penicillia. With the technical assistance and illustrations by Dorothy I Fennel Baltimore The Williams & Wilkins Company 1949 875 p illus (part col d) 24 cm $12 00 2202

Content Part I, General discussion Historical. Generic diagnosis and synonymy Observation and description of Penicillia. Cultivation and preservation of Penicillia. Penicillia. Part II, The manual proper Use of the manual. Monoverticillata. Asymmetrica—divaricata—velutina—lanata—funiculosa—fasciculata. Biverticillata-symmetrica. Polyverticillata. Gliocladium, Paecilomyces, and Scopulariopsis Part III, Reference material Topical bibliography General bibliography Species index. Accepted species and varieties. Index.

Note A new systematic study in which is incorporated the useful material from many unpublished surveys and groupings made in industrial laboratories and elsewhere as a result of the interest in this genus occasioned by the discovery of the antibiotic penicillin. It supersedes Thom *The Penicillia* published in 1930 but in contrast is designed for quick reference The systematic description which account for approximately 600 of the book's pages are arranged in the traditional manner but they consist largely of information that is useful in identification and laboratory culture. According to the authors, about 4,000 strains were examined in the course of the book's preparation. Strains upon which particular descriptions are based are identified. There are 172 figures, most of which consist of several illustrations. There are 10 color plates. The topical bibliography consists of literature references arranged according to field of interest or application, for example, cheese. The general bibliography is arranged by author and includes both the systematic literature and that bearing on pharmacological and industrial applications.

RUDD, VELVA E

The American species of *Aeschynomene*. Washington, D C Smithsonian Institution, 1955 172 p illus 24 cm. (Smithsonian Institution United States National Museum. Contributions from the United States National Herbarium. Vol 32 pt. 1) Gratis 2203

Content Introduction. Systematic treatment, with keys. Excluded and doubtful taxa. New taxa, new names and new combinations. Collections of *Aeschynomene* cited. Index.

Note A revision of the American species of *Aeschynomene* based on collections in the United States National Herbarium and in other herbaria. Economic aspects, geographic distribution, etc. are considered in the introduction. However most of the space is devoted to the systematic descriptions and to the supplementary lists of excluded and doubtful taxa and new taxa. All of the illustrations are distribution maps rather than pictures of the plants described.

SEAVER, FRED JAY

The North American cup-fungi (Inoperculates) Illustrated New York Published by the author 1951 428 p illus. (part col d) 24 cm $7 50 2204

Content Introductory Taxonomic treatment. Explanation of plates. Host index Index to illustrations. Index to recognized genera. Index to genera and species.

Note This work complements the author's *The North American cup-fungi (Operculates)* supplemented edition, New York, 1942. It is a systematic description addressed to professional botanists but the author disavows finality in these words "There are many controversial questions and the writer makes no pretense that this is the last word in the treatment of species, genera or families but merely a summary of the available facts as they appear at the present time. Nevertheless, the work is a major contribution to the description of this plant group. There are 150 plates of good quality

SHERFF, EARL EDWARD

The genus *Bidens* Chicago Chicago Natural History Museum 1937 2 v. illus. 24 cm. (Chicago Natural History Museum. Publication nos 388 and 389 Botanical series. Vol. XVI part I–II) Part I $3 50 Part II, $4.00. 2205

Content Historical survey of genus *Bidens*. Morphology, teratology cytology ecology and other special lines of inquiry. Description of genus *Bidens* Synopsis of sections Key. Abbreviations used for herbaria cited Descriptions. Names to be excluded from *Bidens*. Addenda. Names of uncertain status. Index of collectors cited. General index.

Note A systematic description of the species of the genus *Bidens* of the family Compositae based upon the author's 25 years of specialized study in this and in related genera from the collections of 63 herbaria throughout the world. Description, synonymy, type specimen, distribution, index numbers of specimens examined, and related data accompany the detailed entries for each species. An outstanding feature of the work is the reproduction of 137 of the author's original drawings showing anatomical details of selected species. The indexes are extensive

SHERFF EARL EDWARD

Revision of the genus *Coreopsis* Chicago Chicago Natural History Museum 1936 216 p illus 24 cm (Chicago Natural History

Museum. Publication 366 Botanical series Vol. xi, no 6) $1.50. 2206

Note This monograph presents a revisional survey of the entire genus Crepis of the family Compositae. Original descriptions (in Latin), type specimens, distribution, and [illegible] with references are included in each species note. Additional descriptive data so as to aid in further differentiation are given wherever available. No attempt has been made to present an extended history of the genus [illegible] as this material has already been covered in [illegible] The genus *Bidens*, Chicago, 1937 (see above). The author has also published *[illegible] of the genus* [illegible], Chicago, 1937 [illegible] p. $0.90, covering another closely related genus of the family Compositae.

Smith Alexander Hanchett

Puffballs and their allies in Michigan Ann Arbor University of Michigan Press 1951 131 p. illus. 24 cm. $5 00 2207

Contents The fructification. Bibliography Key to orders of Gasteromycetes. Hymenogastrales, Gautieriales, Tremellogastrales, Hysterangiales. Phallales. Lycoperdales. Sclerodermatales. Nidulariales. Podaxales. Literature cited. Index.

Note A systematic description of an interesting group of fungi Although limited to those species that are found naturally within the state of Michigan, the book is of wider interest because the species described are found in many other parts of the world as well. The author states that the book is intended for general use. Because the morphological descriptions are cast in technical terms, and he has included a glossary The verbal descriptions are supplemented by a series of plates made from photographs of collected specimens.

Smith Gilbert Morgan

The fresh-water algae of the United States Second edition. New York McGraw Hill Book Company Inc., 1950. 719 p. illus. 24 cm. (McGraw Hill publications in the botanical sciences Edmund W Sinnott consulting editor) $12 50 2208

Contents Nature, evolution, and classification of the algae. The distribution and occurrence of fresh-water algae. Collection, preservation, and methods of studying the fresh-water algae Chlorophyta. Euglenophyta. Chrysophyta. Phaeophyta. Pyrrophyta. Cyanophyta. Rhodophyta. Groups of uncertain systematic position. *Key to the fresh-water algae of the United States.* Bibliography. Index.

Note A standard comprehensive description, useful both to specialists and to advanced students. The three preliminary chapters occupy only 38 pages. The greater part of the volume is devoted to the systematic descriptions. Groups are described down to genera [illegible] of genera. Instead of descriptions of species, literature references are given to descriptions published elsewhere. There are 15 figures, most of which contain more than one drawing.

Smith, Gilbert Morgan and others

Manual of phycology an introduction to the algae and their biology Edited by Gilbert M. Smith. With [illegible] plates and figures in the text. Waltham Chronica Botanica Company 1951. 375 p. illus. 26 cm. (A new series of plant science books edited by Frans Verdoorn. Vol. xxvii) $7.50 2209

Contents History of phycology by G W Prescott The classification of algae, by G M Smith Chlorophyta, by M O P Iyengar Euglenophyta, by T L Jahn Chrysophyta, by F E Fritsch Pyrrophyta, by H W Graham Phaeophyta, by G F Papenfuss Cyanophyta, by Francis Drouet Rhodophyta, by K M Drew Fossil algae, by J H Johnson Cytology of algae, by H C Bold Sexuality of algae, by G M Smith The pigments of algae by [illegible] Physiology and biochemistry of algae, by [illegible] Ecology of fresh water algae, by L H Tiffany Ecology of marine algae by Jean Feldmann Plankton algae and their biological significance, by B H Ketchum. Appendices. Methods for the cultivation of algae. Micro[illegible]. Index.

Note A volume of separate, signed chapters, each complete from brief introduction to bibliography covering all aspects of algology except economic phycology to cover which subject another volume is projected in the same series. Each author covering a major group of the algae discusses structure, reproduction, and classification of his group. Seven separate chapters are devoted to ecological, physiological, and other general problems. The work is a companion volume to F Verdoorn, editor *Manual of bryology* The Hague 1932 and to F Verdoorn, editor, *Manual of pteridology* The Hague 1938

Smith Gilbert Morgan

Marine Algae of the Monterey peninsula, California. Stanford Stanford University Press 1944 622 p illus. 23 cm. $7.50 2210

Contents Introduction. Glossary Chlorophyta. Phaeophyta. Rhodophyta. Bibliography Comprehensive keys to genera. Explanation of plates. Index.

Note Although limited to a small geographical area (approximately 100 miles south of San Francisco) this work for the student and specialist describes about 85 per cent of the seaweeds along the western coast of the United States of America. For each species, there is a description, an illustration in most cases, a reference to authentic specimens, a reference to other recent descriptions, local distribution, type locality and Pacific Coast distribution

Smith Lyman B

The Bromeliaceae of Brazil With 128 illustrations by Robert J Downes Washington D C. Published by the Smithsonian Institution 1955 290 p illus 24 cm. (Smithsonian Institution. Smithsonian miscellaneous collections. Vol 26 no 1) $3.50. 2211

Contents Introduction Preliminary records Systematic treatment. Excluded and doubtful taxa. Literature cited. Index.

Note A compact, systematic manual based on the literature field work, and an extensive study of collections in herbaria, including the herbarium of the Instituto de Botânica in São Paulo Although there are short discussions of economic, [illegible] aspects, etc. of the bromeliads, most of the space is devoted to the keys and to the accounts of species. Citations of localities where specimens were collected is a special feature of the latter There are 128 figures, all of which are reproductions of drawings. A companion work, *The Bromeliaceae of Colombia*, by the same author was published by the Smithsonian Institution, 1957 311 p. (Contributions from the United States National Herbarium, Vol. 33)

Taylor William Randolph

Marine Algae of the northeastern coast of North America. Illustrated by Chin-Chin Jao. Ann Arbor University of Michigan Press 193 427 p. illus. 24 cm. (University of Michigan studies. Scientific series. Vol. xiii) $12 50 2212

Contents Introduction Area surveyed. Geographical distribution. Algal habitats Collection and preservation. Historical survey Purpose and limitations. Systematic list. Descriptive catalogue: Chlorophyceae. Phaeophyceae Rhodophyceae Bibliography Plates. Index

Note A standard manual with wider scope than is typical of such works. It contains a check list, full keys, systematic descriptions, an extensive bibliography and, in addition, information on the historic collections of marine algae in America, and techniques of collecting and preservation. A second edition, revised, was issued by the same publisher in 1957 509 p. $12.50.

Taylor William Randolph

Pacific marine algae of the Allan Hancock Expeditions to the Galapagos Islands Los Angeles University of Southern California Press, 1945 528 p illus. 23 cm. (Allan Hancock Pacific expeditions. Vol. 12) $8.00 2213

Contents Introduction Historical review Equipment. General descriptions of localities. General characteristics of the algal flora. Summary of algal distribution. Descriptive catalogue: Chlorophyceae.

Phaeophyceae. Myxophyceae. Rhodophyceae. Literature cited. Plates. Index to stations. Index to algae

Note A report of algae collected on two expeditions in 1934 and 1939 in regions of the Pacific that are rich in Phaeophyceae and Rhodophyceae. In the 36 pages of the introduction, the history of plant collecting in this region is reviewed briefly the collecting localities of the 1934 and 1939 expeditions are described, and there is summary of the characteristics and distribution of the algal flora of the region. The remainder of the space is devoted to keys and systematic descriptions of the plants collected. There are 100 plates, a few of which are reproductions of drawings, and the balance reproductions of photographs of specimens.

THOM, CHARLES, AND KENNETH B RAPER

A manual of the Aspergilli Baltimore The Williams & Wilkins Company 1945 373 p illus (part col'd) 23 cm $7 00 2214

Content (abridged) Part I General discussion Historical introduction. Classification, generic diagnosis, and synonymy Morphology and description. Cultivation and examination. Preservation of cultures. Part II, The manual proper The Aspergillus clavatus group. The Aspergillus glaucus group The Aspergillus fumigatus group The Aspergillus nidulans group The Aspergillus ustus group The Aspergillus flavipes group The Aspergillus versicolor group. The Aspergillus terreus group The Aspergillus candidus group. The Aspergillus niger group. The Aspergillus wentii group The Aspergillus tamarii group. The Aspergillus flavus-oryzae group. The Aspergillus ochraceus group. Part III Reference material Topical bibliography General bibliography Check list of species and genera Accepted species, varieties, and mutations. Index.

Note This manual has been prepared specifically to assist research workers identify the Aspergilli, large group of molds active in various decaying processes, and important economically in the production of industrial fermentations and antibiotic substances. It does not discuss the biochemical activities of these molds, but provides detailed description of their characteristics, occurrence and economic importance Almost as important to workers in this field as the text itself is the extensal bibliography arranged first by subject and then by author

THOMAS WILLIAM STURGIS

Field book of common mushrooms With a key to identification of the gilled mushrooms and directions for cooking those that are edible New and enlarged third edition With 93 species in color and numerous black and white illustrations New York G P Putnam's Sons 1948 369 p illus (part col'd) 18 cm $5 00 2215

Content How to collect and examine mushrooms Gilled mushrooms, their propagation and structure How to use the key Table of features of gilled mushrooms used in their identification. Key to common gilled mushrooms—pictorial key to genera. Descriptions of genera and species of common gilled mushrooms Common mushrooms other than those with gills Mushrooms as food Mushrooms as food and general directions for preparing and cooking them Special recipes for preparing various species of edible gilled mushrooms for the table Glossary Names of gilled mushrooms in the Key with translations of their botanical names, their derivation and pronunciation. General index. Index to botanical names of genera and species.

Note A compact reference manual designed as guide to mushroom identification As implied in the title it is intended for use in the field, and its size and format are such that it can easily be carried in pocket. It is abundantly equipped with keys arranged in various ways such as manner of growth odor place of growth, and season of growth The species descriptions are brief but are adequate in view of the book purpose As stated in the title 93 species are illustrated in color The chapters on mushrooms in cookery contain more information on this subject than the typical cookbook

TIFFANY LEWIS HANFORD AND MAX EDWIN BRITTON

The algae of Illinois Chicago University of Chicago Press 1952 407 p illus 25 cm (The University of Chicago Committee on Publications in Biology and Medicine by Emmet B Bay and others) $10.00 2216

Content (abridged) Introduction. Brief synopsis of the classes. Phylum Chlorophyta. Phylum Chrysophyta. Phylum Pyrrophyta. Phylum Euglenophyta. Phylum Myxophyta. Phylum Rhodophyta. Doubtful species. Glossary Bibliography Index.

Note Descriptions, keys, and illustrations of the algae of Illinois, a state noted for its diverse algal flora, are supplied in this work, which supplements M. E. Britton, *A catalog of Illinois algae*, Evanston Illinois, 1944 Species descriptions are written in botanical terminology and are very detailed. The 108 plates contain 1 186 reproductions of original drawings.

TILDEN, JOSEPHINE ELIZABETH

The Algae and their life relations fundamentals of phycology Minneapolis University of Minnesota Press, 1935 550 p. illus. 24 cm $5 00 2217

Content Some hypotheses concerning the phylogeny of the Algae. The distribution of marine Algae in time and space A classification based on evolutionary development, with special reference to pigmentation and food reserves. Class I. Cyanophyceae Class II. Rhodophyceae. Class III. Phaeophyceae. Class IV Chrysophyceae. Class V Chlorophyceae. The problem of algal control Algae food of animals. Marine Algae, our richest source of vitamins Algae as food for man. Appendix Standardization of method of drawing Algae for publication. Bibliography Index.

Note A combined text and reference book on the fundamentals of phycology The structure reproduction, and distribution of the various species are discussed and described. There is treatment of the economic aspect of the Algae, with methods of collecting, marketing, and cooking them.

TRELEASE, WILLIAM AND TRUMAN G YUNCKER

The Piperaceae of northern South America Urbana University of Illinois Press 1950. 2 v illus 24 cm $10 00 2218

Content Volume Introduction. Key to the genera. Genera Piper—Ottonia—Sarcorhachis—Trianaeopiper Plates. Volume Genus Pothomorphe—Peperomia. Bibliography Index of collections cited. Index of names. Plates

Note A systematic description of one of the large dicotyledonous plant families. Although limited to species known to occur in the Guianas, Venezuela, Colombia, and Ecuador only it contains descriptions of many species not reported hitherto. The work was based on comprehensive examination of specimens in the larger herbaria of the world. A symbol that indicates the location in herbarium of the specimen examined is included in the species description The work includes 674 plates, all of which are reproductions of photographs of specimens.

TRYON ROLLA M JR.

The ferns and fern allies of Minnesota Illustrated by Wilma Monserud Minneapolis University of Minnesota Press 1954 166 p. illus 22 cm $4 00 2219

Content True ferns Adder's tongue family (*Ophioglossaceae*) Flowering fern family (*Osmundaceae*) Water clover family (*Marsileaceae*) Floating fern family (*Salviniaceae*) Polypody family (*Polypodiaceae*) Fern allies Horsetail family (*Equisetaceae*) Club moss family (*Lycopodiaceae*) Spike moss family (*Selaginellaceae*) Quillwort family (*Isoetaceae*) Index

Note An illustrated handbook similar in style to the work *The ferns and fern allies of Wisconsin* described below It is popular guide to the rich and varied fern flora of the state and is fully illustrated with over two hundred good drawings and 85 maps showing known ranges in Minnesota. The species descriptions are directed primarily to students of botany and to laymen interested in the identification and study of ferns.

TRYON ROLLA M JR AND OTHERS

The ferns and fern allies of Wisconsin Second edition Madison University of Wisconsin Press 1953 158 p illus 26 cm $3.50 2220

Note A well-organized, popular guide to the ferns and fern allies of [illegible] state that is rich in such flora. It contains keys to genera, species and varieties, and systematic descriptions of species and other taxa. The descriptions cover range in North America, habitat and morphology. They are supplemented by more than 200 figures and 73 maps of distribution within the state of Wisconsin. Included among the illustrations are [illegible] number of photographs of ferns in their natural habitat. The first edition was published in 1940. In this second edition the nomenclature has been brought into line with the eighth edition of Gray's Manual of botany and the range maps have been brought up to date

Van Rensselaer, Maunsell and Howard E. McMinn

Ceanothus Part i *Ceanothus* for gardens parks, and roadsides by Maunsell Van Rensselaer Part ii A systematic study of the genus *Ceanothus* by Howard E. McMinn. Santa Barbara, Calif Santa Barbara Botanic Garden, 1942 308 p. illus (part col'd) 23 cm. $2.50 2221

Contents (abridged) Part i. Ceanothus for gardens, parks and roadsides Introduction. Noteworthy Ceanothus collections. Descriptive account of the species and varieties. Horticultural varieties. Propagation and cultivation, by Alfred J Stewart References. Part ii. A systematic study of the genus Ceanothus Introduction General discussion. Key to the species. Descriptive account References. Distributional history and fossil record of Ceanothus, by Herbert L. Mason. Invalid and uncertain names. Index

Note This work is [illegible] combination of practical horticultural information for the gardener and scientific facts for the botanist. The genus *Ceanothus* is also known as wild lilac or buckbrush and is restricted mainly to west of the Mississippi

Waksman Selman A

The actinomycetes their nature occurrence activities and importance Waltham Chronica Botanica Company 1950 230 p. illus. 24 cm. (Annales cryptogamici et phytopathologici incorporating Annales bryologici edited by Frans Verdoorn. Vol. 9) $5.50 2222

Contents Introductory Terminology phylogeny and taxonomy Identification and descriptions of important types. Morphology and life cycle Variation and mutations. Metabolism of actinomycetes—growth and nutrition, production of odors and pigments. Production of enzymes and of growth-promoting substances. Antagonistic properties of actinomycetes and production of antibiotics. Distribution of actinomycetes in nature Decomposition of plant and animal residues. Actinomycetes as causative agents of plant diseases. Actinomycetes as causative agents of human and animal diseases. Summary Appendix Media used for the study of actinomycetes. Bibliography General index Index of organisms

Note A summary of accumulated information on an interesting and important group of microorganisms. The author who [illegible] internationally known for his work on soil organisms, draws on the basis of more than one-third of [illegible] century of study and research on the actinomycetes He drew upon both the work done in his own laboratory and the work of other investigators. The bibliography which includes references to his papers as well as to the publications of others, contains over 500 citations of the international literature Although much work has been done in the field since [illegible] was written, the book [illegible] have use for graduate students who are about to enter this field of research

Waksman Selman A. and Hubert A. Lechevalier

Guide to the classification and identification of the actinomycetes and their antibiotics. Baltimore The Williams & Wilkins Company 1953 246 p. 24 cm. $5.00 2223

Contents (abridged) Part i. The actinomycetes Classification of the actinomycetes. The genus Streptomyces. The genus Nocardia The genus Micromonospora. The genus Thermoactinomyces. The genus Actinomyces Part ii. The antibiotics Production of antibiotics by actinomycetes [illegible] groups. Description of the antibiotics of actinomycetes. Selected general references. Index to species of actinomycetes. Index to antibiotics of actinomycetes

Note Part [illegible] of this work—written by [illegible] Waksman alone—concerned entirely with classification and identification of the actinomycetes It presents detailed classification and descriptive range of information useful in the identification of species. This information includes description of colors and other features characteristic of growth on different media. The second part of the book—written by both Waksman and Lechevalier—deals with the antibiotics produced by actinomycetes It is arranged by name of antibiotic compound and gives for each compound the name of the species that produces it, synonyms, method of extraction, chemical and physical properties, biological activity toxicity and literature references. The selected general references given at the end of the volume are supplementary to the literature references in the genus descriptions.

Wickerham Lynferd Joseph

Taxonomy of yeasts Washington D C. Government Printing Office 1951 56 p illus. 23 cm (United States Department of Agriculture. Technical bulletin no. 1029) Gratis 2224

Contents. Introduction Part i. Techniques of classification Isolation and maintenance Morphology Sporulation Colony morphology Physiology: Carbon assimilation tests Nitrate assimilation test Vitamin deficiency test. Fermentation tests. Growth. Ability [illegible] Ability to grow at 37 C. Production of starch Production of esters. Variation. Part ii. A classification of the genus *Hansenula* History of the genus. Keys to the species. Descriptions of the species. Discussion. Phylogenetic relationships. Summary Literature cited. Plates 1–3

Note A method of classification leading to the defining of each genus of [illegible] yeasts so that it will contain only [illegible] group of related species is presented in this pamphlet. A similar definition, covering the same range of characteristics except the ability to form ascospores, is used to define the corresponding [illegible] genus [illegible]. Through [illegible] changes in the current classification, this procedure clarifies relationships between certain sporogenous genera and their previously unestablished generic counterparts among the [illegible] yeasts.

Wolf Frederick Adolf, and Frederick T Wolf

The fungi. New York John Wiley & Sons Inc., 1947 2 v illus. 21 cm. Vol. i o.p. vol. ii $7 75. 2225

Contents Volume [illegible] The beginning of mycology Isolation and cultivation of fungi. Classification and taxonomy of fungi. The myxomycetes. The phycomycetes. The ascomycetes. The basidiomycetes. The deuteromycetes (fungi imperfecti) Author index. Subject index. Volume [illegible] Nutrition of fungi. Enzymes and enzymatic activities of fungi. Respiration Biochemistry of fungi. Effects of temperature on fungi. Effects of radiation on fungi Effects of reaction of substrate on fungi Spore discharge Germination of spores. Host penetration. Physiologic specialization and variation among fungi. Associative effects among fungi. Mycorrhizae and mycotrophy Genetics of fungi. Poisonous and edible fungi. Medical mycology Geographical distribution of fungi. Mycology in relation to plant pathology Soil fungi. Fungus-insect interrelationships Marine fungi. Fossil fungi. Author index. Subject index.

Note Although there has long been recognition of the economic and biological importance of fungi, research into their behavior and potential uses has multiplied many times since the discovery of penicillin. This important book, designed both as [illegible] text for use in advanced courses and [illegible] reference work, deals neither [illegible] industrial nor pathological mycology yet the viewpoint from which it is written should make it useful to [illegible] research workers who are concerned with fungi. The authors have elected throughout both volumes to emphasize behavior rather than taxonomy While the first volume is arranged by class and order and includes [illegible] consideration of morphology and classification basic to the study of fungi, the discussion deals mainly with habits and reproductive processes Volume ii is concerned chiefly with the physiology of fungi and the influence of environment upon their processes and activities. Related literature is cited in extensive chapter bibliographies, and there are many excellently drawn figures.

WOLF, FREDERICK TAYLOR

The aquatic Oomycetes of Wisconsin Part I Madison Wis The University of Wisconsin Press, 1944 64 p illus 23 cm $4 00 2226

Content (abridged) Order Lagenidiales. Order Blastocladiales. Order Monoblepharidales. Order Saprolegniales. Order Leptomitales. Order Pythiales. *Literature cited.*

Note A correlation of the results of investigations, including collections and taxonomic work, of certain research workers on the Saprolegniaceae or aquatic fungi, including descriptions of the forms, records of the collections, and a key for their identification. The author has worked largely from existing literature in the field but has also cultured several thousand water and soil samples for aquatic fungi, to determine presence in Wisconsin.

YUNCKER, TRUMAN GEORGE

Revision of the Polynesian species of Peperomia. Honolulu Bernice P Bishop Museum 1937 73 p illus 25 cm (Bernice P Bishop Museum. Bulletin 143) $2 00 2227

Contents Introduction. Description of genus. Key to species. Taxonomic arrangement of species. Keys to species in the island groups. List of specimens. Index.

Note In the preparation of this paper all available collections of Polynesian species have been studied, the specimens belonging to the Museum forming the basis of the material. There are included 38 species, 12 varieties, and one form of which 14 species, 12 varieties, and one form are new to science. The region covered by the studies includes the islands in the South Pacific lying east of Micronesia and Melanesia and extending from the Tongan and Samoan groups on the west to Pitcairn and Henderson islands on the east. The species occurring in the Hawaiian Islands were studied by the author and presented in Bulletin 112 of the Museum.

ZUNDEL, GEORGE LORENZO

The Ustilaginales of the world State College Department of Botany The Pennsylvania State College 1953 410 p illus 27 cm (Department of Botany The Pennsylvania State College School of Agriculture Contribution no 176) $3 50 2228

Content Introduction. Historical. Characterization of the Ustilaginales. Taxonomy and cytology. Selected and cited references on the Ustilaginales. Artificial key to the genera of the Ustilaginales. Key to the families. Family 1 Ustilaginaceae. Family 2 Tilletiaceae. Host index of the Ustilaginales. Index of synonyms and some species mentioned in notes or in places other than their alphabetical order in the text.

Note An extensive monograph on the Ustilaginales, parasitic fungi which attack various parts of herbaceous plants. The major portion of the work consists of scientific descriptions of the genera and species of the two recognized families of the Ustilaginales with keys to identification. Over 1,000 species are described, each with bibliographical citation to its first description. Information is as of 1945 when the manuscript was completed. The subject is of considerable economic importance because of the losses in yield and value of cereal crops caused by the various smuts, hence this publication is of interest to plant pathologists as well as to botanists.

PLANT CHEMISTRY AND PHYSIOLOGY

ANNUAL REVIEW OF PLANT PHYSIOLOGY Volume 7 Lawrence R. Blinks editor Leonard Machlis and John G Torrey associate editors. Palo Alto Calif Annual Reviews Inc. 1956 456 p illus 23 cm. $7 00 2229

Content Mineral nutrition of plants—mechanisms of uptake and transport, by E. Epstein. Energy transformations in photosynthesis, by L. N. M. Duysens. Nitrogen fixation by photosynthetic organisms, by G. E. Fogg. Endogenous rhythms in plants, by E. Bünning. The physiology of cell division, by H. Stern. Obligate parasitism, by C. E. Yarwood. Biological relations of plant viruses, by C. W. Bennett. Iron chlorosis, by J. C. Brown. Photoperiodism in woody plants, by P. F. Wareing. Plant proteins, by C. L. Danielson. Physiology of root elongation, by J. G. Torrey. Mechanisms of carbohydrate breakdown in plants, by B. Axelrod and H. Beevers. Physiology of seed germination, by E. H. Toole and others. Phosphorus metabolism and photosynthesis, by D. I. Arnon. Absorption and translocation of plant regulators, by J. van Overbeek. Effects of light quality on plant growth, by E. C. Wassink and J. A. J. Stolwijk. Recent advances in plant physiology in the U.S.S.R. by A. L. Kursanov. Author index. Subject index.

Note This is the seventh volume in a useful series which covers both scientific advances and developments in application. The sections or chapters are essentially literature surveys, as is customary in this type of publication. They are written concisely but are not unpleasantly terse. A majority of the monographs in each issue are based on the literature published in the year (or two) preceding publication of the volume, but in some instances the author covers a larger span of time. An example of the latter type of survey in the present volume is Yarwood's "Obligate parasitism" which cites papers published as early as 1911 and as recently as September 1955. The series is addressed to graduate botanists and other scientists who have need to keep abreast of advances in plant physiology and chemistry.

BONNER, JAMES

Plant biochemistry New York Academic Press Inc. 1950 537 p illus 23 cm. $7.50 2230

Content (abridged) Part I Carbohydrates and carbohydrate metabolism. Transformation of the sugars. Starch. Inulin and the water-soluble polysaccharides. Part II, The cell wall and cell wall metabolism. Cellulose. Noncellulosic polysaccharides. The pectic substances. The gums, mucilages, and gel-forming substances. Lignin. Part III, Plant acids and plant respiration. The organic acids of plants. Plant respiration. Part IV Metabolism of nitrogenous compounds. Synthesis and metabolism of amino acids. The plant proteins. The plant proteolytic enzymes. Nitrogen metabolism of seedlings. Nitrogen metabolism of leaves. Purines and pyrimidines. Alkaloids. Nitrification and nitrogen fixation. Part V, Secondary plant products. Lipids and lipid metabolism. Essential oils. The carotenoids. Rubber. The anthocyanins and anthoxanthins. Part VI, Certain aspects of plant growth. The plant growth substances. Photosynthesis. *Author index. Subject index.*

Note An inclusive introductory text. Since it is intended for study by upperclass and graduate students in organic chemistry, knowledge of fundamental organic chemistry has been assumed. Most of the chapters are short and are intended only to introduce the reader to the topic under discussion. On the other hand, extensive list of source material is appended to each chapter. Because of this feature, readers outside of colleges who have the necessary education in chemistry can use the book as a guide to the recent literature of specific topics.

BONNER JAMES AND ARTHUR W GALSTON

Principles of plant physiology Illustrations by Evan L. Gillespie San Francisco W H. Freeman and Company 1952 499 p. illus 24 cm. (A series of biology texts George W Beadle Ralph Emerson Douglas M Whitaker editors) $6 00 2231

Content Plants and plant physiology. Part I, Nutrition. Photosynthesis. Mineral nutrition. Permeability and the absorption of nutrients. Water economy. The soil as a medium for plant growth. Translocation—the redistribution of nutrients. Part II, Metabolism. Enzymes—the machinery of metabolism. Carbohydrates—their structure, functions, and interrelations. Respiration and the mechanism of biological oxidations. Nitrogen—its metabolism and economy in plant and nature. Lipids—their role in structure and function. Pathways and byways in plant metabolism. Part III, Growth and development. The dynamics of growth and development. The interpretation of growth. Auxin and the control of growth. The physiology of reproduction. Dormancy and arrested development. The problem of differentiation. Plant and environment. Index.

Note A well-written introduction. The authors' style is sharp and easy to read, and they have included numerous descriptions of experiments and results from experimental investigations that increase the reader's interest. The illustrations have been well thought out and are clearly reproduced. The authors have assumed that students using the book will have had introductory courses in general chemistry and botany.

Crafts Alden Springer and others

Water in the physiology of plants, by A S Crafts H. B Currier and C. R. Stocking Waltham Chronica Botanica Company 1949 240 p. illus. 26 cm. (A new series of plant science books edited by Frans Verdoorn. Vol. XXI) $6.00 2232

Contents: Introduction. Structure of water. Properties of solutions. Osmosis and osmotic pressure. The mechanism of osmosis. Water as a plant component, intercellular distribution of [illegible]. The osmotic quantities of plant cells. Active cell water relations. Turgor and movement of water in plants. Water loss and water retention. Bibliography. Author index. Subject index.

Note. A reference book on plant and water relations intended for the use of botanists and plant physiologists. The chapters are essentially reviews of the published literature of the subject, from early times to the present. Full bibliographical details are given in the 18-page bibliography. As the authors have made the material [illegible] connected discourse, with summaries at the ends of the chapters, the work may also be used as [illegible] textbook for advanced courses.

Crocker, William

Growth of plants twenty years research at Boyce Thompson Institute. New York Reinhold Publishing Corporation 1948 459 p illus. (part col d) 24 cm. $10.00 2233

Contents: Introduction. Early problems. Life span of seeds. Dormancy in seeds. Physiological effects of ethylene and other unsaturated carbon-containing gases. Effect of certain lethal gases upon plants and animals. Plant hormones, by P. W. Zimmerman. Dormancy in buds. Plant cell membranes, by W. E. Fore. Plants grown under controlled environmental conditions. Research on insecticides, by A. Hartzell. Fungicide investigations, by S. E. A. McCallan. Miscellaneous. Author index. Subject index.

Note. The Boyce Thompson Institute for Plant Research was founded in 1924 for the purpose of conducting basic research on various aspects of plant growth. This volume, prepared by the director of the Institute, gives [illegible] summarized, critical accounts of the research work carried on at the Institute since its inception. The book is well illustrated with photographs [illegible] which depict the results of experimentation on plant development, and each chapter concludes with [illegible] two- to four-page bibliography.

Crocker, William and Lela V. Barton

Physiology of seeds an introduction to the experimental study of seed and germination problems. Waltham Chronica Botanica Company 1953 267 p. illus. 24 cm. (A new series of plant science books edited by Frans Verdoorn. Vol. 29) $6 50 2234

Contents: Anatomy of seeds. Seed production. Chemical composition of seeds. Water relations of seeds. Respiration. Factors affecting germination. Dormancy in seeds. Storage and life span of seeds. Metabolic and energy changes in seed development and germination. Vernalization. Embryo culture. Seed transmission of disease. Subject index. Index of authors.

Note. Two members of the staff of Boyce Thompson Institute for Plant Research, Yonkers, N. Y. are the authors of this summary of current basic knowledge on seeds and germination. The book is therefore written from the standpoint of the investigator of seed and germination problems and should be of value to all those who work with seeds and seed technology and who are interested in the fundamentals of seed knowledge. It includes discussions of the economic significance of seeds and seed products, as well as of the scientific aspects of the subject. Extensive references to the literature on each topic at the ends of the chapters.

Curtis Otis Freeman and Daniel G Clark

An introduction to plant physiology New York McGraw Hill Book Company Inc., 1950. 752 p. illus. 23 cm. (McGraw Hill publications in the botanical sciences Edmund W Sinnott, consulting editor) $9.50 2235

Contents (abridged). Foods and photosynthesis. Diffusion and osmosis. Surface phenomena, colloids, absorption and imbibition. Water absorption. Transpiration: rates, measurements, and factors. Frost resistance and death by freezing. Injury at high temperatures. Permeability, accumulation, and antagonism. Mineral nutrition. Nitrogen relations. Translocation of solutes. Enzymes and digestion. Respiration and fermentation. Viability, dormancy, and rest in seeds and other plant parts. The role of organic accessory substances in plant growth. Conditions influencing flowering and fruiting as compared with vegetative growth. Growth. Appendices. Author index. Subject index.

Note. The authors in preparing this textbook for college students taking [illegible] first course in plant physiology assumed that readers will have had introductory courses in chemistry and either botany or biology. There is minimum emphasis on the biochemical aspects of plant physiology. Other aspects [illegible] plant physiology, such as photosynthesis and water relations, are developed in detail. Each chapter closes [illegible] with about two pages of bibliographical citations. The book incidentally stresses effective training in scientific methods.

Foster Jackson Walter

Chemical activities of fungi New York Academic Press Inc. 1949 648 p illus. 24 cm. $12.00 2236

Contents: Introduction, history perspective. The methodology of mold metabolism. Chemical nature of the mold mycelium. General considerations of mold metabolism. Natural variation. Mutations, physiological genetics, and biochemical syntheses. Trace element nutrition of fungi. Lactic acid formation by fungi. Alcoholic fermentation by molds. Oxalic acid metabolism. Fumaric and other C_4-dicarboxylic acids. Citric acid. Itaconic acid. Kojic acid. Gluconic and other sugar acids. Carbohydrates produced by fungi. Nitrogen metabolism of fungi. Other transformations in fungi. Microbiological aspects of penicillin. Author index. Subject index.

Note. The title of this book is well chosen. It deals not only [illegible] the biochemical processes of molds as these proceed under natural conditions but also [illegible] the manipulation and regulation of these processes in such ways that optimum amounts of desired chemical substances are produced under laboratory or factory conditions. Essentially the book is [illegible] critical review of published literature. A considerable degree of chemical maturity is assumed. The chapters are supplemented by long lists of pertinent literature. The author is Professor of Bacteriology in the University of Texas and has himself made notable contributions to the knowledge of the field.

Haasis Ferdinand Wead

Diametral changes in tree trunks Washington, D. C. Carnegie Institution of Washington, 1934 103 p. illus 25 cm. (Carnegie Institution of Washington. Publication no 450) $2.00 2237

Contents (abridged). Introduction. Historical—description. Diurnal fluctuations: species for which observed—general similarity of pattern—amount of daily fluctuation—similarity to other fluctuations due to evaporating power of air. Seasonal shrinkage: occurrence—conditions affecting shrinkage and rehydration. Traumatic and prolonged shrinkage: short- and long-period shrinkage—shrinkage following installation of dendrograph. Diametral increases: rehydration—growth. Significance of diametral changes: location of fluctuation—relation of diametral fluctuation to liquid tension—other causes of fluctuations. List of individual trees and other plants. Summary. Bibliography.

Note. Records made with the MacDougal dendrograph during the years 1918-1933 in Colorado and Arizona on trees of 23 species, mostly Monterey pine and redwood. The bibliography includes titles of 42 papers presenting results of dendrographic studies. The changes discovered and the factors affecting and causing these changes are reported and discussed.

Hoagland Dennis Robert

Lectures on the inorganic nutrition of plants. Waltham Chronica Botanica Company 1944 226 p. illus. 23 cm. (Prather lectures at Harvard University) $4 75 2238

Contents: A survey of problems of plant nutrition. Micronutrient chemical elements and plant growth. The absorption and accumulation of salts by plant cells. Upward movement and distribution of inorganic solutes in the plant. The growth of plants

in artificial media in relation to the study of plant nutrition. Some biochemical problems associated with salt absorption. Aspects of the potassium nutrition of plants as illustrating problems of the system, soil-plant-atmosphere. Plates. General index. Author index.

Note This series of lectures, based on the Prather Lectures at Harvard University delivered by the author in the spring of 1947 outlines a number of important problems of plant nutrition, with illustrative material derived from researches at the University of California. Scientific aspects of certain soil-plant interrelations, nutrient absorption and utilization, and artificial culture methods are primarily discussed. Trends of research in plant nutrition and opportunities for further exploration are stressed. The discussions have been prepared with consideration given to the broad interests of plant scientists who are not specialists in the subjects presented, but who wish to learn of the nature of problems of plant nutrition especially of recent advances in this field, as they may have a bearing on related fields of research. The book is intended not only for the plant physiologist but also for the general physiologist, the agronomist horticulturist, plant pathologist, and soil scientist. There are references at the end of each chapter

KRAMER, PAUL JACKSON

Plant and soil water relationships New York McGraw Hill Book Company, Inc 1949 347 p illus 23 cm (McGraw Hill publications in the botanical sciences Edmund W Sinnott consulting editor) $7 00 2239

Contents Historical introduction. Soil-moisture relations. Factors affecting the supply of soil moisture. Measurement and control of soil moisture. Structure and growth of roots. Factors affecting the development of root systems. Root and stem pressures and exudation phenomena. Processes concerned in water absorption. Factors affecting the absorption of water The absorption of solutes. Absorption deficits and their effects on plants. Bibliography Author index. Subject index.

Note A textbook intended for teachers, investigators, and students in all fields of plant science who are interested in the principles governing plant and soil-water relations. Following a review of the early development of plant physiology the author proceeds to present the fundamental facts of the subject in relatively simple terms for the benefit of those working in the various basic and applied plant sciences rather than for specialists in plant-water relations. The author writes on the basis of a number of years of research on the absorption of water by plants. The bibliography extends to 34 pages.

LEOPOLD A CARL

Auxins and plant growth Berkeley University of California Press 1955 354 p illus 24 cm. $5 00 2240

Content Part I, Fundamentals of auxin action Development of knowledge of auxins Auxin extraction and measurement techniques The occurrence and role of growth hormones in plants Developmental effects of auxins. Physiological and anatomical effects of auxin applications. Factors altering effectiveness of auxin applications The chemical nature of growth regulators Theories of the mechanism of auxin action. Part II Auxins in agriculture Methods of applying auxins and their persistence in plants and soils. Rooting. Parthenocarpy Flower and fruit thinning. Control of pre-harvest fruit drop Flowering. Dormancy and storage. Herbicides. Miscellaneous uses of auxins Potentials of auxins and auxin research. Bibliography Appendix. Index

Note In the first part of this book—which accounts for approximately one-half of its length—the basic scientific knowledge pertaining to the action of auxins in plants is presented Of particular importance for the intended audience is the second chapter which deals with methods of extracting auxins the techniques of assays, including biological, chemical and physical techniques and techniques for their identification and quantitative estimation. The second part of the book relates the basic knowledge to specific applications in agriculture. As the chapter titles indicate these applications are not limited to growth but include also such uses as the control of preharvest drop of tree fruits. In both parts, some space is given to the historical development, and the significant early papers are cited. The pertinent literature is cited briefly throughout the book, and the full references, including the titles of the articles, are given in the 33-page bibliography The book is directed to such readers as research workers in agriculture rather than to specialists in plant physiology

LEVITT, J

The hardiness of plants New York Academic Press Inc. 1956 278 p illus 23 cm. (Agronomy, a series of monographs prepared under the auspices of the American Society of Agronomy Vol 6 General editor A. G. Norman) $7 00 2241

Content Part I, Low temperature hardiness The limits of low temperature hardiness. The temperatures of plants exposed to freezing. Ice formation in the plant. Chilling injury Frost injury The measurement and meaning of frost hardiness. Variations in frost hardiness with environment. The relation of frost hardiness to growth and development. Morphological factors associated with hardiness. The relation of total and bound water content to frost hardiness. The relation of cell sap concentration and sugars to frost hardiness. Miscellaneous factors investigated in relation to frost hardiness. The relation of protoplasmic properties to frost hardiness. The mechanism of frost injury and hardiness. The relative importance of protoplasmal and nonprotoplasmal factors in frost hardiness. Part II, Low moisture or drought hardiness The limits of drought hardiness. Drought injury The measurement and meaning of drought hardiness. The relation of drought hardiness to growth and development. Factors associated with drought hardiness. The mechanism of drought injury and hardiness. Tolerance of drought dehydration. Dehydration hardiness. Part III, High temperature hardiness The limits of high temperature hardiness. Heat injury—hardiness. The mechanism of heat hardiness. Hardiness to dehydration, heat, and other injurious agents. References Index

Note A comprehensive survey of the accumulated knowledge pertaining to the resistance of living plants to low temperatures, high temperatures, and drought. It has been based on an extensive survey of the literature, and important statements in the text are keyed to a 45-page list of references. There are 128 tables. The author has described its purpose as follows (a) to bring together the known facts on hardiness in a single volume which is intended not only for those involved in basic plant physiological studies but also for others concerned with the many agronomic and horticultural problems that involve crop responses to environment and (b) to stimulate further research by presenting hypotheses that are based on the known facts but that must be tested by experiment. The book supersedes his *Frost killing and frost hardiness*, Minneapolis, 1941.

LILLY VIRGIL GREENE AND HORACE L. BARNETT

Physiology of the fungi New York McGraw Hill Book Company Inc. 1951 464 p. illus 23 cm (McGraw Hill publications in the botanical sciences Edmund W Sinnott, consulting editor) $8 00 2242

Content Introduction Culture media. Growth. Enzymes and enzyme action. Essential metallic elements. The essential nonmetallic elements other than carbon. Carbon sources and carbon utilization Hydrogen-ion concentration. Vitamins and growth factors. Fungi as test organisms. Metabolic antagonists. The action of fungicides. Metabolic products Factors influencing sporulation of fungi Spore discharge and dissemination. Spore germination The physiology of parasitism and resistance Physiological variation and inheritance of physiological characters. Suggested laboratory exercises. Index.

Note An advanced textbook for the student already acquainted with the structure of fungi It comprises a systematic discussion of the life processes of fungi. Summaries and bibliographical references are given at the ends of the chapters, and a series of 11 suggested laboratory exercises is outlined in 20 pages at the end of the book The work had its origin in the lectures and laboratory exercises used by the authors in a course offered to graduate students at the University of West Virginia. Aside from a basic knowledge of fungus morphology the student is also supposed to have some knowledge of organic chemistry The book is of some value as a reference work to persons actively engaged in physiological research on fungi.

LOOMIS WALTER E, editor

Growth and differentiation in plants Ames Iowa State College Press 1953 458 p illus. 23 cm (A monograph of the American Society of Plant Physiologists) $7 50 2243

Contents: Growth and differentiation—an introduction and summary, by W. E. Loomis. Plant morphogenesis, by E. W. Sinnott. Growth of the root tip, by [illegible]. Elongation of the cotton fiber, by J. C. O'Kelley and F. W. Carr. Anatomical differentiation in shoot and root stem, by K. Esau. Some elementary mathematics of plant growth, by R. E. Buchanan. [illegible], by G. F. Sprague. Dormancy, by N. C. Thompson. [illegible]. Reactions of plants to photoperiod, by A. W. Naylor. Vernalization of growing plants, by H. C. Thompson. Growth correlation, by W. E. Loomis. Electric fields and correlation in plants, by [illegible] and E. J. Lund. Physiology of hormone action, by S. A. Gordon. Hormonal control of flower initiation, by J. Bonner and J. Liverman. Structure and synthesis of protoplasm, by H. S. McKee. Cellular differentiation: an experimental approach, by B. Commoner and M. L. Zucker. Some factors associated with abnormal growth in plants, by A. J. Riker and A. C. Hildebrandt. Comparative physiology of heterotrophic growth in plants, by S. H. Hutner. Literature cited. Index.

Note: An authoritative survey of the current knowledge of growth and differentiation in plants. It is composed, as shown in the above table of contents, of signed monographic chapters. However, the book was planned as [illegible] and the chapters are original compositions, not reprints. Each one is [illegible] critical presentation of its particular topic containing, in most cases, an outline of the historical development, and [illegible] summary of recent publications and current theories. Several of the authors have [illegible] called special attention to problems needing solution. The typical chapter is very compactly written, and the texts of all chapters are keyed to literature citations. The book is addressed primarily to graduate botanists and other scientists in need of information on the biochemistry and growth mechanisms of plants.

MacDougal, Daniel Trembly

Studies in tree-growth by the dendrographic method. Washington, D. C. Carnegie Institution of Washington, 1936. 256 p. illus. 25 cm. (Carnegie Institution of Washington. Publication no. 462) $2.75 2244

Contents: Action of cambium, trees observed, and apparatus used. The Monterey pine (*Pinus radiata*). Experimental defoliation. General considerations.

Note: This monograph presents the results of [illegible] study of the activities of the cambium of trees and its relation to the growth and other physiological changes in tree structure. [illegible]

Martin, Emmett Virgil

Studies of evaporation and transpiration under controlled conditions. Washington, D. C. Carnegie Institution of Washington, 1943. 48 p. illus. 25 cm. (Carnegie Institution of Washington. Publication 550) $0.40 2245

Contents: Introduction. Evaporation. Methods. Control chamber. Evaporimeters. Temperature measurement. General experimental procedure. Results. Leaf-shaped evaporimeter. Dependency upon evaporimeter [illegible]. Transpiration. Methods. Material. Temperature measurement. General experimental procedure. Results. Correlation with air temperature and relative humidity in calm air in darkness. Leaf-temperature relations. [illegible] Relative transpiration. Certain energy considerations. Effect of size of surface. Effect of [illegible] and ecological applications. Vapor pressure deficit. Dependence of transpiration rate on size of leaf. Relative transpiration. Summary. Literature cited.

Note: This paper deals with the correlation under controlled conditions between air temperature, relative humidity and transpiration rate. The experiments were begun by measuring the evaporation rate of [illegible] in darkness, the purpose being to evaluate the comparative influence of temperature and atmospheric moisture in producing the relatively low rates of transpiration found in regions of high elevation where sea level [illegible] and to obtain more information concerning the much-debated question of the cooling effect of transpiration. These experiments yielded such marked response to changes in temperature that it seemed desirable to measure rates of evaporation from pieces of blotting paper shaped like the leaves employed, in order to find whether this degree of response differed appreciably from that of [illegible] purely physical evaporating surface. This led to a test of the validity of the expressions for evaporation from such surfaces as presented by J. Leighly in "A note on evaporation," *Ecology*, vol. 18, p. 180–198, 1937, especially the [illegible] with respect to size and shape of evaporating surface.

Meyer, Bernard Sandler and Donald B. Anderson

Plant physiology. Second edition. New York, D. Van Nostrand Company, Inc., 1952. 784 p. illus. 24 cm. $8.50 2246

Contents: The field of plant physiology. Properties of solutions. Colloidal systems. Plant cells. Diffusion. Osmosis and osmotic pressure. Imbibition. The water relations of plant cells. The loss of water from plants. The stomatal mechanism. Factors affecting transpiration. The translocation of water. Soils and soil-water relations. Absorption of water. The internal water relations of plants. Enzymes. The chlorophylls and the carotenoids. Photosynthesis. Factors affecting photosynthesis. Carbohydrate metabolism. Respiration. The mechanism of respiration. Fat metabolism. Absorption of mineral salts. Utilization of mineral salts. Nitrogen metabolism. Translocation of solutes. Plant hormones. Vegetative growth. Environmental factors affecting vegetative growth. Reproductive growth. Environmental factors influencing reproductive growth. Growth correlations. Germination and dormancy. Growth periodicity. Plant movements. Author index. Subject index.

Note: A thoroughly revised edition of [illegible] standard college text book. Prerequisite courses in general botany and general chemistry on the part of the [illegible] have been assumed. [illegible] the original edition, the revision emphasizes experimental results and the interpretation of plant processes in terms of physicochemical principles. Most of the presentation is based directly on data selected from the original literature of the subject. In the new edition the chapters on various aspects of water relations have been somewhat shortened, [illegible] corresponding expansion of the chapters on metabolic processes and growth. A new chapter on enzymes replaces the former chapter on digestion. The extensive bibliographies of books and periodical articles printed at the conclusion of each chapter have been brought up to date.

Miller, Edwin Cyrus

Plant physiology, with reference to the green plant. Second edition. New York, McGraw Hill Book Company, Inc., 1938. 1,201 p. illus. 23 cm. (McGraw Hill publications in the botanical sciences. E. W. Sinnott, consulting editor) $15.00 2247

Contents: The plant cell. Solutions and membranes in relation to the plant cell. The roots of plants. The intake of water by plants. The intake of solutes by the plant. The elements absorbed by the plant. The loss of water from plants. The formation of carbohydrates by the green plant. The nitrogen metabolism by the green plant. The fat metabolism of the green plant. The process of digestion in the green plant. The translocation of materials in plants. The process of respiration in plants. The process of growth in plants. Bibliography. Author index. Subject index.

Note: This book gives [illegible] complete survey of the field of plant physiology in [illegible] comprehensive and minutely detailed treatment that makes [illegible] suitable both as [illegible] text for advanced college students and as [illegible] reference work for investigators. The work is confined entirely to the physiology of the green plant; the findings of the leading American, English, and Continental investigators are summarized. New material in this edition accounts for an increase of about 300 pages.

Murneek, Andrew Edward and R. O. Whyte

Vernalization and photoperiodism, a symposium; foreword by Kenneth V. Thimann.

Waltham Chronica Botanica Company, 1948 196 p illus 27 cm (Lotsya—a biological miscellany, Frans Verdoorn, editor Vol 1) $4 75 2248

Content (abridged) Foreword, by K. V Thimann. History of research in vernalization, by R. O Whyte. History of research in photoperiodism, by A. E. Murneek. Hormones in relation to vernalization and photoperiodism by K. C. Hamner Wave length dependence and the nature of photoperiodism, by H. A. Borthwick and others. The photoperiodicity of flowering under short day with supplemental light of different wave lengths, by G. L. Funke. Nutrition and metabolism as related to photoperiodism, by A. E. Murneek. Anatomical and histological changes in relation to vernalization and photoperiodism, by R. H. Roberts and B E. Struckmeyer Length of day in the climates of past geological eras and its possible effects upon changes in plant life by H. A. Allard. Vernalization and photoperiodism in the tropics, by S. M Sircar Some preliminary observations of phenological data as tool in the study of photoperiodic and thermal requirements of various plant material, by M. Y Nuttonson. Thermoperiodicity by F W Went. Author index. Subject index.

Note A comprehensive review of the present state of knowledge and research regarding the physiology of plant flowering as it is affected by the chilling of germinating seeds and by varying lengths of periods of light. Each chapter prepared by an authority of international repute in the field of agricultural research, reviews not only the author's experience in a particular aspect of the problem, but also provides a résumé of pertinent literature of the subject. An extensive list of references is cited at the end of each paper

RABINOWITCH EUGENE I

Photosynthesis and related processes New York Interscience Publishers Inc. 1945–56 2 v in 3 parts illus 24 cm. Vol I $12 00 vol II part 1 $16 50 vol II part 2 $18 50 2249

Content (abridged) Volume I, Chemistry of photosynthesis, chemosynthesis and related processes in vitro and in vivo. Photosynthesis and its role in nature. The discovery of photosynthesis. Part I, The chemistry of photosynthesis and related processes The over-all reaction and the products of photosynthesis. Photosynthesis and chemosynthesis of bacteria. The metabolism of anaerobically adapted algae. The primary photochemical process. Intermediates in the reduction of carbon dioxide. Inhibition and stimulation of photosynthesis. Part II, The structure and chemistry of the photosynthetic apparatus The chloroplasts and chromoplasts. The pigment system. Chlorophyll. The accessory pigments. Photosynthesis and respiration. Author index of the main investigations in Volume I. Subject index Volume II part 1 Spectroscopy and fluorescence of photosynthetic pigments kinetics of photosynthesis. Part III, Spectroscopy and fluorescence of photosynthetic pigments Absorption spectra of pigments in vitro Light absorption by pigments in the living cell. Fluorescence of pigments in vitro Fluorescence of pigments in vivo Part IV Kinetics of photosynthesis Methods of kinetic measurements. External and internal factors in photosynthesis. The light factor—I, Intensity II, Maximum quantum yield of photosynthesis III, Photosynthesis and light quality; role of accessory pigments. Index Volume II, part 1 Part four Kinetics of photosynthesis (continued) The temperature factor The pigment factor Time effects I, Induction phenomena II, Photosynthesis in intermittent light. Part five Addenda to Volume I and Volume II, part 1 Photochemistry of chlorophyll in vitro and in vivo Chemical path of carbon dioxide reduction. Miscellaneous additions to Volume I and Volume II, part 1 Epilogue. Author index of the main investigations in Volume II, part 2 Subject index to Volumes I, II-1 and II-2

Note A monumental survey of the knowledge accumulated so far in the study of photosynthesis. While brief summary of early work is included, the major emphasis is on results published since 1935 including those achieved with the newer methods of attacking this intricate problem such as the use of radioactive isotopes, deuterium, spectroscopy and the electron microscope. The account is critical one, not mere stringing together of abstracts. The literature is extensively cited, and the names of the authors are assembled in the author indexes in Volume and Volume II, part 2 The terminal chapters in the last part provide condensed account of published research and progress achieved since the writing of Volume I and Volume II, part 1

SKOOG, FOLKE, editor

Plant growth substances. Madison University of Wisconsin Press 1951 476 p. illus. 24 cm. $6 00 2250

Content Plant growth substances The history and action of plant growth hormones, by A. J Haagen-Smit. The synthetic auxins: relation between structure and activity by K. V Thimann Growth and structure of the primary wall, by T Kerr Mechanism of cell elongation, by H. Burström. Control of evolution and life processes in plants, by A. F Blakeslee. Twenty years of plant hormone research, by F W Went. Plant hormones in practice, by P W Zimmerman. Growth substances in plant metabolism The state of growth substances in plant metabolism, by R. H. Burris. Changes in metabolism during growth and its inhibition, by K. V Thimann and others. Stimulation of respiration in relation to growth, by G S. Avery Jr Respiratory changes in relation to toxicity by J G Smith. Tissue responses to growth substances. Electrical polarity and auxins, by A. R. Schrank. Translocation of growth-regulating substances and their effect on tissue composition, by J. W Mitchell. Histological responses to growth-regulating substances, by J. M. Beal. Comparative effects of growth substances on stem anatomy by B E. Struckmeyer Formative effects of hormone-like growth regulators, by P W Zimmerman. Practical applications of growth regulators. Vegetation control on nonagricultural land, by K. C. Barrons. Differential responses in crop plants, by R. S. Dunham Growth substances in relation to the production of tree fruits, by F E. Gardner Use of growth substances in tropical agriculture, by J. van Overbeek. Growth substances in vegetative development. The role of growth substances in vegetative development as exemplified in tissue cultures, by P R. White. Factors influencing the growth of plant embryos, by N K. Ziebur Growth substances and the formation of buds in plant tissues, by F Skoog and C. Tsui. The development of stems and leaves, by F W Went. Growth substances in reproductive development Chemical regulation of sexual processes in fungi, by J. R. Raper The sexual substances of algae, by G. M Smith. Growth-regulating substances in relation to reproduction of some horticultural plants, by A. E. Murneek. The induction of flowering with a plant extract, by R. H. Roberts. Fruit development as influenced by growth hormones, by F G. Gustafson. The growth hormone mechanism in fruit development, by R. M. Muir Growth substances in fruit setting, by S. H. Wittwer. Growth substances in pathological growth Experimental induction and inhibition of overgrowths in plants, by R. S. de Ropp In vitro experiments on tumors of pathological origin, by A. C. Hildebrandt. The interaction between causative agents in diseased growth, by A. J Riker and J E. Thomas. Deformities caused by insects, by T C. Allen. Comparative studies of metabolism in insect galls and normal tissues by E. H. Newcomb. Vitamins and amino acids as growth factors Growth factors in bacterial nutrition, by E. E. Snell. Genetic aspects of growth responses in fungi, by E. L. Tatum. Vitamin and amino acid requirements for the growth of higher plants, by W J. Robbins

Note The papers published in this volume were presented in general meetings and round table discussions at the University of Wisconsin, September 5–7 1949 They cover all aspects of the physiology biochemistry chemistry and agricultural uses of plant growth substances. Bibliographical references are printed at the end of each paper

TRUOG, EMIL editor

Mineral nutrition of plants Madison University of Wisconsin Press 1951 469 p. illus. 24 cm. $6 00 2251

Content Mineral nutrition of plants World food possibilities and fertility status of our soils, by C. E. Kellogg and A. C. Orvedal Physico-chemical and biological factors affecting nutrient availability in soils Soil as medium for plant growth, by E. Truog. The activities of cations held by soil colloids and the chemical environment of plant roots, by C. E. Marshall The availability of soil anions by R. Overstreet and L. A. Dean. Contact phenomena between adsorbents and their significance in plant nutrition by H. Jenny The effect of soil physical properties on nutrient availability by J B. Page and G. B Bodman. Role of soil microorganisms in nutrient availability by A. G. Norman. Mechanism of entry and translocation of mineral nutrients in plants The nature of the process of inorganic solute accumulation in roots, by T C. Broyer The mechanism of ion absorption, by H Burström. The translocation of minerals in plants, by O. Biddulph. Some field problems in plant nutrition Control of nitrogen effects on McIntosh apple trees in New York by D Boynton. Production of vegetable crops for the canning industry by J B. Hester Role of minerals in plant nutrition Growth and function as criteria in determining the essential nature of inorganic nutrients, by D I Arnon. Mineral nutrition in relation to the ontogeny of plants, by W F Loehwing Correlations between protein-carbohydrate metabolism and mineral deficiencies

ences in plants, by R. A. Steinberg. Modifying influences of various environmental factors upon mineral nutrition. Light as a modifying influence on the mineral nutrition of plants, by R. B. Withrow. Soil moisture and the mineral nutrition of plants, by C. H. Wadleigh and L. A. Richards. Environmental influences on the growth of sugar cane, by H. F. Clements.

Note: This volume is composed of original papers which were presented at a symposium sponsored by the University of Wisconsin as one of the events in celebration of its centennial. In general, the papers are addressed to productive scientists who are concerned with research in connection with horticulture, plant biochemistry and plant physiology and they are written in technical terminology. Most of them are accompanied by references to the literature. There is no volume index.

VAN DE SANDE BAKHUYZEN, HENDRIK LEO

Studies on wheat grown under constant conditions: a monograph on growth. With contributions on the carbon and nitrogen content of the wheat plant, by Elizabeth P. Griffing and Carl L. Alsberg. Stanford, Food Research Institute, 1937. 400 p. illus. 23 cm. (Leland Stanford Junior University. Food Research Institute. Miscellaneous publications. No. 8) $4.00 2252

Contents (abridged): Part I, The growth curve in normal plant. Part II, Methods and materials. Part III, General growth features. Part IV, Dry weight and moisture content of the different organs. Part V, Dry weight and moisture of the standard plant. Part VI, Nitrogen and carbon of the organs. Part VII, Nitrogen metabolism in relation to growth and development. Bibliography. Index.

Note: A report of experiments carried on under the auspices of the Food Research Institute of Stanford University in 1933 and 1936. The experiments were conducted under constant conditions with only single variables modified. The object was to establish sound bases for use in studies designed to forecast wheat yields from weather data.

Waltham Chronica Botanica Company, 1948 196 p illus 27 cm. (Lotsya—a biological miscellany, Frans Verdoorn, editor Vol 1) $4 75 2248

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Plant growth substances. Madison University of Wisconsin Press, 1951 476 p. illus. 24 cm. $6 00 2250

Contents Plant growth substances The history and nature of plant growth hormones, by A. J Haagen-Smit. The synthetic auxins relation between *structure* and *activity* by K. V Thimann Growth and structure of the primary wall, by T Kerr Mechanisms of cell elongation, by H. Burström. Control of evolution and life processes in plants, by A. F Blakeslee. Twenty years of plant hormone research, by F W Went. Plant hormones in practice, by P W Zimmerman. Growth substances in plant metabolism. The study of growth substances in plant metabolism, by R. H. Burris. Changes in metabolism during growth and its inhibition, by K. V Thimann and others. Stimulation of respiration in relation to growth, by G. S. Avery Jr Respiratory changes in relation to toxicity by F G Smith. Tissue responses to growth substances Electrical polarity and auxins, by A. R. Schrank. Translocation of growth-regulating substances and their effect on tissue composition, by J W Mitchell. Histological responses to growth-regulating substances, by J. M. Beal. Comparative effects of growth substances on stem anatomy by B. E. Struckmeyer Formative effects of hormone-like growth regulators, by P W Zimmerman. Practical applications of growth regulators Vegetation control on nonagricultural land, by K. C. Barrons. Differential responses in crop plants, by R. S. Dunham. Growth substances in relation to the production of tree fruits, by F E Gardner Use f growth substances in tropical agriculture, by J. van Overbeek. Growth substances in vegetative development. The role of growth substances in vegetative development as exemplified in tissue cultures, by P. R. White. Factors influencing the growth of plant embryos, by N. K. Ziebur Growth substances and the formation f buds in plant tissues, by F Skoog and C. Tsui. The development of stems and leaves, by F W Went. Growth substances in reproductive development Chemical regulation of sexual processes in fungi, by J R. Raper The sexual substances of algae, by G. M Smith. Growth-regulating substances in relation to reproduction of some horticultural plants, by A. E. Murneek. The induction of flowering with plant extract, by R. H. Roberts. Fruit development as influenced by growth hormones, by F G. Gustafson. The growth hormone mechanism in fruit development, by R. M. Muir. Growth substances in fruit setting, by S. H. Wittwer Growth substances in pathological growth Experimental induction and inhibition of overgrowths in plants, by R. S. de Ropp. In vitro experiments on tumors of pathological origin, by A. C. Hildebrandt. The interaction between causative agents in diseased growth, by A. J Riker and J E. Thomas. Deformities caused by insects, by T C. Allen. Comparative studies of metabolism in insect galls and normal tissue, by E. H. Newcomb. Vitamins and amino acids as growth factors Growth factors in bacterial utrition, by E. E. Snell. Genetic aspects f growth responses in fungi, by E. L. Tatum. Vitamin and amino acid requirements for the growth of higher plants, by W J. Robbins.

Note The papers published in this volume ere presented in several meetings and round table discussions at the University of Wisconsin, September 5–7 1949 They cover all aspects of the physiology biochemistry chemistry and agricultural uses of plant growth substances Bibliographical references are printed at the end of each paper

TRUOG, EMIL, editor

Mineral nutrition of plants Madison University of Wisconsin Press 1951 469 p. illus. 24 cm. $6 00 2251

Contents. Mineral nutrition of plants World food possibilities and fertility status f our soils, by C. E. Kellogg and A. C. Orvedal. Physico-chemical and biological factors affecting utrient availability in soils Soil as medium for plant growth by E. Truog. The activities of cations held by soil colloids and the chemical environment of plant roots, by C. E. Marshall. The availability of soil anions, by R. Overstreet and L. A. Dean. Contact phenomena between adsorbents and their significance in plant utrition, by H. Jenny The effect f soil physical properties on nutrient availability by J B Page and G. B Bodman. Role of soil microorganisms in nutrient vailability by A. G Norman Mechanism of entry and translocation of mineral utrients in plants The nature of the process of inorganic solute accumulation in roots, by T C. Broyer The mechanism of ion absorption, by H Burström The translocation of minerals in plants, by O. Biddulph. Some field problems in plant utrition Control of nitrogen effects on McIntosh apple trees in New York by D Boynton. Production of vegetable crops for the canning industry by J B. Hester Role of minerals in plant utrition Growth and function as criteria i determining the essential nature of inorganic utrients, by D I Arnon. Mineral nutrition in relation t the ontogeny of plants, by W F Loehwing Correlations between *protein-carbohydrate* metabolism and mineral deficiencies

General

Contents: Introduction. Protozoa. Moss-like and jelly-like animals. Bodies and [illegible]. Worm-like and leech-like animals. Mollusks. Arthropods. Fishes. Salamanders. Frogs and toads. Lizards. Snakes. Turtles. Birds. Mammals. Eggs. Tracks.

Note: This work is [illegible] classified and illustrated guide for the identification of land and fresh-water animals of eastern North America. It is designed to serve the needs of those [illegible] who are not specialists in zoology and yet wish an introduction to the principal genera and species of the [illegible] orders of animals. The second edition is revised and enlarged from the first edition. Additions have been made to the keys and to the lists of references, as [illegible] as to the text.

FARRIS, EDMOND JOHN editor

The care and breeding of laboratory animals. New York John Wiley & Sons Inc., 1950 515 p. illus. 23 cm. $13.00 2259

Contents: The monkey, by G. van Wagenen. The rat as an experimental animal, by E. J. Farris. The care of experimental rats, by L. C. Strong. The guinea pig, by [illegible]. Breeding and care of the Syrian hamster, by [illegible]. The rabbit, by [illegible]. The dog, by L. F. Whitney. The domestic cat, by A. B. Dawson. Ferrets, by T. H. Shillingworth. The opossum, by E. J. Farris. The domestic fowl, by F. B. Hutt. Reptiles, by C. H. Pope. Amphibia, by R. C. Hutchinson. Fishes as laboratory animals, by M. Gordon. Drosophila, by W. P. Spencer. The control of laboratory pests and parasites of laboratory animals, by W. E. Dove. Index.

Note: In this valuable book, each author discusses an animal with which he has worked; consequently the text abounds in details that would not be found in a book written solely from the literature. In most chapters the following points are covered: cages, equipment, record keeping, handling, reproduction, diet, disease, shipping regulations and procedure. References to the literature accompany each chapter. The book was written primarily for professionally trained personnel associated with university and other experimental laboratories. Although the commercial raising of laboratory animals for sale is not covered, there is valuable information for persons engaged in this business.

FOX, DENIS L.

Animal biochromes and structural colours: physical, chemical, distributional & physiological features of coloured bodies in the animal world. New York Cambridge University Press 1953 378 p. illus. (part col d) 25 cm. $13.50 2260

Contents: Introduction. Physical and chemical foundations of colour. Structural colours of animals. Tyndall scattering and diffraction colours. Iridescent colours. Carotenoids. Chromolipoids or lipochromes. Quinones. Anthocyanins and flavones. Indole pigments—indigoids and melanins. Tetrapyrroles—porphins and bilins. Flavins or lyochromes. Purines and pterins. Some miscellaneous animal biochromes. Bibliography. Index of subjects. Index of authors.

Note: The physics, biochemistry and comparative physiology of animal colors are treated in this work. Esthetic, evolutionary and adaptive aspects are not covered. Essentially the book is a survey of the knowledge that has been published in hundreds of separate studies. The chapter organization is shown above. In the individual chapters the pertinent literature is abstracted and the abstracts are joined together in a narrative text designed for straightforward reading. References are given to the original publications. The molecular structures of many of the compounds discussed are diagrammed, and there is an occasional table of chemical or other data. A folded chart bound in at the end of the volume presents information on the occurrence and chemical nature of colors and pigments in the various animal phyla. The 23 page bibliography is [illegible] in its coverage. It is arranged alphabetically by authors' names, and, in addition, the index of authors aids in locating the mention in the text of authors' works. The subject index is a detailed one. The author is currently Professor of Marine Biochemistry in the Scripps Institution of Oceanography of the University of California.

HEGNER, ROBERT

Parade of the animal kingdom, by Robert Hegner. Assisted by Jane Z. Hegner. With over seven hundred illustrations. New York The Macmillan Company 1955 675 p. illus. 26 cm. $6.95 2261

Contents: Parade of the animal kingdom. The first animals, the protozoa. Sponges. Coelenterates—polyps, jellyfishes and corals. Spiny-skinned animals—echinoderms. Worms. Mollusks. [illegible]. Arachnids. Insects. Straight-winged insects, or orthoptera. True bugs, or hemiptera. Beetles, or coleoptera. Butterflies and moths, or lepidoptera. Flies, or diptera. Membrane-winged insects, or hymenoptera. Fish. Amphibia. Salamanders and caecilians. Lizards. Snakes. Turtles. Toothed birds and flightless birds. Diving birds and swimming birds. Stork-like birds and [illegible] fowl. Marsh dwellers and shore birds. Birds of prey. Game birds, pigeons, and doves. Parrots, kingfishers, nighthawks, hummingbirds, etc., and woodpeckers. Perching birds—flycatchers, horned larks, and swallows. Jays, crows, etc., and blackbirds, orioles, etc. Chickadees, [illegible] warblers, etc. Thrashers, thrushes, sparrows, etc. Mammals—egg laying, pouched, toothless, flying, and insect-eating mammals. Gnawing mammals, or rodents. Hoofed mammals, or ungulates. Flesh eating mammals, or carnivores. Aquatic mammals. Primates. Index.

[illegible] A popular book designed for reading and reference by laymen. The verbal text is written in simple style and the technical terminology of zoology is largely avoided. The animals described are those likely to be seen in zoos or in environments accessible to persons who are not professional scientists. The book contains several hundred illustrations, most of them reproduced from photographs. Unfortunately in many instances the reproductions are of poor quality.

KARL PATTERSON SCHMIDT ANNIVERSARY VOLUME In honor of his sixty fifth birthday. Chicago Chicago Natural History Museum 1955 728 p. illus. 24 cm (Fieldiana Zoology Vol 37) $10.00 2262

Contents: The work of Karl Patterson Schmidt, by S. Field. An appreciation of Karl Patterson Schmidt, by C. C. Lowe. A [illegible] of Colombian game birds, by E. R. Blake. Masticatory apparatus in the spectacled bear *Tremarctos ornatus*, by D. D. Davis. Ecological notes on the fish fauna of [illegible] coastal drainage of North Borneo, by R. F. Inger. Western Atlantic species of the genus *Bathygobius*, by L. P. Woods. The morphology of the swim bladder and auditory bulla in the Holocentridae, by E. M. Nelson. The origin of the land birds of Tristan da Cunha, by A. L. Rand. Notes on snakes of the genus *Calamaria*, by H. Marx and R. F. Inger. A revision of the tribe Amblyopinini—staphylinid beetles parasitic on mammals, by C. H. Seevers. Notes on a collection of Bermuda deep-sea fishes, by M. Grey. On non-marine shells from Northeastern Brazil and Peru, by F. Haas. A new subspecies of *Caiman sclerops* from Colombia, by F. Medem. *Procolpochelys grandaeva* (Leidy), an early carettine sea turtle, by R. Zangerl and W. D. Turnbull. Parallelism in the evolution of the Permian reptilian faunas of the Old and New World, by E. C. Olson. Remarks on the taxa of the genus *Lampropeltis*, by C. C. Sanborn. Palestinian species and races of *Jaminia* Risso (Mollusca: Gastropoda), by G. Haas. A new variety of Cretaceous Decapod from Texas, by E. S. Richardson, Jr. Early Devonian eurypterids from the Kenyadan Formation of Nova Scotia, by R. H. Denison. Geographical origins and dispersions of termite genera, by A. E. Emerson. A recently discovered *Plilogothecion* from Illinois, by W. D. Turnbull and P. J. Turnbull. Three new fleas of the genus *Stivalius* Traub (Siphonaptera: Hystrichopsyllidae), by R. Traub and A. Barrera. New feather-wing beetles from termite nests in the American tropics (Coleoptera: Ptiliidae), by H. S. Dybas. Bat ticks of the genus *Argas* (Ixodoidea: Argasidae). I. The subgenus *Chiropterargas*, by H. Hoogstraal. The leaf beetles of New Caledonia (Coleoptera: Hispinae), by R. L. Wenzel. South American marsh rats, genus *Holochilus*, with a summary of sigmodont rodents, by P. Hershkovitz. A symmetrodont from the Early Cretaceous of northern Texas, by B. Patterson. Bats from Guerrero, Jalisco and Oaxaca, Mexico, by L. de la Torre. Index.

Note: Scientific papers [illegible] whose authors and titles are given above are published in this anniversary volume on the occasion of the retirement from administrative duties of Dr. Schmidt, Chief Curator of the Department of Zoology of the Chicago Natural History Museum. Most of the papers describe the results of recent studies. Some of them, such as Emerson's paper "Geographical origins and dispersions of termite genera," summarize and interpret [illegible] considerable body of literature.

MARTIN, ALEXANDER CAMPBELL, AND OTHERS

American wildlife & plants by Alexander C. Martin, Herbert S. Zim, and Arnold L. Nelson. A guide to wildlife food habits: the use of trees, shrubs, weeds and herbs by

ZOOLOGY

GENERAL

BARTH, LESTER G , AND LUCENA J BARTH

The energetics of development a study of metabolism in the frog egg New York Columbia University Press 1954 117 p illus 24 cm $3 00 2253

Contents Introduction The storage of energy The release of energy Localization of the release of energy Protein metabolism. Literature cited. Acknowledgments.

Note In the introductory chapter of this book, the authors state the goal of research in the energetics of development as being to explain the various aspects of development in terms of chemical reactions. Here also they describe a *general pattern of energetics* and survey the complexity of the research problem that it presents. The four chapters that follow constitute detailed report of experiments done by them—together with related information from the literature—on studies of the developing egg of the frog *Rana pipiens* from the standpoint of energetics. The authors show that the energy for development is furnished by carbohydrates. In regard to protein metabolism, they state "The proteins, by directing or accepting the energy from general, nonspecific carbohydrate metabolism, might provide the mechanism for chemical differentiation. Although the study of protein metabolism is one of the longer sections of the book, it is essentially report of various experiments whose results still defy synthesis.

BOGERT, CHARLES MITCHELL, AND OTHERS

Criteria for vertebrate subspecies species and genera New York New York Academy of Sciences, 1943 84 p illus 22 cm. (New York Academy of Sciences Annals Vol XLIV p 105–188) $1 00 2254

Contents Introduction, by C M Bogert. Criteria for subspecies, species and genera, as determined by researches on fishes, by C. L. Hubbs. Lower categories in herpetology by E. R. Dunn. Criteria for subspecies, species and genera in ornithology by E. Mayr Criteria for vertebrate subspecies, species and genera mammals, by E. R. Hall. Criteria for genera, species and subspecies in zoology and paleozoology by G G Simpson Criteria for species and their subdivision from the point f view of genetics, by W F Blair

Note The purpose f these papers, presented at joint symposium held by the American Society of Ichthyologists and Herpetologists and the America Society of Mammalogists at the American Museum f Natural History April 3 1942 is the discussion of criteria for the lower taxonomic categories. The papers were planned to deal primarily with methods used in ertebrat classification, and as whole present summary of information relevant to the problems involved in the interpretation f th processes f evol tion.

BONNER JOHN TYLER

Cells and societies Princeton Princeton University Press 1955 234 p illus. 23 cm $4 50 2255

Contents The sameness of living things Howling monkeys. Societies and evolution F seals Red deer Beavers Social insects. Army ants. Termites Colonial hydroids. Cell colonies. A single cell. Energy matter and cells. Feeding in plants Reproduction and development in plants. Coordination in plants. Feeding and digestion in animals. Breathing in animals Circulation in animals. Excretion in animals. Development and reproduction in animals. Coordination in animals. Human societies. Selected readings. Index

Note In this book professional biologist explores for the benefit of general readers the essential nature of biology He presents biology as study of organization and points out in his first chapter that the three basic characteristics common to all biological organizations or societies are The organization (1) takes in food, (2) maintains itself by reproducing individuals and (3) exhibits some co-ordination integration or communication among its members. As the chapter titles show the discussion in the early part of the book concerns animals and groups that are not only known to most readers but may be visually observed. Gradually the size of the form of lif under discussion is reduced until the single cell reached. Then the discussion turns again to larger things and to biological phenomena ithin the common knowledge. The facts presented are interesting, and the author's style is eminently readable. The book is an outstanding example of fresh and vital approach t science writing for non-specialists

CLARK, AUSTIN HOBART

Animals alive. New York D Van Nostrand Company Inc., 1948 472 p. illus. 24 cm. $6 00 2256

Content (abridged) Part I, Man and the animal world Background f animal life. Man and his mastery of the animal world. *Domesticated birds and insects, and products from wild animals.* Animal enemies. How other people live. Part II, Land animals The insects. Spiders and their relatives. Earthworms, snails, slugs, and other land-living invertebrates. Birds Mammals The flesh-eating mammals. Reptiles. Part III Freshwater animals Animals of swamps, lakes and rivers. The amphibians. Aquatic insects. Fresh-water crustaceans. Fresh-water fishes. Part IV Sea life: The ocean The exclusively marine animals. The exclusively marine mollusks. Marine gastropods and bivalves. The plant-like animals Marine fishes. Marine mammals. Sea birds and sea reptiles. Appendix—Classification of animals. Index.

Note In terse, nontechnical style an outstanding zoologist describes for general readers the animals that inhabit the earth and how they live. Not much space is given to any one animal, and practically no space is given to "wonders" of the type that used to fill popular natural histories. Even the drawings are conservative and informative, rather than spectacular Nevertheless, the work is fascinating and achieves its purpose of conveying panorama of the animal world in relation to its environment and to man.

DEVOE, ALAN

This fascinating animal world New York McGraw Hill Book Company Inc., 1951 303 p illus 21 cm. $3 75 2257

Content The nature of this book. Animals in general. Mammals. Birds. Insects. Snakes. Fish. Animal ariety The adventure of animals. Index.

Note. A well-written book of miscellaneous information about animals. It provides authentic answers for such questions as, "Can porcupines throw their quills?" "Can fish drown? and Is there such thing as white elephant? However it is not mere miscellany Its contents are such that practically everyone who reads it through will gain more profound understanding of animals and of lif processes, such as evolution and reproduction. The book is intended for popular reading and reference hence, there are no references to related literature.

DRIVER ERNEST CHARLES

Name that animal a guide to the identification of the common land and fresh-water animals of the United States with special reference to the area east of the Rockies. With drawings by Olive Driver Second edition. Northampton Mass The author 1950 558 p illus 23 cm $6 50 2258

forest). Water, Its blood of the earth. The swamps and fresh marshes. The coast and the sea. The South. Grass country (the prairies and the plains). The desert. The West. The Far North and the Arctic. Index.

Note. A novelty among books on nature. It contains 431 illustrations in full color, all of which are reproductions of paintings made for the National Wildlife Federation from 1939 to 1951 by noted wildlife artists. They were first reproduced and sold in the form of stamps to further conservation of wildlife. In this book the reproductions are in the same size as the stamps, some being as large as 2 in. by 2½ in. and others being 2 in. by 1½ in. Wild flowers as well as animals are illustrated. The text is written for popular reading and is built upon the theme of conserving wildlife.

SCHENK, EDWARD T. AND JOHN H. McMASTERS

Procedure in taxonomy. Including a reprint in translation of the *Règles internationales de la nomenclature zoölogique* (International code of zoological nomenclature) with titles and notes on the opinions rendered to the present date (1907 to 1956). Completely indexed. Third edition enlarged and in part rewritten by A. Myra Keen and Siemon William Muller. Stanford: Stanford University Press, 1956. 119 p. 24 cm. $3.50 — 2269

Contents: Introduction. Systematic categories. Types. Storage of type material. Specific and trivial names. Synonymy. The description of new species. Latin terms and abbreviations. The International Commission on Zoological Nomenclature. Appendix: International code of zoological nomenclature. Summaries of opinions rendered through 1934. Titles to opinions rendered by the International Commission on Zoological Nomenclature subsequent to August 1939 with notes. Titles to declarations of the International Commission on Zoological Nomenclature. Directions issued by the International Commission on Zoological Nomenclature since 1954. Index (including index to International rules and to Opinions rendered).

Note. A useful, concise manual covering both procedures and nomenclature. Approximately two-thirds of the text is devoted to the English translation of the International code of zoological nomenclature, the summaries of opinions and the related sections of the appendix. Inclusion of the International rules and opinions in the book's index is a particularly useful feature. The first edition was published in 1936 and the second edition in 1942. Important revisions have been made in the text, in the literature references, and in the appendix material in this third edition.

SMITH, ROGER C.

Guide to the literature of the zoological sciences. Fourth edition. Minneapolis: Burgess Publishing Company, 1955. 135 p. 28 cm. $2.75 — 2270

Contents: Introduction and the literature problems of the scientist. The mechanics of the library and book classification. Bibliographies of the zoological sciences. Abstract journals. The form of bibliographies. The forms of literature. Preparation of scientific papers. Taxonomic indexes and literature. Library assignments. Index.

Note. A standard manual for the instruction of students of zoology in the use of the literature of the field and for the guidance of graduate zoologists and other scientists in finding the basic important literature on specific topics, for example on the animals. The first edition was published in 1942 and the third edition in 1951. Each succeeding edition has been revised to include recent literature.

STORER, TRACY IRWIN

General zoology. Second edition. New York: McGraw-Hill Book Company, Inc., 1951. 832 p. illus. 24 cm. (McGraw-Hill publications in the zoological sciences. E. J. Boell, consulting editor) — 2271

Contents (abridged): Part 1, General animal biology: The frog as representative animal. Protoplasm, cells, and tissues. Organs and organ systems. Reproduction and development. Heredity and genetics. Animal ecology. Organic evolution. History of zoology. Classification and nomenclature. Part 2, The animal kingdom. Glossary. Index.

Note. A general introductory text for colleges and universities. The first part—which accounts for approximately one-third of the book's length—contains chapters on the general aspects of animal biology including organ systems and evolution. The second part is a traditional arrangement of descriptive material arranged by phyla and classes. The illustrations are numerous and are well executed. A detailed index makes the book useful for elementary reference. A fair number of additions and revisions have been made in the present edition. These include the adding of recent books to the lists of references. A third edition was published in 1957. $7.50.

UNITED STATES. FISH AND WILDLIFE SERVICE

Wildlife abstracts 1935–51. An annotated bibliography of the publications abstracted in *The wildlife review*, Nos. 1–66. Compiled by Nell Hotchkiss. Washington, D. C.: Government Printing Office, 1954. 435 p. 26 cm. $2.00 — 2272

Contents (abridged): Introduction. Abbreviations. Bibliography. Wildlife. Mammals. Birds. Reptiles and amphibians. Fish. Ticks, mites, and spiders. Insects. Myriapods. Crustaceans. Annelids. Mollusks. Parasitic worms. Plants. Soils and land. Water. Weather and climate. Index.

Note. Essentially this work is an index to the more than 18,000 abstracts that appeared in *Wildlife review* from September 1935, through December 1951. The original entries have been condensed, and in some instances reduced to a mere citation of the original article. However, reference is given in all cases to the original abstract in *Wildlife review*. The entries are classified under essentially the same headings used in 1951 issues of *Wildlife review*. The index, which covers both authors and subjects and is very detailed, is an added and useful feature.

ECOLOGY

ALLEE, W. C. AND KARL P. SCHMIDT

Ecological animal geography. Second edition. An authorized edition, rewritten and revised, based on *Tiergeographie auf oekologischer Grundlage* by the late Richard Hesse. New York: John Wiley & Sons, Inc., 1951. 715 p. illus. 24 cm. $9.50 — 2273

Contents (abridged): Part 1, The ecological foundations of zoogeography. The conditions of existence for animals. Barriers to distribution and means of dispersal. The effect of geographic isolation. The influence of extent of range. Ecotopes and biocoenoses. Part 2, The distribution of marine animals. The chemistry of the sea and its influence on animal life. The biotic divisions of the ocean. Geographic divisions of the animal communities of the sea. Part 3, The distribution of animals in inland waters. [illegible] of limnology. The environmental factors in inland waters. Communities in running waters. Communities in other inland waters. Part 4, The distribution of land animals. Ecological factors of the land and their effect on animals. Forest communities. Animal life of swamps and of shores. Alpine animals. Island communities. Subterranean animal life. The effect of man on the distribution of other animals. Index.

Note. One of the more important studies of animal distribution and of the influence of environment and animals upon each other. The first edition of the book was largely a translation of Hesse's *Tiergeographie auf oekologischer Grundlage*, 1924. The present revision, although still based on the German work, has been so extensively rewritten and enlarged as to rank almost as a new work. Specifically new material has been added on such topics as aerial transportation in distribution, bioluminescence, coral reefs and islands, Hawaiian fauna, and winglessness in beetles. The data concerning the number of species in various regions have also been revised, and the chapter bibliographies have been brought up to date.

ALLEE, W. C., AND OTHERS

Principles of animal ecology. By W. C. Allee, Alfred E. Emerson, Orlando Park,

birds and mammals of the United States Prepared under the direction of the United States Fish and Wildlife Service, Department of the Interior at the Patuxent Research Refuge, Laurel Maryland New York Mc Graw Hill Book Company Inc., 1951 500 p illus 23 cm. $8 50 2263

Contents Part I, Introductory chapters The plant roots of wildlife. Farm crops and wildlif Wildlife food-habits studies. Interpreting the data of this book. Part II, Animals and their food Water birds. Marshbirds and shorebirds. Upland gamebirds. Songbirds. Birds of prey Fur and game mammals. Small mammals. Hoofed browsers. Fish, amphibians, and reptiles. Part III Plants useful to wildlif Woody plants. Upland eeds and herbs. Marsh and aquatic plants. Cultivated plants. Wildlif plants ranked according to their value Index.

Not An elementary inclusive reference book for students of bird life, foresters, conservationists, etc. The second part treats the wildlife of the United States of America group by group, giving data on their foods, ranges, habits, and economics. About half of a page is devoted to each principal species of bird or animal For most species the data given include common name scientific name range general description, both animal food and plant food, with list of plants eaten in specified localities, and an animal-plant food ratio diagram showing the seasonal changes in the proportions of plant and animal food eaten. Literature references ar given in some cases. The third part of the book denotes the value of different genera of trees, shrubs, eeds, aquatic plants, and cultivated crops to various kinds of wildlif in different parts of the country

MAYR, ERNST, AND OTHERS

Methods and principles of systematic zoology by Ernst Mayr E Gorton Linsley, and Robert L Usinger New York McGraw Hill Book Company, Inc 1953 328 p illus 24 cm (McGraw Hill publications in the zoological sciences E J Boell consulting editor) $6 50 2264

Content Part Taxonomic categories and concepts Taxonomy its history and functions. The species and the infraspecific categories. Classification and the higher categories Part II, Taxonomic procedure Collecting and collections. Identification and taxonomic discrimination. Taxonomic characters. Quantitative methods of analysis. Presentation f findings. Preparation of taxonomic papers. Part III, Zoological nomenclature Historical and philosophical basis f nomenclature. The principle f priority The type method and its significance. Specific and infraspecific names Generic names Family names. Names of orders, classes, and phyla. Ethics in taxonomy Bibliography Index.

Not This book deals with the theory and the methods of zoological taxonomy that is to say with such matters as the basic philosophy of nomenclature and scientifically sound procedures in identification and naming. It covers also such allied topics as the collecting of specimens and the preparation of papers in which findings ar reported to other scientists. The chapter on preparation f papers includes also discussion f techniques of illustrating The bibliography is an extensive one and is organized in the same order as the chapters. Designed primarily for use as text in advanced courses offered to students preparing for careers in biology the book is potentially useful also to graduate scientists, science journalists, and other readers in need f reference book on the subject.

MOORE CLIFFORD B

The book of wild pets being a discussion on the care and feeding of our native wildlife in captivity together with notes on their identification and life habits With over 300 illustrations Newton Centre Mass Charles T Branford Co 1937 553 p illus 23 cm $5 95 2265

Content Part The aquarium The balanced fresh-water aquarium. Inhabitants for the balanced aquarium. Miscellaneous inhabitants for non-balanced aquaria. Water insects for aquaria Garden pools and water cages. The marine aquarium. Fish diseases and their treatment. Part II, Terraria and their animal inhabitants What a terrarium is. The woodland terrarium and its inhabitants. The semi-aquatic terrarium and its inhabitants. The desert terrarium and its inhabitants. Part III, Insects and spiders as pets Miscellaneous insects. Spiders. Part Mammals Stocking the home zoo. The health and conditioning of animal life. Approaching and feeding wild animals Native mammals as pets. Part V Birds Food, feeding and drinking ...to ttract birds. Bird houses, nesting shelters, roosting and ... shelters. N th land birds in captivity Aquatic game birds. Upland game birds in captivity Index.

Note A useful reference book on the care and feeding of the most common native wildlife forms in captivity and designed for the use of teachers, laboratory and museum workers, and young people. The material is largely nontechnical and is based mainly upon a study f the pertinent literature on the subject. Descriptions and drawings ar given for the construction of pens, traps, cages, hives, bird houses, and other types of shelters. Identifying characteristics, habits, diet, and general care are given for each wild pet treated. There are 314 photographs and drawings, and bibliography at the end of each chapter.

MOORE, CLIFFORD B

Ways of mammals in fact and fancy New York The Ronald Press Company 1953 273 p 21 cm $3 50 2266

Content (abridged) Part I, Hoofed mammals. Part II, Mammals with pouches. Part III Mammals that fly Part IV Flesh-eating mammals. Part V Gnawing mammals. Part VI, Aquatic mammals Part VII, Monkeys, apes, and men. Part VIII, More habits that mammals Seeing in the dark. Chains and bridges. Feigning injury and death. Human children reared by wild mammals. Interbreeding and animal freaks. Literature cited. Bibliography Index.

Note The subtitle f this book indicates but does not fully describe its subject hich is the myths, superstitions and misconceptions" that pertain to animals. Apparently in order to keep the volume within reasonable bounds, the author selected for discussion only about 50 common mammals, including elephants, camels, horses, bats, foxes, cats, beavers, porcupines and monkeys. Quoting extensively from the literature in hich their folklore embedded, he gives the gist of it and then presents the scientific facts, often also in the form of quotations. The book is written in a popular style and is suitable for reading by laymen interested generally in animals or in superstitions and popular fallacies. It is also handy volume for biologists and other authorities on animals ho are in such positions that they must accurately answer questions about the memory of elephants, nine lives of cats, etc.

MORGAN, ANN HAVEN

Field book of animals in winter With 283 illustrations, including 4 full-color plates New York G P Putnam s Sons 1939 527 p illus (part col d) 18 cm $5 00 2267

Content Winter Activity of animals in winter Seasonal migrations. Hibernation. Winter communities f land animals. Seasonal changes in fresh water and in fresh-water animals. Fresh-water sponges. Hydras. Fresh-water flatworms, planarians Rotifers. Fresh-water bryozoans. Annelid and nematode worms. Leeches. Fresh-water and land crustaceans. Insects The "snow insects. Land insects. Aquatic insects. Spiders. Snails and fresh-water mussels. Winter habits f fresh-water fishes. Salamanders, frogs, and toads. Snakes and turtles. Birds. Mammals. References. Index.

Note A popular introduction to the ways in which animals meet the seasonal changes of inter intended for the layman and student f natural history The pocket-size format permits the book to be carried easily on field trips for purposes of observance and identification of observed forms and specimens. No previous knowledge of zoology is assumed, and technical language has been voided. There ar 157 illustrations, including 4 color plates of birds, and bibliography of 243 books and articles arranged by chapter heading

PETERSON ROGER TORY

Wildlife in color Sponsored by the National Wildlife Federation Boston Houghton Mifflin Company 1949 191 p. illus (col d) 20 cm $3 75 2268

Content Wildlife in color New homes—the towns and farms The deciduous woodlands. The North Woods country (the coniferous

[illegible] The illustrations are of high quality and are clearly reproduced.

GUYER, MICHAEL FREDERIC

Animal biology. Fourth edition. New York Harper & Brothers 1948 [illegible]80 p. illus 24 cm $5.00 2280

Contents (abridged) Part I, Introduction. Characteristics of living matter. Protoplasm and the cell. [illegible] Part II, Representative animals. Part III, Organ systems and their functions. [illegible] Digestive systems. Respiratory systems. Circulatory systems and [illegible] Reproductive systems. Nervous systems and how they operate. [illegible] Part IV. Origin of the individual. The germ cells and fertilization. Heredity. Part [illegible] Origin of the kinds of animals. Evolution. [illegible] Part VI, Synoptic survey of the animal kingdom. The major groups of the animal kingdom. Reference books. Glossary. Visual aids. Index.

Note A college textbook for use in an introductory course combining zoology and botany. [illegible] Throughout the volume, however, application [illegible] made to human structure, functions, and problems. In this edition certain sections dealing with protoplasm and the cell, the [illegible] have been rewritten in line with recent biological advances. [illegible] human blood has been added.

HEGNER, ROBERT WILLIAM AND KARL A. STILES

College zoology. Sixth edition. New York The Macmillan Company 1951 911 p. illus. (part col'd) 24 cm. $6.75 2281

Contents (abridged) [illegible] Phylum Protozoa. [illegible] Phylum Porifera. Phylum Coelenterata. [illegible] Phylum Platyhelminthes. [illegible] Phylum Annelida. Phylum Arthropoda. Phylum Mollusca. Phylum Echinodermata. Phylum Chordata. [illegible] Heredity. [illegible] Glossary. Index.

Note A long-established college textbook [illegible] Professor Stiles—who [illegible] member of the faculty of Michigan State University.

HEGNER, ROBERT WILLIAM

Invertebrate zoology. New York The Macmillan Company 1933 570 p. illus 22 cm. $3.75 2282

Contents (abridged) Phylum Protozoa. Phylum Porifera. Phylum Coelenterata. Phylum Ctenophora. Phylum Platyhelminthes. Rotifera. Gastrotricha. Bryozoa. Brachiopoda. Chaetognatha, and Phoronidea. Phylum Annelida. Phylum Mollusca. Phylum Arthropoda. Phylum Echinodermata.

Note This textbook [illegible] covers every group of invertebrates, with the exception of those belonging to the phylum Chordata [illegible] general characteristics of each phylum and each important subgroup; the morphology, physiology, behavior and ecology of representative types [illegible] the relationships within phyla and between phyla; the [illegible] vertebrates; the importance economic and medical of various forms to man; and something of the history of the study of [illegible] invertebrate zoology. Lists of references to the literature [illegible] phyla are included.

MILLER, DAVID F. AND JAMES G. HAUB

General zoology. New York Henry Holt and Company, Inc., 1956 550 p. illus 25 cm. $6.95 2283

Contents (abridged) Section I, The different kinds of animal life. Zoology in everyday life. The one-celled animals. The two-layered animals. The three-layered animals. Animals [illegible] Animals with segmented bodies. Animals with internal skeletons. Section II, Animal habitats and associations. What determines where animals live. How animals live in groups. Conserving animal life. Section III, How animals change. The formation of new individuals. [illegible] How man makes use of gene activity. Animals changing through the ages. The evolution of man and his relatives. Section IV, The functions of animal life. [illegible] Growth. Reproduction. [illegible] Index.

Note An introductory textbook written by two members of the faculty of Ohio State University and designed for use in undergraduate college classes. Although the first part on the various animal groups accounts for almost half of the length of the volume, the other parts round out the treatment and serve to present a broad view of biological science. The style is informal, and even the descriptions of taxa bear little resemblance to the usual style of systematic zoology. The illustrations are numerous and varied.

MORGAN, ANN H

Kinships of animals and man. A textbook of animal biology. New York McGraw Hill Book Company, Inc., 1955 839 p. illus 24 cm. $6.95 2284

Contents [illegible] Part I, The foundation [illegible] Living matter and cells. Part II, Ecology. Plants provide for themselves and animals. Animals and their environments. Mutual relationships of animals. Part III, The internal environment of the body. Tissues. [illegible] Part IV, The new individual. Development. The physical basis of heredity. Part [illegible] Evolution of animals. [illegible] Mammals and mankind. Part VI, Evolution and conservation. [illegible] Appendix. Scheme of classification. The plant kingdom. The animal kingdom. [illegible] Suggested reading. Index.

Note This textbook of animal biology takes as its central theme the kinships and relationships to be found in all living matter from the single cell to the complex combination of cells present in the body of the human being. The author, Professor of Zoology at Mount Holyoke College, explains how animals have developed so they not only to how they are related, but also to how they behave. There are numerous illustrations from drawings and from photographs, and in the appendix are selected lists of readings.

POTTER, GEORGE EDWIN

Textbook of zoology. Second edition. With 445 text illustrations. St. Louis The C. V. Mosby Company 1947 948 p. illus 22 cm $5.00. 2285

Thomas Park, Karl P Schmidt. Philadelphia W B Saunders Company 1949 837 p illus 26 cm $15 00 2274

Contents (abridged) Section I The history of ecology Section II Analysis of the environment The general environment. Heat. Light. Gravity pressure, and sound. Currents of air and of water The substratum. Physicochemical and chemical phases. Water The atmospheric gases. Dissolved salts as limiting factors. Combinations of environmental factors. Ecological relations of soil. Biotic factors in relation to individuals. Section III, Populations General properties of populations. Biological backgrounds for population studies. Certain demographic backgrounds for population studies. The growth form of populations. Population factors and selected population problems. Animal aggregations. The organization of insect societies. Section IV The community Community organization—stratification—metabolism—periodism. Community succession and development. Biome and biome-type in world distribution. Section V Ecology and evolution Ecology and genetic variation. Ecology and isolation. Adaptation. Natural selection. Evolution of interspecies integration and the ecosystem. Bibliography and author index. Subject index.

Note A presentation in the form of a college textbook of the principles of ecology with emphasis on the animal factors. Throughout the work, the authors give samplings of the evidence on which the principles of ecology are based, and frequent references are made to the bibliography of the subject, which covers more than 80 double-columned pages at the end of the book. The work may be used in university courses as a textbook and by professional zoologists and other scientists as a summary of the current status of animal ecology

BAER, JEAN GEORGES

Ecology of animal parasites Urbana University of Illinois Press, 1951 224 p illus 28 cm $5 00 2275

Content Introduction. Part I, Animal associations, definitions. Part II, Adaptations to parasitism Protozoa. Mollusca. Turbellaria. Annelida. Gordiacea. Arthropoda. Crustacea. Copepoda. Cirripedia. Isopoda. Amphipoda. Summary of parasitic adaptations among crustaceans. Acarina. Insecta. Nematoda. Pentastomida. Acanthocephala. Trematoda Monogenea. Digenea. Cestodaria. Cestoda. Part III, Host-parasite relationships Host specificity The action of parasites upon their hosts. Part IV Physiology of parasites Physiology of parasitic protozoa Blood parasites. Intestinal symbionts and parasites. Physiology of parasitic helminths Somatic helminths Intestinal helminths. Conclusions. In vitro cultures of parasitic helminths. Part V Origin of parasitism. Index.

Note A study of animal parasitism adapted from the material presented in two courses in parasitology given in the Graduate College of the University of Illinois by a visiting professor from the University of Neuchâtel. How parasitism had its beginning and what are its present forms are among the matters discussed. The zoological and ecological rather than the medical and veterinary aspects of the subject are emphasized. Adaptations to parasitism are examined from both the morphological and the biological angles, with stress laid on the latter The illustrative drawings, which number more than 150 are the work of Katherine Hill Paul. Bibliographical references appear at the ends of the chapters. This is an advanced work of interest to ecologists in general and of particular interest to invertebrate zoologists and helminthologists

CHAPMAN, ROYAL NORTON

Animal ecology with especial reference to insects New York McGraw Hill Book Company Inc 1931 464 p illus 23 cm. (McGraw Hill publications in the zoological sciences) $7 00 2276

Contents Light as an ecological factor Temperature as an ecological factor Moisture as an ecological factor Effects of temperature and moisture acting together in the ecology of animals. Physical conditions of environmental media. Nutrition. Biotic factors in autecology Synecology Chorology distribution in space or zoogeography Chronology Aquatic synecology Physical characteristics of aquatic communities. Biotic characteristics of aquatic communities. Lentic environments Lakes. Lotic environments Terrestrial synecology—communities of the soil Communities of the sand dune Communities of the grass or herb stratum. Communities of the shrub and tree strata. Appendix Variations and fluctuations of the number of individuals in animal species living together Index.

Note This book brings together the various and diverse materials embraced by the subject of ecology and is intended for use by students and those engaged in ecological research. The material presented is largely quantitative. The author's objective is a critical consideration of what has been accomplished in the field, and the important literature in various phases of the subject is reviewed

PEARSE, ARTHUR SPERRY

Animal ecology Second edition New York McGraw Hill Book Company, Inc., 1939 642 p illus 23 cm (McGraw Hill publications in the zoological sciences) $9 00 2277

Contents Introduction. Environments. Animals. Ecological factors. Evolution, chorology succession climaxes. Rhythms. Communities, competition, populations, and classification of communities. Oceans. Freshwater Terrestrial habitats. Relations of animals to plants. Intraspecific relations. Interspecific relations. Economic ecology Teaching of ecology Ecological methods Problems of ecology Bibliography Index.

Note A textbook for college students specializing in biology This book studies only the zoological aspect of ecology the relation of plants to environments being outside its scope. The effect of metabolic, reproductive and other physiological rhythms is shown, along with the effects of rhythms in the physical world, such as lunar solar seasonal, annular and temperature rhythms. The relations between animals of the same and of different species, and the ecology of pelagic life are also discussed. The second edition contains new chapters including information on climax, evolution, teaching, ecological problems, and economic zoology and new illustrations.

GENERAL TEXTBOOKS

BRENEMAN, W R

Animal form and function, an introduction to college zoology Boston Ginn and Company 1954 488 p illus 24 cm. $6.25 2278

Contents. This is life—the characteristics of living matter. How work is done—the functions of organisms. Port of entry and customs Acellular organisms—phylum protozoa. Cataloguing animals—classification The transition from acellular to many-celled systems. Nature's dead-end street—phylum porifera. How to make the most out of tissues—the Coelenterata (Cnidaria) Development of head—phylum Platyhelminthes. Worms and more worms—phylum Nemathelminthes. Room to grow—the coelom Serial duplication—phylum Annelida. The shellfishes—phylum Mollusca. A biological success story—phylum Arthropoda. Hydraulics—phylum Echinodermata. How to live on income—parasitism Accent on brains—phylum Chordata, subphylum Vertebrata. Like father like son, yet different—genetics. Changing organisms—organic evolution. Prospective—some biological concepts and problems. Glossary Index

Note In this textbook zoology is made interesting and meaningful by the elaboration of two themes (1) the principles that are common to all life, and (2) the progressive specialization that has occurred in animals in response to living in varying environments. There is little discussion of taxonomy but considerable emphasis on physiology biochemistry and other aspects of function. Illustrations are numerous and are clearly reproduced.

COLBERT, EDWIN H

Evolution of the vertebrates a history of the backboned animals through time New York John Wiley & Sons Inc 1955 479 p. illus 23 cm $8 95 2279

Content Introduction. Jawless vertebrates. Placoderms. Success of the fishes. From water to land. Early vertebrate faunas. Amphibians. Advent of the reptiles. Mammal-like reptiles. Conquest of the land. Early ruling reptiles. Marine reptiles. Flying reptiles and birds. Triumph of the dinosaurs. Years of the dinosaurs. Surviving reptiles. Beginning of the mammals. Marsupials. Introduction to the placentals Unguiculate mammals. Evolution of the primates. Rodents and rabbits. Cetaceans. Carnivores. Ancient hoofed mammals. South American ungulates. Perissodactyls. Artiodactyls Elephants and their kin The age of mammals A classification of the chordates Generic index. Subject index.

Note This book is primarily a text for use in undergraduate college courses and secondarily as exposition for lay readers. The subject is vertebrate paleontology or the fossil evidence for the evolution of the vertebrate animals. Changes in vertebrate form are interpreted in terms of adaptation in such passages as, "The same

related information are included, together with the usual citation of original publication of each species covered. There are a total of 13 plates of photographs, and bibliographies accompanying each of the papers except that on birds by Peters and Loveridge

BUTCHER DEVEREUX

Seeing America's wildlife in our national refuges. Prepared under the auspices of Defenders of Furbearers. New York The Devin-Adair Company 1955 338 p. illus 24 cm $5.00. 2291

Contents (abridged) Introduction. You are the guest of wildlife. The primitive land. National wildlife refuges. Map of wildlife refuges. Other sanctuaries and refuges. The vanished and the vanishing. These refuges, too, are in the care of the Fish and Wildlife Service. For further reading. Index

Note The national wildlife refuges of the United States of America are concisely described in this book for general readers. Supplementing the verbal descriptions are several hundred reproductions of photographs of birds, mammals and other kinds of native wild animals, many of which were taken in natural surroundings in the wildlife refuges. A strong plea for the preservation of wild life and the creation of more wildlife refuges is made in the introduction, and in the prefatory essay "The primitive land

CHICAGO NATURAL HISTORY MUSEUM

Philippine Zoological expedition 1946–1947 Chicago Chicago Natural History Museum, 1951–56 539 p. illus. 24 cm. (Fieldiana Zoology Vol. 33 no 1–5) No 1–2 $1.50 per number no 3 $6.50 no 4 $6.00 no 5 $0 15 2292

Contents (abridged) No 1 Narrative and itinerary, by H. Hoogstraal. No. 2 Mammals, by C. C. Sanborn. No. 3 Notes on Philippine [illegible], [illegible] new species of [illegible] and [illegible], by F. E. Baker and P. [illegible]. No. [illegible] Systematics and zoogeography of Philippine amphibia, by R. F. Inger. No. 5 On the status and relations of *[illegible]*, by K. P. Schmidt.

Note These five publications constitute a report of an expedition by the Chicago Natural History Museum and the Philippine National Museum. Both zoological and botanical specimens were collected, but only the zoological are reported here. There was concentration on the collecting of mammals, and 1,446 specimens representing [illegible] species and subspecies, 13 of them new, were collected. The second number of the report is devoted to the mammals. It is arranged by class and gives the number of specimens examined at the various collecting stations of the expedition, miscellaneous information on color, [illegible], etc. Mosquitoes were collected at the request of the United States Army and the species found are described in the third number. The study of amphibia published as No. [illegible] is not limited to material collected by the expedition, but is a comprehensive account based on several collections and on literature. It [illegible] 347 pages long and contains its own bibliography and index.

EDMONDSON CHARLES HOWARD

Reef and shore fauna of Hawaii Honolulu Bernice P Bishop Museum, 1946 381 p. illus. 24 cm. (Bernice P Bishop Museum Special publication 22) $5 00 2293

Contents (abridged) Introduction. Protozoa. Porifera. Coelenterata. Ctenophora. Platyhelminthes. Nemathelminthes. Echinodermata. Annelida. Mollusca. Arthropoda. Chordata. Glossary. Bibliography. Index

Note The purpose of this work is (1) to provide authoritative information for the benefit of students and teachers in Hawaii who are interested in the reef and shore fauna and (2) to provide investigators with information on the general character, scarcity or abundance, and relative accessibility of the main groups of invertebrates available for purposes of research about the shores of Hawaii. It is not an exhaustive treatment of local marine fauna, but does cover all of the common forms and some of the uncommon ones. The descriptions are nontechnical and are intended to aid students in identification. Keys are included, also a glossary and a selected bibliography. The first edition was published in 1933. In the second edition, the work is about 81 pages longer and it contains descriptions of new species, additional data on species that were described in the first edition, and some new drawings. The number of figures is now 223

HATT ROBERT TORRENS AND OTHERS

Island life a study of the land vertebrates of the islands of eastern Lake Michigan by Robert T Hatt Josselyn Van Tyne Laurence C. Stuart Clifford H Pope and Arnold B Grobman. Bloomfield Hills, Mich. Cranbrook Institute of Science 1948. 179 p. illus 24 cm (Cranbrook Institute of Science Bulletin no. 27) $2.50 2294

Contents Introduction. Geological history. Cultural history. The islands described. The amphibians and reptiles. The birds. The mammals. Modification of habits. Factors of distribution. Appendix. List of the vertebrate fauna arranged by islands. Bibliography. Index.

Note The information in this volume is based on investigations carried out from 1937 to 1944 under the auspices of the Cranbrook Institute of Science and the University of Michigan. To provide background material, each of the 14 islands studied is described as to geology and physical geography. The greater part of the book, however, consists of a catalogue of all species of animal life found in the islands, with brief notes regarding their abundance, distribution, and special or noteworthy characteristics.

LOVERIDGE ARTHUR AND OTHERS

Scientific results of an expedition to rain forest regions in eastern Africa. Cambridge Mass. The Cosmos Press Inc., 1935 541 p illus. 24 cm. (Harvard College Museum of Comparative Zoology Bulletin Vol. LXXIX nos. 1–9) $5.60 2295

Contents [illegible] New reptiles and amphibians from East Africa, by Arthur Loveridge [illegible] Crustacea, by Mary J. Rathbun. III. Mammals, by Glover M. Allen and Barbara Lawrence. IV. Field notes by Arthur Loveridge. V. Birds, by James Lee Peters and Arthur Loveridge [illegible] Reptiles, by Arthur Loveridge. VI. [illegible], by J. M. [illegible]. VII. Amphibians, by Arthur Loveridge. VIII. Oligochaeta, by Wilhelm Michaelsen. Zoogeography and itinerary by Arthur Loveridge.

Note In this series of papers are reported the results of an expedition undertaken by the author during 1933 and 1934. This was the third expedition made to eastern Africa in fulfillment of a program outlined in 1924. The principal object of these expeditions [illegible] clarification and extension of our knowledge regarding the distribution of the isolated, arboreal forms of life associated with the forest islands of East Africa, and a further elucidation of their relationship with the fauna of the great West African forests, particularly that of the Cameroon Mountains. In conjunction with his scientific pursuits, the author was also interested in observing the ill effects of the deforestation in this part of the world. He reports on the resulting erosion and warns of the dire consequences which may follow

MASON GEORGE FREDERICK

Animal tracks. New York William Morrow and Company 1943 95 p illus. 21 cm. $2.25 2296

Note Written primarily to aid in the identification of the tracks of our best known North American animals, this book presents a collection of about 77 drawings of tracks showing much more detail than is generally seen in nature where tracking conditions are not always ideal. This is done with the assumption that for the purpose of identification it is easier to compare the perfect track with the natural. The descriptive text accompanying the line drawings gives a brief résumé of the habits and range of the animals for the purpose of acquainting the young naturalist or outdoor enthusiast with the fundamentals of animal lore.

MUSEUM OF COMPARATIVE ZOOLOGY

Zoological results of a fifth expedition to East Africa. Cambridge Mass. Museum of

Contents (abridged) History of zoology Protoplasm and the cell. Phylum Protozoa in general. Metazoan organization. Phylum Porifera. Phylum Coelenterata. Phylum Ctenophora. Phylum Platyhelminthes. Phylum Nemathelminthes. Phylum Annelida, by J T Self Phylum Echinodermata. Phylum Mollusca, by E. P Cheatum. Phylum Arthropoda, by V M. Tanner Phylum Chordata. The vertebrate animal—subphylum Vertebrata. Class Amphibia, by H Sanders. Reptilia, by L. T Murray and J E. Blaylock. Aves. Mammalia. The endocrine glands and their functions. Regeneration, by T C. Byerly Biological effects of radiations, by T C. Evans. Animal distribution by W Hewatt. The animal and its environment, by A. O. Weese. Animal parasitism, by S. H. Hopkins. Marine zoology Comparative embryology by A. Richards. Genetics and eugenics, by F G. Brooks. Animal behavior by L. C. Gardner Paleontology by W M. Winton. Phylogenetic relations of animal groups and the theory of evolution. Index.

Note An inclusive textbook which is suitable primarily for use in introductory college courses offered to students who do not plan to specialize in general zoology Although the greater part of the book is arranged by phyla and smaller taxonomic groups, the exposition is chiefly concerned with function. A special feature is the use as examples for discussion of animals which are readily found in the regions of the United States of America located west of the Mississippi River An extensive bibliography and also a glossary are included.

STORER, TRACY I, AND ROBERT L USINGER

Elements of zoology New York McGraw Hill Book Company, Inc, 1955 552 p illus (part col d) 24 cm. (McGraw Hill publications in the zoological sciences, E J Boell consulting editor) $6 00 2286

Contents (abridged) Part I, Animal biology A representative animal, the frog. The animal body Body covering, skeleton, and body muscles. Digestive systems and metabolism. Circulatory systems. Respiratory systems. Excretory systems and regulation. The endocrine glands or system. Nervous systems and sense organs. Reproduction and development. Heredity and genetics. Animal ecology and distribution. Organic evolution. Part II, The animal kingdom One-celled animals—phylum protozoa. Sponges and coelenterates. Flatworms and roundworms. Echinoderms and miscellaneous groups. Mollusks—phylum Mollusca. Segmented worms—phylum Annelida. Joint-footed animals—phylum Arthropoda. Insects—class Insecta. Fishes. Amphibians and reptiles. Birds—class Aves. Mammals—class Mammalia. Mankind. Glossary Index.

Note A textbook based in part on the senior author's *General zoology* described above. It is designed for use in short introductory courses offered to students who do not plan to take additional work in zoology The space is almost evenly divided between discussions of anatomy physiology reproduction, etc., and descriptions of animal groups. There is a large number of illustrations, but many of them are small. Both authors are members of the faculty of the University of California.

WEIMER, BERNAL ROBINSON

Man and the animal world New York John Wiley & Sons, Inc. 1951 569 p illus (part col d) 23 cm $5 75 2287

Content (abridged) Biology and the scientific method. Life and living things. Metabolism. Foods and their uses The blood and circulatory system. Adjustment to environment. Growth and reproduction. The mechanism of heredity Human heredity and eugenics The scientific naming of animals—taxonomy Protozoa, sponges, and coelenterates. Flatworms, roundworms, and segmented worms. Arthropods Mollusks and echinoderms. Chordates. Animals and their environment—ecology Life its nature and origin. The theory of evolution. The course of evolution. Index and glossary

Note An elementary textbook of zoology on the college level. Features of the presentation include approach to the animal kingdom through man as the living animal best known to the student inclusion of practical aspects of zoology such as the ways in which animal organisms influence human health emphasis on the scientific method and careful adaptation of illustrations to textual material. The author is Professor of Biology in Bethany College.

WINCHESTER A M, AND HARVEY B LOVELL

Zoology Second edition Princeton D Van Nostrand Company Inc. 1955 582 p illus 23 cm. $1 50 2288

Contents (abridged) The scope of zoology The cell as a fundamental unit of life. The chemistry of life. Vital moment in protozoa. Animal classification—taxonomy One-celled animals—phylum Protozoa. The sponges—phylum Porifera. Two-layered animals—phylum Coelenterata. Segmented worms—the annelids. Animals with jointed legs—the arthropods. Insect orders. Soft-bodied animals—the mollusks. Animals with spiny skins—the echinoderms. Crown of the animal kingdom—phylum Chordata. The vertebrate body. Aquatic vertebrates—cyclostomes and fishes. The transition to land. The birds. The mammals. Ecology and wild life conservation. The principles of heredity The development of the individual. The changing world of life. Glossary Index.

Note An established, introductory textbook which is particularly suited for use in the survey type of course offered to students who do not plan to pursue the study of zoology beyond the first course. It covers the traditional ground of introductory college courses but is less cyclopedic and puts very little stress on taxonomy It is written in an elementary vivid style that is calculated to hold the interest of beginners. It is well illustrated, and the illustrations include reproductions of many photographs made by the author. The first edition was published in 1947 and was written by the senior author alone. In the second edition, the general plan and style of the book has been maintained, but the contents have been expanded by the addition of new chapters and the expansion of some of those carried over More emphasis has been placed on physiology genetics and ecology

VARIOUS REGIONS

ADAMSON, ALASTAIR MARTIN

Review of the fauna of the Marquesas Islands and discussion of its origin. Honolulu Bernice P Bishop Museum 1939 93 p illus 26 cm (Bernice P Bishop Museum Bulletin 159 Pacific Entomological Survey publication 10) $1 00 2289

Content (abridged) The Pacific and its islands. Extent of biological exploration on central Pacific islands. Means of dispersal to Pacific insular faunas and floras. Biogeographic theories. The Marquesas as an environment for a fauna. Systematic review of the Marquesan fauna. Endemism and age. Faunal affinities. Conclusions: Origin of the Marquesan fauna on the assumption of past land connections of transoceanic dispersal. Summary Bibliography Index.

Note. In this work the author presents a review of the land and fresh-water fauna of these islands. His review of the arthropods and vertebrates, exclusive of insects, and a description of the islands from the point of view of a student of the fauna had already been published by the Museum as Occasional papers, Vol. 11 no. 10, and Bulletin 139 respectively This paper also deals with the much discussed problem of the origin of the faunas and floras of the central Pacific islands. Biological, geographical, and geological evidence is offered and various opinions are expressed, but necessarily without any attempt to reach definite conclusions. The taxonomic data on the material here review are reported in Bulletins 98, 114 and 142

ALLEN, GLOVER MORRILL, AND OTHERS

Scientific results of a fourth expedition to forested areas in east and central Africa, by Glover M Allen Arthur Loveridge James Lee Peters Fenner A Chace, Jr Cambridge Mass Harvard Museum of Comparative Zoology 1942 5 v illus 23 cm (Harvard University Museum of Comparative Zoology Bulletin Vol LXXXIX nos 4 5 vol XCI nos 3–5) $5.25 2290

Contents Mammals, by G. M. Allen and A. Loveridge. Birds, by J L. Peters and A. Loveridge. Decapod Crustacea, by F A. Chace, Jr Reptiles, by A. Loveridge. Amphibians, by A. Loveridge.

Note Each of these papers presents an annotated descriptive list of specimens collected by Arthur Loveridge between 1938 and 1939 while investigating the fauna of certain forested regions of east and central Africa. The number of species covered in the present work, with the number of new forms shown in parentheses, is as follows mammals, 110 (40) birds, 246 (10); decapod Crustacea, 20 (2) reptiles, 144 (17) amphibians, 77 (10) Native names, description, measurements, diet enemies, parasites, habits, breeding, and other

of the species, while others are pictures from photographs on 40 plates, 2 of the plates in full color. The author and the illustrator are both staff members of the Smithsonian Institution.

BAILY JOSHUA LONGSTRETH JR.
Physiological group differentiation in *Lymnaea columella* Foreword by Raymond Pearl. Baltimore The Johns Hopkins Press 1939 133 p. illus 23 cm. (The American Journal of hygiene Monographic series No 14) $1.10. 2302

Contents: Preliminary survey. The problem. Material. The method. Longevity. Fecundity. Growth. Interrelations involving different biological variables. Conclusion. Bibliography. Index.
Note This study concerns the possibility of physiological differentiation of races which are structurally indistinguishable. The particular traits analyzed are rate of growth, fecundity and duration of life. The evidence presented is for the pond snail, *Lymnaea columella*, taken from two different geographical locations, and it indicates that this study emphasizes the limitations of purely morphological description and the need for wider knowledge of the physiological patterns of biological populations.

BAKER, EDWARD WILLIAM AND G W WHARTON
An introduction to acarology New York The Macmillan Company 1952 465 p. illus. (part col'd) 22 cm. $10.00. 2303

Contents: Introduction. The suborder Onychopalpida Wharton, 1947. The suborder Mesostigmata G. Canestrini, 1891. The suborder Ixodides Leach, 1815. The suborder Trombidiformes Reuter, 1909. Hydrachnellae Latreille, 1802. The suborder Sarcoptiformes Reuter, 1909. Oribatei Dugès, 1833. Index.
Note An elementary yet very comprehensive book on mites. The introduction covers the general structure, development, and ecology of mites. The families then are taken up one by one. [illegible] keys to assist in identification. For each family the following information is given if known: [illegible] list of genera and their type species. [illegible] the economic, or medical importance with emphasis on the species involved, and [illegible] references to pertinent literature. Line drawings are included. The work [illegible] not only as [illegible] guide to the professional acarologist but also for the information of those in related fields, including agriculture, entomology, zoology and medical parasitology.

BAKER, FRANK COLLINS
The molluscan family Planorbidae Collation, revision, and additions by Harley Jones Van Cleave Urbana University of Illinois Press 1945 530 p. illus 26 cm $14.50 2304

Contents: A memorial to Frank Collins Baker 186[illegible]–19[illegible]. Chronological list of the scientific publications of Frank Collins Baker. Part I: General morphology. General ecology. [illegible] and embryological development. Distribution in time and space. Historical sketch of classification. [illegible] classification of the family Planorbidae. Systematic account of the subfamilies, genera, and subgenera—recent and fossil. Groups of uncertain affinities. Family [illegible]. Genera wrongly referred to Planorbidae. Bibliography. Part II: The Planorbidae inhabiting North and South America and the West Indies. Descriptions of new species and new varieties. [illegible] of the anatomy and of shells. Index to text. Index to [illegible].
Note The family Planorbidae constitutes one of the largest groups of fresh-water Mollusca or snails. The monograph provides [illegible] description and classification of the family as derived from study of the anatomy and shell construction. The work was carried on by the author over [illegible] period of 10 years and [illegible] the examination of [illegible] species and races and more than 725 specimens. Part II, which comprises more than half the volume, consists largely of [illegible] plates illustrating the anatomy and shells of the Planorbidae. The bibliography, although extensive, [illegible] limited to [illegible] the most important references.

BAKER, HORACE BURRINGTON
Zonitid snails from Pacific islands Part 1–4 Honolulu, Hawaii Bernice P Bishop Museum 1938–41 4 parts in 3 v. illus. 25 cm. (Bernice P Bishop Museum. Bulletins 158 165 166) Vol. 1 $7.50 vol 2 $2.50 vol. 3 $3.00. 2305

Contents: Part 1. Southern genera of Microcystinae. Part 2. Hawaiian genera of Microcystinae. Part 3. Genera other than Microcystinae. Part 4. Distribution and indexes.
Note This series of papers deals [illegible] the Zonitidae and [illegible] subfamilies, the most highly evolved pulmonate mollusks that have [illegible] members in most parts of the Pacific area. The region covered includes the [illegible] Hawaii, Marquesas, Tuamotu, Society, Austral, Cook, Samoa, Tonga, Fiji, Caroline, Palau, and Mariana Islands, and, so far as their fauna is known, the smaller islands and groups between them. The material consisted of the collections of the Museum, supplemented by those of the Zoological Laboratory of the University of Pennsylvania and of the Academy of Natural Sciences of Philadelphia. The figures of shells were made by Y. K. Tatsham.

BROWN, FRANK ARTHUR JR. editor
Selected invertebrate types New York John Wiley & Sons Inc., 1950 597 p illus. 24 cm. $7.50 2306

Contents (abridged): The Protozoa. Metazoa. Porifera. Cnidaria. Ctenophora. Platyhelminthes. Rhynchocoela. Acanthocephala. Aschelminthes. Entoprocta. Ectoprocta. Phoronida. Annelida. Echiuroidea. Sipunculoidea. Mollusca. Arthropoda. Onychophora. Crustacea. Insecta. Chaetognatha. Echinodermata. Enteropneusta. Chordata. Bibliography. Index.
Note The authors of this work are W. [illegible], F. A. Brown, Jr., J. B. Buck, W. D. Burbanck, C. G. Goodchild, L. H. Hyman, M. L. Kenter, L. H. Kleinholz, J. H. Lochhead, M. E. Pierce, W. M. Reid, M. D. Rosenberg, and T. H. Waterman, 7 members and former members of the staff of the Department of Invertebrate Zoology, the Marine Biological Laboratory, Woods Hole, Massachusetts. In the book more than 100 species of animals commonly used in laboratory instruction and experimentation are described in detail, with particular attention to such parts as external structure, general organization, feeding and digestion, nervous system and sense organs, muscular system, and reproductive system. The book is suitable [illegible] as [illegible] laboratory manual in undergraduate courses and [illegible] as [illegible] guide for instructors and research workers in species particularly adapted to laboratory use.

BRYANT ELIZABETH B
Cuban spiders in the Museum of Comparative Zoology Cambridge, Mass. The Cosmos Press Inc., 1940 284 p. illus. 24 cm. (Harvard College Museum of Comparative Zoology Bulletin. Vol. LXXXVI, no. 7 June) $3.50 2307

Note The collection of spiders in the Museum of Comparative Zoology is very rich in Cuban material, many of the specimens having been collected about the Harvard Station at Soledad. The specimens represent not only [illegible] the [illegible] area, but also have been taken in every month of the year. In the preparation of this paper 283 species were seen, of which 92 are new. That each island of the West Indies has an indigenous fauna is evident from comparing the species of Cuba and those of Puerto Rico, the only other island that has been studied carefully. The presence of *Tetrablemma* [illegible] Bryant, [illegible] very primitive [illegible] species less than [illegible] millimeter in length, indicates that remnants of [illegible] very ancient fauna are present in Cuba. The classification of Petrunkevitch, *Systema Aranearum* has been followed in this study. There are 22 plates showing line drawings.

BRYANT ELIZABETH B
The spiders of Hispaniola. With twelve plates Cambridge Mass. The Museum of Comparative Zoology 1948 331–44 p. illus 24 cm. (Harvard College Museum of Comparative Zoology Bulletin. Vol. 100 no 4) $2.00 2308

Contents (abridged): Introduction. Previous investigations. Table of species found on islands of the Caribbean. Systematic list. Appendix. Bibliography. Index of genera and species.

Comparative Zoology, 1953 487 p illus 24 cm (Harvard College Museum of Comparative Zoology Bulletin Vol 110, nos 1–7) No 1, $1 00, no 2, $0 75 no 3 $2.35, no 4, $1 25 no 5, $0 30 no 6 $0.30 no 7 $0 85 set $6 80 2297

Contents No. 1 Mammals from Nyasaland and Tete with notes on the genus Otomys, by B Lawrence and A. Loveridge. No. 2 Birds from Nyasaland and Tete, by J L. Peters and A. Loveridge. No. 3, Reptiles from Nyasaland and Tete, by A. Loveridge. No. 4 Amphibians from Nyasaland and Tete, by A. Loveridge. No. 5 Chilopoda (Myriopoda) by R. F Lawrence. No. 6 Decapod Crustacea, by F A. Chace Jr No. 7 Itinerary and conclusions, by A. Loveridge with an appendix on the vikuma, by C. W Benson

Note The scientific expedition whose zoological results are described in this Bulletin was undertaken in the hope of ascertaining how much of Nyasaland's primary forest fauna survive. It was known that vast tracts of montane forest in this country had been destroyed and that destruction by man and erosion was still going on with deleterious effects on the forest fauna. Systematic descriptions of the animals collected account for most of the length of the report. However an itinerary written more or less in the form of diary is presented in the last number along with generalized discussion of the findings of the expedition. The third number of the series Reptiles from Nyasaland and Tete, is not limited to collections made by this expedition but includes all known reptiles of Nyasaland.

PEARSE, ARTHUR SPERRY, AND OTHERS

The cenotes of Yucatan, a zoological and hydrographic survey, by A S Pearse, Edwin P Creaser, F G Hall, and the following collaborators J Bequaert, H. B Hungerford [and others] Washington, D C Carnegie Institution of Washington, 1936 304 p illus 29 cm. (Carnegie Institution of Washington Publication no 457) o p 2298

Contents (abridged) Physical and chemical survey of cenotes of Yucatan, by F. G. Hall. Results of survey of the cenotes in Yucatan, by A. S. Pearse. Yucatan fresh-water sponges, by M. C. Old. Some trematodes of cenote fishes from Yucatan by H. W Manter Polyzoa, by C. J D Brown Hirudinea from Yucatan, by J P Moore. A second contribution to the mollusca of the Yucatan, by J Bequaert and W J Clench. Copepods from the cenotes and caves of the Yucatan peninsula, with notes on cladocerans, by C. B Wilson On the Ostracoda from the cenotes of Yucatan and vicinity by N C. Furtos. Crustaceans from Yucatan by E P Creaser Hydracarina from Yucatan, by R. Marshall. Odonata from Yucatan, by E. B Williamson Aquatic and semiaquatic Hemiptera collected in Yucatan and Campeche, by H B Hungerford. Chironomid larvae from Yucatan by A. S. Pearse. Aquatic Coleoptera from Yucatan, by P J Darlington, Jr Fishes of the Yucatan peninsula, by C. L. Hubbs Some reptiles and amphibians from Yucatan and Campeche Mexico by H. T Gaige.

Note A collection of papers on various aspects of the fauna observed in the water-containing cavities in the limestone of the flat plains of Yucatan These cavities and caverns are interesting to biologists because they are isolated aquatic habitats, many of which have existed for long periods of time

PEARSE, ARTHUR SPERRY AND OTHERS

Fauna of the caves of Yucatan. With the collaboration of Nathan Banks Joseph C Bequaert Joseph C Chamberlin [and others] Washington, D C Carnegie Institution of Washington, 1938 304 p illus 29 cm (Carnegie Institution of Washington Publication no 491) o p 2299

Content (abridged) Fungal flora of Yucatan caves, by F A. Wolf. Land planarians from Yucatan by L. H Hyman. Parasitic flatworms from Yucatan, by H. W Stunkard. Some nematodes from the caves of Yucatan, by B G. Chitwood. Leeches (Hirudinea) from Yucatan caves, by J P Moore. Earthworms in Yucatan caves, by G E. Pickford. Arachnida of the orders of Pedipalpida, Scorpionida and Ricinulida, by R. V Chamberlin and W I Acarina of Yucatan caves, by G. W Wharton. Copepods from Yucatan caves, by A. S. Pearse and C. B. Wilson A new species of Cypridopsis from Yucatan, by N C. Furtos. Large cave Crustacea of the Yucatan peninsula, by E. P Creaser Diplopoda from Yucatan, by R V Chamberlin Collembola from Yucatan caves, by H. B Mills. New cave-crickets from Yucatan, by T H. Hubbell A new myrmecleonid from Yucatan by N Banks. Insects from Yucatan caves, by A. S. Pearse. Ants from the caves of Yucatan, by W M. Wheeler A third contribution to the molluscan fauna of Yucatan by J Bequaert and W J Clench. Fishes from the caves of Yucatan, by C. L. Hubbs. Some reptilian records from the caves of Yucatan, by H. T Gaige. Birds in Yucatan caves by A. S. Pearse. Mammalia from Yucatan caves, by A. S. Pearse with R. Kellogg.

Note A collection of papers on various aspects of the fauna observed in the caves of Yucatan, including the systematic classification of new species found among troglobite, troglophile, and trogloxene animals, with numerous detailed drawings.

SUMNER, LOWELL, AND JOSEPH S DIXON

Birds and mammals of the Sierra Nevada, with records from Sequoia and Kings Canyon National Parks Berkeley University of California Press, 1953 484 p illus. 24 cm. $7 50 2300

Contents Introduction. Wildlife policies and problems. Human use of parks. Life zones. The birds. Vanished species and questionable records—birds. The mammals. Vanished species and questionable records—mammals References. Index.

Note Although based partly on field investigations sponsored by the Museum of Vertebrate Zoology of the University of California and partly on scientific studies carried out by the authors under the sponsorship of the National Park Service, this book is directed to laymen rather than to specialists in zoology Visitors to the national parks are the particular audience for whom the book is designed however the birds and mammals described in it have a considerable range outside the national parks. The descriptions of species include the scientific name and one or more common names, description of color size and weight discussion of habits, including nesting and food habits; and statement on the status of the species in Sequoia and Kings Canyon National Parks. Also included is range of miscellaneous information from the file of observations of park naturalists and rangers. A list of literature of interest to amateur naturalists and other nonspecialists is included at the end of the volume. The illustrations include colored reproductions from paintings and monochrome reproductions of photographs of habitat scenes. The colored illustrations are from previously published books, but the photographs have not been published before

INVERTEBRATES (EXCEPT INSECTS)

ABBOTT, R. TUCKER

American seashells With illustrations by Frederick M Bayer New York D Van Nostrand Company, Inc, 1954 541 p illus. (part col d) 26 cm (The new illustrated naturalist editorial advisory board William Beebe and others) $12 50 2301

Content Part I, The natural history of seashells Man and mollusks. Life of the snails Life of the clams. Lives of other mollusks. Collecting American seashells. How to know American mollusks. Part II, Guide to the American seashells Class Gastropoda (periwinkles, conchs and other snails) Class Amphineura (coat-of-mails and other chitons) Class Scaphopoda (dentaliums and other tusk-shells) Class Pelecypoda (scallops, oysters and other clams) Class Cephalopoda (squid, octopus and cuttlefish) Guide to the molluscan literature. Index to subject matter and common names. Index to scientific names.

Note A handsomely illustrated, large-sized manual for the collector and student of the seashells of the Atlantic, Pacific, and Gulf coasts of North America Fifteen thousand species are described in systematic order Scientific name common name, range, size, descriptive notes, and indication of commonness or rarity are given for each species. Line drawings appear in the text for most

of the species, while others are pictured from photographs on 40 plates, 24 of the plates in full color. The author and the illustrator are both staff members of the Smithsonian Institution.

BAILY JOSHUA LONGSTRETH JR
Physiological group differentiation in *Lymnaea columella* Foreword by Raymond Pearl Baltimore The Johns Hopkins Press 1939 133 p. illus. 23 cm. (The American journal of hygiene. Monographic series No 14) $1 10 2302

Contents: Preliminary survey The problem. Material. The method Longevity Fecundity Growth. Interrelations [illegible] different biological variables Conclusion. Bibliography Index.

Note This study examines the possibility of physiological differentiation of races [illegible] are structurally indistinguishable. The particular traits analyzed are rate of growth, fecundity and duration of life. The evidence presented is for the pond snail, Lymnaea columella, taken from two different geographical localities, and it indicates that this study emphasizes the limitation of purely [illegible] [illegible] description and the need for [illegible] wider knowledge of the physiological patterns of biological population.

BAKER, EDWARD WILLIAM AND G W WHARTON
An introduction to acarology New York The Macmillan Company 1952 465 p. illus. (part col'd) 22 cm. $10.00 2303

Contents: Introduction. The suborder Onychopalpida Wharton, 1947 The suborder Mesostigmata G. Canestrini, 1891 The suborder Ixodides Leach, 1815 The suborder Trombidiformes Reuter 1909 [illegible] Leach, 1902 The suborder Sarcoptiformes Reuter 1909 [illegible], 1833. Index

Note An elementary yet very comprehensive book on mites. The introduction covers the general structure development, and ecology of mites. The families then are taken up one by one with suitable keys to assist in identification. For each family the following information is given if known [illegible] diagnosis, [illegible] list of genera and their type species, [illegible] economic [illegible] including the biologic, the economic, or medical importance [illegible] with emphasis on the species involved, and [illegible] of references to pertinent literature. Line drawings are included. The work is intended not only as [illegible] guide to the professional acarologist but also for the information of those in related fields, including agricultural entomology, zoology and medical parasitology

BAKER, FRANK COLLINS
The molluscan family Planorbidae. Collation, revision and additions by Harley Jones Van Cleave Urbana University of Illinois Press 1945 530 p illus. 26 cm. $14 50 2304

Contents: A memorial to Frank Collins Baker (1867–1942) A chronological list of the scientific publications of Frank Collins Baker Part [illegible] General morphology General anatomy [illegible] and embryological development Distribution in time and space Historical sketch of classification A new classification of the family Planorbidae Systematic account of the subfamilies, genera, and subgenera—recent and fossil Groups of uncertain affinities Family [illegible] Genera wrongly referred to Planorbidae. Bibliography Part [illegible] The Planorbidae inhabiting North and South America and the West Indies Descriptions of new species and new varieties Illustrations of the anatomy and of shells Index to text. Index to illustrations.

Note The family Planorbidae constitutes one of the largest groups of fresh-water Mollusca or snails This monograph provides [illegible] detailed description and classification of the family as derived from study of the anatomy and shell construction The work was carried on by the author over [illegible] period of 30 years and entailed the examination of 80 species and races and more than 775 specimens Part II, which comprises more than half the volume, consists largely of full-page plates illustrating the anatomy and shells of the Planorbidae The bibliography although extensive, [illegible] limited to only the most important references

BAKER, HORACE BURRINGTON
Zonitid snails from Pacific islands. Part 1–4 Honolulu, Hawaii Bernice P Bishop Museum 1938–41 4 parts in 3 v illus. 25 cm (Bernice P Bishop Museum. Bulletins 158 165 166) Vol 1 $2.50 vol 2 $2 50 vol. 3 $3.00 2305

Contents Part 1 Southern genera of Microcystinae Part 2 Hawaiian genera of Microcystinae Part 3 Genera other than Microcystinae Part 4 Distribution and indexes.

Note This series of papers deal [illegible] the Zonitidae and Helicarionidae, the most highly evolved pulmonate snails, that have endemic members in most parts of the Pacific area. The region covered includes the major island groups of Hawaii, Marquesas, Tuamotu, Society Austral, Cook, Samoa, Tonga, Fiji, Caroline, Palau, and Mariana Islands, and, so far as their fauna is known, the smaller islands and groups between them The material consisted of the collections of the Museum, supplemented by those of the Zoological Laboratory of the University of Pennsylvania and of the Academy of Natural Sciences of Philadelphia. The figures of shells [illegible] are made by E. H. [illegible]

BROWN FRANK ARTHUR JR. editor
Selected invertebrate types New York John Wiley & Sons Inc. 1950 597 p illus 24 cm. $7.50 2306

Contents (abridged) Phyla Protozoa Mesozoa Porifera Coelenterata Ctenophora Platyhelminthes Rhynchocoela Acanthocephala Aschelminthes Entoprocta Ectoprocta Phoronidea Annelida Echiuroidea Sipunculoidea Mollusca Brachiopoda Onychophora Arthropoda Linguatula Tardigrada Chaetognatha Echinodermata Enteropneusta Chordata Bibliography Index.

Note The authors of this work are W [illegible], F A Brown, Jr [illegible], W D Burbanck, C G Goodchild, L H Hyman, H L Kelley, L H Kleinholz, J H Lochhead, M E [illegible], W M Reid, M D Rogick, and T H Waterman, all members and former members of the staff of the Department of Invertebrate Zoology, the Marine Biological Laboratory, Woods Hole, Massachusetts. In the book more than 100 species of animals commonly used in laboratory instruction and experimentation are described in detail, with particular attention to such points as external structure, general organization, feeding and digestion, nervous system and sense organs, muscular system, and reproductive system. The book is suitable for use as [illegible] laboratory manual in undergraduate courses and also as [illegible] guide for instructors and research workers to species particularly adapted to laboratory use

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Cuban spiders in the Museum of Comparative Zoology Cambridge Mass. The Cosmos Press, Inc. 1940 284 p illus. 24 cm. (Harvard College Museum of Comparative Zoology Bulletin Vol LXXXVI no. 7 June) $3.50 230

Note The collection of spiders in the Museum of Comparative Zoology is very rich in Cuban material many of the specimens having been collected about the Harvard Station, at Soledad. The specimens represent not only [illegible] [illegible] and diversified area, but also have been taken in every month of the year In the preparation of this paper 230 species were seen, of which 92 are new That each island of the West Indies has an indigenous fauna is evident from comparing the species of Cuba and those of Puerto Rico, the only other island that has been studied carefully The presence of *Tetrablemma [illegible]* Bryant, [illegible] very primitive four-eyed species less than [illegible] millimeter in length, indicates that remnants of [illegible] very ancient fauna are present in Cuba. The classification of Petrunkevitch's Systema Aranearum has been followed in this study There are 22 plates showing line drawings.

BRYANT ELIZABETH B
The spiders of Hispaniola. With twelve plates. Cambridge, Mass The Museum of Comparative Zoology 1948 331–447 p. illus 24 cm. (Harvard College Museum of Comparative Zoology Bulletin. Vol. 100 no 4) $2.00 2308

Contents (abridged) Introduction Previous investigations. Table of species found on islands of the Caribbean Systematic list. Appendix. Bibliography Index of genera and species.

Note A systematic description of 120 species of spiders from Hispaniola which are represented in the collection of the Museum of Comparative Zoology Many of the species described are new to the literature. The species descriptions include complete morphological details. They are supplemented by 12 plates containing reproductions of 123 drawings.

BUCHSBAUM, RALPH

Animals without backbones, an introduction to the invertebrates Second edition revised Chicago University of Chicago Press 1948 405 p illus 23 cm. $7 00 2309

Contents By way of introduction Life-activities. The first true animals. Classified knowledge. A variety of protozoa. A side issue—sponges. Two layers of cells. *Polyps* and medusae. Comb jellies. Three layers of cells. The shapes of animals. New parts from old. Free-living and parasitic flatworms. One-way traffic—proboscis worms. Roundworms. Lesser lights. Soft-bodied animals. Two ways of life—clam and squid. Segmented worms—nereis. Earthworms and other annelids. A missing link—peripatus. Jointed-legged animals. The lobster and other arthropods. The grasshopper and other insects. Spiny-skinned animals. Invertebrate chordates. Records of the invertebrate past. *Invertebrate relationships.* Further knowledge. Index.

Note An authentic, easy-to-read, and lavishly illustrated introduction to invertebrate zoology It is intended for use in college courses, but is also suitable for general readers. In this edition, there are about 130 new illustrations and a newly added final chapter designed to aid the student in the selection of further reading. The attractive format of the first edition has been retained.

CLARK, AUSTIN H

Ophiuroidea of the Hawaiian Islands Honolulu Bernice P Bishop Museum, 1949 133 p illus 25 cm (Bernice P Bishop Museum Bulletin 195) $1 50 2310

Content (abridged) Introduction. Ophiuroidea. Appendix The Hawaiian echinoderm fauna. Records from the Hawaiian Islands. Species taken in shore collecting. Bibliography Index.

Note The main part of this Bulletin is an account based primarily upon extensive collections made by the *Albatross* in 1902 It completes the series of reports on the echinoderms collected on that expedition The other reports—of which a complete list is given in the bibliography of this publication—were published in the Bulletin of the United States Fish Commission in 1906 and elsewhere. A few species recorded since 1902 are included. Approximately 63 pages of the publication are devoted to the systematic descriptions which include literature references, morphological data, and listing of the *Albatross* stations at which specimens of the species were collected. Twenty-two figures, including a somewhat higher number of illustrations and consisting largely of photographs of specimens of brittle stars, accompany the text of this part. The appendix, which runs from page 69 to page 122 is a list of all the echinoderm fauna recorded from the Hawaiian Islands and vicinity

CLARK HUBERT LYMAN

The echinoderm fauna of Australia its composition and its origin. Washington D C. Carnegie Institution of Washington 1946 567 p 25 cm (Carnegie Institution of Washington Publication no 566) $4 50 2311

Contents Introduction. Part I, Annotated list of the echinoderms of Australia, both fossil and recent General statement. Crinoidea. Asteroidea. Ophiuroidea. Echinoidea. Holothurioidea. Part II, The relationships of the Australian echinoderm fauna The recent echinoderms of Australia. The extinct echinoderms of Australia. The echinoderms of lands surrounding Australia. The apparent origin of Australia's echinoderm fauna. Bibliography Index

Note The two parts of this work have differing purposes the first to serve as an annotated list of the groups down to and including species of the five classes of echinoderms known (to 1941) to occur in Australia in order to help zoologists and paleontologists identify material with which they are working the second to discuss the relationships and possible origin of the Australian echinoderm fauna and to compare it with the corresponding faunas of southern and eastern Africa, of India and adjoining parts of the East Indies and western Pacific Islands, and of New Zealand, with the general aim of throwing some light on the plausibility of the Wegener hypothesis concerning the flotation of continents. The first part describes the various families, genera, and species of Australian echinoderms, and presents keys to all the groups. Absence of figures is compensated by references to figures in other publications, including the author's *Echinoderms from Australia*, 1938 (Harvard College Museum of Comparative Zoology Memoirs. Vol. LV), to which the present volume is in some respects a continuation

CLARK, HUBERT LYMAN

Echinoderms from Australia. An account of collections made in 1929 and 1932 with 28 plates (16 colored) and 64 text figures. Cambridge Mass The Museum, 1938. 596 p. illus (part col'd) 30 cm. (Harvard College Museum of Comparative Zoology Memoirs Vol LV) $25 00 2312

Note The material described in this monograph consists of 11 484 specimens, representing 423 species of 184 genera. Most of the material was collected by the author on his two expeditions to Australia, while the balance is made up of gifts and loans from Australian colleagues and friends. The introduction, in which the two expeditions are described, contains descriptions of the entire coastal regions of this continent which may be of value to future collectors. In the body of the book the material is treated first *systematically* by classes, then geographically by areas. Under each genera containing representatives of more than one species, previously known forms are given first, then the new species; in each group the species are arranged alphabetically The source of the material is mentioned under each species. The monograph is beautifully illustrated.

COOKE, CHARLES MONTAGUE, JR.

The land snail genus Carelia. Honolulu Bernice P Bishop Museum 1931 97 p. illus. 25 cm (Bernice P Bishop Museum. Bulletin 85) $2 50 2313

Contents (abridged) Characters of the shell size and shape texture color aperture columella outer lip. Anatomy Adults. Embryos. Species concept. New species. General relations. Climate. Hybrids. History Groups and keys. Explanation of plates.

Note This paper is based on the nearly 3,300 specimens of the genus Carelia in the collections of the Bishop Museum Of the 37 species and subspecies recognized in this paper 22 are known only in the fossil state and are doubtless entirely extinct; 15 species or subspecies may be considered as recent or living, while nine may be classed as living. Many new species and subspecies are reported, and the author feels certain that many others will be discovered among both the living and extinct forms. Of the 42 colonies known at present, 13 are fossil Besides these, specimens from three additional fossil colonies whose localities are unknown are represented in the Museum's collections. The logical sequence in which the groups of species of Carelia are distributed offers some clue to the early geography and topography of the island of Kauai.

CRAMPTON HENRY EDWARD

Studies on the variation distribution, and evolution of the genus Partula the species inhabiting Moorea. Washington D C. Carnegie Institution of Washington 1932 335 p. illus (part col d) 29 cm (Carnegie Institution of Washington. Publication no. 410) $14 00 2314

Content Introduction relations and scope of the present investigation. The island of Moorea. The collections from Moorea. *Partula* *Partula taeniata* new species. *Partula exigua* new species. *Partula* *tohiveana* Crampton *Partula olympia* Crampton. *Partula* *mooreana* Crampton. *Partula aurantia* new species. *Partula* *mirabilis* Crampton. *Partula* *suturalis* Pfeiffer. *Partula* *Partula* *mooreana* Hartman. *Partula* *Partula* *navigatoria* March General discussion. *Résumé* Supplement statistical tables.

Note A monograph dealing with the nature and natural history of the land-gasteropod belonging to the genus Partula which

[illegible] the island of Moorea in the Society Group in the South Pacific Ocean. The present volume is the third in a series of studies of *Partula* by the same author, the first two being his *Studies on the variation, distribution, and evolution of the genus Partula: the species inhabiting Tahiti*, Washington, D. C., Carnegie Institution Publication no. 231, 1916; and *The species of the Mariana Islands*, Guam and Saipan, Washington, D. C., Carnegie Institution Publication no. 228, 1925. The fundamental facts presented by the study are the characters of the shells of the animals belonging to the species under consideration, and their individual, varietal and specific [illegible] from locality to locality. Proceeding from such data, conclusions are drawn concerning the prior conditions and history of the several distinguishable colonies and species. The author affirms that organic differentiation among the species cannot be traced to environmental circumstances. The main body of the work describes in detail the 10 species which exist in Moorea only, their geographical locations, their varied conditions of internal diversification, the interrelationships, and their evolutionary histories. There are 22 plates in color and a large number of statistical tables.

De Laubenfels Max Walker

A discussion of the sponge fauna of the Dry Tortugas in particular and the West Indies in general, with material for a revision of the families and orders of the Porifera. Washington D C. Carnegie Institution of Washington 1936 225 p. illus. 29 cm. (Carnegie Institution of Washington. Publication no. 467 Papers from Tortugas Laboratory Vol. xxx) $3.25 2315

Contents. Introduction. Demospongiae Sollas: Keratosa, [illegible]. [illegible]. [illegible]. [illegible]. [illegible]. Carnosa. [illegible] Vosmaer. [illegible]. [illegible]. Calcispongiae Schmidt. Sycones. Ascones. Bibliography. Index.

Note This paper is an attempt to systematize all sponge genera based upon studies carried on at the Tortugas Laboratory of the Carnegie Institution. Major attention is given to the class Demospongiae. The publication contains 22 plates and a bibliography of ten double-columned pages.

De Laubenfels Max Walker

The order Keratosa of the phylum Porifera—a monographic study Los Angeles University of Southern California Press 1948. 217 p. illus. 23 cm. (University of Southern California. Allan Hancock Foundation. Publications. Occasional paper no. 3) $3.50 2316

Note Taxonomy, morphology, distribution, synonymy and other aspects of the order Keratosa are all covered in this comprehensive study. Identification keys also are included. There are 31 figures in the text and 30 plates, containing 53 additional figures. Many of the latter group are reproductions of photographs of specimens. The list of literature cited runs to eight pages.

De Laubenfels Max Walker

The sponges of the West-Central Pacific. Corvallis Oregon State College, 1954 320 p illus. 27 cm. (Oregon State College. Oregon State monographs, studies in zoology No. 7) $4.00 2317

Contents (abridged) Descriptions of species ([illegible] Porifera [illegible] Grant) Demospongiae. Keratosa Grant (or [illegible]) Spongiidae Gray Dysideidae Gray [illegible] Vosmaer [illegible] Vosmaer [illegible] Topsent (or [illegible]) [illegible] de Laubenfels. [illegible] de Laubenfels. [illegible] Gray [illegible] Topsent (or [illegible]) [illegible] de Laubenfels [illegible] [illegible] de Laubenfels [illegible] Ridley and Dendy [illegible] de Laubenfels [illegible] [illegible] de Laubenfels. [illegible] de Laubenfels [illegible] Vosmaer (or [illegible]) [illegible] Ridley and Dendy [illegible] Gray [illegible] de Laubenfels. [illegible] de Laubenfels. [illegible] Topsent (or [illegible]) [illegible] de Laubenfels. [illegible] Schmidt. [illegible] Gray [illegible] [illegible] Sollas. [illegible] Laubenfels. [illegible] Gray [illegible] Sollas. [illegible] Gray [illegible] de Laubenfels. [illegible] Carter (or [illegible]) [illegible] de Laubenfels. [illegible] Gray [illegible] Schulze. Calcispongiae Schmidt. [illegible] de Laubenfels (or Ascandra) [illegible] de Laubenfels. Sycones de Laubenfels (or Syconidae) [illegible] de Laubenfels. [illegible] de Laubenfels. Ecological discussion. Sponges of the Marianas. Bibliography.

Note Primarily a description of sponges collected by the author in June-September 1949 in the Marianas, Palaus, the (eastern) Carolines, and the Marshalls. One hundred eighty-three species are described of which more than 100 are new. A text figure containing one or more drawings (usually more) accompanies each species description.

Gertsch Willis John

American spiders. New York D Van Nostrand Company Inc., 1949 285 p. illus. (part col d) 22 cm. (The new illustrated naturalist editorial advisory board William Beebe and others) $7 95 2318

Contents Introducing spiders. The place of spiders in nature. The life of the spider. Silk spinning and handiwork. Courtship and mating. The evolution of spiders. The tarantulas. The cribellate spiders. The aerial web spinners. The hunting spiders. Economic and medical importance. The North American spider fauna. Glossary. Bibliography. Index.

Note A general, readable account of the spiders of the United States and Canada written for the general reader. The selected bibliography of 16 items is a guide to further reading on the same subject. The book contains 64 plates reproduced from photographs, half of them in color.

Gojdics Mary

The genus *Euglena*. Madison University of Wisconsin Press, 1953 268 p. illus. 25 cm. $6.50. 2319

Contents. Part I, General discussion. Introduction. Size. Shape. Pellicle and [illegible]. Color. Cytoplasmic granules. Cyst. Chromatophores. Pyrenoids. Paramylum. Flagellum. Eyespot. Nucleus. Cytostome, canal, reservoir and contractile vacuole. Definition and position of *Euglena*. Part II, *Keys*. Foreword to the key. Key to the main groups. Key to the species. Supplementary key to the red species. Supplementary key to the attached species. Part III, Taxonomy. *Euglenas* with long, ribbon-like chromatophores. *Euglenas* with trough-shaped chromatophores. *Euglenas* with ribbon-like chromatophores. *E. [illegible]* [illegible] small discoid chromatophores. *Euglenas* with larger discoid chromatophores. *Euglenas* with chromatophores bearing sheathed pyrenoids. *Euglenas* with spindle-shaped chromatophores. *Euglenas* with chromatophores different from the other groups. Part IV Annotated check list. Species of the genus *Euglena* Ehrenberg, 1830. Plates. Bibliography. Index to the species of *Euglena*. General index.

Note This volume brings together in one place a large amount of information concerning the microscopic unicellular fresh-water flagellates of the genus *Euglena*. It is based both on published descriptions and on personal observations made by the author over a period of 22 years. Almost 300 species of the genus are listed in the alphabetical check list. The bibliography covers 12 pages. While the author recognizes that additions to her work may be expected, the book is a unique publication and an essential reference for any zoologist interested in *Euglena*.

Hall R P

Protozoology New York Prentice Hall, Inc., 1953 682 p. illus. 24 cm. (Prentice-Hall animal science series H. Burr Steinbach, editor) $10.00. 2320

Contents: General morphology of the protozoa. Reproduction and life-cycles. The classification of protozoa. The mastigophora. The sarcodina. Sporozoa. Ciliophora. Physiology. Heredity in protozoa. Host-parasite relationships. Protozoa of the digestive and urogenital tracts. The blood flagellates. Malaria. Immunity and resistance. Index.

Note A fairly comprehensive survey of the accumulated knowledge of the Protozoa is provided in this compactly written work,

which is designed primarily for use as a textbook in advanced college courses. The systematic descriptions of groups occupy 512 pages. The remainder of the space is devoted to the general biological and physiological aspects of the phylum and of the subgroups within it. Physiology and host-parasite relationships, including immunity and resistance are discussed at some length. Throughout the book, the style is concise. The volume is generously illustrated with clear drawings that are well reproduced. References to the international literature are prominent and useful feature.

HARTMAN, OLGA

Polychaetous annelids Los Angeles University of Southern California Press 1939–47 24 cm (University of Southern California. Allan Hancock Pacific Expeditions Volume 7, Nos 1–5 Volume 10 Nos 1–5) Vol 7 $8 50, vol 10 $8 00 (parts also sold separately) 2321

Content (abridged) Parts I-II, Aphroditidae to Pisionidae. New species of polychaetous annelids from Southern California with discussion on the host of one of them. Part III, Chrysopetalidae t Goniadidae. *Part IV Some contributions to the biology and life history of Spionidae from California, with keys to species and genera and descriptions of two new forms.* Part V Eunicea. Part VI, Paraonidae Magelonidae Longosomidae, Ctenodrilidae and Sabellariidae Part VII, Capitellidae. Part VIII, Pilargidae.

Note A report based largely on collections obtained by Allan Hancock Pacific Expeditions from *1932* to 1941 but including also some material from other collections. The systematic descriptions of taxa are supplemented by illustrations on plates. There are 52 plates in Volume 7 of the series, and 65 plates in Volume 10.

HARVEY, ETHEL BROWNE

The American Arbacia and other sea urchins Princeton Princeton University Press 1956 298 p illus 25 cm $6 00 2322

Content Part I, General subjects Etymology nomenclature. Historical. Fossils. Uses of sea urchins. Description. Natural history Sex and breeding. Species of Echinoidea near Woods Hole and *Arbacia lixula (pustulosa)* Classification, including places of occurrence and size of eggs when available Part II Normal development Immature egg and maturation. Mature egg, unfertilized and fertilized. Sperm. Fertilization and cleavage. Blastula, gastrula and pluteus. Metamorphosis. Part III Centrifuged eggs Methods, Stratification of the egg granules. Breaking of the egg egg fractions and contents. Factors affecting stratification and breaking. Properties of egg fractions. Development of centrifuged eggs and fractions. Part IV Compilation of experimental work. Bibliography Index

Note A comprehensive presentation of the accumulated scientific knowledge on the sea urchin *Arbacia punctulata.* The history and taxonomy are covered concisely but adequately in the first part. The other parts of the book are well-organized summaries of the extensive experimental work which has been done on this animal and particularly on its egg. In the fourth part, this experimental work is summarized under such topics as Ageing of eggs, Chromatophores (pigment granules) Cleavage delay or arrest Enzymes, Jelly layer 'CH, Parthenogenesis, and Permeability Literature references are appended to each summary The bibliography at the end of the volume covers the pertinent literature from 1850 to 1914

HOBBS HORTON HOLCOMBE JR

The crayfishes of Florida. Gainesville University of Florida 1942 179 p illus 25 cm (University of Florida publication Biological science series Vol III no 2) $2 25 plus $0 20 postage 2323

Content The crayfishes of Florida. Factors affecting the distribution of crayfishes in Florida. The subfamily Cambarinae. Genus Procambarus. Genus Troglocambarus. Genus Cambarellus. Genus Orconectes. Genus Cambarus. A county list of the Florida crayfishes Literature cited. Index

Note A study of specimens of crayfishes found throughout the state of Florida, with emphasis upon those from the northern and western parts of the state While a large proportion of these specimens were collected by the author or his colleagues at the University of Florida comprising some 10 to 12 thousand Florida specimens, material was also studied in the United States National Museum, the Museum of Comparative Zoology the Philadelphia Academy of Sciences, and the University of Michigan Museum of Zoology For each species the author gives data on the types of both male and female, measurements, type locality, disposition of types, specimens examined, and geographical and ecological distribution.

HOFF, G CLAYTON

The ostracods of Illinois their biology and taxonomy Urbana University of Illinois Press 1942 196 p illus 26 cm. (Illinois biological monographs. Vol. XIX, nos. 1-2) $2 50 2324

Contents (condensed) Introduction. Review of the literature. Methods of collection and preparation. Biology of Illinois ostracods Habitats Physical factors in the habitat. Biotic relationships. Seasonal distribution. Reproduction and ontogeny Food. Geographical distribution of ostracods. Morphology of freshwater ostracods Shell. Body segmentation and appendages. Respiratory circulatory excretory digestive and nervous systems. Reproductive system. *Taxonomy Order Ostracoda. Suborders of the order Ostracoda* Families of the suborder Podocopa *str* Family Cypridae Subfamily Candoninae *s. str* Genus Candona Baird 1845. Subfamily Cyclocyprinae. Genus *Cyclocypris* Brady and Norman 1889 Genus Cypris Zenker 1854 Genus Physocypria Vávra 1897 Subfamily Ilyocyprinae Genus Ilyocypris Brady and Norman 1889 Subfamily *Cyprinae s. str Genus Cypricercus* Sars 1895. Genus Cypridopsis Brady 1885 Subfamily Notodromadinae. Genus Notodromas Lilljeborg 1853 Genus Cypreis Zenker 1854 *Subfamily Cypridopsinae* Genus *Cypridopsis Brady 1867* Genus Potamocypris Brady 1870. Family Darwinulidae. Genus Darwinula Brady and Norman 1889 Family Cytheridae. Subfamily Limnocytherinae. Genus *Limnocythere* Brady 1867 Subfamily Entocytherinae. Summary Bibliography Plates. Index.

Note An original contribution to aid ecologists, fresh-water biologists, and zoologists in identifying ostracods occurring in Illinois, and to give some insight into the biology of the species found in Illinois.

HOLTHUIS, LIPKE B

A general revision of the Palaemonidae (Crustacea, Decapoda Natantia) of the Americas I, The subfamilies Euryrhynchinae and Pontoniinae II The subfamily Palaemoninae Los Angeles University of Southern California Press 1951–52 2 v illus. 24 cm. (Allan Hancock Foundation publications. Occasional paper *Nos 11 12)* $6 00 each. 2325

Note This revision of the Palaemonidae from the Americas contains a complete list of all known species there are keys to all genera and species, and there are *full synonymies* Its distributional records for each species. In most cases, description and figures accompany each species. The author has divided the family Palaemonidae into four subfamilies, based on degree of fusion of the ramus of the upper antennular flagellum, and on modified structural characteristics. Three of the subfamilies are represented in America. There are numerous notes on color [redacted] life, stages of development, size variations, including maximal figures, stages of reproductive development, and many comments on affinities with nearly related species. The two volumes contain 63 and 55 plates respectively

HYMAN LIBBIE HENRIETTA

The invertebrates New York McGraw Hill Book Company Inc 1940–55 4 v illus. 24 cm (McGraw Hill publications in the zoological sciences E J Boell consulting editor) *Vol I* $11 00 vols II & III $9.50 per vol vol IV $11 00 2326

Content Volume I, Protozoa through Ctenophora. Introduction. The cell, and the organism, Classification. The acellular animals—phylum *Protozoa* Phylum Mesozoa Introduction to the lower Metazoa Metazoa of the cellular grade of construction—Porifera, the sponges Metazoa of the tissue grade of construction

—the radiate phyla—phylum Cnidaria. The radiate phyla—phylum Ctenophora. Volume II, Platyhelminthes and Rhynchocoela, the acoelomate Bilateria: Introduction of the Bilateria. The acoelomate Bilateria—phylum Platyhelminthes. The acoelomate Bilateria—phylum Rhynchocoela. Index. Volume III, Acanthocephala, Aschelminthes, and Entoprocta. The pseudocoelomate Bilateria. The pseudocoelomate Bilateria—phylum Acanthocephala. The pseudocoelomate Bilateria—phylum Aschelminthes. The pseudocoelomate Bilateria—phylum Entoprocta. Index. Volume IV, Echinodermata. The coelomate Bilateria. The enterocoelous coelomates—phylum Echinodermata. Index.

Note: A comprehensive, systematic treatise covering the embryology, morphology, geographical distribution, etc. of the invertebrates. Both living and fossil forms are covered, but the latter are described with relative brevity. The work is addressed to advanced students and professional zoologists and is written in the technical terminology of the field. The drawings are excellent and clearly reproduced. Literature citations are given. Although originally planned for completion in three volumes, six volumes are now included.

KESLING ROBERT VERNON

The morphology of ostracod molt stages. Urbana University of Illinois Press, 1951 324 p. illus. 26 cm. (Illinois biological monographs Harley Jones Van Cleave and others, editorial committee Vol. XXI no 1–3) o.p 2327

Contents: Taxonomy. General description. Detailed description. Ontogeny. Instar stages. Variations in size of instars. Variations in shape of instars. Relations of appendages and internal organs to the shape of the valves in instars. Height-length ratio as a valid character for determination of species. Bibliography. Plates. Index.

Note: A detailed study of Cypridopsis vidua carried out in order to give a full description of a typical living ostracod, some pertinent biological information and a comparison of the valves of the various instars. Chapters I and II contain general and anatomical description. Chapter III describes the egg, embryology, development, molting, swimming, rate of reproduction, life span, etc. The remaining chapters are chiefly descriptions of the molt stages or instars. There are 14 figures in the text and in addition 96 plates containing reproductions of 419 photographs of stained instars.

KUDO RICHARD R.

Protozoology Fourth edition With three hundred and seventy-six illustrations Springfield, Ill. Charles C Thomas Publisher 1954 966 p illus. (part col d) 23 cm. $10 75 23 8

Contents (abridged): Part I. General biology: Ecology. Morphology. Physiology. Reproduction. Variation and heredity. Part II. Taxonomy and special biology: Major groups and phylogeny of protozoa. Phylum protozoa. Author index. Subject index.

Note: A standard work widely used as a textbook in college courses and of broad enough scope that it is useful also as a one-volume reference work on the classification of protozoa. In this edition, the first part on the biology of the phylum is 246 pages long. The remainder of the space is devoted to systematic descriptions arranged under subphylum, class, subclass, and order. Most of the descriptions of taxa are necessarily limited to morphological details. However protozoa of medical interest, for example, the genus Plasmodium, are discussed also as to their life cycles and pathology. The descriptions are supplemented by a high number of expertly drawn and clearly reproduced illustrations. Bibliographies are extensive, and the names of the authors of the cited literature are assembled in the author index. The first edition was published in 1931 and the third edition in 1946. In comparison with the third edition, the fourth edition is similar in scope and organization. However many of the chapters contain revised sections, the lists of literature references have been much expanded, and many old illustrations have been replaced by new and better ones. The author is Professor of Zoology at the University of Illinois.

MORRIS PERCY A.

A field guide to the shells of our Atlantic and Gulf coasts. Revised and enlarged edition. Illustrated with photographs. Boston Houghton Mifflin Company 1951 236 p. illus (part col d) 19 cm. (The Peterson field guide series) $3 95 2329

Contents (abridged): The pelecypods. Gastropods. Glossary of descriptive terms. Index.

Note: A standard handbook for amateur shell collectors. It contains descriptions in nontechnical language of marine shells that can be collected along the Atlantic and Gulf coasts of the United States. All of the larger and more common forms are described. From 3 to 15 lines of description are given for each species. The book is illustrated with reproductions of photographs of 318 species and subspecies of pelecypods and 276 species and subspecies of gastropods. In this second edition the number of species described has been increased by 112, and the common or popular names of the species wherever established have been added.

OSBURN RAYMOND C

Bryozoa of the Pacific coast of America Los Angeles University of Southern California Press 1953 841 p. illus. 24 cm (Allan Hancock Pacific expeditions Vol. 14 no. 1–3) $14.25 2330

Contents (abridged): Part I, Cheilostomata-Anasca. Part II, Cheilostomata-Ascophora. Part III, Cyclostomata, Ctenostomata, Entoprocta, and addenda.

Note: A report based chiefly on specimens of Bryozoa that were collected during the cruises of the *Velero III* during the years 1931–1941, and which together constitute a very extensive collection. Except for some concise preliminary matter including a short glossary of anatomical terms that have special application in the study of the Bryozoa, the work is cast in the form of a systematic catalog. Species descriptions cover literature references, morphology, range and, in many cases, discussions of conflicts between the author's observations and the records of others. Together, the three parts contain 82 plates, all of which are reproductions of drawings.

PENNAK ROBERT W

Fresh-water invertebrates of the United States. New York The Ronald Press Company 1953 769 p. illus. 25 cm. $14 00 2331

Contents: Introduction. Protozoa. Porifera. Coelenterata. Turbellaria. Nemertea. Gastrotricha. Rotatoria. Nematoda. Nematomorpha. Tardigrada. Bryozoa. Annelida. Introduction to the Crustacea. Eubranchiopoda. Cladocera. Copepoda. Ostracoda. Mysidacea. Isopoda. Amphipoda. Decapoda. Hydracarina. Introduction to the insects. Collembola. Plecoptera. Ephemeroptera. Odonata. Hemiptera. Megaloptera. Neuroptera. Trichoptera. Lepidoptera. Coleoptera. Diptera. Gastropoda. Pelecypoda. Appendices. Index.

Note: A comprehensive work in which a very wide range of accumulated knowledge on the free-living fresh-water invertebrate fauna of the United States of America is presented. The arrangement is by systematic group as indicated in the above contents. Keys to genera are always and keys to species sometimes included. Natural history, ecology and taxonomy are emphasized. Most chapters include also discussions of collecting, culturing and preserving techniques. Drawings are numerous and clearly reproduced in large scale.

PERRY LOUISE M AND JEANNE S SCHWENGEL

Marine shells of the western coast of Florida. With revisions and additions to Louise M Perry's *Marine shells of the southwest coast of Florida* Illustrations by W Hammersley Southwick, Axel A. Olsson and Frank White Ithaca Paleontological Research Institution 1955 318 p. illus. 23 cm. $7.00 2332

Contents: Preface by author. Foreword by Wm. J. Clench. Introduction. Glossaries. Collection and preparation of specimens. Systematic descriptions: Class Amphineura. Class Pelecypoda. Class Scaphopoda. Class Gastropoda. Plates. Index.

Note: A revised and enlarged edition of Louise M. Perry's *Marine shells of the southwest coast of Florida*, Ithaca, 1940. It describes

the shells of a region of the United States of America which is especially noted for the abundance and variety of its molluscan fauna. Most of the space in the volume is devoted to the systematic descriptions. Name, author synonymy measurements, anatomical description, locality habits and habitat, distribution and depth are given for each species listed. In this considerably enlarged edition, there are 55 plates, each of which contains illustrations of a number of species. Although most of the illustration ar of shells, there ar few of egg capsules, embryonic shells, and animals.

PILSBRY, HENRY AUGUSTUS

Land mollusca of North America (north of Mexico) Philadelphia The Academy of Natural Sciences of Philadelphia, 1939–48 2 v in 4 pts illus 27 cm (The Academy of Natural Sciences of Philadelphia. Monographs No 3) Vol. 1 pt. 1, $8 00, vol 1, pt. 2 $6 00 vol. 2, pt. 1, $7 00 vol 2, pt. 2, $8 00 2333

Content (abridged) Vol. 1 pt. 1 Helicoid shells of the families Helicidae Helicellidae, Helminthoglyptidae, and Camaenidae. Vol. 1 pt. 2 Helicoid shells of the families Polygyridae and Sagdidae Vol. 2 pt. 1 The non-helicoid families Bulimulidae, Urocoptidae, Cerionidae Achatinidae, Oleacinidae Haplotrematidae and Zonitidae. Vol 2 pt. 2 Non-helicoid families Limacidae, Endodontidae Arionidae Philomycidae, Succineidae Strobilopsidae Pupillidae, Valloniidae Cionellidae, Carychiidae, Veronicellidae, Truncatellidae Pomatiidae and Helicinidae.

Note A comprehensive systematic and distributional study of the land mollusks known to occur in the United States, Canada, Alaska, Labrador Greenland and the islands of St. Pierr and Miquelon. Many new forms are described. Included in the descriptions of all specimens are data on measurements, color reproductive organs, distribution and literature references. Illustrations include both reproductions of photographs and of drawings.

PRATT, HENRY SHERRING

A manual of the common invertebrate animals, exclusive of insects Thoroughly revised edition 974 illustrations New York Mc Graw Hill Book Company Inc. 1935 854 p illus 23 cm $9 00 2334

Content (abridged) Introduction. Protozoa. Porifera. Coelenterata. Ctenophora. Plathelminthes. Nemertea. Nemathelminthes. Trochelminthes. Bryozoa. Brachiopoda. Phoronidea. Chaetognatha. Annelida. Arthropoda. Mollusca. Echinodermata. Chordata. List of authors. Glossary Index.

Note A manual for students of zoology containing descriptions f the common invertebrate animals by means of which their names and affinities can be determined. The book is intended mainly but not entirely for use in the eastern and central portions of the United States and Canada, and included in it are most of the common invertebrates, except insects, occurring in that region In addition to these, however representati species from the western and Pacific states are also included. Animals which inhabit the deep sea have not been included except in isolated cases. The use f scientific names follows the system adopted by the International Commission of Nomenclature. Line drawings and glossary help make the keys more meaningful for the student. The second edition brings certain nomenclatures up to date and introduces several additional species, particularly from the fauna of the Pacific Coast region.

RICKETTS EDWARD FLANDERS, AND JACK CALVIN

Between Pacific tides An account of the habits and habitats of some five hundred of the common conspicuous seashore invertebrates of the Pacific Coast between Sitka Alaska, and northern Mexico Third edition. Revised by Joel W Hedgpeth. Foreword by John Steinbeck Line drawings by Ritchie Lovejoy Stanford Stanford University Press, 1952 502 p illus (part col'd) 24 cm. $6.5 2335

Content About this book and Ed Ricketts, by J Calvin and J W Hedgpeth. Introduction. Protected outer coast Rocky shores Sandy beaches. Open coast Rocky shores. Sandy beaches. Bay and estuary Rocky shores. Sand flats. Eelgrass. Mud flats. [illegible] The Tomales Bay tidal flats. Wharf pilings Exposed [illegible] Protected piles. Plankton Marine plankton of the Pacific Coast. Intertidal zonation and related matters Newcomers to the Pacific Coast. Appendix Annotated systematic index and bibliography. Selected list of non-specific books and accounts. General index.

Note An outstanding book designed for amateur naturalists and laymen whose curiosity is aroused by the life forms hidden in the tidal waters f the north temperate Pacific Coast. It is written in an engaging style but is somewhat more advanced than the usual popularization of biological knowledge. The information that each creature is written in narrative style—not tabular—and usually covers habitat, appearance, reproductive cycle, and collecting techniques. The edition of 1948 was "admittedly an interim printing, since a large amount of wartime research was not yet accessible. In the 1952 edition the new editor taking account of information published since the original edition of 1939 has made corrections and changes to bring the book up to date. The text remains essentially as the original authors left it, though new paragraphs have been added here and there, and some old ones have been rewritten. Some f the photographs and drawings have been replaced and some new illustrations added

SHERBORN, CHARLES DAVIES

An index to the genera and species of the Foraminifera. Washington D C. Published by the Smithsonian Institution, 1955 485 p. 24 cm (Smithsonian miscellaneous collections Vol 132 (whole volume) Publication 4226) $3.50 2336

Note A reprint of a work originally published in two parts in 1893 and 1896 as Smithsonian Publications 856 and 1031. It provides literature references to all the genera and species of Foraminifera described in the international literature approximately to the close of 1889 Long out of print, it has been reprinted without change, except for new introduction and new title page. Reprinting was occasioned by the forthcoming publication of complementary index covering the Foraminifera described in the literature from 1890 to 1950 which has been compiled by Hans E. Thalmann.

SMITH, F G WALTON

Atlantic reef corals a handbook of the common reef and shallow water corals of Bermuda, Florida, the West Indies and Brazil. Photographs by Frederick M Bayer Coral Gables Fla. University of Miami Press 1948 112 p illus 22 cm. $3 75 2337

Content Distribution of coral reefs throughout the world. Manner of formation of reefs. The western Atlantic reefs. Structure and habits of the living coral. Associates of the living coral. Collection and preparation of corals. List of the western Atlantic reef corals. Description and identification of the western Atlantic reef corals. Descriptions of the western Atlantic reef corals. Appendices Glossary of principal technical terms used in coral taxonomy Taxonomic key to genera of western Atlantic corals. Selected bibliography Plates.

Note The purpose of this little volume is to assist collectors of coral, students of marine biology and interested laymen in the identification and recognition of the varieties of corals found in the reef waters of the western Atlantic. The first part of the book provides non-technical account of the life of the coral animal and the formation of coral rock. The second part consists of brief descriptions both popular and scientific, of fifty-two species of reef corals. In spite of its small size the volume contains several useful keys, selected bibliography glossary and some excellent close-up photographs of corals.

SNODGRASS ROBERT EVANS

A textbook of arthropod anatomy Ithaca Comstock Publishing Associates (a division

of Cornell University Press) 1957 363 p. illus. 24 cm. $6.00. 2335

Contents: Introduction. The Trilobites. Limulus. The Eurypterida. The Pycnogonida. The Arachnida. The Crustacea. The Chilopoda. The Diplopoda. The Pauropoda. The Symphyla. The Hexapoda. References. Indexes.

Note: Although labeled [illegible] textbook, this survey of the comparative anatomy of the arthropods merits reading by anyone interested in the subject whether he be [illegible] student or graduate. The author has made [illegible] contribution in bringing the scattered facts together and organizing them. The style is technical but not cryptic. [illegible] problems are mentioned frequently in each section [illegible]. Inasmuch as no other [illegible] head structure [illegible] with the exception of the Acarina, it becomes somewhat of [illegible] to understand how the [illegible] has been evolved from ordinary [illegible] parts. There are 88 figures, each of which contains from five to 13 [illegible] of drawings of good quality. The list of references runs to 12 pages.

Tattersall, Walter Medley

A review of the Mysidacea of the United States National Museum. Washington, D. C. Government Printing Office 1951 292 p. illus. 24 cm. (Smithsonian Institution. United States National Museum. Bulletin 201) $1.00. 2339

Contents: Introduction. Systematic [illegible]. Geographical distribution. History of American Mysidacea. Systematic [illegible]. Class Crustacea. Subclass Malacostraca. Division Peracarida. Order Mysidacea. Suborder Lophogastrida. Family Lophogastridae. Family Eucopiidae. [illegible] Suborder Mysida. Family Petalophthalmidae. [illegible] Family Mysidae. Subfamily Boreomysinae. Subfamily Siriellinae. Subfamily Gastrosaccinae. Subfamily [illegible]. Mysinae. Tribe Erythropini. Tribe Leptomysini. Tribe Mysini. Tribe Heteromysini. Species not represented in the collections of the United States National Museum. New genera, species, and varieties described herein. Literature cited. Index.

Note: A systematic description of 123 species of mysids, 39 of which are new and the majority of which are of American origin. The species are mostly from the collections of the United States National Museum. The work forms an introduction to the mysidacean fauna of the American continents. Under each species references to the literature are given, and the [illegible]-page bibliography lists all known [illegible] with American species.

Thorp, Raymond W., and Weldon D. Woodson

Black widow: America's most poisonous spider. With a foreword by Emil Bogen. Illustrations by the authors. Chapel Hill: University of North Carolina Press, 1945 222 p. illus. 21 cm. $3.00. 2340

Contents: Spider lore and legend. Tarantulas. Other poisonous spiders. Latrodectus around the world. Early reported cases of spider bite in the United States. Investigating Latrodectus [illegible]. Common medical reports. Spider bite as [illegible] entity. Experiments with Latrodectus on animals. Experiments with Latrodectus on man. Diagnosis and treatment. The black widow before the public. Latrodectus [illegible] in the natural scheme. The life cycle of the black widow spider. Diet of the black widow spider. Home-building [illegible]. Artificial control. Natural control. Appendixes: Tabulated medical reports. Lay [illegible]. Tables. Sources. Index.

Note: [illegible] of general interest, medical interest, and [illegible] of reference value. It deals with the [illegible] poisonous spider that [illegible] in the United States. The authors [illegible] the information that [illegible] collected from their own researches, the writings of other authorities, and from correspondence with physicians and other specialists. Many aspects of the subject are dealt with, but the major part of the book [illegible] concerned with the life habits of this spider, and with lay and medical opinions and experiences with its bite. Although the writing can readily be understood by general readers, the book is [illegible] sensational popularization.

Van Cleave, Harley J

Acanthocephala of North American mammals. Urbana: University of Illinois Press 1953 179 p. illus. 26 cm. (Illinois biological monographs Vol. 23 nos. 1–2) $5.00 2341

Contents: Introduction. Preparation of specimens for study. Morphology. General taxonomic section. Correlation of habitat with taxonomy. Accidental infections and normal host relationships. Reference [illegible] fauna of [illegible] continents. Review of the classification and keys. North American collections of Palaeacanthocephala of mammals. Analysis of the genus Corynosoma in North American mammals. Preliminary analysis of the genus Polymorphus in North American [illegible]. Collections of Archiacanthocephala from North American mammals. Analysis of the genera and species of the family Oligacanthorhynchidae found in mammals of North America. Analysis of the genera and species of the family Moniliformidae examined in this study. Unidentifiable Archiacanthocephala. Check list of the species of Acanthocephala from mammalian hosts in North America. References. Plates, with explanations. Index of Latin names.

Note: A general systematic study from the zoological viewpoint of the Acanthocephala, or thorny-headed worms, [illegible] of the [illegible] parasites of vertebrates. It was based on [illegible] study on the part of the author [illegible] his lifetime published many papers on the Acanthocephala [illegible] to the publication of this monograph. The primary emphasis is on taxonomy and taxonomic descriptions of genera and species. However, even in the chapters devoted to taxonomic descriptions of genera, there is much material which is not strictly taxonomic, such as discussions of hosts and host relations. The chapter on the preparation of specimens is [illegible] also, the author's discussions of collections and previous studies [illegible] be useful to anyone undertaking further study in the field. The list of literature references runs to eight pages. There are 133 figures which are printed on 13 plates.

Van Name, Willard Gibbs

The American land and fresh water isopod Crustacea. New York: American Museum of Natural History 1936 535 p. illus 24 cm. (American Museum of Natural History. Bulletin. Vol. LXXI) $4.00 2342

Contents: Introduction. Acknowledgments. The Isopoda. Nature and general distribution of the American land and fresh-water isopods. List of new species described. Regional distribution. Descriptions of species. Bibliography. Supplement. Index.

Note: This monograph presents [illegible] descriptions, with [illegible] of the land and fresh-water isopods known in North and South America and the neighboring islands, including the [illegible] species contained in the collection of the American Museum of Natural History as well as [illegible] others which have come to the author's attention. The material has purposely been kept within the limits of [illegible] handbook or manual and is intended to aid the specialist by bringing scattered information together in accessible form. A total of 314 terrestrial species, including several determined only generically by the authors reporting them, and 49 fresh-water species are dealt with. About [illegible] references are listed in the bibliography.

Van Name, Willard Gibbs

The North and South American ascidians. New York: American Museum of Natural History 1945 476 p. illus 27 cm. (American Museum of Natural History. Bulletin. Vol. 84 1945) $5.00. 2343

Contents: Descriptions of species. Order Aplousobranchia. Family [illegible]. Family Didemnidae. Family Polyclinidae. Order Phlebobranchia. Family Diazonidae. Family Cionidae. Family Perophoridae. Family Ascidiidae. Family Agnesiidae. Family Rhodosomatidae. Family Hypobythiidae. Order Stolidobranchia. Family Botryllidae. Family Styelidae. Family Pyuridae. Family Molgulidae. Ascidians too incompletely described for classification. Bibliography. Index.

Note: A descriptive treatise and catalogue for professional zoologists. It is illustrated with over 570 line drawings and with 31 plates reproduced from photographs. Literature references are given for each species previously described. The introduction provides [illegible] list of American species of ascidians, [illegible] short review of the related literature, and information on [illegible] structural details, classification and nomenclature, means of identification, and methods of collecting and preserving ascidians.

WARDLE, ROBERT ARNOLD, AND JAMES ARCHIE McLEOD

The zoology of tapeworms Minneapolis Published for the University of Manitoba by the University of Minnesota Press 1952 780 p illus 24 cm $12 50 2344

Contents (abridged) Part I General features Life cycle. Biology Origin and evolution. History and classification Part II Tapeworm classification. References. Index.

Note A large and detailed work by two University of Manitoba scientists who from the extensive literature of the subject and from their own observations, present the general history biology and taxonomy of the tapeworms of the world. All of the known families and genera and the majority of the known species are described in systematic order Identification keys and numerous illustrations are provided. The viewpoint is zoological and medical aspects are not covered. The bibliography runs to 104 pages.

WICHTERMAN, RALPH

The biology of *Paramecium* New York The Blakiston Division, McGraw Hill Book Company, Inc, 1952 527 p illus 23 cm $9 50 2345

Content History of the genus. Classification and species of *Paramecium* Morphology and cytology of *Paramecium* Ecology collection cultivation and sterilization of *Paramecium*. Physical and chemical properties of the protoplasm of *Paramecium* Metabolism—nutrition secretion, and growth of *Paramecium* and factors influencing growth. Metabolism—respiration excretion and the functions of the contractile vacuoles and cell surface. Movement and motor response (stimulation irritability) Reproduction, nuclear processes, and sexuality Genetics—the mating reaction, mating types, system of breeding relations and inheritance in the various species of *Paramecium*. Vitality studies and the life-cycle. Serologic studies of *Paramecium*. Organisms living in and upon *Paramecium*. Research technique in the study of *Paramecium* Usefulness of *Paramecium* in the study of fundamental problems in biology Bibliography Author index. Subject index.

Note A very comprehensive survey of the biological aspects of the protozoan animal *Paramecium*. In his preface the author states "The main purpose in writing this book is to present not only my own research but also the essential discoveries, results, and conclusions that are to be found in approximately 2 000 references from 1674 to the present whereby *Paramecium* has been used for the solution of biological and other problems The book is organized for use as a reference work and is very compactly written. The bibliography is 73 pages long The author Professor of Biology in Temple University is a well-known authority on *Paramecium*.

INVERTEBRATES (INSECTS)

ANNUAL REVIEW OF ENTOMOLOGY Volume 1 Edward A Steinhaus editor Ray F Smith associate editor Stanford Annual Reviews Inc in cooperation with the Entomological Society of America, 1956 466 p 23 cm $7 00 2346

Contents The physiology and biochemistry of diapause, by A. D Lees. Insect nutrition by H. Lipke and G. Fraenkel. The "language" and orientation of the honey bee by K. von Frisch and M. Lindauer The stability of scientific names, by R. L. Usinger Some aspects of geographic variation in insects, by T H. Hubbell. Arthropod resistance to chemicals, by W M Hoskins and H T Gordon. The mode of action of insecticides, by C. W Kearns. The chemistry of insecticides, by H. Martin Persisting insecticide residues in plant materials, by F A. Gunther and R. C Blinn Repellents, by V G. Dethier Soil insects and their control by J H. Lilly Stored product entomology by E. A. Parkin Apparatus for application of insecticides, by J L. Brann, Jr Ecology of forest insects, by S A. Graham Some recent advances in apicultural research, by C G. Butler Insect transmission of plant viruses, by F F Smith and P Brierley Nonbiting flies and disease, by D R. Lindsay and H. I Scudder Veterinary and medical acarology by H. S. Fuller Modern quarantine problems, by A. F Camp The fundamental theory of natural and biological control, by W R. Thompson. Effect of pesticides on balance of arthropod populations, by W E. Ripper Indexes.

Note The first volume published in a new review series which is organized similarly to other annual reviews issued by the same publisher The various chapters are essentially digests of current literature in which the gist of the individual articles is stated succinctly and a reference is given to the original publication. There is little of criticism or evaluation on the part of the authors of the papers on the other hand, the authors do select the articles to be reviewed Each of the papers in the current volume is a review of recent literature, but *none of the authors has limited himself to the literature of a single year* In fact, literature published as long ago as 1845 is cited in Butler's "Some recent advances in apicultural research. However this is not typical most of the authors have reviewed the literature of approximately a decade. The volume (and series) is directed to biologists and others with professional interests in pure and applied entomology

BAERG, WILLIAM J

Introduction to applied entomology Third edition, revised Minneapolis Burgess Publishing Company, 1948 191 p illus 28 cm $3 50 2347

Content Introduction. Phylum Arthropoda. Class Arachnida Araneae. Scorpionida. Acarina. Class Myriapoda Chilopoda. Diplopoda. Class Insecta External anatomy Internal anatomy Reproduction. Metamorphosis. Economic importance of insects. Artificial control measures Insect pest control. New insecticides (insects) insecticides. Fumigants. Repellents. Heat. Electricity Table of equivalent amounts. Biological control of insects. Orders of insects Thysanura. Collembola. Ephemerida. Odonata. Plecoptera Orthoptera. Isoptera. Dermaptera. Coleoptera. Strepsiptera. Thysanoptera. Corrodentia. Mallophaga. Anoplura. Embiidina Hemiptera Homoptera. Neuroptera. Trichoptera. Lepidoptera. Mecoptera Siphonaptera. Diptera. Hymenoptera.

Note A textbook for beginning students in applied entomology which covers the more common insects, some spiders and scorpions, and a few mites and ticks. The injurious species and the useful ones are given the major emphasis. The subject matter has been selected especially for students preparing for agricultural pursuits. Life history accounts and remedial and preventive measures are given in brief for the various families and species. Bibliographical references to other books and articles are included under the various subjects.

BARBER, HERBERT SPENCER

North American fireflies of the genus Photuris With preface and notes by Frank A McDermott. Washington D C The Smithsonian Institution, 1951 58 p illus. 24 cm (Smithsonian miscellaneous collections. Vol 117 no 1 Publication 4051) $0 50 2348

Contents Introduction Observations on adult behavior Nomenclature Species of *Photuris* Species here distinguished *Photuris* male genitalia. Table of species of *Photuris*. Addendum (by F A McDermott) Notes on some general characters of North American *Photuri* Results of the examination of Barber's specimens Literature cited.

Note A study of *Photuris* fireflies with special attention to the taxonomy of the genus. It was based upon field studies, many of them made in and around Washington D C. Described are 19 species and varieties, of which 11 are new Flashing conduct is considered as a means of species differentiation. A diagram is included to illustrate the flash intervals of the males of the different species of *Photuris* Prepared for publication after the death of the author by a friend and collaborator the work was published by the Thomas Lincoln Casey Fund.

BATES MARSTON

The natural history of mosquitoes. New York The Macmillan Company 1949 379 p illus 21 cm. $6 00 2349

Content Introduction. The environment of the adult. Survival and dispersal. The sexual behavior of mosquitoes. Food habits of the adult. Egg development and oviposition. Mosquito eggs. The larval environment. The physiology and behavior of larvae. The biological environment of the larva. The classification of larval habitats. The pupal stage Mosquitoes in relation to other organisms. Mosquitoes as vectors of viruses. Mosquitoes as vectors of plasmodia. The species problem. The classification of mosquitoes. The distribution

tion of mosquitoes. Technique in mosquito study. The anatomy of mosquito research. Appendix: Systematic list of mosquito species. Bibliography. Index.

Note: A comprehensive scientific account of mosquitoes viewed as living animals. All phases of the insect and its ecology are discussed except identification and control. The author is associated with the International Health Division of the Rockefeller Foundation at the time of writing. The book is of interest to biologists and also to public health workers. The bibliography is more or less limited to literature published between 19[illegible] and the date of writing; nevertheless, it runs to 44 pages.

BERNER, LEWIS

The mayflies of Florida. Gainesville University of Florida Press 1950. 267 p. illus 26 cm. (University of Florida studies. Biological science series Vol. IV no. 4) $5.50 2350

Contents: Introduction. Historical review. The order Ephemeroptera. Primitive and specialized characters. Families of mayflies. Wing venation of mayflies. Taxonomic characters. A comparison of Florida mayflies with the northern fauna. Zoogeography. Climatic features of Florida. Habitats of Florida mayflies. Key to Florida mayflies. Species of Florida mayflies. Annotated list of mayflies. References. Index.

Note: A comprehensive study of the Ephemeroptera occurring in Florida. It was based on extensive field studies during the course of which [illegible] specimens were collected and examined and several new species were discovered. The greater part of the volume is taken up with systematic descriptions arranged by genus and species. However, the descriptions are exceptionally full and often include excerpts of personal observations as well as conventional information on taxonomy, distribution, ecology, habitats, [illegible] history [illegible]. There are [illegible] plates based on original drawings.

BLACKWELDER, RICHARD ELIOT

The generic names of the beetle family Staphylinidae with an essay on genotypy. Washington, D. C. Government Printing Office, 1952. 483 p. 23 cm. (Smithsonian Institution. United States National Museum. Bulletin 200) $1.50 2351

Contents: Introduction. The names of genera—[illegible] [illegible] [illegible]. The principle of genotypes. Genotype determination—Methods of fixation of genotypes—[illegible] [illegible]. Original designation. Subsequent designation. [illegible]. List of generic names. Appendix of [illegible] names. Systematic list of [illegible]. List of new names proposed herein. Bibliography. [illegible]. Generic names of Staphylinidae. Appendix of [illegible]. Systematic key to [illegible]. List of new names proposed herein. Bibliography.

Note: An [illegible] history of the generic names of a large [illegible], widespread, and complex family of beetles. The list is preceded by an essay on the procedure surrounding the use of generic names. Matters covered in the essay include synonymy, homonymy, nomenclature, [illegible] [illegible] [illegible] [illegible], dates, authors and priority. The list itself which presents the basis of the establishment and subsequent use of all the names applied to genera and subgenera of Staphylinidae exceeds over 375 pages. The work concludes [illegible] [illegible] bibliography.

BORROR, DONALD J AND DWIGHT M DELONG

An introduction to the study of insects. New York Rinehart and Company 1954 1,030 p. illus 23 cm. $10.00 2352

Contents: Insects and their ways. The anatomy of insects. The development and metamorphosis of insects. Classification, nomenclature, and identification. The orders of insects. Subclass Apterygota: Protura, Thysanura, and Collembola. Order Ephemeroptera: mayflies. Order Odonata: dragonflies and damselflies. Order Orthoptera: grasshoppers, katydids, crickets, cockroaches, mantids, and walking sticks. Order Isoptera: termites. Order Plecoptera: stoneflies. Order Dermaptera: earwigs. Order [illegible]. Order Psocoptera: psocids. Order Zoraptera: zorapterans. Order Mallophaga: chewing lice. Order Anoplura: sucking lice. Order Thysanoptera: thrips. Order Hemiptera: bugs. Order Homoptera: cicadas, hoppers, psyllids, aphids, and scale insects. Order Neuroptera: nerve-winged insects. Order Coleoptera: beetles. Order Strepsiptera: twisted-winged parasites. Order Mecoptera: scorpionflies. Order Trichoptera: caddisflies. Order Lepidoptera: butterflies and moths. Order Diptera: flies. Order Siphonaptera: fleas. Order Hymenoptera: sawflies, ichneumons, chalcids, ants, wasps, and bees. Arthropods other than insects. The relation of insects to man. Insect control. Collecting and preserving insects. Activities and projects in insect study. Glossary. Index.

Note: A [illegible] textbook suited either to an introductory course in entomology or to an advanced course in insect taxonomy. It considers the study of insects from the biological and economic aspects with the [illegible] study from the [illegible] as emphasized. Families are described order by order, and keys are presented for all the families occurring in the United States. Selected bibliographical references are provided at the ends of the chapters. The following selected references appear at the conclusion of the final chapter: references on cages for insects, references on culturing Drosophila, references on rearing insects, references on mathematical treatments of taxonomic data, references on the techniques of biological drawing, references on general biological literature. The authors are professors of entomology at the Ohio State University.

BORROR, DONALD J

A revision of the libelluline genus Erythrodiplax (Odonata) Columbus The Ohio State University 194[illegible] 286 p. illus 23 cm. (Ohio State University Contributions in zoology and entomology No 4 Biological series) $3.00 2353

Contents: Taxonomy. Morphological characters of the genus Erythrodiplax. [illegible] structure in the genus Erythrodiplax. [illegible]. Geographic distribution. Affinities of the genus Erythrodiplax. Interspecific relationships in the genus. Key to species. Systematic account of the groups and species in the genus Erythrodiplax. Literature cited.

Note: In this revision of the genus, the fundamental criteria of species have been the characters of the male genitalia, [illegible] were found to show considerable intraspecific variation and very little intraspecific variation. The work is based on a study of about [illegible] specimens, about one-fourth of which are from collections in Europe and the remainder from collections in this country. Descriptions, measurements, variation, and distribution are given in the species list. The bibliography lists [illegible] articles and manuscripts relating to dragonflies and there are [illegible] plates of drawings and photographs.

BOVING, ADAM G AND F C CRAIGHEAD

An illustrated synopsis of the principal larval forms of the order Coleoptera. Merrick, N. Y. Brooklyn Entomological Society 1953 351 p. illus 24 cm. (Entomologica Americana a journal of entomology Vol XI (new series) 1930–1931) $5.00 2354

[illegible] The plates are the chief feature of this work. There are 125 of them, and most of them contain 12 or more separate drawings, with some plates containing as many as 25. All of the drawings but one were original with the authors; that is to say, they were drawn from actual specimens and not based on previously published drawings. Each plate is printed on a right-hand page, and the facing left-hand page is devoted to identifying captions. The adult insects are not shown. The plates are preceded by a short introduction and a detailed key designed to aid in the identification of larvae. The work was first published in 1930–31. The edition described here is a reprint issued in 1953 without change in text or illustrations.

BRUES, CHARLES THOMAS AND OTHERS

Classification of insects keys to the living and extinct families of insects and to the living families of other terrestrial arthropod Revised edition. By Charles T Brues A. L

Melander, and Frank M Carpenter Cambridge, Mass Printed for the Museum 1954 917 p illus 23 cm (Harvard College Bulletin of the Museum of Comparative Zoology Volume 108) $9 00 2355

Contents (abridged) Part I, Keys to recent Insects. Part II, Keys to recent families of other terrestrial Arthropoda. Part III Keys to extinct families of Insects. Part IV Glossary Index.

Note A standard reference book in systematic entomology used by advanced students and professional entomologists alike. It provides carefully worked-out keys for the identification and classification of the insects of the world, not only the adults but also the immature stages. In addition it provides references to the literature pertaining to each of the main groups. Some of these literature lists are very extensive for example that on Lepidoptera is 20 pages in length. The verbal descriptions are supplemented in this edition by 719 figures. The first edition was published in 1932 This second edition contains one entirely new part, the Keys to extinct families of Insects, and the other parts have been much augmented

BRUES, CHARLES THOMAS

Insect dietary an account of the food habits of insects Cambridge, Mass Harvard University Press, 1946 466 p illus 21 cm $5 00 2356

Content Introduction. The abundance and diversity of insects Types of food habits their relation to structure and environment Vegetarianism Herbivorous insects. Gall insects. Fungi and microbes as food symbiosis with microorganisms. Carnivorism Predatory insects. Parasitism. Blood-sucking insects and other external parasites. Entomophagous parasites and other internal parasites. Insects as food for man and other organisms. Index.

Note A useful addition to the literature of entomology because it is devoted to a phase of insect behavior which—although it is important in both economic and medical entomology—is necessarily given brief treatment in most books on insects The subject is covered comprehensively Literature that offers more detailed treatments of specific topics is cited in extensive bibliographies. Although written primarily for students and professional entomologists, the author's style is easy to read, and the book can be read with profit by persons trained in other scientific fields.

BRUES, CHARLES THOMAS

Insects & human welfare an account of the more important relations of insects to the health of man, to agriculture and to forestry Revised edition Cambridge Mass Harvard University Press 1947 154 p illus 22 cm $3 00 2357

Content Insects and the public health. Insects and the food supply Forest insects. Household insects. The outlook for the future. Index.

Note In simple mainly nontechnical language the author of this book tells the layman about some of the better-known insects, their life habits, geographic ranges, destructiveness as pests, roles as disease carriers, and the methods of controlling them. In this edition a number of changes have been made to cover new insecticides, new information on insects as disease carriers, and new insect pests.

BYERS CHARLES FRANCIS

A contribution to the knowledge of Florida Odonata. Gainesville University of Florida 1930 327 p illus 23 cm. (University of Florida publication Biological science series Vol 1 no 1) $1 50 2358

Content (abridged) Part I Introduction Part II Taxonomy Keys to Odonata of Florida. Descriptions of Florida Odonata. Part III Ecology Geology and physical geography of Florida Florida biotic areas. Ecological observations on species of Florida Odonata. Chorological notes on Florida Odonata Part IV Appendix Summary Bibliography

Note The author has listed 119 species of Odonata, or dragonflies, taken in or reported from the state of Florida Of these he has collected [illegible] species, consisting of 1,893 specimens. At least 20 of the 92 species have never been recorded from Florida before and three are new to the United States. Complete taxonomic descriptions, with figures, are presented for 47 genera and 1[illegible] species including males, females, and known nymphs. Detailed ecological observations on the habits, homes, and life h[illegible] of Florida Odonata are also recorded. Fifty-seven references of[illegible] text references are given in the bibliography

CALIFORNIA ACADEMY OF SCIENCES

Contributions toward a knowledge of the insect fauna of Lower California. 7 parts. San Francisco California Academy of Sciences 1942–43 illus 26 cm. (California Academy of Sciences Proceedings Fourth series, Vol 24, nos 1 to 7 incl., March 31, 1942 to February 4, 1943) $8 40 for the entire series 2359

Content Introductory account, by A. E. Michelbacher Coleoptera Cerambycidae, by E. G Linsley Coleoptera Buprestidae by E. C. Van Dyke. Neuroptera Myrmeleonidae, by [illegible] Symphyla, by A. E. Michelbacher Diptera Culicidae, by [illegible] G. Aitken. Coleoptera Tenebrionidae, by F. R. Blaisdell, Sr.

Note A collection of seven technical papers on various groups of the insect fauna of Lower California. With the exception of the Introductory account, the papers present systematic descriptions of species belonging to each of the orders and families mentioned in the contents, above. A considerable number of new species are described for the first time. Each paper contains a selected bibliography

CARPENTER, STANLEY J AND WALTER J. LACASSE

Mosquitoes of North America (north of Mexico) Berkeley University of California Press 1955 360 p illus 29 cm. $10 00 2360

Contents Life history Collecting. Preparing specimens for study External anatomy Internal anatomy of the female mosquito. Family Culicidae. Subfamily Culicinae. *Tribe Anophelini* Genus *Anopheles* Meigen. Tribe Toxorhynchitini Genus *Toxorhynchites* Theobald Tribe Culicini Genus *Wyeomyia* Theobald. Genus *Uranotaenia* Lynch Arribálzaga. Genus *Culiseta* Felt. Genus *Orthopodomyia* Theobald. Genus *Mansonia* Blanchard. Genus *Psorophora* Robineau-Desvoidy Genus *Aedes* Meigen. Genus *Culex* Linnaeus. Genus *Deinocerites* Theobald. Bibliography Systematic index. Plates.

Note. This comprehensive book for the specialist describes and pictures the known species of mosquito found in the United States and Canada. The first 24 pages contain general information on the collecting and preparation of mosquitoes and on their anatomy The remaining pages give keys to the genera and species, descriptions of the males, females, and larvae of the various species, accounts of distribution, and notes on the habits and medical importance of the species. The 127 full-page plates show females of 127 of the species in detail. Illustrations of male terminalia and larvae are presented in 288 line drawings in the text. The bibliography runs to [illegible] items.

CARPENTER, STANLEY J AND OTHERS

The mosquitoes of the southern United States east of Oklahoma and Texas by Stanley J Carpenter Woodrow W Middlekauff and Roy W Chamberlain. Notre Dame The University Press 1946 292 p illus. 24 cm (The American midland naturalist. Monograph series No 3 Theodor Just editor) $4 00 2361

Content (abridged) Bionomics and relation to disease Life history Medical importance Technique Collecting adults Collecting mosquito eggs Collecting larvae Characters used in identifying [illegible] Family Culicidae. Subfamily Culicinae Tribe Anophelini Tribe Megarhinini. Tribe Culicini. Bibliography Index.

Note The major part of this book is devoted to a catalogue of mosquitoes, arranged by tribe and genus. The distinguishing characteristics of the adult male female and larva of each species are given and notes concerning distribution bionomics, and medical [illegible]

[illegible] are included. There are 155 figures reproduced from well-executed line drawings. In order to make the book of practical value to entomologists and public health workers, brief instructions are given for collecting and studying mosquitoes.

CLARK AUSTIN HOBART AND LEILA F CLARK

The butterflies of Virginia (with 31 plates) Washington D C. The Smithsonian Institution, 1951 239 p. illus. (part col d) 24 cm (Smithsonian Institution Smithsonian miscellaneous collections. Vol. 116 no 7) $2.25 2362

Contents Introduction. Distribution of butterflies in Virginia. Keys to the butterflies of Virginia. Annotated list of butterflies of Virginia. Family Satyridae. Family Agapetidae. Family Nymphalidae. Family Argynnidae. Family Danaidae. Family Libytheidae. Family Riodinidae. Family Lycaenidae. Family Pieridae. Family Papilionidae. Family Hesperiidae. Erroneous records. Bibliography. Plates. Index.

Note A monograph describing in systematic fashion the distribution of 134 known butterfly species of Virginia. The work is based upon an intensive study by the authors over nearly two decades, during which period they devoted nearly all their spare time to the study, utilizing weekends and their annual vacations in visiting all the 100 counties in the state. Records were made personally in more than 400 localities, and these records were supplemented by [illegible] supplied by other collectors. Each species listed in the annotated list is illustrated among the plates. The notes for most of the species cover range, variation, occurrence, and habits.

COOLEY ROBERT ALLEN AND GLEN M KOHLS

The Argasidae of North America, Central America and Cuba. Contribution from the Rocky Mountain Laboratory Hamilton, Montana, Division of Infectious Diseases, National Institute of Health United States Public Health Service. Notre Dame University of Notre Dame 1944 152 p. illus. 24 cm. (The American midland naturalist monograph. No 1) $2.00. 2363

Contents (abridged) Introduction. The medical and veterinary importance of the Argasidae. Principal characters. Methods. Family Argasidae. Canestrini. Genus *Argas* Latreille. *Genus Ornithodoros* Koch. Genus *Antricola* Cooley and Kohls. Classified list of hosts. Geographical distribution of species. Bibliography. Index.

Note A systematic description of the Argasidae, or ticks, known in North America, Central America, and Cuba, including several species of known medical or veterinary importance. Citations of literature, detailed anatomical descriptions and measurements, distributions and hosts, and related facts of importance to the medical entomologist are included. There are 14 plates of photographs and 113 additional bibliographic references.

CREIGHTON WILLIAM STEEL

The ants of North America. With fifty seven plates. Cambridge, Mass. Printed for the Museum 1950. 585 p. illus. 22 cm. (Harvard College Bulletin of the Museum of Comparative Zoology Vol. 104) $10.00. 2364

Contents (abridged) *Introduction*. The present status of ant taxonomy and nomenclature. The history of ant taxonomy in North America. Family Formicidae. Subfamily Ponerinae. Subfamily Cerapachyinae. Subfamily Dorylinae. Subfamily Pseudomyrminae. Subfamily Myrmicinae. Subfamily Dolichoderinae. Subfamily Formicinae. Literature cited. Index.

Note This revision of the ants of continental United States of America and Canada recognizes 613 species and sub-species. The reduction in number of taxonomic entities from those described in previous revisions is based on an extensive study of the collections of the late Dr W. M. Wheeler. Discussions of the reasons for changes in taxonomic assignment are included in many of the species descriptions. Also included in most is a concise statement of range. On the other hand, literature references have been rigidly selected to include only those useful in elucidation of taxonomy; and in general, the species descriptions have been kept short, in order to keep the volume down to a convenient size for use in the field. The systematic descriptions are complemented by numerous keys to identification.

CURRAN, CHARLES HOWARD

Insects of the Pacific world New York The Macmillan Company 1945 317 p illus. 21 cm. (The Pacific world series) $4.00 2365

Content Foreword, by F. Osborn. Introduction. Insects and their relatives. True flies—order Diptera. Bees, wasps, and ants—order Hymenoptera, by H. F. Schwarz. Butterflies, moths and skippers—order Lepidoptera. Beetles—order Coleoptera, by J. C. Pallister. True bugs—order Hemiptera, by J. C. Pallister. Clear-wing bugs—order Homoptera. Dragon-flies and damsel-flies—order Odonata, by E. B. Klots. Nerve-winged insects—the neuropteroids. Grasshoppers, katydids, crickets, cockroaches, walking-sticks, and mantids—order Orthoptera. The "small" orders. Spiders, scorpions, ticks, and mites—arachnids and allies, by W. J. Gertsch. Insects and disease. Collecting, preserving, and shipping insects. Index.

Note A popular handbook. It is not written in the typical style of field manuals but is composed in narrative style. The information given was selected to aid in the observation of insect life, to promote an understanding of insects as part of the biological picture, and to encourage soldiers stationed in the Pacific area to collect and to preserve specimens for scientific institutions in the United States. The result is a readable book that will be useful to amateur naturalists and general readers who seek information on the insects of these regions. The series of which the book is a part was prepared under the auspices of the American Committee for International Wild Life Protection.

DALMAT HERBERT T

The black flies (Diptera, Simuliidae) of Guatemala and their role as vectors of onchocerciasis. With 44 plates. Washington D C. Published by the Smithsonian Institution 1955 425 p. illus. (part col d) 24 cm. (Smithsonian miscellaneous collections. Volume 125 no 1 Publication 4173) $5.00 2366

Contents (abridged) Importance of the Simuliidae. Epidemiology. Entomology studies in Guatemala. Taxonomy of the Guatemalan Simuliidae. Distribution of the Guatemalan Simuliidae. Life history. Ecology. Transmission of human onchocerciasis in Guatemala. Literature cited. Appendices. Plants associated with Guatemalan species. Fauna collected in region of San Pedro Yepocapa. Entomological [illegible]. Index.

Note A comprehensive monograph based on extensive laboratory and field studies. It was motivated by an interest in the Simuliidae as vectors in the transmission of human onchocerciasis, and there are extensive discussions of factors in the epidemiology of this disease. However, there are also included identification keys and species descriptions for the insects themselves, in addition to much information cast in the standard form of entomological literature on distribution, life history, ecology, etc. The 44 plates contain 479 figures, a large number of which are enlarged drawings of anatomical parts. Only the frontispiece is in color. The author is on the staff of the Laboratory of Tropical Diseases of the National Institutes of Health.

DE LA TORRE BUENO, JOSÉ ROLLIN editor

A glossary of entomology Smith's "An explanation of terms used in entomology" completely revised and rewritten Publication committee J R. de la Torre Bueno editor George P Engelhardt, and Carl George Siepmann. Brooklyn The Brooklyn Entomological Society 1937 336 p. 24 cm. $5.00 2367

Note Based on John B Smith's work, Brooklyn, 1906 this revision defines approximately 8 400 words and phrases used in entomology and in the related sciences of embryology cytology physiology morphology genetics, and ecology covering most terms which are met in general and special treatises on insects. A section of medical entomological terms is also included, and there are a few mathematical phrases which are used mainly in genetics. Pronunciation and derivation are omitted, but references to authorities are given in parentheses, and a list of 35 key works is provided. The stated purpose of the definitions as given is to fix a strict meaning for each term or word listed.

DEMEREC, MILISLAV, editor

Biology of Drosophila. New York John Wiley & Sons, Inc, 1950 632 p illus 22 cm $13 00 2368

Contents Normal spermatogenesis in Drosophila, by K W Cooper The early embryology of Drosophila melanogaster by B P Sonnenblick. *Histogenesis, organogenesis, and differentiation in the embryo of Drosophila melanogaster* by *D F Poulson*. The postembryonic development of Drosophila, by D Bodenstein. External morphology of the adult, by G. F Ferris. The internal anatomy and histology of the imago of *Drosophila melanogaster* by A. Miller Collection and laboratory culture, by W P Spencer Index of names. Subject index.

Note The purpose of this volume is to provide biologists with detailed and comprehensive description of the normal anatomy histology and development of an insect widely used in biological research. Photographs, diagrams, and anatomical drawings are used extensively to illustrate the various stages in organic development, and each chapter contains a two- to three-page bibliography The book represents the co-operative efforts and original research of seven specialists in this field of biological investigation.

ESSIG, EDWARD OLIVER, AND FRIEDA ABERNATHY

The aphid genus Periphyllus a systematic biological & ecological study Berkeley and Los Angeles University of California Press 1952 166 p illus 22 cm. $3 00 2369

Content Genus *Periphyllus* van der Hoeven 1863 Sycamore maple aphid, *Periphyllus aceris* (Koch) American maple aphid, *Periphyllus americanus* (Baker) Colorado maple aphid, *Periphyllus brevispinosus* Gillette and Palmer California maple aphid, *Periphyllus californiensis* (Shinji) Formosan maple aphid, *Periphyllus formosanus* Takahashi. Koelreuteria aphid, *Periphyllus koelreuteriae* (Takahashi) Japanese maple aphid, *Periphyllus kuwanai* (Takahashi) Norway maple aphid, *Periphyllus lyropictus* (Kessler) Box elder aphid, *Periphyllus negundinis* (Thomas) European maple aphid, *Periphyllus testudinacea* (Fernie) Literature consulted

Note The results of an intensive study of the aphid genus Periphyllus are reported in this work The genus is characterized by complex life history In reporting on *Periphyllus californiensis* (Shinji) the authors state, no less than 17 different forms or types of individuals are recognizable. The various forms are described in entomological terminology and many of them are shown in illustrations. The illustrations are all original and are of exceptionally high quality Both the text and the pictorial matter are based on intensive collecting and field studies. The work is of interest to professional entomologists.

ESSIG EDWARD OLIVER

College entomology New York The Macmillan Company 1942 900 p illus 24 cm $8 50 2370

Contents Metamorphosis of insects. An history of insects Classification of insects. Order Protura Order Thysanura Order Aptera. Order Collembola. Order Orthoptera. Order Grylloblattodea. Order Blattaria. Order Phasmida Order Mantodea Order Dermaptera. Order Diploglossata. Order Plecoptera Order Isoptera. Order Zoraptera Order Embioptera Order Corrodentia. Order Mallophaga. Order Anoplura Order Ephemerida Order Odonata Order Thysanoptera. Order Hemiptera. Order Megaloptera Order Neuroptera. Order Raphidiodea Order Mecoptera Order Trichoptera Order Lepidoptera Order Coleoptera Order Strepsiptera Order Hymenoptera. Order Diptera Order Siphonaptera General references. Index.

Note Designed as basic text for introductory college courses Written from a world point of view Species are chosen for treatment on the basis of their historical background, economic importance or unusual and interesting appearance Each order is treated separately and is provided with an historical review, a synopsis of characters, biologies of typical members, and numerous examples of genera and species.

FERNALD, H T, AND HAROLD H SHEPARD

Applied entomology an introductory textbook of insects in their relations to man Fifth edition New York McGraw Hill Book Company, Inc., 1955 385 p. illus. 24 cm (McGraw Hill publications in the agricultural sciences, R. A. Brink, consulting editor) $7 50 2371

Content Relation of insects to other animals External structure of insects. Internal structure and physiology of insects. Development of insects. Economic importance of insects—natural control. Applied control. Insecticides in general—inorganic insecticides. Organic insecticides. Classification of insects. Subclass Apterygota. Subclass Pterygota—order Ephemerida. Odonata. Orthoptera. Dermaptera. Plecoptera. Isoptera. Embioptera. Corrodentia. Zoraptera. Mallophaga. Thysanoptera. Anoplura. Hemiptera. Homoptera. Coleoptera. Strepsiptera. Neuroptera. Trichoptera. Lepidoptera. Mecoptera. Diptera. Siphonaptera. Hymenoptera. Animals other than insects. Index.

Note An introduction to the structure of insects, to their classification and to their control. Aspects of the field which are of interest in agriculture are emphasized The book has been used for many years as text in agricultural colleges in the United States of America and elsewhere. The first edition was published in 19 and the fourth edition in 1942 Although the organization of the fifth edition is approximately the same as that of the fourth edition the text has been very extensively rewritten, especially in the chapters on insecticides and control. The illustrations have been revised and many new ones added. A special feature is the inclusion of numerous photographs of insects, their eggs and even

FERRIS, GORDON FLOYD

Atlas of the scale insects of North America. Series I IV Volumes V VII Stanford Stanford University Press 1937–55 7 v illus. 25 cm $7 50 per vol 2372

Content (abridged) Series I–IV Family Diaspididae subfamily Diaspidinae tribes Diaspidini, Odonaspidini, Xanthophthalmini, Aspidiotini, and Phoenicococcinae Index Volume V The Pseudococcidae (Part) Volume VI The Pseudococcidae (Part) Index. Volume VII The families Aclerdidae Asterolecaniidae Conchaspididae, Dactylopiidae, and Lacciferidae. Index.

Note A complete atlas for the family Diaspididae It is reference work for zoological libraries and professional entomologists. Full-page reproductions of pen and ink drawings are special features, and there is one such for each species. The drawings are accompanied by entomological descriptions covering hosts, locality, habits, recognition characters, etc. and including literature references The first four parts were published in loose-leaf form and are called series With volume that format was abandoned in favor of bound volumes One more volume is planned to complete the series.

FISHER W S

A revision of the North American species of beetles belonging to the family Bostrichidae Washington D C Government Printing Office 1950 157 p 23 cm (United States Department of Agriculture Miscellaneous publication no 698) Gratis 2373

Content Introduction Key to the subfamilies and tribes of Bostrichidae Subfamily Dysidinae Subfamily Psoinae Tribe Psoini Subfamily Endecatominae Subfamily Dinoderinae Tribe Psoini Subfamily Endecatominae Subfamily Bostrichinae Tribe Dinapatini. Tribe Bostrichini Subfamily Bostrichinae Tribe Xyloperthini. Addenda. Index to species. Index to host plants and commercial products.

Note This publication about one of the most destructive of families of the Coleoptera treats all the species of Bostrichidae known to occur in America north of Mexico. Some foreign species known

... order. ... are thus included. In all, 32 genera and 92 species are considered. For each species are given bibliographical references to previous descriptions, technical description of male, [illegible] of female, length, ... type locality, distribution, and hosts. Eight species have not been previously described.

FOOTE, RICHARD H., AND HARRY D PRATT
The *Culicoides* of the eastern United States (Diptera, Heleidae) a review Washington, D C. Government Printing Office 1954 53 p. illus. 26 cm. (United States. Public Health Service Public health monograph no. 18) $0.40 2374

Contents: Introduction. Important literature dealing with *Culicoides* taxonomy. Biology. Seasonal occurrence. Control of *Culicoides* Larvae. Adults. Techniques of the study. Morphology. Key to adult female *Culicoides* of the United States east of the Continental Divide. Provisional key to adult female *Culicoides* based on structural characters. Key to male terminalia of *Culicoides* of the United States east of the Continental Divide. Discussion of the species. Bibliography.

Note: The insect genus *Culicoides* includes the pests known variously as biting midges, sandflies, "punkies," and "no-see-ums." In certain places they are so abundant and bothersome as to depress property values. Twenty-two pages of this Public Health monograph are devoted to discussion of 53 named species of the genus, each species is described under its scientific name, with information on its general appearance, color, distinguishing features, and areas [illegible] found. Eleven plates contain illustrations of female wings and male terminalia. The purpose of the publication [illegible] to assist in the identification and control of the insects.

GLEN, ROBERT
Larvae of the elaterid beetles of the tribe Lepturoidini (Coleoptera. Elateridae) Washington, D C The Smithsonian Institution, 1950. 246 p. illus 24 cm. (Smithsonian miscellaneous collections. Vol. 111 no. 11 Publication 3957) $1.65 2375

Contents: Introduction. Literature. Methods and procedure. [illegible] Preservation and rearing of material. [illegible] Discussion of material. Abbreviations used in [illegible]. [illegible] Morphology of [illegible] lepturoidine larva. Terminology. Morphology of the mature larva of *[illegible]* [illegible]. Keys and descriptions: [illegible] characteristics of the family Elateridae (with key to subfamilies). Larval characteristics of the tribe Lepturoidini (with key to genera). Genus [illegible] Eschscholtz (with key to species groups). Genus [illegible] Eschscholtz. Genus [illegible]. Genus [illegible] Boisduval. Genus *[illegible]* Eschscholtz. Genus *[illegible]* LeConte. Genus *[illegible]*. Genus *[illegible]* Eschscholtz. Genus [illegible] Stephens. Genus [illegible] LeConte. Genus *[illegible]* LeConte. Summary of taxonomic relationships. List of species studied. Literature cited. Figures 1 to 40.

Note: The Lepturoidini include important crop pests distributed throughout the world. The study presented in this publication of the larvae of these beetles arose from the need for greater knowledge of these pest species, which react differentially to factors of weather, soil, and culture. It [illegible] based upon investigations upon [illegible] [illegible] made at Saskatchewan, in the course of which the author concluded that true generic and specific characters of the *Elateridae* could be obtained only through an extensive comparative study [illegible] all available species of the group. It consists broadly of two parts [illegible] detailed treatment of [illegible] available [illegible] larvae of the world and [illegible] comprehensive survey of the larval morphology of the other genera of the Lepturoidini tribe. Only mature or nearly mature larvae are considered. Forty figures show parts of the larvae of various species in simplified sections. The work is [illegible] study [illegible] and [illegible] be used most conveniently by those familiar with the basic morphology of elaterid larvae.

HAGAN, HAROLD RAYMOND
Embryology of the viviparous insects. New York The Ronald Press Company, Inc., 1951 illus. 4 [illegible] p. 24 cm. $7.00 2376

Contents (abridged): Part I. General considerations. Female anatomy and embryogeny. Oviparity in the older embryo. The types of viviparity. Part [illegible]. Embryogenesis. Ovoviviparity—Thysanoptera, [illegible], Anoplura, Plecoptera, Homoptera, Lepidoptera, Diptera, Coleoptera, Hymenoptera. Adenotrophic viviparity—Diptera. Hemocoelous viviparity—Diptera (Cecidomyidae)—Strepsiptera. Pseudoplacental viviparity—Dermaptera—[illegible]—Corrodentia, Homoptera (Aphididae)—Hemiptera. Appraisal of viviparity. Bibliography. Index.

Note: A scholarly thoroughly documented monograph [illegible] surveys the embryology of insects [illegible] [illegible]. For each insect considered, the [illegible] presents an account of previous studies, [illegible] factual record of developmental processes, and suggests lines [illegible] future investigation. Previously unpublished research on *[illegible]*, *[illegible]*, *[illegible]* and *[illegible]* [illegible] is included. The work is meant to serve as [illegible] text, source book, and reference tool for advanced students of zoology and graduate entomologists, and research workers in such fields as public health. There are 180 illustrations. The [illegible] [illegible] is international in scope. The book [illegible] awarded an A. Cressy Morrison Prize in Natural Science by the New York Academy of Sciences.

HALL, DAVID G
The blowflies of North America. [Baltimore] 1948 4 [illegible] p. illus (part col d) 23 cm. (The Thomas Say Foundation publications. Vol. IV) $6.50 [To be ordered from J J Davis Department of Entomology Purdue University Lafayette Indiana] 2377

Contents: Introduction. History of the classification of the Calliphoridae. Importance of blowflies to man. Control of blowflies. Methods of collecting blowflies. Preservation of specimens. Explanation of terms. [illegible] Technique. Synonymy. Classification. Key to major taxonomic units of North American [illegible] flies. Family Calliphoridae. [illegible]. [illegible]. [illegible]. Calliphorinae. Polleniinae. Literature. Plates and explanations. Index.

Note: This volume presents [illegible] taxonomic account of the species of Calliphoridae now known to occur in continental North America north of the Panama Canal Zone and in the West Indies north of Jamaica. Eighty-three species belonging to twenty-seven genera are described, of which 11 species and six genera were not found previously recorded. The keys and illustrations, of which some are in color, were designed to assist in rapid determination of species. The work was prepared especially for the use of entomologists, public health officials, physicians, veterinarians, [illegible], and students.

HATCH, MELVILLE H
The beetles of the Pacific Northwest. Part I Introduction and Adephaga. Seattle University of Washington Press, 1953 340 p. illus 25 cm. (University of Washington. Publications in biology Vol 16) $5.00 2378

Contents: History of the study of Coleoptera in the Pacific Northwest. Acknowledgments. External anatomy of Coleoptera. The beetle collection. The Northwest beetle fauna. Geographical factors. Ecological relationships. Economic importance. The suborders of Coleoptera. Suborder Adephaga. [illegible] [illegible]. Family Carabidae. Family Haliplidae. Family [illegible]. Family Dytiscidae. Family Gyrinidae. Family [illegible]. Bibliography. Plates. Index.

Note: This is the first part of [illegible] planned descriptive analysis of the beetles that are known to inhabit British Columbia, Washington, Idaho, and Oregon. The author has described the work [illegible] purpose as follows: "The aim is to present in brief but adequate form and as concisely as possible the differential characteristics of the suborders, series, families, subfamilies, tribes, subtribes, genera, subgenera, species, subspecies and varieties into [illegible] which the beetles of the Pacific Northwest have been classified. At the level of the species [illegible], the plan is [illegible] combine with the citation of differential characters brief indication of the size, color and outstanding structural features. Following the length is given the Northwestern distribution, the habitat [illegible] here definable, and sometimes synonymy. Much space is devoted to the keys, which are dichotomous, and are followed by brief descriptions of taxa. The present volume contains 37 plates, all of [illegible] contain several illustrations, in some cases as many as [illegible]. Part II, Staphyliniformia, written in collaboration with M. W. Sanderson and G. A. Marsh, was issued by the same publisher in 1957 384 p. $7.00

HEINRICH, CARL

American moths of the subfamily Phycitidae Washington, D C Government Printing Office, 1956 581 p illus 30 cm. (United States National Museum Bulletin 207) $5 50 2379

Contents Introduction. Family Phycitidae Subfamily Phycitinae Group I, Hind wing with veins 3 and 4 both present. Group II, Hind wing with vein 3 present, 4 absent. Group III Hind wing with veins 3 and 4 both absent. Genera and species unplaced, unrecognized, or referred from the Phycitinae. Checklist of American Phycitinae. Figures. Index to the genera and species of Phycitinae. Index to species unknown misplaced, or unrecognized. Index to hosts.

Note This systematic work is based chiefly upon the collections in the United States National Museum and the Hulst collection, supplemented by material visited at or borrowed from other collections. With very few exceptions all species described were personally examined by the author Recognized and included in the classification are 194 genera, 619 species, and 21 subspecies, of which 60 genera, 81 species, and 8 subspecies are described as new For each species, so far as possible are given detailed physical description, type locality food plant, distribution, bibliographical references to earlier descriptions if any and miscellaneous notes and comment. Keys to the genera are provided to assist in identification. In the latter half of the volume are grouped the illustrations, 1 118 line drawings, chiefly of wing venation and genitalia in enlargements.

HOLLAND, WILLIAM JACOB

The butterfly book. A popular and scientific manual, describing and depicting all the butterflies of the United States and Canada New and thoroughly revised edition Garden City Doubleday Company Inc 1931 424 p illus (part col'd) 26 cm $12 50 2380

Contents (abridged) Lif history and anatomy of butterflies Capture, preparation and preservation of specimens. Classification of butterflies. Books about North American butterflies. Butterflies of North America north f Mexico brush-footed butterflies, milkweed butterflies, glassy wings, heliconians, nymphs, satyrs, snout-butterflies, metal-marks, hairstreaks, coppers, blues, sulphurs, whites, Parnassians, swallowtails, skippers. Index.

Note A manual intended to enable the amateur butterfly collector to identify name, and properly classify his collection and to prepare him for more advanced research. The work is confined to the fauna of North America north f the Rio Grande of Texas, and, though essentially popular in character it is based on the author' 70 years of collecting and upon the entire literature of lepidoptery Illustrated with 78 color plates and numerous line drawings. The revised edition covers about 300 more species than the original edition, which was first published in 1898

HOOGSTRAAL, HARRY

African ixodoidea. Volume I Ticks of the Sudan (with special reference to Equatoria Province and with preliminary reviews of the genera Boophilus, Margaropus and Hyalomma) Washington D C Government Printing Office 1956 1 099 p illus 26 cm (U S Department of the Navy Bureau of Medicine and Surgery Research report NM 005 050 29 07) $6 00 2381

Content Introduction Object and scope f this and related projects. History f this project. Lists f ticks reported from the Sudan. Species records manner of data presentation. Family Argasidae Argas Ornithodoros Family Ixodidae Amblyomma Aponomma. Boophilus Dermacentor Haemaphysalis. Hyalomma Ixodes. Margaropus. Rhipicephalus Animals and other sources f ticks Equatoria Province. Bahr El Ghazal Province. Upper Nile Province. Darfur Province. Kordofan Province. Blue Nile Province Kassala Province Khartoum Province Northern Province. Climatic and biotic features f the Sudan Climate. Floral districts. F unal districts and areas. Tick distribution. Appendix. Bibliography

Note The first volume published in a series on African ticks be completed in at least three more volumes. The author is head of the Department of Medical Zoology U S Naval Medical Research Unit Number Three, has based it both on a survey which he began in Equatoria Province of the Sudan in 1949 and on thorough study f the literature of the subject. Detailed descriptions of 62 known species of Sudanese ticks with keys are each followed by notes of distribution, host animals, key disease relations, identification, and remarks. The bibliography consists of 1,880 references.

HORSFALL, WILLIAM R.

Mosquitoes their bionomics and relation to disease. New York The Ronald Press Company 1955 723 p 24 cm $16.00 2382

Content Introduction. Culicinae Chaoboridae. Anopheles. Toxorhynchites. Trichoprosopon. Goeldia. Tripteroides. Wyeomyia. Limatus. Topomyia. Harpagomyia. Zeugnomyia. Uranotaenia. Culiseta. Orthopodomyia. Mansonia. Aedomyia. Psorophora. Opifex. Aedes. Haemagogus. Eretmapodites. Armigeres. Culex. Deinocerites. Glossary Techniques. Bibliography Index of genera and species General index.

Note This book, as implied in the title is not general text on the mosquito but rather comprehensive summary of the literature that pertains to the mutual relations between mosquitoes and their environment, including their part in the transmittal of human and animal disease. The author's purpose in compiling the information was to bring together in one place the results, otherwise scattered through almost countless volumes, of 75 years of research and reporting on the ecology of mosquitoes and of their epidemiology The arrangement f the book is by genera and species. Under the genera and species are described or tabulated types of information with literature citations, concerning distribution hybridization, egg, larva, pupa, and the adult. Comparatively more space is given to genera on which students have done most work, e.g., Anopheles (265 p.) Aedes (1?? p.) Culex (52 p.) than to lesser known genera, e.g. Topomyia (1 p.), Haemagogus (6 p.) Armigeres (4 p.) The bibliography covers 78 pages.

HUBBARD, CLARENCE ANDRESEN

Fleas of western North America their relation to public health Ames Iowa State College Press 1947 533 p illus. 24 cm. $7 50 2383

Contents Part I Students of western American fleas, their distribution. The medical importance of fleas. Field and laboratory technique. The anatomy of the flea in relation to its taxonomy Part II Preliminary The order Siphonaptera Family Hectopsyllidae family Pulicidae family Dolichopsyllidae family Hystrichopsyllidae family Ischnopsyllidae Part III Host index. The fleas of western rodent fleas The fleas of western carnivora. The fleas of western insectivora. The fleas of western bats The fleas from man The fleas of western birds. Selected bibliography Index

Note This catalogue of the fleas found in that part of North America lying west f the 100th meridian is based largely on the author's personal investigations and study Each entry for the fleas listed includes drawing and description of outstanding characteristics, area in which found, when first identified and by whom, the preferred host, and (when known) the medical and economic importance The catalogue proper is followed by scription of the various animal hosts and listing of the fleas found on each. The bibliography supplements W L. Jellison and N E. Good, *Index to the literature of Siphonaptera of North America*, Washington, D C 1942

HUBBELL THEODORE HUNTINGTON

A monographic revision of the genus Ceuthophilus (Orthoptera Gryllacrididae, Rhaphidophorinae) Gainesville University of Florida 1936 551 p illus. 26 cm (University of Florida publication Biological science series Vol II no 1) $4 00 2384

Content Introduction. The taxonomic position of the genus Ceuthophilus. Ceuthophilus Scudder Section I, Ceuthophilus s.s. der s.s. Utahensis series. Brevipes series. Maculatus series. Lapidicola series. Section II, Geotettix

[illegible] series. [illegible] series. [illegible] and [illegible] series. [illegible] Observations on life history, habits and relations to other organisms. Phylogeny and distribution. General conclusions. Literature cited. Index.

Note: A detailed, systematic description of the group [illegible], which comprises the majority of the North American species of the subfamily [illegible], group of Orthoptera commonly known as [illegible]. The present work undertakes to revise Scudder's *The North American* [illegible], Washington, 1894. Although the seven genera recognized are in the main those of [illegible] and Scudder's earlier works, only [illegible] being new. The primary concern is with Scudder's inadequate treatment of the characters found in the [illegible] structures of the male and his resulting incorrect grouping of species. Description of holotype or allotype including detailed measurements, coloration, variations, bionomics, distribution, and citations of the original literature are covered under each species treated. There are an additional bibliography of approximately 100 references, 39 plates of drawings, and an extensive index.

HUTCHINSON GEORGE EVELYN

A revision of the Corixidae of India and adjacent regions. New Haven Connecticut Academy of Arts and Sciences 1940. 135 p. illus. 24 cm. (Connecticut Academy of Arts and Sciences. Transactions. Vol. 33 p. 339–476) $2.50 2385

Contents: Introduction. Nomenclature of family and genera. [illegible] classification of the family. Taxonomic account. Ecological notes. Bibliography.

Note: This paper is based on the extensive collections of aquatic Hemiptera made during the course of the Yale North India Expedition in 1932 [illegible] the author had opportunity to collect not only in Kashmir, the Punjab, and in Indian Tibet, but also in southern India. In addition, he was able to study the collections of the Indian Museum and other material lent to him for this investigation. There are 31 plates showing 423 figures, chiefly line drawings, and photographs of the habitats of some of the species.

KLOTS, ALEXANDER BARRETT

A field guide to the butterflies of North America, east of the Great Plains. Illustrated with color paintings of 247 species by Marjorie Statham and 232 photographs by Florence Longworth. Boston Houghton Mifflin Company 1951 349 p. illus. (part col'd) 19 cm. (The Peterson field guide series) $3 75 2386

Contents: How to use this book. Collecting and preserving specimens. The butterfly and its environment. Life histories and growth. The adult butterfly. Butterfly classification. [illegible] butterflies and skippers. *Satyridae*: satyrs and wood nymphs. *Danaidae*: monarchs. [illegible]. *Nymphalidae*: brush footed butterflies. *Libytheidae*: snout butterflies. *Riodinidae*: metalmarks. *Lycaenidae*: gossamer winged butterflies. *Papilionidae*: swallowtails. *Pieridae*: whites and sulphurs. *Hesperiidae*: true skippers. *Megathymidae*: giant skippers. Casual and stray species and false or dubious records. Appendixes: Some principles of classification. Butterfly literature and collections. Checklist of butterflies and skippers. Indices: Technical terms. Food plants. Butterflies.

Note: An [illegible] guidebook to eastern American butterflies which may be used equally as an introduction to the study of butterflies and as [illegible] of identification of the species. Every species of importance [illegible]. Illustrated, color being used where important for identification. Information included in the descriptions includes descriptions of chief characteristics, notes on habits and habitats, condensed descriptions of the mature larva, number of annual broods, method of hibernation, average dates of appearance of spring adults, geographic range within the area, and type locality, range, and brief characterizations of each valid subspecies found within the area. Roger Tory Peterson states of the volume: "The special section on life zones and their indicator plants, an ecology on the [illegible] and whys of nomenclature, and the discussion of subspecies and geographic variation will be an enlightening to the serious bird [illegible] or [illegible] as to the insect collector for they will throw light on their [illegible]," and adds, "This guide [illegible] is key book in the *Field guide* series, for many of the general discussions will not be repeated elsewhere in the series.

LUGINBILL PHILIP SR., AND HENRY R. PAINTER

May beetles of the United States and Canada. Washington, D C. Government Printing Office 1953 102 p illus. 23 cm. (United States Department of Agriculture Technical bulletin no. 1060) $0 60 2387

Contents: Introduction. Economic status. Life history and habits. Distribution. Key to the species. Descriptions of the species. Class I. Class II. Class III. Addenda. Literature cited. Plates 1 78.

Note: In this bulletin are described 131 species of the genus *Phyllophaga*, the May beetles of the United States of America and Canada. For each species are given scientific name, bibliographical citations, descriptions of males and females, dates of appearance, and distribution. The illustrations on the 78 plates are reproduced from actual photographs, most of them showing genitalia and sections of adult beetles, to help in identification.

MARQUESAN INSECTS—I–III. Honolulu Hawaii Bernice P Bishop Museum 1932–39 3 v illus 25 cm. (Bernice P Bishop Museum. Bulletin 98 114 142 Pacific Entomological Survey publications 1 7 8) Vol. I $3.00 vol. II, $3.00 vol. III $3 00. 2388

Note: This series of taxonomic reports is based on material collected in 1929 and 1930. The committee administering the Survey chose the Marquesas Islands as the first region for intensive study because of the rapid changes known to be taking place in the flora and believed to be occurring in the fauna as well, and also because the history of this [illegible] archipelago seemed likely to be of great interest in the study of geographical relations. The material obtained has been reported on in various publications. A note on the insect fauna of the Marquesas appeared in Bulletin 94 of the Museum. A paper of more general scope was read before the International Congress of Entomology in Paris, in 1932. Bulletins 133 and 137 from the Museum contain general reports discussing in detail the origin, environment, and [illegible] relations of the known species.

MATHESON ROBERT

Entomology for introductory courses. Second edition. Ithaca Comstock Publishing Associates a division of Cornell University Press Inc., 1951 629 p. illus. 24 cm. $6 00 2389

Contents: Introduction. Phylum Arthropoda. The class Hexapoda or insects. The mouthparts of insects. Development and growth in insects. Classification of insects. The subclass Apterygota—orders Protura, Diplura, Thysanura and Collembola. The subclass Pterygota. Orders Orthoptera and Isoptera. Orders Dermaptera, Embioptera, Psocoptera and Thysanoptera. Orders Ephemeroptera, Odonata and Plecoptera. Order Anoplura. Order Hemiptera. Orders Neuroptera and Mecoptera. Orders Trichoptera and Lepidoptera. Order Coleoptera. Order Strepsiptera. Order Diptera. Order Siphonaptera. Order Hymenoptera. Insects in relation to human welfare. Glossary. Bibliography. Index.

Note: An outstanding work of its kind. Its primary purpose is to serve as a textbook in introductory courses in entomology at the college level. In addition, it has great value as a reference book for public health technicians, agricultural extension workers, farmers, and amateur naturalists. There is more emphasis on the biology, habitats, economic importance and on insects as carriers of disease, than on systematic entomology. Nevertheless, more than half of the space is devoted to the systematic accounts of taxa. The illustrations are well done and numerous. The first edition was published in 1944. In this second edition, [illegible] revisions and [illegible] have been made in various chapters in both text and illustrations, but the organization and general scope of the book are unchanged.

MAYNARD ELLIOTT ALLEN

A monograph of the Collembola or springtail insects of New York State. Ithaca Comstock Publishing Company Inc., associated

with Cornell University Press 1951 339 p illus (part col'd) 24 cm $7 50 2390

Contents Part Introduction New York State collection records. Phylogeny of the Collembola. Morphology of the Collembola external structure. Morphology of the Collembola internal structure. Life cycle. Habitat. Abundance. Food. Geographical distribution Economic importance Collection and preservation of Collembola. Reasons for taxonomic investigation of Collembola. Nomenclature and synonymy Literature pertaining to the Collembola. Types of new species. Part II, Systematic account Order Collembola. Key to the suborders of Collembola. Suborder Arthropleona. Key to the superfamilies of Arthropleona. Superfamily Poduroidea. Key to the families of Poduroidea. Family Poduridae. Key to the subfamilies of Poduridae. Family Onychiuridae. Key to the New York genera of Onychiuridae. Superfamily Entomobryoidea. Family Isotomidae. Family Entomobryidae. Key to the New York subfamilies of Entomobryidae. Suborder Symphypleona. Family Sminthuridae. Key to the subfamilies of Sminthuridae. Glossary Bibliography of the Collembola of the world. Index.

Notes A general and systematic account of the 200 species and varieties of Collembola found in New York state. In the systematic part are detailed descriptions of the various suborders, superfamilies, families, subfamilies, tribes, genera, subgenera, and species, with generous keys to the New York species. The typical descriptions of the species include bibliographical references, length, color head, thorax, abdomen, clothing, discussion and distribution. Distribution is indicated by towns in New York state where found and the dates of collection and is also indicated for other states of the United States of America and for foreign countries where recorded or known. Five of the plates reproduce water-color drawings of springtails in full color The author indicates his belief that this group of primitive wingless insects is responsible for some of the annual hidden loss of crops in the United States. The book is a necessary tool for all persons interested in the study of Collembola.

MICHENER, CHARLES DUNCAN, AND MARY H MICHENER

American social insects a book about bees ants, wasps, and termites New York D Van Nostrand Company, Inc, 1951 267 p illus (part col'd) 22 cm (The new illustrated naturalist editorial advisory board, William Beebe and others) $6 95 2391

Contents (abridged) Part I, The nature of social insects What are social insects? Sensations and behavior Learning and behavior What determines cast ? How insects became social Subsocial insects. Part II, The hornets and other wasps. Part III, The bees. Part IV The ants. Part V The termites. Part VI Societies and their parasites Uninvited guests. Societies of insects and men. Appendix Insect structure and classification. Bibliography Glossary Index.

Note A popular account of the social insects and their behavior written by entomologists as an introduction for the reader without previous knowledge of the subject. While all the major species of bees, ants, wasps, and termites found in th United States are named and described, and some of the foreign representatives also are mentioned, the book is more a readable description of the lives of these insects than a guidebook for the identification of species. Especially noteworthy are the illustrations from photographs, 10 of them in color and over 75 in black and white.

MICHENER, CHARLES DUNCAN

Comparative external morphology phylogeny and a classification of the bees (Hymenoptera) New York American Museum of Natural History, 1944 169 p illus 27 cm (American Museum of Natural History Bulletin, Vol 82 article 6) $1 75 2392

[illegible] introduction. External morphology of *Anthophora* [illegible]. History Comparative external morphology of the bees [illegible] rec-biology) Phylogeny of the bees. A classification [illegible] Selected references (systematics) Index of [illegible]

[illegible] is divided int four parts, the first of [illegible] y of the terminology of structures which [illegible] bees and to many other groups of Hymenoptera [illegible] primarily record of differences among [illegible] certain suggestions as to how some of these [illegible] come about. In the third part, the characters described in previous sections are analyzed, with a discussion of the phylogenetic history of the bees. The classification, which is a by-product of this phylogeny is presented in the last part. The bibliography presented in two parts, contains 110 references American and European sources.

MUESEBECK, CARL FREDERICK WILLIAM, AND OTHERS, editors

Hymenoptera of America north of Mexico synoptic catalog prepared cooperatively by specialists on the various groups of Hymenoptera under the direction of C. F W Muesebeck, Karl V Krombein and Henry K Townes Washington D C. Government Printing Office, 1951 1 420 p 24 cm. (United States Department of Agriculture Agriculture monograph no 2) o p 2393

Contents Introduction. Order Hymenoptera. Suborder Symphyta superfamily Megalodontoidea. Superfamily Tenthredinoidea Superfamily Siricoidea. Superfamily Cephoidea. Suborder Apocrita superfamily Ichneumonoidea. Superfamily Chalcidoidea. Superfamily Cynipoidea Superfamily Proctotrupoidea. Superfamily Chrysidoidea. Superfamily Bethyloidea. Family Trigonalidae. Superfamily Scolioidea. Family Formicidae. Superfamily Vespoidea. Family Pompilidae. Superfamily Sphecoidea. Family Dryinidae. Superfamily Apoidea. Index to new names. Index to superspecific names. Index to trivial names.

Notes This large catalog brings together in systematic order the *names of several thousand recognized species of the Order Hymen*optera, which includes the saw flies, wood wasps, parasites of other insects used in biological control undertakings, bees, wasps, ants, gall wasps, and related forms, as found in the United States of America and Canada. For each genus and each species, and for many of the superspecific divisions, are given bibliographical citations to original descriptions in the literature of entomology. There are occasional annotations. The three-part index covers [illegible] double-columned pages. The following are noted as authors of the various sections W G Bodenstein, C E. Bohart, R. M. Bohart, D B. Burks, H. E. Evans, P D Hurd, K. V Krombein, [illegible] Linsley W R. M. Mason C. D Michener W W Middlekauff C. F W Muesebeck and L. M. Walkley (jointly) W D. [illegible] O. Peck, D T Ries, H. G. Rodeck, H. H. Ross, H. [illegible], M. R. Smith, L. J Stannard, H. K. Townes, M. Towner and L. H. Weld.

NEEDHAM, JAMES G, AND OTHERS

The biology of mayflies with a systematic account of North American species by James G Needham Jay R Traver and Yin-chi Hsu, aided by specialists in certain subjects. Ithaca Comstock Publishing Company Inc, 1935 759 p illus 24 cm $7.50 2394

Contents. Part I, Mayflies in general Introduction, the life of a mayfly the structure of a mayfly nymph, internal anatomy [illegible] post-embryonic development, eggs and oviposition, the life cycle [illegible] taxonomic character of the adult, wings and legs, the body and [illegible] of the thorax, the musculature of the thorax, nymphal structure and adaptations, mayfly phylogeny casualties and enemies of mayflies, values and uses of mayflies, collecting, preserving and [illegible] mayflies, the classification of mayflies. Part II, North American mayflies A systematic account of North American species in both adult and nymphal stages. Index.

Note The names, descriptions, and known distribution of [illegible] species of the Ephemeroptera of North America, with the delineation of the genera, have been brought together in the reference text Keys and identification tables are given for each family subfamily and genus, and there are numerous illustrations. The volume is intended to be of use to collectors, teachers, taxonomists, anatomists, and entomologists in general.

NEEDHAM JAMES G, AND MINTER J WESTFALL JR

A manual of the dragonflies of North America (Anisoptera) including the Greater Antilles and the provinces of the Mexican

Border Berkeley University of California Press 1955 615 p. illus (part col'd) 24 cm. $12.50 2395

Contents Part one Termites in general Introduction Field studies Function Part two Systematic classification Subfamily [illegible] Family [illegible] Family [illegible] Family Kalotermitidae Family [illegible] Family Rhinotermitidae Glossary [illegible] Index.

Note A comprehensive and authoritative reference book on the termites, including illustrations. It supersedes J. C. [illegible] and H. R. [illegible], Handbook of the termites of North America [illegible] and is a more complete book with more and better illustrations and keys. The first part, which is 60 pages long, is devoted to general morphological development of the order and suborder, to methods of collecting adults, nymphs and eggs, and to methods of preserving specimens. The systematic descriptions occupy the remainder of the volume. Here, the keys to families, subfamilies, genera and species are provided. An unusual feature is the inclusion of keys to nymphs as well as to adults. A photograph of the nymph is included for each genus. The species descriptions give literature references, describe morphology in detail, and [illegible] distribution in the United States of America and regions adjacent to the United States. There are 341 figures, about evenly divided between reproductions of photographs and of photographs. The book is designed primarily as an aid in identification, and is useful both to professional and amateur entomologists.

Oman Paul Wilson and Arthur D Cushman

Collection and preservation of insects Washington, D. C. Government Printing Office 1946 42 p. illus. 23 cm. (United States Department of Agriculture. Miscellaneous publication no. 601) $0.15 2396

Contents What to collect. Equipment and collecting methods. Nets. Killing bottles. Aspirator or suction bottle. Beating cloth, or umbrella. Sifters. Separators. Collecting at lights. Baits and bait traps. Treatment, storage, and handling. Rearing. How to kill and preserve specimens. Care and handling of unmounted specimens. How to mount insects. Labeling the specimens. Care of the collection. Packing and shipping specimens. References of general [illegible]. Coleoptera. Orthoptera. Isoptera. Plecoptera. Ephemeroptera. Odonata. Psocoptera. Mallophaga. Anoplura. Thysanoptera. Hemiptera. Coleoptera. Neuroptera. Lepidoptera. Mecoptera. Siphonaptera. Trichoptera. Lepidoptera. Diptera. Hymenoptera. Hymenoptera.

Note A manual in pamphlet form, this publication presents basic information on collecting and preserving insects and an outline of the general insect groups. It was prepared in response to numerous requests received by the Department of Agriculture from farmers, students, and others interested in obtaining first-hand knowledge of insects by collecting them.

Park, Orlando

A study in neotropical Pselaphidae. Evanston, Northwestern University 1942 403 p. illus 26 cm. (Northwestern University studies in the biological sciences and medicine No 1) $7.50 2397

Contents General considerations and the collecting of Pselaphidae. Preparation of Pselaphidae for study. Taxonomic and morphological considerations. Key to the tribes of neotropical Pselaphidae. Subfamily Pselaphinae [illegible] [illegible] tribes 1-9 [illegible] [illegible] tribes 10-1 [illegible] Subfamily Clavigerinae tribe 1. The undescribed species of [illegible]. Zoogeographic and ecological considerations. Selected bibliography. Genera index. Index to plates.

Note The systematic descriptions and key to species attempt to coordinate for the first time and to add to the information on the pselaphid beetles. [illegible] the Neotropic region. The work, which [illegible] summary of data preparatory to monographic study [illegible] many more genera insufficiently known and many type specimens as yet unexamined by the author, [illegible] where possible, [illegible] of the types of the new species have described are figured. Twenty-one plates of drawings by the author [illegible] particular morphology and taxonomy. The present paper [illegible] part of the accumulated information on the Pselaphidae which has been obtained during the 13 years between the present survey of this family [illegible] Raffray's Genera [illegible] 1908, 1924, and 1942.

Peterson, Alvah

Larvae of insects an introduction to nearctic species Part 1 Lepidoptera and plant infesting Hymenoptera. Third edition Columbus, O.. The author Ohio State University 1956 315 p illus 28 cm. $5.50 2398

Contents (abridged) Importance of larval [illegible] Equipment and instruction. Collecting, killing, clearing and preserving larvae. Rearing and returning larvae. Keys to orders for immature stages of insects: nymphs, larvae and pupae. Condensed key to orders for larvae of holometabolous insects. Selected general bibliography on nymphs and larvae of insects. Larvae of Lepidoptera. Key to families of Lepidoptera. Key to subfamilies Pyralidae. Family names of Lepidoptera. Descriptions of larvae of Lepidoptera. List of some common, important, or unusual species of Lepidoptera. Selected bibliography for larvae of Lepidoptera. Larvae of Hymenoptera. Key to families of plant infesting Hymenoptera. List of some common, important, or unusual plant infesting species of Hymenoptera. Selected bibliography for larvae of Hymenoptera. Glossary. Host index of Hymenoptera. Host index of Lepidoptera. General index.

Note This volume presents drawings, keys, and brief descriptions of the larval stages of two important orders of insects, as well as the introductory matter for the work as a whole. The book is a guide for students endeavoring to learn facts essential for identification of insect larvae. Illustrative drawings are both numerous and detailed. Altogether there are 84 plates of illustrations. Particular emphasis is placed upon larvae of economic importance.

—— Part II Coleoptera, Diptera Neuroptera, Siphonaptera, Mecoptera, Trichoptera. Second edition, Columbus O The author Ohio State University 1953 415 p illus 28 cm. $7.00 2398A

Contents Introduction. Methods. Larvae of Coleoptera, discussion. Key to families of Coleoptera. Family names of Coleoptera. Descriptions of larvae of common families of Coleoptera. List of some common, important or unusual species of Coleoptera. Larvae of Coleoptera with explanation. Selected bibliography for larvae of Coleoptera. Larvae of Diptera, discussion. Key to families of Diptera. Family names of Diptera. Descriptions of larvae of common families of Diptera. List of some common, important and unusual species of Diptera. Larvae of Diptera with explanation. Selected bibliography for larvae of Diptera. Larvae of Neuroptera, discussion. Key to families of Neuroptera. Larvae of Neuroptera with explanation. Larvae of Siphonaptera, discussion. Larvae of Siphonaptera with explanation. Larvae of Mecoptera, discussion. Larvae of Mecoptera with explanation. Larvae of Trichoptera, discussion. Key to families of Trichoptera. Larvae of Trichoptera with explanation. Selected bibliography of larvae of Neuroptera, Mecoptera, Siphonaptera and Trichoptera. Glossary for Part II. Food, host or habitat index for Coleoptera. Food, host or habitat index for Diptera. General index for Part II.

Note This volume contains drawings, keys, and brief descriptions of the larval stages of the Coleoptera and Diptera presented in the same complete fashion as the Lepidoptera and Hymenoptera are treated in Part I, and in briefer fashion presents the larvae of the Neuroptera, Siphonaptera, Mecoptera, and Trichoptera. Especial attention is given to larvae of economic importance. Detailed illustrations in enlargement cover [illegible] pages, with explanations on facing pages. The total number of pages devoted to the Coleoptera is 221, to Diptera, 131, to the other four orders, 25.

Pierce, George Washington

The songs of insects with related material on the production, propagation, detection, and measurement of sonic and supersonic vibrations. Cambridge, Mass. Harvard University Press 1948 329 p. illus. 24 cm. $5.00 2399

Contents Introduction and background. Preliminary experiments. Collection of insects located by sound. Mechanism of sound production by insects. Apparatus and methods. Tabulation of insects studied. Crickets [illegible]. Gryllidae [illegible]. Gryllinae, [illegible] subfamily Gryllinae, [illegible] Nemobiinae. Crickets subfamily Oecanthinae. Katydids [illegible]. Tettigoniidae, subfamilies Phaneropterinae and Pseudophyllinae. Katydids subfamilies Conocephalinae [illegible]

with Cornell University Press, 1951 339 p illus (part col'd) 24 cm. $7 50 2390

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MICHENER, CHARLES DUNCAN

Comparative external morphology phylogeny and a classification of the bees (Hymenoptera) New York American Museum of Natural History 1944 169 p illus 27 cm (American Museum of Natural History Bulletin Vol 82 article 6) $1 75 2392

Contents Introduction External morphology of *Anthophora edwardsii* Cresson. Comparative external morphology of the bees Literature cited (morphology) Phylogeny of the bees A classification of the bees Selected references (systematics) Index of taxonomic names

Note This monograph is divided into four parts, the first of which includes a summary of the terminology of structures which is applicable to all bees and to many other groups of Hymenoptera. The second part is primarily a record of differences among various genera, with certain suggestions as to how some of these differences may have come about. In the third part, the characters described in previous sections are analyzed, with a discussion of the phylogenetic history of the bees. The classification, which is a by-product of this phylogeny is presented in the final section. The bibliography presented in two parts, contains 150 references to American and European sources.

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Hymenoptera of America north of Mexico, synoptic catalog prepared cooperatively by specialists on the various groups of Hymenoptera, under the direction of C. F W Muesebeck, Karl V Krombein and Henry K Townes Washington, D C. Government Printing Office, 1951 1 420 p 24 cm. (United States Department of Agriculture Agriculture monograph no 2) o p 2393

Contents Introduction. Order Hymenoptera, suborder Symphyta superfamily Megalodontoidea, Superfamily Tenthredinoidea Superfamily Siricoidea. Superfamily Cephoidea. Suborder Apocrita superfamily Ichneumonoidea. Superfamily Chalcidoidea. Superfamily Cynipoidea. Superfamily Proctotrupoidea. Superfamily Chrysidoidea. Superfamily Bethyloidea. Family Trigonalidae. Superfamily Scolioidea. Family Formicidae. Superfamily Vespoidea. Family Pompilidae. Superfamily Sphecoidea. Family Dryinidae Superfamily Apoidea. Index to new names. Index to supraspecific names. Index to trivial names.

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NEEDHAM, JAMES G AND OTHERS

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Note. The names, descriptions, and known distribution of the species of the Ephemeroptera of North America, with characters for the delineation of the genera, have been brought together in this reference text. Keys and identification tables are given for each family subfamily and genus, and there are numerous illustrations. The volume is intended to be of use to collectors, teachers, taxonomists, anatomists, and entomologists in general.

NEEDHAM, JAMES G AND MINTER J WESTFALL JR.

A manual of the dragonflies of North America (Anisoptera) including the Greater Antilles and the provinces of the Mexican

tribution, biology and relation to malaria. Prepared for the Preventive Medicine Division, Office of the Surgeon General U.S Army Philadelphia The American Entomological Society The Academy of Natural Sciences, 1943 152 p illus. 23 cm. $2.00 foreign countries $2 10 2405

Contents Introduction. Mosquito identification. Anophelines of Canada, United States and northern Mexico. Anophelines of Central America and the Caribbean region. Anophelines of South America. Anophelines of Europe, North Africa, and Near East. Anophelines of South and Central Africa. Anophelines of Asia, except the Philippines. Anophelines of the Philippines. Anophelines of Australian region. Important vectors of malaria. References. Index to specific and subspecific names.

Note Undertaken to provide the United States Medical Department with information leading to the control of disease-bearing mosquitoes throughout the world wherever military personnel are stationed, this publication presents keys to the identification of various species of anopheline mosquitoes by geographical distribution. Description, distribution, biology (including habits, activity) and relation to malaria are given for most species. There are 102 references in the selected bibliography.

SANDHOUSE, GRACE ADELBERT

The North American bees of the genus Osmia (Hymenoptera Apoidea) Washington, D C. Entomological Society of Washington, 1939 167 p. illus. 26 cm. (Entomological Society of Washington. Memoirs. No 1) $3 00 2406

Note A descriptive catalogue of the genus, whose species are chiefly palearctic and nearctic and which exhibit as great diversity in type of nests as any other genus of bees. Of approximately 250 names which have been proposed for species of Osmia in the nearctic region, about 120 are listed as synonyms in the present work, and 30 are transferred to other genera, leaving 150 names in the genus. The collection of Osmia in the United States National Museum has served as basis for this systematic study, being supplemented by material from other institutions and private collections. Under each species following the original reference are cited only those references which contain information additional to locality records. The distribution given is only for material actually seen by the author. There are 78 figures and general index.

SCHOOF HERBERT FREDERICK

The genus Conotrachelus Dejean (Coleoptera, Curculionidae) in the north central United States. Urbana University of Illinois Press, 1942 170 p. illus 26 cm (Illinois biological monographs. Vol XIX, no. 3) $1.50 2407

Contents (abridged) Introduction. Review of literature. Materials and methods. The removal, study and preservation of the male genitalia. Measurements. Studies of collections and types. Organization of distributional data. The morphological characters of taxonomic importance. The body regions and their appendages. Color and vestiture. Characters for sex determination. The male genitalia. Nomenclature. Classification. Keys to groups and species. Addendum. Conotrachelus [illegible] Summary. Glossary. Literature cited. Plates.

Note Keys to, and descriptions of, 77 species of Conotrachelus in the area studied, including five new species, with an evaluation of the taxonomic importance of various morphological structures. The description of [illegible] sixth new species, [illegible], not found in the area studied, is presented as an addendum.

SMITH CLYDE FUHRIMAN

The Aphidiinae of North America (Braconidae Hymenoptera) Columbus The Ohio State University 1944 154 p. illus. 23 cm. (Ohio State University Contributions in zoology and entomology No 6) $3.50 2408

Contents Preface. Introduction. Methods. General biology of the Aphidiinae. Taxonomic characters of the Aphidiinae. The subfamily Aphidiinae. Host index. Bibliography. Plates. Index to Aphidiinae.

Note This treatise describes the Aphidiinae subfamily (family Braconidae superfamily Ichneumonoidea) one of the primary parasites of the aphid. The species of Aphidiinae, of which 77 are here described, play an important economic role in reducing the aphid populations on truck and other crops.

SNODGRASS ROBERT EVANS

Anatomy of the honey bee Ithaca Comstock Publishing Associates a division of Cornell University Press 1956 334 p illus. 24 cm. $6.00 2409

Contents. From germ cells to adult. The body wall and the muscles. The head. The organs of feeding. The thorax. The legs. The wings. The abdomen. The alimentary canal. The circulatory system. The fat body, urate cells, and oenocytes. The respiratory system. The nervous system and the sense organs. The endocrine organs. The reproductive system. References. Index.

Note An outstanding account of the anatomy of the honey bee covering not only the adult, but also the egg, larva, and pupa. A well-organized and detailed descriptive text is complemented by a remarkable series of illustrations. There are 107 figures, most of which contain reproductions of several drawings. The majority of drawings are in large scale with an occasional important one, such as that of the reproductive organs and sting of the queen, occupying a full page. The list of references is 11 pages long and is international in scope. This book supersedes the author's *Anatomy and physiology of the honey bee*, New York, 1925.

SNODGRASS, ROBERT EVANS

The feeding apparatus of biting and sucking insects affecting man and animals. Washington, D C. The Smithsonian Institution 1944 113 p. illus. 24 cm (Smithsonian miscellaneous collections. Vol 104 no. 7 Publication 3773) $0.50 2410

Contents Introduction. The cockroach. The biting lice and book lice. Orders Mallophaga and Corrodentia. The elephant louse. The sucking lice. Order Anoplura. The flies. Order Diptera. The fleas. Order Siphonaptera. The thrips. Order Thysanoptera. The sucking bugs. Order Hemiptera. References, and textbooks on medical entomology.

Note A monograph for medical entomologists which discusses the structure and physiology of those insects which obtain their food either with a pair of jaws working against each other or by means of a sucking apparatus. No previous knowledge of insect anatomy or anatomical nomenclature is assumed. A detailed study of the anatomy of the cockroach is introduced early in the text to serve as a basic model of the insect head and feeding organs. There is a 31-page section covering the piercing and sucking apparatus of mosquitoes. Ninety-eight references appear in the bibliography and there are 39 text figures.

SNODGRASS ROBERT EVANS

Insect metamorphosis. Washington D C. Smithsonian Institution, 1954 124 p. 23 cm (Smithsonian Institution. Miscellaneous collections. Vol 122 no. 9) $1.20 2411

Contents: Metamorphosis and classification. Hormones and metamorphosis. Apterygota. Pterygota. Ephemeroptera. Odonata. Hemiptera. Thysanoptera. Oligoneoptera. Larval heteromorphosis. The pupal transformation. Muscle attachments and the nature of the pupa. References.

Note A broad study of the main features of insect metamorphosis. Essentially it surveys the state of knowledge at the time of writing, covering both the general aspects and the special features of metamorphosis exhibited by individual groups of insects. Gaps in the knowledge are pointed out. The list of references cites the pertinent international literature and includes some publications issued as recently as 1952.

phorinae, Conocephalinae, and Decticinae. Locusts family Acrididae, subfamilies Tryxalinae and Oedipodinae. Cicadas family Cicadidae Calculation f wing resonance Birds and bats. Appendix performance of the apparatus.

Note In this book, the results of an extensive series of investigations with special apparatus devised for the purpose ar presented The experiments were conducted from the standpoint f extending the knowledge of acoustics, especially f radiation in the frequencies just above audible sound but there is included necessarily good deal f information on the sound organs f insects. The more than 240 figures include some photographs of insects and their sound organs and many eproductions f photographic recording f their songs.

Richards, Albert Glenn

The integument of arthropods the chemical components and their properties the anatomy and development, and the permeability Minneapolis University of Minnesota Press 1951 411 p illus 24 cm. $6 00 2400

Contents Introduction. Section I The chemical components, their combinations, their properties Glucosamine, N-acetylglucosamine, *chitobiose, and chitin Chitin derivatives and metabolic sources. The* detection and estimation of chitin. The distribution f chitin in the animal and plant kingdoms. The decomposition of chitin and cuticle in nature. Proteins. Polyphenols and enzymes. Mixed polymers. Pigments. Lipids. Inorganic constituents and calcification. The percentages of cuticular components. Unknown chemical components. The physical properties of cuticle and cuticular components. Section II The microanatomy and development f the integument The general structure Historical and taxonomic résumé. The epicuticle or nonchitinous cuticle. The procuticle, or chitinous cuticle. Differentiation of the procuticle. Physical colors. The epidermis. The oenocytes, blood cells, and basement membrane. Molting. Muscle attachments, tendons, and apophyses. Wings, gills, epidermal glands, etc. The tracheal system. Sculpturing, setae, and miscellaneous structures. Section III, The permeability of the cuticle General emarks on the permeability f the cuticle. The penetration of water and gases. The penetration f electrolytes, nonelectrolytes, and insecticides. Bibliographical index of authors Subject index.

Not A comprehensive well-organized and completely documented account of the arthropod integument, which will be of chief interest to entomologists, zoologists, and chemists. It is synthesis of the literature of the subject for the use of other scientific workers. The uthor as entomologist, gives the other classes of arthropods less attention than the insects, but points out that more work has been done with the integument of insects than with that of other arthropods. The bibliography runs to 77 pages.

Roeder, Kenneth D editor

Insect physiology New York John Wiley & Sons Inc 1953 1 100 p illus 24 cm. $15 00 2401

Content Structure and function of the integument, by A G Richards. Chemical and physical properties f cuticle by A. G. Richards. The penetration of substances through the cuticle, by A. G. Richards. Respiratory mechanisms, by G A Edwards. Respiratory metabolism, by G A. Edwards. Physical properties and chemical composition of insect blood, by J B Buck The internal environment in regulation and metamorphosis, by J B Buck. The hemocytes, pericardial cells, and fat body by S. C. Munson. Circulation by R. L. Beard. Structur f the alimentary system, by *M. F Day and D F Waterhouse Functions* f the alimentary system, by M F Day and D F Waterhouse The mechanism f digestion by *M F Day and D F Waterhouse. Function* of the gut in absorption excretion and intermediary metabolism, by D F Waterhouse and M F Day Nutrition, by W Trager Excretion, by R. L. Patton. The biochemistry of muscle by *D Gilmour* Electric activity in nerves and ganglia, by K D Roeder Reflex activity and ganglion function by K D Roeder Vision by V G Dethier Mechanoreception, by V G Dethier Chemoreception by V G. Dethier The motion of the wings, by L E Chadwick. Aerodynamics and flight metabolism by L. E. Chadwick. The flight muscles and their control, by L E Chadwick. Basic problems in the nature f insect behavior by T C Schneirla. Insect behavior in relation to its setting, by T C. Schneirla Modifiability in insect behavior *by T C* Schneirla. Collective activities and social patterns among insects, by T C Schneirla. Embryonic development by D Bodenstein. Postembryonic development, by D Bodenstein. Regeneration, by D Bodenstein. The role f hormones in molting and metamorphosis, by D Bodenstein. Bibliography—author index. Index.

Note An important survey of the accumulated results of experimental research on insects. It is composed of the chapters the authors and titles are listed above. Generally speaking, each chapter is concisely written and is intended as summary and review the pertinent literature bearing on its particular topic. The treatment is at a graduate level, and the book is addressed to biologists and other scientists working in the field or having special interest in it. The combined bibliography and author index runs to 108 pages. Entries include abbreviated English titles. The subject index is a ery detailed one.

Ross, Herbert Holdsworth

A generic classification of the nearctic sawflies (Hymenoptera, Symphyta) Urbana. University of Illinois Press, 1937 173 p. illus. 26 cm (Illinois biological monographs. Vol. xv no 2) $2 00 2402

Content Introduction Methods. Materials. Morphology Head and appendages. Thorax and appendages. Abdomen and appendages Phylogeny The superfamilies of sawflies. Family groupings. Hypothesis of genealogy Larval characters. Biology Summary of phylogeny Taxonomy Superfamily Tenthredinoidea. Superfamily Megalodontoidea. Superfamily Siricoidea. Superfamily Cephoidea. Bibliography Plates. Index.

Note Classification f sawflies on the basis of the comparative morphology f the body and its appendages rather than on only those characters which may be seen without dissection. The taxonomic portion of the study is based on an examination of over 50,000 sawflies, including 90 per cent f the types of nearctic species.

Ross, Herbert Holdsworth

A textbook of entomology Second edition New York John Wiley & Sons, Inc., 1956 519 p illus 23 cm. $7 75 2403

Content Growth of North American entomology Arthropods—insects and their allies. External anatomy Internal anatomy Physiology The lif cycle. The orders of insects Geological history of insects. Ecological considerations. Control considerations. Index.

Note A general introduction to the fundamental aspects of the subject from which specialized information has been largely omitted so as to afford view f entomology as biological science The first chapter provides an interesting historical sketch of the development of the science, and the chapter on geological history traces the evolution of insects. The volume is well illustrated, and there are lists of books and articles for further reading. In addition to its intended use in college classes, it has value for amateur entomologists as a supplement to the conventional manuals on collecting and identification. The first edition was published in 1948. Chapter titles are the same in this edition, and there has been no change in scope or organization. However new information has been added on insect evolution, physiology and ecology, and of the illustrations also are newly added.

Russell, Louise May

The North American species of whiteflies of the genus *Trialeurodes* Washington. D C Government Printing Office 1948 85 p illus 23 cm. (United States Department of Agriculture Miscellaneous publication no. 635) $0 25 2404

Content Introduction Host associations. Characters of value Terminology Illustrations. Genus *Trialeurodes* Cockerell. Key to species of *Trialeurodes* Treatment of species. A species erroneously assigned to *Trialeurodes* Species treated and their synonyms. Literature cited. Index to host plants. Index to whiteflies.

Note This pamphlet describes and illustrates type specimens of 33 North American species of *Trialeurodes*, with the purpose of assisting in their recognition indicating synonymy recording the hosts and distribution of the insects examined, and discussing other information about the genus. The work is based primarily upon morphological study of the fourth instar the stage commonly known as the pupa case or pupa.

Russell, Paul Farr and others

Keys to the anopheline mosquitoes of the world with notes on their identification, dis-

ties. Chicago Chicago Natural History Museum 1950. 231 p. 21 cm. (Fieldiana Zoology memoirs. Vol. 1) $4.00 2419

Contents (abridged) Part Descriptions of new genera and species. Part II, The comparative morphology of the Aedeagus of [illegible] from Mexico and Central America. Part III, References [illegible] Index. List of abbreviations.

Note Although 35 new species and sub-species and two new genera are described in this work, the author has not attempted a comprehensive description of the fauna of Central America and Mexico. He points out that such a monograph could not be prepared because of the many lacunae in the knowledge of the fauna of that region. His main interest was in the possible taxonomic value of the Aedeagus. Part [illegible] is therefore the most important section of the book. There are 34 plates, each of which contains several drawings pertaining to comparative morphology of the fauna of this geographical area.

Usinger, Robert Leslie

Aquatic insects of California, with keys to North American genera and California species, by W C. Bentinck H. P Chandler W C. Day D G Denning, K. S Hagen S. G Jewett, Jr., W H Lange Jr., Ira La Rivers J D Lattin H B Leech, A E. Pritchard D B Scott, Jr R. F Smith, Alan Stone R. L. Usinger and W W Wirth Berkeley University of California Press 1956. 508 p. illus. 29 cm $10.00 2420

Contents Introduction to aquatic entomology—principles and practices, by R. L. Usinger. Introduction to aquatic entomology equipment and techniques, by J. D. Lattin. Structure and classification, by W. C. Bentinck. Aquatic Collembola, by D. B. Scott, Jr. Ephemeroptera, by W. C. Day. Odonata, by A. E. Pritchard and R. F. Smith. Aquatic Orthoptera, by I. La Rivers. Plecoptera, by S. G. Jewett, Jr. Aquatic Hemiptera, by R. L. Usinger. Megaloptera, by H. P. Chandler. Aquatic Neuroptera, by H. P. Chandler. Trichoptera, by D. G. Denning. Aquatic Lepidoptera, by W. H. Lange, Jr. Aquatic Hymenoptera, by K. S. Hagen. Aquatic Coleoptera, by H. B. Leech and H. P. Chandler. Aquatic Diptera, by W. W. Wirth and A. Stone. Glossary by W. C. Bentinck. Index, compiled by J. [illegible]

Note A unified collection of sixteen original monographs dealing with the aquatic insects of the streams and lakes of California. As an illustrated reference volume of the subject, the book should be of value to entomologists everywhere, for it is a unique publication. Its purpose is "to point out the central role of insects in aquatic [illegible], to bring to bear on insects the basic concepts and tools of limnology and to provide keys and illustrations to aid in the identification of aquatic insects." The opening chapters on the practices and techniques of underwater entomology cover 45 pages and provide a general illustrated introduction. Each of the 13 chapters dealing with the aquatic orders of insects known to California contains keys for the identification of North American genera, keys for the identification of California species, line drawings to assist in identification, and bibliographical references.

Usinger, Robert Leslie

The genus Nysius and its allies in the Hawaiian Islands (Hemiptera Lygaeidae, Orsillini) Honolulu Bernice P Bishop Museum 1942 167 p. illus. 25 cm. (Bernice P Bishop Museum. Bulletin 173) $2.50. 2421

Contents (abridged) History Material, method, explanation of terms. Taxonomy Phylogeny Distribution, geographical, [illegible] Host relationships. Life history and developmental stages. Natural enemies. Economic importance. Summary. Characteristics of the environment, of the bugs, evolution. Bibliography. Systematic index.

Note The Hawaiian species of the tribe Orsillini have been studied from three different points of view (1) as the best known though commonest insects from sea level to the tops of the mountains on introduced and native plants; (2) as an fauna of primitive and modern forms comprising half of the known orsilline fauna of the world, and (3) as the best case of tremendous proliferation of Nysius in insular areas, which presents possibilities of experimental analysis. An attempt has been made to elucidate the general subject along these three lines, stressing the taxonomic, phylogenetic, biological, and philosophical sides of the problem.

Van Dyke Edwin C

The Coleoptera of the Galapagos Islands. San Francisco California Academy of Sciences 1953 181 p 26 cm. (California Academy of Sciences. Occasional papers no XXII) $3.50 2422

Content Introduction. Family Cicindelidae. Family Carabidae. Family Dytiscidae Family Gyrinidae Family Hydrophilidae. Family Staphylinidae. Family Histeridae Family Lycidae Family Cantharidae. Family Melyridae Family Cleridae Family Ostomatidae Family Mordellidae Family Meloidae Family Elateridae Family [illegible] Family Dermestidae Family Ostomidae Family Nitidulidae. Family Cucujidae Family [illegible] Family Colydiidae Family Languriidae Family Coccinellidae Family Alleculidae. Family Tenebrionidae. Family Anobiidae. Family Bostrichidae. Family Scarabaeidae. Family Ptinidae Family Cerambycidae. Family Chrysomelidae. Family Bruchidae. Family Anthribidae Family Curculionidae Family Platypodidae. Family Scolytidae. References. Plates. Index.

Note Described in this monograph are the Coleoptera collected on an expedition to the Galapagos Islands in 1905 and 1906. The beetles collected were intensively studied by the author over a period of years and in many instances were compared with type specimens in the British Museum. All are now described, and some species found on the Galapagos Islands by other collectors but not represented in the collection of the California Academy of Sciences also are described. In these cases it is stated that the California Academy of Sciences has no specimen. The descriptions of the morphology of the species studied by Dr. Van Dyke are very detailed. There are seven plates, each of which contains 7 to 9 drawings.

Wenzel, Rupert Leon

On the classification of the histerid beetles. Chicago Chicago Natural History Museum 1944 104 p illus. 24 cm. (Chicago Natural History Museum. Publication 545 Zoological series Vol. 28, no 2) $1.00 2423

Note A systematic classification of the coleopterous family Histeridae which aims to correct certain generic assignments and subfamilial and tribal definitions of earlier writers. Types, [illegible], paratypes, description, measurements, and related data are given for each species presented, many of which are new and here described for the first time. There are also plates of anatomical drawings.

West Luther Shirley

The housefly its natural history medical importance and control Ithaca Comstock Publishing Company Inc., associated with Cornell University Press 1951 584 p illus. 24 cm. $7.50 2424

Contents Flies and man. Introductory and historical. External morphology Internal morphology physiology behavior Life history of the fly Taxonomy and nomenclature. Geographical distribution. Food requirements. Temperature and humidity Miscellaneous ecological factors. Parasites, predators, symbionts, and commensals. Flies and human disease. Public health relations. Myiasis. Are flies beneficial? The fly as an experimental animal. Field, museum, and laboratory techniques. Emergency control. Planned control. Newer insecticides: uses and dangers. Bibliography. Index.

Note A monograph in which all phases of the subject—morphology physiology behavior life history taxonomy distribution, relation to disease, techniques in the laboratory and in nature, techniques in the field, museum, and laboratory, control measures, and bibliography—are covered. It is the first comprehensive treatment of the housefly in book form since 1914. It is substantial enough to be valuable to such professional workers as entomologists and public health specialists, but the style is not too technical for interested laymen and others not accustomed to scientific terminology. The bibliography extends over 33 pages.

SNODGRASS, ROBERT EVANS

Principles of insect morphology New York McGraw Hill Book Company Inc., 1935 667 p illus. 23 cm (McGraw Hill publications in the zoological sciences, A F Shull, consulting editor) $12 00 2412

Contents Introduction. General organization and development. The body wall and its derivatives. Body regions, sclerites and segmentation. The segmental appendages of arthropods. The head. The head appendages. The thorax. The thoracic legs. The wings. The abdomen. The organs of digestion. The alimentary canal. The organs of distribution conservation and elimination. The respiratory system. The nervous system. The sense organs. The internal organs of reproduction The organs of copulation and oviposition References. Index.

Not A comprehensive text, primarily for college courses in the subject. The author has attempted t give in each chapter a coherent morphological view of the structure or organs under discussion and has not hesitated to use generalizations to this end. The list of references, although it is limited mainly to works cited in the text, runs to about 600 entries.

SNYDER, THOMAS ELLIOTT

Annotated, subject heading bibliography of termites, 1350 B C to A.D 1954 Washington, D C The Smithsonian Institution 1956 305 p 24 cm. (Smithsonian miscellaneous collections Volume 130 (whole volume) Publication 4258) $4 00 2413

Contents Introduction. List of subject headings. Subject headings. List of authors and titles. Index.

Note The author formerly on the staff of the United States Bureau of Entomology began compiling this bibliography in 1909 and continued it until his retirement in 1951 after which he prepared the work for publication. It consists of 3 624 references to termites, arranged in two ways first, under 73 appropriate subject headings and, second, by author alphabetically Taxonomic articles published before 1949 are omitted from the lists, as they are listed in the author' publication of that year entitled *Catalog of the termites (Isoptera) of the world* (Smithsonian Miscellaneous Collections. Volume 112 (whole volume) Publication 3953)

SNYDER, THOMAS ELLIOTT

Catalog of the termites (Isoptera) of the world. Washington, D C The Smithsonian Institution, 1949 490 p 23 cm (Smithsonian miscellaneous collections Vol 112 (whole volume) Publication 3953) $3 00 2414

Contents Introduction. List of the families, subfamilies, genera, and subgenera. Catalog of the termites (Isoptera) f the world Living termites Family Mastotermitidae. Family Kalotermitidae. Family Hodotermitidae. Family Rhinotermitidae. Family Termitidae Not identified as to species. Not classified Not termites, or f doubtful position. Fossil termites Family Uralotermitidae Family Mastotermitidae. Family Kalotermitidae. Family Hodotermitidae Family Rhinotermitidae. Family Termitidae Of uncertain or doubtful position. *Fossils not termites. Descriptions of ew genera. Index* to species. Bibliography on the taxonomy of the termites f the world On living termites. On fossil termites.

Not A complete catalogue, systematically arranged, f all known species of termites, divided into 138 living genera, 12 fossil genera no longer living, and 17 fossil genera still living. Excepting for new genera, descriptions are not given f the species, genera, and families, but references indicate where in the literature f the subject such descriptions appear For each species are given the geographical area where found and, when *possible the present location of* type specimens.

SOCIETY ISLANDS INSECTS Honolulu Bernice P Bishop Museum 1935 156 p illus 25 cm. (Bernice P Bishop Museum Bulletin 113 Pacific Entomological Survey publication 6) $2 00 2415

Not This bulletin contains 31 papers by various authors on the insects of the Society Islands and Tahiti. Information concerning the expedition and its results, part of which is here reported, may be found in the note on *Bulletin*

SWAIN, RALPH BROWNLEE

The insect guide orders and major families of North American insects. Illustrated by SuZan N Swain Garden City Doubleday & Company, Inc., 1948 261 p. illus. (part col'd) 20 cm $3 95 2416

Contents (abridged) About insects in general. Order and key. Roach, grasshopper and cricket order (Orthoptera) Termite order (Isoptera) Bug, aphid and scale order (Hemiptera) Nerve-winged insects (Neuroptera) Moth and butterfly order (Lepidoptera) Beetles (Coleoptera) Wasp ant and bee order (Hymenoptera) Fly order (Diptera) Collecting, preserving and studying insects. Index.

Note A pocket-sized field book in which are described and pictured the common insects of the United States and Canada. It is designed for naturalists, accordingly the language is as nontechnical as possible. Of the nearly 200 illustrations, approximately [illegible] are in full color Description of a typical insect includes the [illegible] size and color f adults and young, its habits, habitat, geographic range, and the economic importance, if any There are [illegible] f carefully selected references.

SWEZEY, O H , AND OTHERS

Insects of Guam, I–II Honolulu Published by the Museum 1942–46 2 v 25 cm (Bernice P Bishop Museum Bulletin 172, 189) $3 00 per vol 2417

Contents (abridged) I Odonata. Thysanoptera. [illegible] Neuroptera. Lepidoptera. Coleoptera. Strepsiptera. Hymenoptera. Diptera. Index. II: Orthoptera and related orders. Isoptera. [illegible]optera. Homoptera. Lepidoptera. Diptera. Hymenoptera. [illegible] to Volume I. Index.

Note. This work consists of individual signed papers [illegible] are studies of insects collected on Guam. Most of the [illegible] were made in the course of an entomological survey in [illegible] papers are contributions to the literature of scientific [illegible] Although some of the insects described are agricultural pests, the [illegible] aspect of the subject is not covered There are 21 papers in the first number of the series and 12 in the second.

TEALE, EDWIN WAY

Grassroot jungles a book of insects. Revised edition. Illustrated with one hundred and thirty photographs by the author New York Dodd Mead and Company 1953 24[illegible] p illus 25 cm. $5 00 2418

Contents Exploring at home. Insect A B C's. Winged [illegible] the dragonflies. The mystery of the Monarch. A garden [illegible] the praying mantis. Living pastures—the aphides. The [illegible] Polyphemus the giant. Two legs too many—the spiders The [illegible] [illegible] of the bumblebee. Insect Lilliput. A six-legged Rip van Winkle [illegible] Beauty and the beast. The old man of the garden. Wisdom of the [illegible] wasps. Ant lore. The first fiddler Flying rainbows The [illegible] ladybug. Night singers. *How to photograph insects.* [illegible] Bibliography Entomological epilogue. Index.

Note Not systematic book but collection of interesting [illegible] about insects and insect life. The author's style is readable, and his treatment is aimed at the nature-loving layman. A special feature is the reproductions of photographs, most of them showing insects considerably enlarged from their natural size. In the revised edition, the author has incorporated some textual changes for greater accuracy or clarity He has also enlarged the bibliography of popular books on insects to 54 titles and has added an "entomological epilogue," herein are listed the scientific names of most of the insects mentioned in the book.

TRAUB, ROBERT

Siphonaptera from Central America and Mexico, a morphological study of the Aedeagus with descriptions of new genera and spe-

[illegible] Eels (Anguillidae, Congridae, [illegible]). Lancetfishes ([illegible]) [illegible] Flying fishes (Exocoetidae) [illegible] John Dories (Zeidae) [illegible] Mullets (Mugilidae) [illegible] Trumpet fishes [illegible] Mackerels (Scombridae) [illegible] Dolphins (Coryphaenidae) [illegible] Sea basses (Serranidae) [illegible] Porgies (Sparidae) Croakers, drums, and weakfishes (Sciaenidae) [illegible] Scorpion fishes (Scorpaenidae) Sculpins and sea ravens (Cottidae and Hemitripteridae). Alligatorfishes (Agonidae) Lumpfishes (Cyclopteridae). Sea snails (Liparidae) Sea robins or gurnards and armored sea robins (Triglidae and Peristediidae) Flying gurnards (Dactylopteridae) [illegible] Remoras (Echeneidae) Sand launces (Ammodytidae) [illegible] Wrymouths (Cryptacanthodidae). Wolffishes (Anarhichadidae) Ocean pouts and wolf eels (Zoarcidae) Cusk eels (Ophidiidae). Toadfishes (Batrachoididae) Triggerfishes (Balistidae) Filefishes (Monacanthidae) Puffers and porcupine fishes (Tetraodontidae and Diodontidae) Ocean sunfishes or headfishes (Molidae) Anglers (Lophiidae) [illegible] fishes (Antennariidae) Deep sea anglers (Ceratiidae) Bibliography Index to common names. Index to scientific names.

Note Totals of 33 species of cartilaginous fishes and 194 species of bony fishes are described and illustrated in this excellent book. [illegible] scientific accuracy and keys are provided for all species as further aid to identification. Habits, general range, occurrence and abundance in the Gulf of Maine, and commercial importance are summarized for each species. References are given to other works in which the species are more fully described. The work, [illegible] of Bulletin 40, Part 1, of the United States Bureau of Fisheries, published in 1925 by the same authors, is based upon many years of study of the coastal fishes found in the waters off the northern New England coast.

BIGELOW HENRY B., AND OTHERS

Fishes of the western North Atlantic. Part one Lancelets, cyclostomes sharks New Haven Sears Foundation for Marine Research, Yale University 1948 576 p illus. 31 cm. (Sears Foundation for Marine Research. Memoir number 1) $10 00 2432

Contents. Introduction, by John Tee-Van, editor-in-chief Lancelets, by Henry B. Bigelow and [illegible] Class Leptocardii. Order Amphioxi. Cyclostomes, by Henry B. Bigelow and William C. Schroeder Class Agnatha [illegible] Order Myxinoidea. Order Petromyzonida. Sharks, by Henry B. Bigelow and William C. Schroeder Class Chondrichthyes. [illegible] Index of common names Index of scientific names.

Note Fishes of the western North Atlantic is the title of [illegible] series of [illegible] volumes being published by the Sears Foundation for Marine Research under the direction of an editorial board whose editor-in-chief is John Tee-Van. When completed the set is intended to present [illegible] comprehensive scientific account written by various authors of the fish fauna of the Atlantic Ocean from Hudson Bay southward to the mouth of the Amazon River. The accounts of the various species and groups are to be uniform in style and arrangement and to be published in systematic order. The text [illegible] original research, and critical reviews of existing information. In the present volume, the accounts of the lancelets and cyclostomes cover fifty-eight pages, while the account of the sharks extends from page fifty-nine through page 546. Under each species is [illegible] detailed description, together with [illegible] discussion of its distinguishing characteristics, color, size, general habits, abundance, range, and relation to man—economic importance, danger, sporting qualities. Bibliographical references are given for each species under the heading "Synonyms and references," and there are additional references included in the text. The illustrations, of which there are 106, are line drawings [illegible], detail, or [illegible] as well as head, [illegible]

and teeth forms of the different species. The primary purpose of the work as [illegible] is to bring together and synthesize scattered ichthyological information and "to make it available to both the public and to marine biologists. Since the set is intended for the use of lay persons as well as ichthyologists, highly technical words and phrases are being avoided as far as possible.

BLANCHARD FRANK NELSON

The ring-neck snakes, genus Diadophis. Chicago Chicago Academy of Sciences, 1942 144 p illus. 24 cm (Chicago Academy of Sciences. Bulletin. Vol 7 no. 1) $2.50 2433

Contents. Foreword, by H. K. Gloyd. Description of the genus Diadophis. Key to the species and subspecies. Abbreviations used [illegible] The Amabilis group. The Mexican [illegible] *Diadophis* [illegible]. The Regalis group. The Punctatus group. General summary. Literature cited in the text. Index.

Note A descriptive monograph giving structural and [illegible] details, habitat and habits, range, variation and affinities and related data for all species or type specimens examined by the author. The bibliography lists 147 papers and monographs published between 1842 and 1942.

BOGERT CHARLES M., AND RAFAEL MARTÍN DEL CAMPO

The Gila monster and its allies the relationships habits and behavior of the lizards of the family Helodermatidae. New York American Museum of Natural History 1956. 238 p illus. 27 cm. (American Museum of Natural History Bulletin Vol 109 art 1) $4.00 2434

Contents Introduction Classification and distribution of the beaded lizards. Key to the fossil and recent lizards of the genus *Heloderma*. [illegible] in *Heloderma*. Food and feeding habits. Bodily functions, behavior and activities. Life history. Ecology. The venom apparatus and the venom and its effects. Bites inflicted on human beings. Man and the helodermatids. Bibliography.

Note A comprehensive study based on both an examination of the literature and [illegible] study of numerous specimens, including live specimens, specimens preserved in alcohol, and skeletons. Forty-four pages are devoted to taxonomic and morphological aspects and to the identification key. Very full discussions are included of feeding habits, physiology, behavior, ecology etc. More than 50 pages are devoted to the venom and to case histories of bites inflicted on human beings. The bibliography is comprehensive. There are 35 figures in the text and 20 plates, containing [illegible] somewhat larger number of illustrations, reproduced from photographs. The work is of interest both to zoologists and to non-zoologists who are interested in this animal.

BRECKENRIDGE WALTER JOHN

Reptiles and amphibians of Minnesota. Minneapolis University of Minnesota Press 1944 202 p. illus. 23 cm. $2.50 2435

Contents Introduction. History of Minnesota herpetology. Tales about reptiles and amphibians. The distribution of amphibians and reptiles in Minnesota. Field methods. Care of reptiles and amphibians in captivity. Venomous snake bites and their treatment. Preservation of specimens. Classification. Use of keys. Keys for use with Minnesota amphibians and reptiles. Hypothetical list. Amphibians and reptiles of Minnesota: Amphibians: Salamanders. Toads and frogs. Toads. Tree frogs. Frogs. Reptiles: Lizards. Snakes. Turtles. Glossary. Bibliography. Index.

Note An illustrated manual designed primarily for teachers and amateur naturalists. Typical information for each species: popular and scientific names, description, range, habits, habitat, food, breeding habits, and selected references to literature. Maps show distribution and range of the various species.

BREDER, CHARLES M., JR

Field book of marine fishes of the Atlantic coast from Labrador to Texas being a short

WHARTON, GEORGE WILLARD

A manual of the chiggers, the biology, classification, distribution, and importance to man of the larvae of the family Trombiculidae (Acarina) Aided by H S Fuller Washington, D C Entomological Society, 1952 185 p illus 26 cm (Entomological Society of Washington Memoirs No 4) $6 00 2425

Contents Introduction. Public health. Behavior Life cycles. Anatomy Classification The distribution of Trombiculids. Appendix. Literature cited. Index.

Note Although the chapter on classification is longer (46 pages) than any other this book is a reference manual of the whole subject, rather than a systematic description of the Trombiculidae. The available knowledge on life cycles, physiology and ecology is summarized. Also, the public health aspects are adequately utilized. The bibliography is comprehensive

WHEELER, WILLIAM MORTON

Check list of the ants of Oceania Honolulu Bernice P Bishop Museum, 1935–36 56 p 23 cm (Bernice P Bishop Museum. Occasional papers Vol XI, no 11, 1935) $0 50 2426

Note For the purposes of this check list Oceania covers the groups of small central Pacific islands and in addition the Bismarck Archipelago, the Solomon and Santa Cruz Islands, New Caledonia, Lord Howe and Norfolk Islands and New Zealand, and in the eastern Pacific the Galapagos Archipelago, Cocos Island, and the small islands off the coast of Mexico and southern California. All the subfamilies of the Formicidae are represented in Oceania with the exception of the Dorylinae and Leptanillinae. The whole fauna comprises, so far as known 560 forms (339 species, 108 subspecies, and 113 varieties) The list gives the complete known geographical range for each form.

WHEELER, WILLIAM MORTON

Colony founding among ants, with an account of some primitive Australian species Cambridge, Mass Harvard University Press 1933 179 p illus 20 cm $2 00 2427

Note An unexpected and very primitive method of colony-founding behavior observed by the author among the famous bull-dog ants, while he was accompanying the Harvard Zoological Expedition in Australia, leads him to undertake a general technical review of all the known methods of colony propagation among the ants and other social insects. The work also contains taxonomic data and natural history notes on a number of little-known species of bull-dog ants and certain other primitive Australian genera. Bibliography and index

WHEELER, WILLIAM MORTON

Revised list of Hawaiian ants. Honolulu Bernice P Bishop Museum 1934 21 p 23 cm (Bernice P Bishop Museum Occasional papers Vol X no 21) $0 50 2428

Note The material on which this paper is based consists of the collections in the Museum the Sugar Planters Experiment Station and the Federal Quarantine Station in Honolulu, together with specimens obtained by the author during his visit to the islands in 1930 This revised list comprises 35 species, showing an accession of 12 items since the publication of Gulick's list in 1913. It is a meager ant fauna for an area as large as Hawaii, possessing tropical climate but is undoubtedly more nearly complete than the ant list of any other group of islands in the Pacific.

VERTEBRATES (EXCEPT BIRDS AND MAMMALS)

AXELROD, HERBERT R, AND LEONARD P SCHULTZ

Handbook of tropical aquarium fishes New York McGraw Hill Book Company, Inc., 1955 718 p illus. (part col'd) 26 cm. $10 00 2429

Contents Ichthyology The aquarium and its management. Plants in the home aquarium. Diseases of fishes and their care by C van Duijn, Jr Catalogue of fishes. Glossary Selected references. Index.

Note A comprehensive, fully illustrated reference book on fishes of interest to amateur fanciers who maintain small aquariums, usually in their homes. At the beginning of the volume 133 pages are devoted to general topics, including elementary ichthyological information descriptions of small aquariums, aquarium equipment, and plants suitable for growing in aquariums. Beginning with page 155 and continuing to page 675 the space is devoted to fish descriptions. Each description includes identification of particular genus or variety of fish, data on its natural range, size, color temperament, temperature requirements, morphological differences between the sexes, and a few paragraphs of general information on such points as rarity breeding habits, etc. Each description includes one or more illustrations. A considerable number of the illustrations are reproduced in color Following the catalog are glossary selection of literature references, and a full index. The first-named author is editor of *Tropical fish hobbyist* magazine, and his colleague is Curator of Fishes on the staff of the United States National Museum.

BARNHART, PERCY SPENCER

Marine fishes of southern California. Berkeley University of California Press, 1936 209 p illus 26 cm $4 00 2430

Contents Introduction. Note on the description of fishes. Families of fishes described. Figures of fishes described. Glossary Bibliography Index to the common names of the fishes. Index to the scientific names of the fishes.

Note From many papers and books, descriptions have been gathered together in one volume making it a convenient means of identification of the fishes of this region. Three hundred seventy species, all those reported from southern California waters from Point Conception on the north to the Mexican border on the south, have been included. The book is intended for students and laymen.

BIGELOW, HENRY B AND WILLIAM C SCHROEDER

Fishes of the Gulf of Maine First revision. Contribution no. 592 Woods Hole Oceanographic Institution Washington, D C. Government Printing Office 1953 577 p illus 26 cm. (United States. Fish and Wildlife Service. Fishery bulletin 74) $4 25 2431

Contents Introduction. Use of the keys Key to Gulf of Maine fishes. The Cyclostomes (class Agnatha) Hagfishes and lampreys (families Myxinidae and Petromyzonidae) Cartilaginous fishes (class Chondrichthyes) Sharks, torpedoes, skates, and rays (subclass Elasmobranchii) Sharks (order Selachii) Sand sharks (Carchariidae). Mackerel sharks (Isuridae) Basking sharks (Cetorhinidae) Thresher sharks (Alopiidae) Cat shark (Scyliorhinidae) Smooth dogfishes (Triakidae) Requiem sharks (Carcharhinidae) Hammerhead sharks (Sphyrnidae) Spiny dogfishes (Squalidae) Gurry sharks (Dalatiidae) Bramble sharks (Echinorhinidae) Torpedoes, skates and rays (order Batoidei) Torpedo or electric rays (Torpedinidae) Skates (Rajidae) Whip-tailed sting rays (Dasyatidae) Cow-nosed rays (Rhinopteridae) Devil rays (Mobulidae) Chimaeroids (subclass (Holocephali) Chimaeras (order Chimaerae) Family Chimaeridae Bony fishes (class Osteichthyes) Sturgeons (Acipenseridae) Herring and tarpon tribes (Clupeidae Dussumieriidae and Elopidae) Anchovies (Engraulidae) Salmons (Salmonidae) Smelts (Osmeridae) Argentines (Argentinidae) Lanternfishes (Myctophidae) Pearlsides (Maurolicidae) Viper fishes (Chauliodontidae) Hatchetfishes (Gonostomidae and Sternoptychidae) [illegible]

ptychidae) Eels (Anguillidae, Congridae, Simenchelyidae, Synaphobranchidae, Nettastomidae, and Ophichthyidae) Lancetfishes (Alepisauridae) Mummichogs or killifishes (Poeciliidae). Billfishes (Scomberesocidae) Halfbeaks (Hemiramphidae) Needlefishes (Belonidae) Flying fishes (Exocoetidae) Silver hake and cod family (Merlucciidae and Gadidae) Grenadiers (Macrouridae) Opah (Lampridae) Flounders and soles (Hippoglossidae, Pleuronectidae, Bothidae, and Achiridae) John Dories (Zeidae) Boarfishes (Caproidae) Sticklebacks (Gasterosteidae) Pipefishes and seahorses (Syngnathidae) Trumpet fishes (Fistulariidae) Mackerels (Scombridae) Escolars (Gempylidae) Cutlassfishes (Trichiuridae) Swordfishes (Xiphiidae) Spearfishes or marlins and sailfishes (Istiophoridae) Dolphins (Coryphaenidae) Butterfishes or harvestfishes (Stromateidae) Bluefishes (Pomatomidae) Pompanos and jacks (Carangidae) Sea basses (Serranidae) Porgies (Sparidae) Croakers, drums, and weakfishes (Sciaenidae) Tilefishes (Branchiostegidae) Rockfishes (Scorpaenidae) Sculpins and sea ravens (Cottidae and Hemitripteridae) Alligatorfishes (Agonidae) Lumpfishes (Cyclopteridae) Sea snails (Liparidae). Sea robins or gurnards and armored sea robins (Triglidae and Peristediidae) Flying gurnards (Dactylopteridae) Cunner tribe or wrasses (Labridae) Remoras (Echeneidae) Sand lances (Ammodytidae) Blenny-like fishes (Lumpenidae, Pholidae, and Stichaeidae) Wrymouths (Cryptacanthodidae) Wolffishes (Anarhichadidae) Ocean pouts and wolf eels (Zoarcidae) Cusk eels (Ophidiidae) Toadfishes (Batrachoididae). Triggerfishes (Balistidae) Filefishes (Monacanthidae) Puffers and porcupine-fishes (Tetraodontidae and Diodontidae) Ocean sunfishes or headfishes (Molidae) Anglers (Lophiidae) Sargassum fishes (Antennariidae) Deep sea anglers (Ceratiidae) Bibliography Index to common names. Index to scientific names

Note: Totals of 33 species of cartilaginous fishes and 144 species of bony fishes are described and illustrated in this revised book. Descriptions are "as little technical as is compatible with scientific accuracy" and keys are provided for all species to further aid in identification. Habits, general range, occurrence and abundance in the Gulf of Maine, and commercial importance are summarized for each species. References are given to other works in which the species are more fully described. The work, a revision of Bulletin 40, Part 1 of the United States Bureau of Fisheries, published in 1925 by the same authors, is based upon many years of study of the ocean fishes found in the waters off the northern New England coast.

BIGELOW HENRY B AND OTHERS

Fishes of the western North Atlantic. Part one Lancelets, cyclostomes, sharks. New Haven Sears Foundation for Marine Research, Yale University 1948 576 p. illus. 31 cm. (Sears Foundation for Marine Research. Memoir number 1) $10.00 2432

Contents: Introduction, by John Tee-Van, editor-in-chief. Lancelets, by Henry B. Bigelow and Isabel Pérez Farfante. Class Leptocardii. Order Amphioxi. Cyclostomes, by Henry B. Bigelow and William C. Schroeder. Class Agnatha. Subclass Cyclostomata. Order Myxinoidea. Order Petromyzonida. Sharks, by Henry B. Bigelow and William C. Schroeder. Class Chondrichthyes. Subclass Elasmobranchii. Order Selachii. Suborder Notidanoidea. Suborder Chlamydoselachoidea. Suborder Heterodontoidea. Suborder Galeoidea. Suborder Squaloidea. Suborder Pristiophoroidea. Suborder Squatinoidea. Index of common names. Index of scientific names.

Note: *Fishes of the western North Atlantic* is the title of a projected series of modern volumes being published by the Sears Foundation for Marine Research under the direction of an editorial board whose editor-in-chief is John Tee-Van. When completed the set is intended to present a comprehensive scientific account written by various authors of the fish fauna of the Atlantic Ocean from Hudson Bay southward to the mouth of the Amazon River. The accounts of the various species and groups are to be uniform in style and arrangement and to be published in systematic order. The text is to contain facts and information based upon new research, original research, and critical reviews of existing information. In the present volume, the accounts of the lancelets and cyclostomes cover fifty-eight pages, while the account of the sharks extends from page fifty-nine through page 546. Under each species is a detailed description, together with a discussion of its distinguishing characteristics, color, size, general habits, abundance, range, and relation to man—commercial importance, danger, sporting qualities. Bibliographical citations are given for each species under the heading "Synonyms and references," and there are additional references included in the footnotes. The illustrations, of which there are 106, are line drawings showing lateral, dorsal, or ventral aspects, as well as head, fin, and tooth forms of the different species. The primary purpose of the work as a whole is to bring together and synthesize scattered ichthyological information and to make it available to both the public and to marine biologists. Since the set is intended for the use of lay persons as well as ichthyologists, highly technical words and phrases are being avoided as far as possible.

BLANCHARD FRANK NELSON

The ring neck snakes genus Diadophis Chicago Chicago Academy of Sciences, 1942 144 p illus. 24 cm (Chicago Academy of Sciences Bulletin. Vol 7 no 1) $2 50 2433

Contents: Foreword, by H. K. Gloyd. Description of the genus Diadophis. Key to the species and subspecies. Abbreviations used with reference to museum specimens. The Amabilis group. The Mexican ring-neck *Diadophis dugesii*. The Regalis group. The Punctatus group. General summary. Literature cited in the text. Index.

Note: A descriptive monograph giving structural and anatomical detail, habitat and habits, range, variation and affinities, and related data for all species or type specimens examined by the author. The bibliography lists 117 papers and monographs published between 1842 and 1942

BOGERT CHARLES M, AND RAFAEL MARTÍN DEL CAMPO

The Gila monster and its allies the relationships, habits, and behavior of the lizards of the family Helodermatidae New York American Museum of Natural History 1956 238 p. illus 27 cm. (American Museum of Natural History Bulletin Vol. 109 art 1) $4.00 2434

Contents: Introduction. Classification and distribution of the beaded lizard. Key to the fossil and recent lizards of the genus *Heloderma*. Claws in *Heloderma*. Food and feeding habits. Bodily functions, behavior and activities. Life history. Ecology. The venom apparatus and the venom and its effects. Bites inflicted on human beings. Man and the helodermatids. Bibliography.

Note: A comprehensive study based on both an examination of the literature and a study of numerous specimens, including live specimens, specimens preserved in alcohol, and skeletons. Forty-four pages are devoted to taxonomic and morphological aspects and to the identification key. Very full discussions are included of feeding habits, physiology, behavior, ecology, etc. More than 50 pages are devoted to the venom and to case histories of bites inflicted on human beings. The bibliography is comprehensive. There are 35 figures in the text and 20 plates, containing a somewhat larger number of illustrations reproduced from photographs. The work is of interest both to zoologists and to non-zoologists who are interested in that animal

BRECKENRIDGE, WALTER JOHN

Reptiles and amphibians of Minnesota. Minneapolis University of Minnesota Press 1944 202 p illus 23 cm. $2.50 2435

Contents: Introduction. History of Minnesota herpetology. Tales about reptiles and amphibians. The distribution of amphibians and reptiles in Minnesota. Field methods. Care of reptiles and amphibians in captivity. Venomous snake bites and their treatment. Preservation of specimens. Classification. Use of keys. Keys for use with Minnesota amphibians and reptiles. Hypothetical list. Amphibians and reptiles of Minnesota. Amphibians: Salamanders. Toads and frogs: Toads. Tree frogs. Frogs. Reptiles. Lizards. Snakes. Turtles. Glossary. Bibliography. Index.

Note: An illustrated manual designed primarily for teachers and amateur naturalists. Typical information for each species: popular and scientific names, description, range, habits, habitat, food, breeding habits, and selected references to literature. Maps show distribution and range of the various species.

BREDER, CHARLES M JR.

Field book of marine fishes of the Atlantic coast from Labrador to Texas being a short

description of their characteristics and habits with keys for their identification With 8 plates by W S Bronson, and 403 other illustrations Revised edition New York G P Putnam's Sons, 1948 332 p illus 18 cm $5 00 2436

Contents Introduction Definition of fishes and their manner of life. The geographic range and types of environment included. The identification of fishes. Key to the orders of marine fishes of the Atlantic coast. The lancelets (Class Leptocardii) The lampreys (Class Marsipobranchii) The true fishes (Class Pisces) The sharks and rays (Subclass Elasmobranchii) The chimaeras (subclass Holocephali) The bony fishes (Subclass Teleostomi) Glossary of technical terms. Bibliography Index.

Note A compact guide to the identification of fishes found along the eastern coast of continental United States of America and Canada. Called a "field book to indicate its relationship to other books of similar character issued by the same publisher It is produced in a small format that makes it convenient to carry on fishing trip. Short, preliminary discussions of habits and geographic range of fishes are followed by keys to identification and descriptions of species. The species descriptions which cover such points as occurrence food habits, range, and length are supplemented by small but clear line drawings.

BROWN, WALTER C

The amphibians of the Solomon Islands Cambridge, Mass Printed for the Museum 1952 64 p illus 23 cm (Harvard college Museum of Comparative Zoology Bulletin Vol 107 no 1) $1 00 2437

Contents Introduction. Distributional chart showing known ranges of the species within the Solomons. Systematic discussion Key to families. Bufonidae. Hylidae. Ranidae. Bibliography Plates.

Note A preliminary revision of the amphibian fauna of the Solomon Islands, a geographical region of considerable zoological interest in the study of amphibians and reptiles It was based on the literature and an extensive study of specimens in museum collections. Eighteen species and subspecies are described. The systematic accounts emphasize morphology and are exceptionally detailed. Information is included on range. They are preceded by an historical survey of earlier work a gazetteer of collecting stations, notes on geology and geography of the Solomon Islands, and general discussion of the nature and distribution of the amphibian fauna of these islands. There are eight plates containing 50 drawings, of which a majority are drawings of amphibian heads.

CAHN, ALVIN ROBERT

The turtles of Illinois with 31 plates 20 maps and 15 text figures Urbana University of Illinois Press 1937 218 p illus 26 cm (Illinois biological monographs Vol XVI nos 1–2) $3 00 2438

Contents Illinois topography and hydrography Historical review Key to the families of Illinois turtles Chelydridae. Kinosternidae. Testudinidae. Trionychidae Family Chelydridae Genus Macrochelys. Genus Chelydra. Family Kinosternidae Genus Sternotherus. Genus Kinosternon. Family Testudinidae Genus Clemmys Genus Emys. Genus Terrapene. Genus Graptemys. Genus Chrysemys. Genus Pseudemys Family Trionychidae Genus Amyda. Hypothetical list Bibliography Glossary

Note Detailed descriptions of the adult and young eggs, habits, economic importance food habits, sex differentiation and parasites The identification keys and photographs are designed to be intelligible to readers who are not professional herpetologists.

CARLANDER KENNETH D

Handbook of freshwater fishery biology A publication of the Iowa Cooperative Fishery Research Unit, sponsored by the Iowa State Conservation Commission and the Industrial Science Research Institute of Iowa State College Dubuque Wm C. Brown Company 1951 281 p. 22 cm $6 50 2439

Contents Introduction and instructions for reading the tables: Lengths, Ages. Calculated lengths. Length-weight relationship. Condition index. Fecundity Suggestions for conducting a simple age and growth study Life histories (by species) Population data. Conversion tables. Literature cited. Index. Appendix Alinement charts and nomographs.

Note A useful compilation of data and literature references. The author has stated An effort has been made to cover as completely as possible all data on the growth, length, weight, and various length relationships on all species of fresh water fishes found in the United States and Canada. Data on these points are tabulated for each species or other form. The data are stated specifically making reference to the original literature unnecessary for many readers nevertheless, references to the source literature are carefully given Data on fecundity that is, number of eggs per female are given for some species. In the much shorter section entitled Population data Information is collected on catch of fish per hour for various species and locations, annual yield per acre for ponds, lakes etc. These data are much less complete than those in the "Life history" section. A printing with the *First Supplement* was issued in 1953.

CARR, ARCHIE, AND COLEMAN J GOIN

Guide to the reptiles, amphibians and fresh water fishes of Florida. Gainesville University of Florida Press, 1955 341 p. illus 23 cm. $7 50 2440

Contents (abridged) Introduction. Fishes. Amphibians. Reptiles. Appendix. Selected references. Index.

Note The richness of the vertebrate fauna of Florida is indicated by the fact that 355 species, divided as follows, are described in this book 33 turtles, 35 lizards, 40 snakes, 1 crocodile, 1 alligator 39 salamanders, 26 frogs, and 154 fresh-water fishes. The book is designed primarily as an aid in identification, and the species descriptions are largely non-technical. These descriptions cover such points as scientific name local vernacular name, general appearance, distinguishing characteristics, morphological description, distribution, range within Florida, and habitat. The verbal descriptions are supplemented by a few drawings, but the majority of them have been made from photographs. Most plates contain more than one illustration. Glossaries and identification keys are included.

CARR, ARCHIE

Handbook of turtles the turtles of the United States Canada and Baja California. Ithaca Comstock Publishing Associates a division of Cornell University Press 1952 542 p. illus 24 cm (Handbooks of American natural history Albert Hazen Wright, advisory editor) $7 50 2441

Contents. Part I, Introduction Turtle functions and capacities Respiration. Circulation. Excretion Digestion Reproduction Senses, behavior and intelligence. Size growth and age Turtle adaptation Turtles and men Economic uses. Methods of collecting turtles. The inscrutable turtle Terminology of turtle structures. Revised terminology Parts of the bony shell Epidermal laminae The bones of the skull Shell abnormalities and their meaning Part II Accounts of species Key to the families Suborder Thecophora Family Chelydridae, the snapping turtles. Family Kinosternidae, the musk and mud turtles Family Emydidae fresh water and marsh turtles Family Testudinidae, the land tortoises Family Cheloniidae, the sea turtles Family Trionychidae the soft-shelled turtles. Suborder Athecae, the leatherback marine turtles Family Dermochelidae. Bibliography References for states and provinces. Index

Note An illustrated handbook describing 79 species and subspecies of turtles native to North America north of the Rio Grande The major species are illustrated with photographic plates, and distribution maps and are described under the following heads range distinguishing features, physical dimensions, habitat, habits, breeding, feeding, and economic importance The bibliography extends to 69 pages and is followed by an index by states and provinces.

COCHRAN DORIS M

Frogs of southeastern Brazil Washington, D C Smithsonian Institution 1954 423 p. illus 23 cm (United States National Museum Bulletin 206) 2442

Contents (abridged) Introduction. Family Brachycephalidae. Family Bufonidae. Family Crotaphatrema[?]. Family Hylidae—subfamily Hylinae. Subfamily [illegible]. Family Leptodactylidae. Family Microhylidae. Statistical analyses. Bibliography. Index.

Note A study based on a large number of specimens collected by the author and by Dr. Adolpho Lutz and on material from a number of museum collections in the United States of America and abroad. The species accounts are outstanding for their detailed descriptions of morphology and for their critical measurements. The morphological diagnoses sometimes run to more than one page. The measurements cover head and body (total length), head length, head width, femur, tibia, foot, and hand. Color in life and color in alcohol are described. Variations in morphology and color are discussed, and, at most accounts, there is a paragraph or two of miscellaneous remarks on such matters as voice, special features that distinguish the species from species similar in appearance, etc. A list of specimens examined is usually included. The 34 plates are all reproductions of photographs of specimens. The bibliography includes some literature published as recently as 1931.

Cunningham, Bert

Axial bifurcation in serpents; an historical survey of serpent monsters having part of the axial skeleton duplicated. Durham, Duke University Press, 1937. 117 p. illus. 23 cm. (Duke University publications) $2.50 **2443**

Contents Foreword, by Raymond L. Ditmars. Introduction. Types of axial duplication. Description of specimens according to type [illegible] specimens, [illegible] specimens (anterior dichotomy, anterior dichotomy, posterior dichotomy, complete dichotomy). General discussion: comparisons of the early theory of axial duplication in serpents, geographical distribution of specimens, causes of duplicate monsters. Bibliography. Index.

Note This book presents a compilation of all available data on two-headed, two-tailed, and Siamese twin snakes. It contains not only the names and descriptions of the snakes taken from the sources, but also any published figures which accompanied the original description. The 124 illustrations include photographs of the external appearance and X-ray photographs of the bony structure of specimens previously described, where known. A considerable number of the 100 specimens described are here described and figured for the first time. The snakes are grouped according to the kind and degree of duplication found in the skull and vertebral column, and are then discussed in chronological order. The data available on geographical distribution have been collected in one chapter, and another chapter is given over to discussion of probable causal factors.

Daniel, John Franklin

The elasmobranch fishes. Third edition, revised. Berkeley, University of California Press, 1934. 332 p. illus. (part col'd) 26 cm. $5.00 **2444**

Contents Introduction. External form. Integument. Endoskeleton. Musculature. Digestive tract. Respiratory tract. Circulatory system. Nervous system. Special senses. Urogenital system.

Note The elasmobranch fishes are unsurpassed as material on which to study the fundamental plan of the vertebrate body. In addition to his own work, the author has collected and studied the work done by many workers on the various types. The combined studies are presented as a guide for undergraduate students of college grade and as a book of reference on the entire subject. A bibliography is added to each chapter.

Ditmars, Raymond Lee

A field book of North American snakes. Garden City, Doubleday and Company, Inc., 1939. 305 p. illus. (part col'd) 21 cm. $4.50 **2445**

Contents Part I, The snakes of North America. A reptile survey of North America. Habits of North American snakes. How to identify snakes. Part II, The snakes of northeastern North America. Key to the snakes of northeastern North America. The northeastern nonpoisonous snakes. The northeastern poisonous snakes. Part III, The snakes of southeastern North America. Key to the snakes of southeastern North America. The southeastern nonpoisonous snakes. The southeastern poisonous snakes. Part IV, The snakes of western North America. Key to the snakes of western North America. The mildly poisonous rear-fanged snakes. The poisonous snakes of western North America. Part [illegible]. Treatment of snake bite. Classified list of North American snakes. Bibliography. Index.

Note An introduction to the field study of North American snakes, mainly those of the United States. It emphasizes on how to distinguish the non-harmful and harmful species. Descriptions, size, form, pattern, scalation, coloration, markings, range, peculiarities, and habits are given for each species treated. The work provides an introduction to the larger and more formal books about North American reptiles and is intended for the layman rather than the specialist. Forty-eight plates of photographs, colored frontispiece, and a short bibliography are included.

Ditmars, Raymond Lee

The reptiles of North America; a review of the crocodilians, lizards, snakes, turtles and tortoises inhabiting the United States and northern Mexico. Eight plates in color and more than four hundred photographs from life. Garden City, Doubleday and Company, Inc., 1936. 476 p. illus. (part col'd) 26 cm. $5.00 **2446**

Contents (abridged) Part I, The crocodilians. Part II, The lizards. Outline of the lizards and classification. The geckos. The American chameleons. The iguanas. The [illegible]. The spotted lizards. The swifts. The horned lizards. The plated lizards. The [illegible] lizards. Part III, The snakes. The worm snakes and dwarf boas. The ground snakes. The [illegible] snakes. The small swamp snakes and brown snakes. The racers. The flat-nosed snakes. The king snakes. The sharp-nosed snakes. The hog-nosed snakes. The rear-fanged snakes. The elapine poisonous snakes. The marine snakes. The crotaline snakes. The moccasins. The rattlesnakes. Part IV, The turtles and tortoises. Classification. The sea turtles. The snapping turtles. The musk and mud turtles. The large terrapins. The smaller terrapins. The box turtles. The tortoises. The soft-shelled turtles. Bibliography. Index.

Note While this work is scientifically accurate throughout, the emphasis has been upon simplifying the identification of the North American reptiles, thus assisting the beginner in herpetology and the general reader seeking scattered points of information about reptile life. The descriptions avoid complicated references to structure, since the author has depended upon the numerous excellent color and black-and-white photographs to cover most descriptive details. Synonymy is excluded, and although genera and species names of approved scientific standing are given, systematic classification is omitted. The notes on habits, particularly those [illegible] for the snakes, are of considerable interest, and represent a summary of the author's long experience with reptiles. The photographs contribute largely to the [illegible] of the work. Numerous titles are listed in the bibliography. The present volume represents a revision of the author's *The reptile book*, New York, 1907.

Ditmars, Raymond Lee

Snakes of the world. With illustrations from life. New York, The Macmillan Company, 1931. 207 p. illus. 27 cm. $4.95 **2447**

Contents The serpents' world. The scope of the class. Distribution of snakes. General habits. General classification. The giant serpents. The New World harmless snakes. The Old World harmless snakes. The rear-fanged snakes. Poisonous snakes of North America. Poisonous snakes of Central and South America. Poisonous snakes of Europe and Asia. Poisonous snakes of Africa. Poisonous snakes of Australia. Index.

Note The arrangement of the poisonous snakes of the world in geographical chapters gives this account particular significance for prospectors, explorers, scientists, and sportsmen. The emphasis is upon developing a quick means of distinguishing the poisonous snakes through coloration, scalation, habits, and other characteristics. The author has also included numerous other details and anecdotes from his long experience in collecting and handling snakes which make interesting reading for the amateur naturalist and layman. No attempt is made at systematic classification, but scientific names of families, subfamilies, genera, and species are given. An important feature of the work is the excellent collection of 150 photographs of snakes arranged in order of non-venomous, mildly poisonous, and dangerously poisonous varieties.

EDDY, SAMUEL, AND THADDEUS SURBER

Northern fishes with special reference to the Upper Mississippi valley Revised second edition Minneapolis University of Minnesota Press, 1947 276 p illus (part col d) 23 cm $4 00 2448

Contents A fisherman's luck. Fishing technique. Lake dynamics. Fish populations. Management of waters for fish production. Improvement of lakes and streams. Laws and propagation. Parasites of fishes. The structure of fishes. Classification and origin of fishes. Artificial key to families of common fishes. The cyclostomes. Petromyzonidae (the lamprey family) The osteichthyes or bony fishes. Polyodontidae (the paddlefish family) Acipenseridae (the sturgeon family) Lepisosteidae (the gar family) Amiidae (the bowfin family) Hiodontidae (the mooneye family) Clupeidae (the herring family) Osmeridae (the smelt family) Coregonidae (the whitefish family) Salmonidae (the salmon and trout family) Catostomidae (the sucker family) Cyprinidae (the minnow family) Ameiuridae (the North American catfish family) Umbridae (the mudminnow family) Esocidae (the pike family) Anguillidae (the eel family) Cyprinodontidae (the killifish family) Percopsidae (the troutperch family) Aphredoderidae (the pirateperch family) Serranidae (the sea bass family) Percidae (the perch family) Centrarchidae (the sunfish family) Atherinidae (the silverside family) Sciaenidae (the drum family) Cottidae (the sculpin family) Gasterosteidae (the stickleback family) Gadidae (the codfish family) Bibliography Index.

Note An interesting and useful combination of fisherman's lore and zoological information. All of the species and subspecies that are native or have been introduced into the lakes and streams of Minnesota and nearby territory are described, and pictures of many of them are included. In this edition, the text of the first 30 pages has been rearranged and expanded a few illustrations have been added, and a few additional fish records have been included. The book is suitable for amateur naturalists, conservation workers, and sportsmen who are interested in the habits and life histories of the fish they catch.

FISH MARIE POLAND

The character and significance of sound production among fishes of the northwestern Atlantic New Haven Peabody Museum of Natural History Yale University 1954 109 p illus 23 cm. (Yale University Peabody Museum of Natural History Bingham Oceanographic Collection. Bulletin, vol 14 art. 3) $1 65 2449

Contents (abridged) Abstract. Problem and procedure. Types of sound production among fishes. Biological significance of sound making. North Atlantic species studied for sound production in the present investigation. Discussion and conclusions. Acknowledgements Literature cited.

Note This work is the report of an experimental investigation of sound production by 54 species of North Atlantic coastal fishes. The techniques of the investigation are described and the results are presented in detail for each of the species with particular attention to the frequencies and other properties of the sounds produced, the stimulations that lead to sound production and the mechanisms of sound production. A bibliography of related literature is included.

FOWLER HENRY WEED

The fishes of the George Vanderbilt South Pacific Expedition 1937 Philadelphia The Academy of Natural Sciences of Philadelphia, 1938 349 p illus 27 cm. (The Academy of Natural Sciences of Philadelphia monographs No 2 forming Part III of the Zoological results of the George Vanderbilt South Pacific Expedition 1937) $3 50 2450

Contents Introduction. Itinerary Balboa, Canal Zone. Pearl Islands, Panama. Malpelo Island. Colombia. Galapagos Archipelago. Marquesas Islands. Tuamotus. Society Islands. Line Islands. Hawaiian Islands. Regional discussion of species. Summary Index

Note A report on the collection of specimens obtained from the Vanderbilt expedition in the tropical eastern and southern Pacific seas. About 10,000 enumerated specimens representing 310 genera and 434 species are described. The work presents systematic annotated classification arranged by locality including detailed anatomical descriptions and measurements. There are 12 plates of line drawings and an extensive index.

FOWLER, HENRY WEED

The fishes of Oceania. Honolulu Published by the Museum 1928 540 p illus. 32 cm (Bernice P Bishop Museum. Memoirs Vol x) $10 00 2451

—— Supplements 1–3 Honolulu Published by the Museum 1931–49 3 v 32 cm. (Bernice P Bishop Museum. Memoirs. Vol. XI, No 5–6 Vol XII, No 2) Suppl. 1 $2.00 Suppl. 2 $2 00 Suppl 3, $4 00 2452

Note The original monograph in this series was based primarily on an examination of some 14,000 species in the Bishop Museum and other collections in the Museum of Comparative Zoology at Harvard University in the United States National Museum and the Academy of Natural Sciences in Philadelphia, and secondarily on the literature. The supplements have been based on additional specimens and more recent literature. The viewpoint of the work is essentially faunal however the original reference type locality synonymy and morphology are listed and described for each form when it is first entered in the study Records of distribution also are given and considerable part of the material in the supplements consists of additional distributional records for species previously described. However many new species also are listed in the supplements. In the original monograph, there are [illegible] text figures and 49 plates.

FOWLER HENRY WEED

The marine fishes of West Africa, based on the collection of The American Museum Congo Expedition 1909–1915 New York American Museum of Natural History 1936 2 v illus 24 cm (American Museum of Natural History Bulletin. Vol LXX parts 1–2) Vol 1 $5 00 vol 2 $7 00 2453

Contents (abridged) Part I, Branchiostomidae to Polynemidae Introduction. Explanation of external characters. Bibliography Descriptive account of classes families, genera, and species. Part II Scombridae to Acerathidae Appendix. Bibliography to appendix Addenda. Index.

Note A comprehensive descriptive account of the fishlike vertebrates known from the coast of western tropical Africa, including also the outlying islands of the Madeiras, Canaries, and Cape Verde groups, the Azores, Ascension Island, and St Helena The major part of the work is devoted to the descriptions, in which the generally accepted technical name is given first, followed by that of the original describer The synonymy consists of the original reference and only such others as are embraced in the region under discussion. The range and remarks on the materials are also given, but where no materials are available, the descriptions are quoted from other authors. Five hundred sixty-seven outline drawings by the author accompany the descriptions. There are detailed index of 120 pages and bibliography listing 170 references to the world literature of the subject.

GLOYD HOWARD KAY

The rattlesnakes genera Sistrurus and Crotalus a study in zoogeography and evolution. Chicago Chicago Academy of Sciences 1940 266 p illus 24 cm (The Chicago Academy of Sciences Special publication no 4) $5 00 2454

Content Introduction Historical. Materials and procedure. Acknowledgements. A key to the species and subspecies of rattlesnakes. The rattle. Genus Sistrurus. Genus Crotalus. General summary The rattle. Size

and fauna. Distribution. Coloration. Specialization. Center of origin and dispersal. Bibliography. Index. Plates.

Note: This comprehensive study of the two rattlesnake genera had the following objectives: to review and revise the systematics of the rattlesnakes; to define and describe the species and subspecies; to bring together information concerning the distribution and variation of each form; to indicate the probable genetic relationships of the species and subspecies of the genus Sistrurus and [illegible] portion of the genus Crotalus, and to point out the most conspicuous evolutionary tendencies among the rattlesnakes and the probable center of origin of the group as a whole. The work is illustrated with 31 plates containing photographs and drawings and with 22 maps showing geographical distribution of species.

GORDAN JOAN

A bibliography of pagurid crabs, exclusive of Alcock, 1905 New York American Museum of Natural History 1956 100 p. 27 cm. (American Museum of Natural History Bulletin. Vol. 108 art. 3) $1.25 2455

Note: A bibliography of all publications concerning pagurid crabs except those publications listed in A. Alcock, *Catalogue of the Indian decapod crustacea in the collection of the Indian Museum Part II Anomura, fasc. 1 Pagurides*, 1905. The main part consists of a list of works arranged under authors' names. This is followed by an index by genera and species, and a subject index.

GREY MARION

Catalogue of type specimens of fishes in Chicago Natural History Museum. Chicago Chicago Natural History Museum, 1947 109–205 p. illus 23 cm. (Fieldiana Zoology Vol. 32 no. 3) $1.25 2456

Note: "The list recorded in this catalogue comprises all types, cotypes, and paratypes of fishes in the reference collection of Chicago Natural History Museum. About one-third of these types come from the collections of Central American fresh-water fishes described by Meek, and the Panama fishes described by Meek and Hildebrand. The types of the fresh-water species in the Panama collection are deposited in Chicago Natural History Museum, and the types of marine forms are in the United States National Museum." In the main part of the publication the arrangement is alphabetical by scientific name of species. The main list is followed by a list arranged by families.

HILDEBRAND SAMUEL FREDERICK

A new catalogue of the fresh-water fishes of Panama. Chicago Chicago Natural History Museum, 1938. 145 p illus. 24 cm. (Chicago Natural History Museum. Publication 425 Zoological series. Vol. XXII no. 4) $2.25 2457

Contents: Introduction. Notes on the origin and distribution of Panama fishes. Introduction of fishes. New and abandoned localities. Acknowledgments. New species described. Catalogue of species. References.

Note: A paper embodying the results of a study based mainly on specimens and data collected by the author during 1935–37 and supplemented by information gained from the examination of small collections made by others. Only those species which live more or less constantly in fresh water are included. Wherever recently proposed changes in nomenclature of families and genera have not been followed, the reasons are stated. A total of 127 species are described. There is a bibliography of 33 papers and studies.

HUBBS CARL LEAVITT AND KARL F LAGLER

Fishes of the Great Lakes region. Bloomfield Hills, Mich. Cranbrook Institute of Science 1947 186 p illus. (part col d) 24 cm. (Cranbrook Institute of Science. Bulletin no 26) $ 2458

Contents: Anatomical features, terms and methods of counting, measuring, collecting and preserving. Key to the families. Keys and species accounts: Lamprey family. Paddlefish family. Sturgeon family. Gar family. Bowfin family. Mooneye family. Herring family. Salmon family. Whitefish family. Grayling family. Smelt family. Sucker family. Minnow family. North American catfish family. Mudminnow family. Pike family. Freshwater eel family. Killifish family. Livebearer family. Cod family. Troutperch family. Pirate-perch family. Bass family. Perch family. Sunfish family. Silverside family. Drum family. Sculpin family. Stickleback family. List of references. Halftone plates. Index.

Note: A standard guide for both amateur and professional zoologists to the identification, range and ecology of the fishes of the Great Lakes drainage basin. It is an expansion of the author's *Guide to the fishes of the Great Lakes and tributary waters*, Bloomfield Hills, Mich. 1941; and this edition has been improved with many more illustrations, with popular accounts of the various families, with additional information on ranges. There are now twenty-six color plates and 251 illustrations in black and white. A new edition was in press in 1957.

JORDAN DAVID STARR AND OTHERS

Check list of the fishes and fishlike vertebrates of North and Middle America north of the northern boundary of Venezuela and Colombia. By David Starr Jordan Barton Warren Evermann and Howard Walton Clark. Washington, D C. Government Printing Office 1955 670 p. 23 cm. (U S Fisheries Commission. Report 1928 Part II) $3.00. 2459

Note: When first published in 1930, this work was a comprehensive list of all the fishes and fish-like vertebrates known to occur in the waters of North and Middle America, more specifically all of continental America north of the Isthmus of Panama, and the outlying islands, including the West Indies, the Greater and the Lesser Antilles, Greenland, Iceland, and the islands of the Pacific coast of Central America, Mexico, United States, and Alaska. The salt-water species on the northern coasts of Colombia and Venezuela have been included. Oceanic species in general within the 1,000-fathom curve have been admitted, although it is not always easy to draw the line. The list gives the scientific and vernacular names for each species and sub-species, the known geographic distribution of each species, a literature reference to the original description, and a reference to every real synonym. The arrangement is by systematic order with alphabetically-arranged indexes to common and scientific names. It was first published in 1930 as Part II of the Report of the United States Commissioner of Fisheries for the fiscal year 1928, and has been reprinted without change by United States Fish and Wildlife Service.

KLAUBER LAURENCE MONROE

Rattlesnakes their habits, life histories and influence on mankind. Published for the Zoölogical Society of San Diego Berkeley University of California Press 1956 2 v illus. (part col d) 27 cm. $17 50. 2460

Contents (abridged): Volume I: Classification and identification. Paleontology and phylogeny. Morphology. Physiological summary. Color and pattern. The rattle. Bodily functions. Growth and longevity. Skin shedding. Locomotion. Senses. Behavior: Temporal activity and limitations. Physiological temperature limitations. Temporal variations in habits. Defensive and warning behavior. Climbing proclivities. Swimming ability. Populations and ecology. Food. Reproduction. Volume II. Poison apparatus. The fangs. Venom. The bite and its effects: Snake-bite statistics. Symptoms and aftereffects. Susceptibility, resistance, and immunity to rattlesnake venom. Treatment and prevention of the bite. Control and utilization: Economic advisability of control. Methods of control. Commercial utilization of rattlesnakes and their by-products. Enemies of rattlesnakes: Mammals and marsupials. Bird enemies. Reptile and amphibian enemies. Parasites and diseases. Indians and rattlesnakes: Religion, superstition, and folklore. Protective measures. Sucking and cauterization. Snake-bite treatment. Rattlesnake charmers and ornamental curse. Post-Columbian knowledge of rattlesnakes. Myths of venom and snake-bite. Folklore remedies derived from rattlesnakes. Protective methods and devices. Miscellaneous beliefs and folklore. Bibliography. Index.

Note A complete zoological and ecological study of the rattlesnake its classification, habits and life history its bite and its poison and its place in folklore. The author does not exaggerate when he states in his preface that "In a way this book is an encyclopedia of the rattlesnake," for it would be hard to find a single fact about rattlesnakes which could not be located through the index at the end of Volume 2 The publication will be valuable both to the herpetologist and others for reference and to the layman interested in knowing more about rattlesnakes. Some idea of the magnitude of the work may be gained from knowing that the bibliography covers 140 pages and the index 72 double-columned pages.

LAGLER, KARL F

Freshwater fishery biology Second edition Dubuque Wm C Brown Company, 1956 421 p. illus 24 cm $6 75 2461

Contents Natural history and ecology Freshwater fishes of North America, north of Mexico. Identification of fishes and other aquatic organisms. The literature of fish and fisheries. Fish anatomy Fish embryology Life history stages following hatching. Food. Age and growth. Length-weight relationship and condition. Fish populations. Yield. Fish pathology Pollution. Laws. Fish culture. Fishery surveys of lakes, ponds, and impoundments. Improvement of lakes, ponds, and impoundments. Stream surveys. Stream improvement. Creation of new fishing waters. Freshwater commercial fisheries. Freshwater recreational fisheries. Appendixes Scales of common and representative families of American freshwater fishes. Blank forms for recording data in fishery surveys. Abbreviations for words used in the names of technical journals and periodic publications. Clinical aspects of certain fish diseases with special reference to those encountered in trout culture. Conversion tables. Checklist and economic classification of common and representative fresh water fishes of North America, north of Mexico. Index.

Note. A documented text and reference book for fishermen, students, teachers, and professional workers. There is some bias toward topics of interest to those with professional interests in the biology or culture of fish. Techniques of studying fish are especially well covered. However all aspects of the subject are discussed, and practically all readers with mature interests in fresh-water fish can find something of value in it. The volume is well arranged and well illustrated. Noteworthy is a separate chapter on the literature of fish and fisheries. In addition, bibliographical references pertinent to the subjects of other chapters are included in those chapters. The first edition was published in 1952. In this second edition, the book has been considerably revised and its length increased by approximately 50 pages. New literature has been added to the bibliographies, and there has been some revision of the illustrations. The author is Chairman of the Department of Fisheries in the School of Natural Resources in the University of Michigan

LONGLEY, WILLIAM HARDING, AND SAMUEL F HILDEBRAND

Systematic catalogue of the fishes of Tortugas, Florida, with observations on color, habits, and local distribution Edited and completed by Samuel F Hildebrand. Washington, D C. Carnegie Institution of Washington 1941 331 p illus 25 cm. (Carnegie Institution of Washington. Publication no 535 Papers from Tortugas Laboratory Vol XXXIV) o p 2462

Contents (abridged) The Tortugas islands New genera and species. Bibliography of publications by William H. Longley based on his studies at Tortugas. Systematic catalogue. Index.

Note A classification of the various kinds of fishes studied at Tortugas over a period of 25 years. Measurements, habitat, food, and in some cases references to literature are included There are 34 pages of photographs.

LOVERIDGE, ARTHUR

Australian reptiles in the Museum of Comparative Zoology Cambridge Mass Museum of Comparative Zoology 1934 143 p illus. 24 cm (Harvard College Museum of Comparative Zoology Bulletin Vol. LXXVII, no 6) $1 00 2463

Note The collection on which this report is based consists of 2,091 specimens, representing 267 species or races, comprising 1 of crocodilians, 8 of chelonians, 111 of snakes and 133 of lizards. More than half of the reptiles were taken in the field by members of the Harvard Expedition of 1931 1932 Other specimens had been obtained on earlier expeditions, while still others have been presented to the Museum by individuals and other agencies. The systematic results of the study are stated under each species so that they may be available to Australian herpetologists. The name by which each species is now known is followed by the original citation and type locality and the registration number in the departmental catalogue is given followed by the locality

LOVERIDGE, ARTHUR

Reptiles of the Pacific world New York The Macmillan Company, 1945 259 p. illus. 21 cm (The Pacific world series) $3 75. 2464

Contents Island reptiles and how they got there. What is a reptile?—The tuatara. Turtles, terrapins, and tortoises. Gavial and crocodiles. Lizards. The nonpoisonous snakes. Poisonous land snakes of the cobra family Poisonous sea-snakes. Poisonous land snakes of the viper family Snake bite and first aid treatment. Economic aspects of reptiles and need for protection. A brief survey of the Pacific amphibians. Suggestions for safe shipment of living reptiles. Hints on collecting specimens when on active service. Chart showing distribution of reptiles and amphibians. Useful English works on Oriental herpetology Index to, and systematic list of, species mentioned.

Note A handbook of general information about reptiles and amphibians to be found in the Pacific area, especially those occurring in the lands west of New Guinea from the Dutch East Indies to Japan. The abundant and conspicuous forms have been selected for special description, and interesting facts are given concerning their temperament, breeding habits, favorite food, and the nature of their enemies and defense. Like other volumes in the series it is addressed primarily to amateur naturalists.

MARTOF BERNARD S

Amphibians and reptiles of Georgia, a guide Athens University of Georgia Press, 1956 94 p illus 21 cm $2 00 2465

Contents Introduction. Key to the major groups of amphibians and reptiles. Key to the salamanders. Key to the frogs and toads. Key to the turtles. Key to the crocodilians. Key to the lizards. Key to the snakes. Protection against snake bite. Preservation of specimens. Checklist. Glossary References

Note An inexpensive reference manual designed to aid in the identification of the herpetofauna of Georgia The keys and the check list occupy most of the space. There are 32 figures and all are reproductions of line drawings of morphological features useful in identification.

MORRIS, PERCY A

Boy's book of snakes how to recognize and understand them New York The Ronald Press Company 1948 185 p. illus. 24 cm. (Humanizing science series) $3.50 2466

Contents What is a snake? False lore of snakes. Harmless snakes of garden and barnyard. Harmless snakes of field and pasture. Harmless snakes of wooded areas. Harmless snakes of ponds and marshes. Poisonous snakes of the United States. Nonpoisonous snakes of other lands. Poisonous snakes of other lands. The care and feeding of snakes. List of authorities cited. Books for further reading Classification of United States snakes. Classification of foreign snakes Index

Note A well-illustrated book that describes in simple language the appearance life habits, geographic range, and the principal points for recognition of the world's important snakes. The author explains which snakes are beneficial to man and which are injurious. He further tells how to catch harmless snakes, how to keep them as pets, and he mentions what to do in case of snakebite from a venomous snake. Although intended mainly for juvenile readers the book is suitable also for adults who desire elementary information on snakes.

NEWMAN HORATIO HACKETT

The phylum Chordata biology of vertebrates and their kin. A revision of Vertebrate zoology New York The Macmillan Company 1939 477 p. illus. 22 cm. $6.25 2467

Contents Characteristics, content, and classification of the phylum Chordata. Principles and factors of vertebrate evolution. Primitive chordates (Protochordata) Class Cephalochordata. Class Urochordata. The Hemichordata and the phylogeny of the chordates. The most primitive vertebrates Monorhina (Agnatha) Introduction to the class Pisces (gnathostome fishes) Chondrichthyes (shark-like fishes) The anatomy of the dogfish (an example of generalized vertebrate) Bony fishes (Osteichthyes) Teleost fishes (order Teleostei) The class Amphibia (their origin and early career) Living Amphibia. Anatomy of a salamander (an example of generalized tetrapod) Class Reptilia (introduction). The fossil pedigree of the reptiles. Modern reptilian orders. Class Aves (birds) Birds of today Embryonic development of the bird. Class Mammalia (general and historical). Monotremes and marsupials. Orders of placental mammals. The development of mammals. Index

Note. A textbook intended for introductory college courses in comparative anatomy or vertebrate zoology in which the laboratory and lecture parts of the course are essentially independent though supplementary The book presents the subject-matter of the lecture part of such a course, together with considerable additional material for supplementary reading, and is a revision and enlargement of the author's earlier work, Vertebrate zoology New York, 1932 Brief descriptions of the salient anatomical and physiologic characteristics of the various classes, orders, suborders, and families are presented, with detailed descriptions and drawings of [illegible] type specimens.

NICHOLS JOHN TREADWELL, AND PAUL BARTSCH

Fishes and shells of the Pacific world. New York The Macmillan Company 1945 201 p. illus 21 cm. (The Pacific world series) $4.00 2468

Contents Part I, General review of the fishes, by John T Nichols Origin and distribution of Pacific fishes. Different kinds of fishes. Collecting specimens. Part II. Fishes of particular interest, by John T Nichols Sharks and rays. Important fish groups. Perchlike fishes. Ocean-fishes. Part III, Shells, by Paul Bartsch Characteristics of shells. Systematic review Instructions for collecting mollusks Reference works. Index for fishes. Index for shells Explanation of plates.

Note Part I of this pocket handbook consists of a general discussion of the kinds of fishes to be found in the Pacific area and their outstanding characteristics There are simple line drawings to assist the observer in placing the fish he encounters. Part II [illegible] for reference than general reading and gives scientific names and means of identifying the specimens of salt water shellfish, that are widely distributed and most likely to attract attention Part III, which is devoted to shellfish, reviews their general characteristics, distribution, and classification and describes those most commonly found. Photographic illustrations of many varieties of shells will aid in identification There is an index for both fishes and shells which includes common and scientific names and refers to illustrations as well as textual material

NICHOLS JOHN TREADWELL

The fresh-water fishes of China. With 143 figures in the text 10 colored plates, and 1 map. Ruth Tyler editor New York The American Museum of Natural History 1943 322 p illus. (part col d) 27 cm. (Central Asiatic expeditions. Natural history of Central Asia. Vol. IX) $10.00. 2469

Contents (abridged) Introduction Systematic account of the fresh-water fishes. Bibliography Index

Note Descriptions of the various known genera and species of the fresh-water fishes of China proper. The information is based upon the collections in the American Museum of Natural History No attempt is made to cover marine species or brackish-water species with marine affinities.

NICHOLS JOHN TREADWELL

Representative North American fresh water fishes Illustrated by Andrew R. Janson New York The Macmillan Company 1942 128 p. illus. (part col d) 10 cm $1 75 2470

Note This pocket guide contains illustrations in black and white and in color of 60 representative North American freshwater fishes, each accompanied by a page of descriptive text, written mainly for the angler or amateur naturalist rather than the student of ichthyology Such questions as the names of fish, the difference between pike and muskalonge, nesting habits of the blackbass, migration, identifying characters, and adaptability are discussed briefly Important facts about the place of certain fish in evolutionary development, their ability to see and hear and similar data appear in the notes. There is a brief index of subjects.

NOBLE, G KINGSLEY

The biology of the amphibia. New York Dover Publications Inc., 1954 577 p illus 20 cm. $2 98 2471

Contents Part I, Their structure and functions. The origin of the amphibia. Development and heredity The modes of life history Speciation and adaptation. Sex and secondary sex characters. The integument. The respiratory system. The circulatory system. The digestive system. The skeleton. The muscular system. The urogenital system. The endocrine glands. The sense organs and their functions. The nervous system Instinct and intelligence The ways of amphibia. The relation of amphibia to their environment. Geographic distribution and economic value Part II, Relationships and classification. Order 1 Labyrinthodontia. Order 2 Phyllospondyli. Order 3, Lepospondyli. Order 4 Gymnophiona. Order 5 Caudata. Order 6, Salientia. Index.

Note Although originally published in 1931 this work is still considered a standard monograph on the frogs, toads, salamanders and other amphibia. The primary emphasis is on structure and function. In fact, the part devoted to these topics accounts for 3/4 of the pages in contrast to the 83 pages devoted to classification. There are 11 figures and rather extensive lists of literature references. However no recent literature is listed. As mentioned, the book was first published in 1931 The edition described here is an unabridged reprint, unchanged from the original text except for the addition of a three-page biographical note on the author

OLIVER JAMES A.

The natural history of North American amphibians and reptiles. Princeton D Van Nostrand Company Inc., 1955 359 p. illus 24 cm. $6 95 2472

Contents Folklore Economic values, Classification, North American amphibians. North American reptiles. Occurrence of amphibians and reptiles. Locomotion and movements. Activity Relation to environment Food and feeding Reproduction Growth, size, and longevity Amphibians and reptiles as pets. Glossary Recommended references. Index.

Note An illustrated volume describing the general ways and life habits of amphibians and reptiles for the naturalist and student of herpetology in America north of Mexico It is not a handbook or field guide but is a readable work for the general reader The author is Curator of Reptiles, New York Zoological Society

PICKFORD GRACE E., AND OTHERS

Fish endocrinology New Haven Peabody Museum of Natural History Yale University 1953 116 p. illus. 23 cm. (Yale University Peabody Museum of Natural History Bingham Oceanographic Collection Bulletin Vol. 14 art. 2) $1 75 2473

Contents A study of the hypophysectomized male killifish *Fundulus heteroclitus* (Linn.) by G. E. Pickford. A note on the effects of hypophysectomy on the [illegible] pathway in *Fundulus*, by S. L. Foley The response of hypophysectomized male *Fundulus* to injections of purified beef growth hormone, by G. E.

Pickford. Toxic effects of thiourea on the liver of the adult male killifish, *Fundulus heteroclitus* (Linn.) by H A. Chambers. Experimental differentiation of basophil cell types in the transitional lobe of the pituitary of a teleost fish, *Astyanax Mexicanus*, by E. H. Atz.

Note. A detailed presentation of research investigations on the endocrinology of fishes. The experimental techniques are described, the results are presented in a narrative text and in tables, and literature references are given.

PICKWELL, GAYLE

Amphibians and reptiles of the Pacific States Stanford Stanford University Press, 1947 236 p. illus (part col'd) 26 cm. $4 00 2474

Contents Introduction. Amphibians of the Pacific States. Reptiles of the Pacific States. Life habits of amphibians of the Pacific States. Lif habits of reptiles of the Pacific States. Collecting, handling and care of amphibians and reptiles. Plates I-LXIV Amphibians and reptiles. Appendix Keys to the amphibians and reptiles. Glossary Bibliography Index.

Note A well-written manual of the amphibians and reptiles which are found in the states of Washington Oregon, and California. Most of the descriptions are based on direct observations of the author or his students, and most of the illustrative material also is original. The book is semi-popular in the sense that it can be understood and will be useful to amateur naturalists. However the keys and the information on habits are of interest to the professional herpetologist as well. Identification and habits are emphasized. The bibliography includes both the popular and the scientific literature.

PIETSCHMANN, VICTOR

Hawaiian shore fishes Honolulu Bernice P Bishop Museum, 1938 55 p illus 25 cm (Bernice P Bishop Museum. Bulletin 156) $2 50 2475

Contents Introduction. Descriptions of species. Literature cited. Index.

Note This study is based on material collected in 1927–28 in the waters off many of the Hawaiian islands, including uninhabited coral islands and atolls. The citation of many new localities for species found hitherto only on some, or one, of the islands shows that the fish fauna of these islands is uniform. The material collected consisted of adult specimens, young stages, and larval forms. The young stages are included in the present study but the larval forms will be treated in another paper

POPE, CLIFFORD HILLHOUSE

The reptile world a natural history of the snakes lizards turtles and crocodilians New York Alfred A Knopf 1955 338 p illus (part col'd) 24 cm. $7 50 2476

Contents (abridged) Reptiles (Class Reptilia) Crocodilians (Order Crocodilia or Loricata General account Account by species —Family Alligatoridae—Family Crocodylidae—Family Gavialidae. Bibliography Tuatara (Order Rhynchocephalia) Bibliography Turtles (Order Chelonia) General account. Account by families —Snapping turtles (Family Chelydridae)—Musk and mud turtles (Family Kinosternidae)—Famil Dermatemydidae—Big-headed turtle (Family Platysternidae)—Fresh-water turtles (Family Emydidae)—True tortoises (Family Testudinidae)—Sea turtles (Family Cheloniidae)—Side-necked turtles (Family Pelomedusidae)—Snake-necked turtles (Family Chelidae)—P tted-shelled turtle (Family Carettochelydidae)—Soft-shelled turtles (Family Trionychidae)—Leatherback turtle (Family Dermochelidae) Bibliography Snakes (Suborder Serpentes) General account Account by families—Blind snakes (Families Typhlopidae and Leptotyphlopidae)—Boas and pythons (Family Boidae)—Colubrid snakes (Family Colubridae)—Cobras, coral snakes, and their allies (Family Elapidae)—Sea snakes (Family Hydrophiidae)—Vipers (Family Viperidae) Bibliography Lizards (Suborder Sauria) General account Account by families—Geckos (Family Gekkonidae)—Iguanids (Family Iguanidae)—Agamids (Family Agamidae)—True chameleons (Family Chamaeleontidae)—Skinks (Family Scincidae)—Teiids (Family Teiidae) Bibliography Index.

Note. An inclusive book that deals not only with the reptile world but also with the reptiles of the world. It is not comprehensive in the sense that all known reptiles are described. On the other hand, it does contain some information on most of the groups and species in which the nonspecialist is likely to be interested. Habits, sizes, courtship and mating, and other facts of fairly general interest are emphasized. The illustrations are an outstanding feature There are 221 figures, and most of them are reproductions of photographs. The book is an excellent one for home libraries and the personal libraries of biological scientists who are interested in a general rather than a professional way in reptiles. The author was formerly Curator of the Division of Amphibians and Reptiles of the Chicago Nat ral History Museum.

POPE, CLIFFORD HILLHOUSE

The reptiles of China turtles crocodilians snakes, lizards With 78 illustrations in the text, including a map, and 27 plates at end. New York The American Museum of Natural History, 1935 604 p illus. 28 cm. (Central Asiatic expeditions. Natural history of Central Asia. Vol x) $10 00 2477

Contents (abridged) General introduction. Systematic account by species and sub-species. Résumé of the natural history of Chinese snakes. Annotated check list of Chinese lizards. List of localities. Bibliography Index.

Note This work brings together a vast amount of information concerning the habits, classification, and distribution of reptiles in China and adjacent countries. The known forms of Chinese turtles, crocodilians, and snakes are taken up one by one and treated with equal emphasis on description, distribution, ecology and synonymy Keys to all families, genera, and species are included The bibliography is extensive.

POPE, CLIFFORD HILLHOUSE

Snakes alive and how they live. Illustrated with photographs and including an illustrated key for the identification of the snakes of the United States. New York The Viking Press, 1937 238 p illus. 22 cm $4 00 2478

Contents A lover of snakes. Usefulness. Size Age and growth. Senses and intelligence. Feeding. More about feeding. Reproduction Locomotion. Defense. Enemies. Where snakes live. Hibernation. Popular beliefs. Snakes as medicine. Snake hunting. Snakes as pets. Venoms. Snake-bite and its treatment. Classification. Appendix: How to identify the snakes of the United States Index.

Note. The author uses his wide knowledge of reptiles to point out the usefulness, intelligence and good qualities of many snakes, the technique of handling them, and even their possibilities as pets for the children in the home. Venomous species are also described, and the appendix contains a key to the identification of all specimens of snakes found within the United States of America. The book is for the lay reader and amateur naturalist.

POPE CLIFFORD HILLHOUSE

Turtles of the United States and Canada. Illustrated with 99 photographs. New York A. A Knopf 1939 343 p illus 22 cm. $5 00. 2479

Contents (abridged) Turtle beginnings and ways. Identification of American turtles. The musk and mud turtles The snapping turtles. Spotted, wood, Pacific and Muhlenberg's turtles. Blanding's turtle and the box turtles. Diamond-back terrapins Map turtles Painted turtles. Pseudemyd turtles. Chicken turtles. The desert, Berlandier's, and gopher tortoises. The sea-turtles. The soft-shelled turtles. Bibliography Lists f turtles with common and scientific names. Index

Not Written for the general reader Turtles in general are discussed, and then the various species found in the United States and Canada are described, with notes on their characteristics, habitats, habits, etc. Directions are given for the car of baby turtles kept as pets.

RANEY EDWARD C , AND OTHERS

The striped bass, *Roccus saxatilis* New Haven Peabody Museum of Natural History, Yale University, 1952 177 p. illus. 23 cm. (Yale University Peabody Museum of

Natural History Bingham Oceanographic Collection. Bulletin, vol. 14 art. 1) $3.00 2480

Contents: The life history of the striped bass, *Roccus saxatilis* (Walbaum), by E. C. Raney. Spawning grounds of the striped bass or *Roccus saxatilis* (Walbaum) in Virginia, by E. F. Tresselt. Variation in the feeding habits of the striped bass, *Roccus saxatilis* (Walbaum), in Chesapeake Bay by E. H. Hollis. Studies of the striped bass, *Roccus saxatilis* (Walbaum), with special reference to the Chesapeake Bay region during 1936-1938, by V. D. Vladykov and D. H. Wallace.

Note: The striped bass is an important sport and food fish along the Atlantic coast of continental North America from North Carolina to Maine and also on the Pacific Coast. The studies presented in this volume were detailed investigations of its life history, spawning and feeding habits and the results are presented in much detail. Raney's paper which [illegible] the longest one in the volume, includes comprehensive bibliography of the significant literature.

ROSTLUND ERHARD

Freshwater fish and fishing in native North America. Berkeley University of California Press 1952 313 p. illus 25 cm. (University of California. Publications in geography Vol. 9) $3.50. 2481

Contents: Part I. The fish resource. Food value of freshwater fishes. Principal species in the fish resource. The quantitative aspect of the fish resource—productivity of fresh waters. Rating of the fish resources by regions. Part II. Aboriginal fishery and fishing methods. Introduction to Part II. Fish nets. Weirs and traps. Fish spears. Fishhooks. Fish poisoning. Miscellaneous minor fishing methods. The preservation of fish. Summary of the utilization of the fish resource. Summary of culture-historical inferences. References to aboriginal fishing methods. Literature cited. Maps. Index.

Note: Both [illegible] contribution to anthropology and to zoology, this work [illegible] study of the fish resources available and the methods of fishing of the Indian tribes on the North American continent. The period [illegible] "contact time," or in other words [illegible] that period in history when native fish and fishery had not yet been severely disturbed by the invasion of Europeans. Freshwater and anadromous species of fish are covered, shellfish and marine species are not. The list of literature cited [illegible] 34 pages long and, in addition, the "References to aboriginal fishing methods" which is [illegible] detailed reference list to mentions of fishing equipment and methods in the literature, area by [illegible] region. Included are 35 maps showing the native range of individual genera of fish, the distribution of specific fishing methods, the quantities of fish available in fresh waters of native North America by region, etc.

RUGH, ROBERTS

The frog: its reproduction and development. The McGraw-Hill Book Company Inc. 1951 336 p. illus 24 cm. $5.00 2482

Contents: Introduction. General introduction to the embryology of the leopard frog, *Rana pipiens*. Reproductive systems of the adult frog. Fertilization of the frog egg. Cleavage. Blastulation. Gastrulation. Neurulation and early organogeny. A survey of the major developmental changes in the early embryo. A survey of the later embryo or larva. The germ layer derivatives. The endodermal derivatives. The mesodermal derivatives. Appendix. Chronological summary of organ anlagen appearance of *Rana pipiens*. Glossary of embryological terms. Bibliography for frog embryology. Index.

Note: A detailed and fully illustrated textbook on the embryology of the leopard frog, *Rana pipiens*. Normal embryological development [illegible] described but the importance of this frog in experimental embryology is indicated. A 3-page glossary and 12-page bibliography are unusual features for an undergraduate textbook of this kind. The author is [illegible] member of the faculty of Columbia University.

SCHMIDT KARL P., AND D DWIGHT DAVIS

Field book of snakes of the United States and Canada. With four colored plates and 103 drawings by Albert A. Enzenbacher and 82 photographs from life. New York G. P Putnam's Sons 1941 365 p. illus. (part col'd) $4.50. 2483

Contents: Introduction. The place of snakes in nature. Folklore of snakes. History of the study of snakes in the United States. Definitions and classification. External characters and coloration. The poison apparatus and treatment of snake bite. Habits and behavior. Collection, preservation, and the study of snakes. Systematic account of the snakes of the United States and Canada. Key to the genera of the snakes of the United States and Canada. The blind snakes—family Leptotyphlopidae. The boas—family Boidae. The harmless snakes—family Colubridae. The coral snakes—family Elapidae. The sea snakes—family Hydrophiidae. The pit vipers—family Crotalidae. References. Index.

Note: An outstanding example of nature handbooks addressed to such readers as amateur naturalists. It is authoritative and well organized. The first part, on snake folklore, snake habits and behavior, snake bite, etc., occupies 77 pages and provides the general [illegible] information on snakes needed by amateurs and beginning students of herpetology. The systematic accounts occupy most of the remaining space. Included in this part are identification keys, distribution maps, and accounts of species and related forms. The accounts of species give the common name and scientific names, description of physical appearance, range, size, food, and breeding habits. The drawings that accompany them are of good quality. In addition to the drawings in the text, there are 34 plates, most of which are reproductions of photographs of snakes and their eggs. The list of references is as extensive one [illegible] book of this kind.

SCHULTZ LEONARD PETER, AND OTHERS

Fishes of the Marshall and Marianas Islands. By Leonard P Schultz and collaborators Earl S Herald Ernest A. Lachner Arthur D Welander and Loren P Woods. Volume 1 Families from Asymmetrontidae through Siganidae. Washington, D C. Government Printing Office, 1953 685 p. illus 24 cm. (United States. National Museum. Bulletin 202) o p. 2484

Contents: Introduction. Phylum Chordata, subphylum Acrania, class Cephalochordata, order Branchiostomida. Subphylum Craniata, superclass Gnathostomata, class Chondrichthyes (cartilaginous fishes), subclass Selachii, superorder Selachoidei (sharks), order Lamnida. Superorder Rajoidei (skates and rays), order Rajida. Class Osteichthyes (bony fishes), subclass Teleostomi, superorder Teleostei, order Isospondylida. Order Anguillida (eels). Order Synentognathida. Order Berycomorphida. Order Anacanthinida. Order Syngnathida. Order Percomorphida. New genera and species. Index.

Note: A descriptive catalog of the fishes collected in the Marshall Islands in connection with, and after, the atom-bomb tests of Operation Crossroads, 1946. In addition, it includes material from the southern Marianas Islands and contains descriptions of new species and of new genera from various other areas of the tropical Indo-Pacific region, "wherever these new forms were found and were needed in the clarification of the species of fishes encountered in the central area under investigation." Most of the local collections and studies were made in 1946 and 1947. The principal author, who is Curator of Fishes at the United States National Museum, Smithsonian Institution, and his collaborators (whose individual contributions are identified in the text) examined over 50,000 specimens from the northern Marshall Islands and over 13,000 from the southern Marianas Islands in preparing the catalog. The descriptions of the species are detailed and include keys to the species and date and place of the capture of type specimens. Volume [illegible] is illustrated with line drawings in the text and with [illegible] plates reproducing photographs of specimens.

SCHULTZ, LEONARD PETER, AND EDITH M STERN

The ways of fishes. New York D Van Nostrand Company Inc., 1948. 264 p. illus. 24 cm. $5 75 2485

Contents: Migration. Locomotion. Hibernation and estivation. Fishes dangerous to man. Feeding habits. Association with other animals. Fighting fishes. Mass fish mortality. Electricity and luminescence. Sound and voice. Ocean beach spawners. Growth and death. Nest builders in streams. Fishes controllable by man. [illegible] A B C's. Fishes suitable for aquaria. Appendix—Classification of fishes. General index. Index of scientific names.

Note: The strange ways of fishes are the subject of this book, written by the Curator of Fishes of the Smithsonian Institution. It was not the authors' intention to present an orderly study of fish behavior but rather to describe instances of seemingly bizarre

Pickford. Toxic effects of thiourea on the liver of the adult male killifish, *Fundulus heteroclitus* (Linn.) by H. A. Chambers. Experimental differentiation of basophil cell types in the transitional lobe of the pituitary of a teleost fish *Astyanax Mexicanus* by E. H. Atz.

Note A detailed presentation of research investigations on the endocrinology of fishes. The experimental techniques are described, the results are presented in a narrative text and in tables, and literature references are given.

PICKWELL, GAYLE

Amphibians and reptiles of the Pacific States Stanford Stanford University Press 1947 236 p illus (part col'd) 26 cm. $4 00 2474

Contents Introduction. Amphibians of the Pacific States. Reptiles of the Pacific States. Life habits of amphibians of the Pacific States. Life habits of reptiles of the Pacific States. Collecting, handling, and care of amphibians and reptiles. Plates I-LXIV Amphibians and reptiles. Appendix Keys to the amphibians and reptiles. Glossary Bibliography Index.

Note A well-written manual of the amphibians and reptiles which are found in the states of Washington, Oregon, and California. Most of the descriptions are based on direct observations of the author or his students, and most of the illustrative material also, is original. The book is semi-popular in the sense that it can be understood and will be useful to amateur naturalists. However the keys and the information on habits are of interest to the professional herpetologist as well. Identification and habits are emphasized. The bibliography includes both the popular and th scientific literature.

PIETSCHMANN, VICTOR

Hawaiian shore fishes Honolulu Bernice P Bishop Museum 1938 55 p. illus 25 cm (Bernice P Bishop Museum. Bulletin 156) $2 50 2475

Contents Introduction Descriptions of species. Literature cited Index.

Note This study is based on material collected in 1927–28 in the waters off many of the Hawaiian islands, including uninhabited coral islands and atolls. The citation of many new localities for species found hitherto only on some or one of the islands shows that the fish fauna of these islands is uniform. The material collected consisted of adult specimens, young stages, and larval forms. The young stages are included in the present study but the larval forms will be treated in another paper

POPE, CLIFFORD HILLHOUSE

The reptile world a natural history of the snakes lizards, turtles, and crocodilians New York Alfred A Knopf 1955 338 p illus (part col d) 24 cm $7 50 2476

Contents (abridged) Reptiles (Class Reptilia) Crocodilians (Order Crocodilia or Loricata General account. Account by species —Family Alligatoridae—Family Crocodylidae—Family Gavialidae Bibliography Tuatara (Order Rhynchocephalia) Bibliography Turtles (Order Chelonia) General account. Account by families —Snapping turtles (Family Chelydridae)—Musk and mud turtles (Family Kinosternidae)—Family Dermatemydidae—Big-headed turtle (Family Platysternidae)—Fresh-water turtles (Family Emydidae)—True tortoises (Family Testudinidae)—Sea turtles (Family Cheloniidae)—Side-necked turtles (Family Pelomedusidae)—Snake-necked turtles (Family Chelidae)—Pitted-shelled turtle (Family Carettochelyidae)—Soft-shelled turtles (Family Trionychidae)—Leatherback turtle (Family Dermochelidae) Bibliography Snakes (Suborder Serpentes) General account Account by families—Blind snakes (Families Typhlopidae and Leptotyphlopidae)—Boas and pythons (Family Boidae)—Colubrid snakes (Family Colubridae)—Cobras, coral snakes, and their allies (Family Elapidae)—Sea snakes (Family Hydrophiidae)—Vipers (Family Viperidae) Bibliography Lizards (Suborder Sauria) General account. Account by families—Geckos (Family Gekkonidae)—Iguanids (Family Iguanidae)—Agamids (Family Agamidae)—True chameleons (Family Chamaeleontidae)—Skinks (Family Scincidae)—Teiids (Family Teiidae) Bibliography Index.

Note. An inclusive book that deals not only with the reptile world but also with the reptiles of the world. It is not comprehensive in the sense that all known reptiles are described. On the other hand, it does contain some information on most of the groups and species in which the nonspecialist is likely to be interested. Habits, sizes, courtship and mating and other facts of fairly general interest are emphasized. The illustrations are an outstanding feature There are 221 figures, and most of these are reproductions of photographs. The book is an excellent one for home libraries and the personal libraries of biological scientists who are interested in a general rather than a professional way in reptiles. The author is formerly Curator of the Division of Amphibians and Reptiles of the Chicago Natural History Museum.

POPE, CLIFFORD HILLHOUSE

The reptiles of China turtles, crocodilians, snakes, lizards. With 78 illustrations in the text, including a map, and 27 plates at end New York The American Museum of Natural History, 1935 604 p illus. 28 cm. (Central Asiatic expeditions. Natural history of Central Asia. Vol x) $10 00. 2477

Contents (abridged) General introduction. Systematic account by species and sub-species. Résumé of the natural history of Chinese snakes. Annotated check list of Chinese lizards. List of localities. Bibliography Index.

Note This work brings together a vast amount of information concerning the habits, classification, and distribution of reptiles in China and adjacent countries. The known forms of Chinese turtles, crocodilians, and snakes are taken up one by one and treated with equal emphasis on description, distribution, ecology and synonymy Keys to all families, genera, and species are included The bibliography is extensive

POPE, CLIFFORD HILLHOUSE

Snakes alive and how they live. Illustrated with photographs and including an illustrated key for the identification of the snakes of the United States. New York The Viking Press 1937 238 p illus 22 cm. $4 00 2478

Contents A lover of snakes. Usefulness. Size. Age and growth. Senses and intelligence. Feeding. More about feeding. Reproduction. Locomotion. Defense. Enemies. Where snakes live. Hibernation. Popular beliefs. Snakes as medicine. Snake hunting. Snakes as pets. Venoms. Snake-bite and its treatment. Classification. Appendix How to identify the snakes of the United States. Index.

Note The author uses his wide knowledge of reptiles to point out the usefulness, intelligence and good qualities of many snakes, the technique of handling them and even their possibilities as pets for the children in the home. Venomous species are also described, and the appendix contains a key to the identification of all specimens of snakes found within the United States of America. The book is for the lay reader and amateur naturalist.

POPE CLIFFORD HILLHOUSE

Turtles of the United States and Canada. Illustrated with 99 photographs New York A A Knopf 1939 343 p. illus 22 cm $5 00 2479

Contents (abridged) Turtle beginnings and ways. Identification of American turtles. The musk and mud turtles. The snapping turtles. Spotted, wood, Pacific and Muhlenberg's turtles, Blanding's turtle and the box turtles. Diamond-back terrapins. Map turtles. Painted turtles. Pseudemyd turtles. Chicken turtles. The desert, Berlandier's, and gopher tortoises. The sea-turtles. The soft-shelled turtles. Bibliography Lists of turtles with common and scientific names. Index

Note Written for the general reader Turtles in general are discussed, and then the various species found in the United States and Canada are described, with notes on their characteristics, habitats, habits, etc Directions are given for the care of baby turtles kept as pets.

RANEY, EDWARD C , AND OTHERS

The striped bass *Roccus saxatilis* New Haven Peabody Museum of Natural History Yale University 1952 177 p illus. 23 cm (Yale University Peabody Museum of

Natural History Bingham Oceanographic Collection. Bulletin, vol. 14 art. 1) $3.00. 2450

Contents: [illegible]

Note: [illegible]

ROSTLUND, ERHARD

Freshwater fish and fishing in native North America. Berkeley University of California Press 1952 313 p illus 25 cm. (University of California. Publications in geography Vol. 9) $3.50 2451

Contents: [illegible]

Note: [illegible]

RUGH, ROBERTS

The frog its reproduction and development. The McGraw Hill Book Company Inc. 1951 336 p. illus 24 cm. $5.00 2452

Contents: [illegible]

Note: [illegible]

SCHMIDT, KARL P., AND D DWIGHT DAVIS

Field book of snakes of the United States and Canada. With four colored plates and 103 drawings by Albert A. Enzenbacher and [illegible] photographs from life. New York G P Putnam's Sons 1941 365 p. illus. (part col'd) $4.50 2453

Contents: [illegible]

Note: [illegible]

SCHULTZ, LEONARD PETER AND OTHERS

Fishes of the Marshall and Marianas Islands. By Leonard P Schultz and collaborators Earl S Herald Ernest A. Lachner Arthur D Welander and Loren P Wood. Volume 1 Families from Asymmetrontidae through Siganidae Washington D C. Government Printing Office 1953 685 p. illus 24 cm. (United States. National Museum Bulletin 202) o.p. 2454

Contents: [illegible]

Note: [illegible]

SCHULTZ, LEONARD PETER, AND EDITH M STERN

The ways of fishes. New York D Van Nostrand Company Inc., 1948. 264 p. illus 24 cm. $5.75 2455

Contents: [illegible]

Note: [illegible]

and curious habits or physical characteristics of certain fishes. The book can be read with enjoyment by students of natural history, aquarium visitors, general readers with a flair for curious knowledge and even by professional ichthyologists.

SHIMADA, BELL M

An annotated bibliography on the biology of Pacific tunas Washington D C Government Printing Office 1951 58 p 26 cm (United States Fish and Wildlife Service Fishery bulletin 58 From Fishery bulletin of the Fish and Wildlife service volume 52) $0.30 2486

Content Introduction Annotated bibliography Abbreviations used. Index by subjects.

Note This bibliography covers chiefly the literature on the black skipjacks or little tunnies (*Euthynnus alletteratus, E. lineatus* and *E. yaito*) the oceanic or common skipjack (*Katsuwonus pelamis*) the albacore (*Thunnus germo*) the bluefin or black tunas (*Thunnus maccoyi T orientalis* and *T thynnus*) the big-eyed tunas (*Parathunnus mebachi* and *P sibi*) the yellowfin tuna (*Neothunnus macropterus*) and the frigate mackerels of the genus *Auxis* inhabiting the Pacific Ocean, including the waters contiguous to the Indo-Australian Archipelago. The bibliography is arranged alphabetically by author Date title, publication data and brief annotation are indicated for each item. Japanese references are included.

SMITH, HOBART MUIR

Handbook of amphibians and reptiles of Kansas Second edition Lawrence University of Kansas, 1956 356 p illus 23 cm (University of Kansas Museum of Natural History Miscellaneous publication 9) $4 00 2487

Contents (abridged) Treatment of species. History Composition of fauna. Venomous species. Collecting. Care of live individuals. Preservation of specimens. Identification Key to classes. Class Amphibia Salamanders, order Caudata. Anurans (frogs and toads) order Salientia. Class Reptilia Turtles, order Testudines Lizards, suborder Sauria. Snakes, suborder Serpentes. Pit vipers, family Crotalidae. Species and subspecies of probable but unverified occurrence. Glossary Literature cited. Index.

Note. A popular handbook directed primarily to amateur naturalists and students. Inasmuch as it contains considerable information on range in the state of Kansas and continental United States of America of the genera and species described, it is of some interest to professional herpetologists also. The species descriptions include both common and scientific names, the literature reference to the original description and type locality record of distribution by county within Kansas, and small map showing range in continental United States of America nontechnical description of morphology statement on recognition characters description of habits and habitat and other miscellaneous information. The introductory matter includes, among other topics, discussion of venomous species and some advice on collecting

SMITH, HOBART MUIR

Handbook of lizards lizards of the United States and Canada Ithaca Comstock Publishing Company 1946 557 p illus 24 cm (Handbooks of American natural history edited by Albert Hazen Wright Vol vi) $6 00 2488

Content Part I Introduction Zoological position Characteristics Distribution. Major groups Fossil history Structure Habitats Life history Habits Folklore Economic importance In captivity Collecting. Preserving American saurologists Problems Part II Accounts of species Key to families Family Gekkonidae Family Iguanidae Family Xantusiidae. Family Scincidae Family Lacertidae Family Teiidae Family Amphisbaenidae Superfamily Anguoidea Family Anguidae Family Helodermatidae Family Anniellidae Distribution maps. General literature State lists of species and literature Literature cited Index

Note A comprehensive manual of general and scientific information on American lizards The species treated include all native forms recorded, all exotic species established, and a few species never authentically reported but possibly occurring For each species is given so far as possible common name scientific name photograph range size color scalation, recognition characters, habits and habitat problems, bibliographical references. There are 41 distribution maps and three separate bibliographies. The photographic illustrations, which number in the hundreds, are mostly from photographs taken over many years by Dr Albert Hazen Wright and Mrs. Anna Allen Wright.

SMITH, HOBART MUIR

The Mexican and Central American lizards of the genus Sceloporus. Chicago Chicago Natural History Museum, 1939 398 p. illus. 24 cm (Chicago Natural History Museum. Publication 445 Zoological series Vol 26) $6 00 2489

Content Introduction. Geographical trends in variation Biotic provinces of Mexico. Regional lists. Method of treatment. Definition of the genus. Arrangement of the species in groups. Key to the groups of Sceloporus. Systematic list. Bibliography Index.

Note A summary of the results of the author's studies based on a collection of 17,500 specimens of lizards of the iguanid genus Sceloporus which form one of the largest and most recent groups among the reptiles of the New World. Authors who have dealt with the genus as a whole have disagreed to a surprising extent in their arrangement and evaluation of the species. The present work attempts to reconcile some of these differences, based on a more detailed study of a larger variety of species than hitherto possible. Original references, distribution, diagnosis, description, variation, relationships to other species, habits and habitat, and locality records are given for species or subspecies listed. There are 31 plates of photographs and a bibliography of approximately 300 articles and monographs.

STEBBINS, ROBERT CYRIL

Amphibians and reptiles of western North America. Illustrated by the author New York McGraw Hill Book Company Inc., 1954 528 p illus 24 cm $8.50 2490

Content Introduction Amphibians (class Amphibia): Salamanders (order Caudata) Frogs and toads (order Salientia) Reptiles (class Reptilia): Turtles (order Testudinata) Lizards and snakes (order Squamata) Glossary Index.

Note An elementary reference book designed primarily to aid in the identification of amphibians and reptiles in the western portion of the United States of America and Canada Methods of collecting and techniques for preservation of specimens are outlined in the introduction. Most of the space in the volume is devoted to descriptions (including pictures) of animals and to maps showing areas of distribution of the various species. Keys to families and genera are included. The descriptions of species and subspecies include information on occurrence morphology and habits. One or more references to literature are usually given for each species The illustrations are organized as 104 plates, most of which contain several pictures or maps.

STEBBINS ROBERT CYRIL

Amphibians of western North America. Berkeley University of California Press 1951 539 p illus (part col d) 24 cm $7.50 2491

Content Introduction. Class Amphibia. Salamanders Order Urodela Family Salamandridae Family Ambystomidae Family Plethodontidae Frogs and toads Order Anura Family Ascaphidae Family Pelobatidae Family Leptodactylidae Family Bufonidae Family Hylidae Family Ranidae Family Microhylidae Eggs and larvae Habitats Distribution maps. Glossary Bibliography Index

Note A wide range of information on the external form, coloration habits and distribution of the species of salamanders, frogs and toads inhabiting the 11 western states of the United States and Alaska, and the three western provinces of Canada is contained in this work. It is based on comprehensive coverage of the pertinent literature unpublished data, and the author's personal observations. The species of salamanders numbering 33 and the species of frogs and toads, numbering 29 are described in systematic order. The following information about species is generally given: range, type locality description, habitat behavior food, reproduction, and

[illegible] All species and some subspecies are shown in [illegible] ... the animals of each group are [illegible] ... in the drawings, the salamanders shown in dorsal and ventral views, the frogs and toads in three-quarter view. [illegible] the forms of eggs, larvae and typical habitats. A series of 44 sketch maps indicate locations of reported specimens of various species. The book is useful both to zoologists and to amateur naturalists who are interested in the fauna of the region covered.

Vertebrates (Birds)

University of Oklahoma. Biological Survey

Researches on the Amphibia of Oklahoma By Arthur N. Bragg, A. O. Weese, Harold A. Dundee, Helen Talley Fisher, A. Richards and Carol Bergthold Clark. Norman, University of Oklahoma Press 1950 154 p. illus. 23 cm. $1.00. 2492

Contents: Part I, Papers on taxonomy. The identification of Salientia in Oklahoma, by A. N. Bragg. Keys to frogs and toads of Oklahoma, by A. N. Bragg. A key to the adult salamanders of Oklahoma, including the forms likely to occur in the state, by H. A. Dundee and A. N. Bragg. [illegible] ... by A. N. Bragg. Part II, Papers on ecology. [illegible] ... by A. N. Bragg and A. O. Weese. [illegible] ... in Oklahoma, by A. N. Bragg. [illegible] ... by A. N. Bragg. Part III, Papers on sex cycles. [illegible] ... by H. T. Fisher and A. Richards. A comparison of the ovaries of two species of Bufo with different ecological requirements, by C. B. Clark and A. N. Bragg. Index.

Note: Studies made by staff members of the University of Oklahoma Biological Survey are published in this volume. Although the studies were made on amphibians occurring in the state of Oklahoma, they have [illegible] ... [illegible] ... in the amphibians.

Wright, Albert Hazen and Anna Allen Wright

Handbook of frogs and toads of the United States and Canada. Third edition. Ithaca, Comstock Publishing Company, Inc. 1949 640 p. illus. 24 cm. (Handbooks of American natural history. Albert Hazen Wright, advisory editor) $6.50 2493

Contents: General account. Common names. Proper classification. Scientific names. Specific evaluation of our North American forms. Range. Habitat. Size. General appearance. Color. Structure. Voice. Vocal sacs. Color of throat. [illegible] ... Breeding [illegible] ... Eggs. Synopsis of eggs of United States frogs. Tadpoles. Synopsis of United States tadpoles. Development and transformation. Journal notes. Authorities' corner. Keys. Families: Ascaphidae. Scaphiopodidae. Bufonidae. Hylidae. Leptodactylidae. Ranidae. Brevicipitidae. Accounts of species: Ribbed toads, Ascaphidae. Spadefoots, Scaphiopodidae. Toads, Bufonidae. Tree frogs, Hylidae. Robber frogs, Leptodactylidae. Frogs, Ranidae. Narrow-mouth toads, Brevicipitidae. Bibliography. Index.

Note: From its second to the third edition this standard hand book has been increased in size from 286 pages to 640 pages. While the new edition [illegible] on the same general plan as its predecessors, both the introductory general account and the specific descriptions have been greatly expanded. Including the keys, the general account now occupies 180 pages, with additional [illegible] ... One hundred species and subspecies are now included, and the descriptions run to 450 pages in contrast to 90 pages in the second edition. The number of plates was increased from [illegible] in the second edition to [illegible] in the third. In addition, the third edition includes 37 maps of distribution of species [illegible] ... The work [illegible] complete manual of American frogs and toads. It [illegible] written so that it may be used by amateur naturalists and teachers, as well as by professional workers. The illustrations are exceptionally good.

Allen, Arthur Augustus

Ornithology laboratory notebook for recording observations made in the field and studies made in the laboratory on the birds of North America with drawings by L. A. Fuertes, M. D. Pirnie and William Montagna. Fifth edition. Ithaca, Comstock Publishing Company, Inc., 1947 256 p. illus. 27 cm. $4.00 2494

Contents (*abridged*): Directions. Reference work to consult in completing the [illegible] ... and identification charts. [illegible] ... of the bird—Feather tracts of the bird—Parts of the feather—Skeleton of the bird. Diagrams. Feather types. Key to orders of North American birds. Keys to the families of birds found in North America. Identification of bird skins to the order and family. Orders of North American birds and their distinctive characters. Key to the nests of the commoner [illegible] ... birds. [illegible] ... North America. Summer and [illegible] ... of North American birds. Life history charts. [illegible] ... of egg shapes. Check list of birds of eastern North America.

Note: The intended purpose of this book is for use in organized courses in elementary ornithology such as are offered at Cornell University. Approximately half of the space is occupied by outline life history charts for the student's [illegible] ... observations and data on common species. However, the book is [illegible] useful home study guide for amateur ornithologists. It is well illustrated with line drawings and reproductions of photographs. In this edition the scope has been extended to include all North American birds.

Allen, Durward L.

Pheasants in North America. Frontispiece and drawings by Bob Hines. Harrisburg, Published by The Stackpole Company and the Wildlife Management Institute, Washington, D. C., 1956 490 p. illus. (part col'd) 24 cm. $7.50 2495

Contents: Pheasants and pheasant people [illegible], by F. B. Dale. [illegible] ... by J. B. Lauckhart and J. W. McKean. The pheasant in California, by C. M. Hart and others. Pheasants in the arid Southwest, by L. E. Yeager and others. Pheasants of the plains and prairies, by J. W. Kimball and others. Ringneck pheasants in the Great Lakes region, by R. A. McCabe and others. Pelee Island pheasants, by A. R. Baker. The pheasant in the northeastern states, by A. T. Studholme and D. Benson. The management outlook, by D. L. Allen. Literature cited. Index.

Note: Written from essentially the same viewpoint as W. L. McAtee edited *The ring-necked pheasant and its management in North America*, Washington, D. C., 1945 described below, this book is the work of [illegible] different team of authors. What they have written reflects much additional research on the ring-necked pheasant since the earlier volume was written. Emphasized are such topics as factors that affect the size of the pheasant population and the effects of stocking and of hunting in the geographical regions under discussion. One of the interesting facts brought out is that there is [illegible] relationship between soil fertility or [illegible] ... and the population of ring-necked pheasants it will support. The bibliography, although limited to writings cited in the text, runs to 16 pages. The book is of interest to sportsmen who are interested in conservation and to state and other officials who are concerned with wildlife management.

Allen, Elsa Guerdrum

The history of American ornithology before Audubon. Philadelphia, The American Philosophical Society 1951 387–591 p. illus. 30 cm. (American Philosophical Society. Transactions. New series—vol. 41, part 3) $2.00 2496

Contents: Ancient bird lore. Aristotle [illegible] ... of birds and the Middle Ages. Continental bird lore and the encyclopedists. Early bird lore in England. Early bird lore in the Western World. Early Colonial bird observation in America. The mid-seventeenth and early

eighteenth centuries. Mark Catesby founder of American ornithology American ornithology under European compilers. Bird observation resumed in America. Early ornithological observation around Hudson Bay and other boreal regions. Bird lists of the latter eighteenth century Bartram, Abbot, and Vieillot. Alexander Wilson father of American ornithology Bibliography Index.

Note A scholarly work based largely on a study of source materials in American university libraries and museums. It is thoroughly documented. The 14-page bibliography includes citations of not only the pertinent literature on ornithology but also biographical and historical writings. The [illegible] illustrations include portraits of scientists and reproductions of ornithological drawings manuscripts, etc.

ALLEN, ROBERT PORTER

The flamingos their life history and survival With special reference to the American or West Indian flamingo (Phoenicopterus ruber) New York National Audubon Society, 1956 285 p illus (part col'd) 27 cm (National Audubon Society Research report no 5) $3 95 2497

Contents Distribution and migration. Numbers. Food habits and ecology The breeding cycle. Conservation—limiting factors and the protection problem. Bibliography Appendices Some vernacular names of flamingos. Average and extreme measurements of flamingos. *A note for photographers. Further data on nesting.* Index.

Note A comprehensive study carried out primarily to provide scientific base for conservation measures. It contains some material on the Greater flamingo of Europe Africa and Asia, but is primarily concerned with the West Indian flamingo of the *Bahamas* and the Caribbean islands. It is based on extensive field study as well as a comprehensive survey of the literature. Historical aspects are covered, ranging from an account of the fossil record to excerpts of writings of early observers of this bird. Much information is included on behavior To cite an example, the chapter on the breeding cycle is 77 pages long. The bibliography is comprehensive.

ALLEN, ROBERT PORTER

The whooping crane New York National Audubon Society 1952 246 p illus (part col'd) 27 cm (National Audubon Society Research Report No 3) $3 00 2498

Content (abridged) Introduction. Part I, Distribution. Part II, Abundance. Part III, Migration. Part IV Food habits. Part V Winter life. Part VI, The breeding cycle. Part VII, Molt, plumages and anatomy Part VIII, Survival—protection and conservation. Appendix Local and foreign common names for the whooping crane. List of scientific names of plants and animals mentioned in the text Bibliography Index

—— A report on the whooping crane s northern breeding grounds A supplement to Research report no 3 *The whooping crane* New York National Audubon Society 1956 60 p illus 27 cm. $2 50 2499

Content I troduction. The search (1945–1953) The discovery Exploration. The nesting area The breeding population. Summary Appendixes Flora. Fauna. Bird lists. Mammals Bibliography Index.

Not Because of extensive publicity in recent years, hundreds of thousands of people know that the hooping crane, *Gru americana*, is threatened ith extinction The tw reports listed here resulted from joint project of the U ited States Fish and Wildlif Service and the National Audubon Society The project's aim as t *gather fund of knowledge* about this bird that could serve as the basis of conservation measures that would favor its survival The original report is comprehensive one based on extensive field study combined with study of the literature. The discussion of distribution, *for example* covers not *only recent* times but goes so far back as the author could find any records. In the part on survival, the author discusses the usual hazards and, also, unusual ones such as drilling for petroleum on the birds winter range, and low flying airplanes. *Much of the information* in the part on the breeding cycle is based on observation, made by others before the birds became so scarce, and partly on observations of captive pair The bibliography in this report is comprehensiv one. The supplement, published *four years after the original report*, records the culmination of 10 years intensive search for the northern breeding grounds. The discovery was first made in 1954 and as confirmed, and the area was explored in 1955 The supplement describes the discovery and exploration in detail and contains a bibliography supplementary to the one in the original report.

AMERICAN ORNITHOLOGISTS' UNION

Check list of North American birds. Prepared by a Committee of the American Ornithologists Union Fourth edition Constituting the 'Systema Avium" for North America north of Mexico Lancaster Pa. American Ornithologists Union, 1931 526 p 23 cm 2500

Content (abridged) Preface to the fourth edition. Check-list *Gaviiformes. Colymbiformes. Procellariiformes. Pelecaniformes.* Ciconiiformes. Anseriformes. Falconiformes. Galliformes. Gruiformes. Charadriiformes Columbiformes. Psittaciformes. Cuculiformes. Strigiformes. Caprimulgiformes. Micropodiformes. Trogoniformes. Coraciiformes *Piciformes. Passeriformes.* Hypothetical list. Summary of changes, additions, and eliminations. Fossil birds of North America. Index to check-list umbers. Index.

Not At the time of riting of this note (1937) this was the current edition of the standard reference list of birds known to occur on the North American continent north of Mexico and including Greenland. The first edition of it as published in 1886, the second edition in 1895 and the third edition in 1910 This fourth edition as prepared by committee of ornithologists all of whom had attained eminence as specialists on the birds of the North American continent. The list includes not only native species, but also accidental casual and introduced species. The accepted scientific and vernacular names are given for all the forms listed. The vernacular names have been carefully selected and might fairly be described as the vernacular names recognized by professional ornithologists. *Local names are not included* unless, *of course*, they coincide ith the accepted vernacular names A verified and carefully designated literature reference is given to the first description or type of each form, and type localities are referenced with the same care. The account of each form includes also *statement of* range. Throughout the book there are footnotes which contain explanatory comments, supplementary literature references, etc. The Index t check-list numbers" toward the end of the volume enables users of this fourth edition to correlate accounts of species and subspecies in it with those in previous editions here each account was prefaced by number. A fifth edition as published in 1957 691 p $8 00

AMERICAN ORNITHOLOGISTS' UNION

Fifty years progress of American ornithology 1883–1933 Revised edition. Lancaster, Pa. American Ornithologists Union 1933 249 p illus 24 cm. $1 00 2501

Contents I troduction. A brief history of the American Ornithologists' U ion, by T S. Palmer American ornithological literature, 1883–1933 by W Stone. Fifty years of bird migration, by W Rowan Bird banding, by F C. Lincoln. The theory of territorialism and its development, by M. M. Nice Advances in life history work, by H. Friedmann Economic ornithology by W L. McAtee Collections of birds in the United States and Canada study collections, by J L. Peters. Exhibition collections, by F M. Chapman. History and progress of bird photography in America, by A. O Gross. Fifty years of progress in American bird-art, by G. M. Sutton. Fifty years of bird protection by A. A. Allen. Fossil birds, by A. Wetmore Appendix Meetings and membership of the Union. Chronology of the American Ornithologists Union

Note This collection of papers does not pretend to cover the entire field of study and activity in ornithology in America Rather emphasis is placed on the progress in the science as it is shown by collections, literature and illustrations, and the information valuable for educational ork in the fields of migration bird banding, lif histories, territorialism economic ornithology and paleontology

AUDUBON JOHN JAMES

The birds of America with a foreword and descriptive captions by William Vogt New York The Macmillan Company 1937 xxvi 250? p illus (col d) 31 cm $8 95

Not The 435 plates in this volume were originally published by Audubon in London during the years 1827 1838, in the ...

[illegible]

Austin, Oliver L., Jr., and Nagahisa Kuroda

The birds of Japan, their status and distribution. Cambridge, Mass. Printed for the Museum, 1953. 250–63 p. illus. 23 cm. (Harvard College. Museum of Comparative Zoology. Bulletin. Vol. 109, no. 4) $4.00 2503

[illegible]

Bailey, Alfred Marshall

Birds of Arctic Alaska. Denver. The Colorado Museum of Natural History, 1948. 317 p. illus. 26 cm. (Denver Museum of Natural History. Popular series No. 8) $4.66 2504

[illegible]

Baker, Rollin Harold

The avifauna of Micronesia, its origin, evolution, and distribution. Lawrence. University of Kansas, 1951. 359 p. illus. 23 cm. (University of Kansas publications. Museum of Natural History. Vol. 3, no. 1) 2505

[illegible]

[illegible]

Baldwin, Samuel Prentiss, and others

Measurements of birds, by S. Prentiss Baldwin, Harry C. Oberholser, and Leonard G. Worley. Illustrations by James Manson Valentine. Cleveland. Cleveland Museum of Natural History, 1931. 165 p. illus. 23 cm. (Scientific publications of the Cleveland Museum of Natural History. Vol. 2, 1931) $1.55 2506

[illegible]

Ball, Stanley Crittenden

Jungle fowls from Pacific Islands. Honolulu. Bernice P. Bishop Museum, 1933. 121 p. illus. (part col'd) 25 cm. (Bernice P. Bishop Museum. Bulletin 108) $2.50 250

[illegible]

Barton, Roger

How to watch birds. New York. McGraw-Hill Book Company, Inc., 1955. 229 p. illus. 21 cm. $3.50. 250[illegible]

[illegible]

Bent, Arthur Cleveland

Life histories of North American wood warblers, Order Passeriformes. Washington, D.C. Government Printing Office, 1953. 34

p illus 24 cm (Smithsonian Institution United States National Museum Bulletin 203) $4 50 2509

Note One of an extensive series of publications on families of birds of the North American continent, this publication follows the established pattern. Its subject, as noted in the title is the life histories, not the taxonomy or morphology of the North American wood warblers (family Parulidae) The monographic essays on the individual species cover such points as breeding range, migration nesting, number of eggs, behavior during incubation, plumages, song, food, and general behavior In many instances, these topics are discussed at length, and sometimes there are quotations of some length from the works of other authorities. The list of cited literature is an extensive one. The 83 plates are mostly reproductions of photographs of birds, nests and eggs in natural habitats.

BLAKE, EMMET REID

Birds of Mexico a guide for field identification by Emmet Reid Blake. Illustrated by Douglas E Tibbitts Chicago University of Chicago Press 1953 644 p illus 19 cm (A contribution of the Chicago Natural History Museum The University of Chicago Committee on Publications in Biology and Medicine Emmet B Bay and others) $6 00 2510

Contents Tinamous—Tinamidae. Loons—Gaviidae. Grebes—Colymbidae. Albatrosses—Diomedeidae. Shearwaters, fulmars, and petrels—Procellariidae. Storm petrels—Hydrobatidae. Tropic-birds—Phaëthontidae. Pelicans—Pelecanidae. Boobies and gannets—Sulidae. Cormorants—Phalacrocoracidae. Snake-birds—Anhingidae. Frigate-birds—Fregatidae. Herons and bitterns—Ardeidae. Boat-billed herons—Cochleariidae. Storks—Ciconiidae. Ibises and spoonbills—Threskiornithidae. Flamingos—Phoenicopteridae. Ducks, geese, and swans—Anatidae. New world vultures—Cathartidae. Hawks, eagles, and allies—Accipitridae. Ospreys—Pandionidae. Falcons and caracaras—Falconidae. Curassows, guans, and chachalacas—Cracidae. Quails and partridges—Phasianidae. Turkeys—Meleagrididae. Cranes—Gruidae. Limpkins—Aramidae. Rails, gallinules, and coots—Rallidae. Sun-grebes—Heliornithidae. Sun-bitterns—Eurypygidae. Jacanas—Jacanidae. Oystercatchers—Haematopodidae. Plovers and allies—Scolopacidae. Avocets and stilts—Recurvirostridae. Phalaropes—Phalaropodidae. Thick-knees—Burhinidae. Jaegers—Stercorariidae. Gulls and terns—Laridae. Skimmers—Rhynchopidae. Auklets and allies—Alcidae. Pigeons and doves—Columbidae. Parrots and macaws—Psittacidae. Cuckoos—Cuculidae. Barn owls—Tytonidae Owls—Strigidae. Potoos—Nyctibiidae. Nightjars and allies—Caprimulgidae. Swifts—Apodidae. Hummingbirds—Trochilidae. Trogons—Trogonidae. Kingfishers—Alcedinidae. Motmots—Momotidae. Jacamars—Galbulidae. Puffbirds—Bucconidae. Toucans—Ramphastidae Woodpeckers—Picidae. Woodcreepers—Dendrocolaptidae. Spinetails, ovenbirds, and allies—Furnariidae. Antbirds—Formicariidae. Cotingas—Cotingidae. Manakins—Pipridae. Tyrant flycatchers—Tyrannidae. Larks—Alaudidae. Swallows—Hirundinidae. Crows and jays—Corvidae Titmice—Paridae. Nuthatches—Sittidae. Creepers—Certhiidae. Wrentits—Chamaeidae. Dippers—Cinclidae Wrens—Troglodytidae. Thrashers and mockingbirds—Mimidae Thrushes—Turdidae. Gnatcatchers and gnatwrens—Sylviidae. Kinglets—Regulidae. Wagtails and pipits Motacillidae. Waxwings—Bombycillidae. Silky-flycatchers—Ptilogonatidae Shrikes—Laniidae. Pepper-shrikes—Cyclarhidae. Shrike-vireos—Vireolaniidae. Vireos—Vireonidae. Honeycreepers—Coerebidae. Wood warblers—Parulidae. Weaver finches—Ploceidae. Blackbirds, troupials, and allies—Icteridae. Tanagers—Thraupidae. Grosbeaks, finches and buntings—Fringillidae. Index.

Note An illustrated manual in English for the identification of birds found in Mexico. Arrangement is by families with keys to the species of each of the families. For each of 967 species, the following are included English name scientific name, size description of color and appearance, distribution, racial varieties (if any) and remarks in nontechnical terms. The book is especially intended for American scientists, travelers, and residents in Mexico who desire a field manual of Mexican birds. It may also be used by those in Guatemala and elsewhere in the northern part of Central America. The illustrations are from line drawings.

BOND, JAMES

Check list of birds of the West Indies Fourth edition Philadelphia The Academy of Natural Sciences 1956 214 p. 23 cm $5 00 2511

Contents Podicipitiformes. Procellariiformes. Pelecaniformes. Ciconiiformes. Anseriformes. Falconiformes. Galliformes. Gruiformes. Charadriiformes. Columbiformes. Psittaciformes. Cuculiformes. Strigiformes. Caprimulgiformes. Apodiformes. Trogoniformes. Coraciiformes. Piciformes. Passeriformes. Subfossil birds. Birds known from hearsay Introduced species. Index.

Note A standard reference on the occurrence of birds in region which includes the Bahama Islands, Greater Antilles, Lesser Antilles (south to Grenada) the Cayman and Swan Islands and the Colombian Islands of San Andrés and Providencia. It is directed to persons with a knowledge of systematic ornithology The arrangement is order family species and subspecies. For each form, information is provided on range and apparent status as in the following typical account: "Breeds in North America. Winters south to Argentina and Chile. In the West Indies the species is a common transient and winter resident (July 9–May 23)" The work was first published in 1940 and has been revised frequently since then Inserted in this fourth edition is an eight-page "First supplement" published April, 1956.

CHAPIN, JAMES P

The birds of the Belgian Congo New York The American Museum of Natural History, 1932–54 2 v in 4 pts. illus (part col'd) 24 cm (American Museum of Natural History Bulletin Volumes 65, 75) Vol 65 $8 50 vol. 75, $4 50 vol 75A $10 00, vol. 75B, $10 00 2512

Contents (abridged) Part I General survey of the country and its bird life Topography and geology Climate. Faunal relations and subdivisions. Bird distribution in the Congo and its ecological aspects. Typical cases of geographic variation. Breeding seasons of birds. Bird migrations. Evolution and relations of the Ethiopian fauna Systematic list of species and races, with notes on distribution, habits, and food Struthioniformes. Colymbiformes Procellariiformes. Pelecaniformes. Ciconiiformes. Phoenicopteriformes. Anseriformes. Falconiformes. Galliformes. Turniciformes. Index. Part II. Ralliformes. Gruiformes. Charadriiformes. Lariformes. Columbiformes. Cuculiformes. Psittaciformes. Coraciiformes. Strigiformes. Caprimulgiformes. Coliiformes. Trogoniformes. Piciformes. Index. Part III Passeriformes. Index. Part IV Passeriformes (concluded) Additional species of known or probable occurrence. Gazetteer of African localities mentioned in Parts 1 to 4 Bibliography for Parts 1 to 4 Index to Part 4

Note A systematic description of the birds recorded in the Belgian Congo and mandated territory covering an area of approximately 932 000 square miles. Preceding the systematic list is a rather detailed account of the general conditions of the country and of its avifauna. In the descriptions of individual species, scientific names and synonyms, literature citations, distribution, morphological description, habits, habitat, and related data, are given. Illustrations are numerous and include reproductions of black-and-white line drawings of anatomical details, photographs of birds in habitat scenes and maps. A record of specimens taken at various collecting stations is included in some of the species descriptions. The gazetteer is available separately

CRUICKSHANK, HELEN GERE

Flight into sunshine bird experiences in Florida. Photographs by Allan D Cruickshank New York The Macmillan Company, 1948 132 p illus 26 cm $5 00 2513

Contents Florida, mecca for naturalists. Brown pelicans at Daytona. Louisiana herons at Hormachea. Florida cranes on the Kissimmee prairie. Vultures Glossy ibises on King Bar White ibises at East Shark River Wood ibises at Cuthbert Lake Snowy egrets at East River rookery Anhingas at Paradise Key American egrets at Duck Key Great white herons in Florida Bay

Note. An excellent account of adventures in bird-observing in Florida. It is intended for amateur naturalists and others who enjoy reading sensitively expressed literature about nature. There are 111 reproductions of remarkable photographs, most of which show cranes, herons, pelicans, vultures, and other birds native to this region in their natural habitat.

DICKEY DONALD R AND A J VAN ROSSEM

The birds of El Salvador Chicago Chicago Natural History Museum 1938 609 p

illus. 24 cm. (Field Museum of Natural History Zoology Vol. 3 Publication 406) $5.00. 2514

Contents: Summary of ornithological work. Gazetteer. Topography. Climate. Life zones. Geographical distribution of the avifauna. Method of treatment. Annotated list of species. Hypothetical list. Explanation of plates. Index.

Note: [illegible]

Dickey, Florence Van Vechten (Murphy)

Familiar birds of the Pacific Southwest, with size and color key. Illustrated with 102 full color reproductions from photographs chiefly by Donald R. Dickey. Stanford, Stanford University Press, 1935. 241 p. illus. (part col'd) 1[?] cm. $4.50. 2515

Note: [illegible]

Edminster, Frank Custer

American game birds of field and forest; their habits, ecology and management. New York, Charles Scribner's Sons, 1954. 490 p. illus. [?]9 cm. $12.50. 2516

Contents: The ring-necked pheasant. The wild turkey. The sage grouse. The sharp-tailed grouse. The prairie chicken. The ruffed grouse. [illegible] Index.

Note: A broad survey of accumulated knowledge on the game birds of continental United States of America and Canada. [illegible]

Edminster, Frank Custer

The ruffed grouse, its life story, ecology and management. New York, The Macmillan Company, 194[?]. 385 p. illus. 24 cm. $3.95. 251[?]

Contents: Part I. [illegible]

Part II. Management of the ruffed grouse. Index.

Note: A carefully documented and thorough work on the ruffed grouse [illegible]

Eisenmann, Eugene

Annotated list of birds of Barro Colorado Island, Panama Canal Zone. Washington, D. C., The Smithsonian Institution, 1952. 62 p. 25 cm. (Smithsonian miscellaneous collections Vol. 11[?] number 5 Publication 4059) $0.45. 2518

Contents: Introduction. Literature and abbreviations. Ecological conditions. Ornithological work relating to Barro Colorado Island. The annotated list. [illegible] Index.

Note: A systematic listing with brief annotations of the [illegible] species of birds found on Barro Colorado Island in Gatun Lake in the Panama Canal, administered by the Smithsonian Institution [illegible]

Forbush, Edward Howe

Natural history of the birds of eastern and central North America. Revised and abridged with the addition of more than one hundred species by John Richard May. Illustrated in color by Louis Agassiz Fuertes, Allan Brooks and Roger Tory Peterson. Boston, Houghton Mifflin Company, 1939. 554 p. illus. (part col'd) 29 cm. $[?].50. 2519

Contents (abridged): [illegible] Index.

Note: This work is based on Forbush, Birds of Massachusetts and other New England states, Boston, 1925–29. [illegible] There are 97 colored plates of drawings.

FRIEDMANN, HERBERT

The honey guides Washington D C Smithsonian Institution 1955 292 p illus (part col'd) 23 cm (United States National Museum Bulletin 208) 2520

Contents (abridged) Biological considerations Evolution and relationships. Phylogeny of brood parasitism. Mandibular hooks of nestlings. The guiding habit. Cerophagy The species of honey guides Genus *Indicator* Stephens. Genus *Melichneutes* Reichenow Genus *Melignomon* Reichenow Genus *Prodotiscus* Sundevall References. Index.

Note The family of birds which is the subject of this monograph is noted for its parasitism and for its habit of guiding ratels and men to wild bees' nests. The author has integrated the available knowledge in a critical manner and has indicated gaps in it. He has assembled wide range of information from the writings of ornithologists, the observations of amateur observers, the study of museum specimens, and his own field studies, and has presented most of it in minute detail His analysis of the evolution of the guiding habit is of special interest ot only to scientists but also to laymen whose curiosity is aroused by this extraordinary behavior trait. About two-thirds of the space in the volume is devoted to the accounts of species. Although these accounts contain the customary references to the scientific literature, they are primarily concerned with habits. There are 20 monochrome plates reproduced from photographs of habitat scenes and specimens of the birds, and five plates in color all of which are reproductions of paintings by Walter A. Weber and were previously published in the *National geographi*

GABRIELSON, IRA NOEL, AND STANLEY G JEWETT

Birds of Oregon Corvallis Ore. Oregon State College, 1940 650 p illus (part col d) 23 cm (Oregon State monographs Studies in zoology No 2) $5 00 2521

Content Foreword. Preface. Check-list of the birds of Oregon. Something about birds as group Topography and life zones of Oregon. Federal bird refuges in Oregon. History of Oregon ornithology List of birds originally described from Oregon. Annotated list of the birds of Oregon Hypothetical list. Bibliography Index.

Note An extensive work compiled by the authors over period of 40 years. The central core of the book is its annotated list describing the Oregon species of 18 orders of birds together with distributional historical, and other notes about each species. It is illustrated ith photographs and colored folding map of the Lif zones of Oregon, by Vernon Bailey The bibliography covers 40 pages

GRISCOM, LUDLOW

The birds of Concord. Cambridge, Mass Harvard University Press 1949 340 p illus 21 cm. (New England bird studies II) $5 00 2522

Content (abridged) I troduction Description f the area. Methods of treatment. Part I, Population trends Basic factors geology climate vegetation civilization and its disturbences. Birds as class General summary some fluctuations in mammals, fluctuations in birds. Population declines and increases bird population densities, cycles and periodicity general principles f population trends. Lists of birds which have increased or declined. Part II Birds f the Concord region General features migration routes, seasonal bird-lif statistical summary Systematic list. Bibliography Index.

Note Records relating to the bird population f the Concord region of Massachusetts ha been kept by naturalists and ornithologists since the middl of the 19th century These data, together with information compiled by the author over period of 13 years, form the basis for this laborate investigation of vifauna in specific and limited area Half f the book consists of tabulation f the birds seen in the Concord area, with an indication of the increase or decrease in each species during the past century The other half discusses the factors causing the fluctuations in bird population. The work is study of potential interest to amateur and professional ornithologists and ecologists.

GRISCOM, LUDLOW, AND JAMES C GREENWAY, JR.

Birds of Lower Amazonia. Cambridge Mass The Cosmos Press, Inc. 1941 261 p 24 cm (Harvard College. Museum of Comparative Zoology Bulletin Vol LXXXVIII no 3 June) $2 25 2523

Contents Introduction. Principal collections. Geographical notes. Ecological and distributional notes. Migrants or winter visitants. Systematic list. Bibliography

Note This identification of a collection of birds from Amazon River valley acquired by the Museum of Comparative Zoology and totaling 4,023 skins, furnished the incentive for writing this paper The collection proved to contain a few novelties, many rarities, and umerous range extensions. The large Klages collection at the Carnegie Museum in Pittsburgh was also studied, and specimens and supplementary information from this source are included in the report. The area covered is defined as the lowest quarter of the main Amazon and its tributary rivers to the degree to hich they have been ascended by ornithological collectors. It represents mere fraction of the drainage system of the main Amazon. The authors call attention to the occurrence of two distinct faunas in Lower Amazonia, the principal one being the Guiana-Amazonian fauna, while a totally different fauna is encountered in the higher campos" of central Brazil or the more arid coast of Ceará and Maranhão. This, they explain is due to the presence of natural savannahs in the sea of primeval rain forests, for ecological factors are of primary importance in the distribution of birds.

GRISCOM, LUDLOW

Modern bird study Cambridge, Mass. Harvard University Press, 1945 190 p. illus. 20 cm $3 00 2524

Contents Development of field ornithology Capacity and intelligence of birds. Adaptability of birds. Migration causes and origin Migration: factors and routes. Distribution general. Distribution South America. Distribution Central America. Distribution North America. Classification and the species concept. Index.

Note. Based on series f lectures delivered at the Lowell Institute in 1944 this book provides good insight into the methods and some of the fields of interest f present-day ornithology It is addressed to laymen particularly the growing army of bird watchers who have scientific interest in the hobby and one of its objects is to show how these amateurs can assist professional ornithologists in the solving f many problems. Accounts of some of the author personal observations and experiences with birds are included.

HAUSMAN, LEON AUGUSTUS

Field book of eastern birds. With six plates containing ninety four birds and bird heads in full color and over four hundred drawings by Jacob Bates Abbott New York G P Putnam s Sons 1946 659 p illus. 18 cm. $4 50 2525

Contents A letter to the reader Field key to the bird families. Key to the birds seen about the house grounds. Loons. Grebes. Shearwaters and fulmar Storm petrels. Tropic-birds. Pelicans Gannets and boobies. Cormorants. Darters. Man-o'-war birds Herons, bitterns, and egrets. Storks and wood-ibises. Ibises and spoonbills. Flamingos. Swans, geese ducks, and ducklik birds. Birds of prey Vultures. Kites, hawks, and eagles. Caracaras and falcons. Grouse and ptarmigans Quails and partridges. Pheasants. Turkeys. Cranes Limpkins. Rails, gallinules, and coots. Oyster-catchers. Plovers and turnstones. Woodcock snipes, sandpipers, etc. Avocets and stilts. Phalaropes. Jaegers and skuas. Gulls and terns. Skimmers. Auks, murres, and puffins. Pigeons and doves. Cuckoos. Owls. Goatsuckers. Swifts Humming birds Kingfishers. Woodpeckers. Flycatchers. Larks Swallows. Crows, jays, and ravens. Titmice Nuthatches. Creepers. Wrens Mimics. Thrushes, robins, and bluebirds. Kinglets Pipits. Waxwings. Shrikes. Starlings. Vireos. Wood and gnatcatchers Pipits. Waxwings. Shrikes. Starlings. Vireos. Wood warblers. Weaver finches. Blackbirds. Tanagers. Finches. Bibliography Index.

Note A popular guide to the birds of North America east of the Mississippi River and Hudson Bay For each bird, the following is given concisely common name scientific name length, picture other names, field marks, field description, characteristic habits

nests, habitat, range. Throughout the text are field keys to the different groups and families to assist in the differentiation of the species

HEADSTROM RICHARD

Birds' nests, a field guide. An identification manual to the nests of birds of the United States east of the one hundredth meridian. New York Ives Washburn Inc., 1949 128 p. illus. 19 cm. $3 00 2526

Contents Index of birds. Introduction. How to use this book. Nests on or in the ground In fields or pastures. In woods. In marshes. On or near seashore and lake beaches. In burrows in the ground On rocks or rocky ledges. Nests above the ground Hanging or semihanging Covered on outside with lichens and saddled on branch. Felted nests of cottony materials. Containing layer of mud. Made chiefly of bark, fibers, twigs, and rootlets. Made chiefly of grasses, rootlets, leaves, and straw. Containing twigs or sticks. In holes in trees or stumps, in birdhouses or similar places In or on buildings.

—— Birds nests of the West, a field guide An identification manual to the nests of birds of the United States west of the one hundredth meridian. New York Ives Washburn, Inc., 1951 177 p illus 19 cm. $3.00 2527

Contents Nests on or in the ground In fields, pastures, or prairies. In woods and wooded hillsides In marshes, bogs, swamps, and streams. On or near seashore and lake beaches. In burrows in the ground. On rocks or rocky ledges. In caves. In deserts. On alpine summits. Nests above the ground Hanging or semihanging. Covered on outside with lichens and saddled on branch. Felted nests of cottony materials. Containing layer of mud. Made chiefly of bark, fibers, twigs, and rootlets. Made chiefly of grasses, weeds, rootlets, leaves, and straw. Containing twigs or sticks. In holes in trees or stumps, in birdhouses or similar places. In or on buildings. Index

Note The purpose of these manuals ... indicated in the subtitles. The nest descriptions include statements on the materials of which the nest ... usually made and of the range of the bird in the United States. Each volume contains 16 pages of reproductions of excellent photographs of birds' nests in their natural sites

HELLMAYR, CHARLES E. AND BOARDMAN CONOVER

Catalogue of birds of the Americas and the adjacent islands in Field Museum of Natural History including all species and subspecies known to occur in North America, Mexico Central America, South America, the West Indies and islands of the Caribbean Sea, the Galapagos archipelago and other islands which may be included on account of their faunal affinities. Part ɪ, No. 1 Chicago Chicago Natural History Museum, 1942 636 p. 24 cm. (Chicago Natural History Museum Fieldiana Zoology Vol xɪɪɪ part ɪ, no 1) $8.00 2528

Contents (abridged) Part ɪ, no 1 Rheidae Tinamidae, Cracidae Tetraonidae Phasianidae Numididae Meleagrididae, Opisthocomidae Gruidae Aramidae Psophiidae Rallidae Heliornithidae, Eurypygidae Cariamidae Columbidae

—— Part ɪ, no 2 Chicago Chicago Natural History Museum, 1948 434 p. 24 cm. (Chicago Natural History Museum. Fieldiana Zoology Vol. xɪɪɪ, part ɪ no. 2) $6.00 2529

Contents (abridged) Part ɪ, no 2 Spheniscidae, Gaviidae Colymbidae Diomedeidae, Procellariidae, Hydrobatidae, Pelecanoididae Phaethontidae Pelecanidae, Sulidae, Phalacrocoracidae Anhingidae Fregatidae, Ardeidae Cochleariidae, Ciconiidae Threskiornithidae Phoenicopteridae Anhimidae Anatidae

—— Part ɪ no 3 Chicago Chicago Natural History Museum 1948 383 p 24 cm. (Chicago Natural History Museum Fieldiana Zoology Vol xɪɪɪ part ɪ no 3) $5 00 2530

Contents (abridged) Part ɪ, no. 3 Jacanidae Rostratulidae Haematopodidae, Charadriidae Scolopacidae Recurvirostridae Phalaropodidae Burhinidae Thinocoridae, Chionididae Stercorariidae Laridae, Rynchopidae Alcidae

—— Part ɪ no 4 Chicago Chicago Natural History Museum 1949 358 p 24 cm. (Chicago Natural History Museum Fieldiana Zoology Vol xɪɪɪ part ɪ no 4) $5.00 2531

Contents (abridged) Part ɪ, no 4 Cathartidae Accipitridae Pandionidae Falconidae

—— Part ɪɪ no 1 By Charles Barney Cory Chicago Chicago Natural History Museum 1918 607 p. 24 cm (Chicago Natural History Museum Fieldiana Zoology Vol. xɪɪɪ part ɪɪ no 1) $4.50 2532

Contents (abridged) Part ɪɪ, no. 1 Bubonidae Tytonidae Psittacidae Steatornithidae Alcedinidae, Todidae, Momotidae, Nyctibiidae Caprimulgidae, Cypselidae Trochilidae

—— Part ɪɪ, no 2 By Charles Barney Cory Chicago Chicago Natural History Museum 1919 292 p. illus 24 cm (Chicago Natural History Museum. Fieldiana Zoology Vol. xɪɪɪ part ɪɪ no 2) $4.00 2533

Contents (abridged) Part ɪɪ, no 2 Trogones, Coccyges, Scansores, Pici, Passeres

—— Part ɪɪɪ. By Charles B Cory Revised and continued by Charles E. Hellmayr Chicago Chicago Natural History Museum, 1924 372 p. illus 24 cm (Chicago Natural History Museum. Fieldiana Zoology Vol. xɪɪɪ part ɪɪɪ) $5.00 2534

Contents (abridged) Part ɪɪɪ Pipridae, Cotingidae, Formicariidae.

—— Part ɪv Initiated by Charles B Cory Continued by Charles E. Hellmayr Chicago Chicago Natural History Museum, 1925 390 p. illus. 24 cm. (Chicago Natural History Museum. Fieldiana Zoology Vol. xɪɪɪ part ɪv) $5.50 2535

Contents (abridged) Part ɪv Furnariidae, Dendrocolaptidae.

—— Part v Initiated by Charles B Cory Continued by Charles E. Hellmayr Chicago Chicago Natural History Museum 1927 517 p 24 cm. (Chicago Natural History Museum. Fieldiana Zoology Vol. xɪɪɪ, part v) $6.50 2536

Contents (abridged) Part v Tyrannidae.

—— Part VI By Charles E Hellmayr Chicago Chicago Natural History Museum, 1929 264 p 24 cm (Chicago Natural History Museum Fieldiana Zoology Vol XIII, part VI) $3 50 2537

Contents (abridged) Part VI Oxyruncidae Pipridae Cotingidae Rupicolidae Phytotomidae.

—— Part VII By Charles E Hellmayr Chicago Chicago Natural History Museum 1934 532 p 24 cm (Chicago Natural History Museum Fieldiana Zoology Vol XIII, part VII) o p 2538

Content (abridged) Part VII Corvidae. Paridae. Sittidae. Certhiidae. Chamaeidae. Cinclidae Troglodytidae. Prunellidae. Mimidae. Turdidae. Zeledoniidae. Sylviidae.

—— Part VIII By Charles E Hellmayr Chicago Chicago Natural History Museum, 1935 542 p 24 cm. (Chicago Natural History Museum Fieldiana Zoology Vol. XIII, part VIII) $7 50 2539

Content (abridged) Part VIII Alaudidae Hirundinidae. Motacillidae. Bombycillidae. Ptilogonatidae Dulidae. Vireonidae. Vireolaniidae. Cyclarhidae. Laniidae. Sturnidae. Coerebidae. Compsothlypidae.

—— Part IX By Charles E Hellmayr Chicago Chicago Natural History Museum 1936 464 p 24 cm (Chicago Natural History Museum Fieldiana Zoology Vol XIII part IX) o p 2540

Contents (abridged) Part IX Tersinidae. Thraupidae

—— Part X By Charles E Hellmayr Chicago Chicago Natural History Museum 1937 234 p 24 cm (Chicago Natural History Museum Fieldiana Zoology Vol XIII part X) $3 00 2541

Content (abridged) Part X Icteridae.

—— Part XI By Charles E Hellmayr Chicago Chicago Natural History Museum 1938 662 p 24 cm (Chicago Natural History Fieldiana Zoology Vol XIII part XI) $8 00 2542

Contents (abridged) Part XI Ploceidae. Catamblyrhynchidae. Fringillidae

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Hochbaum, H Albert

Travels and traditions of waterfowl. Minneapolis The University of Minnesota Press, 1955 301 p illus 26 cm. $5 00 2544

Content Part I, Travels of waterfowl Patterns of local movement. Learned response to the environment. The visual world. The function of memory The aerial environment. Awareness of time and space. Part II, Migrations of waterfowl The cycle of migration. Flight trails south. Homeward migration. The characteristics of waterfowl travel. The dimensions of travel. The influence of bad weather Overseas migration. Magnetic and radio fields. Awareness of direction. Part III Traditions of waterfowl: Inbred traditions. Building new traditions. Tradition and racial integrity. Broken traditions. Bibliography Nomenclature of birds. Index of authorities. Subject index.

Note For many years the author of this book has been director of the Delta Waterfowl Research Station in Manitoba, Canada In the book he has organized and presented his observations of the habits of water birds native to North America. The primary subject is migratory habits, and the author offers a number of hypotheses and ideas on the still unsolved problems of bird migration The book is addressed both to amateur ornithologists and to professionals, and it may be read either for its keen observations of bird behavior or for the author's contributions toward the understanding of migration.

Jewett, Stanley G and others

Birds of Washington state, by Stanley G. Jewett Walter P Taylor William T Shaw and John W Aldrich Published in cooperation with the U S *Department* of the Interior Fish and Wildlife Service, Washington D C Seattle University of Washington Press 1953 767 p illus (part col'd) 25 cm $8 00 2545

Content Systematic classification of Washington birds. Introduction. Annotated list of Washington birds, by orders. Hypothetical list Geographic localities. Bibliography Index.

Note This large volume describing the birds of the state of Washington opens with a list of birds in systematic order and contains a general introduction of 47 pages, followed by 622 pages devoted to detailed treatment of the individual species. For each species are noted common name scientific name other names, status in the state, description, distribution, and annotation. Some of the annotations are extensive discussions concerning the species and its records in Washington Breeding distributions for selected species are shown in 51 small maps of the state. Aside from 99 photographic illustrations in black and white, there are also 11 plates from drawings and a folded map of "Life zones in Washington" in color The book can be described as a model of its kind and should be equally useful to amateur and to professional ornithologists concerned with the birds of the state of Washington

Kendeigh, S Charles

Parental care and its evolution in birds. Urbana University of Illinois Press 1952 356 p 26 cm (Illinois University) Illinois Biological Monographs Vol XXII, nos. 1–3) $4 00 2546

Contents (abridged) Introduction. Methods of study. Attentive behavior of the house wren. Attentive behavior of miscellaneous species. Evolution of parental care. Phylogeny and dynamics of evolution. Literature cited and author index. Species index.

Note: The results of an extensive study of nesting behavior in birds, carried out at the former Baldwin Bird Research Laboratory, are presented and evaluated in this work. The study was made with the use of automatic instruments which recorded all visits of parent birds to the nests under observation. The majority of the observations were made on the house wren, *Troglodytes aedon*, but observations were made of several other species also. In addition to the field observations, an extensive review of the pertinent literature was made. The author classified as "attentive behavior" all such activities as singing, nest building, incubating, brooding, feeding the young, and guarding enemies, and as "inattentive behavior" the bird's feeding of itself, bathing, preening and resting. The rhythm in these activities is analyzed. Diagrammatic illustrations of the Thermograph and the Tensograph, the automatic instruments used in the observations, 52 tabulations of data, and an extensive bibliography are included.

KOFORD CARL B

The California condor New York National Audubon Society 1953 154 p illus (part col'd) 27 cm. (National Audubon Society Research report no. 4) $3.00 2547

Contents: Introduction. Distribution and numbers. Population and survival. General activities. Perching and roosting. Flight. Feeding habits. Food supply. Drinking and bathing. Mating. Nests and eggs. Behavior of nesting adults. Behavior of nestlings and juveniles. Attendants at nests and roosts. Conservation. Appendix. Literature cited.

Note. This monograph is the report of an exceptionally thorough study in the field and in the literature, of a bird now known to be the third rarest bird on the North American continent. The ultimate purpose of the study was to provide information that could be used as a foundation for conservation measures. Such aspects as feeding and roosting habits were studied largely by personal observation, and are reported in intimate detail. The 31 plates are mostly reproductions of photographs of adult and young birds at rest and in flight, and roosting sites. All are in monochrome except the frontispiece which is in color. The bibliography is comprehensive.

LINCOLN FREDERICK C

Migration of birds. Illustrated by Bob Hines. Garden City Doubleday & Company 1952 102 p. illus. 18 cm. $1.50 2548

Contents: The mystery of migration. Advantages of migration. The origin of migration. When birds migrate. How birds migrate. Where birds migrate. Routes of migration. Evolution of migration routes. Vertical migration. Vagrant migration. Perils of migration. Influence of the weather on migration. Problems of migration. Conclusion. Appendixes. List of birds mentioned in the text. Bird banding. Bibliography. Index.

Note A simple and valuable account of bird migration. It is based primarily on publications of the United States Fish and Wildlife Service and is addressed to sportsmen and other laymen who are curious about the theories and facts pertinent to the subject. Maps showing migration routes and breeding and winter ranges of various migrating birds on the North American continent are included.

LOWERY GEORGE H. JR.

Louisiana birds. Illustrated by Robert E. Tucker Baton Rouge Published for the Louisiana Wild Life and Fisheries Commission by Louisiana State University Press, 1955 556 p. illus. (part col'd) 23 cm. $5.00 2549

Contents Introduction. Louisiana as a place to see birds. History of Louisiana ornithology. The Louisiana State University Museum of Zoology. How to identify birds. Feathers, plumages, and molt. The bird skeleton. Migration. Economic value of birds. Conservation and wildlife management. Attracting birds. Ornithological societies and bird clubs. Accounts of the species. Loons—Order Gaviiformes. Grebes—Order Colymbiformes. Petrel-like birds—Order Procellariiformes. Pelicanlike birds—Order Pelecaniformes. Heronlike birds—Order Ciconiiformes. Ducklike birds—Order Anseriformes. Hawklike birds—Order Falconiformes. Fowl-like birds—Order Galliformes. Cranelike birds—Order Gruiformes. Shore birds and allies—Order Charadriiformes. Pigeonlike birds—Order Columbiformes. Parrots—Order Psittaciformes. Cuckoolike birds—Order Cuculiformes. Owls—Order Strigiformes. Goatsuckerlike birds—Order Caprimulgiformes. Swifts and hummingbirds—Order Apodiformes. Kingfisherlike birds—Order Coraciiformes. Woodpeckerlike birds—Order Piciformes. Perching birds—Order Passeriformes. Summary of seasonal occurrence. Bibliography. Index.

Note The state of Louisiana is especially rich in bird fauna, and this reference book on the birds found in the state is one of the outstanding publications of its kind. It is addressed to nonspecialists particularly to residents of Louisiana and visitors to that state who are interested in bird life. Its primary purpose is to aid in the identification of birds. Most of the space is devoted to accounts of individual species, and these are written in a nontechnical style. Illustrations include 40 plates and 155 text figures.

MAYR ERNST

The birds of Timor and Sumba. New York American Museum of Natural History 1944 65 p. illus 27 cm. (American Museum of Natural History Bulletin Vol. 83 article 2) $0.65 2550

Contents Introduction. The birds of Timor. The birds of Sumba. Taxonomic notes on the birds of Timor and Sumba. Annotated literature on Timor. Notes on the zoogeography of Timor and Sumba. Bibliography.

Note A systematic discussion of the species found in these two islands of the Malay Archipelago which hitherto have been little known by ornithologists. It is based on a collection of [illegible]31 bird skins from Timor and 405 from Sumba. Notes on the colonization of the islands by birds and the regional zoogeography as related to the origin of the avifauna are also included. Twenty-four papers and monographs on the subject are listed.

MAYR ERNST

List of New Guinea birds a systematic and faunal list of the birds of New Guinea and adjacent islands. New York American Museum of Natural History 1941 260 p illus 23 cm. $2.00 2551

Note This is a comprehensive and carefully prepared list of 303 genera, [illegible] species, 1307 forms, giving their respective geographic ranges. No descriptions, however, are given of the birds themselves.

MURPHY ROBERT CUSHMAN AND DEAN AMADON

Land birds of America. Photographed by Eliot Porter and others New York Published with the cooperation of the American Museum of Natural History McGraw Hill Book Company Inc., 1953 240 p. illus. (part col'd) 31 cm. $5.95 2552

Contents Introduction. Birds of prey. Upland game birds. Plovers and sandpipers. Owls. Pigeons and doves. Cuckoos. Goatsuckers. Swifts. Hummingbirds. Trogons and kingfishers. Woodpeckers. Flycatchers. Larks. Swallows. Jays, magpies, and crows. Titmice. Nuthatches and creepers. Kinglets and gnatcatchers. Wrens. Mockingbirds and thrashers. Thrushes. Pipits and wagtails. Shrikes. Waxwings and phainopeplas. Starlings. Vireos. Wood warblers. Blackbirds and orioles. Tanagers. Finches, cardinals, and sparrows. Notes on bird photography by E. Porter. Index of birds, including scientific names.

Note A handsome volume illustrated entirely with reproductions of photographs. Of the 244 photographs, 221 are reproduced in color. The birds are shown in natural poses and in natural surroundings. The accompanying text is written in a charming style and conveys many interesting facts about birds. However there are no scientific descriptions in the traditional pattern of systematic zoology. The book is addressed to general readers, but professional ornithologists also will find the pictures of interest. The authors are associated with the Department of Birds of the American Museum of Natural History, and the second-named author is currently head of the Department.

—— Part vi By Charles E Hellmayr Chicago Chicago Natural History Museum, 1929 264 p 24 cm (Chicago Natural History Museum Fieldiana Zoology Vol xiii part vi) $3 50 2537

Contents (abridged) Part vi Oxyruncidae. Pipridae Cotingidae Rupicolidae. Phytotomidae.

—— Part vii By Charles E Hellmayr Chicago Chicago Natural History Museum 1934 532 p 24 cm (Chicago Natural History Museum Fieldiana Zoology Vol xiii, part vii) o p 2538

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—— Part viii By Charles E Hellmayr Chicago Chicago Natural History Museum 1935 542 p 24 cm (Chicago Natural History Museum Fieldiana Zoology Vol. xiii, part viii) $7 50 2539

Contents (abridged) Part viii Alaudidae. Hirundinidae. Motacillidae. Bombycillidae. Ptilogonatidae. Dulidae. Vireonidae. Vireolaniidae. Cyclarhidae. Laniidae. Sturnidae Coerebidae. Compsothlypidae.

—— Part ix By Charles E Hellmayr Chicago Chicago Natural History Museum 1936 464 p 24 cm (Chicago Natural History Museum Fieldiana Zoology Vol xiii part ix) o p 2540

Content (abridged) Part ix Tersinidae. Thraupidae.

—— Part x By Charles E Hellmayr Chicago Chicago Natural History Museum 1937 234 p 24 cm (Chicago Natural History Museum Fieldiana Zoology Vol xiii, part x) $3 00 2541

Contents (abridged) Part x Icteridae.

—— Part xi By Charles E Hellmayr Chicago Chicago Natural History Museum 1938 662 p 24 cm. (Chicago Natural History Fieldiana Zoology Vol xiii part xi) $8 00 2542

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HICKEY JOSEPH J

A guide to bird watching With illustrations by Francis Lee Jaques and bird tracks by Charles A. Urner New York Oxford University Press, 1943 262 p illus. 22 cm. $4 75. 2543

Contents How to begin bird study The lure of migration watching. Adventures in bird counting. Explorations in bird distribution. The romance of bird banding. The art of bird watching Appendixes An introduction to bird tracks. Some results of breeding-bird censuses. Outline for life-history study An annotated list of bird books. Bird clubs in Canada and the United States. Index.

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HOCHBAUM, H. ALBERT

Travels and traditions of waterfowl Minneapolis The University of Minnesota Press, 1955 301 p. illus 26 cm $5 00 2544

Contents Part i, *Travels of waterfowl* Patterns of local movement. Learned response t the environment. The visual world. The function of memory The aerial environment. Awareness of time and space. *Part ii, Migrations of waterfowl. The route of migration.* Flight trails south. Homeward migration. The chronology of waterfowl travel. The dimensions of travel. The influence of bad weather *Overseas migration. Magnetic and radar fields.* Awareness f direction. Part iii, Traditions of waterfowl Inherent traditions. Building new traditions. Tradition and social behavior *Broken traditions. Bibliography* Nomenclature of birds. Index of authorities. Subject index.

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JEWETT, STANLEY G, AND OTHERS

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KENDEIGH, S CHARLES

Parental care and its evolution in birds Urbana University of Illinois Press, 1952 356 p 26 cm. (Illinois University Illinois Biological Monographs. Vol xxii nos 1–3) $4 00 2546

Contents (abridged): Introduction. Methods of study. [illegible] behavior of the house wren. [illegible] Evolution of parental care. [illegible] Literature cited and author index. Species index. [illegible]

Note: [illegible]

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KENDEIGH, S CHARLES

Parental care and its evolution in birds. Urbana University of Illinois Press 1952 356 p. 26 cm (Illinois University Illinois Biological Monographs Vol XXII nos. 1–3) $4 00 2546

Sutton. New York Oxford University Press 1953 709 p. illus. 19 cm. $6.50. 2558

Contents: Arizona, Arkansas, California, Colorado, Idaho, Iowa, Kansas, Louisiana, Minnesota, Missouri, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, Wyoming. Suggested reference material. Index.

Note: A companion volume to the author's *A guide to bird finding east of the Mississippi*, described above. It is addressed to professional and amateur ornithologists, especially the latter, and it provides, state by state and city by city, information on localities and "spots" where the bird life and the environment are particularly suitable for bird watching. Wildlife refuges and parks are described when they exist, but the localities mentioned include also numerous unprotected areas. Other information of interest to bird watchers is included; for example, if the city under discussion is the site of a university or museum which has a bird collection, this fact is mentioned and the collection briefly described. The volume is fully indexed, both for localities and species of birds.

PETTINGILL, OLIN SEWALL, JR.

A laboratory and field manual of ornithology Illustrated by Walter J Breckenridge Third edition revised. Minneapolis Burgess Publishing Company 1956 379 p illus. 28 cm. $5.00. 2559

Note: Designed primarily for use in ornithological study and research at the college and university level, this laboratory and field manual of ornithology presupposes a college course in general zoology or biology. Each of its sections includes an outline of basic information, directions for making detailed observational studies, and bibliographical references for further inquiries on a specific topic.

PITELKA F A.

Speciation and ecologic distribution in American jays of the genus Aphelocoma. Berkeley University of California Press 1951 p. 195-464 illus. (part col d) 26 cm (University of California. Publications in Zoology Vol. 50 no. 3) $3.00 2560

Contents (abridged): Materials. Methods of analyzing characters. Survey of the genus Aphelocoma. Variation and interrelationships among races of *Aphelocoma coerulescens*. Variation and interrelationships among races of *Aphelocoma ultramarina*. Variation and interrelationships among races of *Aphelocoma unicolor*. Discussion of variation. Phylogeny. Interspecific limits. Distribution in relation to ecological and historical factors. Summary. Appendix: Taxonomy and nomenclature. Literature cited.

Note: As much a contribution to evolution as it is to ornithology, this noteworthy study was based on the examination of 4,817 specimens of the genus Aphelocoma. The specimens were examined for racial and specific differences. The analysis includes a qualitative study of plumage characters and a statistical study of measured characters. Also included are data on the distribution of each race and species and critical discussions of nomenclature and taxonomy. The study was a detailed one, and the data collected are presented in a series of 67 tables and discussed in the text. There are 21 text figures and 1 plates, one in color.

POUGH RICHARD HOOPER

Audubon bird guide eastern land birds. With illustrations in color of every species by Don Eckelberry Sponsored by National Audubon Society Garden City Doubleday & Company Inc. 1946 312 p illus. (part col d) 19 cm. $3 95 2561

Contents: Pheasant family. Cuckoo family. Barn owl family. Typical owl family. Goatsucker family. Swift family. Hummingbird family. Kingfisher family. Woodpecker family. Cotinga family. Tyrant flycatcher family. Lark family. Swallow family. Jay family. Titmouse family. Nuthatch family. Creeper family. Wren family. Thrasher family. Thrush family. Old world warbler family. Pipit family. Waxwing family. Shrike family. Starling family. Vireo family. Honey creeper family. Wood warbler family. Weaver finch family. Blackbird family. Tanager family. Sparrow family. Index.

Note: A field book of the land birds found in the eastern portion of the North American continent. It is addressed primarily to the [illegible] A foreword gives general facts about birds and their [illegible] etc. [illegible] habits and suitable [illegible] observing them. The species descriptions average one page in length and cover these points: common and scientific names, identification (length, shape, plumage, other distinctive features, sex differences, etc.), habits, voice, nest and eggs, and range. The colored illustrations are a special feature. The book concludes with a selected bibliography.

POUGH RICHARD HOOPER

Audubon water bird guide water, game and large land birds Eastern and central North America from southern Texas to central Greenland Color illustrations by Don Eckelberry line drawings by Earl L. Poole Sponsored by National Audubon Society Garden City Doubleday & Company Inc., 1951 352 p 19 cm. $3 95 2562

Note: A bird guide of interest to both amateur and professional ornithologists. The number of species described is [illegible]. The descriptions cover such points as identification characteristics, habits, nest or eggs, and range. There are 415 [illegible] color illustrations printed on [illegible] plates and more than 100 drawings rendered in black and white. The author is [illegible] of the American Museum of Natural History.

RAND AUSTIN L.

Social feeding behavior of birds Chicago Chicago Natural History Museum 1954 71 p illus 23 cm (Chicago Natural History Museum. Fieldiana Zoology Vol 36 no. 1) $1.00 2563

Contents: Introduction. Individuals of one species in relation to food. Birds of one species associating [illegible] (not necessarily food) in feeding. Many species of birds feeding together. Discussion. Summary. References.

Note: A study in some detail of the social behavior of birds as manifested in finding food, in cooperating in obtaining [illegible] form of prey, in pilfering or robbing of one species by another, etc. It is based on the literature, including the author's own published papers, and includes numerous [illegible] quotations from the observations of naturalists and ornithologists.

RICHDALE, LANCELOT ERIC

Sexual behavior in penguins. Lawrence University of Kansas Press 1951 316 p illus. 24 cm. $5.00 2564

Contents: Scope of the study. An analysis of types of behavior. Pair formation. Sex differences, arrangements, and [illegible]. Sexual behavior in [illegible] later. The prenest stage. Unemployed birds. Incubation. Chick stage. The molt. Appendices. Literature cited. Index of subjects. Index of species. Index of bands.

Note: An unusual work based primarily upon ten seasons of intensive field work. The birds studied were banded by the author so as to make possible a continuous study of the behavior of individuals over the period of study. The observations made are presented in detail, with individual birds identified. Although the primary source was the author's own observations, pertinent information in the published literature also is presented. The book is of interest to amateur and professional ornithologists and to specialists in animal psychology.

ROMANOFF ALEXIS LAWRENCE, AND ANASTASIA J ROMANOFF

The avian egg. New York John Wiley & Sons Inc. 1949 918 p illus. 24 cm $18.00 2565

Contents: Part I, Morphogenetic expression. Mode of laying. External characteristics. Structure. Formation. Anomalies. Part II, Biophysicochemical constitution. Chemical composition. Physicochemical properties. Biological properties. Part III, Bio-economic importance. Food value. Preservation. Industrial uses. Bibliography. Index.

NAUMBURG, ELSIE MARGARET (BINGER)

The birds of Matto Grosso Brazil, a report on the birds secured by The Roosevelt Rondon Expedition, with field notes by George K Cherrie. New York American Museum of Natural History, 1930 432 p illus (part col'd) 25 cm (American Museum of Natural History Bulletin Vol LX) $5 00 2553

Content Narrative of the expedition The state of Matto Grosso. Interrelations of Campo and Amazonian faunas. Pelzeln's localities within Matto Grosso limits. Distributional analysis of bird life and endemic species and subspecies of Matto Grosso. A list of the endemic species and subspecies of Matto Grosso. List of families. List of *distinctively North American birds wintering* in Brazil. Birds common to North and South America and breeding in Brazil. List of birds in the Roosevelt collection from Paraguay only *Localities of the Roosevelt expedition Itinerary of the* expedition Ornithological bibliography of Matto Grosso. Distributional list of species and subspecies. Addenda. Index.

Note A comprehensive annotated catalogue based primarily on the collections secured during the expeditions headed by Colonels Roosevelt and Rondon between 1913 and 1916 Original description, type locality list of specimens, ranges, genera, and comparative measurements are given for each species dealt with, and there are many photographs and color drawings of type specimens. A total of about 1,000 species are described.

PALMER, RALPH S

*Maine birds Based largely on data gath*ered by Arthur Herbert Norton. Cambridge Mass Printed for the Museum 1949 656 p *24 cm* (Harvard College Museum of Comparative Zoology Bulletin Vol 102) $5 00 2554

Contents Preface Introduction Acknowledgements. Annotated list Recapitulation Literature cited. Index.

Note A comprehensive report of birds recorded in the state of Maine. It is based largely on data collected throughout a lifetime by the late Arthur H Norton which data are supplemented by further extensive research by Palmer The aim was to include "all known birds of the state, including fossil, extinct, extirpated, and introduced species. Most of the space in the volume is given to the annotated list which is arranged by family and species. In the *accounts of species, the scientific name is given but references to* descriptions in the systematic literature are not given. In most of the accounts the following points are covered status, i whether common or uncommon transient or summer resident, etc dates of spring and fall migrations flight years, that is, years when there were unusually large flights habits during various seasons of the year habitat, and miscellaneous remarks from the observations of ornithologists, both professional and amateur These accounts are written in the common rather than the professional language. The list of literature cited runs to 63 pages.

PETERS, JAMES LEE

Check list of birds of the world Cambridge Mass Harvard University Press 1931–48 6 v *23 cm* Vol IV $4 00 vol. VI $6 50 *2555*

Content (abridged) Volume Subclass Archaeornithes. Order Archaeopterygiformes Subclass Neornithes Superorder Odontognathae Superorder Palaeognathae Superorder Neognathae Order Ciconiiformes Order Anseriformes. Order Falconiformes New name proposed in Volume *Index Volume II Order Galliformes Order* Gruiformes Order Diatrymiformes Order Charadriiformes. Index Volume III Order Columbiformes Order Psittaciformes Index Volume IV Order Cuculiformes, plantain-eaters, cuckoos. Order Strigiformes, owls Order Caprimulgiformes, oil-birds, goatsuckers Order Apodiformes swifts, hummingbirds. *Index Volume* Order Apodiformes Suborder Trochili—family Trochilidae. Order Coliiformes Family Coliidae Order Trogoniformes Family Trogonidae Order Coraciiformes—suborder Alcedines Superfamily Alcedinoidea —family Alcedinidae. Superfamily Todoidea—family Todidae Superfamily Momotoidea—family Momotidae. Suborder Meropes—family Meropidae. Suborder Coracii—family Leptosomatidae, family Coraciidae Family Upupidae. Family Phoeniculidae Suborder Bucerotes Family Bucerotidae. Index. New names proposed in Volume v Volume VI Order Piciformes Suborder Galbulae Superfamily Galbuloidea. Family Galbulidae, jacamars. Family Bucconidae, puff birds. Superfamily Capitonoidea Family Capitonidae barbets. Family Indicatoridae, honey-guides. Superfamily Ramphastoidea. Suborder Pici Family Picidae. *Subfamily Jynginae wry*necks. Subfamily Picumninae piculets. Subfamily Picinae woodpeckers. Index. New names proposed in Volume VI.

Note A basic reference work for systematic ornithologists. Essentially it supersedes Richard Bowdler Sharpe's *Handlist of the genera and species of birds*, London 1899 The information supplied covers the following points verified references to the original publication of all scientific names the exact indication of the type localities and, in the case of genera, of the type species; synonyms published since 1900 geographic range references to the more recent literature pertaining to each genus. Physical descriptions of *the birds are not included.* Volumes I, II, III and V are out of print.

PETERSON, ROGER TORY

A field guide to the birds giving field marks *of all species found east of the Rockies.* Second revised and enlarged edition. Sponsored by National Audubon Society Boston *Houghton Mifflin Company, 1947* 290 p. illus (part col'd) 19 cm $3 95 2556

Content (abridged) How to use this book. Loons—Gaviidae Grebes—Colymbidae. Shearwaters and fulmars. Storm petrels. Tropic birds. Pelicans. Gannets and boobies. Cormorants. Darters. Man-o'-war-birds. Herons and bitterns. Storks and wood ibises. Ibises and spoonbills. Flamingos. Swans. Geese. Tree-ducks. Surface-feeding ducks. Vultures. The names of hawks Kites. Buteos, or buzzard hawks. Eagles. Ospreys. Falcons. Grouse. Quails, partridges, and pheasants. Turkeys. Cranes. Limpkins. Rails, gallinules, and coots. Oyster-catchers. Plovers and turnstones. Woodcock snipe, sandpipers. Avocets and stilts. Jaegers. Gulls. Terns. Skimmers. Auks, murres, and puffins. Pigeons and doves. Owls. Goatsuckers. Swifts. Hummingbirds. Kingfishers. Woodpeckers. *Flycatchers.* Larks. Swallows. Crows and jays. Titmice. Nuthatches. Wrens. Mockingbirds and thrashers. Thrushes, robins, bluebirds, etc. Gnatcatchers and kinglets. Pipits. Waxwings Shrikes Starlings Vireos. Wood warblers. Weaver finches. Meadowlarks, blackbirds, and orioles. Tanagers. Grosbeaks, finches, sparrows, and buntings. *Accidentals.* Subspecies. Home reference suggestions. Index.

Note The sight identification of birds under field conditions is the subject of this useful guide for bird-watchers, amateur naturalists, and ornithologists One thousand illustrations, of which 500 are in full color provide pattern details, silhouettes, and prominent markings, while accompanying pages of text explain the plates and give information such as range, habitat, and manner of flight. In this edition all of the illustrations are new sections have been added on similar species, and there are few other changes.

PETTINGILL, OLIN SEWALL, JR.

A guide to bird finding east of the Mississippi With illustrations by George Miksch Sutton. New York Oxford University Press *1951 659 p illus 19 cm* $6 50 2557

Note An unusual addition to ornithological literature It is a guide to opportunities for observing birds, or more specifically a guide to localities known to be frequented by particular species The main arrangement is by state, with the material under states arranged by locality Under each locality there is an interesting narrative discussion of the birds that can usually be observed. The index contains both the names of places and the names of birds. The work was based largely on extensive correspondence with amateur and professional ornithologists throughout the United States of America.

PETTINGILL OLIN SEWALL JR

A guide to bird finding west of the Mississippi With illustrations by George Miksch

STORER, JOHN H

The flight of birds analyzed through slow motion photography Bloomfield Hills Mich Cranbrook Institute of Science 1948. 94 p. illus. 24 cm. (Cranbrook Institute of Science. Bulletin no. 28) $2.00 2571

Contents (abridged) The bird and the air Developing lift. Pressure distribution. Tip vortex. Aspect ratio. Factors that affect lift and drag. Slots and their purposes. Flaps to increase lift. The bird's flying equipment. Feathers. The wing. The propeller. Wing adaptations. Flight: Balance and control. Devices for the take-off. Landing. Soaring and gliding. Air currents. Formation flying. Flight speed. Maneuverability. Backward flight. Glossary. References. Index.

Note The author became interested in the mechanism of bird flight when he observed that motion pictures taken with a slow-motion camera showed birds' wings in positions that were not visible when flight was observed with the unaided eye. He studied many such pictures and also consulted experts in both ornithology and aeronautics. This book is a nontechnical summary of his findings. The section on flight presents detailed studies of aspects of the flight of various birds and accounts for about half of the book length. Analogies to the airplane are drawn. There are 176 illustrations, most of which are reproduced from motion picture films.

STRONG REUBEN MYRON

A bibliography of birds with special reference to anatomy behavior biochemistry embryology pathology physiology genetics ecology aviculture economic ornithology poultry culture evolution, and related subjects. Chicago Chicago Natural History Museum, 1939–46 3 v 24 cm. (Fieldiana Zoological series Vol. 25 parts 1–3) $15.50 2572

Contents Part [illegible] Rules and symbols employed. Key list of abbreviations for periodicals cited. List of periodicals not cited but referring to birds. Author catalogue of references, A to J. Part II: Author catalogue of references, K to Z. Anonymous publications. Part III: Rules and symbols employed. Bibliographies. List of periodicals containing abstracts and reviews of publications referring to birds.

Note This comprehensive bibliography of birds, 20 years in preparation, consists of an author list in two parts, followed by a subject index. It lists books, periodical articles, and other publications under each author chronologically. Authors are listed regardless of their nationality or the language in which they wrote, and full names of authors are given when known. The period of coverage is from the beginning up to 1926 when Biological Abstracts began, although selected references are included up to as late as 1938. The entries are especially complete for the subjects mentioned in the title. The following fields of ornithology are not exhaustively covered, chiefly because they are represented in other bird bibliographies, which are named, but even in these fields the more important contributions are listed: distribution, migrations of birds, paleontology, parasitology, poultry economics, taxonomy. The detailed analytic index in Part 3 under 119 major headings with many subheadings and cross-references provides a complete subject approach to the contents of Parts [illegible] and 2. The work is an essential tool for any advanced investigator in the field of ornithology.

STURKIE, PAUL D

Avian physiology Ithaca Comstock Publishing Associates a division of Cornell University Press 1954 423 p. illus. 23 cm. $6.00 2573

Contents Blood—formed elements, hemoglobin, physical characteristics. Chemical constituents of the blood. Circulation, blood pressure, and blood volume. Contraction and conduction in the heart. Electrocardiography. Respiration. Transport of the blood gases. Regulation of body temperature. Energy metabolism. Alimentary canal—anatomy, prehension, deglutition, passage of ingesta, motility, digestion, absorption, secretion of gastric juice, pH. Carbohydrate metabolism. Kidneys and urine. The special senses—eye and vision, hearing, taste, smell. Reproduction in the female and egg formation. Reproduction in the male, fertilization, and early embryonic development. Hypophysis. Gonadal hormones. Thyroids. Parathyroids, thymus, pancreas. Adrenals. Index.

Note A pioneering survey of the physiology of birds. A broad general in viewpoint it—as are the works [illegible] [illegible]—deals mainly with the chicken, the duck, and the pigeon because most of the research has been conducted on these species and they represent species of economic importance to man. The author's style is lucid, but readers need a basic knowledge of biology and physiology for easy comprehension of the book. Fairly extensive literature references accompany each chapter, and references to them are embedded in the text proper. The book is addressed to such readers as advanced students and teachers, poultry science research workers in animal husbandry and veterinary medicine and specialists in avian biology. It is illustrated with 33 figures (photography, charts, and drawings) and [illegible] tables.

SUTTON GEORGE MIKSCH

Mexican birds. First impressions based upon an ornithological expedition to Tamaulipas Nuevo León and Coahuila. With an appendix briefly describing all Mexican birds Illustrated with water-color and pen and ink drawings by the author Norman University of Oklahoma Press 1951 282 p illus (part col d) 25 cm $10.00 2574

Note The main part of this book consists of 11 autobiographical chapters of impressions of Mexican birds written by an ornithologist on his first trip to Mexico. The chapters are presented as a connected story with dates and places named and species identified. The remaining third of the book describes 55 families of birds found in Mexico, with notes on each of the principal species. The illustrations include attractive drawings of 16 species in color and pen-and-ink drawings of 40 more species. The volume is not intended as a handbook of Mexican birds. It is best suited as an informal introduction to the subject for bird students visiting Mexico for the first time.

SWARTH HARRY SCHELWALD

The avifauna of the Galapagos Islands San Francisco California Academy of Sciences 1931 299 p. illus 25 cm. (California Academy of Sciences Occasional papers Vol. XVIII) $3.00 2575

Contents Introduction. Scope of this report. Historical. Features of the Galapagos avifauna. Check-list of Galapagos birds. Accounts of the species. Literature cited. Index.

Note This monograph considers every bird species with a valid claim to inclusion in the Galapagos list, together with the four resident land birds of Cocos Island, Costa Rica. Manner of treatment is as follows: (1) the accepted name of the species; (2) synonymy, not intended to be complete, but giving citations to such publications as contain first-hand facts; (3) data regarding type specimens, including all forms previously described for this region; (4) habitat; (5) number of specimens collected. There are a number of statistical charts and tables and several maps. The list of references covers about 143 titles from 1837 to 1930.

WALKINSHAW LAWRENCE H.

The sandhill cranes. Bloomfield Hills Mich. Cranbrook Institute of Science 1949 202 p illus. 24 cm. (Cranbrook Institute of Science Bulletin no 29) $2.50 2576

Contents Introduction. Molts and plumages. Voice. Crane behavior. Food and feeding habits. Pairing and territory. Nesting. The young. The cranes from fall to spring. History of North American crane populations. Literature cited. Appendices: Key to the cranes of the world. Sandhill crane distribution records (with bibliography). Index.

Note In this book an amateur ornithologist of exceptional devotion has recorded the results of observations covering 13 years and 70,000 miles of travel in North America and Cuba. The life cycle and habits of the sandhill crane (*Grus canadensis*) were minutely observed. The author's own observations were then supplemented by reports in the published literature to produce an exceptionally detailed study of a species that is gradually disappearing. There are 33 photographs—most of which show birds in their natural habitat—31 tables of data, and an extensive bibliography.

Note An encyclopedic presentation of the accumulated knowledge of the bird egg in general and the chicken egg in particular. It does not deal with the egg as an element in reproduction but rather with the biological process of egg production, the physical and chemical properties of eggs, and the food and industrial uses of eggs. Although essentially a reference book, the work is easy to read and contains much information of interest to the nonscientific reader as well as to the scientist. The authors claim to have reviewed more than 15,000 publications in the course of the book's preparation. Those from which information was abstracted are cited in the text and in the bibliography where references are given to approximately 2,800 books, patents, and articles. There are 474 figures.

SAUNDERS, ARETAS ANDREWS

A guide to bird songs, descriptions and diagrams of the songs and singing habits of land birds and selected species of shore birds Revised edition. Garden City Doubleday and Company Inc, 1951 307 p illus 19 cm $3 00 2566

Contents How to identify bird songs. Key to bird songs. Descriptions of bird songs. New material. Index.

Note A field manual designed to aid in the identification of birds by means of their songs. The songs are diagrammed, not in conventional musical notation, but in what the author designates as musical shorthand. They are also rendered as combinations of consonants and vowels, for example, coolee coolee coolee for the gathering call of the bob white. The first edition was published in 1935. In this edition, descriptions are given of many songs that were not represented in the first edition. The added material runs to about 30 pages.

SCHORGER, A W

The passenger pigeon its natural history and extinction. Madison University of Wisconsin Press 1955 424 p illus 23 cm $7 50 2567

Contents Early accounts. Behavioral characteristics. Food. Movements. Roosts. Nesting. Utilization. Methods of capture. Decrease and extinction. Description. Anatomy and physiology. Nomenclature. Distribution. Migration. Late records. Evaluation of illustrations.

Note A fully documented account of a bird which became extinct in the present century although in the 19th century and earlier it existed in such large numbers in eastern and central North America that hunters were able to capture thousands of birds a day. It is written for general reading, but is of interest also to professional ornithologists and scientists and others who are professionally concerned with the conservation of wild life. As the chapter titles indicate the account is a broad one. It is also detailed. The chapter on nesting—to cite an example—is 42 pages long. The book was based on an extensive search of the literature, including the scientific literature of ornithology—of which there was little that was pertinent—and popular periodicals, newspapers, the journals of explorers, etc. Sources are carefully cited, and the section, "References and notes," in which they are fully listed is more than 100 pages long. The 17 figures are reproductions of habitat scenes, hunting scenes and photographs of museum specimens.

SPRUNT ALEXANDER JR.

Florida bird life Based upon and supplementary to *Florida bird life* by Arthur H Howell published in 1932 Color plates from original paintings by Francis Lee Jaques and John Henry Dick New York Published by Coward McCann Inc and the National Audubon Society with the cooperation of U S Fish and Wildlife Service and Florida Game and Fresh Water Fish Commission 1954 527 p illus (part col d) 25 cm $12 50 2568

Contents Recent history of Florida ornithology. The Florida Audubon Society. The Tropical Audubon Society. Bird protection in Florida by J H. Baker. Note on the author by J H. Baker. Physiographic features and regions. The birds of Florida. Literature cited. Index.

Note A lavishly produced, semi-popular reference work on the birds recorded in Florida. The species accounts are written to aid in identification and to supply other information of interest to amateur observers and students. They include scientific and local names, short descriptions of morphology, a statement on range in continental United States of America, and a paragraph headed "Florida status" in which a number of observations indicative of distribution and habits in Florida are condensed. The book is a successor to Howell's *Florida bird life* but does not completely supersede it. The descriptions of plumage and ranges are, for the most part, quoted from Howell. His accounts of "Florida status" are revised and supplemented, those providing a record of changes in abundance, range, etc. The colored plates that appeared in Howell's book have been carried over to this one, and new ones from paintings by John Henry Dick have been added to make a total of 53. Howell's work contained accounts of 423 taxa in contrast to 413 described in the present work.

SPRUNT, ALEXANDER, JR.

North American birds of prey Based upon and supplementary to *The hawks of North America* by John Richard May Color plates from original paintings by Allan Brooks and others black and white illustrations by Roger Tory Peterson. With a foreword by Roger Tory Peterson New York. Published under the sponsorship of the National Audubon Society by Harper & Brothers 1955 227 p. 24 cm $5 00 2569

Contents Vultures. Kites. Accipiters. Buteos. Eagles. Harriers. Ospreys. Caracaras. Falcons. Owls. Appendix: State and provincial laws relating to birds of prey by K. D Morrison. Bibliography.

Note Undoubtedly the primary purpose of this book is to disseminate information about the birds of prey described in its pages and thus to encourage their protection and preservation. Both the Foreword and the Introduction contain strong pleas for conservation. The body of the book consists of descriptions of species and subspecies. These descriptions include common names and zoological names, data on color, size, nesting habits, number and appearance of eggs and range. Also included for many of the birds are descriptions of the food and feeding habits and miscellaneous information of interest to bird watchers. Most of the illustrations are reproductions of color paintings. May's *The hawks of North America* referred to in the title of this book was published in 1935 and is out of print.

STODDARD HERBERT L

The bobwhite quail its habits preservation and increase New York Charles Scribner's Sons 1931 559 p illus (part col d) 26 cm $10 00 2570

Contents Types of southeastern quail territory. Life history of the bobwhite. Miscellaneous habits of the bobwhite. Development, plumage and sex ratio of the bobwhite. Bobwhite's vocabulary. The food and feeding habits of the bobwhite by C O. Handley and C Cottam. Movements of bobwhites as determined by banding studies. Mortality in the bobwhite. Internal parasites and parasitic diseases of the bobwhite by E B Cram and others. External parasites of bobwhites. Non-parasitic diseases of bobwhites. Quail population and their fluctuations. The relation of agricultural activities to the bobwhite. Quail preserve development and management by H L. Stoddard and C O. Handley. The use and abuse of fire on southern quail preserves. Control of natural enemies of the bobwhite. Methods of capturing bobwhites. Artificial propagation of the bobwhite by W B Coleman and H L. Stoddard. Use of Texas bobwhites or Mexican quail in restocking. Some popular beliefs and attitudes in regard to bobwhites. Appendix. Index.

Note A comprehensive study written primarily from the conservation viewpoint. In the years since it was first published, it has attained the status of a classic. In addition to well written, detailed text, there are 31 tabulations of data. The illustrations include figures in the text reproduced from drawings, and 69 plates, many of which are reproduced from photographs. Much of the information included is also applicable to the conservation of other species of game birds.

ZIMMER, JOHN TODD

Birds of the Marshall Field Peruvian expedition, 1922–1923 Chicago Chicago Natural History Museum 1930 250 p illus. 24 cm. (Chicago Natural History Museum. Publication 282 Zoological series. Vol XVII, no. 7) $1.50 2583

Note A report and descriptive catalogue of Peruvian birds secured during the course of the expedition [illegible] work, with comparative notes on allied species or subspecies from other parts of Peru or from adjoining countries. Eight new forms are described. The work is based on [illegible] study of the 1,[illegible] specimens collected by the author at altitudes varying from 1,100 feet to 13,[illegible] feet. In the descriptions, capitalization of the names of colors indicates direct comparison with Robert Ridgway *Color standard and color nomenclature*, Washington D.C., 1912 There are indexes of genera and species.

MAMMALS (EXCEPT MAN)

ALLEN GLOVER MORRILL

A checklist of African mammals. Cambridge Mass. Museum of Comparative Zoology at Harvard College 1939 763 p 24 cm (Harvard College Museum of Comparative Zoology Bulletin. Vol LXXXIII) $10.00 2584

Note A complete checklist of the names applied to African mammals, intended to include all those currently regarded as valid as well as all synonyms through July 1938, as far as possible. The majority of the references have been carefully checked with the originals and the citations of names are as [illegible] given, with their type localities following each. The area covered is the continent of Africa west of the Suez Canal, with the inclusion of Madagascar and the Mascarene Islands and the seas adjacent to the continent. Domesticated animals, unless feral, and the human race are purposely omitted, but with these exceptions the list is purported to include all species known to have lived within historic times. There are numerous cross-references in the detailed index.

ALLEN GLOVER MORRILL

The mammals of China and Mongolia. New York The American Museum of Natural History 1938–40. 2 v in 2 illus 28 cm (Central Asiatic expeditions. Natural history of Central Asia. Vol. 11) $10.00 2585

Contents (abridged) *Part 1, General introduction* Systematic account Insectivora, Chiroptera, Primates, Carnivora, Pinnipedia, Cetacea, Rodentia, Lagomorpha. Complete bibliography Part [illegible] Systematic account (continued) Rodentia, Artiodactyla, Perissodactyla, Sirenia. Complete index.

Note A summary of available knowledge of the mammalian fauna of China and Mongolia. Keys are provided for the identification of the various orders, families, genera and species. For each species or order, the work gives the accepted Latin name, important synonymy [illegible] description of the external and cranial characteristics, measurements, notes on nomenclature, known facts of occurrence and habits within the area treated, and [illegible] list of localities from which specimens have been examined by the author.

ANTHONY H. E.

Field book of North American mammals descriptions of every mammal known north of the Rio Grande, together with brief accounts of habits, geographical ranges etc With 32 coloured plates and 175 photographs pen-and-ink sketches and maps Boston Houghton Mifflin Co. 1918 625 p illus (part col'd) 16 cm. $6.00. 2586

Note Although published 30 years ago and not revised since this book still holds [illegible] place [illegible] useful guide to the mammals of the North American continent. It is directed primarily to amateur naturalists, but is useful to anyone [illegible] is concerned with observing and identifying mammals in the field. There are 135 figures in the text, and [illegible] plates. Many of the latter are in color. Indexes are included both [illegible] scientific names and to common names.

ASDELL, SYDNEY ARTHUR

Patterns of mammalian reproduction. Ithaca Comstock Publishing Co Inc., 1946 437 p illus 24 cm $5.00 2587

Contents Part 1, The [illegible] Introduction Sex determination and differentiation Puberty and sexual maturity The hormones concerned in reproduction The estrous cycle Pregnancy Factors influencing the [illegible] spermatozoa The male accessory organs Part II, The [illegible] Monotremata Marsupialia Insectivora Chiroptera Primates Carnivora Pinnipedia Cetacea [illegible] Xenarthra Tubulidentata Lagomorpha Rodentia Hyracoidea Proboscidea Sirenia Artiodactyla Perissodactyla Index of Latin names Index of vernacular names. General index.

Note A reference book on selected [illegible] of the reproductive physiology and behavior of mammals. Quantitative aspects, such as age of puberty, frequency of estrus, length of [illegible] period, and number of young in the litter are emphasized but there is also considerable information on histology and physiology and relatively less on behavior. Part [illegible] contains [illegible] generalized summary of the knowledge of mammalian reproduction. Part [illegible] presents species by species the particulars of knowledge that has been reported in the literature and gives references to the original publications.

BENEDICT FRANCIS GANO

The physiology of the elephant Washington D C. Carnegie Institution of Washington 1936 302 p illus 25 cm (Carnegie Institution of Washington. Publication no 474) o p 2588

Contents (abridged) Elephants [illegible] Chronology of the research Techniques employed. Duration of [illegible] length of life [illegible] Temperament [illegible] Physical characteristics Respiration [illegible] Vital capacity of lungs Heart rate Body temperature Food Rate of food passage through intestines Nitrogen balance Gaseous metabolism Factors extending the physiology of the elephant. Bibliographies. Index

Note A report of observations made on [illegible] body length, body girth, body weight, muscular activity temperament, and habits of [illegible] female Indian elephant. Careful measurements were obtained of the respiration rate volume [illegible] ventilation of the lungs, heart rate and body temperature (feces and urine temperatures) The unique feature of the investigation [illegible] of the respiratory exchange (oxygen consumption, respiratory quotient, methane production and [illegible] vapor output) in [illegible] specially constructed respiration chamber

BOLE BENJAMIN PATTERSON JR. AND PHILIP N MOULTHROP

The Ohio recent mammal collection in the Cleveland Museum of Natural History Cleveland Cleveland Museum of Natural History 1942 98 p. 23 cm (Cleveland Museum of Natural History Scientific Publications Vol V no. 6) $1.00 2589

Note A systematic catalogue giving descriptions of every species of recent mammal recorded for the state with but [illegible] exception, based on the museum's collection of 2,800 specimens. Scientific name, common name, name of original describer and publication in which original description appeared, type locality description, and specimens examined are listed. There are no illustrations. Forty-five references are given in the bibliography

BOLE, BENJAMIN PATTERSON JR.

The quadrat method of studying small mammal populations. Cleveland Cleveland Museum of Natural History 1939 62 p. illus.

WALLACE, GEORGE J

An introduction to ornithology New York The Macmillan Company, 1955 443 p illus 23 cm $8 00 2577

Contents Part I, The history and current status of bird study The bird a preliminary sketch. External features and their adaptations. Internal features and their function The sense organs and behavior of birds. The annual cycle I Arrival, territory courtship mating, and song—II Nests, eggs, incubation and hatching—III Postnatal life. The migration of birds. The distribution of birds. Food habits and economic relations. Conservation and management. Part II Classification and nomenclature. The fossil record. Ornithological methods. Ornithological organizations and their journals. Bibliography Index.

Note Planned specifically for the instruction of college students this book provides a general introduction to the study of birds. The primary emphasis is on general aspects, such as anatomy behavior and conservation The second part, devoted largely to the systematics of the subject, is much shorter than the first part. The book is not intended as an aid in identification but it does contain a wide range of information that is potentially of interest to bird watchers and amateur ornithologists and which is not to be found in the usual "field books."

WELKER ROBERT HENRY

Birds and men American birds in science art literature and conservation 1800–1900 Cambridge Mass The Belknap Press of Harvard University Press 1955 230 p illus 25 cm $5 75 2578

Contents New lands, new birds. Pioneer and prophet, Alexander Wilson. The American ornithology A meeting of consequence. Fulfilling genius, John James Audubon. Bird art and Audubon. Literary birdmen, Henry David Thoreau. Emerson and other worthies. John Birds, John Burroughs. American bird poetry Whitman and others. End-of-the-century prose The beginnings of conservation Federal and state bird books. Educating a wider public. Boys, pot hunters, and women, enemies of birds. Rescue at hand. Bibliography Index.

Note This book is a semiformal historical account of the attitudes toward wild birds in the United States of America from the beginning of the settlement of America to the foundation of societies and the passing of laws to protect birds. It contains accounts of the work and influence of Alexander Wilson Audubon Thoreau and others. It traces skillfully the change in public sentiment from times when birds were wantonly destroyed for feathers and meat, to times when the need for protection was generally accepted by the public. The selected bibliography is arranged in accordance with the chapter arrangement.

WETMORE ALEXANDER, AND BRADSHAW H SWALES

The birds of Haiti and the Dominican Republic Washington D C The Smithsonian Institution 1931 483 p illus 25 cm (Smithsonian Institution United States National Museum Bulletin no 155) Gratis 2579

Contents Introduction. Physiography Historical account of ornithological investigations. Discussion of the avifauna. Recommendations regarding further studies. Acknowledgments Method of treatment Annotated list Colymbiformes. Procellariiformes Pelecaniformes. Ciconiiformes. Anseriformes. Falconiformes. Galliformes. Gruiformes Charadriiformes. Columbiformes. Psittaciformes Cuculiformes. Strigiformes. Caprimulgiformes. Micropodiformes. Trogoniformes. Coraciiformes. Piciformes. Passeriformes Bibliography Index.

Note An annotated systematic description of the avifauna of the region. With each of the forms treated there is given the current scientific name with the authority followed by the usual English name and the names current locally in Hispaniola in Spanish French and Creole where these are known. A brief synonymy is given for each species described, together with a brief statement as to its characteristics and occurrence There are 26 plates, of which nine are reproductions of drawings.

WETMORE, ALEXANDER

A revised classification for the birds of the world. Washington D C The Smithsonian Institution 1951 22 p 24 cm. (Smithsonian miscellaneous collections Vol 117, no. 4 Publication 4057) o p 2580

Note A work which is primarily of interest to professional ornithologists. The first half of this new revision is devoted to a discussion of the newer knowledge which has made advisable certain changes in and additions to the various groupings of families, superfamilies, suborders, and orders of the class Aves The second half presents the new classification in systematic arrangement, including English names alongside the scientific names. The list includes fossil groups as well as living groups of birds. The new classification reflects particularly the results of increased knowledge of the birds of Australia and New Zealand on the one hand and of fossil forms on the other

WING, LEONARD W

Natural history of birds a guide to ornithology New York The Ronald Press Company 1956 539 p illus 23 cm. $6 75 2581

Contents The place of birds in nature. Classification and nomenclature Bird adaptations. Body structure and operation. The basis of life Egg and embryo. Plumage. Age and sex in the bird. Evolution in bird life. Bird distribution. Ecological relations of birds Territorial relations of birds. Social relations and social behavior Bird abundance Bird flight—migration—song. Courtship and nesting habits. Young birds and their care. Heredity in the bird. Death in wild birds. Rise of bird protection. Economic relations of birds Bird study afield. Appendixes References. Bird orders and families of the world. Official state birds. Glossary Index.

Note A cyclopedic treatment of bird biology organized as shown in the above contents. Essentially it is an assembly of the scientific information about birds that is of interest to advanced amateur ornithologists, college students of biology and writers of popular natural history It is well organized and is written in semitechnical style suitable for the intended readers There are numerous tables of data and many illustrations. Literature references are included both in the form of short lists of "Suggested reading" and systematic bibliography

WOLFSON ALBERT editor

Recent studies in avian biology Published under the sponsorship of the American Ornithologists Union Urbana University of Illinois Press 1955 479 p illus 26 cm $7.50 2582

Contents Concepts and problems of avian systematics in relation to evolutionary processes, by A H. Miller Recent revisions in classification and their biological significance by H Friedmann Paleontology by A. Wetmore. Avian anatomy 1925–1950, and some suggested problems, by H. I. Fisher The study of behavior in birds, by J T Emlen, Jr Bird navigation, by D R. Griffin The seasonal stimulus for migration—experimental and physiologic aspects, by D S. Farner Direct studies of nocturnal bird migration, by G. H. Lowery Jr and R. J Newman. Breeding biology of birds by D E Davis. Recent advances in knowledge concerning the role of hormones in the sex differentiation of birds, by L. V Domm Some American population research on gallinaceous birds, by J J Hickey Birdbanding in the study of population dynamics, by D S Farner Diseases of birds, by C. M. Herman. Index

Note Although survey volumes such as this one are common in many fields of science they are uncommon in ornithology As shown above the book is composed of signed chapters on selected areas of avian biology The contributors include some of the leading authorities on birds in the United States of America Generally speaking, each of the authors devotes most of his attention to recent advances and to some problems that are still unsolved However the span of time covered—25 years and more in some cases—is considerably longer than is usually covered in such surveys All of the papers are addressed to persons with considerable scientific knowledge such as advanced students of biology and graduate biologists. All are accompanied by extensive lists of literature The volume has an adequate subject index but lacks an index to authors. However each of the separate bibliographies is arranged alphabetically by name of author The dates of completion of the individual papers range from 1952 to 1955

Zimmer, John Todd

Birds of the Marshall Field Peruvian expedition, 1922–1923 Chicago Chicago Natural History Museum 1930. 250 p. illus. 24 cm. (Chicago Natural History Museum. Publication 282 Zoological series Vol. xvii no.) $1.50. 2583

Note A report and descriptive catalogue of Peruvian birds secured during the course of the expedition [illegible] with comparative notes on [illegible] species or subspecies from other parts of Peru or from adjoining countries. Eight new forms are described. The work is based on [illegible] of the 1,497 specimens collected by the author at altitudes varying from 1,200 feet to 12,250 feet. In the descriptions, [illegible] of the names of colors [illegible] comparison with Robert Ridgway Color standards and color nomenclature, Washington, D.C., 1912 There are indexes of genera and species.

MAMMALS (EXCEPT MAN)

Allen, Glover Morrill

A checklist of African mammals Cambridge Mass. Museum of Comparative Zoology at Harvard College, 1939 763 p 24 cm (Harvard College Museum of Comparative Zoology Bulletin. Vol. lxxxiii) $10.00 2584

Note A complete checklist of the names applied [illegible] African mammals, intended to include all those currently regarded as valid as well as all synonyms through July 1 [illegible] so far as possible. The entirety of the references have been carefully checked with the originals and the [illegible] are as originally given, [illegible] their type localities following each. The area covered is the continent of Africa [illegible] with the inclusion of Madagascar and the Mascarene Islands and the area adjacent to the [illegible]. Domesticated animals, unless feral, and the human [illegible] are purposely omitted, [illegible] the list [illegible] to include all species known to have lived [illegible] times. There are extensive cross-references to the detailed index.

Allen, Glover Morrill

The mammals of China and Mongolia. New York. The American Museum of Natural History 1938–40. 1 v in 2 illus 28 cm. (Central Asiatic expeditions. Natural history of Central Asia. Vol. 11) $10.00 2585

Contents (abridged) Part 1, General introduction. Systematic account. Insectivora. Chiroptera. Primates. Carnivora. Pinnipedia. Cetacea. Xenarthra. Lagomorpha. Complete bibliography. Part [illegible] Systematic account (continued) Rodentia. Artiodactyla. Perissodactyla. Fauna. Complete index.

Note A summary of [illegible] knowledge of the mammalian fauna of China and Mongolia. Keys are provided for the identification of the various orders, families, genera and species. For each species or order the work gives the accepted Latin name [illegible] synonymy [illegible] description of the external and cranial characters, measurements, notes on nomenclature, known facts [illegible] occurrence and habits within the area covered, and [illegible] list of localities from which specimens have been examined by the writer.

Anthony, H. E.

Field book of North American mammals descriptions of every mammal known north of the Rio Grande together with brief accounts of habits, geographical ranges etc. With 32 coloured plates and 175 photographs pen-and-ink sketches and maps. Boston Houghton Mifflin Co., 1918 625 p. illus (part col'd) 16 cm. $6.00 2586

Note Although published 30 years ago and not revised since this book still holds [illegible] place as [illegible] guide to the mammals of the North American continent. It is directed primarily to amateur naturalists, but is useful to anyone [illegible] concerned [illegible] observing and identifying mammals in the field. There are 153 figures in the text and 47 plates. Many of the latter are in color. [illegible] included both [illegible] names and in common names.

Asdell, Sydney Arthur

Patterns of mammalian reproduction. Ithaca Comstock Publishing Co Inc., 1946 437 p. illus 24 cm $5.00 2587

Contents Part 1. The [illegible] of reproduction [illegible] Puberty and sexual maturity. The hormones concerned in reproduction. The [illegible] cycle. Pregnancy. Factors influencing the [illegible] The male accessory organs. Part II. The [illegible] Monotremata. Marsupialia. Insectivora. Chiroptera. Primates. Carnivora. Pinnipedia. Cetacea. [illegible] Xenarthra. Tubulidentata. Lagomorpha. Rodentia. Hyracoidea. Proboscidea. Sirenia. [illegible] Perissodactyla. Index of Latin names. Index of [illegible] General index.

Note A reference book on [illegible] of the reproductive physiology and behavior of mammals. Quantitative aspects, such as age at puberty, frequency of [illegible] length of gestation period, and number of young [illegible] are emphasized but there is [illegible] information on histology and physiology and relatively less on behavior. Part [illegible] summary of the knowledge of mammalian reproduction. Part [illegible] presents species by species the part of the knowledge that has been reported in the literature and gives references to the original publications.

Benedict, Francis Gano

The physiology of the elephant. Washington, D C Carnegie Institution of Washington, 1936 302 p. illus 25 cm. (Carnegie Institution of Washington. Publication no 474) o.p. 2588

Contents (abridged) [illegible] Chronology [illegible] Techniques [illegible] Dimensions of [illegible] and height of [illegible] Temperament. Breeding [illegible] Physical appearance. Physical characteristics. Respiration [illegible] of [illegible] Body temperature. Feed [illegible] of food [illegible] Nitrogen balance. Gaseous [illegible] facts regarding the physiology [illegible] elephant. 72 [illegible] Index.

Note A report of observations made [illegible] body girths, body weights, muscular activity, temperament, and habits of [illegible] female Indian elephant. Careful measurements were obtained [illegible] of the heart rate and body temperature [illegible] The unique feature of the investigation [illegible] of the respiratory exchange (oxygen consumption, respiratory quotient, carbon [illegible] production, and [illegible] output [illegible] constructed respiration chamber.

Bole, Benjamin Patterson jr., and Philip N. Moulthrop

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Mammals

EINARSEN ARTHUR SKOGMAN

The pronghorn antelope and its management. Harrisburg, Pa. The Stackpole Company and the Wildlife Management Institute Washington, D. C., 1948 238 p. illus. (part col d) 23 cm. $4.00. 2596

Contents: History, distribution, and abundance. Characteristics and life history: Physical characteristics; behavior; food habits; disease and mortality; life history. Pronghorn antelope in relation to civilization. Management of the antelope resource. How to hunt antelope. Epilogue. Appendix: Acknowledgments. A short sketch of the 1943 restricted pronghorn season in Oregon. Systematic descriptions. Literature cited. Index.

Note: Based upon field studies in the four states of Oregon, Idaho, Nevada, and California at all seasons of the year this volume is a scientific account of the pronghorn, only member of the family *Antilocapridae* of which it is the sole living representative. All phases of the life and ecology of the animal are described. Researches leading to the publication were carried on over a period of about 11 years under the direction of the Oregon Cooperative Wildlife Research Unit, formed at Oregon State College by several national and state agencies. Among the illustrations are 75 reproductions of photographs of the pronghorn and its habitat.

ENGLE, EARL THERON editor

The problem of fertility proceedings of the Conference on Fertility held under the auspices of the National Committee on Maternal Health. Princeton Princeton University Press, 1947 254 p. illus. 22 cm. $3 75 2597

Contents: Patterns of estrous cycles, by S. A. Asdell. Ovulation and estrus in sheep and goats, by R. W. Phillips and others. Induction of ovulation and subsequent fertility in domestic animals, by L. E. Casida. The induction of ovulation in domestic animals, by J. Hammond. The ovary at the time of ovulation, by G. W. Corner. Hormonal control of ovulation, by H. H. Cole. Cervical mucus and the menstrual cycle, by W. T. Pommerenke and Ebenezer Viergiver. Spermatozoa and cervical mucus, by A. E. Abarbanel. Glycolysis, motility and fertility of bovine spermatozoa, by G. W. Salisbury. Metabolism and motility of human spermatozoa, by J. MacLeod. Fertilizing capacity of rabbit spermatozoa, by M. C. Chang. Biology of equine spermatozoa, by F. L. Bertram. Artificial insemination of dairy cattle, by J. W. Bartlett. The corpus luteum in sterility [illegible], by F. A. Simmons. The effect of synthetic thyroprotein on fertility in bulls, by E. P. Reineke. Methods for determining the time of ovulation in domestic animals, by J. Hammond. List of members of the Conference on Fertility.

Note: The papers and discussions presented in this volume provide an over-all picture of the present status of research concerning the patterns of reproduction in mammals. Although various aspects of human fertility are discussed, the majority of the papers deal with the processes of reproduction in domestic animals. For this reason the book will be of interest to professional animal breeders as well as to biologists and physicians. Several of the papers include extensive bibliographies.

GOODWIN GEORGE G

Catalogue of the type specimens of recent mammals in the American Museum of Natural History New York American Museum of Natural History 1953 211–411 p. 26 cm. $2.50 2598

Contents (abridged): Order Marsupialia Family Didelphidae. Family Dasyuridae Family Peramelidae. Family Caenolestidae Family Phalangeridae Family Macropodidae Order Insectivora. Family Erinaceidae. Family Macroscelididae. Family Soricidae. Family Talpidae Order Chiroptera Family Pteropidae. Family Emballonuridae Family Nycteridae. Family Rhinolophidae Family Phyllostomatidae Family Natalidae Family Vespertilionidae. Family Molossidae Order Primates Family Tupaiidae. Family Lemuridae. Family Cebidae Family Callithricidae Family Cercopithecidae. Order Edentata Family Myrmecophagidae Family Bradypodidae. Order Pholidota Family Manidae. Order Lagomorpha Family Ochotonidae. Family Leporidae. Order Rodentia Family Sciuridae. Family Geomyidae. Family Heteromyidae. Family Castoridae. Family Anomaluridae. Family Cricetidae. Family Muridae. Family Gliridae Family Zapodidae Family Dipodidae Family Hystricidae Family Erethizontidae Family Caviidae Family Dasyproctidae. Family Dasyproctidae Famil Capromyidae Fam. Thryonomyidae Order Cetacea. Family Ziphiidae Family Delphinidae Famil. Physeteridae Order Carnivora Family Canidae Family Ursidae Family Procyonidae Famil Mustelidae Family Viverridae Famil Hyaenidae Family Felidae Order Pinnipedia Family Phocidae Order Tubulidentata Family Orycteropodidae Order Proboscidea Family Elephantidae Order Hyracoidea Family Procaviidae Order Perissodactyla Family Tapiridae Order Artiodactyla Family Tayassuidae. Family Cervidae. Family Bovidae Missing type specimens. Geographical guide to type localities. Collectors of type specimens in the American Museum of Natural History Index.

Note: A systematic catalogue of 944 type mammal specimens in the American Museum of Natural History. The nature of the specimen—e.g. skin—is stated and measurements are given in addition to the customary information on names, type references, etc.

GOODWIN GEORGE G

Mammals of Costa Rica. Dedicated to Cecil F Underwood. New York American Museum of Natural History 1946 473 p. illus 27 cm. (American Museum of Natural History Bulletin. Vol. 87 article 5) $7.50 2599

Contents (abridged): Class Mammalia, Subclass Eutheria. Order Marsupialia—Family Didelphidae. Order Insectivora—Family Soricidae. Order Chiroptera—Family Emballonuridae—Family Noctilionidae—Family Phyllostomidae—Subfam. Chilonycterinae—Subfamily Phyllostominae—Subfam. Glossophaginae—Subfamily Stenoderminae—Family Desmodontidae—Family Vespertilionidae—Family Molossidae. Order Primates—Suborder Anthropoidea—Family Cebidae—Subfamily Alouattinae—Family [illegible]—Family [illegible]. Order Edentata—Suborder Xenarthra—Family Dasypodidae—Family Bradypodidae—Family Myrmecophagidae. Order Lagomorpha—Family Leporidae. Order Rodentia—Family Sciuridae—Family Heteromyidae—Family Cricetidae—Subfamily Cricetinae—Family Muridae—Subfamily Murinae—Family [illegible]—Family Erethizontidae. Order Carnivora—Family Procyonidae—Family Mustelidae—Subfamily Mustelinae—Subfamily Mephitinae—Family Canidae—Family Felidae. Order Pinnipedia—Family Phocidae. Order Sirenia—Family Trichechidae. Order Artiodactyla—Family Tayassuidae—Family Cervidae—Subfamily Cervinae. Order Perissodactyla—Family Tapiridae. Bibliography. Index.

Note: A comprehensive description for professional zoologists of all species known to occur in Costa Rica and in adjacent regions of Nicaragua and Panama. The information on each species covers the following points: location and history of the type specimen, geographic range, generic characters, description, measurements and a brief summary of what is known about the animal's habits. The work is based chiefly on an examination of collections made by Cecil F. Underwood, which are now located in the American Museum of Natural History and other North American museums.

GREGORY WILLIAM KING editor

The Henry Cushier Raven memorial volume. The anatomy of the gorilla. The studies of Henry Cushier Raven and contributions by William B Atkinson Herbert Elftman, John Eric Hill, Adolph H. Schultz, William L. Straus Jr., and S. L. Washburn. Arranged and edited by William King Gregory A collaborative work of the American Museum of Natural History and Columbia University New York American Museum of Natural History 1950 259 p. illus. 32 cm. $15.00 2600

Contents (abridged): Part I, Henry Cushier Raven (1889–1944) by W. K. Gregory. Scientific papers of Henry Cushier Raven. Part II, Regional anatomy of the gorilla, by H. C. Raven, with additions by J. E. Hill. Part III, Thoracic viscera of the gorilla, by S. L. Washburn. The abdominal viscera of the gorilla, by H. Elftman and W. B. Atkinson. Female reproductive system of the gorilla, by W. B. Atkinson and H. Elftman. Part IV The microscopic anatomy of the skin of the gorilla, by W. L. Straus, Jr. Part V Morphological observations on gorillas, by A. H. Schultz. Index.

Note: Considerably more than half of the space in this volume is devoted to reproductions of original drawings, made under Henry Cushier Raven's direction, of his own dissections of the gorilla. The drawings are remarkably clear and are reproduced in large size.

23 cm (Cleveland Museum of Natural History Scientific publications Vol v no 4) $0 50 2590

Contents Introduction. Quadrat work of investigators from Cleveland Museum. Field methods. Composition of the yields of different sizes and types of quadrants. Discussion. Populations (annotated list with preliminary discussion) List of references.

Note Quadrats, which are used as a means of determining the abundance of animals in ecological studies, consist of squares of land of known area over which traps are set, the number varying according to the needs of the terrain from the yield obtained per quadrat the number of animals per acre, per square mile, or any other larger area may be computed statistically The present paper is an account of the results obtained by the Cleveland Museum over a period of years.

BURT, WILLIAM HENRY

The mammals of Michigan Illustrated by Richard Philip Grossenheider Ann Arbor University of Michigan Press, 1946 288 p illus. (part col'd) 26 cm $7 50 2591

Content (abridged) Earlier accounts. Faunal position of Michigan. *Economic importance of mammals. Adaptive radiation* (divergence) Home ranges and territories. Populations. Collecting and preparing specimens. Artificial key to Michigan mammals. Classification of the mammals of the world. The mammals of Michigan. Appendix Table summarizing measurements (in mm.) and life history data. Index.

Note The author staff member of the Museum of Zoology of the University of Michigan, bases the statements in this book as far as possible upon materials (specimens and field notes) in the Museum. The pen drawings and colored plates which illustrate the volume are mostly from life. The purpose of the volume is twofold first, to summarize present knowledge of the mammals of Michigan and to make it available for use secondly to point out areas needing further investigation in order to encourage research in the field. For each species, there is a description covering size, physical characteristics, habitat, habits, distribution and economic status, and also an illustration of the species and a distribution map, showing (1) distribution in Michigan and (2) distribution in North America bibliographical references also are grouped with the species descriptions. A slightly revised edition was published in 1948.

CAHALANE, VICTOR HARRISON

Mammals of North America. With drawings by Francis L. Jaques New York The Macmillan Company 1947 682 p illus 24 cm $5 95 2592

Contents (abridged) The wild pig The deer family—elk—whitetail deer—moose—caribou. The heliographer—antelope. Original American livestock—buffalo—muskox—bighorn—mountain goat Survivors of ancient orders—opossum—armadillo. The insect hunters—mole—shrew The flyer—bat. The bears. The bear's small cousins—raccoon—coati—ringtail. The musk-carriers—marten—fisher—weasel—mink—wolverine—the otter—striped skunk—hog-nosed skunk—spotted skunk—badger The wild dogs—red fox—gray fox—coyote—wolf The cats—the cougar—jaguar—ocelot—lynx. The finfeet—fur seal—sea lion—sea elephant—walrus The chucks and ground squirrels The chipmunks and squirrels. Chisel-teeth (Part I)—pocket gopher—kangaroo rat—beaver—harvest mouse—cotton rat. Chisel-teeth (Part II)—lemming—meadow mouse—muskrat—house rat—mountain beaver—porcupine. The hares and rabbits. The vanishing mermaid—the manatee. Two seafarers—the whale—dolphin. List of references. Index.

Note A popular book which is outstanding for its scope and readability The land mammals, both large and small, are described rather completely but the sea mammals and the bats are given relatively less space because they are not readily accessible to the layman for observation. The descriptive matter deals largely with range, physical characteristics, life histories, and habits. The author is assistant director of the New York State Museum

COLBERT, EDWIN HARRIS

Siwalik mammals in the American Museum of Natural History Philadelphia American Philosophical Society 1935 401 p illus 30 cm. (American Philosophical Society Transactions New series, Vol 26) $5 00 2593

Contents (abridged) Part I, Introduction Previous publications dealing with American Museum Siwalik vertebrates. Historical review Part II, Geological considerations Geography of the Siwalik Hills and the Salt Range. General geologic considerations of the Siwalik beds. Part III, Mammalian faunas of the Siwalik area. Part IV American Museum Siwalik fossil localities. Part V, Systematic descriptions and discussions. Primates. Rodentia. Lagomorpha. Carnivora. Tubulidentata. Proboscidea. Perissodactyla. Artiodactyla. The migrations of certain mammals to and from the Siwaliks. Part VI, General summary and conclusions. Bibliography Index.

Note The collection of Siwalik mammals in the American Museum of Natural History on which this study is based, was made by Dr Barnum Brown in two regions of the Punjab, one in the Siwalik Hills between the Sutlej and the Jumna rivers, the other in the Salt Range between the Indus and the Jhelum rivers. In the present work the author's purpose was to make a thorough study of certain of the mammalian orders which comprise the bulk of this collection, not only by means of his own researches but also by correlating his work with that of other authors. Studies of the Proboscidea from this collection by Professor Henry Fairfield Osborn, of the three species of *Dryopithecus* which it contains by Dr William King Gregory and Dr Milo Hellman, and of the Bovidae by Dr Guy E. Pilgrim, have been summarized, although attention has been directed chiefly to all the other mammalian groups in this collection The several Siwalik faunas contain an abundant assemblage of mammalian genera and species. From the field studies of Dr Brown, it was possible to make a careful record of the geographic position and the stratigraphic level of nearly all of the fossils in the collection and this record has been of great aid in the study of the faunal sequences and in the formation of views as to the phylogenetic relationships of the various Siwalik mammals.

DAVIS, WILLIAM B

The recent mammals of Idaho. Caldwell, Idaho The Caxton Printers, Ltd. 1939 400 p illus 23 cm (Contribution from the Museum of Vertebrate Zoology, University of California) $5 00 2594

Contents Geography of the state. Floral provinces. Distributional areas in Idaho. Problems of distribution in Idaho. Museums containing type specimens. Type localities in Idaho. Gazetteer of localities. Mammals of Idaho by groups. Plan of procedure in species accounts. Lists of counties in Idaho. Accounts of species Insectivora. Chiroptera. Carnivora. Rodentia. Lagomorpha. Artiodactyla. Abstract. Literature cited. Index.

Note Mainly a systematic description of the families, genera, and species of the six orders of mammals indigenous to Idaho, with classification description, distribution, scientific and common name, and record of occurrence for each type specimen included

DURRANT, STEPHEN D

Mammals of Utah taxonomy and distribution Lawrence University of Kansas. 1952 549 p illus 23 cm (University of Kansas Museum of Natural History Publications Vol 6) 2595

Contents Introduction. Aims. Treatment. Topography and climate. Check-list of mammals of Utah. Accounts of species and subspecies. Order Insectivora Order Chiroptera. Order Lagomorpha. Order Rodentia. Order Carnivora. Order Artiodactyla. Type Localities. Hypothetical list. Addenda. Faunal areas Physiography and speciation. Literature cited Index

Note A comprehensive systematic report of the mammals of a state which is noted for its variety of topography and climate. As noted in the title the emphasis is on taxonomy and distribution. Occurrence within the state was the criterion for inclusion of each currently described species or other form, and of the 247 kinds of mammals, 244 are represented by specimens in collections. Most of the space is devoted to the systematic accounts of individual species and subspecies. These accounts cover scientific name synonymy, literature references to occurrences in Utah, a description of morphology, statement on range within the state, discussion and evaluation of other pertinent information such as tabulation of cranial measurements, in some instances. The 19-page discussion of physiography and speciation is of special interest. There are 59 figures.

Mammals

HARTMAN CARL GOTTFRIED
Possums. Austin University of Texas Press, 1952 174 p. illus. 29 cm. $6.00 2607

Contents: Introduction. Europeans meet the opossum. The opossum down under. The [illegible] and the age of credulity. The opossum gets [illegible]. What manner of beast is this. The opossum at home. And [illegible]. Chicken thief. Playing possum. Opossum embryology in pictures. Birth of the opossum. Journey to the pouch. [illegible] Journey to the pouch [illegible]. Birth of the kangaroo. The [illegible] pouch in nature. The pouch young. Opossum and bear. A butterfly painter starts [illegible] legend. Four centuries of opossum pictures. Possum hunting. Possum capes and red garters. Possums and [illegible]. Appendix. Possum rhymes and folklore. Bibliography. Index.

[illegible] A large volume [illegible] both in text and pictures, the lore and science of the opossum (Didelphis virginiana Kerr). The author has made [illegible] study of the subject for over [illegible] years and has written this book largely on the basis of his observations and experiments. The scientific information combined with the author's humorous style makes the book interesting reading both for zoologists and for nature-lovers in general. The chapters on the development of the embryo and birth of the young and migration to the pouch are noteworthy.

HAYES CATHY
The ape in our house. New York Harper & Brothers, 1951 247 p. illus. 22 cm. $3.50 2608

Contents (abridged): Part 1. The first eighteen months: We adopt [illegible] baby. [illegible] Grandma visits the creature. [illegible] [illegible] Guess what Viki did today! Teaching an ape to talk. [illegible] Viki's second Christmas. The very strange case of the imaginary pulltoy. Viki and the child. Part 2. The [illegible] and eighteen months. Viki and the caged ape. [illegible] [illegible]. The [illegible]. [illegible] don't need talking [illegible]. Part 3. In answer to your questions— [illegible] [illegible] What [illegible] Actions and words. The nature of the beast. [illegible] only the beginning. Author's note—[illegible]

Note: An account of the first three years in the development and growth of Viki, [illegible] female chimpanzee adopted at birth by [illegible] [illegible] and her [illegible] and reared in their home in Orange Park, Florida, in much the same manner as [illegible] human baby would be raised in a similar environment. The results are of interest to the lay reader as well as to the zoologist and psychologist.

INGLES LLOYD GLENN
Mammals of California and its coastal waters. Stanford Stanford University Press 1954 396 p. illus. 24 cm. $6.00 2609

Contents: Introduction to mammals. Mammals of long ago. Why we study mammals. How to study mammals. Accounts of the species: Marsupialia. Insectivora. Chiroptera. Carnivora—Fissipedia—Pinnipedia. Rodentia. Lagomorpha. Perissodactyla. Artiodactyla. Cetacea. Appendix: How to collect and make up study skins. Dental formulae of the genera of land mammals of California. An artificial [illegible] key to the skulls of California mammals. [illegible] [illegible] of some mammalian genera. Principles of zoological classification. Classification and check list of native and introduced species of recent mammals of California (according to Grinnell). Suggested references. Index.

Note: This book may be viewed as [illegible] second edition or as [illegible] to the author's Mammals of California, 1947. Much of the text of the earlier work has been carried over to [illegible] and considerable material has been added. Among the new material are "pictorial keys" which are actually reproductions of small, carefully detailed drawings of mammals with the characters that distinguish species made clear. An artificial generic key to skulls has also been added. As was true of the earlier work, the book [illegible] addressed primarily to beginning students of California mammalogy. It contains, however, rather extended accounts of habits, many of which are based on the author's own observations, and these are particularly of interest to advanced students of mammalogy. The book contains [illegible] large number of photographs, many of them made by the author, and maps showing ranges within the state of California.

LINSDALE JEAN MYRON AND LLOYD P TEVIS JR.
The dusky footed wood rat a record of observations made on the Hastings Natural History Reservation. Berkeley University of California Press 1951 664 p. illus. 24 cm. $7.50 2610

Contents: Introduction. Habitat. Houses. Area. [illegible] Behavior. Food. Reproduction. Morphology. Population. Conclusion. Literature cited. Index.

Note: A detailed scientific study of Neotoma fuscipes, the dusky-footed wood rat, [illegible] characteristically nocturnal pack rat native to parts of Oregon, California, and Baja California. It is based upon [illegible] observations made at the Frances Simes Hastings Natural History Reservation in the northern Santa Lucia Mountains [illegible] Monterey county California, over [illegible] 10-year period. The photographic illustrations depict the rat and his [illegible] [illegible] include [illegible] and graphs presenting [illegible] of individual specimen studies.

LINSDALE, JEAN MYRON AND P QUENTIN TOMICH
A herd of mule deer a record of observations made on the Hastings Natural History Reservation. Berkeley and Los Angeles University of California Press 1953 567 p illus 24 cm. $8.50 2611

Contents: Introduction. Structure. Communication. Movements. Relations to other animals. Habitat. Activity. Food. Reproduction. Population. Literature cited. Index.

Note: This book is the report in detail of [illegible] study of [illegible] group of deer inhabiting [illegible] small area in [illegible] protected reservation. Aside from the feature of protection from hunters, the deer were living under natural conditions in [illegible] natural environment. The study was conducted from the viewpoint of ecology or the responses of the observed deer to [illegible] rather wide range of environmental situations. Anatomical and physiological studies of the observed deer could not be made; however, the book contains an extensive [illegible] on structure in which aspects of anatomy are discussed. The chapters that follow that on structure are composed largely of the detailed records of observations made in the field. The authors conclude: "Our conclusion [illegible] respect to the deer on the Reservation is that many factors, rather than [illegible] few, affect survival and determine the size of the population [illegible] the population we observed has developed and is being maintained at its present high level because of many favorable circumstances rather than [illegible] response to any one element or small group of elements.

MILLER, GERRIT S JR., AND REMINGTON KELLOG
List of North American recent mammals. Washington D C. Government Printing Office 1955 954 p 23 cm. (United States National Museum. Bulletin 205) o.p. 2612

Contents: Introduction. Order Marsupialia. Order Insectivora. Order Chiroptera. Order Primates. Order Edentata. Order Lagomorpha. Order Rodentia. Order Cetacea. Order Carnivora. Order Pinnipedia. Order Sirenia. Order Perissodactyla. Order Artiodactyla. Type localities. Index.

Note: A classified list of North American mammals summarizing the results of taxonomic studies of recent mammals of North America up to January 1, 1951, and indicating the forms represented in the collections of the United States National Museum. Under each order are listed recognized suborders, superfamilies, families, genera, species, and subspecies. The total number of forms (species and subspecies) listed of North American recent mammals is 3,[illegible] (by way of comparison the 1923 list issued by the Museum under the same title contained 2,[illegible] forms). An asterisk is placed after the name of each form represented in the Museum collections, all except [illegible] being so represented. Under the Latin name of each species and subspecies, reference is made to the first publication of the specific or subspecific name, to which, if necessary, is added reference to first use of the current binomial or trinomial name and occasionally additional information. The type locality of each form is stated [illegible] all possible exactitude and, in revised genera, the ranges are given, so far as practicable.

MURIE OLAUS JOHN
The elk of North America. Harrisburg The Stackpole Company and the Wildlife

The chapters and parts of the work supplied by other contributors supplement Raven's work which was left unfinished at his death and are in themselves notable contributions based largely on original studies. The work is a major contribution that greatly extends the knowledge of the anatomy of the gorilla.

GUNDERSON, HARVEY L., AND JAMES R. BEER

The mammals of Minnesota. Minneapolis The University of Minnesota Press, 1953 190 p illus 23 cm (Minnesota Museum of Natural History Occasional papers No 6 Paper no 2869 of the Scientific journal series Minnesota Agricultural Experiment Station) $3 50 2601

Content The study of mammals. The geography of Minnesota. A systematic catalog of the mammals of Minnesota. Selected references. Index.

Note A systematic description of the mammals native in a state which is rather rich in mammalian fauna. It is intended primarily for the use of residents of Minnesota as a guide to collecting and identification. Systematic descriptions of species are supplemented by photographs. Another feature is the inclusion of small maps showing the range of each species in the United States of America and Canada.

HALL, EUGENE RAYMOND

American weasels Lawrence University of Kansas 1951 466 p illus (part col'd) 23 cm (University of Kansas publications Museum of Natural History Vol 4) 2602

Content Introduction. Paleontological history. Skeleton and dentition. Disparity in number of males and females. Materials, acknowledgments and methods. Variation. Variation with age. Secondary sexual variation. Individual variation. Seasonal variation. Variation in color and molt. Variation of taxonomic worth. Distribution and speciation. History of classification. Chronological list (annotated) of specific and subspecific names. Check list of American species and subspecies of the genus Mustela. Artificial key to American species of the genus Mustela. Diagnosis of the genus. Explanation of systematic treatment. Systematic accounts of species and subspecies. Mustela erminea. Mustela rixosa. Mustela frenata. Mustela africana. Explanation of cranial measurements. Table of cranial measurements. Literature cited. Plates. Index.

Note A general and systematic treatise on the weasels of North America, with some coverage of those of South America. The first 80 pages include the general description of the weasels and their variation and distribution. The next 315 pages contain the systematic accounts of the species (including type, range, characters for ready recognition, character of the species, geographic variation, behavior, enemies, food, reproduction) and of the subspecies (type, range, characters for ready recognition, size, color, skull, sex differences, remarks, specimens examined). The remainder of the book includes the tables of cranial measurements of specimens and the 39 plates each containing photographic views of 9 or 10 skulls. The work is based upon more than 15 years of study of the weasel and visits to 104 zoological collections in the United States, Canada, and Europe.

HALL, EUGENE RAYMOND

Handbook of mammals of Kansas. Contribution from the State Biological Survey of Kansas. Lawrence University of Kansas Museum of Natural History 1955 303 p illus 23 cm. (University of Kansas Museum of Natural History Miscellaneous publication 7) $4 00 2603

Contents (abridged) Purpose and scope. Materials. Key to order of mammals of Kansas. Species of unverified occurrence. Reference books and literature on mammals. Names—vernacular and zoological. Suggestions for collecting. Glossary. Index.

Note A reference manual intended primarily for students and amateur naturalists. The accounts of species emphasize the living animal and its habits. For each, there is a small drawing of the whole animal in a natural pose and, in addition, one or more drawings of the skull. Both scientific and common names are given. Maps of distribution within the state and of range in continental United States of America and Canada are included.

HALL, EUGENE RAYMOND

Mammals of Nevada. Contribution from the Museum of Vertebrate Zoology, University of California, Berkeley. Berkeley and Los Angeles University of California Press, 1946 710 p illus (part col'd) 24 cm. $7.50 2604

Content Aims. Methods. Plan of treatment. Topography. Climate. Floral belts. Life-zones. Occurrence of mammals in Nevada. Faunal areas. Factors responsible for geographic distribution and speciation. Clines. Speciation. Desert character of mammalian fauna. Check list of mammals. Key to species of Nevada mammals. Accounts of species and subspecies. Hypothetical list of mammals. Type localities. Names changed since book was written. Gazetteer. Glossary. Literature cited. Index.

Note The major portion of this volume is an account, species by species, of the mammals found in Nevada by the author and his many co-workers in expeditions from the University of California Museum of Vertebrate Zoology between 1909 and 1941. Maps of distribution, tables of measurements of specimens, cranial diagrams, records of occurrence, and other remarks accompany the accounts of the species and subspecies. Mammals are abundant in Nevada, especially small mammals. The aims in preparing the account of them are set forth in detail as follows: to find out what species of mammals occur in Nevada; to ascertain the geographic range of each and the kinds of places in which it lives; to ascertain and then catalogue the geographic variation in each species; to provide such information on habits as would be incidentally obtained in pursuit of the previous aims; to appraise the economic relation to man of the badger, coyote, pocket gopher and beaver; to provide a key with descriptions and illustrations, by means of which a person without special zoological knowledge can identify kinds of mammals.

HAMILTON, WILLIAM JOHN, JR.

American mammals their lives, habits, and economic relations. New York McGraw-Hill Book Company, Inc. 1939 434 p illus. 23 cm. $6 50 2605

Content The ancestry of mammals. Classification. Some characters of mammals and their uses. Adaptations. Food. Storage. Reproduction and early life. The home of mammals. Hibernation. Migration. Mammal populations. Behavior. Distribution. Useful mammals. Injurious mammals. Game mammals. Fur-bearing animals. Predatory mammals.

Note Instead of giving specific accounts of each species, the book offers an ecological approach, illustrating how mammals are adapted to their environment and discussing their characters, distribution, habits, economic relations, and esthetic value. The treatments of ancestry, adaptations, food, storage, reproduction and early life, homes of mammals, hibernation, migration, etc., are thorough.

HAMILTON, WILLIAM JOHN, JR.

The mammals of eastern United States, an account of recent land mammals occurring east of the Mississippi. With thirty portraits by Earl L. Poole. Ithaca Comstock Publishing Company Inc 1943 432 p illus 24 cm. (Handbooks of American natural history edited by A. H. Wright. Vol. II) $4 50. 2606

Contents. Introduction. Key to orders of eastern mammals. Chiroptera (bats). Marsupialia (opossums). Insectivora (moles and shrews). Carnivora (flesh eaters). Rodentia (rodents or gnawing mammals). Lagomorpha (hares and rabbits). Artiodactyla (deer, sheep, etc.). Xenarthra (American edentates). Literature of mammalogy. Index.

Note A guidebook which describes and gives a brief life history of each of the land mammals found in the entire area east of the Mississippi. Two hundred fifty-three species and subspecies are covered. The numerous maps outline the distribution of various mammals in the area covered. Of interest to the layman as well as to the professional zoologist.

RAT QUALITY A CONSIDERATION OF HEREDITY DIET AND DISEASE. Proceedings of the Symposium held at Columbia University College of Physicians and Surgeons, New York New York January 31 1952 New York The National Vitamin Foundation Inc. 1953 138 p. illus. 23 cm. $2.50 2619

Contents: Introduction to the first session, by M. K. [illegible] Growth criteria, by L. M. Zucker. The natural history of chronic respiratory disease in the albino rat, by J. B. Nelson. Development of inbred strains and their use in research, by W. E. Heston. Problems in breeding for quality by T. F. Zucker. Some studies of growth and exercise [illegible] which influence uniformity in laboratory animals, by E. P. Morris. History and information concerning the rat colonies in the animal section of the National Institutes of Health, by E. M. Palley. The use of inbred strains in biological research, by G. E. Jay Jr. Introduction to the second session, by O. Kearns. Evaluation of commercial rat diets, by C. A. [illegible] Experience with fresh-purified diets as stock rations, by H. Kraske. Bibliography

Note The symposium of which this book is product was concerned with the rat as an experimental laboratory animal. Two scientists associated with medical schools and other institutions, where the rat is in constant use in experimentation and biological assay delivered the papers, which were then discussed by other participants in the symposium. Both papers and discussions have been reprinted in this volume. The tone of all the papers is somewhat informal, and they can fairly be characterized as sharing of experience, rather than reports of planned research. Nevertheless, the volume contains information of potential value to most biological and medical researchers who make use of laboratory rats or who are responsible for the care of rat colonies.

ROSCOE B JACKSON MEMORIAL LABORATORY

Biology of the laboratory mouse. Edited by George D Snell. New York Dover Publications, Inc., 1941 497 p. illus. 25 cm. $6.00 2620

Contents: The early embryology of the mouse, by G. D. Snell. Reproduction, by G. D. Snell. Histology by E. Fekete. Spontaneous neoplasms in mice, by A. M. Cloudman. Gene and chromosome mutation, by G. D. Snell. The genetics of spontaneous tumor formation, by C. C. Little. The genetics of tumor transplantation, by C. C. Little. Endocrine secretion and tumor formation, by W. V. Woolley. The milk influence in tumor formation, by J. J. Bittner. Inbred and hybrid animals and their value in research, by W. L. Russell. Parasites, by W. E. Heston. Infectious diseases of mice, by J. M. Dengle. Care and recording, by J. J. Bittner. Index.

Note The very extensive use of the mouse as an animal for scientific experimentation originally prompted the writing of this volume. The primary emphasis is on basic biological information, but laboratory care and handling are accorded strong secondary emphasis. There are 71 figures, numerous tables and extensive literature lists. This edition is an unaltered reprint, issued in 1956, of the original edition published in 1941.

SANBORN COLIN CAMPBELL

Catalogue of type specimens of mammals in Chicago Natural History Museum. Chicago Chicago Natural History Museum 1947 293 p illus. 24 cm. (Fieldiana zoology Vol. 32 no 4) $1.00 2621

Note A catalogue of types, cotypes, and lectotypes of specimens of mammals known to be in the Chicago Natural History Museum on July 1, 1947. The author curator of mammals in the Museum, has used Simpson's classification for orders and families, while placing the genera, species, and subspecies in alphabetical order. The data comprise museum number parts of specimen collected, sex, age, place of origin, date of collection, and name of collector along with a description of the condition of each specimen. The items also contain information as to where the specimen has been described. In an additional list, the same type specimens are arranged by locality. An index serves to facilitate the use of the catalogue.

SETON ERNEST THOMPSON

Lives of game animals an account of those land animals in America, north of the Mexican border which are considered "game" either because they have held the attention of sportsmen or received the protection of law. In four volumes. With 50 maps and 1,500 illustrations by the author. [Newton Centre Mass Charles T Branford Company] 1925–28 4 v illus 28 cm. $60.00 2622

Contents (abridged): Volume I, Cats, wolves and foxes. Volume II, Bears, coons, badgers, skunks, and weasels. Volume III, Hoofed animals. Volume IV, Rodents, etc.

Note A work that has become a recognized classic of writing about wild animals. Written by an author-artist whose life was dedicated to the study of these animals, it is probably the most leisurely account of small groups of animals ever written. [illegible] work planned to describe most of the mammals of continental North America, [illegible] pages are devoted to the cougar alone.) The taxonomic data that would be expected in a scientific work are given, including the scientific name, synonyms, and popular names, literature references to the first scientific description, and a statement of the type locality. The remainder of each description—and all of them are lengthy—is concerned largely with life habits and consists of quotations and paraphrasing of the notes and comments of many observers, both scientific and amateur, on the animal's life habits. These observations are arranged under such headings as "Interesting records," "Present numbers and distribution," "Habits," "Home range," "Harlan custom" [sic], "Courtship," "Young," and "The mother's love." Supplementing the text are many reproductions of photographs and drawings by the author showing not only the animals but also their tracks, habitat scenes, etc. A good deal of anecdotal and unscientific material is included. On the other hand, in no other work have the reports of so many direct observations of these animals been assembled. This is a reprint from the plates of the original edition published by Doubleday Doran & Company 1925–28.

SIMPSON GEORGE GAYLORD

Horses the story of the horse family in the modern world and through sixty million years of history New York Oxford University Press 1951 24 p. illus 23 cm. $7.50 2623

Contents (abridged): Introduction. Part I, Living horses: What is a horse? A look at Equus. Horses and history. Ancient breeds. Some European breeds in America. American breeds and their forerunners. Part II The history of the horse: Time-scale of horse history. Forerunners of the horses. The little Eohippus. Other Eocene horses. Early three-toed horses. Later three-toed horses. The horse relatives. False horses. Part III, Horses and evolution: How horses changed. Patterns of evolution. Explanations of evolution. Appendices: Where to see fossil horses. Where to read more about horses. Index.

Note In this book for lay readers the main emphasis is on the evolution of the horse but information on many other topics is also included. Examples of the supplementary topics are a discussion of the inheritance of color and a description of the work of Edward Muybridge in photographing the gaits of horses. There are about 80 illustrations reproduced on 32 plates, a directory of museum collections of fossil horses, and a selected, annotated bibliography. Though a popular treatment, the book merits reading by anyone with mature interests in the subject. The author is Curator of Fossils and Birds in the American Museum of Natural History.

SIMPSON GEORGE GAYLORD

The principles of classification and a classification of mammals. New York American Museum of Natural History 1945 350 p. 27 cm. (American Museum of Natural History Bulletin, Vol. 85) $3.50. 2624

Contents (abridged): Part I, The principles of taxonomy: Phylogeny. Classification. Nomenclature. Part II Formal classification of Mammals. Explanation of the detailed classification. Detailed

Management Institute Washington, D C, 1951 376 p illus 25 cm $6 50 2613

Contents Introduction The name Origin of the American wapiti. The American forms of elk Early elk distribution in America. Elk habitat. Life zones. Migration Physical characters. Reproduction. Natural enemies. Accidental deaths. Parasites. Disease. Varied opinions on the "elk problem. Food habits. Elk habits. The elk population. Elk hunting. Elk management. Bibliography Index.

Note A comprehensive treatise written on the basis of many years of field study among the Yellowstone elk herds and checked by field studies on all other major elk herds. It is one of a series of books on practical wildlife management published by the Wildlife Management Institute. The book is of particular interest to persons concerned with wildlife management and conservation and is also a source of information for the general reader

MURIE, OLAUS JOHN

A field guide to animal tracks Illustrated by the author Boston Houghton Mifflin Company, 1954 374 p illus 19 cm. (The Peterson field guide series, edited by Roger Tory Peterson) $3 95 2614

Contents (abridged) Key to tracks. My life list. What has happened here? Opossum family—Didelphidae Armadillo family—Dasypodidae. Mole family—Talpidae Shrew family—Soricidae Bats—Chiroptera. Bear family—Ursidae Raccoon and ringtail families—Procyonidae and Bassariscidae Weasel family—Mustelidae Dog family—Canidae. Cat family—Felidae Seals—Pinnipedia. Rodents—Rodentia. Rabbit and cony families—Leporidae and Ochotonidae. Hoofed animals—Ungulata. Birds. Amphibians and reptiles. Insects and other invertebrates. Tips and limbs. Bone and horn chewing. Bibliography Index.

Note A comprehensive reference manual directed primarily to amateurs but of some interest also to professional zoologists. The principal subject is the tracks in soil and snow of mammals and some other animals which occur in the wild state in Central America, Mexico, and continental North America. The subject is covered with unusual fulness, and, in addition, the book describes the tracks of a few birds, amphibians, reptiles, insects, and invertebrates, such as earthworms. Also included are droppings, animal signs on trees, such as gnawing of the bark and tips, etc. There are 196 figures, most of which are reproductions of drawings of good quality. Identification of animals by means of tracks and scats is discussed in a text which takes approximately as much space in the volume as the illustrations.

ORR, ROBERT THOMAS

The rabbits of California. Joint contribution from the Museum of Vertebrate Zoology of the University of California and the California Academy of Sciences San Francisco California Academy of Sciences 1940 227 p illus. 25 cm. (California Academy of Sciences Occasional papers No 19) $3 50 2615

Contents Introduction. Materials. Measurements and weights. Geographical variation. Analysis of characters. Secondary sexual variation. Pelage. Abnormal coloration. Molts Life history Diagnostic key to the Leporidae of California Species accounts. Literature cited

Note Both systematic and life studies of the seven species of the family Leporidae which are known to occur in California are presented in this monograph. Speculations concerning reasons for racial trends or specific constancies as related to the topographic, climatic, and vegetational conditions of the area are offered for further study The work is based on the study of 1 158 specimens and upon the literature of the field. The list of citations contains 113 references to pertinent world literature published between 1836 and 1936.

OSGOOD WILFRED HUDSON

The mammals of Chile. Chicago Chicago Natural History Museum 1943 268 p illus 24 cm. (Chicago Natural History Museum Publication 542 Zoological series. Vol 30) $1 75 2616

Contents Introduction. Acknowledgments. History Physiography and climate Zones and faunal areas. Derivation of Chilean mammals. Endemism. Insular faunas. Collections in Chilean National Museum Methods. List of mammals of Chile. Key to orders of Chilean mammals. Annotated and descriptive list of species. Introduced species. Species erroneously attributed to Chile. Unidentifiable names. Chilean mammals listed in the order of their discovery. Type localities in Chile. Bibliography Index.

Note An annotated and descriptive list of Chilean mammalian species, exclusive of cetaceans, based on specimens collected by the author and Colin C. Sanborn in 1923 and 1939–40, together with those in the Museo Nacional at Santiago. Identification keys and brief descriptions have been included, as well as the line drawings of the skulls of most of the species. The bibliography contains about 300 references to the world literature published between 1782 and 1943

PALMER, RALPH S

The mammal guide mammals of North America north of Mexico Color illustrations, maps and drawings by the author Garden City Doubleday & Company Inc., 1954 384 p. illus 19 cm $4 95 2617

Contents (abridged) How mammals are named. Opossums (Didelphiidae) Moles (Talpidae) Shrews (Soricidae) American leaf-nosed bats (Phyllostomidae) Typical insect-eating bats (Vespertilionidae) Bears (Ursidae) Raccoons, coatis, and allies (Procyonidae) Weasels, skunks, and allies (Mustelidae) Foxes, wolves, and dogs (Canidae) Cats (Felidae) Eared seals (Otariidae) Hair seals (Phocidae) Marmots, squirrels, and chipmunks (Sciuridae). Pocket gophers (Geomyidae) Beaver (Castoridae) Mice, rats, voles, and lemmings (Cricetidae) Porcupines (Erethizontidae) Pikas, hares, and rabbits (Leporidae) Deer (Cervidae) Cattle, sheep, and goats (Bovidae) Armadillos (Dasypodidae) Manatees (Trichechidae) Bottle-nosed or beaked whales (Ziphiidae) Sperm whales (Physeteridae) Typical dolphins (Delphinidae) True porpoises (Phocoenidae). Finback whales (Balaenopteridae) Whalebone or Baleen whales (Balaenidae) Index.

Note A reference handbook designed to aid in the identification of mammals native to the North American continent and to convey information about them on habitat, reproduction, habits and economic status. It is addressed to laymen and to amateur naturalists. It is well illustrated with pictures, in color of the animals, maps showing geographical distribution of the various species, drawings of footprints, etc. The author is State Zoologist on the staff of the New York State Museum.

POOLE, ARTHUR JAMES, AND VIOLA S SCHANTZ

Catalog of the type specimens of mammals in the United States National Museum including the Biological Surveys collection. Washington, D C The Smithsonian Institution 1942 705 p 23 cm. (Smithsonian Institution United States National Museum. Bulletin no 178) Gratis 2618

Contents Introduction. Order Artiodactyla even-toed ruminants. Order Carnivora. flesh-eaters. Order Cetacea whales, porpoises. Order Chiroptera. bats. Order Dermoptera. flying lemurs. Order Hyracoidea hyraxes. Order Insectivora insect eaters Order Lagomorpha hares, rabbits, pikas. Order Marsupialia marsupials. Order Perissodactyla odd-toed ungulates. Order Pinnipedia seals, walruses. Order Primates lemurs, marmosets, monkeys, apes, man. Order Rodentia. rodents. Order Xenarthra edentates (sloths, armadillos, anteaters) Missing type specimens. Geographical guide to type localities. Collectors of the type specimens of mammals in the United States National Museum, including the Biological Survey collection. Index.

Note A systematic catalogue of the type specimens of recent mammals in the United States National Museum collection, recording a total of 2,874 specimens. A strictly alphabetical order of arrangement is used and applied alike to orders, families, genera, species and subspecies. The name of each genus, subgenus, species, and subspecies is recorded as in the original description, followed by a reference to the place and date of its publication References are added wherever changes have been made by subsequent authors. These are followed by catalogue number, nature of specimen, i.e., whether skin or skull, etc., age and sex, locality date of collecting, name of collector and original number of specimen from collector's field catalogue.

literature and is comprehensive [illegible] the subject [illegible] indicated in its title through 1937 and includes also [illegible] few work published in 1938 and 1939.

YOUNG STANLEY PAUL, AND EDWARD A. GOLDMAN

The wolves of North America. Part I Their history life habits, economic status and control. Part II, Classification of wolves. Harrisburg: Stackpole & Company 1944 636 p illus. (part col'd) 22 cm $6 00 2629

Contents: Part I, Their history, habits, economic status, and control, by S. P. Young: Introduction. Distribution of the wolf in North America, past and present. Habits and characteristics. Natural checks, parasites, and diseases. Economic status. Measures used in wolf capture and control. Brief history of wolf depredations and cooperative Federal wolf control. Part II, Classification of wolves, by E. A. Goldman: Introduction. History. General characters. Pelage and molt. Variation. Explanations. List of North American species and subspecies, with type localities. Canis lupus and subspecies. Canis niger and subspecies. References and selected bibliography. Index.

Note: A study of North American wolves, indicating their characteristics, distribution, and importance. The various species and subspecies are discussed and described, with illustrations of representatives of some species. The study is based on specimens in the United States National Museum and other museums.

COMPARATIVE ANATOMY AND EMBRYOLOGY

ADAMS LEVERETT ALLEN AND SAMUEL EDDY

Comparative anatomy: an introduction to the vertebrates. New York John Wiley & Sons, Inc., 1949 520 p. illus. 24 cm. $6 00 2630

Contents (abridged): Part I, A review of the vertebrates: Classification. Superclass Pisces or fish-like vertebrates. Superclass Tetrapoda. Embryology. Part II, Comparative anatomy of the vertebrates: Integumental system. Axial skeleton. Appendicular skeleton. Muscular system. Circulatory system. Respiratory system. Urogenital system. Nervous system. Sense organs. Endocrine glands. Bibliography. Glossary. Index.

Note: A successor to Adams' *Introduction to the vertebrates*, second edition. It is designed for use in college courses, and two-thirds of the space is devoted to the comparative anatomy of various organ systems. Some chapters have been shortened, but others have been considerably expanded; hence, the number of pages has been increased by about 40. There are now 344 figures.

BAILEY PERCIVAL AND OTHERS

The isocortex of the chimpanzee. By Percival Bailey, Gerhardt von Bonin and Warren S McCulloch. Urbana University of Illinois Press, 1950 440 p. illus. (part col'd) 28 cm. $8.50 2631

Contents: Introduction. Materials and methods. General considerations. Fissural pattern. Cytoarchitecture. Survey by serial sections. The brain map. Physiological neuronography. Motor responses to electrical stimulation. Suppression. Relations with deeper structures. Interrelations of cortical areas. Correlation with *Macaca mulatta*. Epilogue. Bibliography. Plates.

Note: A monographic report of techniques and results of an extensive series of experiments carried on in the Laboratory of Neurophysiology at Yale University and continued in the laboratory of the Illinois Neuropsychiatric Institute at the University of Illinois. Mapping of the main functional areas in the isocortex of the chimpanzee was the chief object of the experiments. Although the experiments were not carried to their conclusions, the results reported are of substantial interest to other researchers in neuroanatomy.

BARTH LESTER GEORGE

Embryology. Revised and enlarged edition. New York The Dryden Press Inc. 1953 516 p. illus 24 cm $6 00 2632

Contents: Embryology—problems and scope. Oogenesis—its control by hormones and light. The unfertilized egg and its organization [illegible] development. Fertilization—the [illegible] of the stimulus for development. Development of the amphibian egg. The early gastrula: its presumptive values. Gastrulation in relation to the organizer. The neurula and self-differentiation. The embryo and [illegible]. [illegible] Internal [illegible] of developing structures. The development of the chick embryo. The nervous system. The circulatory system. The digestive tract. The somites, nephrotome and lateral mesoderm. Regeneration. Growth and reduplication. Hormones and the growth of the mammalian embryo. Mammalian development. Sex differentiation. Comparative embryology of vertebrates. Selected readings. Index.

Note: A textbook for use in introductory college courses, it has several novel features. The customary description of successive stages in the development of embryos is not emphasized. Principles and patterns of embryonic development are emphasized at least equally with the anatomy of embryos. A good deal of material from experimental zoology is incorporated. The first edition was published in 1 [illegible]. Although there has been no change in the book's purpose—and, in fact, the chapter titles are almost identical in the second edition—the original treatment has been considerably revised and augmented in both the verbal text and the illustrations. The book is 1 6 pages longer, has one new chapter and many revised sections in other chapters. A novel feature of the chapter on comparative embryology of vertebrates is the printing of the text and illustrations on perforated pages. The perforations permit the pages to be separated into three sections and thereafter manipulated so as to facilitate comparative study of various stages of the embryos. The author is a member of the faculty of Columbia University.

BONIN GERHARDT VON

The cortex of Galago: its relation to the pattern of the primate cortex. With 22 figures. Urbana University of Illinois Press 1945 55 p. illus. 27 cm. (Illinois monographs in the medical sciences Vol v no. 3) $1.50 2633

Contents (abridged): Part I, Introduction: The problem of morphology. The pattern of the primate cortex. The theory of similitude. Part II, Description of the cortex of Galago: Material and technique. Biological notes. Gross anatomy. Cytoarchitecture of the cortical areas. Part III, Comparisons: Peculiarities of Galago. On cortical structure and function. Part IV: Concluding remarks and summary. References.

Note: A systematic study of [illegible] concrete morphological problem whether the pattern of the cortex of the primate brain is similar from the lowest to the highest forms. A lemur, *Galago demidovii*, with a brain weight of about 3 grams, was selected for the study and most of the text of the monograph is concerned with a description of the gross anatomy and cytoarchitecture of its brain. Related facts reported previously in the literature are worked into this description; thus, a key is provided to all the pertinent literature. The text proper is supplemented by about 23 reproductions of line drawings and microphotographs. The work also contains discussions bearing on the aim and method of comparative morphology, the concept of morphological pattern, and the theory of similitude as applied to comparative physiology.

BONIN GERHARDT VON AND PERCIVAL BAILEY

The neocortex of Macaca mulatta. Urbana University of Illinois Press, 1947 163 p. illus. (part col'd) 27 cm (Illinois monographs in the medical sciences. Vol v no 4) $4 00 2634

Contents: Introduction—Materials and methods. General considerations—Growth of the brain—Brain weight and body weight. The fissural pattern—The primary sulci—The secondary sulci. The architectural types—The heterotypical cortex—The homotypical cortex—Allocortex. Survey by serial sections. The brain map. Interrelations of areas. Epilogue. Selected bibliography. Plates.

classification. Part III, Review of mammalian classification. Bibliography Index to technical names. Index to vernacular names.

Note An important work which contains, as the title indicates, both discussion of the principles of mammalian classification and a systematic classification. The classification itself occupies more than one-third of the volume and contains all of the supergeneric groups, all well-defined genera, and many doubtful but probably valid genera. However the author has omitted names which he believes to be invalid. In addition to the systematic arrangement of groups, there is much supplementary information which includes designation of the hierarchic category the preferable technical name for each group author of the name bibliographical citation, geological or geographic range, synonyms, and vernacular names for some of the genera. There are many learned notes on inconsistencies and conflicts in the earlier literature. The third part of the work is made up of discussions of special points and problems in the classification of various groups.

STORER TRACY I, AND LLOYD P TEVIS, JR.
California grizzly Berkeley and Los Angeles University of California Press, 1955 335 p illus 24 cm $7 50 2625

Contents The record of grizzlies in California. Physical features of the grizzly Habits of California grizzlies. Grizzlies and Indians. Grizzlies and Spaniards. Bear-and-bull fights. Grizzlies and Americans. Grizzly hunting in California. Grizzly Adams. Captive grizzlies—some famous. Grizzly lore. The California grizzly as an emblem. Appendixes. Known specimens of California grizzly Last records of grizzlies in California. Indian names for bears tribes and tribal territories. Sources of information. Bibliography Early newspaper articles on the California grizzly Index.

Note Scientific information material from mythology adventures of travelers, exploits of hunters and animal trainers, and even folklore, have been combined in this semi-popular account of the California grizzly *Ursus arctos californicus* which was common in California as recently as the middle of the 19th century but probably became extinct in that state in 1920. Full and scientifically accurate descriptions of the physical features and habits of this bear are presented in the second and third chapters. The nature of the contents of some of the other chapters is apparent from their titles. The chapter entitled Grizzly Adams" is compact account of the personality and activities of James Capen Adams, hunter who made business of capturing, dealing in, and exhibiting live animals, and had many exploits in capturing and training specimens of the California grizzly The chapter entitled "The California grizzly as an emblem discusses the use of representations of this animal on the California flag and elsewhere and the use of "grizzly" in place names. The book was based on comprehensive search of both the scientific and the popular literature including local newspapers. The bibliography is comprehensive one.

TATE, GEORGE HENRY HAMILTON
Mammals of eastern Asia. New York The Macmillan Company 1947 366 p illus 21 cm (The Pacific world series) $4 50 2626

Contents (abridged) What is mammal? The home territories of eastern Asiatic mammals. Descriptions f east Asiatic mammals. Glossary Index f common names. Index of scientific names.

Note. A handbook for the interested observer rather than the scientist. It describes mammals found on the mainland of eastern Asia from northeastern Siberia through Manchuria, China, Burma, and Indo-China to the Malay Peninsula, and including Japan and Formosa. In these regions made up as they are f deserts, forests, mountains, and plains, and extremes f temperature there is great diversity of animal lif ranging from shrews, bats, hares, gibbons to pandas, gazelles, wild cattle, elephants, and dolphins. I formation given on each species includes size and general appearance, habitat, relationship with other animals, lif histories, and outstanding behavior characteristics.

TAYLOR, WALTER P, editor
The deer of North America the white-tailed, mule and black tailed deer genus Odocoileus their history and management. Editorial committee Walter P Taylor chairman Arthur S Einarsen and others Color plates by Walter A Weber Drawings by Wallace Hughes Color plates and drawings courtesy of the Frederic C. Walcott Memorial Fund of the North American Wildlife Foundation Harrisburg The Stackpole Company and the Wildlife Management Institute Washington, D C 1956 668 p. illus. 23 cm. $12 50 2627

Contents The deer the Indians, and the American pioneers, by S. P Young. The white-tailed deer What and where are the white-tails? by R. Kellogg. Life and times of the white-tailed deer, by C. W Severinghaus and E. L. Cheatum. Management of the white-tailed deer in its environment, by N W Hosley Hunting the white-tail, by H. D Ruhl. The mule deer and the black-tailed deer What and where are the mule and black-tailed deer? by I. M. Cowan. The mule deer Lif of the mule deer by A. S. Einarsen. Management and relation t habitat of the mule deer Forage, food habits, and range management of the mule deer by R. R. Hill. Productivity—the annual crop of mule deer by W L. Robinette. Methods of estimating numbers of mule deer by R. McCain and W P Taylor Management of the mul deer by G. N Hunter and L. E. Yeager. Hunting mul deer by J W Spencer The black-tailed deer: Life and times of the coast black-tailed deer, by I. McT. Cowan. Literature cited. Index.

Note A semi-popular ork directed t such readers as sportsmen who wish to read about the lives of the animals that they hunt, and conservation officials who need the information contained in it in connection with the management of deer in the wild state. The authors of the signed chapters are recognized authorities in wildlif and most of them are associated with wildlife research and management in the United States of America. The chapters cover such matters as lif histories, behavior in the ild state, diseases and parasites, and hunting of the animals They are based on wide range of literature, including the observations of both amateur and professionally trained naturalists. The source literature is cited, and the bibliography runs to more than 30 pages. Most of the illustrations are pictures of animals in their natural habitats.

YERKES, ROBERT M, AND ADA W YERKES
The great apes, a study of anthropoid life New Haven Yale University Press, 1929 652 p illus 27 cm $12 50 2628

Contents (abridged) Part I, Historical Ancient knowledge of the anthropoid apes. Knowledge of the anthropoids through the Middle Ages to the end of the seventeenth century Progress of acquaintance with the anthropoid apes during the eighteenth century The emergence of the gorilla. Part II, Gibbon The habitat and lif history of gibbon. Affectivity and its expression in gibbon. Part III, Orang-outan Structural appearance, species, distribution, and habitat of orang-outan. Mode of life of orang-outan. Capture, lif in captivity and diseases of orang-outan. Social relations and lif history of orang-outan Affective behavior and speech in orang-outan. Nervous system and receptivity of orang-outan. Intelligence of orang-outan—perception endowment, and acquisition—experimental studies. Part IV Chimpanzee Structural appearance, species, distribution, and habitat of chimpanzee. Manner of life, locomotion, nesting, and capture of chimpanzee. Habits of eating and drinking, hygiene, and care in captivity of chimpanzee. Social relations of chimpanzee. Lif history of chimpanzee. Affective behavior of chimpanzee. Nervous system and receptivity of chimpanzee. Perceptual processes of chimpanzee. Intelligence of chimpanzee. Part V Gorilla. Structural appearance, races, distribution, and habitat of gorilla. Mode of life, locomotion, and handedness of gorilla. Nesting and feeding activities in gorilla. Hygiene, health, and care in captivity of gorilla. Social relations of gorilla. Life history of gorilla. Affective behavior of gorilla. Nervous system and receptivity of gorilla. Observational ability and perceptual processes in gorilla. Opinions concerning intelligence of gorilla. Methods of studying behavioral adaptivity in gorilla. Concerning memory, insight, and foresight in gorilla Part VI, Comparisons and conclusions. Comparison of anthropoid types. Comparison of primate types. Bibliography for natural history and psychobiology of the anthropoid apes to 1928. Subject and author index.

Note Though published in 1929 this book is still recognized as basic and useful summary of the accumulated knowledge on the habits and behavior of the anthropoid apes to the close of 1928. The social and psychological facets of anthropoid behavior are emphasized but other aspects are discussed also, as the chapter titles indicate. Much information gained in experimental investigations of anthropoid behavior has been incorporated. Taxonomy anatomy and physiology are not covered. The book is based on the published literature, including the authors' own writings, and includes many direct quotations. The bibliography covers the world

HYMAN LIBBIE HENRIETTA

Comparative vertebrate anatomy Chicago University of Chicago Press 1942 544 p illus. 25 cm. $5.00 2641

Note The author's *Laboratory manual for comparative vertebrate anatomy* was widely used in American college laboratories for many years. This second edition [illegible] changed title includes 144 pages of new material and is designed for use as [illegible] text as well as [illegible] laboratory manual. The thorough revision is based on recent literature and on the author's own research

INTERNATIONAL UNION OF BIOLOGICAL SCIENCES

Genetic neurology problems of the development, growth, and regeneration of the nervous system and of its functions. Conference sponsored by the International Union of Biological Sciences subsidized by UNESCO Paul Weiss, editor Chicago University of Chicago Press 1950. 239 p. illus. 24 cm. (The University of Chicago Committee on Publications in Biology and Medicine) $6.50. 2642

Contents [illegible]

Note [illegible]

KENDALL JAMES IRVING

The microscopic anatomy of vertebrates Third edition, thoroughly revised. Illustrated with 223 engravings. Philadelphia Lea and Febiger 1947 354 p illus 24 cm. $6.00 2643

Contents Introduction The epithelial tissues. The connective tissues. The blood. [illegible] Index

Note A text for [illegible]

[illegible] by an additional description of the type [illegible] in smaller print. Directions for the preparation of slides for [illegible] are also included. The bibliography is arranged in order of subject. The second edition was published in 19[illegible]. This third edition contains minor revisions in the text and a new [illegible]

KENT GEORGE C JR.

Comparative anatomy of the vertebrates New York The Blakiston Division Mc Graw Hill Book Company Inc., 1954 530 p illus. 24 cm $6.50 2644

Contents Vertebrate characteristics. Protochordates. Parade of the vertebrates. Early vertebrate embryology. Integument. Skeleton Vertebrae, ribs, sternum, heterotopic bones—skeleton of the head—appendicular skeleton. Muscular system. Digestive system. Respiratory system. Circulatory system. Urogenital system. Nervous system. Sense organs. Endocrine glands. Abridged classification of the vertebrates. Selected readings. Index

Note An introduction to comparative vertebrate anatomy designed for the instruction of undergraduate college students. It is organized on the plan of emphasizing the basic pattern of each organ system, then discussing its modifications in the different groups of vertebrate animals. Thus the first system discussed in [illegible] chapter is usually one of relative simplicity to which the more complex variations taken up later in the chapter are related in the discussion. The book is illustrated with more than 400 well-executed figures, many of which are original

KRIEG WENDELL J S

Connections of the frontal cortex of the monkey Illustrated by the author Springfield Ill. Charles C Thomas, 1954 299 p illus. 27 cm. $10.50 2645

Contents Introduction. The motor area. The premotor cortex. The prefrontal and orbital areas. Significance. Appendix. Fiber direction of the frontal region.—Chart reconstructions of [illegible] of frontal origin. References.

Note An important contribution to neurology. It is based on [illegible] program of research on the part of the author which had as its purpose the establishment of [illegible] knowledge of frontal cortical structure. The technique used was that of making numerous lesions in the frontal lobe and then studying the ensuing degeneration in serial sections stained by the Marchi technique. Most of the 117 figures in the volume are reproductions of [illegible] drawings that illustrate the results of the lesions as they appeared in the serial sections. The accompanying discussions are primarily anatomical. The author is Professor of Anatomy in the Medical School of Northwestern University

LILLIE, FRANK RATTRAY

Lillie's Development of the chick an introduction to embryology Revised by Howard L. Hamilton Advisory editor B H Willier Third edition New York Henry Holt and Company 1952 624 p illus. 22 cm. $8.50 2646

Contents (abridged) Introduction. Part I, The early development to the end of the third day. The egg. The development prior to laying. Outline of development, [illegible] Part II, The fourth day to hatching—organogeny [illegible] The skeleton. Appendix. Index.

Note An introductory but exceptionally detailed description of embryological development. Its original purpose (and still the primary one) was to serve as a textbook for college students taking first courses in embryology. Gradually (the first edition appeared in 1908) it has taken on the status of a classic. In the present extensively revised edition, much material has been added, including [illegible] information not published elsewhere. The chapter on the development of the integument has been added, and several other chapters have been thoroughly rewritten. There are now 283 figures, 14 plates and [illegible] bibliography

Note This monograph presents a detailed anatomical study and description of the cortex of th brain of the macaque monkey Based on an examination of a series of sections, it provides data which may be compared with similar areas in the brain of man. The brain charts and excellent photomicrographs constitute an important part of the study

CARNEGIE INSTITUTION

Contributions to embryology Volume 35, nos 231 to 241 Washington, D C Carnegie Institution of Washington, 1954 237 p. illus 29 cm (Carnegie Institution of Washington. *Publication No 603*) *$12 00* *2635*

Contents Early abnormal embryos of the rhesus monkey by G. W Corner and [illegible] W Bartelmez. Studies in the development of the baboon—a description of two presomite and two late somite stage embryos, by C. Gilbert and C. H. Heuser The formation of neural crest from the primary optic vesicle in man, by G. W Bartelmez, with the collaboration of M P Blount. Observations on regional circulation times in the lamb under fetal and neonatal conditions, by S. R. M Reynolds and others. Androgen-induced female pseudohermaphroditism in the monkey (Macaca Mulatta)—anatomy of the reproductive organs, by L. J Wells and G. van Wagenen. Development of the human diaphragm and pleural sacs, by L. J Wells. Architecture of distended and nondistended human umbilical cord tissues, with special reference to the arteries and veins, by A. W Chacko and S. R. M. Reynolds. Venous drainage of the placenta of the rhesus monkey by E. M. Ramsey The early development of the human nephros, by T W Torrey On the preimplantation stages of the human ovum—a description of four normal and four abnormal specimens ranging from the second to the fifth day of development, by A. T Hertig and others. Localization of the erythrocyte-forming areas in the early chick blastoderm cultivated in vitro by G. W Settle.

Not The papers collected in this volume are part of a continuing series which has been published at intervals since 1915 The series presents technical papers summarizing the results of recent research carried out in the Department of Embryology of the Carnegie Institution of Washington. Both human and animal embryology is covered in the series. Most of the papers are illustrated and contain bibliographies.

COSTELLO, DONALD PAUL, AND OTHERS

Recent studies in the mechanisms of embryonic development Consulting editor Roberts Rugh New York New York Academy of Sciences 1948 206 p illus 24 cm (New York Academy of Sciences Annals Vol. 49 p 661–866, 1948) $3 50 2636

Content Oöplasmic segregation in relation t differentiation by D P Costello The organization f the amphibian egg during fertilization and cleavage, by G Fankhauser Significance f the cell membrane in embryonic processes, by J Holtfreter Prospecti areas and differentiation potencies in the chick blastoderm, by D Rudnick. Biochemical differentiation during amphibian dev lopment, by E J Boell. Form changes during pre-gastrular development, by J S. Nicholas. The role of nerves in amphibian limb regeneration, by S. M Rose. Quantitative studies on locomotor responses in *Amblystoma* larvae following surgical alterations in the nervous system, by S. R. Detwiler *Functional polarization in developing and* regenerating retinae of transplanted eyes, by L. S Stone.

Not The original papers comprising this volume were first presented at conference held in January 1947 sponsored by the *New York Academy of Sciences. They report the methods and findings of investigations carried out by the authors regarding various* aspects f the mechanism and physiology of embryonic development. In most cases the related work of other investigators is *briefly reviewed. The majority f the papers include lengthy bibli*ographies. There is no index.

DAVISON ALVIN

Davison s Mammalian anatomy with special reference to the cat Revised by Frank A Stromsten. Seventh edition New York McGraw Hill Book Company Inc 1947 349 p illus (part col'd) 23½ cm $5 00 2637

Contents Introduction General structure. Skeleton. Joints. Muscles. Organs of digestion. Vascular system. Respiratory system. Excretory and reproductive systems. Nervous system Glossary Index.

Note A long-established textbook which has served as an introduction to anatomy for beginning students for 45 years. Compared to the sixth edition published in 1937 this revision has not improvements which include 92 new figures, six of which are *reproduced in color from dissections by Professor Stromsten;* new bibliographies and glossary and letter-press printed from newly reset type.

EDINGER, TILLY

Evolution of the horse brain. New York. Geological Society of America, 1948. 178 p. illus 25 cm. (The Geological Society of America. Memoir 25) $2 00 2638

Contents Abstract. Part I, The brains of the Equidae: Introduction endocast-endocranium relations in the Equidae. Lower Eocene (Wasatchian)—Eohippus. Middle Eocene (Bridgerian)—Orohippus. Upper Eocene (Uintan) Middle Oligocene (Orellan)—Mesohippus. Upper Oligocene (Whitneyan)—Miohippus. Miocene I—Parahippus. Miocene II—Merychippus. Pliocene I (Late Lower Clarendonian)—Pliohippus. Pliocene II (Pontian, Clarendonian)—Hipparion and Neohipparion. Quaternary—Equus. Part II, Brain evolution in the Equidae Medulla oblongata. Cerebellum. Mesencephalon. Pituitary body Cerebral size relations. Neencephalon. Fissuration. Translation. Rhinencephalon. Ontogeny and phylogeny Summary Bibliography Index.

Note. A morphological study based on endocranial casts of the evolution of the horse brain through 55,000,000 years. The author found that brain development was "not in every phase linked with either increase in body size or skeletal specialization, but he did find that the increase in size was confined chiefly to the cerebral hemispheres, thus validating one portion of Marsh's law The text is supplemented by about 40 figures including four plates of photographs of endocranial casts. There is comprehensive bibliography

HAMBURGER, VIKTOR

A manual of experimental embryology Chicago University of Chicago Press, 1942. *213 p illus 24 cm $3.50* *2639*

Contents (abridged) Part I, Equipment and instruments Part II Experiments on amphibian embryos. Part III, Experiments on the chick embryo. Part IV Regeneration (reconstitution) Part V, *The gradient theory*

Note This book presents the major problems and experiments f experimental embryology It is designed for laboratory courses in experimental embryology and it may be used also for the preparation of demonstrations and classroom experiments in general biology and general embryology After discussing the instruments used in experimental embryology the author describes procedures in amphibians, deals with experiments on the chick embryo which includes the techniques of chorioallantoic grafting, vital staining f the early blastoderm, as well as limb transplantation and melanophore experiments, then the regeneration experiments on planaria and amphibian larvae, and Child' gradient theory The standard stage series for the salamander prepared by Professor R. G. Harrison of Yale as well as the stage series for *Rana sylvatica* and for *Rana pipiens* are included in the appendix

HUETTNER ALFRED FRANCIS

Fundamentals of comparative embryology of the vertebrates Revised edition. New York The Macmillan Company 1949 309 p illus 26 cm $6 00 2640

Content (abridged) History and theories of development. Protoplasm and the cell. Development of sex Chromosomes in development. Gametes, fertilization and parthenogenesis. The embryology of amphioxus. The embryology f the frog The embryology of the chick The embryology f the mammal. Index.

Note An introductory textbook for college courses. It offers descripti rather than functional exposition. Seven chapters are devoted t the embryology of the chick, apparently because this animal is so easily studied in the laboratory Four chapters on mammalian embryology lead up to detailed description of human development. The illustrations are exceptionally clear and are reproduced in large scale. I this edition chapter has been added on the embryology of the pig, and there are other changes.

Philosophical Society 1940 219 p. illus. 23 cm. (American Philosophical Society Memoirs. Vol. XVI 1940) $2.00 2653

Contents: Introduction. Reproductive system and germ cells [illegible]. Material and methods used in the embryological investigation. Development of Urechis. Gastrulation and shifting of [illegible] and axes. Organogenesis. Comparison of the development of Urechis and that of other echiuroids. Comparison of echiuroid development with that of other invertebrates. The [illegible] portion of the Echiuroidea. Bibliography. Index.

Note: This monograph presents [illegible] study of the normal and typical embryology of Urechis, covering the development of the animal from the germ cells and their union in fertilization, the [illegible] of the cells and the rise of the various organs of the larva and adult forms. The value of this work lies in the fact that the Urechis is very suitable for experimental work in embryology so that the normal development of this species as described here [illegible] provide [illegible] standard with which to compare experimental results. The work [illegible] based on [illegible] summary of the literature of the field and upon original research by the author.

PATTEN, BRADLEY MERRILL

Embryology of the pig. Third edition. With colored frontispiece and 186 illustrations in the text (containing 412 figures) of which 6 are in color. New York McGraw-Hill Book Company Inc., 1948. 352 p. illus. (part col'd) 24 cm. $5.00 2654

Contents (abridged): The reproductive organs [illegible]. The sexual cycle—fertilization. The process of cleavage and the formation and early differentiation of the germ layers. The early development of the body form and the establishment of the organ systems. The structure of embryos from nine to twelve millimeters in length. The development of the nervous system. The development of the digestive and respiratory systems and the body cavities. The development of the urogenital system. The development of the circulatory system. The histogenesis of bone and the development of the skeletal system. Bibliography. Index.

Note: A standard, rather widely used textbook designed for college students who are beginning the study of mammalian development. Fundamental embryological principles and phenomena are stressed, rather than aspects which are peculiar to the pig. The book [illegible] outstanding for its clear illustrations. An unusual feature is the comprehensive bibliography which [illegible] thorough enough to be of value to advanced research workers. The chief change in the present edition is the adoption of [illegible] larger page and [illegible] [illegible] of [illegible] ber of the illustrations in larger size.

PINCUS, GREGORY

The eggs of mammals. New York The Macmillan Company 1936 160 p. illus. 22 cm. (Experimental biology monographs) $6.75 2655

Contents: Introduction. The origin of the definitive ova. The growth of the ovum. The development and [illegible] of [illegible] ova and the problem of ovarian parthenogenesis. Methods employed in the experimental manipulation of mammalian ova. The tubal history of unfertilized eggs. Fertilization and cleavage. The [illegible] of unfertilized eggs. The growth and implantation of the blastodermic vesicle. Summary and recapitulation. Bibliography. Author index. Subject index.

Note: This monograph [illegible] presentation of experimental investigations dealing with the behavior of mammalian eggs during the various stages of their development in the ovaries, fallopian tubes, and uterus. A critical account of [illegible] followed by an examination of the physiological factors governing growth, maturation, and atresia of ovarian eggs. The relation of these processes to the follicular apparatus and the gonad stimulating hormones of the anterior pituitary [illegible] discussed in some detail. The history of tubal ova is given, with an account of the comparative behavior of fertilized and unfertilized eggs in vivo and in vitro. This includes an inquiry into the nature of parthenogenetic activation and fertilization, and [illegible] description of the intrinsic and extrinsic factors affecting the cleavage process. The development of blastodermic vesicle [illegible] treated chiefly on the basis of the hormonal control of growth and implantation during this stage. An account is given of recently developed techniques for the experimental manipulation of living ova.

PRINCE, JACK H

Comparative anatomy of the eye. Springfield Ill. Charles C Thomas 1956 418 p. illus. 23 cm $8.50. 2656

Contents: Orbit and eye position. The [illegible] structure in vertebrates. Special receptors. Fovea and macular areas. Fundus patterns. The optic nerve and fibers. Vertebrate visual centers. The nictitating membrane and true eyelids. The spectacle or brille. The cornea. Iris structure. Pupillary patterns and function. Crystalline lens. Accommodation mechanisms. The [illegible] and lens. Tapeta. The pecten and conus papillaris. Scleral ossicles. Eye size and shape. Extra-ocular muscles. The lacrimal and Harderian glands. Ocular fibers. Pineal and parietal eyes. Invertebrate eyes. Comparative ocular dissection. Bibliography. Glossary of animal names used in text. Index.

Note: An introductory textbook for students which is also of interest to graduates engaged in research work. In [illegible] spirited and relatively simple style it covers [illegible] wide range of knowledge including some previously unpublished knowledge from the author's own researches. Except for the fact that there are few references to the eye of man, the viewpoint is comparative [illegible] [illegible] [illegible]. There are 1?? entries in [illegible] the glossary of animal names used in the text. The 151 figures include reproductions of drawings, photographs, and micro-photographs. Most of the originals, both drawings and photographs, were made by the author. Techniques of dissection, specimen preservation, staining, etc., applicable to the laboratory study of comparative eye anatomy are described in the terminal chapter. The author is [illegible] member of the staff of the Department of Ophthalmology of the University Hospital of Ohio State University.

QUIRING, DANIEL PAUL

Functional anatomy of the vertebrates. New York McGraw-Hill Book Company Inc., 1950 624 p illus 24 cm. (McGraw-Hill publications in the zoological sciences E. J Boell, consulting editor) $7.00. 2657

Contents: Form and structure. Classification. The integument. The skeleton. The musculature. The nervous system. The sense organs. The digestive system. The respiratory system. The circulatory system. The excretory and reproductive systems. The endocrine glands. Anthropology. Functional anatomy. Appendix. Glossary. Index.

Note: A compact introductory [illegible] [illegible] the [illegible]—the main emphasis is on function. In most chapters, considerably more space is given to the anatomy of man and the [illegible] [illegible] than to simpler forms. The high proportion of reference data is unusual in an introductory text. Included is [illegible] long table [illegible] Body and organ [illegible] of [illegible] vertebrates [illegible] gives comparative [illegible] of organs by [illegible] animals and [illegible] based on field [illegible] made by George W. Crile and Gene McBride [illegible]. The author is Head of the Anatomy Department of the Cleveland Clinic Foundation.

ROMER, ALFRED SHERWOOD

Man and the vertebrates. Third edition. Chicago University of Chicago Press, 1941 405 p. illus. 23 cm. $6.50. 2658

Contents: Vertebrate beginnings. Modern fishes. The conquest of the land. The frog. The origin of reptiles. Existing reptiles. The origin of birds. The origin of mammals. Varied [illegible] types. Flesh-eating mammals. Hoofed mammals. More [illegible]. [illegible] variety of mammals. Primates: lemurs, monkeys, apes, man. Human origins. Human races. The human body. Development of the human body. A synoptic classification of vertebrates. Phylogenetic charts of the vertebrates.

Note: The scientific story of the evolution of man and of the [illegible] forms of life which contributed to the development of the body of man. A University of Chicago "New plan" text. This third, revised edition is considerably enlarged, with new material, including two important chapters on human origins and human races, [illegible] new chapter on the frog, and [illegible] new section on glands of internal secretion.

ROMER, ALFRED SHERWOOD

The vertebrate body. Second edition. Illustrated. Philadelphia W B Saunders Company 1955 644 p. illus. 24 cm $7.00 2659

McEwen, Robert Stanley

Vertebrate embryology Third edition New York Henry Holt and Company, 1949 699 p illus 22 cm 2647

Contents (abridged) Part I, The germ cells and early development of amphioxus. Part II, The development of the frog. Part III The Teleosts and Gymnophiona. Part IV The development of the chick: The adult reproductive organs, and the development of the egg previous to gastrulation. Gastrulation and development through the first day of incubation Development during the second day of incubation. Development during the third day of incubation. Development during the fourth day of incubation. Development during the fifth and subsequent days. Part V The development of the mammal The early development of the mammal and its embryonic appendages. Development of the pig to the ten millimeter stage. The later development of the pig. The skeleton teeth, hair hoofs and horns. Index.

Note A standard textbook for introductory college courses in vertebrate embryology The third edition is changed from the second edition (1931) in the following respects the subject matter and the bibliographies have been brought up to date certain passages have been clarified and simplified the sections dealing with the Amphibia and the chick have been revised to incorporate experimental material along with descriptive facts, the embryology of the pig has been added and the general discussion of the cell has been shortened. A fourth edition was published in 1957 701 p. $6.50

Messer, Harold Madison

An introduction to vertebrate anatomy Revised edition New York The Macmillan Company 1947 475 p illus 22 cm $6 00 2648

Contents. Introduction. The chordates. The protochordates. The vertebrates. Early vertebrate development. The integument. The skeleton. The muscles. The digestive system. The respiratory system. The circulatory system. The excretory system. The reproductive system. The nervous system. The sense organs. The ductless glands. The origin and evolution of the vertebrates Bibliography Glossary Index.

Note A college textbook planned for use in one-semester courses. In the present revision the author has improved and increased the number of illustrations, and has added new text and modernized the remainder The work is now approximately 10 per cent longer than before.

Meyer, Arthur William

The rise of embryology Stanford Stanford University Press 1939 367 p illus 23 cm $6 00 2649

Contents Aboriginal ideas of reproduction Early historic ideas of generation. Spontaneous generation Epigenesis. Preformation Pangenesis. Panspermia or panspermatism. The search for the mammalian ovum. The discovery origin and meaning of the spermatozoon. Changing ideas of impregnation or fertilization The role of the "milt" The problem of malformation. Early visual and other technical aids. The growth of morphology Early experimental embryology Bibliography Index

Note. A history of leading older beliefs regarding reproduction and genesis and the development of these ideas carried to the modern viewpoint. The words of many scholars are quoted at some length to reveal the intellectual atmosphere of their times.

Miner, Roy Waldo editor

Molecular events in differentiation related to specificity of cell type Conference chairman and consulting editor H Clark Dalton New York Published by the Academy 1955 965–1160 p illus. 22 cm (New York Academy of Sciences Annals Vol 60 art 7) $3 50 2650

Content Introduction by H. C. Dalton. Part I Patterns of synthesis in differentiation The molecular basis of the first heart beats, by J D Ebert and others. Events associated with the development of nerve and hepatic cells, by L B. Flexner Substrate utilization in cell differentiation, by C. L. Markert. The role of phenylalanine in the differentiation of neural crest cells, by C. E. Wilde, Jr. Part II, Immunobiological approach to problems of differentiation. The role of genes and cytoplasmic particles in differentiation, by E. Caspari. Development in the presence of antibodies, by G. W. Nace. The reaggregation of dissociated sponge cells, by M. Spiegel. The cell nucleus in relation to the problem of cellular differentiation, by A. M. Schechtman and T. Nishihara. Part III, Problems of structural organization: Tissue disaggregation in relation to determination and stability of cell type, by C. Grobstein. Limb regeneration and differentiation of "overt behavior" in urodeles as studied by means of their response to chemical agents, by A. G. Karczmar. Specific inhibition during differentiation, by S. M. Rose.

Note Papers first presented at a conference held by the Section of Biology of the New York Academy of Sciences in October, 1954 have been issued in this publication. Their titles and authors are listed above. The conference was concerned with events at the molecular level of "aspects of differentiation which can be related to the origin and stabilization of cell types. In most of the papers results of recent research are combined with a survey of the literature. The individual papers are accompanied by literature references and in most instances by a transcript of discussion.

Neal, Herbert Vincent, and Herbert W Rand

Comparative anatomy With 540 illustrations McGraw Hill Book Company, Inc, 1936 739 p illus. (part col d) 23 cm. $7.00 2651

Contents The animal kingdom. Reproduction. Histology The skeletal system. Muscular system. Digestive system. Respiratory system. Vascular system. Urogenital system. Endocrine organs. Nervous system. Sense organs. Head problem. Ancestry of the vertebrates. Glossary Index.

Note A textbook for college courses. The discussion of each system and organ is divided into three parts: phylogenesis, ontogenesis, and anatomy The facts of comparative anatomy are given interest and meaning in terms of human phylogenesis.

Nelsen, Olin E

Comparative embryology of the vertebrates With 2057 drawings and photographs grouped as 380 illustrations. New York The McGraw Hill Book Company Inc, 1953 982 p illus 23 cm $8 50 2652

Contents (abridged) Part I, The period of preparation The testis and its relation to reproduction. The vertebrate ovary and its relation to reproduction. The development of the gametes or sex cells. Part II, The period of fertilization Transportation of the gametes (sperm and egg) from the germ glands to the site where fertilization normally occurs. Fertilization. Part III, The development of primitive embryonic form The chordate blastula and its significance. Gastrulation. Tubulation and extension of the major organ-forming areas—development of primitive body form. Basic features of vertebrate morphogenesis. Part IV Histogenesis and morphogenesis of the organ systems: Structure and development of the integumentary system. Structure and development of the digestive system. The skeletal system. The muscular system. The circulatory system. The excretory and reproductive system. The nervous system The development of coelomic cavities. The endocrine glands and their possible relation to definitive body form ... tion and the differentiation of sex. Part The care of the developing embryo. Index.

Note A fully illustrated work designed as a textbook for advanced undergraduate college students. Although the main topic is comparative embryology it contains, also, much information on the comparative anatomy and comparative physiology of the vertebrates. The material presented has been well selected. The typical chapter is a concise treatment, in which compactly written text is supplemented by numerous illustrations and an extensive bibliography The latter enables readers who need fuller treatment of specific topics to find them in the literature. The author is a member of the faculty of the Department of Zoology of the University of Pennsylvania.

Newby, William Wallace

The embryology of the echiuroid worm, *Urechis caupo* Philadelphia The American

Hamburger Philadelphia W B Saunders Company 1955 735 p. illus 26 cm. $15.00 2665

Contents: Section I, Problems, concept and the history by J. M. Oppenheimer. Section II, Methods and techniques, by J. M. Oppenheimer. Section III, Cell structure and activity. Cell structure, by F. O. Schmitt. Cellular metabolism, by H. B. Steinbach and F. Moog. Cell division, by H. Ris. Section IV. The nucleus and cytoplasm in development. The role of nucleus and cytoplasm, by G. Fankhauser. Gene action, by C. Stern. Section V, Embryogenesis—preparatory phase. Gametogenesis, fertilization and parthenogenesis, by A. Tyler. Cleavage, blastulation and gastrulation, by D. P. Costello. Section VI, Embryogenesis—progressive differentiation. Amphibians, by J. Holtfreter and V. Hamburger. Teleosts and birds, by D. Rudnick. Selected invertebrates, by R. L. Watterson. Insects, by D. Bodenstein. Section VII, Special vertebrate organogenesis. Nervous system (neurogenesis), by P. Weiss. Eye, by T. Twitty. Ear and nose, by C. L. Yntema. Limb and girdle, by J. S. Nicholas. Heart, blood vessels, blood, and entodermal derivatives, by W. M. Copenhaver. Urogenital system, by R. K. Burns. Teeth, by L. Schour. Skin and its derivatives, by M. E. Rawles. Section VIII, Energy exchange and enzyme development during embryogenesis, by E. J. Boell. Section IX, Ontogeny of immunological properties, by A. Tyler. Section X, Ontogeny of endocrine correlation, by B. H. Willier. Section XI, The determination of size, by S. J. Twitty. Section XII, Metamorphosis, by W. Etkin. Section XIII, Regeneration. Invertebrates, by L. Barth. Vertebrates, by J. S. Nicholas. Section XIV, Teratogenesis, by E. Zwilling. Index.

Note: The product of the American team of eminent biologists of the United States of America and Canada, this volume is a synthesis of accumulated knowledge bearing on the principles and mechanisms of embryological development. Fundamental concepts, basic problems, and recent and current lines of investigation are emphasized. Experimental results are introduced as illustrations, but none of the chapter authors has attempted to discuss all of the experiments relevant to his topic. Numerous experiments, techniques are described in passing. Each of the monographic chapters contains an extensive bibliography of the pertinent international literature. Illustrative matter is not emphasized; nevertheless, there are 1 figures. The index covers 21 pp.

Contents Introduction. The ertebrate pedigree. Who s who among the vertebrates. Cells and tissues. The early development f vertebrates. The skin. The skeleton The sk II. Muscular system. Body cavities. Mouth, pharynx respiratory organs. Digestive system. Excretory and reproductive systems. Circulatory system. Sense or gans. The nervous system. Appendices. Index

Note A standard textbook designed for use in i troductory courses in comparative anatomy offered to premedical students and others with more than cultural interests in the subject. The presentation is truly comparative without special emphasis on man. The first edition appeared in 1949 In this second edition, the scope and organization are the same. However umerous minor changes have been made throughout the book and several sections have been rewritten. A selection f recent literature has been added to the references in the appendix.

SHUMWAY, WALDO, AND F B ADAMSTONE

Introduction to vertebrate embryology Fifth edition New York John Wiley & Sons Inc., 1954 389 p illus 23 cm. $6 00 2660

Contents The study of embryology Reproductive habits and vertebrate lif histories. The germ cells—their structure, origin, and development. Fertilization. The mechanism of heredity Cleavage and formation of the blastula. Gastrulation and neurulation. Embryonic form and extraembryonic membranes. The reproductive cycle and placenta of the mammal. Experimental embryology Digestive system and related structures. Respiratory organs. Coelom and mesenteries. The urogenital system. Blood vascular system. The skeleton. Muscles. I tegument. Nervous system. Nerve terminations. Atlas of vertebrate embryos. Embryological technique. Glossary Bibliography Index.

Note Designed for the instruction of undergraduate college students who are taking their first courses in vertebrate embryology after completion of courses in basic biology this book has enjoyed for several decades the status of standard text. It is simple and straightforward treatment giving first brief general view of the types of vertebrate development, then more detailed discussions of the development of various systems. The approach is comparative with many examples drawn from human embryology but no marked emphasis on it. Due attention is given both to morphologic and physiologic aspects of development. The first four editions, published from 1927 to 1942 were written by Dr Shumway alone. As would be expected in view of lapse of 12 years and the addition of co-author the fifth edition exhibits considerable reorganization and revision. The comparative viewpoint has been retained, but there is somewhat less emphasis on experimental biology Numerous sections of the text have been rewritten and the illustrations have been revised and considerably improved. There are now 256 figures.

TAYLOR, WILLIAM T, AND RICHARD J WEBER

Functional mammalian anatomy (with special reference to the cat) Illustrated by Thomas Courtney Lee New York D Van Nostrand Company Inc 1951 575 p illus 24 cm $7 50 2661

Contents Introduction. The mammalian integument. The skeletal system. The muscular system. The ervous system. Special sense organs. Blood circulatory system The lymphatic system. The respiratory system. The digestive system. The urinary system The reproductive system. The endocrine system Manual for the regional dissection of the cat. Appendix. Index.

Note In this introductory text the anatomical descriptions include some description of function For instance, in the chapter on the blood circulatory system, in addition t the expected anatomical matter there is material on such points as the nervous regulation of the heart rate. The purpose of this dynamic or functional approach is to encourage the student to correlate form and function and thus void thinking of anatomy as mere catalogue f body parts. The book is both classroom text and laboratory manual It includes, as noted in the table f contents, manual for dissection. Another unusual feature is detailed treatment f the nervous system.

WALTER, HERBERT EUGENE, AND LEONARD P SAYLES

Biology of the vertebrates a comparative study of man and his animal allies Third edition New York The Macmillan Company 1949 875 p illus 24 cm. $7.25 2662

Content Part I, The background Chordate characters. Kinds f vertebrates (classification) The distribution of animals in space (chorology and ecology) The distribution of animals in time (paleontology) Man in the making (anthropology) Units of structure (cytology) Division of labor in tissues (histology) The development of the individual (embryology) Biological descent (genetology) Part II, The mechanism of metabolism and reproduction A jack f all trades (the integument) Intake apparatus (digestive system) Internal transportation (circulatory system) The release f energy (respiratory system) Outgo apparatus (excretory system) The preservation of species (reproductive system) Involuntary regulation (glands of internal secretion) Part III, The mechanism of motion and locomotion The skeleton. Production of motion and locomotion (muscles) The dominating factor (nervous system) Ports of entry (sense organs) Bibliography Index.

Note A standard introduction to comparative anatomy and physiology It is characterized by a clear sometimes humorous style and by apt comparisons. In this edition, prepared by Professor Sayles, five chapters have been rewritten and minor changes made in other chapters. A considerable number of the illustrations are new or have been redrawn.

WEICHERT, CHARLES KIPP

Anatomy of the chordates New York Mc Graw Hill Book Company Inc. 1951 921 p. illus 24 cm. (McGraw Hill publications in the zoological sciences, E J Boell, consulting editor) $8 00 2663

Contents Part I, Review of phylum Chordata Introduction. Classification and natural history Development of the individual. Part II, Organ systems of vertebrates Integumentary system. Digestive system. Respiratory system and related structures. Excretory system. Reproductive system. Endocrine system. Skeletal system. Muscular system. Circulatory system. Nervous system. Receptor organs Part III, Representative animals The marine lamprey The spiny dogfish The mud puppy The cat. Summary Characteristics and advances. Index.

Note Most f this introductory textbook is devoted to comparative discussions f the various organ systems of vertebrates. In these discussions the main emphasis is on function, but developmental and structural differences are noted also. The third part of the work presents in considerable detail the anatomy of four animals that are widely used for dissection and study in introductory laboratory courses in biology The book contains about 500 illustrations of excellent quality and an exceptionally detailed index.

WEISS, PAUL

Principles of development a text in experimental embryology New York Henry Holt and Company, 1939 601 p illus. 22 cm. $7 50 2664

Contents Part I, The phenomena of development: A definition of development. An inventory f development. The problems of development. Part II, The methods of studying development History of the embryological methods. Descriptive methods Experimental analysis. Model experiments Part III, Principles of development The initiation f development. Preformed organization Progressing organization. Gradual determination and the field concept. Reintegration. Regeneration. Malformations. Part IV The development of the nervous system (neurogenesis) A description of the development of behavior of the nervous system. Neurogenesis. The development of behavior

Note This book is suitable for use in advanced premedical and medical school courses. Also, it is of interest to pathologists for its extensive treatment of differentiation, regeneration, and cell potency and to psychologists and physiologists for material on the development of the nervous system and the development of behavior The illustrations include many reproductions of original diagrams and drawings.

WILLIER, BENJAMIN H., AND OTHERS editors

Analysis of development. Edited by Benjamin H Willier Paul A. Weiss and Viktor

and his work, edited in 1954 by Professor Robert Taft of the University of Kansas, is included.

SCHEINFELD AMRAM
Women and men. Illustrated by the author New York Harcourt Brace and Company 1944 453 p. illus. 21 cm $4 75 2671

Contents Myths and muddles. The seeds. The two roads. The boy-girl odds. Growing at odds. The weaker sex males. First steps. Basic aspects. Building personalities. Puberty: the female. Puberty: the male. Crossing the bridge. The two machines. The sick bed. Women without men. Trait division. Of mice and women. Sex life. Crime and punishment. Fine feathers. Division of labor. Finding the best. Achievement and genius. Dominance. Equality for women. The [illegible] experiment. Pitfalls of the past. Marriage of [illegible]. Appendix. Bibliography. Index

Note A well-written and scientifically accurate book for the general reader and nonspecialist. It describes in nontechnical language the development of the sexes from the conception of the child through the prenatal stages and then from birth through infancy, childhood, adolescence, and maturity. The biological differences between the sexes are emphasized throughout, with less attention paid to cultural factors. The text is keyed to an extensive bibliography of books and periodical articles. Numerous cartoon-type graphs are used as illustrations.

SHELDON WILLIAM HERBERT
Atlas of men a guide for somatotyping the adult male at all ages. With the collaboration of C. Wesley Dupertuis and Eugene McDermott. New York Harper & Brothers 1954 357 p. illus. 31 cm. $10 00 2672

Contents (abridged) Part i. The nature of the somatotype. Toward [illegible] biological identification [illegible]. A preliminary explanation. A pilot study—the sex factor—the age factor—effect of nutrition on the somatotype—the problem of normal leg weight. Individual differences [illegible] the somatotype. Part ii. Atlas for somatotyping men. Appendices. Glossary. Tables for the distribution of the somatotypes on the criterion height over the cube root of weight at different age levels. Equipment and procedures in somatotyping. Index

Note One of [illegible] series of works on constitutional psychology written by the author. The titles of the other volumes so far published are *Varieties of delinquent youth*, 1949. *The varieties of human physique*, 1940, and *The varieties of temperament*, 1942. A fifth volume similar to the present one but devoted to women, is scheduled for future publication. *Atlas of men* provides pictures of somatotypes [illegible] are as distinct on the basis of the author's scheme of classification that they are offered as standards in somatotyping. The atlas consists of reproductions of full-length photographs of nude, adult men [illegible] front, rear and side view being shown. The material is organized according to [illegible] classification, the basis of which [illegible] numerical ranking of the endomorphic, mesomorphic, and ectomorphic components of each man's physique. Each group of pictures [illegible] based on this basis and [illegible] discussed in terms of physical and personality characteristics, rarity in the population, etc. A table giving for the type weights for age and height [illegible] also included. The book is [illegible] product of an extended research program during which 46,000 men were studied. The [illegible] was conducted at the College of Physicians and Surgeons of Columbia University and the Medical School of the University of Oregon. Equipment, techniques, and organization of the research are fully described.

SHELDON WILLIAM HERBERT
The varieties of human physique an introduction to constitutional psychology With the collaboration of S. S Stevens and W B Tucker New York Harper & Brothers 1940 347 p illus. 24 cm. $3.50 2673

Contents Introduction and summary. The main historical thread. Development of the technique of somatotyping. How to proceed in somatotyping. Some theoretical considerations. Description of the somatotypes. Toward [illegible] constitutional psychology. Appendices. Tables for somatotyping. Nine somatotypes of women. Bibliography. Index

Note The author's [illegible] in this scientific study is to establish criteria and procedures for [illegible] practical method for segregating and classifying the human physique. The three criteria adopted are endomorphy which means relative predominance of soft roundness throughout the various regions of the body, mesomorphy which means relative predominance of muscle, bone and connective tissue, and ectomorphy which means relative predominance of linearity and fragility. The author presents the results of his classification of a large number of cases but his main object is to establish [illegible] scientific technique for further study of the subject. The [illegible] bibliography is restricted to [illegible] relatively small number of titles, but these titles are annotated.

TALLMADGE GUY KASTEN
Basic biology of man New York Random House 1952 244 p illus 21 cm. $3.00 2674

Contents The cell. Tissues. Basic structure and organization. The common integument. The locomotor apparatus. The digestive system. The reproductive system. The circulatory system. The respiratory system. The urinary system. Index of subject. Index of names.

Note An introduction designed for general reading rather than textbook use. The author has presented [illegible] factual outline of the main biological processes, and has avoided emphasis on spectacular aspects. There are only [illegible] few illustrations, and these are the plainest kind of drawing. The book is suitable for mature lay readers who desire a reliable rather than [illegible] "fascinating" account.

THOMAS WILLIAM L. JR editor
Man's role in changing the face of the earth. Edited by William L. Thomas Jr., with the collaboration of Carl O Sauer Marston Bates and Lewis Mumford Chicago Published for the Wenner-Gren Foundation for Anthropological Research and the National Science Foundation by the University of Chicago Press 1956 1 193 p. illus 25 cm. $12.50 2675

Contents (abridged) Part [illegible] Retrospect. Man [illegible] of the earth. Through the corridors of time. Symposium discussion—retrospect. Part ii. Process. Introductory. Man [illegible] effects on the seas and [illegible] of the land. Alterations of climate. Vegetation. [illegible] and soil changes through human use. Modifications of biotic communities. Ecology of [illegible]. Urban-industrial demands upon the land. Symposium discussion—process. Part iii. Prospect. Limits of man and the earth. The role of man. Symposium discussion—prospect. Part iv. Summary remarks. Summary remarks. Indexes.

Note The International Symposium on Man's Role in Changing the Face of the Earth was held in June 1955 in Princeton, New Jersey. The more than 50 papers read at it have been published in this volume together [illegible] transcripts of the discussions at the symposium and concluding remarks by three of the participants. This material is organized under the headings and subheadings listed above. Experts from several nations participated in the symposium and authored the papers. The collective result is [illegible] broad and diffuse but interesting survey of the interactions between man's endeavors as [illegible] social creature and the earth [illegible] surface including both the landscape shapes and materials of the earth [illegible] crust, and the other forms of life inhabiting the earth. Literature references are given and the book is well indexed.

WECHSLER, DAVID
The range of human capacities. Second edition. Baltimore The Williams & Wilkins Company 1952 190 p illus 23 cm. $4.00 2676

Contents Introduction. The problem. The measurement of human capacities. The distribution of traits and ability. The range of human capacities. Natural constants and the limits of human variability. Range in productive operations. Length of life and the chances of survival. Exceptions. The effect and the burden of age. Genius and deficiency. The meaning of differences. Appendices. The measurement of mental ability. Tables of means, standard deviations and range ratios. Distribution of total range ratios. References. Index

Note The thesis of this work is that human variability with respect to any measurable trait or ability is extremely limited when compared to that of other phenomena in nature and that the differences which separate human beings from one another with respect to any trait or ability are far smaller than is ordinarily supposed. The author suggests that the reader in considering the

MAN

GENERAL

DICE, LEE R

Man's nature and nature's man, the ecology of human communities Ann Arbor University of Michigan Press, 1955 329 p 21 cm $5 00 2666

Contents Introduction—the frame of reference. Essentials of human existence. Man and his plant and animal associates. Man as a social animal. The dynamics of human populations. Evolution of human heredity Man's effects on natural communities. Community regulatory mechanisms. Regulatory mechanisms in human communities. Limits of human population density The human society and its habitat and resources. Evolution of human communities. The deterioration of human communities. Interrelations among communities. Human ecosystems. Philosophy of the human community Moral codes. Epilogue—what lies before us. Literature cited. Index.

Note The author of this book is Professor of Zoology and Director of the Institute of Human Biology at the University of Michigan, and is widely known as an authority on ecology In this book, he has applied ecological thinking to the problems of man as a co-inhabitant with plants and other animals of the earth Some unexpected topics are included, for example a discussion of moral codes. *However the author relates them all to the general* ecological picture. Selected literature references designed as guides to further reading are included in the chapters, while the list of literature cited at the end of the volume includes books and articles mentioned in the text.

DUBLIN, LOUIS ISRAEL

The facts of life from birth to death In collaboration with Mortimer Spiegelman. New York The Macmillan Company, 1951 461 p illus 22 cm $3 95 2667

Contents. Who we are—the population. The pattern of reproduction. The pattern of marriage. The average American family Marital dissolution by divorce, separation, and death. The sick and their care Mortality—in general. The conquest of tuberculosis The mystery of cancer The control of diabetes. A diminishing burden—pneumonia and influenza An increasing burden—the circulatory diseases. The problem of the rheumatic diseases. The hazards of infancy and childhood. Our old people. The accident toll. Suicide and homicide The labor force and the hazards of occupation. Human impairments. Mental health. Other diseases of public interest. Our body build. The public health and its administration. How long we live. The effects of war Selected references. Index.

Note A reference book of answers and statistical data on such questions as "What is the most popular age for brides?" and "What are the grades of mental deficiency?" It is cast in readable form and is addressed not only to people with serious interests in the data but also to those who like to browse for curious information. The senior author was Statistician for the Metropolitan Life Insurance Company and an internationally known authority on the vital statistics of living and dying. The bibliography does not list all of the sources used but is primarily a selected one for those readers who wish to pursue further information on specific topics.

DUBLIN LOUIS ISRAEL AND OTHERS

Length of life a study of the life table By Louis I Dublin Alfred P Lotka and Mortimer Spiegelman. Revised edition New York The Ronald Press Company 1949 379 p illus 24 cm $7 00 2668

Contents. The life span and the life table. The life table as record of progress in the end of the nineteenth century The gain in longevity in the United States *in recent years.* Geographic variations in longevity Biological aspects of the life table. The inheritance of longevity Biological factors influencing longevity and mortality The contribution of medical and sanitary science to health and longevity Forecasts of mortality and longevity Longevity and mortality in relation to physical condition Longevity and mortality in relation to occupation. Application of the life table to population problems. Application of the life table to economic problems. Life tables based on the experience of life insurance companies. Life table construction. Appendix Life tables. List of sources to life tables. Name index. Subject index.

Note A standard work written by statisticians associated with the Metropolitan Life Insurance Company Although based on life expectancy tables such as are used by insurance companies, it covers more than the purely quantitative aspects of the subject. Biological and social circumstances which affect the duration of human lives also are discussed hence, the work is of interest not only in the life insurance field but in medicine, public health, and sociology as well. The chapter on biological factors influencing longevity and mortality and that on *forecasts of mortality and longevity* have been added in this edition. Changes have been made in other parts of the book where advances in knowledge required them. Literature references have been revised. The book now contains 94 tables of data on mortality rates, life expectancies, etc.

MORTON, DUDLEY JOY

Human locomotion and body form, a study of gravity and man, by Dudley J Morton, with the collaboration of Dudley Dean Fuller. Baltimore The Williams & Wilkins Company, 1952 285 p illus 24 cm. $5 00. 2669

Content (abridged) Part one, Underlying principles of adaptation *Organic interaction with gravity Gravity* a designing factor Specialization of the human foot. Gravity and organic change. Mechanism of foot balance. Weight distribution in locomotion. The foot in walking. Gravity and muscle action. Structural factors. Physiological summary—Canadian Army foot survey Postural and locomotor habits. Part two, Analysis of the walking stride: foot contact and synchronized actions. Weight division during foot contact. The leverage interval. Horizontal components of force. Metabolism and locomotion. Histological and chemical aspects. Metabolic economy in muscle function Human mentality and bipedal... Bibliographical references. Index.

Note. Anatomical, metabolic, postural and mechanical considerations are co-ordinated in this comprehensive study Some attention has been given also to the evolutionary aspects.

MUYBRIDGE, EADWEARD

The human figure in motion. New York Dover Publications Inc., 1955 195 p. illus 28 cm $10 00 2670

Contents (abridged) Men Walking Running Jumping Lifting and heaving Throwing and catching. Kicking, batting, and ... Various acting. Boxing and wrestling. Acrobatics and fencing. Various ... Standing, sitting, and lying down. Women Walking Picking up Standing ... Sitting Kneeling and putting down. Standing. Dancing and turning. Sitting Kneeling. Lying down rising. Children Walking and running Crawling and climbing. Picking up and carrying.

Note. Reprinted in this volume are a selection of plates from Muybridge's 11-volume *Animal locomotion,* originally published in 1887 There are 196 plates, most of them occupying two pages each. Each of the plates reproduces a series of photographs—usually as many as 36 but usually fewer—of a nude human being, man, woman, or child, carrying out some such act as throwing a ball, walking downstairs. The photographs are arranged to show the natural sequence of motions, viewed from two or three angles. The original work, done before the invention of the moving picture camera, was a landmark in the scientific use of photography as well as in the study of human motion The studies are still of interest to artists, kinesiologists, etc. An introduction on Muybridge...

analysis. Nitrogen, carbon, and water analyses. Further investigations at the Scharbauer site. Literature cited. Index.

Note: The partial human skeleton which is the subject of this book was discovered in June, 1953, near Midland, Texas. Anthropological and archaeological interest in the find was due to the fact that apparently the human remains are older than Folsom man, hitherto supposed to be the oldest human inhabitants of the North American continent. The book is a detailed report of the find, and the subsequent studies. The illustrations include photographs of the site excavations and artifacts, as well as of the skeletal remains.

HUMAN GENETICS

Association for Research in Nervous and Mental Disease

Genetics and the inheritance of integrated neurological and psychiatric patterns. Proceedings of the Association, December 11 and 12 1953 New York, N. Y. Editors Davenport Hooker and Clarence C. Hare. With 77 illustrations and 30 tables. Baltimore. The Williams & Wilkins Company 1954. 425 p. illus. 24 cm. (Its Research Publications Vol. xxxiii) $10.00 2683

Contents: Part I. Genetics, human inheritance, and environmental effects: Principles of human genetics, by F. R. David and L. H. Snyder. Genetic and environmental control of enzyme formation and activity, by B. D. Davis. Genetics and the physiology of the nervous system, by H. C. [illegible]. Genetic factors affecting susceptibility and resistance to virus diseases of the nervous system, by A. B. Sabin. The inherited and acquired components of behavior, by A. Anastasi. The prenatal effects of [illegible], by J. Warkany and J. G. Wilson. Part II. Neurological and mental patterns and their inheritance: The phylogenetic development of behavior patterns, by L. Carmichael. Early human fetal behavior with a preliminary note on double simultaneous fetal stimulation, by D. Hooker. The development of behavior patterns in the infant and child, by A. Gesell. The trigeminal nerve in relation to early human fetal activity, by T. Humphrey. The histogenesis of the spinal cord and the early development of behavior, by D. H. Barron. The phylogenetic continuity of neural mechanisms, by E. C. Crosby and R. E. Yoss. The inheritance and development of intelligence, by W. R. Thompson. Research and personality development of the child, by M. J. E. Senn. Genetics of the epilepsies, by C. H. [illegible]. Phenylpyruvic oligophrenia (phenylketonuria), by G. A. Jervis. The inheritance of neuromuscular disorders, by F. H. Tyler. The hereditary ataxias, by J. W. Schut. [illegible], brain waves and intelligence scores of epileptic twins, by W. G. Lennox and D. E. Jolly. The familial occurrence of [illegible] study of heredity, by E. [illegible] and others. The genetics of psychotic behavior patterns, by F. J. Kallmann. The genetic aspects of [illegible], by H. B. Glass. To what extent early behavior patterns determined by constitutional inadequacies, by L. Kanner. The clinical applications of genetics, by J. V. Neel. List of members. Index.

Note: Scientists working at the research level in such fields as physiology, psychology, anatomy, medical genetics, pediatrics, and psychiatry are the authors of the papers published in this volume. The papers are technical in nature, and many of them describe research in progress or concluded not many years before the meeting. Some of them survey a considerable body of knowledge previously published in the literature and related to recent research.

Dobzhansky Theodosius

The biological basis of human freedom. New York Columbia University Press 1956 139 p. 21 cm. $2.95 2684

Contents: Man's kinship with nature. Heredity as basis of culture. Who is the fittest? Human and natural selection. Necessity and freedom. Bibliography.

Note: In the lectures collected in this book—which were originally delivered as the Page-Barbour Lectures for 1954 at the University of Virginia—the author was concerned with the special nature of human evolution, stating [illegible] human evolution is, in major respects, singular and unique in the living world. He argues that man's biological heredity and culture operate on one another in ways that have no parallel among the lower forms of life. He states, "Human genes have accomplished [illegible] but no other genes succeeded in doing" and further "The very fact that man knows that he has evolved and that he is evolving means that he is able to contemplate speeding up his evolution, slowing it down, stopping it altogether or changing its direction. [illegible] Despite any exhortations to the contrary man will not permanently deny himself the right to question the wisdom of anything [illegible] including the wisdom of his evolutionary direction." The book contains stimulating and provocative reading, not only for biologists but for all who are interested in the large outlines of biology, particularly evolutionary theory for man.

Gates Reginald Ruggles

Human genetics. New York The Macmillan Company 1946 2 v. illus 24 cm $22.50 2685

Contents: Volume I. Introduction. General principles of heredity in man. Human cytology. Linkage. Eye color and hair color. The inheritance of [illegible]. Hereditary variations and abnormalities of the eye. Hereditary variations and abnormalities of the ear. Albinism. Abnormalities and diseases of the skin, hair, nails and teeth. Anatomical abnormalities of the hands, feet and limbs. Anomalies of the skeleton and of bone structure. Metabolic defects and derangements. Hemophilia and related hereditary conditions. Other inherited diseases and abnormalities of the blood system. The blood groups—genetical and racial aspects. Volume II. Allergy. Hereditary syndromes. Inherited abnormalities of the alimentary canal and others. Inheritance of various [illegible] conditions. Twins and twinning. Inherited muscular and neuromuscular abnormalities. Hereditary variations, defects and diseases of the nervous system. The inheritance of mental defects. The inheritance of normal mental differences. Cancer: the genetic aspects. Constitution, body-build and neuropathy. Consanguineous marriages. Inheritance of stature and size. Anthropological characters. Odds and ends. Index.

Note: A reference book of the current knowledge of human heredity. It is based on a comprehensive review of the international literature. The material included has been selected from the standpoint of significance but the author disclaims any attempt at an exhaustive presentation. However, the scope is broad in the sense that a wide range of biological variations is covered. In such chapters as that on eye abnormalities it is also very detailed. The subject is treated from the biological rather than the purely genetic viewpoint, and the book is therefore of value not only to geneticists but to physical anthropologists and the medical profession as well. Extensive lists of the literature accompany each chapter.

Glass Bentley

Genes and the man New York Teachers College Columbia University 1943 386 p illus 22 cm (The science in modern living series basic science material for use in modern education) $3.50 2686

Content (abridged): Life begins—the fertilized cell. The origin of differences in hereditary patterns. The genetic basis of sex. The basis of growth and development. From potentialities to realization. On growing old. Index.

Note: A concept of life in genetic terms which aims to provide a basis for understanding the growth and development of the human individual from birth to maturity and through the subsequent slow decline of old age, with an appreciation of the physical bonds which link previous and succeeding generations. The work is not intended as a textbook in the strict sense but is well adapted for college courses as collateral reading, at the same time affording a new introduction to genetics for the intelligent layman. The volume attempts to present a new outlook in genetics, cytology and embryology by describing the operation and interaction of those biological factors which make the physical man. References are given in footnotes.

Kallmann Franz J

Heredity in health and mental disorder principles of psychiatric genetics in the light of comparative twin studies. With a foreword by Nolan D. C. Lewis. New York W. W. Norton & Company Inc., 1953 315 p. illus. 21 cm. $6.75 2687

data which support the thesis, lay aside any previous opinion he may have held in the matter since the conclusions have important bearings on number of social questions. The bibliography of 174 references indicates the sources from which the presented facts are drawn. The book was first published in 1935 and has been out of print for some years. In preparing this edition the author added two chapters and substantially revised some of the material carried over from the first edition

PREHISTORIC MAN

ANDREWS, ROY CHAPMAN

Meet your ancestors, a biography of primitive man New York The Viking Press, 1945 280 p illus 22 cm $3 50 2677

Contents Relatives and ancestors. The human story in brief. Searching for Adam and Eve. The ape that almost became man. The man of the Java jungles. The giants of Java. The romance of Peking man's discovery A cave in the western hills. Piltdown, Rhodesian and Heidelberg man. Enter the cave man. The picture of thousand centuries. The wise man appears. Drama and adventure in cave exploration The first Americans. *Aftermath of the* stone age. Man of the future. Bibliography Index.

Note A popular account of what is known about modern man's *prehistoric forbears. It is written in a lively style and makes the* subject fascinating even for readers who have little inclination toward science. The author who himself took part in some of the important explorations and discoveries that are recounted in the book, was, until his retirement in 1941 director of the American Museum of Natural History

MACGOWAN, KENNETH

Early man in the New World With drawings by Campbell Grant. New York The Macmillan Company 1950 260 p illus 22 cm. $5 00 2678

Content This sudden New World The road of early man. The dead hand of the ages. The great ice age. Early man in the Old World. What the bones have to say The artifacts of early man Early man and the great extinction. Pygmies, australoids, and negroids—before Indians? Did the Indian invent or borrow his culture? The Indian in agriculture. Puzzles, problems, and half answers References in the text. References as to illustrations. Index.

Note A readable summation of present-day knowledge concerning the origin of man in America. Besides presenting the various facts and theories regarding the first appearance of men in the New World, the book offers the interested layman good account of the techniques and methods of the professional archeologist. An extensive bibliography is included.

TERRA, HELLMUT DE, AND HALLAM LEONARD MOVIUS, JR.

Research on early man in Burma. With supplementary reports upon the Pleistocene vertebrates and mollusks of the region by Edwin Harris Colbert and Joseph Charles Bequaert, and on Pleistocene geology and early man in Java by Hellmut de Terra. Philadelphia The American Philosophical Society 1943 200 p illus 30 cm. (American Philosophical Society Transactions New series Vol 32 part III) $3 00 2679

Content (abridged) Part I, The Pleistocene of Burma, by H. de Terra Geographical elements of the region. Geological observations in the Irrawaddy basin In the Northern Shan Highlands. The Pleistocene history of Burma in relation to that of neighboring regions. Cyclic nature of Pleistocene stratigraphy Part II, The stone age of Burma, by H. L. Movius, Jr The Paleolithic period. The Neolithic period. Reconnaissance in the Southern Shan States Part III, Pleistocene vertebrates collected in Burma by the American Southeast Asiatic Expedition for Early Man by E. H. Colbert The Pleistocene fossil beds of Burma. *The Pleistocene vertebrate faunas* of Burma. Post Pleistocene fossils. Fossils of unknown age. Relationships and correlation of the Pleistocene mammalian faunas of Burma. *Part IV Fresh-water shells* from cave deposits in the Southern Shan States, by J Bequaert. Part V Pleistocene geology and early man in Java, by H. de Terra Review of the discoveries. Summary of the data. *Beginning of the Pleistocene* in Java. The Lower Pleistocene site of Modjokerto in eastern Java. The Middle Pleistocene site of *Pithecanthropus* in central Java. The Upper Pleistocene terraces and the age of Solo man. The stratigraphic position of the Paleolithic cultures of Java. Java and the question of land bridges Summary of prehistoric migrations to Java.

Note In this paper are recorded the results of the American Southeast Asiatic Expedition for Early Man, sponsored by the *Academy of Natural Sciences of Philadelphia and the Peabody* Museum of Harvard University with assistance from the American Philosophical Society the Carnegie Institution of Washington, and *the Museum of Comparative Zoology* Harvard University

WEIDENREICH, FRANZ

Apes, giants, and man. Chicago University of Chicago Press, 1946 122 p. illus. 23 cm. $3 50 2680

Contents. Man and his simian ancestry The development of the specifically human form. Giants as earliest ancestors. The human *races principles of their classification and origin. Face and* qualities of the human brain and skull in the light of evolution Bibliography Index.

Note A masterly study of the evolution of man, which was presented originally as series of lectures at the University of California in 1945 It is based chiefly on the author's own study of the fossil material available up to the time of writing (early 1945) and concludes that modern man's immediate ancestors were probably giants, whose remains we now possess in *Gigantopithecus blacki* and related recent discoveries The fourth lecture examines the concept of distinct human races and finds it is largely unrealistic

WEIDENREICH, FRANZ

Giant early man from Java and South China. New York The American Museum of Natural History, 1946 134 p. illus. 27 cm. (The American Museum of Natural History Anthropological papers. Vol. 40, part I) $2 00 2681

Contents The new finds in Java Von Koenigswald's earlier discoveries. Von Koenigswald's latest discoveries. *Pithecanthropus* dubius (*Pithecanthropus robustus* Weidenreich) Morphological character of the Sangiran mandible of 1941 *Meganthropus palaeojavanicus* von Koenigswald. Morphology of the Sangiran mandible of 1941 *Gigantopithecus blacki* von Koenigswald. The *Pithecanthropus* problem. *Gigantopithecus, Meganthropus,* and *Pithecanthropus.* The giant hominids and their bearing on the problem of human evolution Summary Literature cited. Explanation of illustrations.

Note A detailed, technical study of the pre-hominid and hominid remains discovered in South China and in Java by Dr. G. H. R. von Koenigswald The discoveries are described minutely and their significance to the knowledge of prehistoric man, particularly its evolution, is discussed. There are 12 plates that contain many reproductions of photographs of the remains.

WENDORF, FRED, AND OTHERS

The Midland discovery a report on the Pleistocene human remains from Midland, Texas. By Fred Wendorf Alex D Krieger and Claude C Albritton with a description of the skull by T D Stewart. Published in co-operation with the Museum of New Mexico Austin University of Texas Press, 1955. 139 p illus 24 cm $3 50 2682

Content Geographic description of the Midland area. Geology of the Scharbauer site. Localities and their associated artifacts. Reconstructed history of the site. Some tentative correlations. Reconstructed history of the site. Chemical analyses. Description of the human skeletal remains Chemical analyses. Conclusions about the Midland discovery Tables. Appendices: Report on the horse remains from the Scharbauer site. Identification of vertebrate fossil material, Scharbauer site. Memorandum on a sample from the right temporal bone (human) Scharbauer site. Method of chemical analysis of fluorine, ash, calcium, and phosphorus.

Freeman and Company 1949 617 p illus. 24 cm. (A series of biology texts editors George W Beadle and others) $6.50 2693

Contents: Introduction. The biological basis of man's inheritance. Genic action. The formation of germ cells with 24 chromosomes. Probability. Simple [illegible] inheritance. Lethal and [illegible] genes. Problems of genetic [illegible]. Genetic ratios. The Hardy-Weinberg law. Multiple alleles. Medicolegal applications of genetics. Sex-linkage. Linkage and crossing over. [illegible] in the [illegible] of genes. [illegible] interactions. Multifactor inheritance. [illegible] Sex determination. The sex ratio. The occurrence of mutations. The production and significance of mutations. Heredity and environment. Selection and eugenics. Genetic aspects of race. Genetic aspects of race mixture. The origin of human diversity. Index.

Note: This book is designed primarily for use in college courses. A course in general genetics is not [illegible] prerequisite, but the level of [illegible] implies at least [illegible] previous course in general biology. The authoritative discussions on such topics of general interest as the genetic aspects of race make the book useful in general library collections. Selected lists of references accompany the chapters. The author is [illegible] member of the faculty of the University of California.

GROWTH

Boyd Edith

The growth of the surface area of the human body With a foreword by Richard E. Scammon. Minneapolis University of Minnesota Press, 1935 145 p illus 26 cm (University of Minnesota. Institute of Child Welfare. Monograph series No 10) $5.00 2694

Contents: Methods of measuring surface area. Coating methods. Methods of surface integration. Method of triangulation. Experimental error in measuring surface area. Methods of estimating surface area. Photographic methods. Linear methods. Experimental error in estimating surface area. Formulas for the relation of surface area to the major dimensions of the body. Formulas based on the [illegible] of [illegible] dimensions of [illegible]. Formulas based on the proportionality of the human body to regular geometric solids. Miscellaneous groups of equations. Formulas obtained by empirical methods. Growth of the surface area of the body and its parts in the prenatal and postnatal periods of life. Absolute and relative increment of surface area. Proportionate parts. Multiples of birth size. Rates of growth. Summary. Bibliography. Index.

Note: An extensive analysis of the surface area of the body [illegible] its development as [illegible] whole. Graphic and numerical methods are used to present findings. The bibliography lists 145 references.

Count Earl Wendel

Brain and body weight in man their antecedents in growth and evolution. A study in dynamic somatometry New York The New York Academy of Sciences, 194 130 p. illus. 23 cm. (New York Academy of Sciences. Annals. Vol. 46 p 993–1122 1947) $2 00 2695

Contents (abridged): Section I, Introduction. Orientation. Standpoint and method. Principles and terminology. Section II, Ontogeny. Character of the data. Range of the materials. Reliability of the [illegible]. Behavior of the growth curves. Section III, Comparative anatomy. Part I, Range of the materials. Adults. Part [illegible] The "phylogeny" of brain body weight expressed as [illegible]. Von Bonin's correlation coefficient and regression formula for the mammals as class. The exponent of cephalization. A statistical anatomy of the mammalian class, assuming the validity of the exponent of cephalization. The [illegible] [illegible]. The statistical anatomy of the Mammalia, continued. The statistical anatomy of the Mammalia, concluded. Section IV, Ontogeny and comparative anatomy. Section [illegible] Summary. Conclusions. References consulted.

Note: A specialized and technical study wherein the author presents the results of his investigations regarding the relationship between brain weight and body weight in man. His primary purpose was to determine whether this relationship is peculiar to man, or whether [illegible] applies to all mammals. Mathematical and statistical methods are employed, and data and graphs utilized in the study are tabulated in the appendix. There [illegible] no index.

Scammon Richard E. and Leroy A Calkins

The development and growth of the external dimensions of the human body in the fetal period. Minneapolis University of Minnesota Press 1929 367 p. illus 30 cm. $6.00 2696

Contents (abridged): The general plan of the [illegible]. A summary of previous studies of external dimensions of the fetus and newborn. Summary of findings on the major external dimensions of the body—the head and neck—the trunk—the pelvis—the upper extremity—the lower extremity. General discussion. General summary. Bibliography. Tables of empirical [illegible] and their residuals. Tables of data of other investigators on the external dimensions of the body in the fetal period. General graphs and figures. Field graphs.

Note: The results of [illegible] quantitative study of the external dimensions of human fetuses [illegible] lengths ranging from approximately two centimeters to 51 centimeters in total or crown heel length are presented and interpreted in this work. The study covered 31 external dimensions of the body each of which was measured by the metric system on over 300 specimens. In addition 10,000 measurements [illegible] were made in connection with the study of effect of artifacts, including block [illegible] and the effect of formalin preservation on the material. The techniques of measuring and the steps taken to reduce experimental error are explained in detail. The related studies of other investigators are abstracted in the second part of the volume. [illegible] the chapters [illegible] "Summary of findings" [illegible] the results of the measurements are summarized statistically and in many instances compared with the relevant findings of other investigators. The study established [illegible] new principle [illegible] that in general the linear growth of the various parts of the body is in uniform [illegible] during the fetal period.

Shuttleworth Frank Kayley

The adolescent period a pictorial atlas Evanston Child Development Publications 1951 69 p. illus. 24 cm (Society for Research in Child Development Inc. Monographs. Vol. XIV no. 2) $2.00 2697

Contents: Physical growth and sexual maturation of girls. Stages of sexual maturation among girls. Sexual maturation of boys. Individual differences in the sexual maturity of boys. Stages of sexual maturation among boys. Types of obesity. Variations in body builds at age fifteen. [illegible] somatotypes. Effects of partial starvation on somatotypes. Asthenic. References.

Note: A monograph that consists largely of photographs [illegible] descriptive legends and brief explanatory text. The monograph is designed and the photographs selected to illustrate the processes of physical growth, sexual maturation, and differences in body builds among normal adolescents. The work is [illegible] companion volume to the author's *The adolescent period*, [illegible] graphic atlas published as Vol. XIV no. 1 in the same series (see index).

Stolz Herbert Rowell and Lois Meek Stolz

Somatic development of adolescent boys a study of the growth of boys during the second decade of life. New York The Macmillan Company 1951 557 p. illus. 24 cm. $9.00 2698

Contents: The study of human development. The California adolescent study. Description of the study of somatic development of boys. The period of pubertal growth in height. Growth in height during adolescence. Growth in stem length and leg length during adolescence. Growth in body width during adolescence. Timing relationships among phenomena of skeletal growth during adolescence. Skeletal age in relation to height growth. Changes in thickness of subcutaneous tissue during adolescence. Growth in thigh circumference during adolescence. Changes in weight during adolescence. Growth in strength during adolescence. The development of pubic hair and external genitalia during adolescence. Increase in [illegible] tissue during early adolescence. The rhythm of growth during adolescence. General summary and conclusions. Relation of somatic changes to other developmental phenomena during adolescence—

Contents (abridged) Part I Heredity in relation to mental health Modern history of genetics. General principles of genetics Methods of genetic investigation. Comparative twin observations on the genetic aspects of physical and mental health. Part II, Heredity in relation to mental disorder Psychoneurotic and delinquent forms of behavior deficient resistance to stress and infection pathological sex variants. Psychotic reaction types. Convulsive disease, gene-controlled neurological disorders, and various types of mental defect. Specific human vulnerabilities versus mysterious species vulnerability Part III, Contributions of genetics to mental health planning Correction of common misconceptions regarding heredity Present and potential contributions to clinical psychiatry Educational, consultatory and specialized guidance contributions to preventive medicine. Contributions to interprofessional co-operation and public health planning. Guiding principles of human genetics as applied to mental health. Bibliography Index.

Note Written by an eminent authority on medical genetics, this book marshals a wide array of information on the relationships between heredity and mental disease. It is based on a study extending over many years of hundreds of pairs of twins and their families. Many of the cases that were studied are discussed in detail and pictures of the subjects are included. The author found strong evidence that there is a hereditary factor in schizophrenia and some other kinds of mental disorder

NEEL, JAMES V, AND WILLIAM J SCHULL

Human heredity Chicago University of Chicago Press 1954 361 p illus 22 cm. (The University of Chicago Committee on publications in biology and medicine Emmet B Bay and others) $7 50 2688

Content Man as an object of genetic study The physical basis of heredity in man. Man's genetic diversity Nature and nurture. Probability The dominant gene in man. The recessive gene in man Genes neither dominant nor recessive. More complex genetic situations. Linkage. Mutation. Physiological genetics. The estimation of genetic parameters and tests of genetic hypotheses. The analysis of family data. Population genetics Twins. Genetics and epidemiology The applications of genetic knowledge to man—I, Counseling—II, Medicolegal aspects—III, Eugenics. Author index. Subject index.

Note A scientific survey of human genetics in which the primary emphasis is on methodology A considerable range of data on the facts of human heredity is included also, but the book is not intended as a reference book of such information. It is addressed to graduate scientists active in genetics or related fields and to graduate students of biology with interests in the field.

PEARL, RAYMOND, AND RUTH DEWITT PEARL

The ancestry of the long lived Baltimore The Johns Hopkins Press 1934 168 p illus 23 cm. $3 00 2689

Content The problem. The material. Characteristics of the compared groups. *The effect of certain types of selection of the* immediate ancestry on the age characteristics of the progeny Birthplace, race stocks, and alcohol habits of the group of nonagenarians and centenarians. Variation in TIAL. Paternal and maternal male and female, and generational contributions to TIAL. Individual contributions to TIAL. Living age and TIAL. Biometric comparisons. *Actuarial comparisons. Siblings of the longevous.* Correlations. Matings that produced the longevous. Summary and discussion. Index.

Note This book represents one stage in the development of the general program of investigation of human life duration in the Department of Biology of the School of Hygiene and Public Health of the Johns Hopkins University Some of the material appeared previously as No. VI of the series of *Studies on human longevity* in the journal *Human biology* The material on ancestry and age characteristics, and the chapter on ancestral longevity and living age, are new as are the bibliographic references and much of the statistical data. The symbol TIAL used in the Contents is an abbreviation for the "total immediate ancestral longevity" taken to mean the sum of the ages at death of the six immediate ancestors of an individual.

REED SHELDON C

Counseling in medical genetics. Philadelphia W B Saunders Company 1955 268 p 21 cm. $4 00 2690

Contents "In the beginning." What are the problems A philosophy for counseling. A *few laws.* Twins. Don't marry a relative The ubiquitous heterozygote (or The common carrier) Mongolism Nervous system malformations. Clubfoot. Harelip and cleft palate (of mice and men) Congenital heart disease Mental retardation String beans and chubbies. Pyloric stenosis. Congenital dislocation of the hip Fibrocystic disease of the pancreas. Blood groups. Disputed *paternity* Skin color *Convulsive seizures* Rheumatic fever Tuberculosis. Allergies. Diabetes. Schizophrenia. Manic depressive psychosis. Genetic effects of radiation. Putting the puzzle together Appendix Type of inheritance and frequency of various diseases. Literature cited. Index

Note A concise reference book designed to aid physicians, particularly *general practitioners, in giving advice to their patients* on problems concerning heredity The kinds of problems dealt with are indicated by the chapter titles listed above The typical chapter consists of short, to-the-point discussions of the genetics of a particular characteristic or disorder such as skin color or epilepsy, followed by one to three case histories. Rare genetic traits are *not covered in the body of the book, but are listed in the appendix.* The author is Director of the Dight Institute for Human Genetics of the University of Minnesota.

SCHEINFELD, AMRAM

The human heredity handbook. Illustrated by the author Philadelphia J B Lippincott Company, 1956 276 p illus. 21 cm. $3 95 2691

Contents Heredity and environment. The new baby The workings of heredity The baby's sex. Twins, "trips," "quads," "quints." Predicting children's looks. Coloring: eyes and hair Skin color The features. Shape and stature. The "bad" genes Inheritance in major organic diseases. Outer defects and abnormalities. Defects in senses and body functions. Blood types and conditions *Mental diseases. Feeble-mindedness and idiocy* Length of life. Intelligence. Talent and genius. Behavior Personality and temperament. Criminal behavior Sex and sexual behavior. Human evolution. The human races, I Physical differences—II Quality Ancestors and relatives. Parenthood problems. Eugenics. Appendix Glossary Suggestions for further reading. Where to get advice *Where to study human heredity* Index.

Note A popular handbook of information on all phases of human genetics, inheritance, breeding, and related matters. The information, which is arranged for quick reference rather than consecutive reading, is presented clearly and concisely The book provides direct and uncomplicated answers to questions which frequently arise. The drawings add to the effectiveness of the presentation.

SCHEINFELD, AMRAM

The new You and heredity With special editing in the medical genetics sections by Dr Morton D Schweitzer and additional aid by others herein mentioned Illustrated by the author Philadelphia J B Lippincott Company 1950 616 p illus. 22 cm $6.00 2692

Contents (abridged) The science of genetics. The eternal germ plasm. What we don't inherit. The perilous road to birth. "Boy or girl?" Coloring—eyes. Hair color Skin color What will your child look like? "Trips," "quads" and "quints." The "black" genes The poor males. Sick minds. Slow minds. The blood types How long will you live? "Black gene" roll-call. The battle of the "IQ." Genius. Behavior Sex life (sex and sexual behavior) Race Ancestry Eugenics and the "unfit." Suggestions for further reading. Index.

Note The modern knowledge pertaining to human heredity is, in this book, described and explained for the nonspecialist The book is outstanding for its inclusiveness and for the author's unique style whereby he manages to convey scientific information in a way that makes it vital to every reader The book is packed with facts and, without "crying alarm," these facts are directly related to the reader's own life and person and to those of his fellow men. The first edition was published in 1939 In this edition, there is so much newly added material that the book is essentially a new work as indicated by the title.

STERN CURT

Principles of human genetics Illustrations by Aloha M Hannah. San Francisco W H

COON CARLETON STEVENS

The races of Europe New York The Macmillan Company 1939 739 p. illus. 24 cm. $15.00 2704

Contents: Introduction to the historical study of the white race. Pleistocene white men. The neolithic period. The neolithic invasion. The bronze age. The iron age. Introduction to the study of the living. The North. The British Isles. The Mediterranean world. The central zone. [illegible] study in convergence. Conclusion. Appendix—means of principal cranial series used in chapters [illegible]. Glossary. List of serials and their abbreviations. List of books. Indexes.

Note: A text and reference book for students of physical anthropology. It traces the racial history of the white division of *Homo sapiens* from its Pleistocene beginnings to the present. Six chapters are devoted to [illegible] study of the skeletal material by consecutive cultural periods, but the main emphasis is placed upon the racial identification and classification of living white peoples. A consistent theme is that physical anthropology cannot be divorced from cultural and historical considerations, and that there is no such thing as "pure" biology in reference to human beings.

FIELD HENRY

Ancient and modern man in southwestern Asia. Coral Gables University of Miami Press 1956 342 p. illus. 28 cm $8.50 2705

Contents: The land. Saudi Arabia. Israel. Jordan. Lebanon. Syria. Turkey. Caucasus. Iraq. Arabian peninsula. Iran. Afghanistan. Baluchistan. Comparative data on living peoples. The survey of modern man. Appendices: Statistical data on southwestern Asia. Anthropometric data, by W. B. Thomas. Anthropometric data, by C. U. Ariëns Kappers. List of archeological sites in the Arabian peninsula and adjoining areas. Abbreviations. Footnotes.

Note: This book [illegible] combination of anthropogeography and physical anthropometry. The titles of the chapters and of the appendices are listed above. In the chapters devoted to individual countries information is included on the geography, climate, flora, fauna, contemporary land use, and living peoples. This information is followed by [illegible] summary of information on Stone Age sites and their cultures in the same regions, notes on the racial elements among the living peoples based on anthropometric data, and references to literature. The appendices occupy more than 150 pages and contain, among other things, 15 tables of anthropometric data pertaining to the peoples of the region covered. References to literature are given throughout the volume.

FIELD HENRY

The anthropology of Iraq Chicago Chicago Museum of Natural History 1940 1949 426 p. illus. 24 cm. (Chicago Natural History museum. Fieldiana Anthropology Vol. 30 part 1, nos. 1–2) Pt. 1, no. 1 $5.00 pt. 1, no 2 $5.00 2706

Contents: Part [illegible] no. 1, The upper Euphrates. Introduction. The land and the people. The physical anthropology of the Dulaim and the Anaiza. Additional anthropometric data from Iraq. The tribes and sub-tribes of the upper Euphrates. Appendices. Glossary. Bibliography. Indexes. Part [illegible] no. 2, The lower Euphrates—Tigris region. Introduction. The land and the people. The physical anthropology of the Al bu Muhammad, the Al Sawaad, and the Subba. Anthropometric data from Az Nasiriya Liwa, by W. [illegible]. Arabs of the Hor al Hawiza, by E. S. Drower. Appendix: Notes on the date palm, by [illegible] H. V. Dunham. Bibliography. Indexes.

Note: Presented in this work are the results of an anthropometric survey of Iraq made in 1934 by the Field Museum Anthropological Expedition to the Near East. Measurements and other data of interest to physical anthropology concerning the inhabitants of Iraq are presented in detail and are summarized in tables and an interpretive text. Also included [illegible] some information of interest to cultural anthropology. Photographs, front and side views, of representative men of Iraq are reproduced in [illegible] series of 135 plates.

FIELD HENRY

Arabs of central Iraq their history ethnology and physical characters with introduction by Sir Arthur Keith. Chicago Field Museum of Natural History 1935 474 p. illus 31 cm. (Field Museum of Natural History Anthropology Memoirs. Vol IV) $7.50 2707

Contents: List of illustrations. Preface. Introduction by Sir Arthur Keith. Arabs of the Kish area. Anthropometric [illegible]. Appendix: Field Museum Anthropological Expedition to the Near East, 1934. Bibliography. Glossary. Index.

Note: This study of the physical characteristics of Arabian people and of their relationship to races both past and present is based on data collected by an expedition to the Kish area of Iraq in 1928. The greater part of the report consists of tabulation of data relating to the stature and dimensions of head and face of [illegible] Arab men. The discussion and interpretation of findings is given by Sir Arthur Keith in his introduction. There is [illegible] glossary of colloquial words used by Arabs of the Kish area, and [illegible] collection of 156 plates show photographs of 311 individuals.

FIELD HENRY

Contributions to the anthropology of Iran. Chicago Chicago Natural History Museum, 1939 706 p. illus. 24 cm. (Chicago Natural History Museum. Publication 455–459 Anthropological series. Vol 29 nos. 1–2) $12.00 2708

Contents: Preface. Introduction. The land and the people. Historical references to peoples of Iran ([illegible] B.C.–A.D. [illegible]). The peoples of Iran. The physical anthropology of Iran. Appendices. Glossary. Bibliography. Indexes. Plates.

Note: This work by the Curator of Physical Anthropology at the Chicago Natural History Museum [illegible] of the anthropological findings of the Field Museum Anthropological Expedition to the Near East in [illegible]. The primary concern of the report is with the physical characteristics of the modern inhabitants of Iran. Detailed measurements and front and profile portraits of Iranian men illustrate the work.

FIELD HENRY compiler

Contributions to the anthropology of the Soviet Union (with five plates) Washington, D. C. The Smithsonian Institution, 1948 244 p. illus. 24 cm. (Smithsonian miscellaneous collections. Vol. 110 no 13 Publication 3947) $2.00. 2709

Contents: All-Union Conference on Archeology. Recent work in anthropology. Ancient peoples and their origins. Modern races and their history. Variations in the structure of human bodies. Paleolithic [illegible] Introduction. Primitive Mousterian and Clactonian sites. Mousterian sites. Upper Paleolithic and Epipaleolithic sites. Mesolithic archeology. Introduction. Ukraine. Crimea. Black Sea coast. North Caucasus. South Caucasus. Armenia. Don region. Volga region. Central Asia. Siberia. Miscellaneous anthropological. Introduction. Anthropology of the western Pamirs. Iranian tribes of the western Pamirs. Mountain Tajiks. Peoples of Uzbekistan. Uzbek of Khorezm. Kazakhs of the Altai. Western Kazakhs. Turkomans of the Khorezm and the North Caucasus. A study of the Turkish peoples, 1920–1938. Paleoanthropology of the lower Volga area. Craniology of the Tatars of the Golden Horde. Craniology of the Kalmyks. The Uchil ("Ural") cranial type. Two types of Yakut crania. Craniology of the Orochi of the maritime area. Craniology of the Aleuts. Origin of the Mongol. Origin of the Eskimo. Observations on the tibia. Hairiness and growth in stature. A study in blood groups in the Caucasus. Israel'zikoction of the Turkmenes. The Turkmenian children from [illegible] Kobe, Crimea.

Note: This study is divided into two main sections, one dealing with archeology the other [illegible] with physical anthropology. It presents summaries of the work of Soviet Russian anthropologists for the benefit of persons not able to read the Russian language, based upon Soviet published and unpublished materials. There is no bibliography the references being given in footnotes. The second half of the work includes statistics on pigmentation, stature, cephalic index, head breadth, facial index, nasal index, etc., for different Soviet peoples.

HAMBLY WILFRID D

Cranial capacities a study in methods. Chicago Chicago Natural History Museum,

the case of Ben. Appendixes (abridged) Subcutaneous tissue index. Muscle strength index. Index.

Note. As a part of the California Adolescent Study frequent and detailed measurements were made of the body changes of 112 boys and 121 girls over approximately seven years. The data on the boys are presented and interpreted in this book. A considerable part of the presentation is made in tables—of which there are more than 100—and graphs, of which there are nearly as many However the data are also discussed fully Perhaps the most noteworthy feature is the inclusion f many photographs which portray stages in male adolescent development. The final chapter is a 63-page study of one boy in which somatic development is correlated with changes in personality and social behavior. The book is of interest to graduate psychologists, pediatricians and other scientists with professional interests in the subject.

WATSON, ERNEST H., AND GEORGE H LOWREY

Growth and development of children Second edition Chicago The Year Book Publishers, Inc. 1954 296 p illus 23 cm. $7 00
2699

Contents Introduction Heredity and environmental factors. Fetal growth and development. Normal physical measurements. The premature child. Behavioral development. Organ development. Osseous development. Role of the endocrine glands in normal growth and development. Energy metabolism. Nutrition in normal growth Facial growth and dentition. An outline of abnormal growth Index.

Note An inclusive survey of the current knowledge pertaining to growth during childhood and compendium of data pertaining to normal physical measurements, normal behavioral development, normal values of blood t various ages, average weights of organs t different ages, etc. The arrangement of the material adapts the book for study and for use as reference manual. Extensive use is made of tables, graphs, and charts in presenting information. References to source literature are appended t each chapter The book was developed in the Department of Pediatrics f the University f Michigan. The first edition was published in 1951 The principal change in this second edition is the addition f the 24-page chapter on facial growth and dentition Other chapters and sections have been revised to some extent, but the greatest revisions are to be found in the discussions and data on physical growth.

ANTHROPOMETRY AND PHYSICAL ANTHROPOLOGY

ASHLEY MONTAGU, MONTAGU FRANCIS

An introduction to physical anthropology A revised second edition. Springfield Ill Charles C Thomas 1951 555 p illus 24 cm $8 75
2700

Contents I troduction The primates as zoological group. The origin and evolution of the primates. The origin and evolution of man. The criteria and mechanism of ethnic differentiation. The divisions and ethnic groups f man The significance of isolate differences or the relation between body mind, and culture. Heredity and the influence f the environment upon man. Appendix A practical synopsis f methods f measurement in physical anthropology Bibliography Index.

Note An excellent inclusive introduction addressed both to general readers and to those with some professional interest in the field, such as students of medicine or sociology It illustrates the scope of physical anthropology and outlines the background knowledge, but is mainly description from the standpoint of physical anthropology of the various groups and divisions of man. Th appendix contains an informative and rather full outline of accepted methods of making anthropological measurements f man. The first edition was published in 1945 This edition shows revisions in many sections of the text, although no major changes have been made. Additions and revisions have been made in the illustrative matter and there are now 159 figures Literature published since 1945 has been added t the bibliographies

BATES, MARSTON

Where winter never comes a study of man and nature in the tropics. New York Charles Scribner's Sons, 1952 310 p. illus. 22 cm. $3 50
2701

Contents The point of view The element of history The varieties f tropical man. The varieties of tropical culture. The hidden [illegible] of civilization. On tropical climates. Clothes make the man. The white man's burden. Tropical diseases Food and drink. Tropical nature. Th rain forest. Tropical seas. The resources of the tropics. The varieties f tropical government. The planetary [illegible] Notes and documentation. A note on the illustrations [illegible] Index.

Note. A very readable book by naturalist who has had much experience with living in the tropics and has observed at first hand the white man's adaptation (and lack of it) to the tropical climate and living conditions. One thesis is that the white man's [illegible] derive mainly to his unwillingness to go far enough in adapting his living habits, particularly in suitable clothing. Much of the content f the book consists of discussions of tropical foods, tropical diseases, tropical resources, etc., and the net result is a picture of the tropics as region of vast potentialities once civilized man has learned t adapt himself to it.

BOYD, WILLIAM CLOUSER

Genetics and the races of man, an introduction to modern physical anthropology With illustrations. Boston Little, Brown [illegible] Company, 1950 453 p illus. 21 cm. $6.50
2702

Content Possible approaches t study of man. Genes. Heredity and environment. Gene equilibrium without selection Factors modifying gene frequencies (evolution) The influence of [illegible] geography on racial distribution. The concept of race. Blood groups. Use of blood groups in human classification. Other human genes. Incompletely analyzed genetic characteristics. Man's past. The future. Appendixes Statistical methods. Mathematical treatment of problems. Index.

Note. In this book modern physical anthropology the scientific basis of genetics upon which it rests, and the way in which genetic knowledge can be applied to the study of mankind are presented and explained. It is intended as an introduction for the general reader and as summary for the specialist. The technical survey of statistical and mathematical aspects in the appendix runs [illegible] pages.

BROZEK, JOSEF, editor

Body measurements and human nutrition. Detroit Wayne University Press, 1956. 167 p illus. 24 cm $3 50
2703

Contents Preface, by J Brožek. Introduction, by W W Howells. Recommendations concerning body measurements for the characterization f nutritional status, by Committee on Nutritional Anthropometry Food and Nutrition Board, National Research Council, A. Keys, chairman. Physique and nutritional status of adult men by J Brožek. Body build and body weight in [illegible] old army men by R. M. White. Variable factors in [illegible] weight, by M. Trotter Skinfold measurements in young American males, by R W Newman. Correlations between thickness of skinfolds and body density in 88 soldiers, by L. E. Pascale and others. The Canadian weight-height survey by L. B. Pett and O. F Ogilvie. Anthropometry and nutritional status of adult [illegible] by M. A. Ohlson and others. Obesity and disease, by A. B. Kurlander and others. Body weight—facts from life insurance records, by H. H. Marks. Fat thickness and growth progress during infancy by S. M. Garn and others Allometric growth f body composition in man and other mammals by E. E. Hunt, Jr and E. Giles. Index.

Note Published in this volume are the papers and the preliminary matter that constitute the proceedings f the Conference on the Role of Body Measurements in the Evaluation of Human Nutrition, sponsored by the Committee on Nutritional Anthropometry Food and Nutrition Board, National Research Council, and held at Harvard University Cambridge, Massachusetts, June 17 and 18 1955 The underlying theme [illegible] all the papers is the scientific study and evaluation of nutritional status by data gathered in body measurements The first article is not contributed paper but is statement, together with discussion, of recommendations which were agreed upon at the conference Recommendations are made both in regard t the minimum body measurements necessary for scientific study f nutritional status and in regard t the techniques of making and recording the measurements on adults. Measurements on children are not covered thoroughly but suggestions in regard to them are made Literature references are included in all f the contributed papers.

tribution and correlations. Percentage distributions by types of school equipment. Appendix: Measurements and methods of taking them. Copy of recording sheet. Bibliography.

Note: Prepared specifically for use by school officials and architects, this handbook presents, in a series of tables and graphs, information on 139 different measurements for boys and for girls distributed by school grade and by age. Included are measurements for writing and reading postures, standing and working at laboratory and shop benches, and reaching for stored material in bookcases and shelves. The measuring of the sample (1,[illegible] Michigan school children of 1954) and the analysis of data were done by the staff of the Laboratory of Physical Anthropology of the University of Michigan.

MINER, ROY WALDO editor

Dynamic anthropometry. Conference chairman and consulting editor: Earl W. Count. New York: Published by the Academy, 1955. 433–636 p. illus. 22 cm. (New York Academy of Sciences. Annals. Vol. 63, art. 4) $3.50 2716

Contents: Statement of general objectives, by E. W. Count. Organic form as determined by function, by N. Rashevsky. Entropy and growth of an organism, by L. Bertalanffy. D'Arcy W. Thompson's mathematical transformations and the analysis of growth, by O. W. Richards. An experimental excursion into anthropometry, by D. Maldonado. Geometry and anthropometry, by A. E. Hooton. Role of anthropometry in the study of body construction—toward synthesis of methods, by J. Brožek. Toward an anthropology of the brain, by G. von Bonin. Longitudinal anthropometric data in the study of individual growth, by H. V. Meredith. Relative growth of the human fetal skeleton, cranial and postcranial, by M. L. Moss. Applications of pattern analysis to anthropometric data, by S. M. Garn. Body dynamics and dynamic anthropometry, by H. Dupertuis. The anthropometry of body action, by W. T. Dempster. Studies in human biomechanics, by F. G. Evans. Some contributions of applied physical anthropology to human engineering, by H. T. E. Hertzberg. Anthropometric data in the design of anthropomorphic test dummies, by L. K. Alt.

Note: Papers first presented at a conference held by the Section of Biology of the New York Academy of Sciences in April, 1955, are made available in this publication. The titles and authors of all are listed above. The objectives and areas of interest of contemporary anthropometry are expertly surveyed in the first paper. The papers that follow are excellent illustrations of research techniques, interests and applications of modern anthropometry. Literature references and transcripts of the conference discussion are included for most of them.

PRYOR, HELEN (BRENTON)

Width-weight tables for boys and girls from 1 to 17 years—for men and women from 18 to 41 years. Second revised edition. Stanford: Stanford University Press, 1940. 15 p. illus. 28 cm. $0.[illegible]5 2717

Contents: List of tables. Conversion table—inches to centimeters. For boys 1 to 5 years of age. For girls 1 to 5 years of age. For boys [illegible] to [illegible] years of age. For men 18 to [illegible] years of age. For girls 6 to [illegible] years of age. For women 18 to 41 years of age.

Note: Tables for determining proper body weight based, not on the old height-age-sex basis only, but also on body build as represented by the hip and the lateral chest measurement.

STEWART, T. D. AND MILDRED TROTTER, editors

Basic readings on the identification of human skeletons: estimation of age. New York: Wenner-Gren Foundation for Anthropological Research, Inc., 1954. 347 p. illus. 28 cm. 2718

Contents: Development and eruption of teeth: Critical comments. Reprinted articles—Development and calcification of the human deciduous and permanent dentition, by R. Kronfeld—Order and time of eruption for the deciduous dentition, by R. V. Meredith—Standards of variation in the eruption of the first six permanent teeth, by V. O. Hurme. Appearance and fusion of epiphyses, centers: Critical comments. Reprinted articles—Age order of epiphyseal union in man, by P. H. Stevenson—Time of appearance and fusion of ossification centers as observed by roentgenographic methods, by R. Flecker—The clavicular epiphyses, by T. W. Todd and J. d'Errico, Jr.—Metamorphosis of human pubic and shoulder girdles. Critical comments. Reprinted articles—Age changes in the pubic bone. [illegible] The male pubis, by T. W. Todd—Observations on age changes in the pubis [illegible] preliminary note, by W. W. Graves. Cranial suture closure: Critical comments. Reprinted articles—Endocranial suture closure, its progress and age relationship [illegible] Adult males of white stock, by T. W. Todd and D. W. Lyon, Jr.—Cranial suture closure, its progress and age relationship [illegible] Ectocranial closure in adult males of white stock, by T. W. Todd and D. W. Lyon, Jr.

Note: Contained in this volume are 13 carefully selected articles bearing on various indications of age in the human skeleton. All of the articles are reprinted from journals, and the reasons for collecting and reproducing them are the convenience of having them assembled and the added value of the material due to the complementary effects of the papers when brought together in juxtaposition. Each group of articles is preceded by an editorial comment in which references are sometimes made to other publications of interest. The volume is one of a planned series that will cover fully the basic literature on [illegible] aspects of skeletal identification.

WISSLER, CLARK

Observations on the face and teeth of the North American Indians. New York: American Museum of Natural History, 1931. 32 p. illus. 24 cm. (American Museum of Natural History. Anthropological papers. Vol. XXXIII, part 1) $0.40 2719

Contents: Introduction. Interorbital distance. Nasal bridge. The epicanthic eyefold. The palpebral fissure. The everted jaw. Carabelli cusps. The number of molar cusps. Skin color. Tribal similarities.

Note: This paper records measurements of various physical characteristics among Indians of North America. There are included some comparative figures for Hawaiians and other groups. The data used were collected by Louis R. Sullivan among Indian school populations. Separate figures are given for [illegible] dozen tribes.

1947 25–75 p 24 cm. (Chicago Natural History Museum Fieldiana Anthropology Vol 36 no 3) $0 75 2710

Note Presented in this research paper are the results of study of large collection of Melanesian skulls in the Chicago N tural History Museum and a critical review f the literature. The author' primary object was to arrive at formula for the quick calculation of cranial capacities. His conclusion "On the whole, the evidence indicates that the formula of Isserlis may be cautiously used as time-saving device and at least the formula can, sometimes with amendment, be safely employed as a check on experimental work. But no formula can be so trustworthy as careful measurement, and there is great need for extensive application of well-standardized technique in order to provide more eliable data relating to cranical capacities. A 11-page bibliography is included.

HAMBLY, WILFRID D

Craniometry of New Guinea. Chicago Chicago Natural History Museum, 1940 290 p illus 24 cm (Chicago Natural History Museum Fieldiana Anthropology Vol xxv no 3) $2 50 2711

Contents Nature and provenance of the Field Museum collection. Techniqu of measurement. Age and sex in the collection. Grouping of the data. Frequency distributions and sex differences. Contours of skulls from New Guinea and other regions. Comparative study of craniometry of New Guinea and adjacent regions. Tables giving coefficients of racial likeness. Bibliography Index.

Not A study of the craniometrical characters of the natives of the northern and southern coasts of New Guinea, based on an examination of 222 skulls collected by the Joseph N Field Anthropological Expedition to the South Sea Islands, 1909–13 The bulk of the work consists of compilation of statistical data relating to skull measurements, grouped according to locality age, and sex. Photographs of natives from the districts visited, and of several of the skulls examined are included.

HOOTON, EARNEST A, AND C WESLEY DUPERTUIS

The physical anthropology of Ireland With a section on the West Coast Irish females by Helen Dawson Cambridge Mass Published by the Museum 1955 v p illus 27 cm. (Harvard University Peabody Museum of Archaeology and Ethnology Papers Vol xxx nos 1–2) $10 00 2712

Content (abridged) I troduction. Part Catholics by county subgroups Sociological observations. Measurements and indices. Morphological observations. Analysis and summary Geo-ethnographical regions of Ireland. Part II, Comparison of Catholics and Protestants Introduction. Sociological observations Measurements. Morphological observations. Summary Part III, Morphological (subracial) types. Distribution of morphological types by county subgroups Geological and geographical correspondences of morphological types. Sociological observations. Measurements and indices. Morphological observations Summary of types. Correlation of morphological types with archaeological finds, especially of skeletal material. Correlation of morphological types ith legendary historical and linguistic data. Correlation of historical events ith present distribution of morphological types The relationship of the Anglo-Norman Conquest and of subsequent historical events in Ireland to the present distribution of morphological types. Comparison of the present distribution of morphological types in Ireland with similar types in Wales and in the Isle of Man Carleton S. Coon's preview of the data of this survey Summary of morphological type sequences and correlations in Ireland. Part IV West Coast Irish females, by H. Dawson Measurements and indices. Morphological observations. Morphological (subracial) types. Age changes in West Coast Irish females. List of line-cut figures. List of tables Catholics by county subgroups. Comparison of Catholics and Protestants. Morphological (subracial) types. West Coast Irish females. List of half-tone figures.

Note The results of an extensive anthropometric survey of Ireland are presented in these publications. The study as an exceptionally thorough one of region and people possessing special interest from the standpoint of physical anthropology As noted in the contents, some information is included on sociology However, the sections entitled Sociological observations" are brief and most of the space is devoted to the anthropometric findings. Some 10,000 men and 1,800 women were measured. The results are discussed and summarized in the 304-page first number They are presented in detail in the second number in an extensive series of tables. Finally, there is section of portraits, all of them being reproductions of subjects of the study

HOOTON, EARNEST A.

Up from the ape. Revised edition New York The Macmillan Company, 1946. 788 p illus. 25 cm $7.25 2713

Content (abridged) Part I, Man's relations: Why man is primate. Part II, The primate life cycle Tracing evolutionary stages. Getting a backbone—the vertebrate stage. Climbing the family tree—arboreal preprimate stage. Becoming erect—gibbonoid stage. Getting up and walking—the bipedal humanoid stage. Were man's ancestors arboreal arm-swingers or pronograde ground apes Physiognomy Part III, The individual life cycle: Being born—growth development. Getting married and having a baby Getting old and dying. Part IV Fossil ancestors and collaterals' Why we lost his ancestors. Toothy mementos of fossil apes. The South African man-apes. Neanderthal man—Darwin's first witness. Precocious advent of Homo sapiens in England. Making a family tree. Part Race and race Genetics and racial classification. The physical tests of race The physiological tests of race. Racial history Racial geography Part VI, The anthropology f the individual The problem of classification. The Sheldon system f somatotyping. The stages and rates of human evolution. Bibliography Appendix—Elementary anthropometry Index.

Note An interpretative account, written largely from the viewpoint of physical anthropology of the scientific knowledge that bears on the evolution f man together with survey of the physical characteristics of present-day man. It is written in lively style that embraces many technical terms but is very readable nevertheless. Originally designed for educated general readers, the work is read and respected by college students and scientists as well. Compared to the first edition published in 1931 the second edition has been extensively rewritten, and much new material—including the appendix on anthropometry—has been added.

LA BARRE WESTON

The human animal. Chicago University of Chicago Press 1954 372 p. 23 cm. $6.00 2714

Content From amoebas to mammals The primates take to the trees. The anthropoids climb half ay down. Man stands alone. He hands himself a ew kind of evolution. Father comes home to stay And makes it legal People are different. Man climbs back up his evolutionary tree Man starts talking. And gets all balled up in his grammar Why man is human. And people get sick. Superstition and the soul. Three minutes to midnight References and reading. Index.

Note A semipopular book on man's biological and cultural history and, by implication his future prospects. It is not only an exposition of modern physical anthropology but it draws heavily on this science. The author maintains that man's nature is directly related to the kind of body he has, and he discusses the evolution and special characteristics of this body at some length. Building on this thesis, the author goes on to consider human culture and morality The book can be read by physical anthropologists as discourse on the implications of their science, or by sociologists as an exploration of the biological bases of man nature and behavior as well as by general readers.

MARTIN W EDGAR

Children s body measurements for planning and equipping schools A handbook for school officials and architects. Washington, D C. Government Printing Office, 1955 113 p. illus 20×26 cm. (United States. Office of Education Special publication no. 4) $0.50 2715

Contents Need for scientific measurements. Survey of research on body measurements. Background of the Functional measurements study Equipment used. How the measurements were taken. Measurements made. Nature of the sample. Using the measurements. Distribution f measurements by school grade, age and sex. De-

Contents (abridged) Introduction. Part one, General anatomy: General microscopic and developmental anatomy. General osteology. General arthrology. General myology. General neurology. General angiology. General dermatology. Part two, The superior extremity: Osteology of the superior extremity. Musculature of the superior extremity. Articulations of the superior extremity. Vessels and nerves of the superior extremity. Part three, The inferior extremity. Part four, Anatomy of the head: The skull. Musculature of the head. Nervous system of the head. Vessels of the head. Part five, Anatomy of the neck and trunk. Part six, Splanchnology: Respiratory system. Digestive system. Urogenital system. Endocrine system. Vessels and nerves of the thorax and abdominal viscera. Bibliography. Index.

Note This book [illegible] not intended to replace more comprehensive treatises on human anatomy but is designed to meet the need of students of physical education, occupational therapy, nursing and others who require [illegible] less detailed knowledge of human anatomy than is required by medical students. The matter on each region includes [illegible] section on applied anatomy. The first edition was published in 1947. In this second edition, the scope of the book is unchanged, but there has been some reorganization and minor revision of several chapters.

The fourth edition was published in 1948. In preparing this edition the author corrected [illegible] errors and added [illegible] material in several sections. [illegible] illustrations were redrawn or improved in some [illegible] and [illegible] illustrations were added.

Grant J C Boileau

An atlas of anatomy By regions. Fourth edition. Baltimore The Williams & Wilkins Company 1956 556 p. illus. (part col d) 29 cm. $15.00. 2726

Contents The upper limb. The abdomen. The perineum and pelvis. The lower limb. The vertebrae and the vertebral column. The thorax. The head and neck. The cranial nerves and the dermatomes. Index.

Note An outstanding work of its kind. It consists entirely of illustrations [illegible] accompanying descriptive legends. The illustrations are arranged by region and in sequence within regions. [illegible] the artists [illegible] prepared the drawings worked with the dissected specimens before them and built up their drawings on tracings made from photographs of the same specimens.

Grant J C. Boileau and H. A. Cates

A handbook for dissectors. Fourth edition. Baltimore The Williams & Wilkins Company 1953 425 p. illus. 19 cm. $3.50 2727

Contents Introduction. The upper limb. The abdomen. The lower limb. The thorax. The head and neck. The brain. Index.

Note A standard guide to the dissection of the human body. It is addressed to medical [illegible] students of gross anatomy and its purpose [illegible] to guide such students in orderly dissections that will systematically display the structures that the student should see and understand. The more important structures are distinguished by printing their names in bold type. [illegible] are used for structures of lesser importance. Most of the directions and explanations are verbal; there are only [illegible] figures in the entire volume. The first edition was published in 1940 and the third edition in May 1948. Comparing the fourth edition to the third, there [illegible] no change in scope or organization and not [illegible] great deal of change in the text. However the chapter on the thorax has been reorganized and considerably revised.

Grant J C Boileau

A method of anatomy descriptive and deductive. Fifth edition. Baltimore The Williams and Wilkins Company 1952 8 0 p. illus 26 cm. $9 00 2728

Contents Section [illegible] General. Bone and cartilage. Digestive system. Section [illegible] The upper limb: Introduction. Cutaneous nerves and veins. Front region of the forearm. Section [illegible] The abdomen: Anterior abdominal wall. Abdominopelvic cavity. The three paired glands. Section [illegible] The perineum and pelvis: Perineum. Male pelvis. Female pelvis. Section [illegible] The lower limb: Introduction. Leg and dorsum of foot. Hip joint. Section vi, The thorax: Bony thorax. Pericardium and contents. Section vii, The head and neck: Front of the skull and the face. Posterior triangle of the neck. Contents of the cranium. Anterior triangle of the neck. Cervical vertebrae and the prevertebral region. Pharynx. Larynx. Section viii, Miscellaneous: Autonomic nervous system. Bones of the skull. Index.

Note [illegible] successful textbook for first-year students in medical schools. It [illegible] less voluminous than some larger texts, and the brevity has been achieved partly by the use of small diagrammatic figures instead of pictorial drawings and partly by [illegible] and [illegible] text. The understanding of regions [illegible] stressed.

Gray Henry

Anatomy of the human body Twenty sixth edition, edited by Charles Mayo Goss 1202 illustrations mostly in color Philadelphia Lea & Febiger 1954 1 480 p. illus (part col d) 2[illegible] cm. $16 00 2729

Contents (abridged) Embryology. Surface and topographic anatomy. Osteology. Joints and ligaments. Muscles and fasciae. The blood-vascular system. The lymphatic system. The nervous system. The integument (skin). The respiratory system. The digestive system. The urogenital system. The ductless glands. Index. Bibliographic. Subject index.

Note A classic work, the first edition of which was published in 1858. A [illegible] have been edited by American anatomists for many years [illegible] illustrations [illegible] in editions that appeared during Gray's lifetime [illegible]. The book is [illegible] of the most [illegible] textbooks on anatomy in the English language. The [illegible] though [illegible] of the text on general anatomy are remarkably [illegible]. The 26th edition [illegible] published in [illegible] extensive revision of the chapter on the peripheral nervous system in the [illegible] edition [illegible] toward the supplying of [illegible] references throughout the book. [illegible] extensive bibliographies have been [illegible] to [illegible] chapters, including those on embryology, osteology, muscles and the peripheral nervous system.

Hollinshead W Henry

Anatomy for surgeons Volume 1 The head and neck. With 3[illegible]6 illustrations. New York Paul B Hoeber Inc., Medical Book Department of Harper & Brother 1954 560 p illus 26 cm $1[illegible] 00 2730

Contents The cranium. The orbit. The ear. The nose and paranasal sinuses. The [illegible] and facial spaces of the head and neck. The face. The jaws, palate and tongue. The pharynx and larynx. The neck. Index.

—— Volume 2 The thorax, abdomen and pelvis With 1 109 illustration. New York Paul B Hoeber Inc., Medical Book Department of Harper & Brother 1956 934 p illus. 26 cm. $[illegible]0 00 2731

Contents The thorax in general. The trachea and lungs. The heart and great vessels. The posterior mediastinum. The abdominal wall and inguinal region. The abdominal viscera and peritoneum in general. The liver and gallbladder. The stomach, duodenum, pancreas, and spleen. The jejunum, ileum, and colon. The kidneys, ureters, and suprarenal glands. Vessels and nerves associated with the posterior abdominal wall. General features of the pelvis. The rectum and anal canal. The pelvic portion of the urinary system. The genital system in the pelvis. The perineum. Index.

Note A textbook designed for the instruction of medical school graduates [illegible] are preparing for the specialty of surgery. It covers both basic anatomy and surgical anatomy that is [illegible] the anatomical details [illegible] are important in surgery. The emphasis is, of course, upon the latter. Full descriptions of regional vascular, nervous, and lymphatic systems are included. The style is outstanding for readability. Extensive references to the original literature are included in all of the chapters. The work is planned for completion in three volumes. The third volume [illegible] be devoted to the anatomy of the back and limbs.

Marshall, Clyde

An introduction to human anatomy Fourth edition. Revised by Edgar L. Lazier 329 illustrations 15 in color Philadelphia W B Saunders Company 1955 420 p. illus (part col d) 22 cm. $4.50 2732

HUMAN ANATOMY

GENERAL

ANSON, BARRY JOSEPH

An atlas of human anatomy *Philadelphia* W B Saunders Company, 1950 *518 p illus* (part col d) 28 cm $11 50 2720

Content (abridged) The head. The neck. Upper extremity The back and thorax. Abdomen. The pelvis and perineum Lower extremity Index.

Note A new atlas of gross human anatomy in which most of the illustrations are original and were made directly from new dissections. The exceptions are certain illustrations previously published with articles by the author in professional journals. Also there are a few plates of generalized drawings based on statistical study of laboratory specimens. Generally speaking, however the book can be described as a wholly new work based on direct study rather than on previous publications. The quality of the drawings and of their reproduction is excellent. The book is suitable for use both as text in first year courses in medical colleges and as an office reference book for graduate physicians and surgeons.

BAILLIF, RALPH NORMAN, AND DONALD L KIMMEL

Structure and function of the human body 158 illustrations Philadelphia J B Lippincott Company 1945 *328 p illus 21 cm* $3 50 2721

Contents Unit one Survey of the fields to be considered and method of study Protoplasm and cells Physical organization of the animal body Organ systems of the body Unit two, Skeletal muscular and circulatory systems The skeletal system. The muscular system. The circulatory system. Unit three, Digestive and respiratory systems The digestive system. The respiratory system. Unit four Urogenital, endocrine and nervous systems The urogenital system Prenatal development. The endocrine system. The nervous system. Glossary Index.

Note The particular value of this work lies in its compactness. It provides illustrations and descriptions of the various systems of the human body in a small fraction of the space that is used in the typical book on human anatomy The illustrations are clear and adequately detailed The descriptions cover structure and function. The glossary is an extra feature of considerable value. The book is suitable for use in courses offered to students of nursing, biology and general science, and as a desk reference book.

BELT, ELMER

Leonardo the anatomist. Lawrence University of Kansas Press 1955 76 p illus *22 cm. (Logan Clendening lectures on the* history and philosophy of medicine. Fourth *series) $2 00* *2722*

Content Leonardo da Vinci technical innovations and discoveries in anatomy Leonardo da Vinci studies of the genito-urinary system. Notes. Index.

Note. The first lecture printed in this book outlines the history of the records of Leonardo's anatomic studies, describes his methods of study and evaluates his discoveries and contributions to anatomy The second lecture is a rather detailed discussion of Leonardo studies of the anatomy and physiology of the genito-urinary system. Eleven reproductions of Leonardo anatomical drawings are included. Literature references are given The author a physician, is an internationally known authority on Leonardo da Vinci.

BOWEN, WILBUR PARDON, AND HENRY A STONE

Applied anatomy and kinesiology, the mechanism of muscular movement Seventh edition, revised, by Henry A. Stone Illustrated with 261 engravings, 18 in color Philadelphia Lea & Febiger, 1953 462 p illus. (part col d) *24 cm* $5 50 *2723*

Contents (abridged) Part I General principles Kinesiology history and present day use. Mechanical principles. Simple machines. The framework and joints of the body Muscular structure and action. Muscular control. Team work among muscles The chemistry of muscular action. Part II, The upper limb Movements of the shoulder girdle. Movements of the shoulder-joint. Movements of elbow and radio-ulnar joints. Movements of the wrist and hand. Part III, The lower limb Movements of the pelvic girdle and the hip-joint. Movements of the knee-joint. Movements of the ankle and foot. Part IV The trunk Movements of the spinal column. Muscles of the thorax and respiration. Part General kinesiology Erect posture. Walking, running and jumping Games and sports. Body mechanics of occupations and of everyday life. Appendix Areas of muscular attachment. Index.

Note In this long-established text, muscular movement and the related anatomy are taught from the standpoint of their applications to athletics and the activities of daily life. In the 10 chapters of the first part, basic information on the mechanics of simple machines, nervous control of muscles, and co-operation and antagonism among muscles and groups of muscles is covered. In this part and in the parts that follow the exposition is on a more elementary level than the usual expositions of anatomy designed for students of medicine. In the four chapters of the fifth part, the basic anatomical knowledge is applied to the understanding of posture, to the kinesiology of athletic activities, and to such standard activities as stooping and lifting, carrying, and pushing The appendix contains a series of drawings of skeletal bones with the areas of muscular attachments distinctly shown in color

CATES, H A., AND J V BASMAJIAN

Primary anatomy Third edition. Baltimore The Williams & Wilkins Company, 1955 339 p illus. 26 cm. $5 75 2724

Contents Introduction. Skeletal system. Articular system. Muscular system. Digestive system. Respiratory system. Urinary system. Generative or reproductive system. Circulatory system. Nervous system. The eye. The ear Skin and endocrine glands. Index.

Note A standard textbook on human anatomy for readers such as student nurses, physiotherapists, and occupational therapists whose interests in the subject are professional but not medical. With such an audience in mind, the author has written from the functional standpoint rather than from the topographical, and he has written longer and more detailed chapters on the skeletal, muscular nervous, and circulatory systems than on other systems The style is less technical than that of most introductory books on anatomy In fact, in this third edition, revised by Professor Basmajian after the death of Cates, the style of many passages has been made even more readable. Many more headings and subheadings have been inserted throughout the text as aids to study and reference. Many new illustrations have been added or substituted for older ones. Plates of reproductions of photographs, the purpose of these being to illustrate surface anatomy are a new feature

EDWARDS, LINDEN F

Concise anatomy Second edition New York McGraw Hill Book Company Inc. 1956 502 p illus (part col d) 26 cm. $7.50. [illegible]

Contents (abridged) Introduction. Part one, General anatomy: General structure and developmental anatomy. General osteology. General arthrology. General myology. General neurology. General angiology. General dermatology. Part two, The superior extremity. Osteology of the superior extremity. Musculature of the superior extremity. Articulations of the superior extremity. Vessels and nerves of the superior extremity. Part three, The inferior extremity. Part four, Anatomy of the head. The skull. Musculature of the head. Nervous system of the head. Vessels of the head. Part five. Anatomy of the head and trunk. Part six. Splanchnology. Respiratory system. Digestive system. Urogenital system. Endocrine system. Vessels and nerves of the thoracic and abdominal viscera. Bibliography. Index.

Note: This book is not intended to replace more comprehensive treatises on human anatomy but is designed to meet the need of students of physical education, occupational therapy, nursing and others who require less detailed knowledge of human anatomy than is required by medical students. The matter on each region includes [illegible] notes on applied anatomy. The first edition was published in 1947. In this second edition, the scope of the book is unchanged, but there has been some reorganization and minor revision of several chapters.

GRANT J C BOILEAU

An atlas of anatomy. By regions. Fourth edition. Baltimore The Williams & Wilkins Company 1956 556 p illus. (part col d) 29 cm. $15.00 2726

Contents: The upper limb. The abdomen. The perineum and pelvis. The lower limb. The vertebrae and the vertebral column. The thorax. The head and neck. The cranial nerves and the dermatomes. Index.

Note: An outstanding work of its kind. It consists entirely of illustrations with accompanying descriptive legends. The illustrations are arranged by regions and in sequence within regions. [illegible] the artists who prepared the drawings worked with the dissected specimens before them and built up their drawings on tracings made from photographs of the same specimens.

GRANT J C BOILEAU AND H A. CATES

A handbook for dissectors. Fourth edition. Baltimore The Williams & Wilkins Company 1953 425 p. illus. 19 cm. $3.50. 2727

Contents: Introduction. The upper limb. The abdomen. The lower limb. The thorax. The head and neck. The brain. Index.

Note: A standard guide to the dissection of the human body. It is addressed to medical students of gross anatomy and its purpose is to guide such students in orderly dissections that will systematically display the structures that the students should see and understand. The more important structures are distinguished by printing their names in bold type while italics are used for structures of lesser importance. Most of the dissections and explanations are concise; there are only 24 figures in the entire volume. The first edition was published in 1940 and the third edition in May 1949. Comparing the fourth edition to the third, there [illegible] no change in scope or organization and [illegible] great deal of change in the text. However the chapter on the thorax has been reorganized and considerably revised.

GRANT J C BOILEAU

A method of anatomy descriptive and deductive. Fifth edition. Baltimore The Williams and Wilkins Company 1952 8?0 p. illus. 26 cm. $9.00 2728

Contents: Section [illegible] General. Bone and cartilage. Digestive system. Section [illegible] The upper limb. Introduction. Cutaneous nerves and veins. Flexor region of the forearm. Section [illegible] The abdomen. Anterior abdominal wall. Abdomino-pelvic cavity. The three paired glands. Section [illegible] The perineum and pelvis. Perineum. Male pelvis. Female pelvis. Section [illegible] The lower limb. Introduction. Leg and dorsum of foot. Hip joint. Section vi, The thorax. Bony thorax. Pericardium and contents. Section vii, The head and neck. Front of the skull and the face. Posterior triangle of the neck. Contents of the cranium. Anterior triangle of the neck. Cervical vertebrae and the prevertebral region. Pharynx. Larynx. Section viii, Mouth. [illegible] Autonomic nervous system. Bones of the skull. Index.

Note: A successful textbook for first year students in medical colleges. It [illegible] less voluminous than some basic texts, and the brevity has been achieved partly by the use of small diagrammatic figures instead of photo-type drawings and partly by [illegible] compact and [illegible] written text. The understanding of regions is stressed. The fourth edition was published in 19[illegible]. In preparing this ed. the author corrected minor errors and added material in several sections. Fifty-nine illustrations were redrawn or improved in some [illegible] and 73 illustrations were added.

GRAY HENRY

Anatomy of the human body. Twenty-sixth edition edited by Charles Mayo Goss. 1202 illustrations mostly in color. Philadelphia Lea & Febiger 1954 1 450 p. illus. (part col d) 27 cm $16.00 2729

Contents (abridged) Embryology. Surface and topographic anatomy. Osteology. Joints and ligaments. Muscles and fasciae. The blood-vascular system. The lymphatic system. The nervous system. The integument (skin). The respiratory system. The digestive system. The urogenital system. The ductless glands. Index. [illegible] Bibliographies. Subject index.

Note: A classic work, the first ed. [illegible] was published in 1858. Although revisions have been ed[illegible] by American [illegible] for many years, some earlier [illegible] early illustrations, published in editions that appeared during Gray's lifetime, are still retained. The book is undoubtedly the most widely used, general textbook on anatomy in the English language. The [illegible] though some of them [illegible] on regional anatomy are remarkably clear. The [illegible] was published in [illegible]. An extensive revision of the chapter on the peripheral nervous system is the most noteworthy feature in the [illegible] ed. [illegible] emphasis toward the [illegible] bibliographical references throughout the book, fairly extensive bibliographies have been added to several chapters, including those on embryology, osteology, muscles and the peripheral nervous system.

HOLLINSHEAD W HENRY

Anatomy for surgeons. Volume 1. The head and neck. With 326 illustrations. New York Paul B Hoeber Inc. Medical Book Department of Harper & Brothers 1954 560 p. illus 26 cm. $12.00 2730

Contents: The cranium. The orbit. The ear. The nose and paranasal sinuses. The fascia and fascial spaces of the head and neck. The face. The jaws, palate and tongue. The pharynx and larynx. The neck. Index.

—— Volume 2. The thorax, abdomen and pelvis. With 1 109 illustrations. New York Paul B Hoeber Inc. Medical Book Department of Harper & Brother 1956 934 p illus. 26 cm. $20.00 2731

Contents: The thorax in general. The trachea and lungs. The heart and great vessels. The posterior mediastinum. The abdominal wall and inguinal region. The abdominal viscera and peritoneum in general. The liver and gallbladder. The stomach, duodenum, pancreas, and spleen. The jejunum, ileum, and colon. The kidneys, ureters, and suprarenal glands. Vessels and nerves associated with the posterior abdominal wall. General features of the pelvis. The rectum and anal canal. The pelvic portion of the urinary system. The genital system in the pelvis. The perineum. Index.

Note: A textbook designed for the instruction of medical school graduates who are preparing for the specialty of surgery. It covers both basic anatomy and surgical anatomy, that is to say the anatomical details which are important in surgery. The emphasis is, of course, upon the latter. Full descriptions of regional vascular, nervous, and lymphatic systems are included. The style is outstanding for readability. Extensive references to the related literature are included in all of the chapters. The work is planned for completion in three volumes. The third volume will be devoted to the anatomy of the back and limbs.

MARSHALL, CLYDE

An introduction to human anatomy. Fourth edition. Revised by Edgar L. Lazier. 329 illustrations 15 in color. Philadelphia W B Saunders Company 1955 420 p illus. (part col d) 22 cm $4.50 2732

Contents Introduction. The tissues of the skeleton. Bones and joints. Muscular tissue. Muscles and fasciae. Epithelium epithelial membranes and skin Digestive system. Respiratory system. Urinary system. Reproductive system of the male. Reproductive system of the female. Circulatory system. Neuro-sensory system. Organs of special sense. Ductless glands. Developmental anatomy References. Index.

Note An elementary text not slanted toward nursing or medicine but designed for use in undergraduate courses in liberal arts colleges. Except for the chapter entitled, "Tissues of the skeleton, it is concerned with gross anatomy In most chapters, the first few paragraphs are devoted to defining terms and the remainder to describing structures. The illustrations have been selected from various sources, and are of good quality even though the scale of some is small. The first edition was published in 1935 and the third edition in 1946. In preparing this fourth edition the revising author who is Professor of Zoology in the University of California at Los Angeles, made some rearrangements of the material and extensively rewrote several of the chapters but did not change the book's scope.

MORTON, DUDLEY JOY

Manual of human cross section anatomy Second edition Baltimore The Williams and Wilkins Company 1944 211 p illus 27 cm $6 00 2733

Contents Vertebral levels with anatomical structures. Head and neck. Thorax and abdomen. Female abdomen and pelvis Upper extremity Thigh and leg Ankle and foot.

Note. The main purpose of this book for graduate and undergraduate medical students is to eliminate the need for making time-consuming tracings from wet specimens. It is adapted for use with regular laboratory directions, or with lantern slides. In this edition, blood vessels and nerves have been added to the drawings, and there are other changes. The first edition, Baltimore 1941 was by the present author and R. C. Truex and C. E. Kellner

SCHAEFFER, J PARSONS, editor

Morris' human anatomy a complete systematic treatise Eleventh edition. New York The Blakiston Division McGraw Hill Book Company, Inc 1953 1 718 p illus (part col'd) 27 cm $16 50 2734

Contents (abridged) Section I, Developmental anatomy by R E. Scammon Section II, The skin and mammary glands, by H Cummins. Section III Osteology by R. J Terry and M Trotter Section IV The articulations, by R J Terry and M Trotter Section The musculature, by J C. B. Grant and C. G. Smith. Section VI The cardiovascular system by B. M Patten Section VII, The lymphatic system and the spleen, by E. R Clark Section VIII The nervous system, by O Larsell Section IX The sense organs by L. B. Arey Section X, The digestive system by R. F Blount and E. Lachman. Section XI, The respiratory system by J P Schaeffer Section XII, The urogenital system by J E. Markee Section XIII I, The endocrine glands—II Miscellaneous organs by P Gudernatsch. Index.

Note. The lineage of this book traces back to *Human anatomy* which was the work of several British anatomists and surgeons was edited by Sir Henry Morris and published in London in 1893 With the second edition in 1905 the place of publication became Philadelphia. However both the second and third editions were still edited by Morris and written by British authors Beginning with the fifth edition the editorship passed to an American. Since then the authors have been drawn from Great Britain, Canada and the United States of America and, in the present edition the authorship is entirely U S A and Canadian The book is well established as one of the leading comprehensive introductory texts in the English language It is used primarily as a textbook for students in medical college The 10th edition was published in 1942 Although the organization of this 11th edition is similar there are many important changes in both text and illustration New rules are followed for the spelling and compounding of anatomical terms several of the sections were extensively rewritten new illustrations added, and new literature added to the bibliography There are four new contributors.

SHEARER, EDWIN M

Shearer's manual of human dissection Third edition Edited by Charles E Tobin New York The McGraw Hill Book Company, Inc , 1955 287 p illus 26 cm. $6 00 2735

Contents Pectoral region. Axilla. Triangles of neck Structures under sternomastoid. Root of neck. Back. Head and neck. Larynx Thorax. Abdomen. Penis, scrotum and testes. Inguinal region—inguinal hernia. Abdominal cavity Diaphragm and posterior abdominal wall. Perineum Pelvis minor. Superior extremity Inferior extremity Index.

Note A standard manual designed to guide medical students in the dissection of the human body It is organized according to the regional method of dissection in which all organs and tissues to be studied in a specific region are dissected out and observed before the student moves on to another region. The directions are detailed and clear The names of structures to be observed are printed in heavier type than the surrounding text. The book's scope is limited in recognition of the fact that in American medical colleges the time now given to the study of gross anatomy has been shortened. In other words, attention is not called to all of the structures in which a specialist in human anatomy would be interested. There are 79 figures. The first edition was published in 1937 and the second edition in 1949 The second edition, also edited by Professor Tobin, contained numerous changes. The changes in this third edition in comparison to the second edition are less extensive. However changes have been made in the procedures for certain regions and some structures not mentioned in the second edition have been added. Dr Shearer's original illustrations have been retained except for minor changes

THOREK, PHILIP

Anatomy in surgery 720 illustrations 211 in color drawn by Carl T Linden Philadelphia J B Lippincott Company 1951 970 p. illus 26 cm $22 50 2736

Contents (abridged) Section one The head. Section two, The neck. Section three The thorax. Section four The abdomen. Section five, The pelvis. Section six, Male perineum and external genitalia. Section seven, Female perineum and external genitalia. Section eight, The superior extremity Section nine The inferior extremity Section ten, Vertebral column vertebral (spinal) canal, spinal cord Index

Note In this textbook for students in medical colleges, anatomy is presented from the surgeon's viewpoint. The material is organized in 49 chapters arranged by regions of the body as indicated by the section titles. The exposition is conducted in a clear direct style, and the illustrations are of high quality The author is Professor of Surgery at the Cook County Graduate School of Medicine

SPECIAL REGIONS AND ORGANS

BAST, THEODORE HIERONYMUS, AND BARRY J ANSON

The temporal bone and the ear Springfield Ill Charles C Thomas, 1949 478 p. illus. 24 cm $12 00 2737

Contents The temporal bone and the ear The otic labyrinth The periotic labyrinth The otic capsule Histological relations and pathological processes. Bone dystrophies. The origin and development of the middle ear and related air spaces. The auditory ossicles. A historical survey of the structure and function of the internal ear Index of authors. Index of subjects.

Note A substantial monograph on the morphology and embryological development of the temporal bone and the ear It is based mainly on direct studies of more than 330 series of sections. It is illustrated with a remarkable series of microphotographs, drawings of reconstructions, and drawings from projection tracings of actual sections Thirty of the illustrations are reproduced in color The final chapter is an outline of outstanding studies of the inner ear from 550 B. C. to 1939 A. and it is supplemented by a selected bibliography

BIRNBAUM GEORGE L

Anatomy of the bronchovascular system Its application to surgery Chicago The Year Book Publishers Inc. 1954 300 p illus. 26 cm $15 00 2738

Contents: Embryology of the bronchovascular system. Anatomy of the bronchovascular system. Anomalies of the pulmonary vessels. Surgery of the pulmonary vessels. Tracheobronchial surgery. Excision of pulmonary tumors. Appendix: Selected drawings from an original Atlas of pulmonary arteries and veins. Bibliography. Subject index. Author index.

Note: The title of this book [illegible] as chosen well. The main subject is anatomy, not only the normal anatomy but also the many anomalies. The chapter on embryology is [illegible] brief but essential outline. Surgical techniques are discussed, and the terminal chapter covers in [illegible] convenient outline form the various pulmonary resection techniques, discusses their advantages and disadvantages, and lists progressively the steps in excision for pneumonectomy, lobectomy, segmental resection, intrapericardial dissection, pneumonectomy and radical pneumonectomy. Nevertheless the book is not [illegible] manual of surgical techniques. Its purpose is to elucidate the anatomy, and to this end it summarizes the techniques and results reported in the recent literature, including that on experimental surgery. The bibliography contains well over 300 references. The author, chief of the Surgical Unit of the Veterans Administration Regional Office in Portland, Oregon, has himself made important contributions in the field.

BOYDEN, EDWARD A.

Segmental anatomy of the lungs: a study of the patterns of the segmental bronchi and related pulmonary vessels. New York: The Blakiston Division, McGraw-Hill Book Company, Inc. 1955. 276 p. illus. (part col'd) 28 cm. $15.00 2739

Contents: Historical review. General survey of bronchial [illegible] patterns and terminology. The right upper lobe. The [illegible] patterns of the [illegible]. The middle lobe. The left upper lobe. The right lower lobe—[illegible], [illegible] and [illegible]. The left lower lobe. The development of the lungs and the formation of gross congenital anomalies. The lungs as [illegible] whole. Bibliography. Index.

Note: A contribution of primary importance to the understanding of lung anatomy. It was based on [illegible], and [illegible] by the author and associates at the University of Minnesota Medical School. Large numbers of lungs were dissected in order to determine statistically the prevailing patterns and variations. In each of the five chapters on the individual lobes, the prevailing patterns and the variations found in this [illegible] and reported by other [illegible], [illegible], segmental arteries and [illegible] are described in detail. The book [illegible] rounded out by discussions of the historical development of lung anatomy, of terminology and of embryological development and congenital anomalies. Some of the 135 text figures are colored and all but one of the 11 plates are in color. Most of the illustrations are diagrammatic.

CUMMINS, HAROLD AND CHARLES MIDLO

Finger prints, palms and soles: an introduction to dermatoglyphics. New York: McGraw-Hill Book Company, Inc., 1943. 309 p. illus. 23 cm. $4.00 2740

Contents: History. General considerations. Methods of printing fingers, palms, soles, toes. Elements of finger-print identification. Comparative dermatoglyphics. Embryology. Symmetry and other aspects of special morphology. Inheritance. Twin diagnosis. Questioned paternity. Racial variations. Constitution. Bibliography.

Note: In addition to its interest in connection with identification of persons, this book [illegible] importance in the [illegible] of differential trends [illegible] races, between the sexes, and among constitutional types. These phases of the subject are of interest to anatomists, anthropologists, geneticists, and zoologists.

DUBRUL, E. LLOYD AND HARRY SICHER

The adaptive chin. Springfield, Ill.: Charles C Thomas, 1954. 97 p. illus. 22 cm. (A monograph in American lectures in anatomy, edited by Otto F. Kampmeier. Publication no. 180) $3.50 2741

Contents: Historical. Critical. Observational. Interpretational. Bibliography.

Note: A critical study from the comparative standpoint, of the evolution of the human chin. It was based upon [illegible] review of the literature and upon an examination of skulls in the Museum of Oral Anatomy of the College of Dentistry of the University of Illinois, The Chicago Natural History Museum, and the American Museum of Natural History. Among the conclusions are [illegible] the trend toward brachycephaly as well as the reduction of the masticatory elements are all [illegible] part of the same general processes of cranial adaptation to erect posture and locomotion. There are 93 citations to the international literature in the bibliography.

FRANCIS, CARL C.

The human pelvis. With 61 illustrations including 3 in color. St. Louis: The C. V. Mosby Company, 1952. 210 p. illus. (part col'd) $3.50 2742

Contents: Bones of the pelvis. Ossification of the pelvic bones. Pelvic articulations. Pelvic [illegible]. Muscles and fasciae. Vessels of the pelvis. Pelvic nerves. Intestine within the pelvis. Urinary system within the pelvis. Female genitalia. Male genitalia. Embryology. Index.

Note: A detailed description of the [illegible] structure of the human pelvis, [illegible] some attention to the embryology. It is based partly on the literature and partly on original studies made by the author and his colleagues at Western Reserve University. Some of the text and some of the illustrations are based on original dissections. The book is the development of [illegible] course in applied anatomy at the graduate level and is intended for the instruction of practicing surgeons and for medical school graduates preparing for surgery. Carefully selected literature references are included.

FRIEDMAN, SYDNEY M.

Visual anatomy—head and neck. Springfield, Ill.: Charles C Thomas, 1950. 217 p. illus. 25 cm. $7.50 2743

Contents: Anterior aspect of the neck. Lateral aspect of the neck. The suprahyoid region. The submandibular region. The [illegible]. The infratemporal region. The continuity of temporal and infratemporal regions. The parotid region. The face and scalp. The skull. The orbit. The nose. The auditory apparatus. The [illegible]. The back of neck. The cervical viscera. Lymphatics. Index.

Note: Not [illegible] conventional atlas but [illegible] selective compact treatment designed for use by physicians [illegible] in medical courses and graduates in need of [illegible] review or as the other forms [illegible] text. It is organized so that [illegible] drawing on the right hand page faces the verbal description on the left hand page. The sequence of dissection is from the inside out, or the reverse of the traditional arrangement of anatomic atlases. The drawings are diagrammatic rather than literal renderings.

GORSCH, R. V.

Proctologic anatomy. Second edition. Baltimore: The Williams & Wilkins Company, 1955. 310 p. illus. (part col'd) 24 cm. $8.00 2744

Contents: The pelvis, pelvic floor and perineal triangles. The anal canal. The anorectal musculature. The levator ani muscle. The rectum and sigmoid. The perirectal spaces. The pelvic fascia. The pararectal lymphatics. Nerve supply to the colon, rectum, and anal canal. Index.

Note: A specialized anatomy, designed for the instruction of student surgeons who are preparing for the specialty of proctology. It is useful also as [illegible] reference book for general surgeons. The author is one of the established leaders in this field, and the book is based partly on the literature and partly on his own dissections. In this edition, there are 133 figures. These are accompanied by an explicit, concisely written text. The first edition of the book was published in 1941 under the title, *Perineopelvic anatomy*. [illegible] comparison, this edition has been very extensively revised and several chapters largely or entirely rewritten. Recent literature has been added to the bibliographies.

HOLLINSHEAD, WILLIAM HENRY

Functional anatomy of the limbs and back: a text for students of physical therapy and others interested in the locomotor apparatus. Philadelphia: W. B. Saunders Company, 1951. 341 p. illus. 24 cm. $6.00 2745

Contents Introduction. The tissues of the skeleton Bones and joints. Muscular tissue. Muscles and fasciae. Epithelium, epithelial membranes and skin Digestive system. Respiratory system. Urinary system. Reproductive system of the male. Reproductive system of the female. Circulatory system. Neuro-sensory system. Organs of special sense. Ductless glands. Developmental anatomy References. Index.

Note An elementary text not slanted toward nursing or medicine but designed for use in undergraduate courses in liberal arts colleges. Except for the chapter entitled, "Tissues of the skeleton it is concerned with gross anatomy In most chapters, the first few paragraphs are devoted to defining terms and the remainder to describing structures. The *illustrations have been* selected from various sources, and are of good quality even though the scale of some is small. The first edition was published in 1933 and the third edition in 1946. In preparing this fourth edition the revising author who is Professor of Zoology in the University of California at Los Angeles, made some rearrangements of the material and *extensively* rewrote several of the chapters but did not change the book's scope.

MORTON, DUDLEY JOY

Manual of human cross section anatomy Second edition. Baltimore The Williams and Wilkins Company 1944 211 p illus 27 cm. $6 00 2733

Content Vertebral levels with anatomical structures. Head and neck. Thorax and abdomen. Female abdomen and pelvis. Upper extremity Thigh and leg. Ankle and foot.

Note. The main purpose of this book for graduate and under *graduate medical students is to eliminate the need for making* time-consuming tracings from et specimens. It is adapted for use with regular laboratory directions, or with lantern slides. In this edition blood vessels and nerves ha been added to the drawings, and there are other changes. The first edition Baltimore 1941 was by th present author and R. C. Truex and C. E Kellner

SCHAEFFER, J PARSONS, editor

Morris human anatomy a complete systematic treatise Eleventh edition New York The Blakiston Division McGraw Hill Book Company Inc 1953 1 718 p illus (part col d) 27 cm $16 50 2734

Contents (abridged) Section I, Developmental anatomy by R E. Scammon. Section II The skin and mammary glands, by H Cummins. Section III, Osteology by R. J Terry and M Trotter Section IV The articulations, by R. J Terry and M. Trotter Section V The musculature, by J C. B Grant and C. G Smith Section VI The cardiovascular system, by B M Patten Section VII, The lymphatic system and the spleen, by E. R. Clark. Section III The nervous system, by O Larsell. Section IX, The sense organs by L B Arey Section X, The digestive system, by R. F Blount and E. Lachman. Section XI The espiratory system by J P Schaeffer Section XII The urogenital system by J E Markee Section XIII The endocrine glands—or Miscellaneous organs, by F Oudernatsch. Index.

Note The lineage of this book traces back to *H man anatom* which was the work of several British anatomists and surgeon was edited by Sir Henry Morris and published in London in 1891 *With the second edition in 1908 the place of publication became* Philadelphia. However both the second and third editions er still edited by Morris and ritten by British uthors Beginning with the fifth edition the editorship passed to an *American* Since then the authors ha been draw from Great Britain Canada and the United States of America and, in the present edition the authorship is entirely U S A and Canadian The book is well established as one f the leading comprehensi introductory text in the English language. It is used primarily as textbook for students in medical college The 10th edition as published in 1942 Although the organization of this 11th edition is similar ther are man important changes in both text and illustrations New rules er followed for the spelling and compounding f anatomical term several f the sections ere extensi ly rewritten new illustrations added, and new literature added to the bibliography There ar four new contribution

SHEARER EDWIN M

Shearer's manual of human dissection Third edition Edited by Charles E Tobin New York The McGraw Hill Book Company Inc, 1955 287 p illus. 26 cm. $6.00. 2735

Content Pectoral region. Axilla. Triangles of neck. Structures under sternomastoid. Root of neck Back. Head and neck. Larynx. Thorax. Abdomen. Penis, scrotum, and testes. Inguinal region—Inguinal hernia. Abdominal cavity Diaphragm and posterior abdominal wall. Perineum. Pelvis minor Superior extremity Inferior extremity Index.

Note A standard manual designed to guide medical students in the dissection of the human body It is organized according to the regional method of dissection in which all organs and tissues to be studied in a specific region ar dissected out and observed before the student moves on to another region. The directions are detailed and clear The names of structures to be observed are printed in heavier type than the surrounding text. The book scope is limited in recognition of the fact that in American medical colleges the time now given to the study of gross anatomy has been shortened. In other words, attention is not called to all of the structures in which a specialist in human anatomy would be interested. There are 79 figures The first edition was published in 1937 and the second edition in 1949 The second edition, also edited by Professor Tobin, contained numerous changes. The changes in this third edition in comparison to the second edition are less extensive. However changes have been made in the procedures for certain regions and some structures not mentioned in the second edition has been added. Dr Shearer' original illustrations have been retained except for minor changes.

THOREK PHILIP

Anatomy in surgery 720 illustrations 211 in color drawn by Carl T Linden. Philadelphia J B Lippincott Company 1951 970 p. illus 26 cm $22 50 2736

Content (abridged) Section one, The head. Section two, The neck Section three The thorax. Section four The abdomen. Section five The pelvis. Section six, Male perineum and external genitalia. Section seven, Female perineum and external genitalia. Section eight, The superior extremity Section ine The inferior extremity Section ten, Vertebral column vertebral (spinal) canal spinal cord. Index.

Note In this textbook for students in medical colleges, anatomy is presented from the surgeon's viewpoint. The material is organized in 49 chapters arranged by regions of the bod as indicated by the section titles. The exposition is conducted in clear direct style, and the illustrations are of high quality The author is Professor of Surgery t the Cook County Graduate School of Medicine

SPECIAL REGIONS AND ORGANS

BAST THEODORE HIERONYMUS AND BARRY J ANSON

The temporal bone and the ear Springfield, Ill Charles C Thomas 1949 478 p. illus. 24 cm $12 00 2737

Content The temporal bone and the ear The otic labyrinth The periotic labyrinth The otic capsule Histological ariations and pathological processes Bone dystrophies. The origin and development f the middle ear and related air spaces. The auditory ossicles. A historical survey of the structure and function of the internal ear. Index of uthors. Index of subjects.

Note A substantial monograph on the morphology and embryological development of the temporal bone and the ear It is based mainly on direct studies of more than 350 series of sections. It is illustrated with remarkable series of microphotographs, drawings of reconstructions, and drawings from projection tracings of actual sections. Thirty of the illustrations are reproduced in color The final chapter is an outline f outstanding studies of the inner ear from 350 B. to 1939 and it is supplemented by selecte bibliography

BIRNBAUM GEORGE L

Anatomy of the bronchovascular system its application to surgery Chicago The Year Book Publishers Inc. 1954 300 p illus. 26 cm $15 00 2738

Contents: Embryology of the bronchovascular system. Anatomy of the bronchovascular system. Anomalies of the pulmonary vessels. Surgery of the pulmonary vessels. Tracheobronchial surgery. Excision of pulmonary tissue. Appendix: Selected drawings from an original Atlas of pulmonary arteries and veins. Bibliography. Subject Index. Author Index.

Note. The title of this book [illegible] been well. The main subject is surgery not only the normal anatomy but also the many anomalies. The chapter on embryology is [illegible] brief but essential outline. Surgical techniques are discussed, and the terminal chapter covers in [illegible] convenient outline form the various pulmonary resection techniques, discusses their advantages and disadvantages, and lists progressively the steps in excision for pneumonectomy, lobectomy, segmental resection, intrapericardial dissection, pneumonectomy and radical pneumonectomy. Nevertheless the book is not [illegible] manual of surgical techniques. Its purpose is to elucidate the anatomy and to this end it summarizes the techniques and results reported in the recent literature including that on experimental surgery. The bibliography contains well over 300 references. The author, chief of the Surgical Unit of the Veterans Administration Regional Office at Portland, Oregon, has himself made important contributions to the field.

Boyden Edward A.

Segmental anatomy of the lungs a study of the patterns of the segmental bronchi and related pulmonary vessels. New York The Blakiston Division McGraw Hill Book Company Inc., 1955 276 p. illus. (part col d) 28 cm. $15.00 2739

Contents: Historical review. General survey of bronchial tree—[illegible] patterns and terminology. The right upper lobe. The hilar portions of the interlobar fissures. The middle lobe. The left upper lobe. The right lower lobe—surfaces, margins and crests. The left lower lobe. The development of the lungs and the formation of some congenital anomalies. The lungs as [illegible] Bibliography. Index.

Note. A contribution of primary importance to the understanding of lung anatomy. It was based on an extensive and intensive study by the author and associates at the University of Minnesota Medical School. Large numbers of lungs were dissected in order to determine statistically the prevailing patterns and variations. In each of the five chapters on the individual lobes, the prevailing pattern and the variations found in this study and reported by other anatomists, in the surfaces and crests, segmental arteries and veins are described in detail. The book [illegible] rounded out by discussions of the historical development of lung anatomy of terminology and of embryological development and congenital anomalies. Some of the 113 text figures are colored and all but one of the 11 plates are in color. Most of the illustrations are diagrammatic.

Cummins Harold and Charles Midlo

Finger prints palms and soles an introduction to dermatoglyphics. New York McGraw Hill Book Company Inc 1943 309 p. illus. 23 cm $4.00 2740

Contents: History. General considerations. Methods of printing fingers, palms, soles, toes. Elements of finger-print identification. Comparative dermatoglyphics. Embryology. Symmetry and other aspects of special morphology. Inheritance. Twin diagnosis. Questioned paternity. Racial variation. Constitution. Bibliography.

Note. In addition to its interest in connection with identification of persons, this book [illegible] importance in the study of differential trends among races, between the sexes, and among constitutional types. These phases of the subject are of interest to students of anthropologists, geneticists, and zoologists.

DuBrul E Lloyd and Harry Sicher

The adaptive chin. Springfield, Ill Charles C Thomas 1954 97 p. illus. 22 cm. (A monograph in American lectures in anatomy edited by Otto F Kampmeier Publication no 180) $3 50 2741

Contents: Historical. Critical. Observational. Functional. Bibliography.

Note. A critical study from the comparative standpoint, of the evolution of the human chin. It was based upon [illegible] survey of the literature and upon an examination of skulls in the Museum of Oral Anatomy of the College of Dentistry of the University of Illinois, The Chicago Natural History Museum, and the American Museum of Natural History. Among the conclusions are [illegible] the trend toward brachycephaly as [illegible] as the reduction of the masticatory elements are all [illegible] part of the more general processes of cranial adaptation to erect posture and locomotion. There are 93 citations to the international literature in the bibliography.

Francis Carl C.

The human pelvis With 61 illustrations including 3 in color St Louis The C. V Mosby Company 1952 210 p. illus (part col d) $3.50 2742

Contents: Bones of the pelvis. Ossification of the pelvic bones. Pelvic articulations. Pelvic girdle. Muscles and fasciae. Vessels [illegible] the pelvis. Pelvic nerves. Structures within the pelvis. [illegible] system [illegible] the pelvis. Female genitalia. [illegible] Embryology. Index.

Note. A detailed description of the [illegible] structures of the human pelvis, with some attention to the embryology. It is based partly on the literature and partly on original studies made by the author and his co-workers at Western Reserve [illegible] Some of the text and some of the illustrations are based on original dissections. The book is the development of [illegible] course in [illegible] at the graduate level and is intended for the instruction of practicing surgeons and for medical [illegible] graduate [illegible] Carefully selected literature references are included.

Friedman Sydney M

Visual anatomy—head and neck Springfield, Ill. Charles C Thomas 1950 217 p illus 25 cm $7.50 2743

Contents: Anterior aspect of the neck. Lateral aspect of the neck. The suprahyoid region. The submandibular region. The skull. The infratemporal region. The continuity of temporal and infratemporal regions. The parotid region. The face and scalp. The skull. The orbit. The nose. The auditory apparatus. The skull. The back of the neck. The cervical viscera. [illegible] Index.

Note. Not [illegible] conventional atlas but [illegible] compact text designed for use by [illegible] student in medical or [illegible] graduates in need of [illegible] review or as [illegible] reference [illegible] It is arranged so that [illegible] drawing on the right hand page faces the verbal description on the left hand page. The sequence of drawings is from the inside out or the reverse of the traditional arrangement of anatomic atlases. The drawings are diagrammatic rather than literal renderings.

Gorsch R. V

Proctologic anatomy Second edition. Baltimore The Williams & Wilkins Company 1955 310 p. illus. (part col d) 24 cm. $8.00 2744

Contents: The pelvis, pelvic floor and perineal triangles. The anal canal. The anorectal musculature. The levator ani muscle. The rectum and sigmoid. The perirectal spaces. The pelvic fascia. The perirectal lymphatics. Nerve supply to the colon, rectum, and anal canal. Index.

Note. A specialized anatomy designed for the instruction of student surgeons who are preparing for the specialty of proctology. It is useful also as [illegible] reference book for general surgeons. The author is one of the established leaders in this field, and the book is based partly on the literature and partly on his own dissections. In this edition, there are 133 figures. These are accompanied by an explicit, concisely written text. The first edition of the book was published in 1941 under the title, *Perineopelvic anatomy*. In comparison, this edition has been very extensively revised and several chapters largely or entirely rewritten. Recent literature has been added to the bibliographies.

Hollinshead William Henry

Functional anatomy of the limbs and back a text for students of physical therapy and others interested in the locomotor apparatus. Philadelphia W B Saunders Company 1951 341 p illus. 24 cm. $6 00 2745

Contents (abridged) Section I, The organization of the body Anatomical terminology The tissues of the body The organs and organ systems. Section II Th upper limb The shoulder The arm. Forearm and hand. Actions of forearm muscles. The hand. Movements of the fingers. Section IV The lower limb The pelvis, buttocks and hip. The thigh and knee. The leg. The foot. Index.

Note An introductory textbook for the use of students who are preparing for careers as physical therapists, physical education instructors, etc. The author is Head of the Section on Anatomy of the Mayo Clinic.

KAPLAN, EMANUEL B

Functional and surgical anatomy of the hand. 132 figure numbers Philadelphia J B Lippincott Company, 1953 288 p illus 26 cm. $10 00 2746

Contents Part I The hand as an organ Part II, Structure and function The fingers. The thumb. The wrist. The blood and the nerve supply of the hand. The retinacular system of the hand. Mechanism of action of the fingers, the thumb and the wrist. Part III, Surgical anatomy Surface anatomy of the hand and the wrist. Surgical approaches. Amputations and reconstruction operations. Bibliography Index.

Note. An important contribution to the knowledge of the anatomy of the human hand. The illustrations are the predominant feature. Most of them are based on original dissections made by the author They are clearly reproduced in large scale Some comparative material is included, for instance dissections of hands of gorillas and chimpanzees but this material is introduced only to elucidate structure or function of the human hand. The illustrations are accompanied by a detailed text. In a learned introduction the author discusses some of the landmark books on the human hand, and some of the entries in the bibliography at the end of the volume are annotated. The book is of interest to anatomists and surgeons.

KRONFELD, PETER CLEMENS, AND OTHERS

The human eye in anatomical transparencies, explanatory text by Peter C Kronfeld anatomical transparencies by Gladys Mc Hugh historical appendix by Stephen L Polyak. Rochester N Y Bausch & Lomb Press, 1943 99 p illus (part col d) 29 cm $6 50 2747

Contents (abridged) Part I, Anatomical transparencies Stereographic paintings of the human eye. II Explanatory text Anatomy of the human eye and its adnexa Systematic anatomy the eyeball and its blood vessels, nerves, protective apparatus, motor and supporting apparatus the blood vessels and nerves of the orbit and lids. Topographic anatomy the eyeball. III, Historical appendix History of our knowledge of the structure and functioning of the eye. Bibliography Index

Note The first part of this book consists of topographic atlas of the eye and orbit, three-dimensional presentation of the gross anatomy of this region The anatomic relations, presented in a sequence of colored drawings printed on transparent acetate are taken partly from preparations of anatomic layers and partly from arbitrary dissections of slices of varying thickness. The transparencies are twice the size of the adult eye and represent surface and posterior views of sections on frontal and on temporal plane, the sheets fitting over each other in such way as to present all serial layers in proper sequence Th second portion of the book is descriptive text, consisting of systematic account of ocular anatomy which takes up the various structures in functionally logical order and topographic treatment of the anatomy as it is show in the paintings in the atlas. In the third portion of the book the roots of ophthalmology are traced through Greek, Greco-Roman Arabian early European medicine, up to and including modern discoveries in this field The book is intended for teachers and students of ophthalmology as well as for practitioners

LERCHE WILLIAM

The esophagus and pharynx in action a study of structure in relation to function Springfield Ill Charles C Thomas 1950 222 p illus. 24 cm $6 50 2748

Contents. Introduction. The muscular coat of the esophagus. The mucosa and the musculature of the alimentary canal from cardia to mesopharynx, as observed in specimens in which characteristic markings pertaining to the act of regurgitation had survived. The ampulla. The phreno-esophageal elastic membrane. Rumination—merycism. The movement of regurgitated contents through the lower esophagus. The movement of regurgitated contents through the middle and upper esophagus. The cricopharyngeus muscle. Mechanism of deglutition. The cardia. The mechanism of the gastro-esophageal segment of expulsion during the act of deglutition in man. Appendix. Bibliographical index. Author index. Subject index

Note An original work based chiefly on the study of 100 specimens obtained in dissecting rooms. On the basis of these studies, the author elucidates the relations of structure and function in the portion of the alimentary canal that extends from the cardia to pharynx and includes these organs. Pertinent material from published literature is also included. There are 93 illustrations of which a considerable number are reproduced from photographs of specimens. The book is of interest to anatomists and a wide range of medical practitioners.

MICHELS, NICHOLAS A

Blood supply and anatomy of the upper abdominal organs With a descriptive atlas. 172 illustrations, including 166 in color Philadelphia J B Lippincott Company, 1955 581 p illus (part col'd) 26 cm. $24 00 2749

Contents Arterial variations. Review of the literature. Embryology topographic relations and developmental anomalies Material methods and terminology Observ tions on the blood supply of the liver and the gallbladder (200 dissections) The gallbladder the biliary ducts and their arterial relations. The human liver The spleen, the splenic artery and the intrasplenic (segmentary) circulation. Blood supply of the pancreas and the duodenum. Blood supply of the stomach and the esophagus. Blood supply of the great omentum and the transverse mesocolon Blood supply of the small and the large intestines. Review of collateral circulation in the upper abdominal organs. Collateral arterial pathways to the liver after ligation of the hepatic artery and removal of the celiac axis. Bibliography Descripti atlas. Bibliographic index. Subject index.

Note A treatise and an atlas are combined in this volume, with 351 of the pages devoted to the former and 197 to the latter. The ork was based on the dissection of three series of 200 bodies each and on supplementary literature search. It is the first comprehensive treatment of the subject in English, if not in any language The chapters of the treatise constitute a detailed verbal description of the topographic relations and blood supply—especially the latter—of the organs of the upper abdomen. The bibliography included in this part of the volume covers the international literature and is 27 pages long The treatise and atlas complement one another and references are given in the text of the first to the illustrations in the second The atlas consists of six plates and 165 figures, most of which are reproductions of schematic drawings in which color is used to distinguish arious elements of the blood supply and related systems Long, explanatory captions are included adjacent to the illustrations in the atlas.

MILLER, WILLIAM SNOW

The lung Second edition. Springfield Ill. Charles C Thomas 1947 222 p. illus (part col d) 25 cm. $10 00 2750

Contents The lungs. The trachea and bronchi. Intrapulmonary bronchi and bronchioli. The air spaces. The blood vessels. The lymphatics. The pulmonary lymphoid tissue. The nerves. The pleura. Key points. Historical sketch. The atlas. Bibliography Index.

Note An uthoritative monograph on the microscopic and gross anatomy of the lung, based on the author's lifetime study of this subject Brief reviews of the ork of other anatomists, from Malpighi to the present time, and discussions of their concepts of lung structure are included in the chapter entitled "Historical sketch This edition is little changed from the first. The number of excellent illustrations has been increased by 15 and the chapter on the pleura has been revised in the light of new research. As with the previous edition, the book is intended for use as text and reference manual for students and practitioners.

MONTAGNA WILLIAM

The structure and function of skin New York Academic Press, Inc., 1956 356 p. illus (part col d) 23 cm. $8 80 2751

Contents: The general anatomy of skin. The epidermis. The eccrine sweat glands. The apocrine sweat glands. The pilary system. The sebaceous glands. The dermis. References. Author index. Subject index.

Note: A well-written survey of the accumulated knowledge of skin, particularly human skin. It deals primarily with the microscopic anatomy and includes not only the pertinent knowledge in the published literature, but also original results from laboratory research at Brown University. The illustrations include not only many microphotographs made with the optical microscope but also [illegible] made with the electron microscope. The functional significance of the various structural details of skin is [illegible] secondary but prominent topic. Long lists of literature references are included in the chapters, and the author index is arranged so that the cited paper can be found easily in these chapter lists.

MORTON, DUDLEY JOY

The human foot: its evolution, physiology and functional disorders. New York: Columbia University Press, 1935. 244 p. illus. 23 cm. $4.00 2752

Contents: Preface. Part I, The evolutionary development of the human foot. The origin of vertebrate limbs. Amphibian and reptilian feet. Mammalian and early primate feet. [illegible] and [illegible] changes. Terrestrial modifications of [illegible] and early prehuman feet. The course of human evolution. The development of the human foot. The evolution of foot [illegible]. The muscles of the leg. The intrinsic muscles of the foot. Gravity and [illegible] as [illegible] factors in evolutionary development. Part II, The physiology of the human foot. The center of body weight: its relation to foot function. The foot in stance. Foot balance. Locomotion: [illegible] and propulsion [illegible] of gait. The mechanics of the foot in walking. The mechanics of the foot in running. [illegible] and [illegible]. Part III, The functional disorders of the human foot. Primary cause of disorder. Analysis of cases. General etiology. Shortness of the first metatarsal bone. Dorsal hypermobility of the first metatarsal segment. Discussion of [illegible] factors. Examination and diagnosis. The treatment of clinical features. The treatment of [illegible] function. The general problem of foot welfare. Reference books. Index.

Note: This treatise is intended for both professional and nonprofessional reading and reference. Emphasis has been placed on the evolutionary background of the human foot and on its physiology in order to provide [illegible] basis for evaluating normal structure and function, and for analysis of functional disorders.

POLYAK, STEPHEN L.

The human ear in anatomical transparencies. Anatomical transparencies and illustrations by Gladys McHugh. Anatomic preparations by Delbert K. Judd. Elmsford, N. Y. Published under the auspices of Sonotone Corporation, distributed by T. H. McKenna, Inc., New York, N. Y. 1946. 136 p. illus. (part col'd) 31 cm. $10.50 2753

Contents: Part [illegible] Gross anatomy of the auditory apparatus and of the organs of speech. What the ear [illegible] and how [illegible] came about. Constituent parts of the auditory system. Anatomical transparencies of the auditory system in relation to the structures of the head. Topographical anatomy of the auditory system. Speech: its anatomical, physiological, and biological foundations. Anatomy and physiology of the external ear. Part II, Structure and function of the middle and the inner ear. Anatomical transparencies of the middle and the inner ear. Topographical anatomy of the middle and the inner ear. Minute structure of the middle and the inner ear. Function of the middle and the inner ear. Bibliography. Index.

Note: The main illustrations in this important work are done similar to the illustrations in Kronfeld, *The human eye in anatomical transparencies*, Rochester, N. Y. 1943, that [illegible] is, they are printed on sheets of transparent material which are fitted over one another in the same sequence as the layers represented occur in the body. The scale of the drawings reproduced in the transparencies in Part [illegible] actual size; in Part II, [illegible] is three times actual size. The drawings were made from [illegible] long series of actual dissections, and are reproduced in full color. For the most part the text [illegible] explanatory of the drawings and [illegible] directly related to them by key numbers. The greater part of the book, therefore, is of interest to students of anatomy and to specialists in otolaryngology. However, the first chapter and the chapters on speech are of general interest.

SHAPIRO, HARRY H

Maxillofacial anatomy: with practical applications. 314 illustrations, 46 in color. Philadelphia: J. B. Lippincott Company, 1954. 392 p. illus. (part col'd) 26 cm. $12.00 2754

Contents: Early development. Skeletal framework. Vascular anatomy. The face. Air chambers and paranasal sinuses. Oral cavity and pharynx. Glands. Musculature. Temporomandibular joint. Vascular supply and drainage. Neuroanatomic considerations. Anatomic considerations in wounds of the face. Cephalometric determinations in maxillofacial asymmetry. References. Index.

Note: Both normal anatomy and selected cases of anomaly and abnormality are covered in this outstanding text. The basic anatomy is the principal topic; typical applications in [illegible] surgery and corrective dentistry are discussed. The book is not, however, [illegible] manual of technique for either of these specialties. Illustrations are numerous and in most instances [illegible] reproduced in large scale. The author is [illegible] member of the faculty of the College of Physicians and Surgeons of Columbia University.

TRUEX, RAYMOND CARL, AND CARL E. KELLNER

Detailed atlas of the head and neck. New York: Oxford University Press, 1948. 162 p. illus. (part col'd) 31 cm. (Oxford medical publications) $19.75 2755

Contents (abridged): Foreword, by [illegible]. Introduction, by E. A. [illegible]. Regional anatomy. [illegible] structures. Frontal sections. Transverse sections. Index.

Note: An exceptionally thorough and highly original work. The drawings were made from original dissections and are large and clear. They are arranged so that topographical relationships are emphasized. The [illegible] of the neck is carried down into the thorax to give relations of vessels, nerves, trachea, and to show the origin of the brachial plexus and the cervical and upper thoracic sympathetic trunk. The dissection of the head includes the brain, the cranial and cervical nerve [illegible], some interesting [illegible] drawings of these relations, and detailed analyses of especially complex regions. There are special studies of the larynx, nasal region, pharynx and skull, and [illegible] series of frontal and transverse sections of the head. There are 134 plates in [illegible] in black and white, with color used to indicate specific structures such as vessels and nerves.

UHLENHUTH, EDUARD AND OTHERS

Problems in the anatomy of the pelvis: an atlas. With the assistance of DeWitt T. Hunter. Illustrated by William E. Loechel. 82 illustrations. Philadelphia: J. B. Lippincott Company, 1953. 206 p. illus. 26 cm. $10.00. 2756

Contents: The [illegible] space in the male. The vesical plexus and the urinary sphincters. The layering of the levator ani. References.

Note: An atlas of selected aspects of the anatomy of the pelvis. It is addressed particularly to specialists such as anatomists, urologists, and surgeons and to graduate medical students preparing for those specialties. The [illegible] space is given primary emphasis because of [illegible] importance. This material is followed by specialized studies of pelvic [illegible] as noted in the contents. The plates, which are based on original dissections, are arranged in 11 series, one of which is [illegible] series. The illustrations are reproduced in large scale, and in each instance there is an indication of the scale of the drawing in relation to the natural size.

NERVOUS SYSTEM

BAILEY, PERCIVAL, AND GERHARDT VON BONIN

The isocortex of man. Urbana: University of Illinois Press, 1951. 301 p. illus. (part col'd) 27 cm. $6.00. 2757

Contents. Historical introduction. Growth and weight of the brain. Fissures of the brain. Cortical types. Serial sections. The brain map. Intercortical connections. Afferent and efferent connections. Functional significance. Bibliography. Plates.

Note A fresh study of the isocortex of the human brain based mainly on an unusually good specimen that was fixed within one hour of death. The findings of this particular study are correlated with the findings of other workers in the field. As a result of this study and a study of the published writings of other workers, the authors state, "after long and careful study of the human isocortex, the main impression that we have retained is that vast areas are so closely similar in structure as to make any attempt at sub-divisions unprofitable if not impossible." Nevertheless, in their chapter on the brain map and in subsequent chapters they discuss critically the findings and conclusions of others and state certain tentative conclusions of their own on this aspect of brain study. The bibliography is extensive but not exhaustive. There are more than 120 figures—many of which bear reproductions of more than one drawing—and 15 plates.

BUCHANAN, ARCHIBALD RAY

Functional neuro-anatomy, including an atlas of the brain stem. Second edition, thoroughly revised. With 273 illustrations, 19 in color. Philadelphia Lea & Febiger, 1951 323 p illus (part col'd) 27 cm. 2758

Content (abridged) Development and histogenesis of the nervous system. Divisions of the nervous system. The spinal cord. The tactile, pain, and thermal pathways. The proprioceptive pathways. External and internal configurations of the brain stem. Relations within the brain stem of the general sensory pathways. The pathways concerned in the conduction of general afferent impulses from the head region to the thalamus. The special senses of taste, hearing, equilibrium, sight, and smell. The internal capsule. The cerebrum. The sensory areas of the cortex. The cyto-architecture of the parietal, temporal and occipital lobes. The motor cortex and its projections. The lower motor neurons. The cerebellum—its afferent and efferent connections. Extrapyramidal areas of the cerebral cortex and extrapyramidal fibers. The hypothalamus. The visceral efferent (autonomic) system. The basal ganglia. The rhinencephalon. The ventricles of the brain. The cerebrospinal fluid. The blood supply of the central nervous system. The interstitial tissue of the central nervous system. Bibliography. Index.

Note A relatively brief text, written primarily for medical college students. As the title and chapter organization indicate, the subject is presented from the standpoint of function rather than "level." The first edition appeared in 1949. The major change made in this edition was the adding of a 73-page atlas of the brain stem. The author is Professor of Anatomy and assistant dean at the University of Colorado School of Medicine. A third edition was published in 1957 362 p., $7.50.

BUCY, PAUL CLANCY, editor

The precentral motor cortex. Second edition. Urbana University of Illinois Press, 1949 615 p illus. 28 cm. $6 00 2759

Contents Foreword, by J F Fulton. Introduction, by P C. Bucy. Architecture of the precentral motor cortex and some adjacent areas, by G. von Bonin. The role of architectonics in deciphering the electrical activity of the cortex, by J L. O'Leary. Afferent connections, by A. E. Walker. Efferent fibers, by P M Levin. The pyramidal tract, by S. S. Tower. On excitatory and inhibitory processes within the motor centers of the brain, by N Bubnoff and R. Heidenhain, translated by G. von Bonin and W S. McCulloch. Cortico-cortical connections, by W S. McCulloch. Somatic functions, by M. A. Kennard. Relationship to the cerebellum, by P Bailey. Autonomic function, by M. A Kennard. The frontal eye fields, by W K. Smith. Electrical excitability in man, by T C. Erickson. Effects of extirpation in man, by P C. Bucy. Relation to abnormal involuntary movements, by P C. Bucy. Clinical symptomatology, by C. D Aring. Pathology, by C. Davison. Significance of the precentral motor cortex, by M. Hines. Bibliography. Index.

Note When the first edition of this work appeared in 1944 it was widely recognized as a valuable critical evaluation of the field at that time. In the present edition the titles and authors of the monographs that constitute the chapters are the same. However changes, some of which amount to complete rewriting of paragraphs and others as small as the change of a single reference, are scattered throughout the work. The bibliography has been revised to include literature published as late as 1948.

CONEL, J LEROY

The postnatal development of the human cerebral cortex. Cambridge, Mass. Harvard University Press 1939–51 4 v illus. 31 cm. Vol I, $8 00 vol II, $8 00, vol. III, $12.50 vol IV, $12.50 2760

Content (abridged) Volume I, The cortex of the newborn. Volume II, The cortex of the one-month infant. Volume III, the cortex of the three-month infant. Volume IV The cortex of the six-month infant. Lobus frontalis. Lobus parietalis. Lobus occipitalis. Lobus temporalis. Lobus insulae. Rhinencephalon. Comments. Tables. Literature. Explanation of plates.

Note The results of an intensive study of the development of the cerebral cortex of the human infant beginning at birth and extending to six months of age are presented in these volumes. In order to follow changes in the microscopic structure of the cortex, the author used the following criteria with only minor modifications throughout the study (1) width of the entire cortex and of each horizontal layer (2) the number of nerve cells, (3) size of nerve cells, (4) condition of the chromophil substance, (5) neurofibrils, (6) size, compactness of structure and length of the processes of nerve cells, (7) pedunculated bulbs, (8) size and number of exogenous fibers, and (9) the state of myelination. Changes in these features are described in detail in the text and are illustrated in the plates. Conclusions such as the following are drawn: "The uniformity of the microscopical structure suggests that the cells in any one area have no specificity of function." The table of contents given above for the fourth volume is typical of each volume and indicates the organization of the volumes. In the fourth volume there are 191 text pages and 108 plates.

CONNOLLY, CORNELIUS JOSEPH

External morphology of the primate brain. Springfield Ill. Charles C Thomas, 1950. 378 p illus 25 cm $10 00 2761

Contents. The fissural pattern of the primate brain. Encephalometry. Development of the cerebral sulci. The brain of the newborn and of children. The fissural pattern of the human brain (Negroes and Whites). Brain and race. The relation of the sulci to the cortical areas. Endocranial casts and brain formation. Some sulcal relations in the anthropoid and in the human brain. The fissural impressions on the endocranial casts of prehistoric man. On homologies and the origin of sulci. Bibliography. Index.

Note A new study based on material in the Hrdlicka Collection of the United States National Museum. Particular brains in this collection are identified and described. Descriptions of individual brains are then synthesized in summary descriptions of the brain characteristics of families and other zoological groups. The author stresses the importance of the sulci in brain mapping and finally discusses the origin and the relations of these features to cortical areas. There are 337 figures and an extensive bibliography.

ELLIOTT, H CHANDLER

Textbook of the nervous system a foundation for clinical neurology. With an introduction by Wilder Penfield. Second edition. 158 illustrations and an atlas of 50 plates. Philadelphia J B Lippincott Company, 1954 437 p illus (part col'd) 26 cm. $10.00 2762

Contents Part I, The nervous system in outline. Neurology and the medical student. Origin and function of nerve cells. The ground plan of the central nervous system. Development of the ground plan. Suprasegmental structures—the sensory system—the motor system. The external and internal form of the human brain. Part II, The nervous system in detail. Nervous conduction. The neurons. Nerve fibers and end-organs. The spinal cord, outer and inner form. Sensory tracts and motor centers of the cord. The cranial nerves. The auditory, vestibular, and gustatory systems. The visual system. The thalamus. The corpus striatum and allied structures. The form of the hemispheres. The cerebral cortex. The cerebellum. The autonomic system. Higher centers influencing the autonomic nervous system. The coverings of the brain. The circulation of the central nervous system. Appendices. Bibliography. Atlas. Index.

Note A book designed for the instruction of medical college students. Assuming no anatomical preparation other than the usual basic course in gross anatomy, it serves to introduce the reader to the structure and function of the human nervous system. The

author recognizes the fact that neurology is a difficult subject for undergraduate students, and he has organized the book so as to aid the student as much as possible in studying it. The first part, which is 91 pages long, is very elementary and is concerned primarily with defining terms and describing the chief structures. In the second part, the elementary approach is [illegible] maintained, although the descriptions are much more detailed. A rather extensive bibliography in which the most important works are especially marked is included. The first edition was published in 1947. In this second edition the chapter on the neurons has been extended by the addition of eight pages. Three pages of new matter have been added at the end of Chapter [illegible], and the atlas section has been much increased in size.

FAVILL, JOHN

Outline of the spinal nerves Springfield, Ill. Charles C Thomas 1947 190 p. illus 23 cm. $4.50 2763

Contents Alphabetical key to muscle numbers. Part I, Roots—nerves—muscles. Part II, Nerves—muscles—roots (clinical and [illegible]) Part III, Muscles—roots—nerves (origins, insertions, functions, tests, paralytic effects) Part IV Movements—muscles—nerves—roots. Part [illegible] Supplementary data. Bibliography Numerical list of muscles.

Note A companion volume to the author's Outline of the cranial nerves, Chicago, University of Chicago Press, 1933. As indicated above, motor functions are related to the spinal nerves from five [illegible]. The information is simply tabulated with no discussion, or very brief discussion in some cases. The book is intended as reference tool for medical students and for medical practitioners in [illegible] neurological diagnosis.

KRIEG, WENDELL J S

Functional neuroanatomy With illustrations and decorations by the author Second edition, revised and augmented. New York McGraw Hill Book Company Inc., 1953 659 p illus. 27 cm. $9.00 2764

Contents Fundamentals. Development of central nervous system. Reflex mechanisms of the spinal cord. Introduction to the brain. The somatic motor system. Branchial motor system. The visceral motor system. The visceral sensory system. The vestibular system. The auditory system. The visual system. The somesthetic system. The pyramidal system. The extrapyramidal system. The rhinencephalon. The cerebral cortex. Non-neural [illegible] with the nervous system. The cerebellum. The autonomic system. Laboratory study of the central nervous system. Atlas of sections and [illegible] reconstructions. Suggestions for further study. Index.

Note A medical college textbook distinguished by a text that is comparatively easy to read and by excellent illustrations. Although the anatomy of the nervous system is the main subject, function runs throughout the text as a prominent secondary theme. The atlas at the end of the volume is 97 pages long. In addition to it, there are 774 figures in the text. A considerable number of the drawings are three-dimensional. The first edition was published in 1942. Many new drawings have been added in this second edition, and some revisions have been made in the text.

KUNTZ, ALBERT

The autonomic nervous system. Fourth edition, thoroughly revised, with 94 illustrations. Philadelphia Lea & Febiger 1953 605 p. illus. 24 cm. $10.00 2765

Contents (abridged) Morphology and distribution of the autonomic nervous system. Central autonomic centers and conduction pathways. General physiology. Development. Innervation of the heart. Innervation of the blood vessels. Innervation of the respiratory system. Innervation of the digestive tube. Innervation of the biliary system. Innervation of the pancreas, spleen, thyroid, adrenals and bone marrow. Innervation of the urinary organs. Innervation of the sex organs. Innervation of the skin and its appendages. Innervation of cephalic autonomic effectors. Histopathology. Visceral sensitivity and referred pain. The autonomic nervous system in clinical [illegible]. Bibliography. Index.

Note A comprehensive survey of the knowledge of the autonomic nervous system. It covers not only the anatomy but also the function and physiological relationships of the autonomic nervous system. It is widely used as a textbook in medical schools, and has established as an authoritative and useful reference book and guide to the literature. The third edition was published in 1945. In preparation of this fourth edition, fairly extensive changes were made in the text and illustrations. A considerable range of recent literature including some published as recently as 1953 was added to the bibliography.

KUNTZ, ALBERT

A text-book of neuro-anatomy Fifth edition thoroughly revised with 331 illustrations. Philadelphia Lea & Febiger 1950 524 p. illus 24 cm. $8.00 2766

Contents Evolution and comparative anatomy of the nervous system. Development of the nervous system. Nerve and supporting tissue. Anatomy of the central nervous system. The cerebrospinal pathways and the blood vessels of the central nervous system. Myoneurons. Reflex and integrating mechanisms. The cerebrospinal nerves. Internal structure of the spinal cord. Peripheral and central conduction pathways. The medulla oblongata. The pons. The mesencephalon. Central connections of the cranial nerves connected with the cord, medulla oblongata, the pons and the mesencephalon. The cerebellum. The diencephalon. The visual apparatus. The olfactory apparatus. The telencephalon. The autonomic nervous system. Conditioned responses. Laboratory outline. Index.

Note A [illegible] introductory text for medical courses. Although the structural emphasis is on anatomical aspects, the author stresses the importance of understanding the nervous system as a dynamic organization. Particular attention is called to scientific knowledge on the architecture and functioning of the nervous system which has been derived from experiments in recent decades. Changes made in preparing this edition were not extensive, but important information derived from recent experiments has been added, some changes have been made in the illustrations, and few recent articles have been added to the bibliographies.

KUNTZ, ALBERT

Visceral innervation and its relation to personality Springfield, Ill Charles C Thomas, 1951 152 p illus 23 cm. (American lecture series. Publication no 115 A monograph in American lectures in anatomy edited by Otto F Kampmeier) $4.50. 2767

Contents General plan of somatic and visceral innervation. The autonomic nerves. Reflex and integrating centers and central conduction pathways concerned in visceral function. General physiology. Innervation of specific organs. Visceral neural factors in personality. Bibliography. Index.

Note The first five chapters, which account for 111 of the book pages, are devoted largely to describing the nervous systems of the visceral organs and organs including the innervation of specific organs. Only in the final chapter does the author discuss the relations between this innervation and the personality. Here the author reviews the published work, including his own, and reaches such conclusions as "The visceral nerves [illegible] the [illegible] of conduct but to [illegible] the control of conduct, in large measure is carried out through cortical mechanisms of the [illegible]." There [illegible] bibliography. The author is Professor of Anatomy in the St. Louis University School of Medicine.

LARSELL, OLOF

Anatomy of the nervous system. Introduction by A. T Rasmussen Second edition. New York Appleton-Century-Crofts, Inc., 1951 520 p. illus. 25 cm. $9.00 2768

Contents The gross anatomy of the brain and spinal cord. The meninges and choroid plexus. Development of the nervous system. Structural elements. Receptors and effectors. Functional arrangement of neurons. Peripheral nerves and ganglia. The visceral system. The internal structure of the spinal cord. The cranial nerves. Internal structure of the medulla oblongata and tegmentum. The cerebellum and the pons. The mesencephalon. The diencephalon. The cerebral hemispheres. The cerebral cortex. The rhinencephalon and the olfactory pathways. The lobes of the cerebral cortex with reference to structural features and functional localization. Cortical efferent paths. Blood supply of the nervous system. Index.

Note An introductory textbook addressed to medical college students. Although primarily a descriptive treatment, the interrelations between form and function are frequently pointed out. References

are made directly in the text to important studies that established specific points of knowledge. The first edition was published in 1942. For this edition the work was extensively reorganized. The separate atlas that appeared at the end of the book has been abandoned, and the material formerly contained in it has been inserted at appropriate places throughout the text. Numerous other changes of pedagogical interest have been made. The final chapter on the blood supply of the nervous system is new. There are now 181 illustrations.

PEELE, TALMAGE L

The neuroanatomical basis for clinical neurology. New York. The Blakiston Division, McGraw-Hill Book Company, Inc. 1954. 564 p. illus. 26 cm. $12.50 2769

Contents: Nerve cells and fibers. Neuroglia and microglia—neurohistological methods. Development of the nervous system. *Gross anatomy of the brain—its blood supply* and meninges. Spinal cord and spinal pathways. Peripheral nerves. Autonomic nervous system. Brain stem. Cranial nerves. Vestibular system. Reticular system. Cerebellum. Thalamus. Hypothalamus. Cortex and fiber systems of cerebral hemispheres. Precentral cortex and motor pathways. Extrapyramidal motor system. Prefrontal region of the frontal lobes. Sensory pathways and the parietal cortex. Taste and taste pathways. Visual pathways and occipital lobe. Auditory pathways and the temporal lobe. Olfactory system. Bibliography. Visual aids. Index.

Note: Neuroanatomy is presented in some detail in this work, which is designed primarily for use as a textbook in medical schools but is of some interest also as a reference book. While anatomy is the primary subject, much related information on neurophysiology is included and, in addition, most of the chapters are concluded with concise descriptions of clinical disorders. There are 313 figures, and the bibliography contains 870 references to the *international literature*. The author is a *member of the faculty of* Duke University School of Medicine.

PENFIELD, WILDER, AND THEODORE RASMUSSEN

The cerebral cortex of man: a clinical study of localization of function. New York. The Macmillan Company. 1950. 248 p. illus. 24 cm. $7.00 2770

Contents: Historical note and methods. Sensorimotor representation of the body. Head and eye movement. Representation of autonomic systems. Vocalization and arrest of speech. Secondary sensory and motor representation. Vision. Hearing and equilibration. Memory, sensory perception and dreams. *Excision of cortical regions. General* conclusion. Bibliography. Case index. General index.

Note: This book is based on a long series of brain operations carried out under local anesthesia on human beings. It contains mainly the authors' observations and analyses of the results of removing areas of the cortex. The effects of *direct stimulation* of selected areas of the cortex during the course of operations, and postoperative effects observable in patients' behavior are both reported. Also, observations on the play of epileptic discharge in the cerebral cortex are included. In their final chapters the authors draw tentative conclusions which *are compared and correlated with the work* of other researchers. The 121 illustrations include a number of photographs taken during brain operations.

PFEIFFER, JOHN

The human brain. New York. Harper & Brothers. 1955. 273 p. 21 cm. $3.75 2771

Contents: Introducing the brain. Man, evolving brain. From birth to old age. Pathways to emotion. The brain in focus. Remembrances of things past. Memory and the higher faculties. Cells in rhythm. *Sick brains. How we feel pain. The sacred disease.* The riddle of neurosis. A visit to Manteno. The rise of psychosurgery. Brain operations with needles. Chemistry and mental disease. The most complicated machines. The thinking machine. Bibliography. Index.

Note: *A popular book written by an eminent interpreter of science for nonspecialists and laymen.* It embraces a wide range of accumulated knowledge on the human brain—its structure, development, physiology, *disorders, reactions to psychosurgery and many* other aspects. In the terminal chapter there is even some comparison between the brain and electronic computers. There is considerable emphasis on facts that appear marvelous to the lay man and on incidents from the case-history material of neurology and psychiatry. However, the book is not a sensational treatment. Such disorders as epilepsy and neurosis are discussed in a sympathetic and informative manner. *Literature citations are not given* to support specific statements in the text, but there is a short bibliography of popular semitechnical and technical books on neurology and psychiatry for the guidance of readers who wish more solid information.

RANSON, STEPHEN WALTER

The anatomy of the nervous system: its development and function. Revised by Sam Lillard Clark. Ninth edition with 434 illustrations, 18 in color. Philadelphia. W. B. Saunders Company, 1953. 581 p. illus. (part col'd) 26 cm. $8.50 2772

Contents: Origin and function of the nervous system. Gross anatomy of the nervous system. Meninges and blood vessels of the central nervous system. Histogenesis of the nervous system. Neurons and neuroglia. The spinal nerves. The autonomic nervous system. *The spinal cord. Fiber tracts of the spinal cord. The structure of* the medulla oblongata. Internal structure of the pons. The internal structure of the mesencephalon. The cranial nerves and their nuclei. The cerebellum. The diencephalon. The internal structure of the cerebral hemispheres. The rhinencephalon. The cerebral cortex. The *great afferent and efferent systems. Reflexes and reflex arcs.* Clinical illustrations. Bibliography. Index.

Note: A standard text for more than three decades. It is used primarily for the instruction of medical college students, but is useful to biologists and others who need a basic knowledge of *neuroanatomy. It is not limited to morphology, but as the title indicates, it integrates anatomy with embryological development and* function. The eighth edition was published in 1947. In this ninth edition, the purpose and scope of previous editions have been retained. Although the chapter titles are identical, new sections have been inserted in several of them, and some other sections have been revised to include the results of recent research. A selection of the literature published subsequently to the writing of the eighth edition has been added to the bibliography, which is now 19 pages long.

RASMUSSEN, ANDREW THEODORE

The principal nervous pathways, neurological charts and schemas with explanatory notes. Fourth edition. New York. The Macmillan Company. 1952. 73 p. illus. 29 cm. $4.50 2773

Contents: Relations of the meninges to the brain, spinal cord and cerebrospinal fluid. Neurological methods. Pain, temperature and light touch conduction. Tactile discrimination and deep sensibility. Vestibular or equilibratory system. Auditory system. Binocular vision and reflexes through the midbrain. Localization of fibers from the retina to the visual cortex. *Innervation of the eye.* General visceral afferent system. Respiratory system. Gustatory system. Olfactory system. Corticobulbar and corticospinal (pyramidal) system. Fiber connections of the corpus striatum (an extra pyramidal system). Chief efferent tracts, their relations to lower motor neurons and the final common path. *Cranio-sacral* division of the general visceral efferent system (parasympathetic). Thoracico-lumbar division of the general visceral efferent system (sympathetic). Innervation of blood vessels. Index.

Note: In this textbook for medical students, 28 four-page diagrams, each with an accompanying page of explanatory text, portray and describe the principal neural structures and systems of the human body. The book is designed for the instruction of medical students, and its arrangement into functional units is *for the purpose* of making this difficult subject both easier to comprehend and *to retain. The first edition* was published in 1932 and the third edition in 1945. In preparing the fourth edition the author made changes in nine of the diagrams and corresponding changes in the descriptive text in order to bring the book *up to date* with advances in neuroanatomy.

SCHMIDT, CARL FREDERIC

The cerebral circulation in health and disease. Springfield, Ill. Charles C Thomas. 1950. 78 p. illus. 22 cm. (American lecture series. *Publication no. 68.* A monograph in

American lectures in physiology edited by Robert F Pitts) $7.25 2 4

[illegible]

[illegible]

STRONG OLIVER S., AND ADOLPH ELWYN

Human neuroanatomy Third edition. Baltimore The Williams & Wilkins Company 1953 451 p. illus. (part col d) 2 cm. $7.50 2 5

[illegible]

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WHITE, JAMES CLARKE AND OTHERS

The autonomic nervous system anatomy physiology and surgical application, by James C White Reginald H. Smithwick and Fiorindo A. Simeone Third edition. New York The Macmillan Company 1952 569 p. illus. 4 cm. (Macmillan surgical monographs) $12.00 2 6

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HISTOLOGY

COWDRY EDMUND VINCENT

A textbook of histology functional significance of cells and intercellular substances Fourth edition, thoroughly revised. Illustrated. Philadelphia Lea & Febiger 1950 640 p. illus (part col d) 2 cm. $5.50 2

[illegible]

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DAWSON HELEN LUCERNE

Lambert's histology an introduction and guide Second edition. New York McGraw Hill Book Company Inc., 1948 695 p illus (part col'd) 24 cm. $5.50. 2 8

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GREEP ROY O., editor

Histology New York McGraw Hill Book Company Inc., 1954 933 p. illus (part col d) 24 cm. $12.50 2 9

[illegible]

E. H. Leduc. Alimentary tract, by H. W. Deane. Liver and gall bladder, by H. W. Deane. Pancreas, by H. W. Deane. Urinary system, by R. O. Greep. Female reproductive system, by R. O. Greep. Placentation, by G. B. Wislocki. Mammary glands, by E. W. Dempsey. Male reproductive system, by R. O. Greep. Hypophysis, by R. O. Greep. Pineal body, by R. O. Greep. Thyroid gland, by E. W. Dempsey. Parathyroid glands, by R. O. Greep. Adrenal glands, by R. O. Greep. Eye, by R. L. Carpenter. Ear by M. H. Lurie. Index.

Note A modern and authoritative text on the microscopic anatomy of the human body. It is organized as shown above in 35 signed chapters. All of the authors have been, or still are, members of the faculty or research fellows in the Medical School of Harvard University. The book is directed primarily to students in medical schools. Descriptions of the histology of the various organs and systems named in the chapter titles are given primary emphasis, but related topics, such as the histochemical reaction of the tissues under discussion, are also discussed. Extensive bibliographies are included for most of the chapters. There are 645 figures, a considerable number of which contain reproductions of more than one drawing or microphotograph. The book is a successor to J. L. Bremer and H. L. Weatherford, *A textbook of histology*, sixth edition, 1944, and contains some illustrations that were published in that work.

HAM, ARTHUR WORTH

Histology. 518 figure numbers, including 7 plates in color. Second edition. Philadelphia, J. B. Lippincott Company, 1953. 866 p. illus. (part col'd) 26 cm. 2780

Contents Part I What histology is and how it is studied. Histology and its relationship to other subjects. How histology is studied by ordinary histologic methods. How histology is studied by special histologic technics. How histology is studied—the study and the interpretation of sections. Part II, Cells. Intercellular substances and fluids. Cells. Intercellular substances. Tissue fluid. The cells of blood. Platelets and fibrin. Part III The four primary tissues and their subdivisions. The four primary tissues of the body. Epithelial tissue. Connective tissue. Cartilage. Bone. Hemopoietic tissue. Muscular tissue. Nervous tissue. Part IV The histology of the systems. The circulatory system. The integumentary system. The digestive system. The respiratory system. The urinary system. The endocrine system. The female reproductive system. The male reproductive system. The system of sensory receptors. The system of articulations. Index.

Note A standard textbook designed primarily for the instruction of medical college students. The approach is medical rather than biological, although the book does contain information of interest to biologists. More space is given to those tissues in which degenerative diseases are common at the present time than to other tissues. The illustrations, which are adequately reproduced in large scale, are a special feature. The expository text is written in a full and comparatively readable style. Long lists of references are appended to most chapters. The first edition was published in 1950. Although only three years passed before publication of this second edition many changes were made. These include some rearrangement of chapters, the rewriting of a number of chapters, and important additions to text and illustrations in others. A new edition was published in 1957. 894 p., $11.00.

JORDAN, HARVEY ERNEST

A textbook of histology. Ninth edition. New York, Apple-Century-Crofts, Inc., 1952. 687 p. illus. 24 cm. $9.00 2781

Contents The protoplasm and the cell. Tissues. Connective tissue, cartilage and bone. Muscular tissue. Nervous tissue. Peripheral nerve terminations: end-organs. The blood vascular system. Blood. The lymphatic system. Mucous membranes and glands. The skin. The respiratory system. The digestive system. The urinary system. The reproductive system. The ductless glands, endocrine glands. The nervous system. The eye. The ear. List of references. Index.

Note An established textbook for introductory courses offered to pre-medical and medical students. It is used also as an office reference book by practitioners of medicine. The presentation is from a functional point of view with some data from comparative anatomy included. This edition represents a fair revision. Advances of recent years, including results of tissue culture and electron microscopy, have been incorporated. Less essential material is now set in smaller type. There are now 609 figures. The 11-page bibliography contains a few references to recent material, but it consists mainly of publications issued before 1934.

LILLIE, R. D.

Histopathologic technic and practical histochemistry. Second edition. New York, The McGraw-Hill Book Company, Inc., 1954. 501 p. illus. 24 cm. $7.50 2782

Contents Microscopy. Equipment. Fixation. Sectioning. Stains and staining. General staining and mounting procedures. General oversight methods. Nuclei and nucleic acids. Amino acids, end groups, etc. Cytoplasmic granules. Enzymes. Endogenous pigments. Exogenous pigments and minerals. Various cell products. Fats and lipoids. Connective tissue fibers. Bacteria, protozoa, and other parasites. Cilia and nerve cells and fibers. Hard tissues, decalcification. Various special procedures. Buffers, buffer tables, normal acids, and alkalies. Index.

Note A standard reference manual of techniques and supplementary information pertaining to the investigation of normal and pathological tissues. The field is covered from the standpoint of professional laboratory work. Techniques are described explicitly and in adequate detail. Formulas are given for mounting media, reagents, stains, etc. Literature references are supplied to source papers. The first edition was published in 1948 under the title *Histopathologic technic*. A considerable number of methods not in the first edition have been added in this one.

MAXIMOW, ALEXANDER A., AND WILLIAM BLOOM

A textbook of histology. Sixth edition. With 986 illustrations, 257 in color, on 580 figures. Philadelphia, W. B. Saunders Company, 1952. 616 p. illus. (part col'd) 26 cm. 2783

Contents Introduction. Epithelium. Blood. The connective tissue proper. Blood cell formation and destruction. Cartilage. Bone. Muscular tissue. The nervous tissue. The blood vascular system. The lymphatic system. The spleen. Thymus. Glands. Hypophysis. Thyroid gland. Parathyroid glands. Adrenal glands and paraganglia. The pineal body. The skin. The oral cavity and associated structures. The teeth. Esophagus and stomach. The intestines. The liver, bile ducts and gallbladder. Pancreas. The respiratory system. Urinary system. Male genital system. Female genital system. The mammary gland. The eye. The ear. Index.

Note The sixth edition of this standard and encyclopedic textbook of histology for medical students has been considerably revised from the fifth edition of 1948, but the intent of the authors remains the same as when the first edition was published in 1930, namely to present a morphological and functional description of all the cells and tissues of the human body with as full details as possible both in text and in illustration. A new edition was published in 1957. $11.00.

NONIDEZ, JOSÉ F., AND WILLIAM F. WINDLE

Textbook of histology. With 326 illustrations, composed of 214 drawings and diagrams and 233 photomicrographs. Second edition. New York, McGraw-Hill Book Company, Inc., 1953. 528 p. illus. 23 cm. $9.50 2784

Contents Tissues and methods for their study. Cells, living components of tissues. Epithelium. Blood and lymph. Bone marrow and hemopoiesis. Connective tissue. Cartilage, bone, and joints. Muscular tissue. Heart. Blood vessels and lymphatic vessels. Lymphatic tissue and organs. Nervous tissue. The peripheral nervous system. Brain and spinal cord. Membranes of the brain and other organs. Visual and auditory organs. Integument. Mouth and pharynx. Tubular digestive organs. Liver and pancreas. Endocrine organs. Respiratory organs. Excretory organs. Male reproductory organs. Female reproductory organs. Mammary glands. Appendices. Index.

Note A successful textbook for first courses in histology in medical and dental schools. It is briefer than most of the long established textbooks in the field; nevertheless, it contains material on not only the major tissues but also on the specialized tissues of various organs. The illustrations are numerous and they include a substantial number of microphotographs reproduced in large scale. The first edition was published in 1949. The book is longer in this

edition, but the characteristic of relative brevity has been successfully retained. There has been rather extensive revision of the explanatory text and a fair amount of revision in the illustrations. Forty-one of the microphotographs included in the 316 figures are new in this edition.

SMITH, PHILIP E AND WILFRED M COPENHAVER

Bailey's Textbook of histology Revised by Philip E. Smith and Wilfred M Copenhaver with the assistance of Dorothy D Johnson. Thirteenth edition. Baltimore The Williams & Wilkins Company 1953 775 p illus. (part col d) 23 cm. $9 00. 2785

Contents The cell. The living cell. General features of vertebrate development—morphogenesis. Epithelium. The connective tissues. Blood and lymph. Muscle. Organization of nervous tissue. Nervous tissue. The spinal cord, cerebellar cortex and cerebral cortex. The circulatory system. Lymphoid organs. The integument. Glands. The digestive system. The respiratory system. The urinary system. The male reproductive system. The female reproductive system. The endocrine glands. The organs of special senses. References. Index.

Note A long-established textbook, the first edition of which was published in 1904 and the 12th edition in 1948. It is designed for first-year students of medical and dental colleges and for use in other colleges where a fairly comprehensive course in histology is given. A considerable amount of material from physiology is incorporated in order to give students a conception of tissues as parts of living organisms. The illustrations are numerous and outstanding in quality. As would be expected, most of them show microscopic anatomy but a few examples of gross anatomy, for example drawing of the whole tongue, are included. Selected literature references are included in the chapters, and in this 13th edition some publications issued since the 12th edition was written have been added. Although the total length of the volume has been reduced slightly, new material has been added to many chapters, while the reduction in length has been accomplished by rewriting extensive sections. There are now 443 figures, of which 30 are new in this edition. Six color plates also have been added to the illustrations.

HUMAN REPRODUCTION AND EMBRYOLOGY

ABERLE, SOPHIE D AND GEORGE W CORNER

Twenty five years of sex research. History of the National Research Council Committee for Research in Problems of Sex 1922–1947 Philadelphia W B Saunders Company 1953 248 p. 22 cm. $4.00 2786

Contents Background of the Committee's history. Formation and activities of the Committee. Contributions to knowledge of sex biology. Contributions to knowledge of neural and psychological aspects of sex behavior. Administrative policies of the Committee. General principles of Committee administration. Appendices: Chronology of the Committees' program. A classification of subjects in the biology of sex. List of Committee members (1921–1947). Chairmen of the Division of Medical Sciences of the National Research Council. Meetings of the Committee for Research in Problems of Sex. Appropriations and expenditures. List of grants. Bibliography. Index to authors of published reports of investigations supported by the Committee for Research in Problems of Sex, 1922–1952. Index to unreported investigations.

Note An "official" account of the experiences of the National Research Council Committee for Research in Problems of Sex both from the standpoint of administrative problems confronted and from the standpoint of the scientific contributions which resulted from its efforts. It is of interest not only to those concerned with the administrative problems of such committees sponsoring scientific research. The Committee made grants to investigators in a wide area of fields, including medicine, psychology, anthropology, sociology, zoology and veterinary science. The period covered coincides with the chairmanship of Robert M. Yerkes, who served from the inception of the Committee in 1922 to his retirement in 1947.

AREY LESLIE BRAINERD

Developmental anatomy a textbook and laboratory manual of embryology Sixth edition With 630 illustrations some in color Philadelphia W B Saunders Company 1954 680 p. illus. (part col d) 26 cm. $9.50 2787

Content Part I, General development. Fundamental concepts. General features of development. The reproductive organs and sex cells. The discharge and union of sex cells. Cleavage and gastrulation. Embryonic and fetal stages. The fetal membranes. Placentation. Reproductive cycles and their hormonal control. Experimental embryology and teratology. Part II, Special development. External body form. A. Entodermal derivatives. The mouth and pharynx. The digestive tube and associated glands. The respiratory system. B. Mesodermal derivatives. The mesenteries and coelom. The urinary system. The genital system. The heart and blood. The vascular system. The skeletal system. The muscular system. C. Ectodermal derivatives. The integumentary system. The histogenesis of nervous tissues. The central nervous system. The peripheral nervous system. The sense organs. Part III, A laboratory manual of embryology. The study of chick embryos. The study of pig embryos. Index.

Note A standard textbook for use in courses offered to premedical and medical students and others who are preparing for professions where a thorough knowledge of embryology will be useful. The exposition centers around the development of mammals, particularly man, comparative material being introduced chiefly where it emphasizes or explains better those conditions found in mammals. Functional and structural aspects of development are not dealt with separately but are handled together. Both normal and abnormal development are covered. The first edition was published in 1924 and the fifth edition in 1946. This sixth edition is a result of a very extensive reorganization and revision. Both text and illustrations have been revised, and the book has been printed from new type and given a new format. A selection of recent literature has been added to the literature citations. The text proper now ends on page 532 and the laboratory manual runs from page 533 to 647. The 630 figures contain 1,513 illustrations.

ASHLEY MONTAGU, MONTAGU FRANCIS

Adolescent sterility a study in the comparative physiology of the infecundity of the adolescent organism in mammals and man Springfield Ill. Charles C Thomas 1946 148 p. illus. 23 cm. $3 50 2788

Contents Introduction. Adolescent sterility in lower mammals. The rhesus monkey. The chimpanzee. Adolescent sterility in man. The history of adolescent sterility. Conclusions. Appendix. Bibliography. Index.

Note In this work, the author assembles, examines, and appraises the contributions of many investigators and observers to the present knowledge of adolescent infertility in female mammals. An allied subject on which data are also included is the effect of conceptions upon the health and mortality of mothers and offspring. Further references are given to a wide range of literature in anthropology, sociology, history and medicine. The book is intended for scientifically minded laymen as well as for physicians and scientists.

BARBER AELETA NICHOLS

Embryology of the human eye. With 193 illustrations. St Louis The C. V Mosby Company 1955 236 p. illus. 26 cm. $7.00 2789

Content Embryogenesis. Organogenesis. Differentiation. Agenesis correlations. Glossary. Index.

Note A textbook and reference manual of the embryology of the normal human eye and of the common abnormalities. It is intended for the instruction of medical-college students who are preparing for the specialty of ophthalmology and has some value also for graduate specialists in embryology, anatomy, etc. The arrangement is approximately chronological in accordance with the development of a normal embryo. Abnormalities in development are discussed at the points where they would occur in the development of the embryo. Most of the illustrations are reproductions of microphotographs made especially for this book. The author is a member of the faculty of the Louisiana State University's School of Medicine.

DICKINSON, ROBERT LATOU

Human sex anatomy, a topographical hand atlas Second edition Baltimore The Williams & Wilkins Company, 1949 145 p illus 31 cm. (National Committee on Maternal Health Inc. Medical aspects of human fertility) $10 00 2790

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FARRIS, EDMOND J

Human ovulation and fertility Philadelphia J B Lippincott Company 1956 159 p illus. 24 cm $6 50 2792

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HOOKER, DAVENPORT

The prenatal origin of behavior Porter lectures, series 18 Lawrence University of Kansas Press, 1952 143 p illus. 22 cm. (Physiological and morphological studies on human prenatal development. Publication no. 20) $2 50 2793

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NATIONAL RESEARCH COUNCIL COMMITTEE ON HUMAN REPRODUCTION

Studies on testis and ovary eggs and sperm Proceedings of a conference sponsored by the Committee on Human Reproduction, National Research Council, in behalf of the National Committee on Maternal Health, Inc. Edited by Earl T Engle. Springfield, Ill. Charles C Thomas, 1952 237 p. illus. 24 cm. $7 75 2794

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PATTEN BRADLEY M

Human embryology Second edition. With over 1400 drawings and photographs grouped as 453 illustrations and 2 plates, many in color New York The Blakiston Division McGraw Hill Book Company Inc., 1953 798 p. illus. (part col d) 26 cm $12 00 2795

Contents Introduction Reproductive organs' gametogenesis Sexual cycle and fertilization Cleavage germ layers, and establishment of embryonic body Early differentiation of the body and establishing of organ systems Fetal membranes and placenta Age, growth, and changes in external form of body Twins double monsters and teratology Integumentary system. Connective tissues and skeletal system The muscular system. Development of the nervous system The sense organs. Development of the face and jaws and the teeth. Development of the digestive and respiratory systems. Body cavities and mesenteries. Ductless glands and pharyngeal derivatives. Development of the urogenital system. Development of the circulatory system Bibliography Supplement to bibliography 1945–1952. Index

Note. A well-organized and fully illustrated presentation specifically written for physicians and medical students. Relatively little space is given to theoretical and comparative aspects. Instead, fuller than usual treatments are given to aspects that are of special interest in medicine, such as ovulation, formulation of the embryo, change in the female's reproductive organs during pregnancy development of systems of organs—with emphasis on the later stages—in the embryo, twinning, double monsters and other abnormalities Many of the illustrations show sequences of developmental stages of organs and systems The first edition was published in 1946. The chapter entitled "Cleavage, germ layers, and establishment of embryonic body" was rewritten for the second edition so as to incorporate information on the very early stages of human embryos that has become available since the first edition was written. Also, the section on the development of the heart in the last chapter has been expanded. Most chapters have been carried over without change The number of illustrations has been greatly increased The supplementary bibliography also new in this edition, runs to 13 pages.

ROMMER, JACK JAY

Sterility—its cause and its treatment. Springfield, Ill Charles C Thomas 1952 424 p illus. (part col d) 26 cm. $12.50 2796

Contents: Part I, The infertile female: Historical background to sterility Physiology of coitus, orgasm, libido and fertilization. Anatomy and embryology Psychic trauma and fertility Causes of sterility—a summary and check-list. Other factors associated with fertility Fertility in relation to the size and structure of the sex organs. Gynecologic pathology and sterility The history and physical examination of sterile patients. Means of investigation of the infertile female. Sterility and the endocrines. Review of the female sex hormones. Menstruation and the menstrual cycle The medical treatment of infertility Office treatment of gynecologic conditions. Mechanical and other special means for treating sterility Surgery in the treatment of sterility Part II, The infertile male: The infertile male Male endocrinology The history and examination of the male. Therapy of male's infertility Index.

Note A comprehensive treatise into which the author has gathered information on such facets of the problem as the relation of economic status to fertility in addition to full coverage of anatomical, physiological, and clinical aspects. Diagnostic and therapeutic techniques are well described, and abundant literature references are supplied. There are 133 figures.

DICKINSON, ROBERT LATOU

Human sex anatomy a topographical hand atlas *Second edition* Baltimore The Williams & Wilkins Company, 1949 145 p illus 31 cm (National Committee on Maternal Health, Inc. Medical aspects of human fertility) $10 00 *2790*

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ENGLE, EARL T , editor

Pregnancy wastage. Proceedings of a conference sponsored by the Committee on Human Reproduction, National Research Council, in behalf of the National Committee on Maternal Health, Inc. Springfield Ill Charles C Thomas, 1953 254 p illus 23 cm. $8 50 *2791*

Content Early abnormal embryos f the rhesus monkey by G. W Corner and G. W Bartelmez. Fertilization failure and *embryonic death in domestic animals, by L. E. Casida. Gametogenesis* at the time of fertilization and the course of gestation in mammals, by W C. Young. The role f the endometrium in implantation and fetal growth, by E. C. Hughes and others. The *in vitro* metabolism of placental and fetal tissues, by C. A. Villee. Participation of vasoactive factors f renal and hepatic origin in essential hypertension and toxemia of pregnancy by E. Shorr and B. W Zweifach. The pathologic aspects of fetal death in utero, by R. E. L. Nesbitt, Jr and G. W Anderson. ACTH and cortisone in pregnancy by J W Jailer Introduction to the statistics f abortion, by C. Tietze. Some observations on the factors in the incidence of prematurity and fetal death, by L. Baumgartner and C. Erhardt. The rol of isoimmunization in pregnancy wastage, by *P Levine. Contractility of the uterus, by A. Csapo.* Indices of fetal maturity by S. H. Clifford and others. Pertinent factors in the declining perinatal death rate at the Chicago Lying-in Hospital, by M. E. Davis and others. The relation of premature delivery to death in the neonatal period, by E. L. Potter

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FARRIS, EDMOND J

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[illegible]

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BARRON, ELEAZAR S. GUZMAN, editor

Modern trends in physiology and biochemistry. Woods Hole lectures dedicated to the memory of Leonor Michaelis. New York. Academic Press, Inc., 1952. 535 p. illus. 24 cm. $[illegible]. 2501

Contents: [illegible]

Note. [illegible]

BARTLEY, SAMUEL HOWARD, AND ELOISE CHUTE

Fatigue and impairment in man. New York. McGraw-Hill Book Company, Inc., 194[illegible]. [illegible] p. illus. 23 cm. $6.00. 2502

Contents: [illegible]

Note. In this [illegible] study the authors have [illegible]

BEST, CHARLES HERBERT, AND NORMAN BURKE TAYLOR

The physiological basis of medical practice: a text in applied physiology. Sixth edition. Baltimore. The Williams & Wilkins Company. 1955. 1,355 p. illus. (part col'd) 26 cm. $12.00. 2503

Contents (abridged). [illegible]

Note. A standard, [illegible]

CANNON, WALTER BRADFORD, AND ARTURO ROSENBLUETH

The supersensitivity of denervated structures: a law of denervation. New York. The Macmillan Company. 1949. 245 p. illus. 21

PHYSIOLOGY

GENERAL

AMBERSON, WILLIAM RUTHRAUFF, AND DIETRICH C SMITH

Outline of physiology Illustrations by the late Norris Jones and William Loechel Second edition Baltimore The Williams & Wilkins Company, 1948 502 p illus (part col'd) 26 cm $5 00 2797

Contents (abridged) Section I, The living cell The method and scope of physiology The electrolytes of living cells and tissues. Organic constituents of living cells and tissues. Section II, Basic phenomena of life Catalysis and enzymes. Oxidation and reduction Organic synthesis. The vitamins. Animal electricity Muscular contraction Section III Nervous integration of physiological function The nerve impulse. Sensations of the body Reflex pathways in the brain. Nervous control of posture and movement. Section IV Circulation, respiration and metabolism The heart. Nervous and chemical control of circulation. The transport of the respiratory gases. Metabolism and temperature regulation. Section V Digestion and excretion Chemical regulation Secretion of digestive juices Absorption in the digestive tract. The functions of the kidney Section VI, The endocrine glands and reproduction Index.

Note A textbook for introductory courses offered to college students. The authors have endeavored to make the subject interesting and easy to understand, and to these ends have included considerable historical material and have made their discussions of phenomena relatively full. However their treatment is not an over simplification. The book is suitable for students who are planning to prepare for professional work in physiology medicine, or general biology This edition contains several new chapters on topics that were not covered in the original edition, and there are other significant changes. No references to the literature are included.

AMERICAN PHYSIOLOGICAL SOCIETY

Perspectives in physiology an international symposium 1953 Edited by Ilza Veith Washington D C American Physiological Society 1954 171 p illus 21 cm $3 00 2798

Content Introduction by I. Veith. Limitations and future Summing up, by E. D Adrian Development and limitations of physiological research, by A. von Muralt. The organization of physiology by C. H. Best. A Russian view by K. M. Bykov The philosophic limitations of physiology by H. W Smith. The survey of physiological science, by R. W Gerard The present scene Argentina, by B A. Houssay Austria, by H. F H uter Denmark by K. Lundsgaard. Germany by P Hoffmann Italy by G. Stella. Japan by Y Kuno Mexico, by A. Rosenblueth. Sweden by G Liljestrand. Switzerland, by A von Muralt. United Kingdom, by R. A. Peters. The U ited States, by R W Gerard Yugoslavia, by A. Seliskar

Note I this book which is related to the comprehensive Survey of Physiological Sciences conducted by the American Physiological Society the current stat of the study of physiology is surveyed generally and also nation by nation The national papers outline the historical developments of physiological study within each nation as well as describe its contemporary organization, current state and prospects. Some outstanding physiologists are mentioned by name and leading journals, professional organizations, etc. are sometimes mentioned.

ANNUAL REVIEW OF PHYSIOLOGY Volume 18 Victor E Hall editor Frederick A Fuhrman and Arthur C Giese associate editor Palo Alto Annual Reviews, Inc. 1956 591 p 23 cm. $7 00 2799

Contents Prefatory chapter (trends in physiology as seen from South America) by B A. Houssay Neoplastic growth, by G Klein. Energy metabolism, by M. Kleiber Physiological aspects of genetics, by E. L. Tatum and S. R. Gross. The physiology of connective tissue, by A. Dorfman and M. B. Mathews. Muscle, by G. A. Feigen Respiration, by H Hermstra. Digestion, by B. Uvnäs. Peripheral circulation by B. Folkow Heart, by R. Schaefer The kidney by F R. Winton. Liver by R. W Brauer Central and synaptic transmission (pharmacological aspects) by W L. M Perry Somatic functions of the nervous system, by P Dell and M. Bonvallet. Visceral functions of the nervous system, by R. P Ahlquist. Higher functions of the nervous system, by H. Jasper and others. Visceral receptors, by C. Heymans and G R. de Vleeschhouwer Pituitary-adrenal relationships, by C. N. H Long. Reproduction, by R. O Greep Thyroid, by R. Michel Effects of radiation on mammals, by E. P Cronkite and V P Bond. Comparative physiology (behavior) by D S. Lehrman Author index. Subject index.

Note The volumes in this series usually follow an established pattern. Each one consists of monographic reviews of the recent international literature pertinent to a topic in physiology All are addressed to graduate physiologists and to scientists in related fields and are means whereby a worker in one area can keep abreast of developments in tangential areas. The present volume was planned during the nineteenth International Congress of Physiology at Montreal and has more of an international flavor than usual. Only 10 of the chapter authors are resident in the United States of America. Other authors are from Sweden, England, France Argentina, Belgium, Canada, Germany and the Netherlands. Furthermore the first paper written by Dr B A. Houssay of Argentina, is not a literature survey although it does include a bibliography it is an outline of the historical development and current status of research in physiology in South America, and the relation of South American activity to that of the rest of the world. Of the 21 other papers in the volume some, such as Klein's "Neoplastic growth, review the literature of a considerable span of years while others, such as Schaefer's "Heart, cover the literature of only a single year.

BARD, PHILIP, editor

Medical physiology With 438 illustrations, five in color Tenth edition. Collaborators Henry C Bazett and others. St. Louis The C V Mosby Company, 1956 1 421 p illus. (part col d) 26 cm $14 00 2800

Content (abridged) Part I, The circulation, by H. C. Bazett and P Bard The blood. The heart. Cardiac output. Pressure and flow in the arteries. Vasomotor control of the arteries and arterioles. The regulation of the systemic circulation. Lymph. The blood supply of special regions. Blood volume, hemorrhage and shock, by M. I. Gregersen Part II, The respiration, by C. F Schmidt Gas exchange in the lungs. Transport of the respiratory gases by the blood. The respiratory center The interplay between nervous and chemical factors in the regulation of respiration. Abnormal types of respiration. Poisonous effects of nitrogen, oxygen, and carbon dioxide. Part III, The physiology of the alimentary tract, by E. S. Nasset Digestion in the mouth Digestion in the stomach. Secretions in the small intestine. Absorption from the small intestine The movements of the small intestine. The colon Part IV Metabolism and nutrition, by C. L. Gemmill Energy metabolism. Tissue metabolism. The metabolism of carbohydrates The chemistry of muscular contraction. General protein metabolism The metabolism of lipids. Vitamins. The physiology of muscular exercise. Body temperature regulation, by P Bard. Part The distribution and regulation of body fluids, by M. I. Gregersen Total body water and the fluid compartments. The kidney Part VI, The endocrine glands, by R. G. Hoskins. Part VII, The neuromuscular system, by H J Curtis Electrical excitation and the relation of stimulus to response. Conduction in nerve and muscle Transmission of excitation at the neuromyal junction. Part VIII, The central nervous system, by P Bard Receptor organs and their changes in sensory nerves. Discharges in motor neurons. Synaptic transmission, by V B Mountcastle. The reflex activity of the spinal cord, by V B Mountcastle. Postural coordination, brain

Contents (abridged). Section I, Principles of nervous activity, by D. P. C. Lloyd: The nerve membrane, excitation, and impulse conduction. Nerve [illegible] and metabolism. Special physiology of nerves and tracts. Special properties of the [illegible] and [illegible]. [illegible] mechanisms. Principles of spinal reflex [illegible]. Section II, Muscle. Functional activity of muscle, by S. Gelfan. Section III, Energy transformations in muscle, by A. E. [illegible]. Section IV, Central nervous system—[illegible] functions, by J. F. [illegible]. [illegible] and energy transformations in nerve cells, by D. [illegible]. The human spinal cord—spinal [illegible], by J. F. Fulton. [illegible] rigidity and the posture. [illegible] and nervous [illegible], by J. F. Fulton. Hypothalamus—[illegible] and [illegible] functions, by J. F. Fulton. Cerebral cortex—structure and motor functions, by J. F. Fulton. Basal ganglia and cerebellum, by J. F. Fulton. Section V, The nervous system—sensory functions, by T. C. Ruch. [illegible], by T. C. Ruch. Pathophysiology of pain, by T. C. Ruch. Taste, olfaction, and visceral sensation, by H. D. Patton. The eye as an optical instrument, by F. W. Weymouth. Vision, by T. C. Ruch. [illegible] and [illegible] pathways, by T. C. Ruch. [illegible] and the cerebral cortex in primates, by T. C. Ruch. Section VI, Properties and constituents of the blood, by D. L. [illegible]. General properties of blood—the formed elements, by H. P. Wright. Coagulation of blood, by R. [illegible]. Section VII, Physiology of the organs of circulation of the blood and lymph, by D. H. Barron. The capillaries and the lymphatics, by E. [illegible]. Hemodynamics, by R. [illegible]. Mechanical events of the cardiac cycle, by H. E. Hoff. Electrical correlates of the cardiac cycle, by L. H. Nahum. Nutrition of the heart, by H. E. Hoff. The pressure gradient in the vascular system—its establishment and maintenance, by D. H. Patton. Vasomotor regulation, by D. H. Barron. Section VIII, Respiration, by H. E. Hoff. Anatomy and physics of respiration, by L. F. Nims. The [illegible] of respiration, by H. E. Hoff and C. G. Breckenridge. Section IX, Body fluids and kidney function, by W. D. Wallace. Physiology of body fluids, by R. [illegible]. The kidney, by W. D. [illegible]. [illegible] fluid, by R. B. [illegible]. Section X, Physiology of the digestive system, by P. F. Fenton, and G. R. Cowgill. The mouth and esophagus. The stomach. The [illegible]. Section XI, Metabolism and nutrition, by J. R. Brobeck. Energy exchange. Intermediary metabolism. Nutrition. Section XII, The endocrine system, by J. A. Russell. The hormones. The hypophysis. The pancreas. The adrenals. The thyroid gland. Section XIII, Physiology of reproduction, by T. R. Forbes. Reproduction in the female, by T. R. Forbes. Reproduction in the male, by C. W. Hooker. Index.

Note. Formerly [illegible] textbook of medicine, students and advanced students of biology, this classic work is useful to any [illegible] whose interests or profession require a detailed [illegible] of the current knowledge of physiology. It is organized, as shown above, in 13 sections, each of which was, in this edition, the responsibility under the general editor of the [illegible] [illegible] given in the section title. The sections are composed of 64 chapters, each one signed with the name of an eminent authority. The treatment of specific topics is [illegible] but detailed. Selected references to the literature are given in all chapters. The first edition of the book was written by W. H. Howell and published in 1905. The [illegible] edition under the same editorship as the [illegible] edition was published in [illegible]. In comparison to the [illegible] edition, the [illegible] edition contains one new chapter and seven chapters carried over have been [illegible] rewritten. Less extensive changes have been made in some of the chapters, and recent literature has been added to the bibliographies. The number of figures is 602.

GUYTON, ARTHUR C.

Textbook of medical physiology. Illustrated. Philadelphia, W. B. Saunders Company, 1956. 1030 p. illus. 26 cm. $13.50 2811

Contents (abridged). Part I, [illegible] physiology and [illegible] to human physiology. Part II, Nerve and muscle physiology. Part III, The circulation. Part IV, Body fluids and the kidneys. Part V, The blood cells, immunity, [illegible], and blood types. Part VI, Respiration. Part VII, Neurophysiology. Part VIII, The special senses. Part IX, Digestion, metabolism, and energy. Part X, Endocrinology. Part XI, Radiation. Index.

Note. The author of this relatively new textbook of physiology is Chairman of the Department of Physiology and Biophysics, the School of Medicine of the University of Mississippi, and the work is based on many years of teaching experience. The treatment is less [illegible] than some texts written for medical students, but the book is [illegible] and, nevertheless, [illegible] physiology and pathologic physiology are covered. The [illegible] is concise but is nevertheless readable. Two sizes of type have been used to distinguish the most important material from that of lesser importance. Extensive illustrations are included, and there are 575 figures.

HAMILTON, WILLIAM FERGUSON

Textbook of human physiology. With 139 illustrations. Second edition. Philadelphia, F. A. Davis Company, 1949. 675 p. illus. 24 cm. $7.00 2812

Contents (abridged). The process of excitation. The organization of reflex pathways. [illegible] pathways in man. The efferent pathways. General functions of the central nervous system. General functions of [illegible]. Cutaneous sensibility and pain. The sensations of taste and smell. Posture and equilibrium. Hearing. Radiation and vision. Hunger, thirst, [illegible], and the emotional [illegible]. [illegible] The [illegible] of the [illegible]. Respiratory functions of the blood. Abnormal [illegible] in respiration. The blood. The pumping action of the heart. The [illegible] of the heart. Arterial pressure [illegible]. Measurement and [illegible] of the circulation rate. The [illegible] of the mean blood pressure. [illegible] of the [illegible]. [illegible]. The digestive movements. Digestion, absorption, and secretion. The fluids of the body. The functions of the kidney. Metabolism. The endocrine system. Index.

Note. This book is the result of [illegible] effort on the part of the author to produce a [illegible] of the main physiological principles. [illegible] the traditional [illegible] and detailed type of textbook. The typical chapter is an outline in which only the main facts are stated, but the discussion is supplemented by a selected list of references to lengthier treatments. Discussions are fewer than in the traditional large type of text, and there are no colored plates. The book is well adapted for use in introductory courses [illegible] text [illegible] and to supplementary reading by students in other fields than physiology who find themselves in need of a survey of physiology. The author is Professor of Physiology in the School of Medicine of the University of Georgia.

GERARD, RALPH WALDO

The body functions: physiology. New York, John Wiley & Sons, Inc., 1941. 289 p. illus. 22 cm. (The sciences: a survey course for colleges, edited by Gerald Wendt) $3.50. 2810

Contents. Part [illegible] Muscle and other effectors. Nerves and the nerve impulse. Stimulus and response. [illegible] Part [illegible] Circulation. Gas exchange. Foods and wastes. Protection and [illegible] Behavior and mind. Appendix. Bibliography. Glossary. Index.

Note. This work is a [illegible] survey of physiology on the basis of the modern [illegible], in line with the present-day emphasis upon function rather than anatomy. Respiration, nutrition, and reproduction are analyzed into their simple component processes, and are established as the basis of [illegible]. The informal, [illegible] style makes the book suitable for the layman, as well as [illegible] beginning study of the subject.

JOSIAH MACY, JR., FOUNDATION

Problems of aging. Transactions of the fifteenth conference, January 20, 21 and 22, 1953, Princeton, N. J. Edited by Nathan W. Shock. New York. Sponsored by the Josiah Macy, Jr., Foundation, 1954. 213 p. illus. 24 cm. $4.25 2813

Contents. Introductory remarks, by [illegible]. [illegible] structure, by W. Andrew. Group interchange. References. Some biochemical studies on the process of aging, by B. F. Chow. Group interchange. References. The role of comparative physiology in studies of aging, by F. Bourlière. Group interchange. References. A student of aging looks at the Macy Foundation for [illegible] years, by C. M. McCay. Cumulative index 1949 through 1953.

Note. Participants in this conference were drawn from a number of scientific disciplines, including anatomy, pathology, surgery, physiology and biochemistry. The [illegible] [illegible] discussed (and [illegible] in this volume) are named in the above Contents. However, the conference was an informal one in which the participants questions and remarks ran to several times more [illegible] than the reports upon which the discussion were focused. In short, the pattern of

cm (Experimental biology monographs) $6 90 2804

Contents Part I, Introduction Historical development of the concept. Supersensitivity—definitions and examples. Part II, Supersensitivity to chemical agents Smooth muscle—sympathetic stimulation—sympathetic inhibition—parasympathetic stimulation and inhibition. Melanophores. Glands. The heart. Striated muscle Sympathetic ganglia. Spinal neurons. Coordinating centers. Part III, Supersensitivity to nerve impulses Smooth muscle. Submaxillary gland. Adrenal medulla. Sympathetic ganglia. Striated muscle. Spinal neurons. Part IV Possibly related phenomena The spontaneous activity of denervated structures. The crossed phrenic phenomenon. The deficiency of the discharges of the cut phrenic. Part V Theories and implications A law of denervation. Theories of sensitization—the determinism—the mechanism. Some implications of the law of denervation. References. Author index. Subject index.

Note A monograph on the physiological phenomenon of increased sensitivity to adrenalin and certain other chemicals that is exhibited by muscles and glands which have been denervated. Both the experimental results obtained by the authors in their investigations and the results of other research workers have been incorporated. The different types of supersensitivity are described and the clinical and pharmacological implications of vicarious chemical control are pointed out. The book is of fundamental interest in several areas of experimental biology and medicine. The list of references is 30 pages in length.

CANNON, WALTER BRADFORD

The wisdom of the body Revised and enlarged edition New York W W Norton and Company, Inc. 1939 333 p illus 22 cm $5 00 2805

Contents Preface. Preface to the second edition. Introduction. The fluid matrix of the body The safe-guarding of an effective fluid matrix. Thirst and hunger as means of assuring supplies. The constancy of the water content of the blood. The homeostasis of blood sugar The homeostasis of blood proteins. The homeostasis of blood fat. The homeostasis of blood calcium. The maintenance of an adequate oxygen supply The homeostasis of neutrality in the blood. The constancy of body temperature. The aging of homeostatic mechanisms. Natural defenses of the organism. The margin of safety in bodily structure and functions. The general functions of the two grand divisions of the nervous system. The role of the sympathico-adrenal system in homeostasis. The general features of bodily stabilization. Epilogue Relations of biological and social homeostasis. A list of publications from the physiological laboratory in Harvard University on which the present account is based. Index.

Note The first presentation for the general reader of the stabilizing devices by which our bodies are kept normal—a process the author calls homeostasis. This revised and enlarged edition incorporates new facts and developments in the seven years since the publication of the first edition Also the chapter on the effects of age on homeostatic mechanisms has been added.

CARLSON, ANTON J, AND VICTOR JOHNSON

The machinery of the body Fourth edition Chicago University of Chicago Press 1953 663 p illus 24 cm $5 50 2806

Contents The science of physiology The organization of protoplasm. Blood and the internal environment The work of the heart. Blood flow and blood pressure. Mechanisms and functions of breathing. The work of the alimentary canal. The history of foods in the body The action of muscle and nerve Mechanisms of correlation—the spinal cord and brain. Sensory mechanisms. Chemical correlation—the glands of internal secretion. Body defenses against disease Reproduction and early development. Selected references. The authors. Index.

Note An exceptionally good introductory book in physiology It is written at the college level and the first edition published in 1937 was one of the "new plan" textbooks developed by the University of Chicago. Although elementary the treatment is not superficial. The reader is afforded a fairly detailed view of the biochemistry and mechanisms of the human body Some of the gaps in the knowledge are also indicated. The book has an attractive format and is well indexed. The third edition was published in 1948. In this fourth edition the former chapter on the cell has been eliminated and much of its contents incorporated in other chapters. The division of the material in the various chapters into elementary and advanced has been discontinued. Otherwise the organization of the book is the same However many changes have been made both in the revision of older material and the addition of new topics. There are 323 figures in the fourth edition.

CURETON, THOMAS KIRK, JR.

Physical fitness of champion athletes. Assisted by Floyd Boys Norris L. Brookens Richard V Ganslen Maxwell R. Garret, Alfred W Hubbard, Paul Hunsicker, Frederick W Kasch William Kastrinos Benjamin H. Massey Henry J Montoye Nicolaas Strydom, Jacob G Wolf Herbert S Wolf Urbana University of Illinois Press 1951 458 p illus 28 cm $10 00 2807

Contents List of athletes tested. Additional data used for comparative purposes. Part I, Research objectives: The plan for physical fitness. Part II, The physique studies Body types of athletic champions. Anatomical proportions related to athletic performance. Analysis of the weight of champions. Part III, The motor fitness studies General motor fitness characteristics and strength of champions. Flexibility measurements of champions. Vertical jump reaction times of champions. Part IV Cardiac, vascular and metabolic studies *Measurements of heart size related to athletic performance.* The electrocardiogram as a test of fitness. The brachial pulse wave test of cardiovascular condition. Results of the cardiovascular tests. Breath-holding as a test of cardiovascular condition The lying basal metabolism test of fitness. The quiet sitting metabolic rate test and determination of cardiac output. Treadmill tests of maximal physical efficiency Metabolic variations—a control experiment. Appendices. Index.

Note This book is a report in detail of tests of various aspects of physical fitness carried out in the *Physical Fitness Research* Laboratory of the School of Physical Education of the University of Illinois. The subjects were United States Olympic athletes, national champion athletes, members of college athletic teams, and healthy young men not accomplished in athletics. The wide range of the study is apparent in the titles of the parts and chapters listed above. Techniques are explicitly described. Results are presented in an extensive series of charts and tables, and are interpreted in a lengthy text. Literature references are given. Photographs of and data on individual athletes including their somatic measurements and calculated organic efficiencies are included in the appendix

DRINKER, CECIL K

The clinical physiology of the lungs. Springfield, Ill Charles C Thomas, 1954 84 p. illus (part col d) 24 cm. $5 50 2808

Content The pulmonary artery and arterioles The pulmonary veins and capillaries. The bronchi and bronchioles. The nerves in the lungs and their effects on breathing and circulation. The lymphatics of the lungs and pleural surfaces

Note A short, easily readable study of the basic structural components of the lung and of their roles in the adaptation of the lung to breathing and to the circulation of the blood. It was developed from a course of lectures given by the author in 1950 at the Medical College of the State of South Carolina. Although it is an independent study it complements the author's *Pulmonary edema and inflammation* 1945 It incorporates much knowledge from experimental psychology including both the author's own work in this field and the work of others. The title notwithstanding, applications to clinical medicine are not stressed.

FULTON, JOHN F, editor

A textbook of physiology Edited by John F Fulton with the collaboration of Donald H. Barron William D Blake, John R. Brobeck George R. Cowgill Paul F Fenton Thomas R Forbes Samuel Gelfan David I. Hitchcock Hebbel E. Hoff David P C. Lloyd, Theodore C Ruch and Jane A. Russell Seventeenth edition illustrated Philadelphia W B Saunders Company 1955 1 275 p illus 26 cm $13 50 2809

studies during hypothermia, by J. W. Severinghaus and M. Stupfel. The gas transport system in hypothermia, by F. F. Kao. Hypothermia in the unanesthetized poikilothermic dog, by A. D. Keller. Physiology of hibernation in mammals, by C. P. Lyman and P. O. Chatfield. Rewarming and recovery of hypothermic, supercooled, and frozen mammals, by R. K. Andjus and others. Part II, The effects of hypothermia on specific systems. A. Cardiovascular: Cardiovascular function in deep hypothermia, by H. E. D'Amato. The circulation during rewarming, by R. Berne. Coronary blood flow during hypothermia, by R. M. Berne. B, Endocrine: The effect of hypothermia on pituitary ACTH release and on adrenal cortical and medullary secretion in the dog, by D. M. Hume and others. The effect of hypothermia on the peripheral serum levels of free 17-hydroxycorticoids in the dog, and in man, by W. F. Bernhard. C, Hematology: Some problems of hematology in hypothermia—an introduction, by W. H. Crosby Jr. The effect of hypothermia on platelets and white cells in dogs, by T. J. Villalobos and others. D, Kidney: Renal functional response to hypothermia and ischemia in man and dog, by J. H. Moyer and others. Effect of hypothermia on the kidney, by R. K. Andjus. E, Liver: Hypothermia and temporary occlusion of the hepatic circulation, by K. E. Fineberg and F. J. Lewis. Effect of hypothermia on metabolism and drug detoxication in the isolated perfused rabbit liver, by I. Gray and others. The effect of hypothermia on the isolated perfused rat liver, by R. W. Brauer. F, Nervous system: Effects of cold on the nervous system, by J. D. McQueen. Effects of changes in arterial pCO_2 on cerebral blood flow and metabolism during hypothermia, by J. Kleinerman. Hypothermia and the central nervous system, by H. L. Rosomoff. Hypothermia and the nervous system, by C. McC. Brooks. Experimental and clinical observations on the use of hypothermia to prevent ischemic damage to the central nervous system, by R. G. Parrish and M. E. De Bakey. Fibrillation and fibrillation of ... during cooling in dogs, by J. M. Jensen and others. Review and appraisal of Parts I and II, by J. W. Severinghaus. Review and appraisal of Parts I and II, by S. M. Horvath. Part III, Myocardial irritability and hypothermia. Hypothermia and the physiology of cardiac excitability, by C. McC. Brooks. Temperature effects on cardiac transmembrane potentials, by B. F. Hoffman. Myocardial irritability in experimental immersion hypothermia, by R. H. Fasquez and R. G. Covino. Review and appraisal of Part III, by C. McC. Brooks and B. F. Hoffman. Part IV, Clinical application of induced hypothermia. Hypothermia in neurosurgery, by L. H. Botterell and W. M. Lougheed. Effect of hypothermia on tolerance to hemorrhagic shock, by E. W. Frankson and others. Experimental observations on the influence of hypothermia and autonomic blocking agents on hemorrhagic shock, by R. C. Overton and M. E. De Bakey. Hypothermia and experimental myocardial infarction, by C. Hagerty. Treatment of the severely ill, febrile patient with surface cooling, by F. J. Lewis and others. The use of hypothermia in cardiac surgery, by H. Swan. Review and appraisal of Part IV, by R. D. Dripps. Part V, Techniques of inducing hypothermia. Problems in methods of inducing hypothermia by use of external cooling, by W. H. Moffat Jr. and J. F. Dammann. Problems in methods of inducing hypothermia by use of drugs and internal cooling, by J. F. Dammann and W. H. Moffat. Review and appraisal of Part V, by R. D. Dripps. Summary. Index of authors and discussants.

Note A wide range of knowledge from the laboratory, from animal experimentation, and from clinical experience is presented in this volume. Some of the papers, for instance, Lyman and Chatfield's "Physiology of hibernation in mammals," are primarily literature surveys. Others, such as Swan's "The use of hypothermia in cardiac surgery," are summaries of clinical experience. Most of the papers include literature references, and many are accompanied by transcripts of the discussion during the symposium. The evaluatory articles which appear after each part of the symposium are most useful that the discussants. The authors of these articles both criticize the papers which were presented and summarize some of the findings. Unfortunately no index to the contents of the volume has been included.

Pace, Donald M., and Benjamin W. McCashland

College physiology. New York, Thomas Y. Crowell Company, 1956. 615 p. illus. 23 cm. $6.00 2819

Contents (Abridged): Part I, General: Basic phenomena of living organisms. The organization of animals. Part II, Structure and movement: The skeleton of mammals. Skeletal muscle. The chemistry of muscle contraction. Part III, Nervous coordination: Structure and function of the neuron. The spinal reflex system. The brain and its functions. The autonomic nervous system. Part IV, Receptors: Cutaneous and internal receptors. Chemoreceptors. Light receptors. The ear. Part V, The transport system: The fluid media of animals. Blood volume and problems in transfusion. The spleen. Lymph, blood coagulation. The heart. Shock and vasomotor activity. Part VI, Respiration: The regulation of breathing movements. The heat regulatory system. Part VII, Nutrition and elimination: The vitamins. The digestive system. Metabolism. Physiology of excretion. Part VIII, Endocrine glands and reproduction. Glossary-index.

Note A broad introduction designed for use in introductory courses. It is not comparative physiology, though the physiological processes discussed are, for the most part, presented as being common to animals in general. However, there is emphasis on human physiology, and chapters such as that on the heart are devoted exclusively to the human aspect. The authors' style reads well. There are 311 figures. The "glossary-index" combines definitions of terms with page references to where the terms are discussed in the volume. The authors are members of the faculty of the Department of Physiology of the University of Nebraska.

Prosser, Clifford Ladd, editor

Comparative animal physiology. By David W. Bishop, Frank A. Brown Jr., Theodore L. Jahn, C. Ladd Prosser, and Verner J. Wulff. Philadelphia, W. B. Saunders Company, 1950. 888 p. illus. 24 cm. $13.00 2819A

Contents: Introduction. Water. Inorganic ions. Protein specificity. Nutrition. Feeding and digestion. Nitrogen excretion. Respiration and metabolism. Respiratory functions of body fluids. Temperature: metabolic aspects and perception. Photoreception. Chemoreception. Phonoreception. Mechano- and equilibrium-reception. Circulation of body fluids. Muscle and electric organs. Ameboid movement. Cilia. Trichocysts and nematocysts. Bioluminescence. Chromatophores and color change. Endocrine mechanisms. Nervous systems. Index.

Note This book is both a textbook and a manual of reference. When used as a textbook it is suitable for upperclass undergraduate science students and first-year graduate students. Its usefulness as a reference book derives from its relatively full discussions of specific topics and its lengthy bibliographies. The reference value is enhanced by numbered cross-references from statements in the text to the bibliographies. Although the material is arranged by function and organ systems, the index includes the names of animals, for example "Echinoderms." Thus, the book can be used as a guide to the main facts and the literature pertinent to physiological functions in specific animals.

Rahn, Hermann, and Wallace O. Fenn

A graphical analysis of the respiratory gas exchange: the O_2-CO_2 diagram. Washington, D. C., The American Physiological Society, 1955. 38 p. illus. 27 cm. $4.00 2820

Contents: Introduction. Lung gases on the O_2-CO_2 diagram. Representation of blood gases on O_2-CO_2 diagram. Alveolar pathways. Special notes. Alveolar gas composition at altitude. Oxygen transport and cardiac output. Gas exchange in closed spaces. Bibliography. Appendix.

Note An important work for physiologists and scientists in other fields who are concerned with the study of respiration. It presents an original graphic approach to the solution of problems pertaining to oxygen-carbon dioxide quantities in tissues, lungs and blood under many conditions of breathing, including breathing at high altitudes and in enclosed spaces such as submarines. Seven folded charts and two transparent charts for overlaying them in the solution of specific problems are included.

Rogers, Charles Gardner

Textbook of comparative physiology. Second edition. New York, McGraw-Hill Book Company, Inc., 1938. 715 p. illus. (part col'd) 23 cm. (McGraw-Hill publications in the zoological sciences, A. F. Shull, consulting editor) $10.00 2821

Contents: Introduction. Solutions. Diffusion and osmosis. Protoplasm. The cell. The general phenomena of life. The transport system. Circulation of body fluids. Respiration. Enzymes and digestion. Secretion. The nutrition of animals. Absorption. Utilization of food materials in the body. Physiology of movement. Excretion. The physiology of coordination, adjustment, and regulation. The physiology of reproduction.

Note: A comparative survey of the principal physiological functions of animals of all groups, especially of the invertebrates. In the second edition the text was rearranged and rewritten to facilitate its use as a textbook as well as a handbook for technicians.

the conference was the same as of other conferences sponsored by the Josiah Macy Jr Foundation. Bibliographies organized on the standard pattern are included. Transactions of the first through sixth conferences were not published, and transactions of the 10th and 11th conferences are out of print. Those of the 12th, 13th, 14th, and 15th conferences are still available. The 15th conference was the final one on problems of aging.

Lee, Douglas Harry Kedgwin

The physiology of tissues and organs Springfield, Ill Charles C Thomas, 1950 159 p illus 23 cm $4 00 2814

Contents (abridged) Part i, Physiology of tissues Chemical factors in living processes. Physical factors in living processes. Cell multiplication and differentiation Nervous tissue. Muscular tissue. Epithelial tissues. Connective tissue cartilage and bone Blood. Endothelial tissues and the fibroblastic reaction. Part ii, Physiology of organs: Absorptive organs. Transferror organs. Storage organs. Mechanical effector organs. Chemical effector organs. Excretory organs. Organs of special sensation Organs of reproduction. Embryo, considered as an organ. Conclusion.

Note Essentially an outline of the physiological functions of specific tissues and tissue systems. Not only are the chapters short, but the style is very concise. Nevertheless, the fundamentals of physiology are well presented. The book is suitable for use in instruction or review for examinations and also as a source of quick reference in both personal and institutional libraries. The first edition was published in Australia and was designed for use by students in the University of Queensland. The author is a member of the faculty of the Johns Hopkins University

McMaster, Philip Duryee and others

Lymph. New York New York Academy of Sciences, 1946 203 p illus 23 cm (New York Academy of Sciences Annals Vol 46, p 679–882 1946) $2 75 2815

Contents Introduction, by P D McMaster Functional activity of the blood capillary bed, with special reference to visceral tissue by R. Chambers and B W Zweifach. Blood circulation in the subcutaneous tissue of the living bat's wing, by P A. Nicoll and R. L. Webb. Capillary permeability and the factors affecting the composition of capillary filtrate by E. M Landis. Intercellular substance in relation to tissue growth, by E. R. Clark. Conditions in the skin influencing interstitial fluid movement, lymph formation and lymph flow by P D McMaster The significance of lymphatic blockade in immunity by V Menkin Extravascular protein and the lymphatic system, by C. K. Drinker The role of the lymphocyte in the circulation of the lymph, by W E. Ehrich. The role of lymphocytes in normal and immune globulin production, and the mode of release of globulin from lymphocytes, by A. White and T F Dougherty

Note The papers comprising this volume were presented at a conference held under the auspices of the New York Academy of Sciences in April, 1945 Each paper discusses an aspect of the subject which is currently of interest and in which, in most cases, the paper's author has conducted original research. Each paper is supplemented by a bibliography and in some cases, a discussion by members of the conference There is no index.

Mitchell, Philip H

A textbook of general physiology Fifth edition New York McGraw Hill Book Company Inc. 1956 885 p illus 23 cm. (McGraw Hill publications in the zoological sciences E J Boell consulting editor) $10 50 2816

Content Excitation and inhibition. Physiology of contraction Functional units of nervous systems—neurons and protoneurons Reflexes and tropisms. Correlating action of the nervous system Receptors. Organic constituents of living matter Inorganic constituents of living matter Biological significance of water and other electrolytes. Physiological significance of hydrogen and hydroxyl ions. Surface action. The colloidal state Physicochemical structure of living matter Diffusion and osmosis, osmotic pressure Permeability of membranes and living cells. Synthetic processes in plants and animals. Catalysis and enzymes. Digestion. Chemistry of the blood and lymph. Circulation of the blood. Respiration. Physiological oxidations. Intermediary metabolism. Excretion. Nutritional requirements. Chemical regulation by internal secretions Index.

Note A standard textbook which has been used in American colleges since 1923 It is designed for students beginning the study of the subject and who have had introductory courses in college biology physics, and general chemistry The word "general" in the title has been taken literally and topics from both animal and plant physiology are included. Emphasis is placed on physiological processes rather than on the physiology of organs. The fourth edition was published in 1948. This edition the manuscript of which was completed before the author's death, contains many revisions and additions. It has been printed from re-set type and given a new attractive format

Nash, Joseph

The new second edition of Nash's Surgical physiology The first edition was written by Joseph Nash The second edition was revised and edited by Brian Blades With the collaboration of *Edward J Beattie, jr and others.* Springfield, Ill Charles C Thomas 1953 686 p illus 25 cm. $12 50 2817

Contents General physiology of the circulation, by E. J. Beattie, jr Recent advances in the surgery of the cardiovascular system, by E. J Beattie, jr Blood vessels, by L. Gerber Circulatory disturbances in surgery Physiology of burns and tissue repair, by F C Meloy and G. Letterman Mechanics of respiration, by B. Blades Control of respiration. The salivary glands, esophagus and stomach, by W S. McCune The intestines. The pancreas, by V M. Levine The liver by V M. Levine. Vitamins in surgery by V M. Levine General physiology of the body fluids, by J J Weinstein. Acid base balance. The kidney The endocrine glands, by W H. Gerwig, Jr The thyroid, by E. A. Gould. Afferent functions of the nervous system—the reflex arc. Efferent functions of the nervous system—control of the skeletal muscle. Nerve degeneration and regeneration—the cerebrospinal fluid. Physiology of the autonomic nervous system, by H. V Rizzoli. Autonomic control of certain systems, by H. V Rizzoli. Physiological considerations in autonomic system surgery by H. V Rizzoli. Bibliography References. Subject index. Author index.

Note Physiological knowledge is directly related to surgery in this book. As the chapter titles listed in full above show the material is arranged largely according to systems and organs, but chapters are also included on general physiological phenomena such as the control of respiration the autonomic control of the circulatory system, the alimentary system, and the urinary system. The style is direct and readable. The first edition was published in 1942 and [w]as reprinted five times. Some of the chapters have been carried over t[o] this second edition [w]ithout change except for revisions of their bibliographies. However the contributed chapters, those with authors' names [a]ttached in the above contents, are new The length of the volume has been increased by more than 200 pages.

National Research Council Division of Medical Sciences

The physiology of induced hypothermia. Proceedings of a symposium, 28–29 October 1955, convened by the Division of Medical Sciences, National Academy of Sciences—National Research Council with the sponsorship of the United States Army Navy and Air Force. Robert D Dripps, chairman and editor Washington, D C. National Academy of Sciences—National Research Council, 1956 447 p illus 26 cm (National Academy of Sciences—National Research Council Publication 451) $3 50 2818

Content Part i, General physicochemical and physiologic considerations of hypothermia Some considerations of physicochemical factors in hypothermia, by D E. S. Brown. Effects of hypothermia on general metabolism by S. M. Horvath and G. B. Spurr. The effect of low temperatures upon intracellular potassium in isolated mammalian tissues, by I. M Taylor Potassium exchange in perfused mammalian skeletal muscle, by E. M Renkin. Electrolyte transfer during hypothermia, by F Gollan. Myocardial balance of potassium, by H S ... Effects of low body temperature on tissue oxygen utilization, by E. F Adolph Oxygen consumption of mammalian tissues at reduced temperatures, by F A. Fuhrman. Respiratory physiology

Contents: Introduction, by E. D. Churchill. Internal state of severely wounded men on entry to the most forward hospital. Liver function in the severely wounded. Renal function in the severely wounded. Diagnosis of lower nephron nephrosis resulting from traumatic wounds and shock ("shock kidney"). Clinical, physiologic, and biochemic correlation in lower nephron nephrosis. Treatment of lower nephron nephrosis. Effect of alkalis in treatment of traumatic shock. Pigment excretion in severely wounded men. Pathology of the kidney in traumatic shock. Sulfonamides in relation to "shock kidney". The crush syndrome in battle casualties. General pathology of traumatic shock. Appendixes: Organization and operation of the Board for the Study of the Severely Wounded. The field laboratory. Biochemic methods. Survey of case records. Index.

Note: The data for this clinical study were collected chiefly in Italy during 1944–1945. It had been found by the Surgical Service that recovery of some of the severely wounded was handicapped by renal lesions complicating the original lesion. A special clinical study of the resuscitation of the wounded was therefore initiated for the boards of Medical Service both in the Mediterranean Theater and elsewhere. Based upon studies of scores of wounded personnel, the results as published in this volume form a contribution to medical knowledge which is especially significant because severe surgical shock following trauma is not commonly encountered in the medical practice of any group during peacetime.

Van Liere, Edward Jerald

Anoxia, its effect on the body. Chicago University of Chicago Press 1942 269 p. illus. 23 cm. $6.00 2828

Contents: Historical. Definition of terms. Classification of anoxia. Expression of the degree of anoxia. Experimental methods of producing anoxia. General considerations. Effect of anoxia on the blood. Chemical changes in the blood during anoxia. Effect of anoxia on the heart and circulation, on blood pressure, on the lymph, on respiration. Mountain sickness and altitude sickness. Acclimatization. Effect of anoxia on the alimentary tract. Anoxia and the secretion of urine. Effect of anoxia on the endocrine glands. Metabolism and anoxia. Anoxia and heat regulation. Anoxia and exercise. Effect of anoxia on water distribution in the body. Effect of anoxia on the nervous system. Index.

Note: Lack of oxygen, a subject of increasing importance due to aviation, is here considered systematically in connection with all the physiologic processes of the body. Anoxemia is also recognized more and more as a concomitant symptom of many diseases.

Wiggers, Carl John

Physiology in health and disease. Fifth edition, thoroughly revised. Illustrated with 2/9 engravings. Philadelphia Lea & Febiger 1949 1,242 p. illus. 24 cm. $10.00 2829

Contents (abridged): Section I, Muscular contraction and associated phenomena. Physiology of skeletal muscle. Functions of cardiac and smooth muscle. Bioenergetics. Bioelectric phenomena. Section II, The physiology of the peripheral and central nervous systems. Physiology of nerve. Physiological purposes of reflex actions and their disturbances in disease. Control of voluntary and involuntary movements. Somatic sensibilities and their disturbances. Special sense functions. Associatory functions of the cerebral cortex. The physiological basis for psychosomatic reactions. Section III, The blood. Section IV, Respiration. Respiratory movements and mechanics of lung ventilation. Interchange of gases in the lungs and tissues and their transportation by the blood. Chemical disturbances of respiration. Aviation physiology. Section V, Heart and circulation. Excitation of the mammalian heart and its nervous control. Electrocardiography. Hemodynamic principles. Nervous and chemical control of blood pressure. Dynamics of the heart beat. Hypertension. The pulmonary circulation. Coronary circulation. Dynamics of valvular lesions. Hemorrhage and shock. Section VI, Physiology of the alimentary tract. Section VII, Metabolism and nutrition. Digestion, absorption and assimilation. The nutritional and energy balances of the body. Hyperthermia and hypothermia. Vitamins in nutrition. Section VIII, Excretion and body fluids. Section IX, Endocrine organs. Humoral control of functions by hormones. Pituitary hormones and disorders. Diabetes, insulin, and other hormones. Hormones of the adrenal medulla and cortex. The thyroid gland and its hormone. Sexual functions and their hormonal control. Physiology of pregnancy, labor and lactation. Index.

Note: A standard textbook of the medium type. Its special purpose is to correlate physiology and clinical medicine for medical students, internes, and investigators in both medicine and physiology. A wide range of information is presented rather concisely with citations of fuller discussion in published books and papers. There is more emphasis on physiological experiments which demonstrate natural reactions. This ed. has represents an extensive revision of much of the text overtaken, 60 new illustrations, and approximately 1,000 new literature references.

Winslow, Charles Edward Amory and L. P. Herrington

Temperature and human life. Princeton Princeton University Press 1949 272 p. illus. 23 cm. $4.00 2830

Contents: Production of heat in the life process. Avenues of heat loss from the body. The adjustments of the human body to varying thermal conditions. The thermal protective influence of clothing. The objectives of air conditioning. Methods of air conditioning. The influence of climate and season upon health. Glossary. References. Index.

Note: An inclusive presentation of current knowledge pertaining to the effects of temperature and related environmental conditions on life processes in human beings. Although it is based on an extensive literature survey and is written mainly from the physiological viewpoint, it is easy to read. This quality makes it a suitable book for such readers as medical practitioners, heating and ventilating engineers, and persons concerned with the design of military clothing. Engineers and physiologists in need of a reliable well-documented survey of the subject will also find it useful.

Wolf, Stewart and Harold G. Wolff

Human gastric function, an experimental study of a man and his stomach. With a foreword by Walter B. Cannon. Second edition revised and enlarged. New York Oxford University Press 1947 262 p. illus. (part col'd) 24 cm. $5.00 2831

Contents: The appearance and behavior of a stomach after forty-seven years of feeding through a gastric fistula. The study of gastric function, method of collection and interpretation of data. Correlation of motor activity, secretion, and blood flow. The influence of common physical and chemical agents on gastric function. Further data on the effects of chemical agents and other influences on gastric function and on the gastric mucosa. The background and personality of the subject. Changes in gastric function in relation to various situations and accompanying emotional states. Further correlation of gastric function with life situations. Gastric emptying time. Sensation in the stomach and the mechanisms underlying gastric symptoms. The gastric mucosa, gastritis, and ulcer. The effect of emotions on gastric function (with the collaboration of W. De W. Andrus). Formulation. Appendix. Index.

Note: A famous study of interrelations between emotional states and gastric activity. It was based on observations and experiments on a patient with gastric fistula. This man, who first came under the observation of the authors at the age of 57, had had a gastrostomy at the age of nine and during approximately 47 years had fed himself by means of a funnel inserted into the fistula. The authors' studies extended over a period of years. While the patient was an employee of New York Hospital and at the same time lived at home and maintained his position as the head of a family. The effects of the emotional crises of family living were studied as well as the reaction to planned experiments in the hospital. The findings are correlated with the findings of other researchers as published in the literature. Other noted cases of gastric fistula, including William Beaumont's famous observations on Alexis St. Martin, are outlined in the appendix. The first edition was published in 1943. Three new chapters were added in this second edition, and some changes were made to chapters carried over from the first edition, the augmentations and revisions being based on further observations on the principal subject and upon several other subjects.

Youmans, William Barton

Basic medical physiology. Chicago The Year Book Publishers, Inc., 1952 436 p. illus. 24 cm. $7.50 2832

Contents (abridged): Section I, Excitation, conduction and response. Stimulation and response of muscle and nerve. Transmission of excitation at the skeletal neuromuscular junction. Transmission of neural influences to visceral effector cells. Receptors, reflex arc conduction and reflex action. Section II, Circulation. General plan of the circulatory system. Physiology of the heart. Control of circulation. Arterial blood pressure. Cardiac output. Venous pressure and venous pulse. Blood. Section III, Respiration. Uptake

ROTHMAN, STEPHEN

Physiology and biochemistry of the skin Chicago University of Chicago Press, 1954 741 p illus 25 cm (The University of Chicago Committee on Publications in Biology and Medicine, Emmet R Bay and others) $19 50 2822

Content Mechanical properties. Electrical behavior Percutaneous absorption. Circulation and vascular reactions. Sensory functions. Sweat secretion. Composition of eccrine sweat and aqueous surface film. pH of sweat and skin surface. Insensible water loss. The role of the skin in thermoregulation. The sweat-retention syndrome. Sebaceous-gland excretion Composition of the lipid surface film Nitrogenous constituents general data. Epidermal proteins. The keratinization process. Collagen reticulin, and elastin by Z. Fetcher Connective-tissue ground substance, by O C. Wells. Carbohydrates. Lipid constituents. Water and electrolytes. Pigmentation, by A. L. Lorincz. Enzymes, by A. B Lerner Carbon dioxide delivery Biology of epidermal cells, by H Pinkus. Hair growth, by P Flesch. Nutritional influences, by A. L. Lorincz. Pathophysiology of blister formation. Subject index. Author index.

Note Designed "to serve dermatological research, this book is a fairly comprehensive survey of basic physiological and biochemical knowledge pertaining to the skin and particularly to its unique functions, such as sweat secretion, sebum formation and melanin production. Each of the chapters is compactly written and is accompanied by a long bibliography The bibliography appended to the chapter on sweat secretion—to take an example—contains 701 citations of the international literature and it is not the longest chapter bibliography in the volume. The subject index is very detailed, and the author index includes the names of all of the authors of cited literature.

SCHEER, BRADLEY TITUS

Comparative physiology New York John Wiley & Sons, Inc. 1948 563 p illus 22 cm $7 95 2823

Content The physiology of animals. Protozoa. Multicellular acoelomate animals. Mollusca. Annelida. Arthropoda (Crustacea and Limulus) Arthropoda (Insecta) Echinodermata. Vertebrata (vegetative functions) Vertebrata (animal functions) Summary Appendix. Species index. Subject index.

Note A compact survey of the physiology of the animal phyla named in the contents Designed for use in advanced college courses in comparative physiology It is also useful as a reference manual and guide to the literature. The author states that more than 1 000 original papers were consulted in the course of the book's preparation. Keyed references to the literature are included in the text.

SCHEER, BRADLEY TITUS

General physiology New York John Wiley & Sons Inc 1953 613 p illus. 23 cm $7 00 2824

Contents Part I, The physicochemical foundations of life The physical basis of vital activity The chemical basis of life. Colloidal systems. Physicochemical structure of cells. Part II, The chemical dynamics of life Biocatalysis. Catabolism. Anabolism and biosynthesis Metabolism—a dynamic picture of life. Part III, Energy transformation in cells and organisms Permeability Bioelectric potentials. Conversion of chemical to mechanical energy Physiological aspects of radiant energy Physiological aspects of radiant energy Part IV The development of organisms The physiology of fertilization Growth. Control of development. Mechanism of differentiation. Part The integration of the organism Excitation and conduction Nervous integration. Humoral integration. Bibliography Index.

Note Although an introduction to physiology this book is a more thorough and advanced treatment than is common in textbooks for first courses. It is designed for the instruction of college students who are preparing for careers in biology or medicine and who have completed basic courses in general biology physics and chemistry It condenses a wide range of experimental knowledge pertaining to the physics and chemistry of living organisms, and interprets its significance. The elementary descriptive matter sometimes found in introductory texts is subordinated to discussions of such matters as the effects of radiation on living cells and the mechanism of differentiation Throughout the volume statements and data are referenced to a bibliography containing 1 488 citations.

SHILLING, CHARLES W

The human machine, biological science for the armed services Annapolis United States Naval Institute 1955 292 p. illus. 27 cm. $5 00 2825

Content Part I, The construction and operation of the human machine The living organism. Mechanics of movement. Production of energy Mechanisms of temperature control. Information receptors. The reproductive mechanism. The communication system The potential of human performance. Part II Preventive maintenance and repair of the human machine Malfunction of the human machine. Alcohol tobacco, and drugs. Personal hygiene. Oral health. Preventive medicine. First-aid and emergency treatment. Part III The human machine as part of the war machine The physical world. Marine biology Underwater activity Aviation medicine. Twentieth century warfare. Military medical organization. Bibliography Index.

Note Although termed "biological science this book deals chiefly with the fundamentals of man physiology their applications in the maintenance of health, and the implications for military activity It was first designed for the instruction of midshipmen enrolled in the United States Naval Academy then was developed into text for courses offered to other military personnel as well. Fundamentals of human physiology are discussed in an elementary but mature fashion in the first part. In the second part, considerable space is devoted to applications of physiological knowledge in preventive medicine and emergency treatment. This section includes both diagrams and discussion of sanitary devices for military use. In the third part some aspects of modern warfare, such as life in submarines, are discussed from the standpoint of the adaptability and limitations of the human body

SYMPOSIUM ON PROBLEMS OF GERONTOLOGY

Proceedings of a symposium held under the auspices of The Johns Hopkins University School of Hygiene and Public Health and The National Vitamin Foundation Incorporated, New York City March 2 1954. New York The National Vitamin Foundation Inc. 1954 141 p illus 23 cm (Nutrition symposium series No 9) $2.50 2826

Contents Some physiological and biochemical aspects of aging, by N W Shock. Senescence as a sequel to adolescence, by A. I. Lansing F t metabolism—with particular reference to problems of aging, by H. J Deuel, jr Protein metabolism—with particular reference to problems of aging, by C. S. Davidson. Vitamin B₁₂ and aging, by B F Chow Blood and urine vitamin levels in the aged, by J E. Kirk Hemopoietic factors with reference to aging, by F H. Bethell. The hormones and metabolism, by C. N H. Long Endocrine stress and aging, by D J Ingle. Special nutritional problems of the aged, by H. A. Rafsky

Not The symposium of which this book is product was devoted to discussion of aging from a biological viewpoint; that is to say to the physiological and biochemical aspects, rather than to the social and psychological. Aging in man was the primary subject, but results from several studies on animals are included, and, in fact, Lansing's paper does not deal with man at all. A number of problems requiring further study are mentioned in the papers and discussions.

UNITED STATES ARMY BOARD FOR THE STUDY OF THE SEVERELY WOUNDED

The physiologic effects of wounds, by the Board for the Study of the Severely Wounded, North African-Mediterranean Theater of Operations Office of the Surgeon General, Department of the Army Washington D C. Government Printing Office 1952 376 p. illus (part col d) 26 cm (United States. Army Medical Service Office of the Surgeon General The Medical Department of the United States Army Surgery in World War II) $3 50 2827

[illegible]

MINER, ROY WALDO editor

Leukocytic function. Conference co-chairmen Albert S. Gordon, John W. Rebuck, and Robert S. Speirs. Consulting editor Albert S Gordon. New York. Published by the Academy 1955 653–10 0 p illus 22 cm. (New York Academy of Sciences Annals Vol. 59 art. 5) $4.50. 2839

[illegible]

[illegible]

TULLIS, JAMES L., editor

Blood cells and plasma proteins their state in nature. New York Academic Press Inc., 1953 436 p. illus. 23 cm. (Harvard University University Laboratory of Physical Chemistry related to Medicine and Public Health. Memoirs No 2) $5.50 2840

[illegible]

[illegible]

UNIVERSITY OF CINCINNATI COLLEGE OF MEDICINE

Symposium on nutritional aspects of blood formation. Proceedings of the Nutrition Symposium held at the University of Cincinnati, College of Medicine Cincinnati, Ohio October 22 1954 New York The National Vitamin Foundation Inc., 1955 4 p. illus. 2 cm. (Nutrition symposium series. No. 10) $2.50. 2841

[illegible]

[illegible]

and transport of respiratory gases by the blood. The control of breathing. Section IV Digestion Motility of the digestive tract. Secretion and actions of digestive juices. Section V Nutrition and intermediary metabolism. Section VI, The endocrine system, by J B. Traber Section VII Kidney and urinary tract. Section VIII Nervous system and senses The afferent systems. The motor system *A tonomic system and hypothalamus. Physiologic optics.* Neurophysiology of the eye. Audition taste and olfaction. The cerebral cortex. Index.

Note A comparatively short introduction written for use in premedical and medical college courses. In the words of the author "brevity has been achieved largely by assuming knowledge of those subjects which are prerequisite for the study of human physiology by restricting discussions of controversial questions and by presenting the current state of information without giving detailed evidence and without discussing the historical background. Each of the sections includes a selected bibliography for the guidance of those readers who wish to pursue particular topics further The author is Professor of Physiology at the University of Wisconsin.

YOUMANS, WILLIAM BARTON

Human physiology New York The Macmillan Company, 1954 481 p illus 24 cm $6 00 2833

Contents (abridged) Section I, General principles Composition of protoplasm. Movement of materials through cell walls. Characteristics of tissues. Section II, Muscle, nerve and reflex action Stimulation and response of nerves and skeletal muscle Transmission of excitation at the skeletal neuromuscular junction. Neural control of smooth muscle and secretory cells. Transmission of excitation at synapses. Section III, Blood and circulation Blood. Heart muscle and the heart beat. Blood pressure and blood flow The capillaries and the venous system. Section IV Respiration. Section V Digestion. Section VI Nutrition, metabolism and excretion. Section VII Central nervous system and senses Posture and sense of position Mechanisms for voluntary movements. Physiology of vision Physiology of hearing—taste and olfaction Higher functions of the cerebral cortex. Section VIII, Endocrine glands and reproduction The pituitary body The thyroid and parathyroid glands. The adrenal glands and pancreatic islets. Reproduction. Appendix. Index.

Note A textbook designed for introductory college courses offered to students who have completed courses in basic biology and preferably also in chemistry and physics. There is more emphasis on the essential physical and chemical nature of physiological processes. However much of the exposition consists of factual descriptions in terms of physiology and mechanics of what goes on in such processes as digestion circulation of the blood, hearing, etc There are 126 figures. The author is Professor of Physiology in the University of Wisconsin.

YOUMANS WILLIAM BARTON

Nervous and neurohumoral regulation of intestinal motility New York Interscience Publishers, Inc. 1949 129 p illus 24 cm (Monographs in the physiological sciences, editorial board Maurice B Visscher and others) $5 75 2834

Contents Introduction. Recording of intestinal motility and the interpretation of records Extrinsic innervation of the intestine and methods of denervation. Sensitization of the intestinal musculature to adrenaline by denervation. Denervated intestinal segment as an indicator for adrenaline and sympathin Summary References.

Note A review with literature references of the accumulated knowledge pertaining to the regulation of the motility of the small intestine by the extrinsic nerves and also by adrenaline and related compounds. Particular attention is given to the various experiments on which this knowledge is based The author himself has carried on experimental studies of this subject since 1935 and in this book has correlated his results with the findings of other investigators.

ZOETHOUT WILLIAM D AND W W TUTTLE

Textbook of physiology Twelfth edition With 300 text illustrations and 5 color plates St. Louis The C V Mosby Company 1955 703 p illus. (part col'd) 23 cm $5 25 2835

Contents Protoplasm and life processes. The tissues. The translocation of materials. Enzymes or catalysts—fermentation Control of tissue activity Contractility—muscle physiology Conductivity—nerve physiology Blood—the middleman. The mechanical factors of blood circulation The heart. Vasomotor control. Capillaries and tissue fluid formation. Gas exchange respiration. The foodstuffs. Digestion Absorption. The movements of the alimentary canal Metabolism—introductory remarks. Protein metabolism. Carbohydrate metabolism Lipid or fat metabolism. Water and mineral metabolism. Energy metabolism. Regulation of body temperature Nutrition. Hormones or internal secretions. Renal secretion. The skin The receptors, or sense organs. Reflex action—the spinal cord. The autonomic nervous system. The brain. Reproduction. Glossary Selected readings. Index.

Note A long-established textbook, the first edition of which was published in 1916 and the eleventh edition in 1952. It is used in introductory college courses offered to students who are preparing for professional work in such fields as dentistry and pharmacy and is intermediate in comprehensiveness and difficulty between the elementary texts designed for general college courses and the full treatments written primarily for medical students. In this twelfth edition there has been some reorganization of the chapters, very extensive revision of the three chapters on protein, carbohydrate and lipid metabolism. One new chapter has been added.

BLOOD

DIGGS, L W , AND OTHERS

The morphology of human blood cells, by L W Diggs, Dorothy Sturm and Ann Bell. Philadelphia W B Saunders Company 1956 181 p illus (part col'd) 28 cm. $12.00. 2836

Contents. Normal blood cells and their progenitors. Fixed tissue cells of the bone marrow Normal and abnormal plasma Abnormalities in the morphology of erythrocytes. Pathologic leukocytes. The lupus erythematosus cell. Pathologic megakaryocytes and thrombocytes. Pathologic cells Miscellaneous. Techniques and methods. Suggested collateral reading Index.

Note An atlas designed for study and reference use by medical college students, laboratory technicians, and graduate physicians who are not specialists in hematology There are 31 plates, all reproduced in color from original water-color paintings by Dorothy Sturm Each of these plates contains illustrations for a number of forms of cells The accompanying text accounts for 110 of the pages in the volume It is introductory to the study of human blood cell morphology although, as could be expected, considerable previous education in biology and physiology is assumed. Interspersed throughout the expository text are 54 figures reproduced in monochrome. The majority of these are reproductions of microphotographs of normal and abnormal blood cells.

GLYNN JOHN H

The story of blood. New York A. A. Wyn, Inc. 1948 285 p. 21 cm. $3 00 2837

Contents History of blood. The anatomy and physiology of blood vessels. The formed elements in blood. The white blood corpuscles. The immune properties of blood. The blood groups Food and the blood. Blood, the chemical regulator Blood the purifier Blood and allergy Diseases of the blood and blood vessels. Index.

Note A well-written popular account of the accumulated knowledge on blood. The author is a bacteriologist and doctor of medicine. The presentation follows the history of the successive discoveries in the field of hematology from the earliest times to the date of publication, and demonstrates the importance to human welfare of the advancing knowledge in this field.

KABAT ELVIN A

Blood group substances their chemistry and immunochemistry New York Academic Press Inc 1956 330 p illus 24 cm. $8 00. 2838

Contents Introduction—The human blood group factors. Methods and reagents used in testing for blood group antibodies and antigens. Sources of blood group substances. Purification of blood group substances Chemical composition and properties of the blood group A, B O (H) and Lea preparations. Chemical and

[illegible] is arranged to conform with the topics of the sections. | [illegible] The lettering [illegible] difficult to read. The [illegible] classified in accordance with the chapter arrangement.

WHIPPLE, GEORGE H.
The dynamic equilibrium of body proteins hemoglobin, plasma proteins organ and tissue proteins. Springfield, Ill. Charles C Thomas 1956 68 p. illus 23 cm. $3.25 2846

Contents: Introduction. [illegible] Bibliography.

Note: An extensive series of experiments on dogs carried out in the laboratory of the School of Medicine of the University of Rochester during a period of 35 years are summarized in this short monograph. [illegible] in the bibliography.

BONE AND MUSCLE

JONES HAROLD ELLIS
Motor performance and growth a developmental study of static dynamometric strength. Berkeley and Los Angeles University of California Press 1949 181 p illus 24 cm. $3.00 2847

Contents: The program of measurement. [illegible] Bibliography.

Note: The results of [illegible] study of the development of muscular strength in adolescent boys and girls [illegible]

MCLEAN FRANKLIN C., AND MARSHALL R. URIST
Bone an introduction to the physiology of skeletal tissue. Chicago University of Chicago Press. 1955 182 p. illus. 23 cm. (The University of Chicago Committee on Publications in Biology and Medicine Emmet B Bay and others) $6.00 2848

Contents: Introduction. [illegible] Bibliography. Index.

Note: [illegible]

MINER ROY WALDO editor
Recent advances in the study of the structure composition and growth of mineralized tissues Conference co-chairmen Roy O Greep and Albert E. Sobel. Consulting editor Roy O Greep New York Published by the Academy 1955 541–806 p illus 22 cm. (New York Academy of Sciences Annals Vol 60 art. 5) $4.00 2849A

Contents: Introduction, by R. O. Greep. [illegible] by A. E. Sobel.

Note: Papers first presented at [illegible] held by the Section of [illegible] of the New York Academy of Sciences in January 1954 [illegible]

MOMMAERTS W F H M
Muscular contraction a topic in molecular physiology New York Interscience Publishers Inc., 1950 191 p. illus 24 cm. (Monographs in the physiological sciences editorial board, Maurice B Visscher and others) $5 5 2849

Contents: Introduction. [illegible] Index.

Note: A condensed review of [illegible] muscular contraction. [illegible]

RIEDMAN SARAH REGAL
The physiology of work and play a textbook in muscular activity. Original illustrations by Ida Scheib. New York The Dryden Press 19 0 584 p. illus. 21 cm. (The Dry

field of relationships between nutrition and hematology Instead, the attention of the symposium was mainly on what is known about the relationships among blood formation and iron folic acid, and vitamin B_{12} The papers are accompanied by literature references and transcripts of discussion All of the material in the volume was first printed in the *American journal of clinical nutrition* January/February 1955

YOUMANS, JOHN BARTON, editor

Plasma proteins Springfield, Ill Charles C Thomas, 1950 352 p illus 24 cm (Symposia on nutrition of The Robert Gould Research Foundation, Inc, Volume II) $6 50 2842

Contents Fractionation and properties of the proteins of normal human plasma by J L. Oncley Equilibrium treatments of the binding of ions to proteins illustrated by serum albumin, chloride, and thiocyanate by S. H Armstrong Jr Plasma protein formation in disease states by S. C. Madden Studies on the rates of formation of serum proteins in man by J M. London Some aspects of the biosynthesis of amino acids, by D Shemin Use of C^{14}-labeled amino acids in the study of peptide bond synthesis, by L D Frantz, Jr and P C. Zamecnik The role of dietary proteins on plasma protein regeneration by B F Chow Some relationships between diet, protein stores, and plasma proteins, by J B. Allison Clinical problems in hypoproteinemia due to protein deprivation by R. Elman Studies on the fate of intravenously administered human plasma proteins in idiopathic hypoproteinemia and in osteoporosis, by F Albright and others. Studies concerning nutritional edema and proteins, by H Gounelle Studies on protein deficiency and temperature in relation to edema, by D M Hegsted and others. Physiological properties of amino acid antagonists, by K Dittmer Studies on liver protein, by P P Cohen and S Sorof The metabolism of human serum albumin administered to man, by R D Eckhardt and C. S. Davidson. Protein metabolism in relation to resistance to infection by P R. Cannon. Quantitative immunochemical studies of antibody-containing serum fractions obtained by salt precipitation alcohol precipitation, or delipidation by M Heidelberger and R. C. Krueger Influence of the adrenal cortex on plasma protein formation and utilization, by A White and S. Roberts.

Note Original papers presented at a symposium held in Chicago in September 1949 under the auspices of the University of Illinois, form the contents of this volume They are addressed to graduate scientists and medical men Several of the papers describe the results of recent investigations. All of them were written by eminent specialists in medicine or biochemistry Literature references are included for the individual papers, but there is no general index in the volume.

FLUIDS AND ELECTROLYTES

BLAND, JOHN H

Clinical recognition and management of disturbances of body fluids Second edition Philadelphia W B Saunders Company 1956 522 p illus 26 cm $11 50 2843

Contents Introduction. Basic physiologic considerations of body water and electrolyte Basic physiologic considerations of hydrogen ion control Pure and mixed water and sodium depletion—clinical concept of acidosis and alkalosis—edema—correlation of clinical and chemical pictures, bedside observation Water and electrolyte metabolism in congestive failure of the circulation Body water and electrolyte deviations in diseases of the liver Water and electrolyte metabolism in pediatric patient in health and disease. Water electrolyte and hydrogen ion alterations in pulmonary disease Metabolic changes peculiar to the aging and aged—diagnosis and treatment Surgical metabolism Metabolic aspects of renal disease Adverse effects of heat on body water and electrolyte Water electrolyte and hydrogen ion abnormalities in diabetes mellitus Water and electrolyte metabolism in acute and chronic adrenal cortical insufficiency ACTH cortisone hydrocortisone DOCA, aldosterone metacortandracin—metabolic effect Metabolic consequences of head injury and central nervous system disease Behavior of body water and electrolyte in shock burns, crush and blast injury Roentgen irradiation and exposure to cold and other physical stress Normal and abnormal potassium and magnesium metabolism Index

Note In this carefully authoritative treatise the accumulated knowledge of the interrelationships of the body fluid and electrolyte is summarized and interpreted for the benefit of surgeons, general practitioners of medicine internists, etc The basic physiological knowledge and the experimental and clinical observations on which it is based are adequately covered however the emphasis is on aspects that have practical applications in diagnosis and treatment. The importance of old-fashioned bedside observation is stressed. Literature is cited in extensive bibliographies included in most of the chapters. The first edition was published in 1952 and was entitled *The clinical use of fluid and electrolyte* In this second edition, the book has been approximately doubled in size and obviously contains a wide range of additional information.

ELKINTON, J RUSSELL, AND T S DANOWSKI

The body fluids, basic physiology and practical therapeutics Baltimore The Williams & Wilkins Company, 1955 626 p illus. 24 cm $10 00 2844

Contents (abridged) Part I, Basic physiology Body fluid dynamics. Paleochemistry evolution and comparative physiology of the body fluids. Methods of studying body fluid distribution. Part II Basic principles as common denominators in clinical disorders The water and the electrolytes of the body in health. The physiologic effects of water and electrolyte deficits and their treatment Therapy of excesses of water or of the chief electrolytes. Anion-cation balance and pH—physicochemical and physiological mechanisms—clinical disturbances and their treatment. Part III, Disease entities Renal failure. Congestive heart failure—a new steady state. Cirrhosis and ascites. Diabetic ketosis and coma. Familial periodic paralysis. Water and electrolyte changes in relation to the anterior pituitary thyroid, gonads, and the pancreatic islets. Hypo- and hyperfunction of the adrenal cortex. Diabetes insipidus and other disorders of the antidiuretic system. Pediatric fluid disorders and their therapy Body fluid problems in surgical patients. Part IV Clinical dicta and practical therapeutics: Clinical and laboratory assessment of body fluid disturbances. Range of requirement of individual fluid constituents and their homeostatic limitations. Technics and solutions in replacement therapy Viscodialysis in the therapy of excesses or deficits. Appendix The balance technic Index.

Note. A fairly comprehensive monograph addressed to advanced students of medicine and graduate practitioners. The basic physiology is covered in the first two parts, which taken together account for almost half the length of the book. In these parts, there is some correlation with the clinical aspects of disturbances in the body fluids. In the third part, body fluid disturbances in specific disorders are considered. Here the clinical aspects predominate, and there is some discussion of therapy In the fourth part the problems of assessing deficits and excesses in body fluids, and the techniques of treating them are dealt with concretely and specifically from the viewpoint of practicing physicians The discussions of most topics are full enough to enable the practicing physician to use the book without resort to the source literature. Nevertheless, references to sources are given and all of the chapters include extensive bibliographies. The first-named author is a member of the faculty of the School of Medicine of the University of Pennsylvania, and his co-author is a member of the faculty of the School of Medicine of the University of Pittsburgh.

SMITH, HOMER W

Principles of renal physiology New York Oxford University Press, 1956 237 p illus. (part col'd) 21 cm $5 00 2845

Contents Anatomy Historical notes on theories of renal function Measurement of the rate of glomerular filtration. Tubular reabsorption Tubular excretion (qualitative considerations and measurement of renal plasma flow) Tubular excretion (quantitative considerations) Clearances involving neither tubular reabsorption nor excretion. Urea. Proteins. Fluid compartments of the body Secretion. Electrolytes. Water diuresis. Antidiuresis Integration of sodium and electrolytes. Water excretion Hydrogen ion balance Acid-base equilibria in water excretion Hydrogen ion balance Acid-base equilibrium of blood and urine Reabsorption of bicarbonate and excretion of acid. Ammonia. Control of the renal circulation. Appendices Bibliography Index.

Note A compact presentation of basic knowledge pertinent to the study of renal function addressed primarily to advanced students of physiology Its organization is indicated by the section titles noted above Within the sections, the pertinent basic knowledge is discussed and data from a wide range of experiments are presented Some gaps in the existing knowledge are indicated Among the topics covered in the six appendices are study of the nephron with the electron microscope history of the development of the Henderson-Hasselbalch approximation equation, and concise descriptions of techniques in the study of renal physiology such as techniques of measuring the secretion of urine The bi-

[illegible] selected and is arranged to conform with the topics of the sections.

clearly. However partly because of the selectivity the book is interesting and not difficult to read. The literary bibliography is classified in accordance with the chapter arrangement.

WHIPPLE, GEORGE H.

The dynamic equilibrium of body proteins hemoglobin, plasma proteins organ and tissue proteins. Springfield, Ill. Charles C Thomas, 1956. 68 p. illus 23 cm. $3.25 2546

Contents: Introduction. Proteins, plasma and supply of body protein requirements. [illegible] Reserve store contributes to blood proteins. [illegible] The dynamic equilibrium of body proteins. [illegible] plasma proteins. [illegible] Bibliography.

Note: An extensive series of experiments on dogs carried out in the laboratory of the School of Medicine of the University of Rochester during a period of 35 years are summarized in this short monograph. Some results of experimental investigations made elsewhere and published in the literature are incorporated also. References to the original journal publications are given in the bibliography.

BONE AND MUSCLE

JONES, HAROLD ELLIS

Motor performance and growth a developmental study of static dynamometric strength. Berkeley and Los Angeles University of California Press 1949 181 p. illus. 24 cm. $3.00 2547

Contents: The program of measurement. Factors related to strength. Growth in strength. Strength and physiological maturing. The influence of [illegible] on growth. Some incidental findings. Individual case studies. Implications and conclusions. Bibliography.

Note: The results of a [illegible] study of the development of muscular strength in adolescent boys and girls of school age are presented in this work. The number of subjects was 183 ([illegible] boys and [illegible] girls) at the beginning of the study and [illegible] decreased to [illegible] six and one-half years later when the study was concluded. Measurements of body growth in the same group were made collaterally and are co-ordinated with the development of strength. Observations were made and are analyzed on relationships among growth, strength, and personality characteristics.

MCLEAN, FRANKLIN C., AND MARSHALL R. URIST

Bone an introduction to the physiology of skeletal tissue. Chicago University of Chicago Press 1955 182 p. illus. 23 cm. (The University of Chicago Committee on Publications in Biology and Medicine Emmet B Bay and others) $6.00 2548

Contents: Introduction. Bone as a tissue. Histogenesis of bone. Structure and chemical composition of the bone matrix. Chemistry and crystal structure of the bone mineral. Dynamics of calcification. Enzymes and bone. Resorption of bone. Hormones and bone. Mineral metabolism. Radiation, isotopes, and bone. [illegible] The biology of fractures. Pathologic physiology of bone. Bibliography. Index.

Note: An introductory account of bone as a tissue. The principal topic is the normal physiology and biochemistry of bone even though the terminal chapter is devoted to pathologic physiology and other chapters contain discussions of topics, such as the healing of bone, of interest to the pathologist. The topics discussed have been carefully selected and are treated rather

MINER, ROY WALDO editor

Recent advances in the study of the structure composition and growth of mineralized tissues. Conference co-chairmen Roy O Greep and Albert E. Sobel. Consulting editor Roy O Greep New York Published by the Academy 1955 541–806 p. illus. 22 cm. (New York Academy of Sciences Annals Vol. 60 art 5) $4.00 2548A

Contents: Introduction, by R. O. Greep. Microstructure and [illegible] characteristics of the mineralized tissues, by R. F. Sognnaes. The electron microscopy of enamel and dentin, by D. B. Scott. The chemical nature of the organic matrix of bone, dentin, and enamel, by M. V. Stack. [illegible] in bone as observed in the electron microscope. Crystal and [illegible] morphology [illegible], by R. A. Robinson and M. L. Watson. Formation of bones and teeth as visualized by radioautography, by C. P. Leblond and others. The [illegible] of the bone salt, by S. B. Hendricks. Some achievements and problems in studying the [illegible] of the mineral of the hard tissues, by H. C. Hodge. Radioisotope studies of hard tissues, by W. D. Armstrong. [illegible] to bone [illegible], by W. F. Neuman and J. H. [illegible]. X-ray diffraction of biological and synthetic apatites, by O. R. Trautz. Local factors in the mechanism of calcification, by A. E. Sobel. Effect of nutritional factors on bones and teeth, by J. H. Shaw. Hormonal influences on skeletal growth, by L. Wilkins. Studies on the role of the parathyroids in calcium and phosphorus metabolism, by P. L. Munson. Panel discussion—moderator A. E. Sobel.

Note: Papers first presented at a conference held by the Section of Biology of the New York Academy of Sciences in January 195[illegible] have been made available in this monograph. Although bones and teeth are the topics, they are studied as mineralized tissues rather than as structural elements of the skeleton. The papers are based on both research and the pertinent modern literature. The illustrations include many reproductions of microphotographs. Literature references are supplied in all of the papers. The panel discussion at the end of the volume assesses the present status of knowledge in the area covered by the conference and indicates avenues for further research.

MOMMAERTS, W. F. H. M.

Muscular contraction a topic in molecular physiology New York Interscience Publishers Inc., 1950. 191 p illus 24 cm. (Monographs in the physiological sciences editorial board, Maurice B Visscher and others) $5.75 2549

Contents: Introduction. An outline of the metabolism of muscle. A quantitative picture of muscle metabolism. The sequence of events in muscular activity. The muscle proteins. Myosin, actin and actomyosin. Myosin and adenosinetriphosphatase. The structure of the muscle fiber—the myosin thread. Contractile threads and fibrils. Crystalline myosin. Actin—the second structure protein. Actomyosin—the myosin-actin complex. Molecular mass and shapes of muscle proteins. Viscosity and birefringence of flow. Reaction between ATP and myosin. Problems and interpretations. Bibliography. Index.

Note: A condensed review of present-day knowledge regarding the biochemical mechanisms of muscular contraction. It is based on a survey of the literature of the subject and draws heavily on the writings of Banga, Dubuisson, Meyerhof, Szent-Györgyi, and other workers in the field. Throughout the book, emphasis is on experimental methods and discoveries rather than on theory. The text is keyed to the bibliography consisting of 33[illegible] references.

RIEDMAN, SARAH REGAL

The physiology of work and play a textbook in muscular activity. Original illustrations by Ida Scheib New York The Dryden Press 1950. 554 p illus 21 cm. (The Dry

field of relationships between nutrition and hematology Instead, the attention of the symposium was mainly on what is known about the relationships among blood formation and iron, folic acid, and vitamin B_{12}. The papers are accompanied by literature references and transcripts of discussion. All of the material in the volume was first printed in the *American journal of clinical nutrition* January/February 1953

YOUMANS, JOHN BARTON, editor
Plasma proteins Springfield Ill Charles C Thomas *1950 352* p illus *24* cm. (Symposia on nutrition of The Robert Gould Research Foundation, Inc, Volume II) $6.50 *2842*

Content Fractionation and properties of the proteins of normal human plasma, by J L. Oncley Equilibrium treatments of the binding of ions to proteins illustrated by serum albumin, chloride, and thiocyanate, by S. H. Armstrong, Jr Plasma protein formation in disease states by S. C. Madden. *Studies on the rates of formation of serum proteins in man*, by I. M London Some aspects of the biosynthesis of amino acids, by D Shemin. Use of C^{14}-labeled amino acids in the study of peptide bond synthesis, by I. D Frantz, Jr., and P C. Zamecnik. The role of dietary proteins on plasma protein regeneration, by B F Chow Some relationships between diet, protein stores, and plasma proteins, by J B. Allison. Clinical problems in hypoproteinemia due to protein deprivation, by R. Elman Studies on the fate of intravenously administered human plasma proteins in idiopathic hypoproteinemia and in osteoporosis, by F Albright and others. Studies concerning nutritional edema and proteins, by H. Gounelle. Studies on protein deficiency and temperature in relation to edema, by D M. Hegsted and others. Physiological properties of amino acid antagonists, by K. Dittmer Studies on liver proteins, by P P Cohen and S Sorof The metabolism of human serum albumin administered to man, by R. D Eckhardt and C. S. Davidson. *Protein metabolism in relation to resistance to infection*, by P R. Cannon. Quantitative immunochemical studies of antibody-containing serum fractions obtained by salt precipitation, alcohol precipitation, or delipidation by M. Heidelberger and R. C Krueger Influence of the adrenal cortex on plasma protein formation and utilization, by A. White and R. Roberts.

Note Original papers presented at a symposium held in Chicago in September 1949 under the auspices of the University of Illinois, form the contents of this volume. They are addressed to graduate scientists and medical men. Several of the papers describe the results of recent investigations. All of them were written by eminent specialists in medicine or biochemistry Literature references are included for the individual papers, but there is no general index to the volume.

FLUIDS AND ELECTROLYTES

BLAND, JOHN H
Clinical recognition and management of disturbances of *body fluids Second edition* Philadelphia W B Saunders Company 1956 *522* p illus *26 cm* $11 50 2843

Contents Introduction Basic physiologic considerations of body water and electrolyte Basic physiologic considerations of hydrogen ion control Pure and mixed water and sodium depletion—clinical concepts of acidosis and alkalosis—edema—correlation of clinical and chemical pictures, bedside observations Water and electrolyte metabolism in congestive failure of the circulation Body water and electrolyte deviations in diseases of the liver Water and electrolyte metabolism in pediatric patients in health and disease Water electrolyte and hydrogen ion alterations in pulmonary disease. Metabolic changes peculiar to the aging and aged—diagnosis and treatment. Surgical metabolism. Metabolic aspects of renal disease Adverse effects of heat on body water and electrolyte Water electrolyte and hydrogen ion abnormalities in diabetes mellitus. *Water and electrolyte metabolism* in acute and chronic adrenal cortical insufficiency ACTH, cortisone hydrocortisone DOCA, aldosterone metacortandracin—metabolic effects Metabolic consequences of head injury and central nervous system disease Behavior of body water and electrolyte in shock, burns, crush and blast injury Roentgen irradiation and exposure to cold and other physical stress. Normal and abnormal potassium and magnesium metabolism Index.

Note. In this useful and authoritative treatise, the accumulated knowledge of the interrelationships of the body fluid and electrolyte is summarized and interpreted for the benefit of surgeons, general practitioners of medicine internists, etc The basic physiological knowledge and the experimental and clinical observations on which it is based are adequately covered however the emphasis is on aspects that have practical applications in diagnosis and treatment. The importance of old-fashioned bedside observation is stressed. Literature is cited in extensive bibliographies included in most of the chapters. The first edition was published in 1952 and was entitled *The clinical use of fluid and electrolyte*. In this second edition, the book has been approximately doubled in size and similarly contains a wide range of additional information.

ELKINTON, J RUSSELL, AND T S. DANOWSKI
The body fluids, basic physiology and practical therapeutics. Baltimore The Williams & Wilkins Company 1955 *626* p. illus. 24 cm. $10 00 2844

Contents (abridged) Part I, Basic physiology Body fluid dynamics. Paleochemistry evolution, and composition physiology of the body fluids. Methods of studying body fluid distribution. Part II, Basic principles as common denominators in clinical studies The water and the electrolytes of the body in health. The physiologic effects of water and electrolyte deficits and their treatment Therapy of excesses of water or of the chief electrolytes. Anion-cation balance and pH—physicochemical and physiological mechanisms—*clinical disturbances and their treatment*. Part III, Disease entities Renal failure. Congestive heart failure—a new steady state. Cirrhosis and ascites. Diabetic acidosis and coma. Familial periodic paralysis. Water and electrolyte changes in relation to the anterior pituitary thyroid, gonads, and the pancreatic islets. Hypo- and hyperfunction of the adrenal cortex. Diabetes insipidus and other disorders of the antidiuretic system. Pediatric fluid disorders and their therapy Body fluid problems in surgical patients. Part IV Clinical data and practical therapeutics. Clinical and laboratory assessment of body fluid disturbances. Range of requirement of individual fluid constituents and their homeostatic limitation. Technics and solutions in replacement therapy Hemodialysis in the therapy of excesses or deficits. Appendix. The balance table Index.

Note A fairly comprehensive monograph addressed to advanced students of medicine and graduate practitioners. The basic physiology is covered in the first two parts, which taken together account for almost half the length of the book. In these parts, there is much correlation with the clinical aspects of disturbances in the body fluids. In the third part, body fluid disturbances in specific disorders are considered. Here the clinical aspects predominate, and there is some discussion of therapy In the fourth part the problems of assessing deficits and excesses in body fluids, and the techniques of treating them are dealt with concretely and specifically from the viewpoint of practicing physicians. The discussions of most topics are full enough to enable the practicing physician to use the book without resort to the source literature. Nevertheless, references to sources are given and all of the chapters include extensive bibliographies. The first-named author is a member of the faculty of the School of Medicine of the University of Pennsylvania, and his co-author is a member of the faculty of the School of Medicine of the University of Pittsburgh.

SMITH, HOMER W
Principles of renal physiology New York Oxford University Press, 1956 237 p illus. (part col'd) 21 cm $5 00 *2845*

Contents. Anatomy Historical note on theories of renal function. Measurement of the rate of glomerular filtration Tubular reabsorption. Tubular excretion (qualitative considerations and measurement of renal plasma flow) Tubular excretion (quantitative considerations) Clearances involving neither tubular reabsorption nor excretion. Urea. Proteins. Fluid compartments of the body Integration of sodium and electrolytes. Water diuresis. Antidiuresis. Acid-base equilibria and water excretion. Hydrogen ion balance Reabsorption of bicarbonate and excretion of blood and urine Ammonia. Control of the renal circulation Appendices. Bibliography Index.

Note A compact presentation of basic knowledge pertaining to the study of renal function, addressed primarily to advanced students of physiology Its organization is indicated by the section titles noted above Within the sections, the pertinent basic knowledge is discussed and data from a wide range of experiments are presented. Some gaps in the existing knowledge are indicated. Among the topics covered in the six appendices are a study of the nephron with the electron microscope a history of the development of the Henderson-Hasselbalch approximation equation, and concise descriptions of techniques in the study of renal physiology such as techniques of measuring the secretion of urine. The bi-

descriptive [illegible]. Many languages are represented in the [illegible], but [illegible] of abstracts [illegible] in English. Cross references are numerous, and an additional approach to the contents is provided by the author index.

WEINMANN, JOSEPH P., AND HARRY SICHER

Bone and bones: fundamentals of bone biology. Second edition. With 307 illustrations. St. Louis: The C. V. Mosby Company, 1955. 508 p. illus. 26 cm. $13.75 2556

Contents: Introduction. Part I: Tissues, structure and growth of bone and bones: Bone tissue. Bones. Part II: Pathology of bone and bones: Developmental disturbances of the skeleton. [illegible] deformation of the skeleton. The influence of endocrine glands on bone and bones. The influence of vitamins on bone and bones. The effect of minerals on bone and bones. Healing of bones. Necrosis of bone and inflammation of bone. Tumors of the skeleton. [illegible] lesions of the skeleton. References. Index.

Note: Written with the intention to bridge the gap between the biology of bone and osteopathology, this book has [illegible] purpose: to stimulate further research and to serve as [illegible] guide for orthopedists, dentists, radiologists and other specialists and teachers [illegible] work [illegible] knowledge of bone. The first edition was published in 1947. In this second edition, the scope of [illegible] are the same and much of the text is unchanged. [illegible], the discussion of the [illegible] has been expanded [illegible] extended discussion of fibrous dysplasia of bone has been [illegible], among other changes.

VASCULAR SYSTEM

AKAY, LOUIS

The blood-brain barrier: with special regard to the use of radioactive isotopes. Springfield, Ill.: Charles C Thomas, 1959. 154 p. illus. 22 cm. (American lecture series. Publication no. 2 [illegible]. Bannerstone division of American lectures in surgery; edited by Michael E. DeBakey and R. Glen Spurling. Neurosurgery division; editor: Barnes Woodhall) $5.50. 255[illegible]

Contents: History. Introduction. Anatomical features of the blood-brain barrier. Physiology of the blood-brain barrier. Experimental techniques with radioactive phosphorus. Studies on the [illegible] blood-brain barrier with radioactive isotopes. [illegible] of [illegible] increased permeability. Development of the blood-brain barrier. [illegible]. Artificial changes in the permeability of the blood-brain barrier. The effect of brain trauma on the blood-brain barrier. [illegible] effect of cerebral thrombosis, embolism, and hemorrhage on [illegible] blood-brain barrier. Infections and the blood-brain barrier. [illegible] tumors and the blood-brain barrier. Bibliography. Index.

[illegible] A survey of the accumulated knowledge of the blood-brain barrier, [illegible] physiological mechanism that prevents the passage [illegible] in the blood stream to the central nervous system many substances [illegible] present in the blood and which easily penetrate other [illegible]. The author is one of the earliest researchers in this area of [illegible] and the book is based on his own work as well as on [illegible] experimental literature. The incomplete state of the knowledge [illegible] mechanism or processes [illegible] clearly shown in each chapter [illegible] on the discussion of the various theories and the experimental evidence pertaining to [illegible] unidentified mechanisms. [illegible]. The results of [illegible] number of studies made in recent years [illegible] the use of radioactive isotopes are the subject of one chapter [illegible] the primary purpose of the book [illegible] physiologists. However, the [illegible] for clinical [illegible] of the knowledge gained [illegible] set forth in the last four chapters. The author [illegible] of the faculty of Harvard Medical School.

[illegible]ER, GERHARD A.

[illegible] venous return. New York: Grune & Stratton, 1956. 145 p. illus. 26 cm. $6.5[illegible] 2558

[illegible] Historical commentary. Elementary hemodynamics [illegible] venous return. Present methods of venous return [illegible]. Methods for venous flow measurement. Venous [illegible]. The respiratory pump. Effect of cardiac operations on venous return. Effect of the heart [illegible] on venous return. Venous hemodynamics of cardiac valve lesions. Venous return during cardiac surgery. Bibliography. Index.

Note: An important study of the flow of the blood in the veins. The author is an eminent physiologist. He has made substantial contributions to the knowledge of this subject, and the book [illegible] based partly on the literature and partly on his work and that of his associates. The first chapter is [illegible] condensed review of earlier thought and experimental results. However, there [illegible] no attempt here at [illegible] in the remainder of the book to review systematically [illegible] of the literature on the venous circulation. Experiments, methods are described concisely and in detail. [illegible] on the types and principles of flowmeters. The results of experiments are interpreted and integrated. Implications for clinical medicine and surgery are discussed briefly. The bibliography [illegible] 12 pages long.

BURCH, GEORGE E.

Digital plethysmography: introducing a method for recording simultaneously the time course of the rate of blood flow into and out of the finger tip. New York: Grune & Stratton, 1954. 134 p. illus. 23 cm. (Modern medical monographs, No. 11) $5.00. 2559

Contents: Theoretical considerations. Materials and methods. Studies of the [illegible] flow curves. An evaluation of the procedure of recording. Factors which influence the time course of the rate of blood flow through the finger tip. Time course of the first, second, third, and fourth derivatives of the [illegible] time curves of the blood flow in the finger tip. [illegible] curves of rate and volume before and [illegible] of man. General discussion. Summary. References. Index.

Note: "It is the purpose of this report to present the venous occlusion method, [illegible] which the [illegible] part are [illegible], and the rate at which blood accumulates in the part from the artery [illegible] measured. It is the purpose of this report to evaluate the venous occlusion method for measuring [illegible] the rate of blood flow into the finger tip of man, to report [illegible] method for recording the time course of the rate of blood flow out [illegible] the finger tip of man, which [illegible] modification of one developed by Turner and to describe for the first time [illegible] method for recording the time course of the rate of blood flow into and of the finger tip of man simultaneously with the recording of the time course of the rate of outflow of blood. The new method is described very carefully and [illegible], [illegible] the flow [illegible] of two [illegible] constructed [illegible] used in the [illegible] [illegible] that are the basis of the book, are described and [illegible]. The illustrations include [illegible] reproductions of [illegible] and plots of blood flow rate.

JACOBSON, EDMUND

Progressive relaxation: a physiological and clinical investigation of muscular states and their significance in psychology and medical practice. Second edition. Chicago: University of Chicago Press, 1938. 493 p. illus. 23 cm. (The University of Chicago monographs in medicine) $12.00. 2560

Contents: Rest and relaxation in the practice of medicine. General features of neuromuscular hypertension. Neuromuscular hypertension in various diseases. General features of progressive relaxation. The technique of progressive relaxation. [illegible] and technique of [illegible]. [illegible]. Early history of present method. Influence of relaxation upon [illegible], [illegible], [illegible] reaction. Tested psychological [illegible]. Emotions and the neuromuscular element. Tonus and nervous regulation of muscular contraction. Angiospasm and neural phenomena. Relationship [illegible] of relaxation. Electrical measurements of muscle contraction and relaxation. [illegible] of [illegible]. Clinical [illegible]. Differential [illegible] and of [illegible]. Progressive relaxation in [illegible] [illegible]. Therapeutic use of [illegible]. Bibliography. Author index. Subject index.

Note: A systematic analysis of neuromuscular states in man and their significance in medical diagnosis and practice. It includes the author's method of training the [illegible] and his physiological method of quieting the nervous system, including the mind. In this edition, three chapters have been added concerning the electrical measurement of nervous and muscular states. There [illegible] an excellent bibliography.

den Press publications in the biological sciences, general editor, L V Heilbrunn) $5 50 2850

Contents (abridged) Part I The physiology of motion Contraction in excited muscles. The structural basis of voluntary motion Intrinsic properties of muscle. The chemical basis of motion. Chemical dynamics in muscular work. Muscles as work machines. Fatigue. Coordination of motion and of adjustments to exercise. Part II Organic adjustments to the needs of exercise Circulatory adjustments in exercise. Cardiac response to exercise. The heart as work organ. Respiration Pulmonary ventilation. Transport of oxygen and carbon dioxide. Respiratory regulation Part IV Adaptations to special conditions of work Work under limiting environmental conditions. Work under extremes of temperature and humidity Work under conditions of modern industry Part V The adaptive capacity of the organism: Bodily changes during regular adaptational adjustments. Convalescence and reconditioning. Physical fitness. Effects of mental and emotional activity Index.

Note. Although this book is intended as an introduction especially for the instruction of such students as physical education majors, it contains a rather detailed treatment. Such topics as the buffer systems of the blood and blood changes during muscular activity are discussed in chemical terms. Furthermore, each chapter is supplemented by bibliography of pertinent technical literature. The book contains enough detailed technical information to make it useful for reference or reading by scientifically trained persons in need of survey of the physiology of physical activity

SANDOW, ALEXANDER

The effect of activity on the latent period of muscular contraction New York New York Academy of Sciences, 1945 32 p illus 23 cm (*New York Academy of Sciences Annals* Vol 46 p 153–184 1945) $0 50 2851

Content Introduction. Method. Results Effect of single tetanus. Effect of series of tetani. Effect of series of twitches. Localization of the source of the latency response changes. Correlation of the L_r with pH changes caused by activity Discussion Summary Literature cited.

Note. The research reported in this monograph deals with the effect of muscular activity on that phase of the contractile response which occurs between the instant of application of the stimulus and the instant at which tension development first appears. A piezoelectric cathode-ray oscillographic technique developed by the author for use in this type of study is described in detail.

SANDOW ALEXANDER, AND OTHERS

Muscular contraction. New York New York Academy of Sciences 1947 266 p illus 23 cm (New York Academy of Sciences Annals. Vol 47 p 665–930 1947) $3 00 2852

Contents Introduction to the conference, by A. Sandow Part I, Dynamics *Dynamics of single muscle fibers* by R. W Ramsey The time course of tension development in the muscle response by A. S. Gilson, jr and others. Muscular contraction and rubberlike elasticity by E. Guth. Membrane changes during excitation and inhibition of the contractile mechanism, by S. W Kuffler Part II, Ultrastructure Birefringence and ultrastructure of muscle, by E. Fischer Electron microscope and X-ray diffraction studies of muscle structure, by F O Schmitt and others. Part III, Chemistry The main chemical phases of the recovery of muscle by O. Meyerhof. Chemical processes of oxidative recovery by S. Ochoa. Part IV Mechano-chemical coupling Intracellular inorganic ions and muscle action, by H B. Steinbach The interaction of myosin and adenosinetriphosphate by Shih-Chang Shen. Latency relaxation and theory of muscular mechano-chemical coupling, by A. Sandow

Note A collection of papers prepared by noted physiologists, chemists, physicists, and medical scientists, presented originally at a conference held in February 1946 under the auspices of the New York Academy of Sciences. Based on the authors' investigations and on a review of the literature of the subject, the papers provide integration of modern knowledge regarding the phenomenon of muscular contraction New experimental results and theoretical approaches are discussed, and earlier findings critically evaluated. Gaps in present-day knowledge are indicated as means of stimulating and suggesting future lines of research. Bibliographies are included.

SPENCER, MARJORY C, AND KATHERINE UHLER, compilers

The structure, composition and growth of bone, 1930–1953, a bibliography Washington, D C Armed Forces Medical Library 1955 190 p 26 cm $1 00 2853

Note A partially annotated bibliography ... last 20 years on the ... articles on other aspects ... tissue culture) which ... The arrangement is alphabetical ... The compilers, bibliographers ... (now the National Library ...) consultants.

SZENT GYORGYI, A.

Chemical physiology of contraction in body and heart muscle. New York Academic Press Inc. 1953 135 p illus 24 cm $4 50 2854

Contents Prefatory note on the ... muscle. Introduction. Part I, The mole... tion Problems of molecular engineering. ... Actin. Actomyosin. The protofibril. Auto... and relaxation. Elasticity and plasticity ... tonic and isometric registration. The contr... study of the heart muscle fiber Material ... heart. The staircase. The action of serum ... acetyl choline (ACH) and other drugs. Ute... tive chemistry of heart and body muscle. ... The membrane. The window field (WF) ... siderations about ions. About adaptations ... and connections.

Note In this book an internationally fa... the chemistry of muscle summarizes the expe... cumulated to about the close of 1952 and ... unification upon them. He proposes general ... that it is not yet fully supported by the avail... book is addressed primarily to graduate biologists ... unique style that combines scientific precisio... losophy and humor It complements the author's ... *of muscular contraction*, second edition, New Yo...

UNITED STATES, NATIONAL MEDICAL LIBRARY

The structure composition, and growth of bone, 1930–1953 A bibliography compiled by Marjory C. Spencer bibliographer and Katherine Uhler reference librarian Washington D C. Government Printing Office 1955 190 p 26 cm. $1 00 2855

Contents Calcification. Cartilage. Cells. Chemistry ... Inorganic. Chemistry organic. Chondrogenesis. ... fluence. Collagen and reticulin. Crystal structure ... tivity Crystallography Enzyme relationships. ... articles. Glycoproteins and mucopolysaccharides. ... velopment. Hormonal influence. Marrow relationships ... influence. Metabolism. Metabolism, inorganic. Met... Neural influences. Nutritional influence. Osteo... properties. Pregnancy Regeneration and repair ... reconstruction. Rickets, experimental. Salivary ... Skeletal relationships. Structure. Teeth. Tissue ... transplants. Tissue extracts. Trace elements ... mally occurring) Vitamin influence Author ...

Note The ... listings in this bibliography ... are arranged by topic. However, since the ... liography is concerned with calcification, ... osteogenesis, and reconstruction and resorption, ... studies on these processes have been placed ... in the study when particular one was ... ing the citations under few subject headings ... headings, some of which are subdivided, the ... betical by author. For each reference ... name of journal or other publication ... publication, volume number, inclusive pages ... graphical references cited, and reference to ... abstracts. Approximately half of the entries ... abstract etc. In the absence of an abstract ...

(vitamin D). Ascorbic vitamins. Fat-soluble vitamins. Different food groups and their place in the diet. Adequate diets for general adults. Part two, Body processes. The body and its role in its metabolism. Part two, Digestion and absorption of food. Metabolism and from its food. Excretion and the factors affecting the influence of ductless glands. Excretion and the factors affecting it. Part three, Meal planning: How to build menus—for diet-work. Family food budgets. Food fads and fancies. Recent trends in American dietary habits. Part four: Diet for special conditions. Diet for pregnant and nursing mothers. Diet for children and teen-agers. Diet after forty. Overweight—its significance and treatment. Malnutrition—how to detect and overcome it. Appendix. Index.

Note: A widely used textbook, the first edition of which was published in 1931 and the fifth edition in 1949. It deals in an elementary and practical manner with the fundamentals of nutrition, the biochemistry of the digestion and absorption of food, and the planning of diets. It is used in the instruction of college students pursuing courses in home economics, nursing, etc., and to a lesser extent by housewives and others who plan meals for families and larger groups. The fifth edition was very extensively rewritten and revised in preparing this sixth edition. The major changes are the omission of the former Part one and the extensive revision and expansion of the former second part to form the present Part one. Changes made in other parts include the rewriting of the chapter on family food budgets. The number of illustrations has been substantially increased and the reading lists well revised.

BOURNE, GEOFFREY H., AND GEORGE W KIDDER, editors

Biochemistry and physiology of nutrition. New York Academic Press Inc., 1953 2 v illus. 23 cm. Vol. I, $13.00 vol. II $15.00 2867

Contents Volume I: The early development of the science of nutrition, by E. P. Cathcart. The history of vitamins, by L. J. Harris. Water and electrolyte metabolism, by R. L. Zwemer. Carbohydrate metabolism, by T. L. Sourkes. Amino acids, by A. Meister. The biosynthesis of proteins, by H. Borsook and C. L. Deasy. Lipid metabolism, by A. C. Frazer. The fat-soluble vitamins (with special reference to the requirements of different animals), by T. Moore. The vitamin B complex, by S. K. Kon and J. W. G. Porter. Vitamins and haematopoiesis, by T. H. Jukes. Vitamin C, by B. B. Lloyd and H. M. Sinclair. Author index. Subject index. Volume II: The biochemistry of nutrition by histochemical methods of enzymes and vitamins, by G. H. Bourne. Structural changes in vitamin deficiency, by G. H. Bourne. Microbiology of digestion, by D. P. Cuthbertson and A. T. Phillipson. The nutrition of invertebrate animals, by G. W. Kidder. Enzymes and metabolic function, by E. P. Kennedy. Hydrolytic and phosphorolytic enzymes, by W. H. Taylor. The respiratory enzymes, by B. L. Horecker and A. Kornberg. Coenzymes, by G. D. Novelli and M. Soodak. Iron metabolism, by H. F. W. Kirkpatrick. Calcium and phosphorus metabolism, by H. F. W. Kirkpatrick and J. D. Robertson. Trace elements, by E. J. Underwood. Applications to human nutrition, by G. A. Goldsmith. Author index. Subject index.

Note: Both the editorship and authorship of this treatise were shared among scientists of Great Britain and the United States of America. The primary purpose of the work is to present critical summaries of recent research bearing on metabolism and related aspects of nutrition. It is composed of the monographs whose authors and titles are listed in the above contents. The chapters are compact, critical presentations based on the literature and are keyed to extensive literature references printed as footnotes. They are addressed to graduate scientists working in nutrition and in related fields.

BYRD OLIVER E compiler

Nutrition sourcebook. Stanford Stanford University Press 1955 370 p. 24 cm. $7.50 2868

Contents: Nutrition as an international problem. Dietary standards and eating habits. The six basic essentials of the human diet. Breakfast—the forgotten meal. Milk. Nutrition in medicine. Nutrition during pregnancy and infancy. Foods and emotional health. Nutrition and economics. Food and body weight. Food processing and preparation. Food charges. Nutrition in old age. Chemicals in foods. Food selection and restaurant sanitation. Nutrition in industry. The school lunch program. Military and wartime nutrition. Public health and community aspects. Bibliography. Alphabetical list of sources. Author index. Subject index.

Note: Except for introductory section written by the compiler and printed in italics to distinguish it, each chapter of the book consists of abstracts of articles selected from the literature bearing on nutrition published in the English language during the decade 1945–55. The articles abstracted have been well chosen, either judged from the standpoint of illustrating the many facets of the contemporary interest in nutrition or that of inclusion of interesting material. The average length of an abstract is less than a third of a page. Each abstract is referenced to the citation of the original article. Some of the abstracts have been taken from the compiler's annual *Health yearbook*. Each publication can be used to find additional material and material published since 1955.

FANNING ROBERT JOSEPH compiler

Pacific Islands nutrition bibliography. Compiled and annotated by Robert Joseph Fanning Honolulu University of Hawaii Press 1951 0 p. 22 cm. $1.00 2869

Contents: Bibliography. Subject index. Area index.

Note: A comprehensive bibliography of publications relating to chemical composition of foods, dietary requirements, dietaries of groups, nutritional status and dental conditions of groups, studies of energy metabolism, physical standards (heights and weights), descriptions of foods, methods of preserving foods, and culture of use of foods. The annotations are short but well written. The bibliography covers all publications issued through June 1950. The geographical scope is Caroline Islands, Hawaiian Islands, Mariana Islands, Marshall Islands and Samoan Islands.

GERARD RALPH W., editor

Food for life. By Ralph W Gerard, Richard J Block, Norman Jolliffe Clive M Mc Cay Sedgwick E. Smith and Samuel Soskin. Chicago University of Chicago Press 1952 306 p. illus. 22 cm. $5.50 2870

Contents: The basic questions of nutrition. The nutrient materials in food. Preparation—from mouth to cell. Processing—in organs and cells. Enzymes—the effective agents. The regulators of metabolism. The pattern of energy and growth. The foods of animals and men. The improvement of human nutrition. Index.

Note: An authoritative discussion of nutrition and foods, written by key authors. The style is lively and the book is illustrated with graphic diagrams which are easy to comprehend. However it is not an extremely simplified presentation. Technical terms, even chemical formulas, are used rather freely. Research methods and noted experiments are described. The main theme is understanding of the body processes and requirements so that food can be chosen intelligently.

GILBERT FRANK A.

Mineral nutrition of plants and animals Norman University of Oklahoma Press 1953 131 p. illus. 23 cm. $2 75 2871

Contents: Introduction. Early history of plant nutrition. Classification of the elements used in nutrition. Phosphorus. Calcium. Magnesium. Potassium. Sulfur. Iron. Copper. Cobalt. Manganese. Zinc. Iodine. Boron. Molybdenum. Aluminum. Silicon. Sodium and chlorine. Fluorine. Arsenic, lead, and selenium. Human nutrition. Bibliography. Index.

Note: The purpose of this volume is to provide a comprehensive yet concise review of the essential facts regarding the relation of the elements to nutrition and the mineral requirements of plants and animals. Each mineral or element is discussed on the basis of its nutritive functions, its occurrence in the soil, and its deficiency effects in plants and animals. The book is based on a survey of the more important literature of the subject, and the references cited throughout the text are keyed to a 16-page bibliography. The author is a member of the Agricultural Sciences Research Division at Battelle Memorial Institute. It was first published in 1948. Although the 1953 printing is not termed a new edition, some information taken from the literature published as recently as 1952 has been added to it.

GRAUBARD MARK AARON

Man's food, its rhyme or reason. New York The Macmillan Company 1943 213 p. 22 cm. $3.50. 2872

Contents (abridged): Introduction. Why a nutrition movement. How food habits concern us. Food and the health of populations.

NALL, MABEL LEXTON, AND FAITH CRAWFORD FERGUSON

Physiology of the circulation of the brain, an annotated bibliography Part II, Report literature, 1938–1952 Washington, D C The American Physiological Society 1956 148 p 25 cm (Physiological Reviews July, 1956 Supplement no 2) $2 75 2861

Note A companion work to R. Keak and M L. Nall, *Physiology of the circulation of the brain an annotated bibliography 1938–1948* 1952 *Physiological Reviews*, Supplement no. 1 It is an annotated bibliography of scientific reports, most of which were products of research carried out under government contracts and research grants. The reports listed represent a wide range of original research.

NEDZEL, ALEXANDER JOHN

Vascular spasm, experimental studies (with 161 figures) Urbana University of Illinois Press, 1943 151 p illus 27 cm. (Illinois medical and dental monographs Vol III, nos 3–4) $2 75 2862

Contents Introduction Vascular spasm. Splanchnoperipheral balance (experiments) Gastrointestinal tract. Liver Respiratory tract. Kidneys. Drug action. Discussion Pitressin First series of experiments. Second series of experiments. Discussion. Endocarditis (experiments) Response of valvular endothelium. Localization of particulate matter and microorganisms. Spontaneous bacterial endocarditis. Non-bacterial endocarditis. Subendothelial changes. Injections of pitressin and particulate matter Death rate from pitressin. Discussion. Gastric ulcer (experiments): Direct observation. Histologic findings. Seasons and gastric ulcer Discussion. Liver and kidneys Experiments. Discussion. Multiple sclerosis Etiology of multiple sclerosis. Transient vascular spasms in the central nervous system. Experiments. Discussion. Localization of bacteria in the central nervous system. Summary Bibliography

Note The author shows experimentally that a purely *functional* disturbance in this case induced vascular spasm in dogs, can in itself precipitate diseases which are very different clinically in their *localization and manifestations. Valvular disease gastric and duo*denal ulcers, lesions in the central nervous system, and liver and kidney involvement were shown to have the same etiological basis, namely vascular spasm under identical experimental conditions.

NUTRITION

ALBANESE, ANTHONY AUGUST, editor

Protein and amino acid requirements of mammals New York Academic Press Inc. 1950 155 p illus 24 cm $6 00 2863

Contents Some species and age differences in amino acid requirements, by H. H. Mitchell. Methods of measuring the nutritive value of protein hydrolysates and amino acid mixtures—the rat repletion method, by D V Frost. The laboratory evaluation of amino acid mixtures and protein hydrolysates, by R. H. Silber and C. C. Porter Dietary proteins and synthesis of tissue proteins, by B F Chow The protein and amino acid requirements of man, by A A. Albanese. Index.

Note The five papers in this volume present the current state of the knowledge of the nutritional requirements of protein and amino acid of mammals. In addition to one which is devoted entirely to the requirements of man, there is also some information on man in the other papers. Each paper is *essentially* a literature digest, supplemented by a *substantial list of references*. The book is addressed to graduate scientists, especially biochemists, nutritionists, and practitioners of medicine who are not actively engaged in protein and amino acid research but require a current knowledge of the progress in the field.

AMERICAN MEDICAL ASSOCIATION COUNCIL ON FOODS AND NUTRITION

Handbook of nutrition A symposium prepared under the auspices of the Council on Foods and Nutrition of the American Medical Association Second edition New York McGraw Hill Book Company, Inc., 1951 717 p illus 22 cm $4.50 2864

Contents Part I, Individual nutrients: Proteins in nutrition, by H. B. Lewis. Fat in nutrition, by H. C. Eckstein. Carbohydrate metabolism, by D Stetten, jr Human requirement of calcium, phosphorus and magnesium, by G Stearns. Iron and copper, by W J Darby Iodine in nutrition by O. M. Curtis and M. R. Fertman. Fluorine and other trace elements in nutrition, by F J. McClure. The vitamin-B complex, by C. A. Elvehjem. Vitamin C, by C. G. King. Vitamin D by P C. Jeans. Fat-soluble vitamins A, E, and K, by H. R. Bott. Part II, Nutritional needs Recommended dietary allowances, by G. MacLeod and H. C. Sherman. Energy requirements of adults, by A. Keys. Feeding of healthy infants and children, by P C. Jeans. Nutritional requirements during pregnancy and lactation, by B S. Burke and H. C. Stuart. Nutrition problems of geriatric medicine by E. J Stieglitz. Nutritional needs in illness and disease, by G. V Mann and F J Stare. Part III, Nutritional deficiencies. Imbalance and dietary interrelationships in nutrition, by C. A Elvehjem and W A. Krehl. Caloric undernutrition and starvation, with notes on protein deficiency by A. Keys. Fluid therapy by D C. Darrow and E. L. Pratt. Deficiencies of the fat-soluble vitamins, by J B Youmans. Deficiencies of the water-soluble vitamins, by J B. Youmans. Mineral deficiencies, by J. B. Youmans. Part IV Foods and their nutritional qualities: Adequacy of American diets, by E. F Phipard and H. K. Stiebeling. Foods of plant origin, by L. A. Maynard and W L. Nelson. Foods of animal origin by P E. Howe. Foods for emergencies, by R. M. Wilder and T E. Keys. Improving the quality of cheap staple foods, by G. R. Cowgill. Index.

Note Rather than a reference book of tabulated data as the title might suggest, this work is a collection of original papers, each of which presents a survey of the current knowledge of the particular aspect of nutrition named in its title. Extensive literature references are included for most of the papers. The book is designed for the information of medical practitioners and public health personnel, as well as for graduate nutritionists. The index is exceptionally full. The first edition appeared in 1943 This edition represents a rather extensive rewriting in order to incorporate the great advances in the knowledge of nutritional requirements made during World War II and subsequently

AMERICAN PUBLIC HEALTH ASSOCIATION

Nutrition practices a guide for public administrators New York American Public Health Association, Inc. 1955 72 p. illus. 23 cm $1 00 2865

Contents Nutrition confronts the administrator Nutrition's place in public health practice. Determining opportunities for nutrition services. The total public health staff and nutrition services. Nutritionists in nutrition services. Program planning for nutrition. Ways the nutritionists may contribute to departmental programs. Questions of administrative placement. Planning records and reports. Nutrition services of other agencies and their interrelationships. *Advisory committees. Professional associations affiliations.* Assistance from federal and state departments. Measuring nutrition service gains. Bibliography

Note The primary thesis of this publication is that improvement of the nutritional status of the people is a proper objective in public health programs. The publication is addressed, therefore, to administrators of public health departments and it serves to provide such officials with information on the fostering, conduct and evaluation of nutrition services. Included also are discussions of methods of co-operating with other agencies in supporting nutrition services. The publication was prepared by the Association's Subcommittee on Nutrition Practices, Committee on Administrative Practice.

BOGERT, L JEAN

Nutrition and physical fitness Sixth edition Philadelphia W B Saunders Company 1954 664 p illus 22 cm $4 50 2866

Content Part one Body needs: Functions of food and its relation to health. *Carbohydrates*, fats, [illegible] proteins. Energy needs. Total energy: basal metabolism and regulation of body temperature. Total energy requirement of adults. Fuel value of foods and control of body weight. The protein requirement. Why the body needs mineral elements, water and fiber Calcium and phosphorus. Iron, copper and iodine. General information about vitamins. Ascorbic acid

ment dependence. Morphology of the heart and blood vessels. Histology of the endocrine glands. Bones and teeth. Skin and hair. Fluid morphology including bone marrow. Biochemistry: Basal metabolism. Total energy exchange and nitrogen balance. Vitamins and vitamin metabolism. Lipid metabolism. Mineral metabolism. Carbohydrate metabolism. Physiology: The gastrointestinal system. Respiration. Circulation and cardiac function. Fainting and the cardiovascular response to posture. The electrocardiogram. Renal function. Special senses. Neuromuscular function and motor performance. The capacity for work. Sexual function. Volume II. Psychology: Psychological problems in starvation. Behavior and complaints in natural starvation. Behavior and complaints in experimental starvation and rehabilitation. Intellective functions. Personality. Special problems: The edema problem. Anorexia nervosa and pituitary cachexia. Growth and development. Infectious diseases and undernutrition. Tuberculosis. Diabetes mellitus and undernutrition. Cancer and other neoplasms. Diets for rehabilitation, with special reference to the Minnesota experiment. Appendices. References. Index.

Note: A detailed technical report, based on an extended experimental investigation of starvation in which 32 young men served voluntarily as subjects. In addition to the data derived from this original investigation, selected data from the published literature have been incorporated. The work is a major contribution to the scientific knowledge of the subject and is of interest to graduate workers in such fields as biochemistry, medical research, and nutritional research as well as in physiology and psychology.

LEONG PANG CHONG compiler

Nutrition bibliography of Malaya. Compiled and annotated by P. C. Leong. Honolulu University of Hawaii Press, 1952 23 p. 22 cm. $0.65 2878

Note: A bibliography of published writings of all types through June 30, 1951. The term "nutrition" has been interpreted liberally to include all literature bearing on the subject, including compilations of data on heights and weights of children.

MACY ICIE GERTRUDE AND OTHERS

The composition of milks a compilation of the comparative composition and properties of human, cow and goat milk, colostrum, and transitional milk. Prepared by Icie G. Macy, Harriet Kelley and Ralph Sloan for the Food and Nutrition Board with the consultation of the Committee on Maternal and Child Feeding, Icie Macy Hoobler chairman. Washington, D. C. National Academy of Sciences—National Research Council, 1953 70 p. 24 cm. (National Academy of Sciences—National Research Council. Publication 254) $1.00 2879

Note: This work consists chiefly of five tables in which detailed data on the milks named in the subtitle are organized. Data are supplied not only on the main constituents, but also on trace elements such as lead, iodine, etc., when such information was available, and on physical properties, fat characteristics, and vitamin content. Literature references are included.

MACY ICIE GERTRUDE AND HAROLD H. WILLIAMS

Hidden hunger New York The Ronald Press Company 1945 286 p. illus. 24 cm. $3.50. 2880

Contents: The science of nutrition. Nutrition at the human frontier. Choosing and using nutrients. Poor nutrition—poor health. Nourishment from the soil. The substance of life. Food—on ocean. Food in action. Food for work. Food to fight. Food for thought. References.

Note: This account of present-day knowledge regarding the science of nutrition and of the part played by proper diet in the life of the individual and the nation, is written in a manner which will appeal to the educated lay reader. The authors stress the fact that an abundance of food does not necessarily imply good nutrition, and on this basis discuss the various types of food which are essential to good health and general well-being. They describe the digestive process and show how a lack of one or more essential minerals or vitamins results in undernourishment and disease. The book is essentially an argument for the belief that optimal nutrition for everybody is a vital step in curing the ills of the world.

MACY, ICIE GERTRUDE

Nutrition and chemical growth in childhood Volume I Evaluation. By Icie G. Macy director, Research Laboratory Children's Fund of Michigan. With a foreword by Hugo A. Freund Springfield Ill Charles C Thomas 1942 432 p. illus. 23 cm $5.00 2881

Contents: Foreword. Preface. List of illustrations. List of tables. Introduction. General considerations in metabolic balance studies. Organization of an extensive metabolic investigation. Satisfying appetite and meeting recommended dietary allowances. Some physiological aspects of digestion and excretion. Some chemical aspects of digestion and excretion. Energy metabolism in childhood. Metabolic balances. Hematochemical studies. 34 tests. Food, urine and feces. Cytometric and hematochemical. Roentgenographic. Compilation and treatment of data. References cited. Publications of the Research Laboratory Children's Fund of Michigan. Author index. Subject index.

——Volume II Original data with a foreword by Lawrence Reynolds, and a supplement by Julia Outhouse Holmes. Springfield Ill Charles C Thomas 1946 1 460 p illus 24 cm. $10.00 2882

Contents (abridged): Introduction. Data for normal children, obtained by the Research Laboratory of the Children's Fund of Michigan. Data for normal children, obtained by the Department of Home Economics, Agricultural Experiment Station, College of Agriculture, University of Illinois. Addenda. Comparative values for abnormal children, obtained by the Research Laboratory of the Children's Fund of Michigan. Osteogenesis imperfecta. Vitamin? function. Lipemia. Hematochemical studies of the blood in health and disease. Epilepsy. Index. Subjects and names, Volumes I and II.

——Volume III Calculated data. With a foreword by Helen A. Hunscher Springfield Illinois Charles C Thomas, 1951 2 174 p 24 cm $8.00 2883

Content (abridged): Introduction. Data calculated for normal children from the original data obtained by the Research Laboratory of the Children's Fund of Michigan. Proximate composition and energy values of diet. Carbohydrate. Fat. Nitrogen. Phosphorus. Chlorine. Sulfur. Negative minerals. Calcium. Magnesium. Sodium. Potassium. Positive minerals. Excess of positive or negative minerals. Supplement. Average values calculated from the original data obtained by the Department of Home Economics, Agricultural Experiment Station, College of Agriculture, University of Illinois. Appendix. Interpretation of roentgenograms. Assessment of ages of bones in the hand and wrist. Index: Subjects and names, Volumes I, II, and III.

Note: The results of an intensive clinical, biochemical, psychological, anthropometric and roentgenologic study of a diet-controlled group of normal children are presented in detail in these volumes. Each child in the group was repeatedly measured and tested over a period of years in order to record the anatomical and physiological changes due to growth. Techniques of the study are described, results of measurements are presented in the text and many hundreds of tables. Hundreds of roentgenograms showing skeletal changes are reproduced.

MARTIN ETHEL AUSTIN

Roberts' nutrition work with children Chicago University of Chicago Press, 1954 527 p illus. 25 cm. $7.50 2884

Contents: Introduction. The meaning of nutrition. Signs of progress in nutrition work; evidences of need. How can you tell

Remember the food groups. Citrus fruit, cabbage tomatoes and other vegetables bread, milk eggs, meat, fish, vegetables, legumes, nuts, fats and oil, sugar Condiments and spices—an episode in human folly Stimulants and intoxicants—the futility of harsh laws. Table manners. Food and the nature f man. Food and morale Postscript on freedom from want in food. Index

Note This volume sponsored by the American Association for the Advancement f Science deals with man's attitude toward food throughout history and the change from superstition to science in man's dietary conduct. Dietary notions and practices of the past are analyzed in the light of nutrition The role of food in war is surveyed, stressing the value of nutrition movement in improving food habits. There is a discussion of the means whereby science and democratic organization may achieve freedom from want in food, also a possible solution to the problem of feeding the post war world.

HARVARD SCHOOL OF PUBLIC HEALTH DEPARTMENT OF NUTRITION

Overeating overweight and obesity, proceedings of the Nutrition Symposium held at the Harvard School of Public Health, Boston Massachusetts, October 29, 1952 New York The National Vitamin Foundation, Inc, 1953 151 p illus 23 cm (Nutrition symposium series No 6) $1 50 2873

Content Lipogenesis, by S. Gurin. Obesity measurement and the composition of the body by A. Keys. Physiology of appetite, by J R. Brobeck. The psychology of overeating, by H. W Bruch. Factors in human obesity by E. E. Hunt, Jr and others. Obesity—red light of health, by D P Barr Fat people who lose weight live longer by L. I. Dublin. Practical reducing regimens, by A. W Pennington. A practical regimen for the cure of obesity by F A. Evans. Nutrition in liver disease, by P Gyögy

Note The papers in this volume were based both on experimental investigations and clinical experience. They deal with those aspects of overeating, overweight, and obesity which are named in the chapter titles, and they range from formal reports of investigation to concise discussions of diet for overweight patients. They are accompanied by transcripts of discussion and, in some instances, by literature references.

HAWLEY, ESTELLE E, AND OTHERS

The art and science of nutrition, a text book on the theory and application of nutrition Fourth edition By Estelle E Hawley Grace Carden Elizabeth D Munves With 70 illustrations, including one in color St Louis The C V Mosby Company, 1955 689 p illus (part col d) 23 cm $5 25 2874

Contents (abridged) Part i, The nutrients Nutrition and its place in the everyday orld The carbohydrates. The lipids The proteins. Ingestion, digestion absorption utilization. Indigestible fiber in the diet and its relation to health Energy metabolism. The blood and lymph. The endocrines and their role in nutrition The fat-soluble vitamins. The water-soluble vitamins. Minerals and mineral metabolism Food adjuncts Food hazards, food fads, and food protection. Part ii Normal nutrition Nutritive needs in pregnancy and lactation The feeding f infants. Food for children. Nutritional needs f the adult Food customs and culture patterns. Planning the family diet Part iii Modifications of the normal diet General suggestions for diet therapy The diet of surgical patients. Fevers, burns, and fractures. Diabetes mellitus. Spontaneous hypoglycemia. The ketogenic diet Diseases of the joints Addison's disease Disorders of the gastrointestinal tract. Celiac disease Diseases of the liver and bladder Diseases of the kidney Circulatory disturbances. The anemias Food allergy Summary f diet therapy Part iv Questions for general review Part R ferences. Part vi, Appendix Index

Note A standard textbook used in courses offered to students who are preparing for careers in dietetics, ursing, etc. It provides a sound introduction to the basic physiology that underlies good utrition practices, and also fairly ide range f practical information, particularly in the chapter on diet therapy A long series of tables provides wide range f data useful in applied nutrition. The list of literature references is an extensive one, classified by topics. The third edition was published in 1949 In comparison, this fourth edition, written with the aid of new co-author Professor Munves, represents a ery extensive revision. There has been considerable reorganization, including deletion of the former section on laboratory ork. Data on nutritional needs have been revised so as to conform to the last edition of the National Research Council's *Daily recommended allowances*. There are now 70 figures and 133 tables.

JENSEN, LLOYD B

Man's foods nutrition and environments in food gathering times and food producing times Champaign, Ill The Garrard Press, 1953 278 p 24 cm $4 50. 2875

Contents Part i, Food-gathering times Foods of men of pre-Chellean-Chellean Non Sapiens men of the Old Stone Age. Homo sapiens, modern man. The Mesolithic Period in Europe Part ii, Food-producing times The Neolithic Age. The Neolithic farm Cereals. Foods of orchards and gardens. Domesticated animals and protein foods. Spread of food production in Europe Part iii, Foods, environment, and man nutrition Social aspects of nutrition. Early preparations of foods. Nutrition and bodily changes. Climatic stress and nutrition. Nutrition and man's welfare References. Index.

Note An unusual book. It gathers together from the literature on the history and archaeology of early man the knowledge that pertains to his food habits and his nutrition. The nutritional aspect runs through the book as a constant theme and as shown in the table of contents, several chapters are devoted specifically to it The author cites numerous specific examples of relations between food habits and the strength and endurance exhibited by ethnic groups Literature references are given to the sources from which the information has been drawn The style is too technical for the book to be attractive to general readers, but it is suitable as background reading for such professionals as food technologists and home economists, in addition to its interest for students of civilization.

JOHNSTON, JOSEPH A

Nutritional studies in adolescent girls and their relation to tuberculosis. Springfield, Ill., Charles C Thomas 1953 320 p. illus. 24 cm. $7 50 2876

Contents Introduction. Tuberculosis in adolescence. Nutrition and tuberculosis. Results of inadequate caloric and protein intake Endogenous reinfection. Objectives. Factors affecting retention of nitrogen and calcium in the period of growth. Metabolic observations on adolescent girls with tuberculosis. Comment and summary Appendix. Bibliography

Note The record of nutritional and metabolic study extending over 20 years of group of adolescent girls most of whom had tuberculosis. The study was carried out at the Henry Ford Hospital. Although other factors are considered, the investigation centered on metabolism and particularly on nitrogen and calcium retention. The author states "It is concluded that a broad consideration of all those factors which are anabolic for nitrogen storage is essential to an understanding of the development and course of teen-age tuberculosis. It is felt that calcium may be shown to be important in the maintenance of the integrity of the healed first infection Condensed case histories and full data of nitrogen and calcium metabolism of all the cases studied are presented in the 200-page chapter entitled "Metabolic observations on adolescent girls with tuberculosis. I the terminal chapter results are summarized, and the author draws conclusions applicable to tuberculosis therapy Methods f the investigation, including typical diets, are described in the appendix.

KEYS ANCEL, AND OTHERS

The biology of human starvation. By Ancel Keys Josef Brozek Austin Henschel Olaf Mickelsen Henry Longstreet Taylor With the assistance of Ernst Simonson Angie Sturgeon Skinner and Samuel M Wells Minneapolis University of Minnesota Press, 1950 2 v illus 27 cm $24 00 2877

Contents (abridged) Volume i. Background The history of starvation. The sources of evidence and information. The Minnesota Nutrition. Laboratory experiment. General features of the Minnesota experiment. Morphology Body eight. Physical appearance and

National Research Council. Food and Nutrition Board

Recommended dietary allowances. Revised 1953 Washington, D C. National Academy of Sciences—National Research Council 1953 36 p 23 cm (National Academy of Sciences—National Research Council Publ 302) $0.50 2889

Contents: The meaning and applicability of the recommended dietary allowances. Scientific bases for the tabulated recommendations: Calories. Protein. Calcium. Iron. Vitamin A. Thiamine. Riboflavin. Niacin. Ascorbic acid. Vitamin D. Recommended daily dietary allowances (table). Consideration of nutrients not tabulated: Carbohydrate and fat. Water. Sodium, potassium, and chlorine. Phosphorus. Copper. Iodine. Fluorine. Trace elements. Vitamin B_6 group. Vitamin B_{12}. Folacin. Pantothenic acid. Biotin. Vitamin K. General discussion. References.

Note: A carefully formulated statement of the food elements and their quantities which appear to be essential in adequate diets. The actual recommendations are all stated in a one-page table, while the rest of the volume is devoted to concise discussions which are essentially critical appraisals of the literature and to a bibliography. The preceding edition was published in 1948. This 1953 revision reflects the advances in the knowledge of nutrition published since the 1948 revision was prepared. These advances and the revisions made in the recommendations are discussed explicitly.

National Research Council. Food and Nutrition Board. Committee on Nutrition Surveys

Nutrition surveys: their techniques and value. Washington, D C. National Academy of Sciences—National Research Council, 1949 144 p illus. 25 cm. (Bulletin of the National Research Council. Number 117 May 1949) $1 50. 2890

Contents: The objectives and demonstrated value of nutrition surveys. Dietary surveys and their interpretation. Chemical tests and their interpretation. Clinical diagnosis in nutrition surveys. The role of surveys in community nutrition programs. Nutrition surveys in relation to professional training in schools of medicine and public health. The role of health departments in nutrition surveys and appraisal.

Note: This bulletin is especially intended for food industry leaders, public health officers, doctors, and nutritionists. It provides scientific information on the methods and value of dietary and nutritional surveys. Each chapter includes an extensive bibliography.

Nutrition Symposium Series

Recent advances in nutrition research, with emphasis on the newer B vitamins. Proceedings of the scientific sections of the seventh annual meeting, The National Vitamin Foundation Incorporated New York City April 3 1952 New York The National Vitamin Foundation, Inc., 1952 129 p. 23 cm. $1.50 2891

Contents: The metabolic role of crystalline vitamin B_{12}, by B. F. Chow. Some observations on substances combining with vitamin B_{12}, by B. F. Chow and R. L. Davis. Role of the vitamins in antibody production, by A. E. Axelrod. Adrenal function in pantothenic acid deficiency, by R. A. [illegible] and others. Some studies on the role of certain of the B vitamins in [illegible], by D. R. [illegible] and R. W. [illegible]. The effect of certain nutritional factors on the reactions produced by acute stress in human subjects, by E. P. Ralli. The skin lesions of human pyridoxine deficiency and their relationship to seborrheic dermatitis of the skin type, by R. W. [illegible] and W. [illegible]. The role of B vitamins in the nutrition of the pig, by R. W. Luecke. The comparative value of various proteins in swine rations, by H. D. Wallace and T. J. Cunha.

Note: A collection of original papers in which recent important developments in selected areas of nutrition research are summarized for professional workers. Literature references are included.

Quartermaster Food and Container Institute

Methods for evaluation of nutritional adequacy and status: a symposium sponsored by the Quartermaster Food and Container Institute for the Armed Forces Quartermaster Research and Development Command U S Army Quartermaster Corps and Medical Nutrition Laboratory Research and Development Division, Office of the Surgeon General Oriental Institute University of Chicago February 25–26 1954 Edited by Harry Spector and Martin S Peterson and T E Friedemann Washington D C National Academy of Sciences—National Research Council 1954 313 p illus. 23 cm. Gratis 2892

Contents: I, Introduction: The problems, purposes, and scope of the symposium, by C. G. King. Importance of nutritional status and methodology to the army, by T. E. [illegible]. Controls in measuring nutritional response, by E. W. Crampton. II, Evaluation of protein adequacy: Biological value of proteins and amino acid interrelationships, by H. H. Mitchell. The rat repletion method, by P. R. Cannon. Introductory notes on quantitative interrelationships between tissue enzymes and dietary protein, by J. N. Williams, Jr. Other methods of evaluation, by J. B. Allison. III, Evaluation of vitamin adequacy: Blood levels, by O. A. Bessey. Evaluation of vitamin adequacy—urinary excretion tests, by W. G. Unglaub and G. A. Goldsmith. Some considerations in making therapeutic trials, by W. J. McGanity and W. J. Darby. Vitamin adequacy and specific metabolic functions, by E. E. Snell. IV, Evaluation of mineral adequacy: Balance studies: the macro-elements, by D. M. Hegsted. Specific functions of trace elements in blood formation, by G. E. Cartwright and others. Other functions, by G. K. Davis. V, Evaluation of military rations by animal experimentation: Rats, by H. Spector. Nutrition and performance in animals, by J. Brožek. Monkeys and dogs, by C. A. Elvehjem. The nutritive value of army rations as determined with growing chicks, by M. L. Scott and others. VI, Evaluation of nutritional status of populations: Nutrition survey methods, by W. H. Sebrell, Jr. and J. M. Hundley. Clinical examination, by N. Jolliffe. Physical performance, by J. Brožek. Physiological alterations in organic functions, by R. E. Johnson. Some aspects of nutritional problems of [illegible] soldiers, by S. M. Levenson and H. [illegible]. VII, Round-table discussion on body composition: Aspects of nutritional status reflected by body composition, by M. I. Grossman. Measurement of body composition in nutritional research—comments on selected methods, by J. Brožek. Body fluid compartments and indices of body composition, by D. E. [illegible]. Relation of body composition to metabolic activities, by W. R. [illegible]. Body composition—I, In vivo estimation of fat and water content from specific gravity (density) determinations, by A. R. Behnke. Body composition—II, In vivo estimation of body fat from measurements of gaseous absorption or desorption, by A. R. Behnke.

Note: The papers presented in this volume present a wide range of basic information pertinent to the evaluation of not only military rations but also civilian diets. They are based on the literature and on laboratory experimentation and field experience. Most of the papers are accompanied by literature references, and a few of them are accompanied by transcripts of the discussions at the symposium.

Quartermaster Food and Container Institute

Nutrition under climatic stress: a symposium sponsored by the Quartermaster Food and Container Institute for the Armed Forces Quartermaster Research and Development Command, U S Army Quartermaster Corps National Academy of Sciences Washington December 4–5 1952 Edited by Harry Spector

when a child is well nourished? How does a child grow? How do you know when a child is growing normally? Why aren't all children well nourished? What difference does it make to a child if he is malnourished? What does it take to make a child well nourished? Agencies, organizations, and movements which contribute to nutritional well-being of children Basic methods of improving the nutriture of children Nutrition services in state and local programs. Fundamental aspects of the school nutrition program. Essentials of effective nutrition teaching. Nutrition teaching at different grade levels. The school lunch Nutrition teaching aids for school and community programs. Index.

Note This book is a successor to Lydia J Roberts, *Nutrition work with children* revised and enlarged edition, Chicago, 1935 Under the original authorship the book achieved a reputation of being the standard text on its subject. The author of the present work—termed in its preface as the third edition of *Nutrition work with children*—was an associate of Professor Roberts at the University of Chicago when the first and second editions were written The book has been extensively revised, reorganized, and the chapters retitled. Most of the expository text is new In the bibliographies, literature published since 1945 predominates. In its new form, the book is still intended primarily for the instruction of advanced undergraduate college students. However its scope is broad enough to make it useful to graduate specialists in nutrition and to general practitioners of medicine and public health workers who advise parents on the nutrition of children

MERRILL, ANNABEL L, AND BERNICE K WATT

Energy value of foods basis and derivation Human Nutrition Branch Agricultural Research Service United States Department of Agriculture Washington, D C. Government Printing Office, 1955 105 p 26 cm (United States Department of Agriculture Agriculture handbook no 74) $0 55 2885

Contents Introduction. Part I Sources of food energy Fat Carbohydrate Protein Determined gross calculated gross energy values of foods. Other sources of energy Part II Digestibility and available energy of foods. Definition of terms. Digestibility of fat, carbohydrate, and protein Availability of energy from digested nutrients. Part III Derivation of current calorie factors Physiological fuel values of foods of animal origin. Physiological fuel values of plant products Part IV Application of calorie factors Comparison of calculated and determined available calories for diets. General factors and more specific factors for calculating calories in individual foods. Application of general factors to national food supplies. Conclusions. Literature cited. Appendix Tabular summary of experiments on digestibility of foods of plant origin by human subjects. Apparent digestibility and available energy Composition and heat of combustion of foods

Note Accurate evaluation of the energy value of foods is essential in dealing with problems of normal nutrition, undernutrition, or obesity This handbook provides more detailed information on food energy values than is available in current textbooks and food tables. It also shows the basic data drawn upon in deriving the revised calorie factors now used in tables of food composition in the United States of America

MILBANK MEMORIAL FUND

Nutrition in relation to health and disease Papers presented at a round table at the 1949 annual conference of the Milbank Memorial Fund November 16–17 1949 New York Milbank Memorial Fund 1950 249 p illus (part col d) 23 cm $1 00 2886

Contents (abridged) Foreword, by H D Kruse and F G Boudreau. A survey of nutritional status among school children and their response to nutrient therapy by J G. Brown and H. B Pierce Results from the study of bone density in the appraisal of calcium status, by P B Mack The influence of nutrition on the course of pregnancy by G Toverud. The objective evidences of nutritional deficiencies in pregnancy by W T Tompkins. Changes in blood values during pregnancy and the relation of protein levels to toxemia symptoms, by D G Wiehl. Amino acids and protein in pregnancy with and without toxemias, by T Priserose. Hypertension and renal lesions as manifestations of nutritional deficiency by W S Hartroft. Ménétrier's syndrome as malnutritional disorder by M. Atkinson. An experiment in the control of tuberculosis among Negroes, by J Downes. The effect of nutrient supplements on the course of tuberculosis, by H. R. Getz.

Note The papers in the volume are the work of medical practitioners or others with professional interests in the relationship between nutrition and health. They are addressed to persons with similar interests, but they are not so technical that they cannot be understood by persons with about a standard education in medicine In other words, the contents of the book are also within the grasp of public health personnel and social workers. The individual papers are supplemented by excerpts from the discussions at the conference, illustrations, and literature references. Several illustrations are reproduced in color

MINER, ROY WALDO, editor

Nutrition in infections. Conference chairman and consulting editor W Alan Wright. New York Published by the Academy 1955. 145–318 p illus (part col'd) 22 cm. (New York Academy of Sciences. Annals. Vol. 63, art. 2) $4 00 2887

Contents Critical evaluation of the role of nutrition in the prophylaxis and treatment of disease, by S. L. Halpern. Implications of observations made during experimental deficiencies in man, by M. K. Horwitt. Nutrition and intestinal parasitism, by W W Frye. The effect of high levels of vitamins on the resistance of chicks to fowl typhoid, by C. H. Hill and H. W Garren. Antibiotics and vitamins in the treatment of swine enteritis, by R. W Luecke. The role of the vitamins in antibody production, by A. E. Axelrod and J Pruzansky Observations on infection and certain vitamins, by B M Kagan. Fluid balance during infection with reference to protein and mineral metabolism enzyme systems, by J Elman. Fortified broad spectrum antibiotics as adjuncts in the treatment of surgical infections of the young, the aged, and the debilitated patient, by A. Prigot and A. de L. Maynard. Nutritional and metabolic aspects of infection, by L. W Kinsell. Antibiotics and nutrition in infections, by M. R. Milberg and M. Michael, Jr Protein deficiency as it predisposes to infection and the role of vitamin deficiencies, by R. López-Toca. Nutritional problems of surgical patients, by J E. Rhoads and C. E. Alexander. Certain aspects of deficiency diseases of the tropics and treatment of some related infections, by E. H. Loughlin and W G. Mullin. Nutritional disorders in bilharzial cases with hepatosplenic affection, by A. R. Mousa and others. Altered prognosis in the diabetic with infection, by H. Pollack. Recapitulation and prospects, by H. A. Schneider

Note Papers first presented at a conference held by the Section of Biology of the New York Academy of Sciences in May 1955, are made available in this publication. They are listed by title and author above. In most of the papers the results of recent experimental investigations or clinical experience are correlated with the results reported in the literature. Literature references and transcripts of conference discussion of the individual papers are furnished for most of the papers. In the recapitulation, Dr Schneider, of the Rockefeller Institute for Medical Research, summarizes the conference and also takes issue with the basic assumption of many of the contributors that a good state of nutrition produces increased resistance to infection.

MITCHELL, HAROLD HANSON, AND MARJORIE EDMAN

Nutrition and climatic stress, with particular reference to man. Springfield, Ill. Charles C Thomas 1951 234 p illus. 24 cm. $6.75. 2888

Contents Introduction. Diet in a cold environment. Diet in a hot environment. Diet at altitude. Practical considerations. Literature cited. Addendum.

Note Essentially this work is a digest of the literature bearing on such matters as the effect of diet on tolerance to cold, the effect of heat on nutrient requirements, the physiological effects of altitude, and the effect of dietary modifications on the tolerance to anoxia. The literature surveyed includes both published literature and governmental research reports. The work itself was prepared as a government research report under a contract between the University of Illinois and the Quartermaster Food and Container Institute for the Armed Forces as an aid in the proper rationing of troop personnel in various climates and at different altitudes. It has been published in the present form because it is potentially useful in other fields than the military The literature has been covered up to about October 1 1949

[illegible] courses in chemistry and physiology. Interest is lent to the subject by linking it to the student's own nutritional problems as, for example, in the chapter where the relations between food intake and body weight are discussed. There are 41 tables of reference data and selected but extensive bibliographies. In this edition numerous changes have been made to bring the book in line with the 1948 revision of the National Research Council's Recommended daily dietary allowances and with other developments. The fourth edition was published in 1937. 303 p. $4.90

SHERMAN HENRY CLAPP

Food and health. New edition completely revised and reset. New York The Macmillan Company 1947 290 p illus. 22 cm $4.75 2898

Contents (abridged). The importance of an intelligent use of food. How foods affect health and efficiency through nutrition. The control of body weight, and the maintenance of health during middle life. Energy needs in childhood and with advancing age. Proteins and their amino acids. Mineral elements in food and nutrition. The significance of food calcium in development and health. Vitamin A and its precursors. Thiamine (vitamin B_1). Riboflavin (vitamin B_2 or G). Pellagra and niacin (nicotinic acid). Ascorbic acid (vitamin C). The vitamins D and the prevention of rickets. The existence of other vitamins and the concept of [illegible]. The chief groups of foods and the place of each in the diet—breadstuffs and cereals—vegetables and fruits—milk and cheese—meats, fish, poultry and eggs—fats—sweets and sweets—summary. Adjustments for better nutrition. Appendices: Recommended dietary allowances (revised 1945) of the National Research Council. Nutritive values of typical foods. Nutritional criteria in common servings and commercial units of a larger number of typical foods. Selected bibliography. Glossary. Subject index.

Note. An authoritative and well-written book for general readers. It points the way to selecting food and planning everyday diets so that an optimum level of health and vitality will be maintained. Although little space is given to menu planning, an appendix contains three representative series of meals that were chosen according to the principles explained in the book. The first edition was published in 1934. In the present edition, there has been much revision in order to incorporate the knowledge gained since 1934. There are five new chapters, and the bibliography has been thoroughly revised.

SHERMAN HENRY CLAPP

Foods their values and management. New York Columbia University Press, 1946 221 p. 21½ cm. $4.00. 2899

Contents. Modern views of food supply. Grain crops as food and feed. Mature legumes and nuts. Potatoes and sweetpotatoes. Green and yellow vegetables. Citrus fruits and tomatoes. Other (and total) fruits and vegetables. Milk and its products other than butter. Meats, fish, poultry and eggs. Food fats. Sugar and sweets. Food [illegible] problems. Appendix: Recommended dietary allowances. Bibliography. Index.

Note. A companion to *The science of nutrition* by the same author. It is intended for the general reader as well as for specialists. In the discussion of each article (or type) of food, its place in the individual or family dietary or in the national food supply is considered from the viewpoint of its contribution to each main aspect of nutritive value: energy, protein, mineral elements, and vitamins. Special attention is given to new knowledge of the distribution and conservation of vitamin values and to the economy of individual [illegible] in the different food groups. Although the bibliography is a selected one and is chiefly limited to recent publications, it runs to 13 pages.

SHERMAN HENRY CLAPP

The nutritional improvement of life New York Columbia University Press 1950 270 p illus 23 cm. $4.50 2900

Contents. Introductory—nutrition as public concern and as [illegible] adventure. Nutrition in the nineteenth—beginnings of permanently organized research in nutrition. First decade of the twentieth century science of nutrition. Nutrition in the decade of 1911–1920. Advances during 1921–1930 and the concept of nutritional improvement. Nutrition in the decade of 1931–1940. In the Second World War. Principles and practice. The internal environment and the quality of life. Improved nutrition and length of life. Further human implications. Better nutritional status for more people. Appendices: The 1946 world food survey of the Food and Agriculture Organization of the United Nations. Records of actual food consumption. Selected bibliography. Index.

Note. The main theme of this book by an internationally known authority on nutrition is that the rapid advance of nutritional knowledge, especially in the present century, has already improved the quality of human life and promises further improvement in the years ahead. The presentation is semi-popular and the book is presumably of interest to professional workers in the fields of public health, nutrition, and child care, as well as to those general readers who seek mature discussions of scientific subjects.

SHERMAN HENRY CLAPP

Selected works of Henry Clapp Sherman Mitchell Professor Emeritus of Chemistry Columbia University New York The Macmillan Company 1948 1,056 p illus 24 cm $2.50. 2901

Contents. Looking forward in nutrition, by H. C. Sherman. An appreciation. Biographical notes. Chronological list of papers. Books. Acknowledgment. Selected reprints: Foods and nutrition. Addresses and reviews.

Note. Henry Clapp Sherman, former Professor of Chemistry at Columbia University, is world famous for his outstanding work and research in all the major branches of the science of nutrition. This volume contains biographical material, a bibliography of his writings, and 119 of his articles reprinted from various scientific journals, ranging in date of publication from 1900 to 1946. Unfortunately the volume lacks an index.

TAYLOR CLARA MAE, AND OTHERS

Foundations of nutrition Fifth edition By Clara Mae Taylor Grace Macleod and the late Mary Swartz Rose. New York The Macmillan Company 1956 620 p illus (part col d) 21 cm. $6.00. 2902

Contents. Historical introduction. The basal metabolism and factors affecting it. The energy requirement of adults. The energy requirement of children. Food as the source of energy for the body. Food in relation to growth and weight control. Water. Protein. Mineral elements. Calcium, phosphorus, and magnesium. Iron, copper, cobalt, and other trace elements. Vitamin A. Thiamine. Ascorbic acid. Vitamin D. Riboflavin. Niacin (nicotinic acid). Other vitamins. Contributions to the diet made by various types of food materials. Milk and cheese. Bread, flour and cereals. Vegetables and fruits. Meat, fish, poultry, eggs, and nuts. Fats, and sugars, and other sweets. Adequate diets for adults. Food needs of mothers and babies. Food needs of preschool and kindergarten children. Food needs of school children. Adequate diets for the family. Appendix. Index.

Note. A textbook of college grade. It was first published in 1927 and in its various editions has been widely used in courses offered to students of home economics and students preparing for careers in dietetics. It emphasizes both the scientific knowledge that is the basis for current recommendations in nutrition and the practical aspects of diet management and menu planning. It contains enough tables of data, for example a table of the nutritive values of individual foods in calories and metric weights, to make it useful as a practical reference book. The fourth edition, the work of the same authors, was published in 1944. In comparison this fifth edition contains a wide range of new data, several new tables and many revised sections of text. The chapters include short lists of references, and these have been revised to refer mostly to literature published since 1944.

TOEPFER, EDWARD WILLIAM AND OTHERS

Folic acid content of foods. Microbiological assay by standardized methods and compilation of data from the literature By Edward W Toepfer Elizabeth Gates Zook Martha Louise Orr and L. R. Richardson Washington D C. Government Printing Office 1951 116 p illus. 26 cm. (United States. Depart

and Martin S Peterson Washington, D C. National Academy of Sciences—National Research Council, 1954 204 p illus 23 cm. Gratis 2893

Content Conference objectives, by E. M Nelson I, Practical problems of service operations under climatic stress Army by H. E. Ratcliffe. Air force, by W E. Bills. Canadian armed forces, by J G. Armstrong. Summary remarks, by A. Henschel. Discussion of the practical problems of service operations under climatic stress. Physiological responses of men to heat and cold, by F Daniels. II, Animal experimentation: Effect of heat on physiological economy by S. Brody Vitamin requirements in hot climates, by C. A. Mills. Water metabolism in hot climates, by E. F Adolph. Discussion of animal studies—under high temperatures. Acclimatization to cold environment, by L. P Dugal. The effect of certain vitamins on the response of normal subjects to cold water stress, by E. P Ralli. Protein metabolism under stressful conditions, by B F Chow Discussion of animal studies—under cold temperatures. Food problems in exploring the arctic, by Sir H. Wilkins. III, Human experimentation: Laboratory studies, by H. H. Mitchell. Role of the field test in nutrition and weather stress studies, by F Sargent. Summary remarks, by R. M Kark. Discussion of laboratory and field studies using human subjects. IV Summary of present knowledge—need for more research Lessons from Korea, by H. Pollack. Discussion. Heat tolerance and nutrition suggestions for new directions in investigation and interpretation, by L. P Herrington. Low temperature considerations, by E. Page. Laboratory studies on man by H. H. Mitchell. Studies on troops in the field, by R. M Kark. The coordination of research approaches, by A. Keys. Discussion of new research approaches.

Note The diverse nature of the material in this volume is obvious from the titles of the papers listed above. Included are results of research on animals and on human subjects summaries of military field experience suggestions for future research, etc. Important findings are reported in some of the papers, and their value is not limited to military planning and operations, but is of value also in the dietary management of domesticated animals and human beings subsisting under extremes of climate

PATTERSON, THOMAS LEON

Comparative physiology of the gastric hunger mechanism New York New York Academy of Sciences 1933 226 p illus 23 cm (New York Academy of Sciences Annals Vol XXXIV p 55–272 277–284) $2 25 2894

Content Introduction. The biological significance of hunger Hunger in the Protozoa Hunger in the simpler Metazoa. Hunger in plants. Hunger in the higher animals. The theories of hunger Methods of experimentation. Comparative physiology of gastric motility in vertebrate and invertebrate animals. Types of Invertebrata studied Arthropoda. Mollusca. Types of Vertebrata studied Chordata Cyclostomes. Pisces Amphibia. Reptilia. Aves. Mammalia. The gastro-neuro-muscular mechanism The nature of the gastric response. The influence of stimulation of the sciatic. The influence of stimulation of the vagus. The influence of stimulation of the splanchnic The ocular-gastric reflex from compression of the eyeball. Man (*Homo sapiens*) Discussion and conclusion. Bibliography Index.

Note A comprehensive analysis of the hunger problem by means of a series of physiological experiments upon such diverse vertebrates and invertebrates as the crab, clam, dogfish, frog turtle, pigeon monkey and man Its purpose is to study comparatively the hunger mechanism throughout the animal kingdom in order to be able better to interpret the mechanism of the human stomach.

SAHYUN MELVILLE editor

Proteins and amino acids in nutrition New York Reinhold Publishing Corporation 1948 566 p illus 23 cm $10 00 2895

Contents Introduction by H. B. Lewis. Proteins in nutrition (historical) by E F Beach The biological utilization of proteins and protein requirements, by H H Mitchell. Caloric vitamin and mineral requirements with particular reference to protein nutrition by H. J Deuel, Jr Economic aspects of food proteins, by L. E. Booher The nutritive aspects of meat and meat products, by H R. Kraybill The amino acid requirements of avian species, by H. J Almquist. The relation of hormones to protein metabolism, by A. White. Plasma proteins and their relation to nutrition, by M Sahyun. Protein deficiency and its relationship to nutritional anemia, hypoproteinemia, nutritional edema, and resistance to infection, by C. P Berg. Protein and amino acid nutrition in pediatrics and in pregnancy by S. Z. Levine. Protein nutrition in surgical patients, by C. C. Lund and S. M. Levenson. The relation of fluid and mineral balance to protein metabolism, by W E. Abbott. Proteins as related to burns, by A. Large and C. G. Johnston. The protein nature of toxins, antibodies and related substances, by E. A. Kabat. Protein nature of filtrable viruses, by M. A. Lauffer Appendix Table I, Proximate composition of American food materials. Table II, Nutritive value of 100 grams of selected foods, edible portion. Index.

Note The common theme of these papers is the effects of varying amounts of protein (including amino acids and accompanying food components) in the diet of human beings. Many interesting correlations are indicated of the close connection between protein nutrition (especially protein deficiency) and various diseases. Of the many tables, two in Chapter X (Tables X I and X II) report a direct correlation between the protein diet of pregnant women and the resultant height, weight, and general health of their offspring. Another table 73 pages long, tabulates the water, protein, fat, carbohydrate ash acid, and food value of a long list of American food materials. The work is designed primarily for professional workers in nutrition and allied fields. Extensive references are given at the end of each chapter.

SHERMAN, HENRY CLAPP

Chemistry of food and nutrition. Eighth edition. New York The Macmillan Company 1952 721 p illus, 22 cm. $6.50. 2896

Contents (abridged) Carbohydrates. Fats and lipids Nutritional chemistry of the proteins and their amino acids Enzymes and digestion. The basal energy metabolism, regulation of body temperature, and specific dynamic action. Total energy metabolism and food requirement. Quantitative aspects of protein needs and values. Mineral elements in foods and nutrition. Nutritional aspects of acid-base balance. Quantitative aspects of calcium and phosphorus needs and values. Iron and copper in food and nutrition. Iodine in nutrition. Ascorbic acid (vitamin C) Thiamine (vitamin B_1) Riboflavin Niacin (nicotinic acid) and the pellagra problem. Folic acid, vitamin B_{12}, and citrovorum factor Other water-soluble vitamins and substances of related interest. Vitamin A and its precursors. The vitamins D and prevention of rickets The nutritional chemistry of reproduction and lactation Some chemical aspects of growth and development. Dietary adequacy and nutritional status Correlative chemical control of the internal environment—the problem of the best use of food. Causes and extent of variations in the nutritive values of foods. Food economics in the light of the newer chemistry of nutrition. Improvement of already-normal nutrition. Appendices. Index.

Note A standard work since the publication of the first edition in 1911 It was designed and is widely used as a college text for use in home economic courses and other courses where a fairly extensive knowledge of the fundamentals of nutrition is important. It has gradually taken on also the status of a reference book for lay readers, social workers, public health workers, and others who have serious interests in the facts regarding the relation of nutrition to health. The style is concise, and a good deal of space is given to tables, formulas, and bibliographies The seventh edition was published in 1946. In this edition the three last chapters are new and numerous revisions have been made in the text of other chapters.

SHERMAN HENRY CLAPP AND CAROLINE SHERMAN LANFORD

Essentials of nutrition Third edition. New York The Macmillan Company 1951 454 p. illus 22 cm 2897

Content (abridged) The nutritional improvement of life The more abundant nutrients in foods. What happens to food in the body—digestion and metabolism Energy aspects of nutrition How to meet the energy need and have the body weight you want. How to meet the need for protein. Mineral elements and regulatory processes in nutrition Iodine Ascorbic acid (vitamin C) Thiamine (vitamin B_1) Riboflavin niacin (nicotinic acid) and the problem of pellagra with its related ills. Other water-soluble vitamins Vitamin A and its precursors Rickets and the vitamin D Other fat-soluble vitamins Some relations of food to the teeth Nutritional characteristics of food commodities Food costs and values—nutritional guidance in food economics Appendix Fatty acids. Growth enzymes Composition and nutritive values of foods Recommended dietary allowances. Glossary Subject index.

Note A relatively brief textbook designed particularly for introductory college courses taken mainly by students who ...

of age, were studied. Pertinent literature is cited in footnotes, with statements in the text keyed to the references. The investigations were sponsored by the Herman Frasch Foundation for Research in Agricultural Chemistry and were carried out by the Missouri Agricultural Experiment Station.

CARPENTER THORNE MARTIN

Tables, factors, and formulas for computing respiratory exchange and biological transformations of energy Fourth edition. Washington, D C. Carnegie Institution of Washington, 1948. 147 p. 25 cm. (Carnegie Institution of Washington. Publication 303C) $1.25 2909

Note: The purpose of this publication is to make available in one place the majority of tables and conversion factors needed in calculations of results from measurements obtained by the several types of respiratory-exchange apparatus, particularly the Carpenter-Knipping and the combination of spirometer, valves, and breathing appliance, and to make available the standards of normal metabolism. The introductory section gives the method of construction and calculation of the tables, with examples of their application. Among the tables are those giving reductions of barometric pressure and temperature used in computing the reduction of gas volumes to 0° and 760 millimeters; oxygen-volume tables used in calculating the oxygen deficit of expired air; calorific values of oxygen and carbon dioxide for the calculation of heat derived from carbohydrate and fat in respiratory exchange measurements; the Lissauer formula for calculating body-surface of infants, and the DuBois formula for calculating body-surface of adults; basal heat-production and metabolism tables for both sexes, energy expenditure tables and other data on metabolism.

GREENBERG DAVID M editor

Chemical pathways of metabolism. New York Academic Press, Inc. 1954 2 v. 23 cm. Vol. 1 $11.00 vol 2 $9.50 2910

Contents: Volume I. Free energy and metabolism, by A. B. Pardee. Enzymes in metabolic sequences, by D. E. Green. Glycolysis, by P. K. Stumpf. The tricarboxylic acid cycle, by H. A. Krebs. Other pathways of carbohydrate metabolism, by S. S. Cohen. Biosynthesis of complex saccharides, by W. Z. Hassid. Fat metabolism and acetoacetate formation, by I. L. Chaikoff and G. W. Brown, Jr. Sterol and steroid metabolism, by D. K. Fukushima and L. S. Zuerchold. Author index. Subject index. Volume II. Nitrogen metabolism of amino acids, by P. P. Cohen. Carbon catabolism of amino acids, by D. M. Greenberg. Synthetic processes involving amino acids, by D. M. Greenberg. Metabolism of sulfur-containing compounds, by D. M. Greenberg. Enzymatic synthesis of peptide bonds, by H. Borsook. Purines and pyrimidines, by M. P. Schulman. Nucleotides and nucleosides, by L. A. Heppel. Metabolism of heme and chlorophyll, by S. Granick. Author index. Subject index. Errata: Volume I.

Note: Planned as a survey of the accumulated knowledge of the biochemistry of metabolism, this work contains the chapters whose authors and titles are listed above. Essentially each of the chapters is a scholarly written monographic survey of the topic covered in its title. It presents in organized form the results reported in the pertinent literature. Literature references—several hundred of them in the case of some chapters—are printed as footnotes, and the names of the authors of the cited work are brought together in the author indexes. The work is of interest to graduate biochemists and other scientists who have need for a compact and authoritative survey of the subject or a guide to the literature published to approximately the close of 1953.

HOLLEY HOWARD L AND WARNER W CARLSON

Potassium metabolism in health and disease New York Grune & Stratton, 1955 131 p. illus 22 cm $4 50 2911

Contents: Normal potassium metabolism. Abnormal potassium metabolism—potassium deficiency. Abnormal potassium metabolism—potassium excess. Appendix. Selected references. Index.

Note: The chapter on normal potassium metabolism in this work is an outline, only 19 pages long. Most of the volume is devoted to abnormal potassium metabolism, which is surveyed from the standpoint of clinical medicine. The book is intended as a clinical guide in diagnosis and treatment of abnormal potassium metabolism. Signs and symptoms, laboratory findings, and treatment are covered, and a selection of typical cases described. The appendix includes data on the potassium content of public water supplies in a number of cities in the United States of America.

MCELROY WILLIAM D., AND BENTLEY GLASS editors

Phosphorus metabolism A symposium on the role of phosphorus in the metabolism of plants and animals Sponsored by the McCollum Pratt Institute of the Johns Hopkins University Volume I. Baltimore The Johns Hopkins Press 1951 762 p illus 24 cm. $10.00. 2912

Contents (abridged): Metabolism of polysaccharides and disaccharides, by W. Z. Hassid. The problem of the "direct utilization" of disaccharides by certain microorganisms, by M. Doudoroff. The synthesis of polysaccharides without the intermediation of phosphate, by E. J. Hehre. The effect of the hyperglycemic factor and epinephrine on liver and muscle phosphorylase, by E. W. Sutherland. Some studies of fructose metabolism, by M. W. Slein. Phosphoglucomutase and aldolase, by J. F. Taylor. The metabolism of pentose and triose phosphates, by B. L. Horecker. The primary product of glucose-6-phosphate oxidation, by F. Lipmann. Pyridine nucleotides, by F. Schlenk. Recent investigations on the formation and utilization of active acetate, by H. A. Barker. Initial stages of pyruvate oxidation, by R. S. Schweet and others. Acetyl transfer in the enzymatic synthesis and breakdown of citric acid, by J. R. Stern. The metabolism of two-carbon compounds, by [illegible]. Lactate and citrate biosynthesis, by S. F. Carson. Oxidative phosphorylation during electron transport, by F. E. Hunter, Jr. Ethyl alcohol oxidation and phosphorylation in extracts of *E. coli*, by D. D. Fischer and E. Racker. The regulation of the rate of oxidation in rat liver mitochondria, by V. R. Potter and R. O. Recknagel. The metabolism of phosphorus-containing coenzymes, by A. Kornberg. The structure of coenzyme A, by G. D. Novelli. The structure of pyridoxal phosphate, by I. C. Gunsalus. Pyridine nucleotides and coupled phosphorylation, by N. O. Kaplan. The biochemistry of inorganic pyrophosphates and metaphosphates, by G. Schmidt. The influence of inorganic ions on phosphorylation reactions, by H. Lardy. The chemistry and thermodynamics of phosphate bonds, by P. Oesper. Phosphate metabolism in the activity of skeletal and cardiac muscle, by W. F. H. M. Mommaerts. Energy sources of bioelectricity, by D. Nachmansohn. Phosphate bond energy and bioluminescence, by W. D. McElroy. Urea formation, by S. Ratner. The synthesis of peptide bonds, by P. P. Cohen. Adenosine triphosphate and carbon dioxide fixation, by M. F. Utter. Summary, by B. Glass. Author index of participants. Subject index.

—— Volume II. Baltimore The Johns Hopkins Press 1952 930 p. illus 24 cm. $11.00 2913

Contents: Mechanisms of phosphate assimilation. The acid-soluble phosphates in animal metabolism, by D. M. Greenberg. Phosphate assimilation in higher plants, by P. K. Stumpf. The glycolytic cycle in the breakdown and synthesis of carbohydrates in green leaves, by D. I. Arnon. The role of phosphate in amino acid and protein metabolism. Enzymatic synthesis of glutathione, by K. Bloch and others. Transpeptidation and transamidation reactions, by C. S. Hanes and others. The biological significance of the phosphoryl radical, by H. Warburg. Synthesis and transfer of the labile methyl group, by G. L. Cantoni. The genetic control of enzyme formation, by D. M. Bonner. Enzymatic dephosphorylation of phosphoproteins and the nature of phosphorus linkages, by G. E. Perlmann. The role of phosphorus in the metabolism of lipids. The chemistry of phospholipides, by J. Folch. Formation of phospholipids in animal tissues, by C. Artom. Phospholipid metabolism in human liver disease, by W. E. Cornatzer. The enzymatic oxidation of fatty acids, by E. P. Kennedy and A. L. Lehninger. Fatty acid oxidation by soluble enzyme system from mitochondria, by G. R. Drysdale and H. A. Lardy. Fatty acid oxidation in soluble enzyme preparations, by H. R. Mahler. Fatty acid synthesis and oxidation in pumpkin cotyledons, by E. H. Newcomb and P. K. Stumpf. The chemistry and metabolism of nucleic acids. Recent aspects of the chemistry of nucleic acids, by S. Zamenhof. Observations on pentose nucleic acid composition in sea urchin embryos and in mammalian cell fractions, by D. Elson and E. Chargaff. The products of ribonucleic acid hydrolysis and their relationship to its structure, by W. E. Cohn and others. The relation of desoxynucleosides to the biochemistry of

ment of Agriculture Agriculture handbook no 29) $0 45 2903

Contents Introduction. Part I Laboratory analysis of foods Analytical procedures. Standardization of growth curves. Calculation of confidence limits. Reproducibility of assays. Recovery of added folic acid. Potential enzyme activity of chicken pancreas. Completeness of extraction. Results of laboratory analysis of foods. Part II Compiled data on folic acid content of foods. Literature cited.

Note Recognition of folic acid as a factor required for growth reproduction, and prevention of anemia in animals, and for treatment of several types of anemia in human beings, led to the laboratory work on the folic acid content of food which is described and summarized in this handbook. The study was carried on jointly by the Bureau of Human Nutrition and Home Economics in Washington and by the Texas Agricultural Experiment Station. Results are reported of the systematic application of standardized analytical procedures to a large number of foods. Two summary tables on the folic acid content of various foods are given the first covering 16 pages, contains the detailed results of the laboratory analysis of market purchased, locally produced, and special foods, showing total and free folic acid in edible portions determined by microbiological assay with *Lactobacillus casei* and *Streptococcus faecalis* the second, covering 79 pages, contains compiled data from literature and other sources. References listed in the bibliography number 131

UNDERWOOD, E J

Trace elements in human and animal nutrition New York Academic Press Inc, 1956 430 p illus 24 cm $9 50 2904

Contents. Introduction. Iron. Copper Molybdenum. Cobalt. Nickel. Zinc. Manganese. Iodine Fluorine. Selenium. Aluminum arsenic, barium boron, bromine silicon strontium, and vanadium. Soil-plant-animal interrelationships. Author index. Subject index.

Note The trace elements" are those whose names are given in the chapter titles listed above. This book is a comprehensive survey of the knowledge accumulated to date on the importance of these elements in animal nutrition. In a typical chapter the historical development of the knowledge is outlined, then the known facts are concisely stated and references are given to the source literature. Essentiality in nutrition and toxicity (when the latter exists) are both covered. The names of authors of the cited literature are assembled in the author index hence the book may be used as a convenient guide to the literature of the field. The author is associated with the Institute of Agriculture of the University of Western Australia.

METABOLISM

BENEDICT, FRANCIS GANO, AND ROBERT C LEE

Hibernation and marmot physiology Washington D C Carnegie Institution of Washington 1938 239 p illus 25 cm (Carnegie Institution of Washington Publication no 497) o p 2905

Contents (abridged) Techniques employed. Physiology of the non-hibernating marmot. Physiology of the non-hibernating marmot during prolonged fasting. Physiology of the marmot when entering hibernation Physiology of the marmot in hibernation Physiology of the marmot when awakening from hibernation Approaches to artificial hibernation The causes and theories of hibernation.

Note A investigation of hibernation centered around the main theme of vital energetics, with emphasis upon heat production and [illegible] less extent upon heat loss. Comparisons are made between the heat production of the marmot in nonhibernating condition and that of the hibernating animal. Respiration, metabolism, and changes in body weight are also studied on the basis of laboratory data.

BENEDICT FRANCIS GANO AND ROBERT C LEE

Lipogenesis in the animal body with special reference to the physiology of the goose Washington, D C Carnegie Institution of Washington, 1937 232 p. illus. 25 cm. (Carnegie Institution of Washington. Publication no 489) $2 50 2906

Contents (abridged) Techniques employed. Physiology of the normal goose Body weight and composition. Rectal temperature. Heart rate. Respiration rate. Basal metabolism. Water-vapor output. Physiology of the goose during prolonged fasting Length of life. Loss in body weight. Changes in body composition during fasting. Heat production. Physiology of the goose during excess feeding Kinds and amount of food. Rectal temperature. Heart rate Water-vapor output. Carbon-dioxide production. Oxygen carbon dioxide. Character of gain in body weight. Energy [illegible] in the transformation of carbohydrate into fat.

Note A study of the transformation of food carbohydrate into body fat, or animal lipogenesis, as observed in experiments using a normal goose as subject because of that animal's marked disposition to convert carbohydrate readily into fat. The data secured from heat production and respiratory exchange measurements have not only physiological value but likewise are potentially of great economic value in the feeding of domestic animals.

BENEDICT FRANCIS GANO AND CORNELIA (GOLAY) BENEDICT

Mental effort in relation to gaseous exchange heart rate, and mechanics of respiration Washington, D C Carnegie Institution of Washington 1933 83 p illus. 25 cm. (Carnegie Institution of Washington. Publication no 446) o p 2907

Contents (abridged) Earlier investigations cerebral, [illegible] circulatory and gaseous metabolism studies. Plan of research Technique employed respiration apparatus. Mechanics of respiration. Heart rate. Record of muscular activity Results of experiments. General discussion physiological normality of subject. Influence of body position. Mental effort and metabolism.

Note A discussion of the effects of mental effort upon metabolism, based upon review of previous literature and upon original experimental data. The findings of the present investigation in large part controvert the idea that the mental process has significant dynamic effect upon the energy metabolism.

BRODY, SAMUEL

Bioenergetics and growth with special reference to the efficiency complex in domestic animals New York Reinhold Publishing Corporation 1945 1,023 p illus 24 cm. (A publication of the Herman Frasch Foundation) $5 00 2908

Content Introduction Factors in the efficiency complex. Energetic efficiency, energy units, and dietary-energy categories. Energetic efficiencies of growth and work processes. Specific dynamic action and [illegible] efficiency of productive processes [illegible] of nutrition, the principle of diminishing increments, and efficiency Metabolic catalysts in the efficiency complex—enzymes, minerals and vitamins in biological oxidations. Metabolic catalysts in the efficiency complex—hormones. Metabolic catalysts in the efficiency complex—seasonal rhythms Metabolic catalysts in the efficiency complex—diurnal rhythms Homeothermy temperature [illegible] Homeostasis and organismic theory [illegible] life processes, and productive efficiency Methods in animal calorimetry Basal energy and protein metabolism in relation to body weight in mature animals of different species. Metabolism and body weight during growth Pulmonary ventilation in relation to body weight [illegible] body size and maintenance needs in relation to basal metabolism, [illegible] efficiency Time relations of growth of individuals and populations. Linear growth, form, and function. Aging in relation to growth and efficiency with special reference to milk and egg production Physiologic time and equivalence of age. Nutritional, [illegible] aspects in the efficiency complex Milk—nutritional, [illegible] physiological aspects. The monetary economy of milk production Egg production—nutritional and energetic efficiency aspects [illegible] energetic efficiency of muscular work and indices of work-[illegible] Summary and integrating discussion. [illegible] Author's index. Subject index.

Note A systematic presentation of the results obtained in [illegible] program of research into the energetics of farm animals. Although the main object was to investigate problems with practical applications, the approach was fundamental hence many problems [illegible] physiologic time and equivalence [illegible] out immediate practical value.

tems. Sponsored by the McCollum-Pratt Institute of the Johns Hopkins University Baltimore The Johns Hopkins Press 1956 728 p. illus. 24 cm. $10.00 2916

Contents: Role of molybdenum in plant nutrition, by A. J. Anderson. Nitrate and nitrite metabolism by plants and microorganisms: Some remarks on nitrate metabolism in microorganisms, by W. Verhoeven. The enzymatic mechanisms of nitrate and nitrite metabolism in bacteria, by S. Taniguchi and others. Enzymatic steps in the assimilation of nitrate and nitrite in fungi and green plants, by A. Kessler. Normal pathways of assimilation of nitrate and nitrite, by W. D. McElroy and D. Spencer. Metabolism of inorganic nitrogen by plants, by R. A. Steinberg. The participation of cytochrome in nitrate reduction, by W. Verhoeven and Y. Takeda. The cytochrome system and microbial reduction of nitrate, by R. Sato. Note on the utilization of nitrite-N and ammonium-N by *Azotobacter vinelandii*, by R. R. Roberts and M. A. Aiken. The role of molybdenum in oxidation-reduction processes in *Neurospora* and *Azotobacter* by D. J. D. Nicholas and H. M. Stevens. Nitrate reduction from the analysis of leguminous plants, by G. Chrome and H. J. Evans. Identification of NO, N_2O and N_2 as products of the nonenzymatic reduction of nitrate by ascorbate or reduced diphosphopyridine nucleotide, by H. J. Evans and C. McNall. General processes of nitrification and denitrification: General processes of nitrification and denitrification, by J. H. Quastel. Nitrification, by C. C. Delwiche. Denitrification, by C. C. Delwiche. Enzymatic steps in denitrification, by V. A. Najjar and C. W. Chung. Nitrogen fixation: Introductory remarks, by M. Kamen. Reduction of molecular nitrogen and relationships with photosynthesis and hydrogen metabolism, by H. Gest and others. Studies on the mechanism of biological nitrogen fixation, by R. H. Burris. Hydrogenase and nitrogen fixation, by A. L. Shug and others. Inhibition in *Azotobacter vinelandii* by azide and cyanate, by E. R. Roberts and J. A. Robinson. Comparative aspects of ammonia metabolism: Some further observations on glutamyl and related compounds in plants, by F. C. Steward and J. K. Pollard. Ammonia metabolism in animals, by S. P. Bessman. Metabolic relationship between molybdenum and other metals—function of metallo-flavoproteins, by G. K. Davis. Molybdenum and copper relationships in animal nutrition, by A. T. Dick. The molybdenum problem in the Florida Everglades region, by A. E. Kretschmer, Jr. and D. W. Beardsley. Functional groups in xanthine oxidase, by W. W. Westerfeld and others. Xanthine oxidase studies, by E. C. DeRenzo and others. Function of molybdenum in xanthine oxidase, by J. R. Totter and C. L. Comar. The production of hydrogen by hypoxanthine oxidation, by H. R. Whiteley and E. J. Ordal. Iodine oxidation by xanthine oxidase, by I. Fridovich and P. Handler. Properties of purified xanthine oxidase, by P. G. Avis and others. Sulfhydryl groups apparently concerned in the activity of milk xanthine oxidase, by J. Harris and L. Hellerman. General mechanisms of metallo-flavoproteins in electron transport, by H. R. Mahler and J. L. Glenn. The function of the electron-transferring flavoprotein in the first oxidative step of the fatty acid cycle, by H. Beinert and F. L. Crane. The role of iron and copper in terminal electron transport, by D. E. Green and others. Summary by B. Chance. Author index of participants. Subject index.

Note: Published in these volumes are the papers and discussions presented at symposia sponsored by the McCollum-Pratt Institute of the Johns Hopkins University. The symposia are attended by eminent biochemists and scientists working in fields related to biochemistry. Each one ... organized around several major papers in which ... summarized the current knowledge of specific sectors of the same subject. These papers are complemented by shorter papers in which scientists report the results of their own investigations in the area. Literature references are included in both the long and short papers. The first volume in the series, Copper metabolism, 1950, ... out of print.

Meyer, Frieda L., and others

A standardized diet for metabolic studies its development and application, by Frieda L. Meyer Myrtle L. Brown, Harriet J Wright, and Millicent L. Hathaway Washington, D. C. Government Printing Office 1955 81 p. illus 23 cm. (United States. Department of Agriculture. Technical bulletin no. 1126) $0.30 291

Contents: Need for ... standardized diet. Section i. The diet, its nutritive value and application: Plan of the diet. Nutritive value of the diet. Possible applications of the diet. Section ii. Metabolic response to the standardized diet and to ... low-fat intake: Preliminary tests of the diet. General plan of the study. Results and discussion. Estimate of the nutritive value of and the metabolic response to the standardized diet. Section iii. Procedures for the metabolic study: Preparation of the diet. Methods of adding levels of vitamins and mineral salts. Collection and preservation of samples. Analytical methods. Section iv. Brief review of literature on human requirements of essential nutrients for adults: Proteins. Minerals. Vitamins. Literature cited.

Note: The study reported in this bulletin was carried out cooperatively by the Human Nutrition Research Branch of the Agricultural Research Service of the United States Department of Agriculture, the University of Maryland, and the Maryland Agricultural Experiment Station. Diets used for the study of nutritional requirements have seldom been applicable to the study of more than one nutrient at ... time and even ... the same nutrient has been under study basal diets have varied from laboratory to laboratory. In the Human Nutrition Research Branch of the Agricultural Research Service ... standardized uniform basal diet was developed to be applicable to the study of the requirements and utilization ... large number of ... nutrients and to the interrelationship of ... nutrients. This diet was tested in the spring of 1952 upon ... group of six University of Maryland ... adults. Wide variation was found among these subjects in their metabolic response to the levels of intake in the standardized diet. The detailed results are reported in this bulletin.

Miner, Roy Waldo editor

The regulation of hunger and appetite. Conference chairman and consulting editor Franklin Hollander New York Published by the Academy 1955 144 p. illus 22 cm. (New York Academy of Sciences. Annals. Vol 63 art. 1) $3.00 2918

Contents: Introduction by F. Hollander. Part i. Regulatory mechanisms: Untoward reactions to weight reduction among certain obese persons, by A. J. Stunkard. The role of the digestive tract in regulating the ingestion of food, by J. P. Quigley. Regulation of energy intake and the body weight—the glucostatic theory and the lipostatic hypothesis, by J. Mayer. Neural regulation of food intake, by J. R. Brobeck. The time factor in the adjustment of food intake to varied caloric requirement in the dog—a study of the precision of appetite regulation, by H. D. Janowitz and F. Hollander. Part ii. Disorders of regulation: Role of the emotions in hunger and appetite, by H. Bruch. Integration of current views on the regulation of hunger and appetite, by M. I. Grossman. Part iii. Clinical aspects: Food preferences in man—special cravings and aversions, by I. Sherman. A study of hunger and appetite in ... young man with esophageal obstruction and gastrostomy, by F. Hollander and others. Chemically useful appetite depressants, by S. C. Harris. The action of various deterrent compounds on voluntary food intake, by S. Leykovsky. Interpretation of food intake data obtained in chronic monkey tests, by A. E. Light. Shortcomings of food consumption as ... measure of hunger—results from other behavioral techniques, by N. E. Miller.

Note: Papers first presented at ... conference held by the Section of Biology of the New York Academy of Sciences in November 1 ... 54 are published in this monograph and are listed by title and author above. The conference was concerned with physiologic regulatory mechanisms of hunger and appetite and with the clinical implications of the basic physiologic knowledge. Literature references and transcripts of discussion are included in most of the papers. The terminal paper is to ... what degree ... critique of the conference but is primarily ... statement of the author's view that the amount of food eaten is not an accurate index of hunger.

Morse Kenneth T editor in chief

Calcium and phosphorus metabolism in man and animals with special reference to pregnancy and lactation. Associate editor Franklin N Furness Conference chairman Franklin C. McLean. Organizing chairman and consulting editor Robert R. Marshak. New York Published by the Academy 1956 279–462 p. illus. 22 cm. (New York Academy of Sciences. Annals Vol. 64 art. 3) $4.00 2919

Contents: Part i. Calcium balance and turnover studies. Radiocalcium studies in pregnancy by C. L. Comar. Calcium and phos-

nucleic acids, by R. B. Merrifield and D. W. Woolley. Indications of individuality among ribonucleic acids, by A. W. Bernheimer. Enzymatic studies on the metabolism of nucleosides and their components in microorganisms, by J. O. Lampen. Biosynthesis of nucleic acids, by G. B. Brown and others. Studies on the biosynthesis of purines *in vitro* by J. M. Buchanan. The role of desoxyribonucleates in bacterial transformations, by R. D. Hotchkiss. The role of phosphate in the metabolism of photosynthetic and chemoautotrophic organisms: The path of carbon in photosynthesis—XVII. Phosphorus compounds as intermediates in photosynthesis, by J. G. Buchanan and others. Reduction of pyridine nucleotides in photosynthesis, by W. Vishniac and S. Ochoa. Photosynthesis—energetics and phosphate metabolism, by B. L. Strehler. Serendipic aspects of recent nutritional research in bacterial photosynthesis, by M. D. Kamen and H. Gest. Molecular hydrogen—oxidation and formation in cell-free systems, by H. Gest. The role of phosphate in CO_2 assimilation of *Thiobacilli* by K. Baalsrud and K. S. Baalsrud. Influence of hormones on phosphate metabolism: The effect of epinephrine and the hyperglycemic factor on liver and muscle metabolism *in vitro* by E. W. Sutherland. The effects of thyroxine on phosphate metabolism, by C. H. DuToit. The relation between the parathyroid glands and phosphorus metabolism, by J. C. Aub. The effects of insulin and hormones of the pituitary and adrenal cortex on the glucose uptake by the tissues, by C. R. Park. The effect of insulin on phosphorylations in muscle by J. Sacks. Phosphate metabolism in specialized tissues: Pathways of phosphate metabolism in cancer tissue, by V. R. Potter and P. Siekevitz. Phosphorus metabolism in the skeleton, by W. D. Armstrong. Studies on renal tubular transport, by J. V. Taggart. The role of phosphorus in the maintenance of the resting potential and selective ionic accumulation in frog muscle cells, by G. Ling. Spatial and chemical exchange of phosphate in the resting and active nervous system, by L. G. Abood and others. Summary by B. Glass. Author index of participants. Subject index.

—— A symposium on the mechanism of enzyme action. Sponsored by The McCollum Pratt Institute of the Johns Hopkins University. Baltimore. The Johns Hopkins Press. 1954. 819 p. illus. 24 cm. $11.00 2914

Contents: Protein configuration and biological activity: Introduction, by M. Heidelberger. The nature of the forces between protein molecules in solution by J. G. Kirkwood. Essential chemical structures of chymotrypsin and pepsin, by R. M. Herriott. The activation of chymotrypsinogen and trypsinogen as viewed by enzymatic end-group analysis, by H. Neurath and others. Denaturation of proteins and enzymes, by W. Kauzmann. Kinetics of enzyme-catalyzed reactions: Kinetic and thermodynamic aspects of enzyme-catalyzed reactions, by H. Eyring and others. The enzyme-substrate complex as an intermediate in enzyme-catalyzed reactions, by H. B. Bull. Elementary kinetic theory of enzymatic activity—first order theory by J. S. Friedenwald and G. D. Maengwyn-Davies. Elementary kinetic theory of enzymatic activity—second order theory—influence of pH. The function of metals in enzyme catalysis: Chelation and catalysis, by M. Calvin. Thermodynamic and molecular properties of some metal-protein complexes, by I. M. Klotz. The specificity and mode of action of two metal-peptidases, by E. L. Smith and others. The mechanism of electron and hydrogen transport: "One-electron and two-electron oxidation-reduction reactions in inorganic and organic chemistry by F. H. Westheimer. Hydrogen transport and steric specificity in reactions catalyzed by pyridine nucleotide dehydrogenases, by B. Vennesland and F. H. Westheimer. One and two electron reactions in catalases and peroxidases, by B. Chance and R. R. Fergusson. Enzyme mechanisms in living cells, by B. Chance. The function of enzymes in group transfer: Introduction, by F. Lipmann. Formation of acyl and carbonyl complexes associated with electron-transport and group-transfer reactions, by E. Racker. The alcohol and glyceraldehyde-3-phosphate dehydrogenases of yeast and mammals, by S. F. Velick. Sulfhydryl groups of glyceraldehyde-3-phosphate dehydrogenase and acyl-enzyme formation by P. D. Boyer and H. L. Segal. Group transfer and acyl-generating functions of lipoic acid derivatives, by I. C. Gunsalus. On the energy-rich nature of acetyl imidazole, an enzymatically active compound, by E. R. Stadtman. On the mechanism of some ATP-linked reactions and certain aspects of protein synthesis, by F. Lipmann. Group transfer as an enzymatic substitution mechanism, by D. E. Koshland, Jr. The mechanism of enzyme hydrolysis studied with acetyl-cholinesterase, by I. B. Wilson. On the mechanism of enzymatic transfer of phosphate and other groups, by P. D. Boyer and W. H. Harrison. The mechanism of transglycosidation by H. M. Kalckar. Summary by B. Glass. Author index. Subject index.

—— A symposium on amino acid metabolism. Sponsored by the McCollum Pratt Institute of the Johns Hopkins University. Baltimore. The Johns Hopkins Press, 1955. 1,048 p. illus. 24 cm. $12.50 2915

Contents: General considerations of amino acid metabolism: General reactions of amino acids, by A. Meister. Some aspects of amino acid metabolism in brucellae and its relationship to pantothenic acid, by R. A. Altenbern. Transamination of D-amino acids, by C. B. Thorne. Reactions of alpha-methyl amino acids, by [illegible] Umbreit. Mode of transport of amino acids into cells, by H. N. Christensen. Bio-synthesis of γ-glutamyl peptides by transfer reactions, by W. J. Williams and C. B. Thorne. Free amino acids and the enzyme-forming mechanism, by S. Spiegelman and others. From amino acids to proteins, by E. F. Gale. Aspects of enzyme formation by D. M. Bonner. The reversible activation of adaptive enzymes in the absence of substrate by a vitamin B_6 system, by J. W. Dubnoff. The autocatalytic production of tyrosinase in extracts of *Drosophila melanogaster* by N. H. Horowitz and M. Fling. Metabolism of glutamic acid, proline, ornithine, citrulline and arginine: Arginine metabolism and interrelationships between the citric acid and urea cycles, by S. Ratner. Recent advances in citrulline biosynthesis, by S. Grisolia and R. O. Marshall. Metabolic relationship between glutamic acid, proline, hydroxyproline, and ornithine, by M. R. Stetten. Isotopic equilibration between the citric acid cycle and glutamic acid, by H. Busch and H. A. [illegible]. Mechanisms of arginine and citrulline breakdown in microorganisms, by E. L. Oginsky. Metabolism of arginine and citrulline by bacteria, by M. Korzenovsky. The metabolism of citrulline by bacteria, by H. D. Slade. On the glutamate-proline-ornithine interrelation in various microorganisms, by H. J. Vogel. Metabolism of histidine, leucine, isoleucine, valine and lysine: The biosynthesis of histidine, by B. N. Ames. Degradation of histidine, by H. Tabor. Enzymatic studies on the metabolism of imidazoleacetic acid, by O. Hayaishi. Pathways of L-histidine degradation in microorganisms, by B. Magasanik and H. R. Bowser. Certain aspects of the enzymatic breakdown of histidine, by H. Waelsch and A. Miller. The biosynthesis of isoleucine, valine, and leucine, by E. A. Adelberg. Enzymatic studies on the biological degradation of the branched chain amino acids, by M. J. Coon and others. Some observations on the biosynthetic pathway of isoleucine, by H. E. Umbarger. Isotope studies on biosynthesis of valine and isoleucine, by H. [illegible] and S. Weinhouse. Some comparative aspects of lysine metabolism, by E. Work. On the anaerobic degradation of lysine, by T. C. Stadtman. The isolation and metabolism of the α-keto acid of lysine by R. S. Schweet and others. Metabolism of methionine, cysteine and threonine: Synthetic pathways of methionine, cysteine and threonine, by J. A. Stekol. Enzymatic pathways in the degradation of sulfur-containing amino acids, by T. P. Singer and E. B. Kearney. Intermediate steps in the biosynthesis of threonine, by S. Black and N. G. Wright. Considerations of homocysteine and [illegible] role in the metabolism of S-amino acids, by G. L. Cantoni. On the formation of C_1 fragments from serine, by D. B. Sprinson. Methionine degradation by a species of *Pseudomonas*, by R. E. Kallio and A. D. Larson. Metabolism of glycine and serine: The synthesis and degradation of glycine, by S. Weinhouse. The biochemical relationship between glycine and serine by W. Sakami. Conversion of N-methyl glycines to active formaldehyde and serine, by C. G. Mackenzie. The succinate-glycine cycle, by D. Shemin. The formation of glycine from ribose-1-phosphate by A. Weissbach and B. L. Horecker. Interrelationships of amino acid metabolism with purine [illegible]. The biosynthesis of [illegible] biosynthesis, by J. M. Buchanan and others. Evidence for a [illegible] the purine ring, by D. A. Goldthwait and others. [illegible] specific alanine-hydroxypyruvic transaminase, by H. J. [illegible]. Metabolism of aromatic amino acids: Biosynthesis of the aromatic amino acids, by B. D. Davis. Prephenic acid and the aromatization step in the synthesis of phenylalanine, by C. Gilvarg. The biosynthesis of shikimic acid from labeled carbohydrates, by D. B. Sprinson. Synthesis of 5-dehydroshikimic acid from carbohydrates in cell-free extract, by E. B. Kalan and P. R. Srinivasan. The metabolism of phenylalanine and tyrosine, by W. E. Knox. The [illegible] ion activation of homogentisic acid oxidase and other aromatic [illegible] splitting oxidases, by D. I. Crandall. Conversion of phenylalanine to tyrosine, by S. Udenfriend and C. Mitoma. Metabolism of tryptophan, by A. H. Mehler. An interrelationship between tryptophan, tyrosine and phenylalanine in *Neurospora*, by W. B. Jakoby. Enzymatic studies on the metabolic interrelationship of hydroxy-substituted derivatives of tryptophan and its intermediary metabolites, by O. Hayaishi. Tryptophan and niacin synthesis in various organisms, by C. Yanofsky. Genetic control of tryptophan metabolism in *Drosophila*, by B. Glass and H. L. Plaine. The 5-hydroxyindole pathway of tryptophan metabolism, by S. Udenfriend and E. Titus. Summary by B. Glass. Author index of participants. Subject index.

—— A symposium on inorganic nitrogen metabolism. Function of metallo-flavopro-

[illegible]

—— Some aspects of amino acid supplementation. Edited by William H. Cole. New Brunswick, Rutgers University Press 1956 85 p. illus. 24 cm. $2.00. 2926

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SELLE, W. A.

Body temperature, its changes with environment, disease and therapy. Springfield, Ill., Charles C Thomas 1952 112 p. illus. 22 cm. (American lecture series. Publication no. 147. A monograph in American lectures in physical medicine, edited by W. A. Selle) $3.50. 2927

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SOSKIN, SAMUEL, AND RACHMIEL LEVINE

Carbohydrate metabolism, correlation of physiological, biochemical and clinical aspects. Revised edition. Chicago, University of Chicago Press 1952 346 p. illus. 25 cm. (The University of Chicago Committee on Publications in Biology and Medicine. Lester R. Dragstedt and others) $10.00 2928

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SWIFT, RAYMOND W., AND CYRUS E. FRENCH

Energy metabolism and nutrition. New Brunswick, N. J., The Scarecrow Press 1954 264 p. illus. 22 cm. $5.75 2929

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UNIVERSITY OF TEXAS

Symposium on vitamin metabolism. Proceedings of a symposium held under the auspices of the University of Texas and the National Vitamin Foundation, Incorporated, New York City, March 6, 1956. New York, The National Vitamin Foundation, Inc., 1956. 118 p. illus. 27 cm. (Nutrition symposium series, No. 13) $2.50 2930

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UNIVERSITY OF TORONTO

Symposium on Protein Metabolism, proceedings of the Nutrition Symposium held at the University of Toronto, Ontario, Canada, October 30, 1953. New York, The National

phorus transfer in intact dairy cows, by M Kleiber and J R. Luick. Absorption and metabolism of calcium in human beings, studied with calcium,[45] by F Bronner and R. S. Harris. Part II, Parathyroid hormone Studies on the maintenance of serum calcium levels by parathyroid action on bone and kidney by R. V Talmage. The influence of the parathyroids on the calcium concentration of milk, by S. U Toverud and P L. Munson. Part III, Calcium complexing agents Chelating agents in the study of renal absorption of alkaline earth cations, by M Rubin and G. E. Lindenblad. The suppression of urinary calcium and magnesium by oral sodium phytate—a preliminary report, by P H. Henneman and others. Osteomalacia in North China—its relationship to pregnancy and lactation by I. Snapper Part IV Problems of parturient paresis in dairy cows Calcium balances and changes of some blood and urinary constituents as related t parturient paresis in dairy cows, by G. M Ward. Studies in parturient paresis in cattle, by J M Boda and H. H. Cole. Effect of parturient paresis and the oral administration of large prepartal doses of vitamin D on blood calcium and phosphorus in dairy cattle, by J W Hibbs and W D Pounden. Urinary calcium excretion and blood calcium levels in the bovine near the time of parturition by T H. Blosser and J L. Albright. Part Special aspects of calcium metabolism Some observations on rickets and allied bone diseases *in South African domestic animals*, by W D Malherbe Idiopathic familial osteoporosis in dogs—"osteogenesis imperfecta, by E. Calkins and others. Influence of vitamin D on serum calcium and inorganic phosphate in the neonatal period, by J B Pincus and others. Osteogenetic properties of estrogenic hormones, by A. M Budy Clinical features of idiopathic hypoparathyroidism in children by G. B Forbes. Studies on parathyroid extract in ormal subjects and patient with pseudohypoparathyroidism by P L. Calcagno and C. U Low.

Not Papers first presented at conference held by the Section of Biology of the New York Academy of Sciences in January 1956 are published in this monograph. All are listed by title and author above. In most of the papers the results of recent research studies are correlated with related results in the literature and references to the literature are included.

NAJJAR, VICTOR A , editor

Fat metabolism a symposium on the clin ical and biochemical aspects of fat utilization in health and disease. Baltimore The Johns Hopkins Press 1954 185 p illus 22 cm $4 50 2920

Content Clinical and biochemical features of fat metabolism—an introduction, by V A N jjar Obesity in childhood—some clinical aspects, by H. H. Gordon. Multiple causative factors in obesity by J Mayer Discussion Constitutional factors in obesity by B. Childs Endocrine factors in obesity by L. Wilkins Lipemia, by L. E. Holt, jr Discussion Essential hyperlipemia, by E. H. Ahrens, jr Preparation utilization and importance of neutral fat emulsion in intravenous alimentation, by H. C. Meng On the role of lipemia clearing factor in lipid transport, by C. B Anfinsen. Consideration of the role of coenzyme A in some phases of fat metabolism, by F Lipmann Enzymatic oxidation and synthesis of fatty acids, by A. L. Lehninger Discussion A contribution to the mechanism of *diabetes mellitus, by S. P Bessman Lipogenesis in vitro* and its hormonal control by S. Gurin. Lipid and phospholipid synthesis, by A. Kornberg. Some aspects of cholesterol metabolism related to atherosclerosis, by R. G. Langdon. Index.

Note. The papers collected in this volume include both surveys of clinical experience written from the clinical viewpoint and reports of scientific investigations conducted from the physiologic viewpoint. Literature references are included for most of them. The four inclusions designated as "Discussion in the above Contents are not the usual transcripts of symposium discussions but are organized in the form of short papers with literature references.

NATIONAL VITAMIN FOUNDATION

Symposium on the antimetabolites their modes of action and therapeutic implications Proceedings of the scientific sessions of the tenth annual meeting the National Vitamin Foundation Inc New York City March 1 1955 66 p illus 27 cm (Nutrition symposium series No 11) $2 00 2921

Contents Introduction by R S. Goodhart. Thiamine antagonists, by *L. R. Cerecedo. Riboflavin* antagonists, by J P Lambooy Vitamin B_6 antagonists, by W W Umbreit. Pantothenic acid antagonists, by G. D Bird and others. A naturally occurring antimetabolite in the causation of a disease, by D W Woolley Folic acid antagonists, by J H. Burchenal. Purine and pyrimidine antagonists, by G. H. Hitchings. Anti-vitamin E stress factors as related to lipid peroxides, by E. L. Hove.

Note The subtitle notwithstanding, the papers in this publication taken together present picture of research progress in an area of biochemical knowledge where there are still many gaps to be filled. Therapeutic implications of the knowledge acquired to date are discussed briefly in the introduction, and some of the papers contain brief discussions. However the following statement is not atypical "The medical implications which can be derived from the known riboflavin inhibitors and our very meager knowledge of their mechanism of action are obviously not impressive. One of the most interesting papers from the medical practitioner's standpoint is Burchenal's "Folic acid antagonists which includes considerable clinical experience. However although it is shown that folic acid drugs produces remission in children with acute anemia, it has never effected cure. Furthermore, the mechanism of its action is not understood. The publication is of interest primarily to biochemists and physicians ho are concerned ith research.

RUTGERS UNIVERSITY CONFERENCE ON PROTEIN METABOLISM

Protein metabolism, hormones and growth, a symposium Six lectures presented at the eighth annual Conference on Protein Metabolism, Bureau of Biological Research, Rutgers University, The State University of New Jersey February 1–2 1952 New Brunswick. Rutgers University Press, 1953 80 p. illus. 23 cm $1 50 2922

Content Effect of protein and amino acids of the diet on the endocrine system, by L. T Samuels. Relationships between the thyroid and protein metabolism, by J H. Leathem. Some aspects of the protein anabolic action of the androgens, by C. D Kochakian. Relationships between the adrenal cortex and protein metabolism, by F L. Engel. Effects of growth hormone on metabolism f nitrogen by J A Russell. Hormonal regulation of human growth, by L. W Kinsell.

—— Some conjugated proteins a symposium Six lectures presented at the ninth annual Conference on Protein Metabolism, Bureau of Biological Research Rutgers University The State University of New Jersey January 30–31 1953 William H. Cole, editor New Brunswick Rutgers University Press 1953 73 p illus 24 cm. $1 75 2923

Content The anatomy of hemoglobin and some functions of its parts, by S. Granick. Cytochromes in the mammal, by F. F. Walsh. On the problem of nucleoproteins, by E. Chargaff. The metabolism of virus-infected bacteria, by S. S. Cohen. Lipoproteins, by J L. Oncley Mucoproteins and mucoids, by K. Meyer.

—— Serological approaches to studies of protein structure *and metabolism.* Edited by William H Cole. New Brunswick Rutgers University Press 1954 97 p illus. 24 cm. $2 00 2924

Content Proteins as antigens and antibodies, by F Haurowitz. The precipitin reaction and studies of native and denatured proteins and derivatives, by M Heidelberger Light scattering and ultracentrifugation methods in studies f precipitin systems and their application to human metabolism, by D Gitlin. The immunological analysis of the biosynthesis of protein, by M Cohn. The use and limitations of serological techniques in studies f proteins, by J Munoz. The measurement and significance of serological correspondence among proteins, by A. A. Boyden.

—— Some physiological aspects and consequences of parasitism Edited by William H. Cole New Brunswick Rutgers University Press 1955 90 p illus 23 cm. $2 00 2925

nutritive metabolism, by E. E. Warren. Steroid hormones in osteoporosis, by D. D. Whedon. Sex steroid replacement in the aging individual, by W. H. Masters. Effects of steroids in women with breast cancer, by B. J. Kennedy. Endocrine regulation of prostatic growth, by H. Brendler. The effects of some of the steroid hormones on the metabolic behavior in aged males, by N. W. Shock. Cerebral metabolism in the aging process—the steroid factor, by G. S. Gordan and J. E. Adams. Author index. Subject index.

Note: An important publication, ... better viewed from the standpoint of endocrinology or geriatrics. The papers in it are surveys of accumulated knowledge or reports of the results of research programs, or combinations of both. The authors of the papers (and the participants in the symposium) were eminent specialists associated with the faculties of leading medical schools and other institutions concerned with medical research, such as the Sloan-Kettering Institute for Cancer Research, and they addressed themselves to physicians and scientists with similar professional interests in endocrinology and aging. There are three principal topics: quantitative variations in the production of hormones with advancing age; the role of hormones in the wasting of tissues and components associated with aging; and results of experimental medication with steroids in heart disease, osteoporosis, cancer, etc. Some of the papers, such as Masters' "Sex steroid replacement in the aging individual," formulate programs of hormonal therapy that may delay the onset of senility in aging individuals or prevent altogether the development of this clinical state. The full transcripts of discussion which accompany each paper add considerably to the value of the volume. Literature references are included for all papers.

FIELDS, WILLIAM S., AND OTHERS, editors

Hypothalamic-hypophysial interrelationships; a symposium. Third annual scientific meeting of the Houston Neurological Society, Texas Medical Center, Houston, Texas. Compiled and edited by William S. Fields, Roger Guillemin and Charles A. Carton. Springfield, Ill., Charles C Thomas, 1956. 156 p. illus. 23 cm. $4.75 2937

Contents: Neural pathways to the hypophysis, by J. D. Green. Neurosecretion in the central nervous system, by W. Hild. Hypothalamic control of the anterior lobe of the hypophysis, by G. W. Harris. Hypothalamic-hypophysial interrelationships in the production of pituitary hormones in vitro, by R. Guillemin. The relation between anterior and posterior hypophysis and the hypothalamus in respect to stress, by M. Vogt and I. A. Mirsky. Telencephalic influence upon the hypothalamus, by P. Gloor. Steroid hormonal response to stimulation of electrodes implanted in the subfrontal parts of the brain, by J. L. Paul and others. Hypothalamic-hypophysial dysfunction in man—laboratory and clinical assessment, by C. L. Spurr and S. H. Sulkind. General discussion and summary.

Note: Eminent authorities on neurology, physiology, biochemistry and other related areas of medicine wrote the papers and contributed to the discussions published in this volume. The current state of knowledge and unsolved problems are both discussed. Some research results not previously published are included. All of the papers but the last one are written essentially from ... neurophysiologic viewpoint. In the last one, the authors—who are on the staff of the College of Medicine of Baylor University and the Veterans Administration Hospital in Houston, Texas—discuss hypothalamic-hypophysial dysfunction as seen from ... clinical viewpoint and describe in detail ... specific case of apparent true diabetes insipidus and defects not accurately describe pituitary hypofunction. Literature references are included for all of the papers.

GAUNT, ROBERT, AND JAMES H. BIRNIE

Hormones and body water. Springfield, Ill., Charles C Thomas, 1951. 57 p. illus. 22 cm. (American lecture series. Publication no. 103. A monograph in American lectures in physiology, edited by Robert F. Pitts) $2.25 2938

Contents: Introduction. Evolutionary considerations. The posterior pituitary antidiuretic hormone. The adrenal cortex. The thyroid. The adrenal medulla. The pancreas. The gonadal hormones. Vagaries of pregnancy. The liver. The inappropriate syndrome. Water intoxication. Water metabolism in the newborn. Conclusions. References.

Note: This short monograph presents ... analysis of the available information on the secretion of hormones on water metabolism in the human body. The action of individual and groups of hormones are considered as are some of the evolutionary factors which developed the present functional mechanism of the human body. The bibliography contains 118 citations.

HARTMAN, FRANK ALEXANDER, AND KATHARINE A. BROWNELL

The adrenal gland. 72 illustrations. Philadelphia, Lea & Febiger, 1949. 581 p. illus. 24 cm. $12.00 2939

Contents: Anatomy. Adrenal size. Circulation and innervation. Histology. Development and involution. Chemistry of chromaffin tissue. Chemistry of cortical tissue. Methods of assay and factors in secretion of epinephrine. Anaphylactic shock and other effects in relation to the medulla. Physiological and pharmacological effects of epinephrine. Functions of interrenal tissue. Relation of the adrenal to electrolyte and water exchange. Relation of the adrenal cortex to energy metabolism. Output and functions of cortical hormones. Function and fate of cortical hormones. Dietary factors in adrenal activity. Interrelation of the adrenal with the pituitary. Adrenal hypertrophy and regeneration. Other endocrine interrelationships. Relation of the adrenal cortex to the sexual organs. Addison's disease. Other insufficiencies. Hypersecretion of chromaffin tissue. Hyperactivity of the adrenal cortex. Adrenogenital syndrome. Adrenal pathology. Pathology related to adrenal dysfunction. Bibliography. Author index. Subject index.

Note: A monograph which presents the accumulated knowledge of the adrenal gland and its hormones, throughout the animal kingdom, but with the greatest emphasis on the gland in mammals. The inclusive scope is obvious from the chapter titles. The chapters are concise, critical digests of the pertinent literature and are keyed to the 170-page bibliography of nearly ... articles. The senior author has made many contributions to the field, and both his and the junior author's findings are incorporated. The book is important in the literature of comparative physiology as well as in the narrower field of endocrinology.

HOSKINS, ROY GRAHAM

Endocrinology; the glands and their functions. Revised & enlarged edition. New York, W. W. Norton & Company, Inc., 1950. 402 p. illus. 22 cm. $6.50 2940

Contents: Hormones—the chemical regulators. The adrenal glands. The thyroid gland. The parathyroid glands. The hypophysis or pituitary gland. The male sex glands—the testes. The female sex glands—the ovaries. The placenta as an endocrine organ. The pineal gland. The thymus gland. Endocrine aspects of reproduction. Hormone regulation of the digestive functions. Insulin and diabetes. Some general aspects of endocrinology. Endocrinology of the future. The endocrine literature. Index.

Note: An authoritative, semitechnical presentation designed for such readers as psychologists, sociologists, and laymen who have some familiarity with scientific terminology. The first edition appeared in 1941. In this edition the text has been revised at various points to incorporate advances since that year, and additional literature citations have been added to the reference lists and general bibliography.

KITAY, JULIAN I., AND MARK D. ALTSCHULE

The pineal gland; a review of the physiologic literature. Cambridge, Mass., Published for The Commonwealth Fund by Harvard University Press, 1954. 280 p. illus. (part col. d) 21 cm. $5.00 2941

Contents: Part I, Pineal physiology: Characteristics of the pineal gland. Older methods of investigating pineal function. Bodily growth and development. The pituitary gland in general. Pituitary gonadotrophin and the gonads. Corticotrophin and the adrenal cortex. Thyrotrophin and the thyroid gland. Pancreas, parathyroid glands, and thymus. Skin pigmentation. Carbohydrate, lipid, protein, and electrolyte metabolism. Tumor growth. Relation of various factors to the pineal gland. Miscellaneous studies in physiochemical and ... Immediate effects of pineal extracts. Clinical use of pineal extracts. Part II, Clinical correlations: Pineal calcification. Pineal tumors. Gonadal changes associated with pineal tumors. Pineal hyperplasia. Absence of the pineal gland. Miscellaneous findings.

Vitamin Foundation, Inc. 1954 107 p illus 23 cm. (Nutrition symposium series No 8) $1 50 2931

Contents The relation of vitamin B_6 and riboflavin to protein metabolism, by J R. Beaton. The interrelationship between vitamin B_{12}, steroids and proteins, by B F Chow Role of the vitamins in antibody production, by A. E. Axelrod and J Pruzansky Effects of growth hormone preparations on protein metabolism, by [illegible] H. Gesbler The amino acid requirements of man, by R. M Leverton. Factors influencing amino acid utilization in tissue protein synthesis, by P R. Cannon and others. Amino acids and protein in therapy by H. Pollack.

Note Seven of the eight papers presented in the symposium named in the title of the book are published in this volume, together with literature references. Several of the papers present the results of recent experimental investigation and correlate them with related literature. Others are summaries of the accumulated knowledge of the aspects of protein metabolism named in their titles.

WAGNER, ROBERT P , AND HERSCHEL K MITCHELL

Genetics and metabolism. New York John Wiley & Sons, Inc., 1955 444 p illus 24 cm. $7.50 2932

Contents Introduction to the gene concept. Some aspects f cell structure and function. Mutation. Inherited chemical differences. Inheritance of utritional requirements. Some problems of biochemistry Mutation and the agents of metabolic control. Metabolic patterns. Allelism, allelic interaction and pseudoallelism. Interactions of non-allelic genes. Environmental modification of phenotype. The continuity of cellular organization. The problem of the mechanism of development. Genetics, development, nutrition, and disease. References. Index.

Note. Considerable work has been done in the area where genetics and biochemistry come together and this book is both an introduction to and critical survey f it. The central theme may be identified with the following statement by the authors "Within the limits of sensitivity of chemical and physical analytical methods it is possible to arrive at reasonably precise descriptions of many chemical differences that result from changes in the genetic constitution of an organism. The uthors show that there are *many gaps in the accumulated knowledge and that hypotheses* put forth to explain observed relationships have not yet been adequately proved. Nevertheless, the progress to date is worthy of the attention of not only geneticists and biochemists but of scientists in general. The treatment is on graduate level and assumes considerable previous education in biology and chemistry Literature references are included in fact, the bibliography runs t well over 700 references.

WOOLLEY, DILWORTH WAYNE

A study of antimetabolites. New York John Wiley & Sons Inc , 1952 269 p 24 cm. $7 00 2933

Contents Introduction—discovery and development of ideas about antimetabolites. Competition between metabolically important compounds and substances related to them in chemical structure. Some general aspects f the phenomenon. Hypotheses about mechanism of action of antimetabolites. The spectrum of activity of antimetabolites. The natural occurrence f antimetabolites as participants in physiological processes and as etiological agents in disease. Selectivity of action f antimetabolites. Applications to chemotherapy Other applications to pharmacology Applications to biochemistry The designing of antimetabolites. Practical suggestions for the synthesis and testing of antimetabolites. Bibliography Index of structural form las. Subject Index.

Note The term antimetabolites" as used in this book designates substances which are closely related in chemical structure to essential metabolic substances and have the additional property of interfering with these substances in the biochemistry of living organisms. The interest in antimetabolites derives (1) from the light that experiments with them may throw on biochemical processes, and (2) from the possibility that an understanding of them will point the way to the synthesizing of powerful pharmacologic agents. This book is a survey f the current state of the field. It includes results from the author's own investigations and also those that have been reported in the literature. There is bibliography of 500 references.

ENDOCRINE SYSTEM

CORNER, GEORGE WASHINGTON

The hormones in human reproduction. Revised edition Princeton Princeton University Press, 1947 281 p. illus. 22 cm. $3.75. 2934

Contents The place of the higher animals and of mankind in particular in the general scheme of animal reproduction. The human egg and the organs that make and care for it. The ovary timepiece. The hormone of preparation and maturity A hormone for gestation. The menstrual cycle. Endocrine arithmetic. The hormones in pregnancy The male hormone. Appendix: Chemical structure of the sex gland hormones. Index.

Note An account of the nature and function of hormones in the processes of sex and reproduction. Intended for the general reader, it is also appropriate for the use of biologists, physicians, and biochemists. It represents, with additions, the substance of the Vanuxem lectures, given at Princeton University in February 1942.

DORFMAN, RALPH I., AND REGINALD A. SHIPLEY

Androgens biochemistry physiology and clinical significance. New York John Wiley & Sons, Inc., 1956 590 p illus. 24 cm. $13.50 2935

Content Part I, Introduction General concepts. Historical background. Part II, Biochemistry: Sources of androgens. Isolation and chemistry of androgens and related compounds. Preparation of urinary extracts. Assay f androgens and 17-ketosteroids. Metabolism of the androgens. Relative activities of androgens. Biological actions and interactions of androgens. Part III, Physiology: Androgens and the embryo, Intersexuality Actions of androgens on sex structures of animals. Androgens and behavior Influence on endocrine glands other than gonads, and various nonendocrine glands. Influence of androgens on metabolism and enzymes. Part IV Clinical aspects Normal pubertal development in boys. Conditions of androgen excess. Androgen deficiency—hypogonadism. Androgen therapy Androgen preparations and methods of administration. The excretion of androgens and 17-ketosteroids in various clinical conditions. Appendix: Names and structural formulas of compounds. Preparation of urinary extracts for 17-ketosteroid and androgen assay Androgen bioassay methods. Chemical assay methods. Index.

Note: The accumulated knowledge on the androgens—less accurately termed the male sex hormones—has been integrated in this volume. The first three parts, devoted to the biochemical and physiological aspects total 246 pages and include much information from animal experimentation as well as some observations on human subjects. The section on clinical aspects is 204 pages long. In both sections the treatment is very compact with extensive use of tables for the presentation of data. Literature references are a special feature. The appendix contains useful material for biochemists and other scientists concerned with research on the androgens or with their assay

ENGLE, EARL T , AND GREGORY PINCUS, editors

Hormones and the aging process, proceedings of a conference held at Arden House, Harriman New York, 1955 New York Academic Press Inc. 1956 323 p illus. 23 cm. $8 50 2936

Contents. Aging and urinary steroid excretion, by G. Pincus. *Effect of aging* on the steroid metabolism as reflected in plasma levels, by L. T Samuels. The thyroid in the aging process, by R. W Rawson. Urinary excretion f gonadotrophin as function of age, by A. Albert and others. Hormonal regulation of growth and development, by C. D Kochakian and C. Tillotson. Steroids and protein metabolism in experimental animals, by J H. Leathem. Androgenic and anabolic action of testosterone derivatives, by V A. Drill and F J Saunders. Naturally occurring pathology in the aging rat, by D J Ingle. Effects of hormones on protein metabolism, by A. White. The role of steroids in calcium and phosphorus metabolism, by G. H. Pearson *Newer techniques* in the study of calcium metabolism in man and effects of hormones thereon, by D. Laszlo and H. Spencer Mechanisms regulating fluid and elec-

the text is very extensive chapter bibliographies. It is suitable for advanced undergraduate students, graduate students, and for scientists who are not specialists in this field but need a reliable survey of it and the related literature. The first edition was published in 1948. The book was rather extensively revised and somewhat reorganized for this second edition. Much of the material that appeared in the first two chapters of the original edition has been condensed and rewritten and now appears in the penultimate chapter. Many revised sections appear in chapters carried over from the first edition. The chapter on [illegible] reactions to stress is newly added. The bibliographies are still extensive, but some older references have been deleted and selected references to literature published since the first edition was written have been added. The book's comparative approach is unchanged.

VAN DYKE, HARRY BENJAMIN AND OTHERS
Protein hormones of the pituitary body New York New York Academy of Sciences 1943 174 p. illus 22 cm. (New York Academy of Sciences. Annals. Vol. XLIII p. 253–426) $2.00. 2947

Contents Introduction to the conference on protein hormones of the pituitary body by H. B. Van Dyke. Criteria of purity of proteins, by T. Shedlovsky. Hormones of the posterior lobe of the pituitary gland, by G. W. Irving, jr., and V. du Vigneaud. The chemistry of thyrotropin, the follicle-stimulating hormone of the anterior pituitary by H. F. Chow. The luteinizing hormone of the anterior lobe of the pituitary by H. L. Fevold. The lactogenic hormone and mammogen, by A. White. The growth and metabolic hormones of the anterior pituitary by C. N. H. Long.

Note A collection of papers presented by the Section of Physics and Chemistry of the New York Academy of Sciences at a conference held January [illegible] and 15, 1943. The introduction discusses hormones of the pituitary body and [illegible] concepts of pituitary hormone physiology. References appear as footnotes throughout.

ZIMMERMANN BERNARD
Endocrine functions of the pancreas Springfield, Ill. Charles C Thomas 1952 82 p. illus 22 cm. (American lecture series Publication no. 114 A monograph in American lectures in endocrinology edited by W O Thompson) $2.50 2948

Contents History. The nature of insulin. Metabolism in diabetes and the action of insulin. The regulation of internal pancreatic secretion. Special problems in lipid metabolism. The hyperglycemic factor. Conclusions. Index.

Note A brief but useful summary of the current knowledge of the pancreas viewed as an endocrine gland, together with indications of aspects that need further investigation. An example of the latter is [illegible] elucidation of the chemical mechanisms by which insulin exerts its metabolic action. The book is based on selective and critical review of the literature in which the results of experimental investigations are reported. Fairly extensive bibliographies, [illegible], are included with the chapters.

NERVOUS SYSTEM

ELLIOTT K. A. C., AND OTHERS editors
Neurochemistry the chemical dynamics of brain and nerve Edited by K. A. C Elliott, Irvine H. Page, J H. Quastel. Springfield, Ill. Charles C Thomas 1955 900 p illus. 24 cm. $19.50 2949

Contents Thudichum and the chemistry of the brain, by I. H. Page. Chemical constituents of brain and nerve, by R. J. Rossiter. Brain tissue respiration and glycolysis, by K. A. C. Elliott. Oxidative mechanisms, by H. Waelsch [illegible]. Pyruvate metabolism in the central nervous system, by R. A. Peters. The mechanism of glycolysis by E. Racker. Acetylcholine synthesis in the central nervous system by J. H. Quastel. Metabolism of glutamic acid and glutamine by H. Waelsch. Nucleic acids and proteins, by H. Hydén. The biochemistry of the brain during early development, by W. M. Sperry. Intracranial fluids, by J. K. Kinney and D. B. Tower. [illegible] and metabolism of the human brain in health and disease, by S. S. Kety. The physiological significance of acetylcholine by S. F. V. Burgen and F. C. MacIntosh. Metabolism and function in the nerve cell, by D. Nachmansohn. Neurohormones in adrenergic nerves, by U. S. von Euler. Electrolytes and nerve function, by R. D. Keynes and P. R. Lewis. Metabolism and function in the nervous system, by R. W. Gerard. Acute chemical changes associated with pathological physiology of the brain, by W. W. Stone. Neurotropic drugs by J. E. P. Toman. Bacterial neurotoxins, by J. W. Stevenson. Neurochemical effects of snake venoms, by B. M. Braganca. The toxic effect of oxygen on nervous tissue, by F. Dickens. Biochemical aspects of narcosis, by J. H. Quastel. Chemical studies in relation to convulsive conditions, by K. A. C. Elliott. The biochemistry of demyelination, by R. J. Rossiter. Neuromuscular disorders, by D. McEachern. Blood analysis in behavioral disorders by F. Georgi [illegible]. Steroid hormones and events in the nervous system, by H. Hoagland. Nutritional disorders of the nervous system, by J. D. Spillane. Inborn errors of metabolism in relation to mental pathology by L. S. Penrose. Structure chemistry and pathology of the central nervous system of arthropods, by A. G. Richards. Thermodynamics of the neuron, by N. Wiener. Author index. Subject index.

Note Planned as a memorial to J. L. W. Thudichum whose treatise *Physiological chemistry of the brain*, published in 1884 was the first systematic work on neurochemistry this volume is essentially a survey of the knowledge accumulated up to 1952 on the chemistry of the nervous system and on such related topics as the neurochemical effects of toxins. The titles and authors of all of the chapters are listed above. The majority of contributors are physicians and scientists resident in the United States of America. However contributions from Canada, England, and Sweden are included. Most of the chapters are based on published literature, including in many instances the author's own publications, and are supplemented by extensive bibliographies. The author index includes the names of authors of cited literature as well as the names of authors of chapters. The book is of interest to graduate students and research workers in such fields as biochemistry, physiology and pharmacology as well as neurology.

FULTON JOHN FARQUHAR
Physiology of the nervous system. Third edition revised. New York Oxford University Press 1949 667 p. illus 22 cm. $10.00 2950

Contents (abridged) The neuron. Dorsal spinal nerve roots and the dermatomes. The motor unit. Synapses and elementary reflexes. Central inhibition. The spinal cord—flexion reflexes—crossed extension reflexes—intersegmental reflexes—spinal man. The medulla oblongata—decerebrate rigidity. The medulla oblongata and midbrain—postural reflexes. The pons and midbrain—optic reflexes. Autonomic nervous system. The hypothalamus and the autonomic nervous system. The thalamus. Cerebral cortex—architecture, intracortical connections, motor projections—the olfactory system—the occipital lobes and visual system—the temporal lobes—the parietal lobes and somatic sensation—the motor areas and pyramidal system—extrapyramidal and behavioral functions—the orbitofrontal and cingulate regions—autonomic representation in premotor motor cortex. The extrapyramidal motor system—basal ganglia and reticular formation. The cerebellum. The nervous system as [illegible] brain—the conditioned reflex. Bibliography and author index. Subject index.

Note A standard, well-known textbook in which neurophysiology is presented from the experimental standpoint. It is designed primarily for medical students with interests in clinical medicine. The third edition is about 90 pages longer than the second edition published in 1943. There are numerous changes, and the chapter on the autonomic and cingulate regions of the cerebral cortex has been completely rewritten. The extensive bibliography includes both papers cited in the text and other important contributions published since 1943 and is supplementary to the bibliography in the author's *Muscular contraction*, 1926.

GELLHORN ERNST
Physiological foundations of neurology and psychiatry Minneapolis University of Minnesota Press 1953 556 p. illus. 23 cm. $10.00. 2951

Contents Part I. Internal and external factors regulating neural activity. The unit analysis of nervous activity. The internal environment and central nervous activity. Part II. Contributions to the physiology and pathology of movements. The motor cortex and the physiology of movements. Voluntary movements, motor cortex, and reflex activity. The restitution of movements after cortical lesions. Electromyographic studies on experimental con-

Concluding comment. Bibliography Pineal physiology Clinical correlations. Appendices to bibliography: Pineal anatomy embryology and histology Reviews and related papers. Index.

Note. A literature review and a comprehensive bibliography of the international literature are combined in this book. The review occupies the first 104 pages and is essentially a classified outline of the knowledge to be found in the literature with references to the listings of the source articles in the bibliography Many of the chapters in the review contain critical conclusions by the authors, and in addition there is a general concluding comment, the first sentence of which reads "Available evidence lends support to the notion that the pineal gland is a functionless, vistigial organ in any mammalian species studied"—a conclusion fully supported by recent developments. The bibliography and its appendices, also composed of literature references, run to 167 pages.

RICHMOND, W SMITH, JR , AND OTHERS

International symposium the hypophyseal growth hormone nature and actions Editors W Smith Richmond jr , Oliver H Gaebler, and C N H Long New York The Blakiston Division McGraw Hill Book Company, Inc. *1955 576 p illus 23 cm $12 00* *2942*

Contents (abridged) Part I, Bioassay preparation and physical chemical properties of growth hormone What is growth? by P Weiss. Methods of detection and assay of growth hormone, by J A. Russell. The tibia test for growth hormone, by I. I. Geschwind and C. H. Li. Comparative biochemistry of growth hormone from ox, sheep, pig, horse and fish pituitaries, by A. E. Wilhelmi. Hypophyseal growth hormone as a protein, by C. H. Li and others. Part II, Effects of growth hormone on certain structures Growth hormone (somatotropin) and the glands of the digestive system, by B L. Baker and G. D Abrams. Effect of somatotropic hormone (STH) upon inflammation by H. Selye. The effect of hormones on *differentiated* tissues in culture, by *H B Fell. Growth* hormone induced bone and joint changes in the adult rat, by C. W Asling and others. Growth hormone and renal function by H. L. White. Part III, Growth hormone and energy sources Importance of the nutritional state for the biological function of growth hormone, by E. W McHenry Growth hormone in nitrogen retention, by P D Bartlett. Effects of growth hormone on the metabolism of amino acids, by J A. Russell The role of insulin in nitrogen retention, by F D W Lukens and S. M. McCann. Effect of growth hormone on liver proteins and nucleic acids, by E. Reid. Diabetogenic actions of growth hormone by J Campbell. Relation of the metabolic effects of corticotropin concentrates to growth hormone, by E B. Astwood. Relationship of the adrenal cortex to the diabetogenic action of *growth hormone, by R. C. de Bodo and N Altszuler Growth* hormone and fat metabolism, by A. L. Greenbaum. Factors involved in the ketogenic action of growth hormone, by F L. Engel Part IV Growth hormone in cellular systems Effect of pituitary hormones on metabolism of isolated tissues, by M. E. Krahl. Effect of growth hormone on transaminases, by O. H. Gaebler The effect of insulin and alloxan diabetes on the transport of glucose and other sugars into the cells of muscle and brain, by C. R. Park. The influence of growth hormone on blood insulin and glucogen activity by P J Randle. The influence of growth hormone and *other factors* on the islets of Langerhans and the pancreas, by R. E. Haist. Part V Influence of growth hormone on the mammary gland and on human metabolism Mammary growth and lactation in male rats, by W R. Lyons and others. Effects of somatotropin and other pituitary hormones on the lactating mammary gland, by S. J Folley Human studies of purified pituitary growth hormone preparations, by L. W Kinsell Metabolic studies of the action of growth hormone (somatotropin) in man by E. Shorr and others. Closing remarks, by C. N H. Long.

Note. The proceedings of an international symposium attended by 100 scientists from Europe, England, South America, Canada, and the United States of America are published in this volume. The titles *of the papers presented* are listed in the above contents. Not listed there are the equally important transcripts of discussions. The discussion were of two types, designated and general, and transcripts of both are included. Many results of recent research were presented at the meeting and the discussions serve in a way to evaluate them as well as to bring out important points not explicit in the original papers. Literature references are included for most of the papers.

SALTER, WILLIAM THOMAS

Chemical developments in thyroidology Springfield, Ill Charles C Thomas 1950 87 p illus 22 cm (American lecture series Publication no 26 A monograph in American lectures in endocrinology edited by Willard O Thompson) $2 00 2943

Contents Introduction. Synthesis of the thyroid hormone. The blocking of thyroid activity Circulating thyroid hormone. [illegible]tion of radio-iodine Synopsis. Bibliography Index.

Note A useful and authoritative summary of advances in the understanding of the thyroid hormone and of thyroid disease, made in the period 1928–1948. A critical review of radioactive tracer techniques in studying thyroid physiology is included. What is known about the "metabolic circuit of the thyroid hormone" is concisely *stated*, and points which *are still* obscure are indicated. There is a bibliography of 119 citations of literature published 1928–1949

SALTER, WILLIAM THOMAS

The endocrine function of iodine Cambridge Mass. Harvard University Press, 1940 351 p illus. 24 cm (Harvard University monographs in medicine and public *health No 1) $3 50* 2944

Contents Iodine balance and endocrine balance. Iodine stores in body tissues. Iodine compounds of biological importance. Circulating iodine. Thyroid activity Endocrine balance. Iodine and *the pituitary-ovarian axis. Neurological influence.* Iodine [illegible] Radioactive iodine. Clinical problems. Appendix for laboratory workers Estimation of iodine. Assay of thyrotropic hormone Some properties of iodine. Bibliography Indexes.

Note This monograph presents material of interest to the surgeon, physiologist, pharmacologist, biochemist, the expert in nutrition, and also to the atomic physicist. Among recent developments discussed in the book, the following may be mentioned radioactive iodine in man and animals radioactive iodine and the new element astatine in studies of nutrition and goiter the beneficial effect of iodized albumin in human myxedema, new blood iodine fractions (P T D and I) in clinical thyroid disease and recent reports on the chemical properties of thyroglobulin.

SELYE HANS AND HELEN STONE

On the experimental morphology of the adrenal cortex. Springfield Ill. Charles C Thomas 1950 105 p illus. 22 cm. (American lecture series. Publication no 74 A monograph in American lectures in endocrinology edited by Willard O Thompson) $2 75 2945

Contents Introduction Materials. Experimental. Histologic findings and discussion. Summary References.

Note. A condensed report of the findings in a series of experiments on cats and dogs conducted to elucidate hormonal influences on the gross weight and histologic structure of the adrenal cortex. The effects of six hormones and combinations of them were studied The results are discussed and are related to previously published work in the field. There are 12 plates of illustrations and a bibliography

TURNER, C DONNELL

General endocrinology Second edition. Illustrated Philadelphia W B *Saunders* Company 1955 553 p illus. 24 cm. $8 00. 2946

Contents Principles of endocrinology The thyroid gland. The parathyroid glands. The pancreas. The gastrointestinal principles. The adrenal glands Adaptive reactions to stress. The biology of sex and reproduction. Endocrinology of the testis. Endocrinology of the ovary The hormones in pregnancy and lactation. The pituitary gland. Endocrine-like mechanisms. Endocrine mechanisms in the invertebrates. Index.

Note. Although written as a textbook, this work is a valuable contribution to the literature of endocrinology because of its treatment of the subject as a field of biology rather than as a branch of medicine. *Human endocrinology* is emphasized, but related mechanisms in other animals and even in plants have been included in the book's scope. The chapter on the individual glands describe anatomic features, physiology and selected clinical manifestations. Special attention is given to experimental methods of investigation. The book is written in monograph style, with keyed references from

Philippson-Vulpian and allied phenomena. Post-tetanic effects. The action of potassium ions. The electrical excitability of striated muscle. The electric response of striated muscle. The electric response of autonomic ganglia. A comparison of synaptic transmission at autonomic ganglia and at somatic neuromuscular junctions. The electrical theory of synaptic transmission. The chemical theory of synaptic transmission by acetylcholine. Alternative theories of synaptic transmission. References. Author index. Subject index.

Note This well-documented publication for neurophysiologists presents in systematic form an explanation of chemical transmission at the junctions of motor nerves with striated muscles and at the synapses in autonomic ganglia. The properties are discussed of the junctions between excitable effector elements. One of the central problems considered is precisely whether the processes that take place at these junctions differ qualitatively from those that occur in the course of the propagation of nerve impulses. The bibliography runs to 720 references. The work brings up to date but does not entirely supersede *Autonomic neuro-effector systems* by Walter B. Cannon and Arturo Rosenblueth, New York, 1937

TASAKI ICHIJI

Nervous transmission. Springfield, Ill. Charles C Thomas, 1953 164 p. illus. 24 cm. $7.50. 2955A

Contents: The action current. Electrical properties of the nerve fiber. Saltatory transmission. Properties of the nerve fiber carrying an impulse. The myelin sheath. Transmission during the refractory period. Transmission in the narcotized fiber. The effect of electrotonus on transmission. The nerve trunk. Appendixes: Technique of preparing a single vertebrate nerve fiber. Nervous transmission as a mathematical problem. Some implications of the saltatory nature of nervous transmission. References. Index.

Note A contribution to the understanding of the transmission of the nerve impulse. It is based largely on experiments carried out by the author though it does incorporate some of the results of other researchers. The experiments were carried out on single nerve fibers under a variety of conditions, including the normal state, the refractory state, the non-narcotized state, the narcotized state, the myelinated and non-myelinated states. On the basis of the results, the author constructs a detailed theory of the mechanism of nervous transmission. The ingenious and delicate techniques used in the experiments are fully described. Much of the work was done when the author was a student in Japan, but it was continued and the book written in the United States of America where the author now resides.

WINDLE WILLIAM F editor

Regeneration in the central nervous system, by thirty three contributors. Foreword by Pearce Bailey Springfield, Ill. Charles C Thomas, 1955 311 p illus. 23 cm. $9.50 2956

Contents: Regeneration in the central nervous system of fishes, by T Koppanyi. Regeneration in the central nervous system of amphibia, by J Piatt. Regeneration in the central nervous system of reptiles and of birds, by V Hamburger. Neuronal regeneration in vitro, by R. Levi-Montalcini. Functional regeneration in the optic system, by R. W Sperry. Comments on the relation of age to capacity for regeneration in amphibians, by R. L. de Nó. Comments on regeneration as opposed to outgrowth of amphibian neurons, by H. Hoffman. Time pattern in retrograde degeneration after trauma of central nervous system of mammals, by C. Liu. Studies of cortical regeneration with special reference to cerebral implants, by P Glees. Axoplasm, its structure and regeneration, by H. Hoffman. The neuroregenerative factor "NR," by R. A Kuechle. Parameters of nerve regeneration, by P Weiss. Structural regeneration in the mammalian central nervous system in relation to age, by W W Chambers. Structural regeneration in the mammalian central nervous system and the role of neuroglia and connective tissue, by C D Clemente. Tissue reactions and possible mechanisms of pyrogens and desoxycorticosterone acetate in central nervous system regeneration, by R. G. Stuart. Comments on regeneration of functional connections, by G. P McCouch. Conduction over regenerated central nervous system neurons, by D Scott, Jr. Functional recovery in spinal cats, by L W Freeman. Walking in spinal kittens and puppies, by P S Shurrager. Apparent functional restoration in pyrogen treated spinal cats, by J. L. Littrell. A perspective evaluation of central nervous system regeneration in mammals, by R. W Gerard. Review of structural evidence of regeneration of nerve fibers in injury to the human spinal cord, by R. Drachman. Experimental compression of the spinal cord, by D Duncan. Evidence of structural and functional regeneration of the central nervous system in man, by W S Lockhart, Jr. Comments on regeneration in the human central nervous system, by W F Windle. Bibliography Index.

Note A product of an international meeting held under the sponsorship of the National Institute of Neurological Diseases and Blindness, this volume contains the papers whose titles and authors are listed above. The primary question before the meeting was whether regeneration can occur in the central nervous system. Most of the papers are devoted to descriptions of the results of specific experiments or to literature surveys. In the two papers at the end of the volume, studies of apparent regeneration in the central nervous system of man published in the period 1890–1930 are re-examined in the light of more recent results of animal experimentation, and the authors fail to find positive evidence that such regeneration occurred. However in his foreword, Dr Pearce Bailey states: "Cajal, I believe, is the first, obligatory and almost canonical dogma, which has prevailed in neurological education for almost half century that central nervous regeneration does not occur. Yet unequivocal success in demonstrating structural regeneration with useful restitution of function in the mammalian nervous system is not near at hand. The bibliography at the end of the volume is a comprehensive compilation of the international literature.

SENSES AND SENSATION

ADLER, FRANCIS HEED

Physiology of the eye clinical application. Second edition. With 329 illustrations, includ ing 3 in color St. Louis The C. V Mosby Company 1953 734 p. illus. (part col d) 26 cm. $13.00 2957

Contents: The eyelids. The lacrimal apparatus. The cornea. The aqueous humor. The intraocular pressure. Iris and pupil. Lens and vitreous. Accommodation. The ocular circulation. Ocular motility. Light. Metabolism of the retina. The photochemistry of vision. Electrical phenomena in the eye. The optic nerve. Visual pathways. Adaptation. Sensory response. Visual acuity. Color vision. Entoptic and allied phenomena. Binocular vision. Index.

Note: A cyclopedic and rather detailed presentation of the accumulated knowledge on the physiology of the human eye written, as indicated by the subtitle, from the viewpoint of its applications in clinical medicine. It is useful as a text for advanced medical students and as a reference book for graduate practitioners. Extensive lists of the literature published through 1951 are included.

DAVIS HALLOWELL, AND OTHERS

Hearing aids an experimental study of design objectives by H. Davis, S S Stevens R. H. Nichols, Jr., C V Hudgins, G E Peterson, R. J Marquis D A. Ross. Cambridge, Mass. Harvard University Press, 1947 197 p. illus. 23 cm. $2 00 2958

Contents: Introduction and summary. The hard-of-hearing listeners. Audiometric tests. The master hearing aid. Articulation tests. Articulation curves of normal listeners. Objective criteria for evaluating the performance of hearing aids. The relative performance of tilted frequency patterns for hard-of-hearing listeners. The problem of tolerance—choice of clipping level. Quality comparisons of the frequency patterns. Restriction of the frequency range. Compression amplification versus peak clipping. Articulation scores in relation to other estimates of auditory impairment. Design objectives for hearing aids. Appendixes: Individual data on the hard-of-hearing subjects. A clickless electronic switch. The master hearing aid. Articulation curves obtained with band-pass filters. Compression amplification. Bibliography Index.

Note The report of a program of fundamental research that was carried out at Harvard University under the auspices of the Office of Scientific Research and Development. The methods and findings of the program are described in detail. Tentative design objectives for hearing aids are described. Also, the results indicate that the fitting of hearing aids need not be based on the relation between the frequency characteristics of the instrument and the "shape" of the patient' audiogram, as is ordinarily done.

DAVIS HALLOWELL editor

Hearing and deafness a guide for laymen New York Rinehart and Company Inc., 1947 496 p. illus. 22 cm. $6.00 2959

vulsions. Part III, The physiological basis of consciousness An approach to the problem. The physiology of consciousness. The pathology of consciousness. Part IV Some aspects of autonomic physiology Neurohumors and neuropharmacology of the autonomic nervous system. The eye as an indicator of autonomic activity Part V Integrations Principles of neuro-endocrine action. The physiological basis of emotion Factors involved in conditioning Homeostasis. The constancy of the external environment. Part VI, Applications Schizophrenia, the autonomic nervous system, and shock therapy The physiological foundation of carbon dioxide therapy Physiological principles for the therapy of psychoneuroses and functional psychoses. Bibliographical index of authors. Subject index.

Note A wealth of material of a fundamental nature is presented in this volume. The author has done extensive research on the physiology of the autonomic nervous system. His work and the related work of other investigators are well summarized in the fourth part of the book. The third part in which such phenomena as the central control of sleep, the arousal reaction, the physiology of the phantom limb, and consciousness are discussed, is an authoritative survey of brain stem-cortical mechanisms. The thesis of the sixth part is that there is a relationship between mental disease and dysfunction of the autonomic nervous system, and the physiology of shock therapy and carbon dioxide therapy are discussed from this viewpoint. The book is of interest not only to neurologists and psychiatrists, but also to psychologists, endocrinologists, and others. The "Bibliographical index of authors" lists in alphabetical order of authors' names, the authors, titles, general references, etc., of the literature cited in the book.

GELLHORN, ERNST, AND EDWARD H LAMBERT

The vasomotor system in anoxia and asphyxia, a study of the adjustment reactions of the mammalian organism (With 21 figures) Urbana University of Illinois Press 1939 71 p illus 28 cm (Illinois medical and dental monographs Vol. II no 3) $1 00 2952

Contents Introduction Methods Results Relation between respiratory and circulatory changes carotid sinus reflexes in anoxia synergism between the effects of oxygen deficiency and carbon dioxide excess on blood pressure organization of the vasomotor center Discussion Mode of action of oxygen deficiency of carbon dioxide on blood pressure comparison of the chemical control of respiration and circulation respiratory and circulatory adjustment to anoxia and the relationship between asphyxia and oxygen deficiency carotid sinus reflexes in anoxia synergistic action of carbon dioxide excess and low oxygen tension on blood pressure. Significance of the results from an organismic point of view Summary Bibliography

Note This treatise is a joint contribution from the Department of Physiology of the College of Medicine of the University of Illinois and the Psychiatric Institute of the State Department of Public Welfare. The investigation here reported was carried out in order to clarify the mechanism by which oxygen-deficient gas mixtures with and without carbon dioxide influence the central nervous system T these investigations the authors have added synthetic description which allows an insight into the physiologic activities of the organism as a unity The volume is intended for physiologists, neurologists, and physicians.

KATZENELBOGEN SOLOMON

The cerebrospinal fluid and its relation to the blood a physiological and clinical study Baltimore The Johns Hopkins Press, 1936 468 p illus 23 cm $5 00 2953

Contents (abridged) The origin of the cerebrospinal fluid. The mode of formation. Circulation. The barrier between blood and cerebrospinal fluid. The distribution of chlorides between blood and cerebrospinal fluid. The sugar content and its relation to the blood sugar The distribution of nitrogen components between the blood and the cerebrospinal fluid Phosphorus in the cerebrospinal fluid and the blood. Magnesium in cerebrospinal fluid and blood. The concentration of potassium and sodium in blood and cerebrospinal fluid The acid-base equilibrium between blood and cerebrospinal fluid (pH and CO_2) Cholesterol in the cerebrospinal fluid and its relation to cholesterol in the blood. Immunity processes. Examination of the function of the barrier between blood and cerebrospinal fluid. Influence of various physiological and pathological factors. Artificial alteration of the barrier permeability. Iontherapy Bismuth therapy Bibliography Index.

Note This reference book for neurologists, psychiatrists, and biochemists is divided into two main parts: the first three chapters deal with the cerebrospinal fluid as such, its origin, mode of formation, and circulation the second and largest portion of the book studies more specifically the physicochemical constitution of the cerebrospinal fluid as compared to that of blood in physiological and pathological conditions. In this part, the role and composition of the cerebrospinal fluid and certain therapeutic procedures are discussed in the light of the present-day concept of the function of the barrier between blood and cerebrospinal fluid. The extensive bibliography contains about 400 references to the world literature on the subject.

PROGRESS IN NEUROBIOLOGY I Neurochemistry Edited by Saul R. Korey and John I. Nurnberger, with twenty three contributors. New York Paul B Hoeber Inc., Medical Book Department of Harper & Brothers, 1956 244 p illus 24 cm. $6 75 2954

Contents Introduction, by H. G. Wood. Separation of sphingolipids and related compounds by reversed phase partition chromatography by J B. Wittenberg. Formation and utilization of γ-aminobutyric acid in brain, by E. Roberts. Enzymatic thiotransacetylation, by R. O. Brady and E. R. Stadtman. Fractionation of brain enzyme protein, by H. Porter and J. Folch-Pi. Relation of ceruloplasmin and plasma copper to hepatolenticular degeneration (Wilson's disease) by I H. Scheinberg. Structure and function in the nerve, by S. L. Palay Role of adaptive enzyme formation in morphogenesis, by M. W Gordon. Chemical changes in postnatal development of rat brain in relation to structural and functional differentiation by W K. Jordan and others. Recent studies on the structure of ribonucleic acid, by A. Rich. Effects of brief ... the ribonucleic acids and the labile nitrogen pool of brain and liver in the rat, by J I. Nurnberger and M. W Gordon. Studies on acetal phospholipids, by S. R. Korey Action of tertiary and quaternary nitrogen derivatives upon the acetylcholine receptor, by I. B Wilson and M. Altenbrunn. The neurochemistry of ... seizures, by D B. Tower Application of chemistry of brain lipoproteins to problem of allergic encephalomyelitis, by N P Goldstein and M. W Kies. Relation of cerebral circulation to metabolism to mental activity by L. Sokoloff. The cerebral metabolic rate in children, by C. Kennedy Index.

Note. The first volume published in a new series in which it is planned to publish, from time to time, volumes of symposia on areas of neurochemistry in which there is much active research and interest. This volume contains the 14 papers whose authors and titles are given above. The authors are associated with medical colleges and other organizations, such as the National Institute of Mental Health, which conduct research in biochemistry and neurology Some are neurologists, some are biochemists, and some are psychiatrists. The series is of interest to such readers as scientists and physicians who are concerned with neurology at the research level. They include literature references.

ROSENBLUETH, ARTURO

The transmission of nerve impulses at neuroeffector junctions and peripheral synapses New York Published jointly by the Technology Press of Massachusetts Institute of Technology and John Wiley and Sons, Inc., 1950 325 p illus 24 cm. $6 50 2955

Contents. Introduction. Part I, Transmission at autonomic neuroeffector junctions Adrenergic and cholinergic axons. The liberation of acetylcholine by stimulation of some autonomic postganglionic fibers. The liberation of sympathin by stimulation of autonomic fibers. The theory of two sympathins, excitatory and inhibitory The distribution of cholinergic and adrenergic nerves in the organism. The generalized effects of the chemical mediators liberated in physiological conditions. The electric responses of smooth muscle. The mode of action of the chemical mediators. Some physiological properties of smooth muscles. Theories of transmission in autonomic neuroeffector systems. Part II, Transmission at neuromuscular and at peripheral synapses The stages of neuromuscular and of ganglionic synaptic transmission. The liberation of acetylcholine by preganglionic nerve impulses. The action of acetylcholine on striated muscle and on ganglion cells. The action of eserine, prostigmine, and diisopropyl fluorophosphate. Curare and some decurarizing agents. Wedensky inhibition. The failure of synaptic transmission in the course of Wallerian degeneration of the presynaptic nerve. The

Contents: The star point demonstration. The box demonstration. The dim-brightness demonstrations. The overlay demonstration. The peripheral demonstration. The hypothetical and apertures demonstration. The "thereness-thatness" demonstrations. The chair demonstration. The watch-card-magazine demonstration. The afterimage screens. The trick-card-magazine demonstration. The tilting screen demonstration. The medical retina demonstration. The distorted room demonstrations. The monocular demonstration. The tidal motion demonstration. The tangential motion demonstration. The circular motion demonstration. The "S" motion demonstration. The rotating trapezoid demonstration. The starry demonstration. Bibliography

Note: Twenty demonstrations developed under the direction of Professor Adelbert Ames, Jr. of the Dartmouth Eye Institute and Institute for Associated Research, are specifically described in this book. The descriptions include for each demonstration a photograph or drawing of the apparatus, a brief description of the apparatus and its operation, an outline description of typical observations and effects which can be demonstrated with the apparatus and dimensional drawings for the guidance for those who wish to construct the apparatus. The demonstrations are not limited to the study of vision but include a wide range of perceptual phenomena.

KRAUSE, ARLINGTON COLTON

The biochemistry of the eye. Baltimore The Johns Hopkins Press, 1934 264 p. illus. 23 cm. (The Wilmer Ophthalmological Institute, The Johns Hopkins Hospital and University Monograph no 2) $3.25 2965

Contents: Introduction. The chemistry of the external secretions and conjunctiva. The chemistry of the sclera. The chemistry of the cornea. The chemistry of the uveal tract. The chemistry of the retina. The chemistry of the aqueous humor. Chemistry of the vitreous humor. The chemistry of the lens. Author index. Subject index.

Note: This book is primarily a reference work for the use of ophthalmologists, biochemists, and other research workers in biological sciences. Among the subjects discussed are the permeability of the ocular tissues, the metabolism of the retina, the growth of the eye, the senescence of the lens, the pathology of the vitreous humor, and the etiology of cataract. The bibliography lists approximately 1,800 titles.

LANDIS CARNEY

An annotated bibliography of flicker fusion phenomena covering the period 1740–1952 San Diego The Armed Forces—National Research Council Committee on Vision, Scripps Institution of Oceanography 1953 130 p. 28 cm. Gratis. 2966

Note: This bibliography of over 1,000 books and articles in all languages is arranged alphabetically by author. The descriptive notes, ranging from one to 10 lines in length, are written as amplifications of the titles of the articles, so that persons consulting the bibliography may obtain definite knowledge of the contents of the works. Where the contributions are of unusual importance evaluative judgments are expressed in addition. The compiler reports that the subject of flicker fusion has been discussed in other publications under the following titles among others: persistence of vision, photopic vs. scotopic vision, visual beats, visual ripple, intermittent vision, duration of retinal impressions, vanishing point of flicker, the difference, experimental temporal luminosity vs. heterochromatic critical period of duration, time differentiation threshold, discontinuous illumination, and apparent movement.

LINKSZ, ARTHUR

Physiology of the eye. Foreword by Walter B Lancaster New York Grune & Stratton, 1950–52 2 v illus. 26 cm. Vol. I, $7.50 vol. II, $19.00 2967

Contents (abridged): Volume I, Optics: Physics of light. Geometric optics. The eye as an image-forming mechanism. Index. Volume II, Vision: An analysis of sensations. Pattern and detail vision. The perception of spatial relationships. Vision and the ocular motor reflexes. References. Author index. Subject index.

Note: The books described here are the first two volumes of a projected three-volume work. The work is a development of many years of teaching. The author describes it as a transcript of lectures, but obviously the lectures have been consolidated and revised to some extent. However, the informal style remains. Practically all points mentioned are fully discussed. The author's style is lucid, and he has included numerous mentions of optical illusions and other borderline matters that add interest to the exposition. There are 117 figures in Volume I and 344 in Volume II.

LUCKIESH MATHEW AND FRANK K. MOSS

The science of seeing. New York D Van Nostrand Company Inc 1937 548 p. illus. 22 cm. $7.50 2968

Contents: Seeing. The human seeing-machine. Visual sensory processes. Visual thresholds. Visibility of objects. Physiological effects of seeing. Conservation and achievement. Light and lighting. Prescribing light. Quality of lighting. Spectral quality of light. Reading as a task. Eyesight and seeing. Index.

Note: This book presents studies of human vision made from the viewpoints of ease, certainty, and efficient seeing. In the course of the studies, new methods of testing were invented, and new concepts and criteria were developed. The application of the new methods and of the data obtained by them, to practical questions is discussed. The book is of interest to educational administrators, factory managers, printers, publishers, physicians, architects, and illuminating engineers.

LUNEBURG RUDOLF KARL

Mathematical analysis of binocular vision. Princeton Princeton University Press for Hanover Institute 1947 104 p. illus. 28 cm. $3.50 2969

Content (abridged): Mathematical analysis of binocular vision. Introduction. Section I. Psychometric coordination. Section II, Bipolar coordinates. Section III, Characterization of a metric by quadratic differentials. Section IV. The psychometric of visual sensation. Section V. Derivation of the hyperbolic metric of visual sensation. Section VI, Geodesic lines—the horopter problem. Section VII, The alley problem. Section VIII, Rigid transformations of the hyperbolic space. Conclusion.

Note: As indicated in both title and contents, this abstruse monograph is concerned with the development of a mathematical theory of visual perception. And, as would be expected in treatment of an optical problem, the mathematics level of it is very largely geometry, both Euclidean and non-Euclidean, with particular emphasis on the hyperbolic geometry of Lobachevskii. The work is intended for research scientists. A knowledge of graduate mathematics is required.

POLYAK, STEPHEN L.

The retina. The anatomy and the histology of the retina in man, ape, and monkey including physiological considerations, the history of the physiological optics and the histological laboratory technique Chicago University of Chicago Press, 1941 608 p. illus. 27 cm. $20.00 2970

Contents: General outline of the vertebrate visual system. Part I, Methods of investigation of the retina and of the visual pathway. Part II, Historical survey of investigations of the faculty of vision, of the laws of optics, and of the structure of the eye. Part III, History of the investigations of the structure and function of the retina. Part IV. Minute structure of the retina. Part V. Structure of the retina and the visual functions. Bibliography. Index. One hundred detailed illustrations.

Note: This book is based on original research that tries to analyze the mechanisms upon which the various visual functions, such as space perception and perception of colors, depend. The author surveys all past investigations in the field, from the earliest beginnings in Greece through the Arabian and early western periods up to modern times. Includes an extensive bibliography.

STEVENS, STANLEY SMITH AND HALLOWELL DAVIS

Hearing, its psychology and physiology New York John Wiley & Sons Inc., 1938 489 p. illus. 23 cm. $7.50 2971

Content Foreword, by L. Tracy Introduction by C. S. Nash. Part I, Audiology: Audiology meeting of varied specialists, by H. Davis. Part II, Hearing and hearing loss Physics and psychology of hearing, by H. Davis. Anatomy and physiology of the ear by H. Davis. Medical aspects of hearing loss, by E. P Fowler Jr Surgical treatment of hearing loss, by T E. Walsh. Part III Auditory tests and hearing aids Tests of hearing, by H. Davis. Hearing aids, by H. Davis. The choice and use of hearing aids, by S. R. Silverman. Part IV Rehabilitation for hearing loss Speech reading, by M D Pauls. Auditory training, by R. Carhart. Conservation of speech, by R. Carhart. Military aural rehabilitation by H. Canfield and L. E. Morrissett. Part V Education and psychology *From Aristotle t Bell* by S. R. Silverman Hard-of-hearing children, by S. R Silverman. Deaf children by S. R. Silverman and H. S. Lane The psychology f the hard-of hearing and the deafened adult, by D A Ramsdell Part VI, Social and economic problems Organizations for the aurally handicapped by B C. Wright. Employment for the hard-of-hearing, by A. M. Hill Vocational guidance for the deaf by H. R. Myklebust. Index.

Note A comprehensive presentation of i formation on defective hearing. The volume was planned as whole and the papers it contains were written expressly for it. Although designed primarily for laymen it is of value also to such groups as social workers, teachers, and general medical practitioners who deal with deaf people in the practice f their professions. The chapters vary considerably in difficulty Some are nontechnical and easy to read, but the majority are a level above popular reading and include some technical terms not in the vocabulary of the average reader

FLETCHER, HARVEY

Speech and hearing in communication Princeton D Van Nostrand Company Inc. 1953 461 p illus 23 cm $11 50 2960

Content The speech sounds of English. The speaking mechanism. Characteristics of speech waves. Acoustical speech power. *Frequency f occurrence f the different speech sounds.* Noise Mechanism of hearing. Hearing acuity Minimum perceptible changes in frequency and sound pressure level. Masking effects. Loudness. Binaural hearing effects. Auditory perspective. Space-time pattern theory of hearing. Methods f measuring the recognition aspect of speech. Specification of the telephone system responses, *listener acuities, and proficiencies f talker-listener pairs.* Methods of calculating articulation scores. Effects of distortion on the individual speech sounds. The perception of speech sounds by deafened persons. A method of computing the percent hearing loss in compensation cases. Author index. General index.

Note A scientific study f the processes of speech and hearing. *It is synthesis of the information gained in many years of in*vestigation at the Bell Telephone Laboratories and other laboratories. Since the investigations were undertaken because of the importance f accurate descriptions f these processes in the design f telephone systems, the results are rendered in terms useful to physicists and engineers, namely physical values and mathematical equations. *Experimental techniques are described in adequate de*tail, and the findings are fully described. Most of the discussion and data pertain to the perception f speech by persons possessing normal hearing, but in one chapter it is shown how to modify the calculations in measuring speech perception by persons with subnormal hearing. Applications of the material are of course not *limited to telephone system design but are of interest to specialists* in speech training and to physicists and engineers concerned with the design of practically all types of acoustical and electroacoustical systems. The book supersedes the uthor' *Speech and hearing* 1929

GIBSON JAMES J

The perception of the visual world Boston Houghton Mifflin Company 1950 235 p illus 25 cm $5 75 2961

Contents Why do things look as they do? Theories f perception The visual field and the visual world. The formation of retinal images. A psychophysical theory f perception The stimulus variables for visual depth and distance—momentary stimulation. The stimulus variables for visual depth and distance—the active observer The problem f th stable and boundless visual world. The constant sizes and shapes of things. Geometrical space and form. Meaning. Learning Spatial perception and spatial behavior References. Index

Note A *psychophysical theory f vision is advanced in this not*able book. The central idea is that spatial perception depends upon the pattern of distribution f stimulated spots on the retina or in other words, upon the serial order f *elements in the retinal image.* The theory is based on many years f experimental investigation and is convincingly presented. Other elements in perception [illegible] in the psychophysical realm and other theories are discussed. Although readers need some introduction to scientific terminology including the terminology of physics, biology and psychology the style of presentation is not formidably technical. A bibliography of 121 references is included.

HARVARD UNIVERSITY PSYCHO-ACOUSTIC LABORATORY

Bibliography on hearing Prepared by the Psycho-Acoustic Laboratory, Harvard University, S S Stevens, director, J G. C. Loring, compiler, Dorothy Cohen, technical editor Being an enlargement of *A bibliography in audition,* which was compiled by George A Miller, Robert Galambos Walter A. Rosenblith, Ira J Hirsh. Cambridge Mass. Harvard University Press, 1955 599 p. 27 cm $7 00 2962

Note A comprehensive, well-edited bibliography of the international literature. It is successor to the bibliography mentioned in the title which was published in 1950 in format of two hefty volumes of mimeographed pages. The present version has the form of book and is well printed and bound. It includes all of the entries of the earlier work and, in addition, lists more publications issued before 1939 newly discovered titles for the years 1939–1949 and covers the recent literature to the end of 1952. Entries are arranged alphabetically by name of author with anonymous publications in separate list. Books, dissertations and journal articles are included. Their titles are given in full, but the titles of journals are abbreviated. Titles of articles in languages other than English are given in full in the original language and are also translated. A subject index is provided. The following headings taken from this index illustrate the broad scope of the list. Anatomical, "Biophysics, "Biochemistry and pharmacology "Psychophysics, Animal studies, "Speech and intercommunication, "Music, "Noise "Effects of sound on man, "Deafness, Audiometry and Auditory theory

HIRSH IRA J

The measurement of hearing New York McGraw Hill Book Company, Inc 1952 364 p illus 24 cm (McGraw Hill publications in psychology, Clifford T Morgan, editor) $6 50 2963

Contents Foreword, by H. Davis. Preface. Introduction. Sound: generation and measurement. The auditory stimulus sound and electricity Electroacoustic systems. Absolute threshold for pure tones the audiogram. The intelligibility of speech. Auditory masking and fatigue Differential sensitivity Loudness and recruitment. Binaural hearing and bone conduction Conditioning in audiometry Clinical audiometry Appendixes. Specifications for audiometers. Speech materials for auditory tests. Glossary Bibliography Name index Subject index.

Note All aspects of the measurement of hearing except the anatomy and physiology of the ear are considered in this work. The main emphasis is on the psychophysical aspects of the relations between sound sensations and *stimuli.* In the first chapter the reader is introduced to psychophysical methods, in the third chapter to the principles and characteristics of audiometers and hearing aids and in the final chapter to the clinical techniques of measuring hearing. The rest of the book is chiefly devoted to use of experimental techniques in studying and measuring such aspects of the problem as *ability t hear speech,* auditory fatigue auditory discrimination etc. The book as ritten when the author was associated with the Psycho-Acoustic Laboratory of Harvard University and it was originally published as report under the auspices of the Office of N val Research.

ITTELSON WILLIAM H

The Ames demonstrations in perception a guide to their construction and use Princeton Princeton University Press 1952 88 p illus 28 cm $4 00 2964

BIOCHEMISTRY

GENERAL

ADVANCES IN PROTEIN CHEMISTRY Edited by M. L. Anson, Kenneth Bailey John T Edsall. Volume VII. New York. Academic Press Inc., 1952. 411 p. illus. 23 cm. $9.50 2976

Contents: [illegible] Author index. Subject index.

—— Volume VIII. New York Academic Press Inc., 1953 529 p. illus. 23 cm. $10.50 2977

Contents: [illegible] Author index. Subject index.

—— Volume IX. New York Academic Press, Inc., 1954 542 p. illus. 23 cm. $10.50. 2978

Contents: [illegible] Author index. Subject index.

—— Volume X. New York Academic Press Inc., 1955 384 p. illus. 23 cm. $9.00 2979

Contents: [illegible] Author index. Subject index.

—— Volume XI. New York Academic Press Inc., 1956 665 p. illus. 23 cm. $12.00 2980

Contents: [illegible] Author index. Subject index. Cumulative subject index [illegible] volumes VI–X.

Note: An established and useful review series. Each of the contributed chapters is essentially an independent monographic survey of the biochemical subject named in its title. It is based on the literature and includes an extensive bibliography. The chief purpose of the series is to enable graduate chemists to keep abreast of developments in areas of protein chemistry outside their own specialties. Earlier volumes in the series are still in print.

ANNUAL REVIEW OF BIOCHEMISTRY Volume 25 J Murray Luck, editor Frank W Allen and Gordon Mackinney associate editors. Palo Alto Annual Reviews, Inc., 1956 794 p. illus. 23 cm. $7.00. 2981

Contents: [illegible] Author index. Subject index.

Note: [illegible]

ARONOFF SAM

Techniques of radiobiochemistry Ames Iowa State College Press 1956 228 p. illus. 28 cm. $5.95 2982

Contents: [illegible]

Note: [illegible]

Contents. The nature of the auditory stimulus. The sensitivity of the ear Pitch. Loudness. The other attributes of tones. Auditory localization. Aural harmonics and combination-tones. Auditory masking, fatigue, and persistence. Modulation: vibrato and beats. *The mechanics of the ear* Deafness and bone-conduction. Principles of neurophysiology The microphonic action of th cochlea. Considerations as to the nature and origin of aural microphonics. The localization f frequency-reception on the basilar membrane. Auditory nerve-impulses. Nerve-impulses in response to tonal stimulation. Nerve-impulses in the higher auditory pathways. Appendixes Formulas for modulation. *Glossary References. Index.*

Note Designed for advanced study in psychology (particularly the psychology of sensation) and physiology (particularly neurophysiology and the physiology of sense-organs) this work provides the fundamentals of the science f sound with a minimum of mathematics. The authors have endeavored to give systematic and consistent picture of the auditory process. Three appendixes provide convenient reference to some mathematical developments of supplementary interest and a useful table for converting ratios of sound-pressure or voltage into decibels.

United States Library of Congress Technical Information Division

Visibility, a bibliography Compiled by Jack Weiner and Morris C Leikind Edited by Jack R. Gibson. Washington The Library of Congress, 1952 90 p 27 cm $0 65 2972

Contents (abridged): Visual detection factors in the laboratory Physical variables in the field. Field visibility computations, measurements and observations. Engineering applications of visibility data. A thor index.

Note. An unannotated but classified list of more than 3,000 references to the international literature published from 1925 to 1950 inclusive on the subject of visibility as influenced by the various physical psychological, and physiological factors inherent in the observer target, background and atmosphere and the engineering applications of visibility data.

Walls, Gordon Lynn, and Ravenna W Mathews

New means of studying color blindness and *normal foveal color vision with some results* and their genetical implications A contribution from the School of Optometry and the Department of Psychology of the University of California. Berkeley University of California Press 1952 172 p illus 23 cm (University of California publications in psychology Vol 7 no 1) $2 50 2973

Contents. Introduction Normal color vision. Big four color blindness. The excess hypothesis. Genetics of color blindness. Maxwell's spot. Receptor-type distribution. Methods The anomaloscope. The 3-light test. Neutral-point determination The RDP Results and discussions Color-normal subjects Typical dichromates. Typical anomalous trichromates. Typical monochromates Protanopia-normality heterozygotes. Special cases—miscellaneous. Special cases—tonalistic compounds. *Interpretation of the RDP* Itemized summary Bibliography

Not The results of an experimental exploration of the commoner kinds of color blindness using the anomaloscope, filter instrument, are reported in this work. The methods adopted are put forward as an essentially new and valuable means of studying the common types of color blindness and normal foveal color vision.

Wever, Ernest Glen, and Merle Lawrence

Physiological acoustics. Princeton. Princeton University Press 1954 454 p. illus. 23 cm $10 00 2974

Contents. Part I, Introduction The ear and its structure. The nature of sound. *Experimental methods in the study of the ear.* The sensitivity of the ear Part II, The middle ear as mechanical transformer The function of the middle ear. The nature of the middle ear transformer. The principles of transformer action Part III, The problem of distortion The nature of distortion in the ear The locus of distortion in the ear. Part IV Further characteristics of the middle ear The tympanic muscles. The effects of air pressure on the ear Part V Sound conduction in the cochlea. The pathways of entry to the cochlea. The passage of sounds through the cochlea. Cochlear patterns and the stimulation process. Part VI, Clinical applications. The forms of conductive deafness. Otosclerosis and the fenestration operation. Part VII, Further theoretical considerations Analytical treatment of the middle ear mechanism. The present status of auditory theory Glossary of abbreviations and symbols. Appendixes. References. Index.

Note. A contribution of considerable importance to the literature on physiological acoustics. Its subject is the functioning of the ear from the tympanic membrane to the receptor cells in the cochlea. In other words, it is concerned with the acoustical and *mechanical processes f audition and not with the perception* of sound. The chapters on the middle ear as a mechanical transformer constitute an analysis of the efficiency of this part of the ear. The chapters on distortion are thorough discussions leading up to the authors' conclusion that distortion occurs not in the middle ear but in the sensory cells of the inner ear The two chapters on clinical applications though relatively brief are particularly of interest to physicians and surgeons specializing in the ear Included in these chapters is a detailed discussion from the acoustical standpoint of the fenestration operation. Some of the most significant parts of the book are based on the authors' own experiments. However pertinent results in the literature have been included and the bibliography of references cited runs to 19 pages.

Wever, Ernest Glen

Theory of hearing New York John Wiley & Sons Inc. 1949 484 p illus. 22 cm.(Wiley publications in psychology Herbert S. Langfeld advisory editor) $7 50 2975

Contents Part I, The classical theories The beginnings of auditory theory The Helmholtz resonance theory The place theories after Helmholtz. The frequency theories. Part II, The modern developments Modern developments of the classical theories Auditory nerve responses. Frequency representation in the auditory nerve. The volley principle. Part III, The volley theory: Basic evidence Further evidence on cochlear localization the acoustic areas Sensitivity Loudness and fatigue. Pitch and pitch discrimination. Auditory abnormalities. The products of tonal interaction Temporal phenomena of auditory perception. Binaural phenomena The volley theory in review concluding observations. Definitions and symbols. References. Index.

Note The author Professor of Psychology at Princeton University shows that the two main types of hearing theory formerly advanced and thought to be in conflict—the resonance type of place theory and the simple frequency theory—may be reconciled in the volley theory The book sets forth in as nontechnical language as possible the basic principles underlying the relationship between the physics of sound and the psychology of hearing and shows how the physical sound acts upon the sensory and neural mechanisms of the body and through its actions there becomes transformed into auditory impressions. The bibliographical references cover 23 pages.

General

BLOCK, RICHARD JOSEPH AND DIANA BOLLING

The amino acid composition of proteins and foods analytical methods and results. Second edition. Springfield Ill. Charles C Thomas 1951 5 6 p 25 cm. $11.50. 2990

Contents (abridged) [illegible]

Note [illegible]

BLOCK, RICHARD JOSEPH

Amino acid handbook methods and results of protein analysis. By Richard J Block, with the cooperation of Kathryn W Weiss. With contributions by Herman J Almquist, Diana Bolling Carroll, William G. Gordon, Sidney Saverstein. Springfield, Ill. Charles C Thomas, 1956. 386 p. illus. 24 cm. $10.50. 2991

Contents [illegible]

Note [illegible]

BLOCK, RICHARD JOSEPH AND OTHERS

A manual of paper chromatography and electrophoresis. By Richard J Block, Emmett L Durrum, Gunter Zweig with the cooperation of Raymond LeStrange, Winston H. Wingerd, and Kathryn W Weiss. New York Academic Press Inc., 1955 454 p. illus. 24 cm. 2992

Contents [illegible]

Note [illegible]

BOREK ERNEST

Man the chemical machine New York Columbia University Press 1952 219 p. illus 23 cm. $3.00 2993

Contents [illegible]

Note [illegible]

BULL, HENRY BOLIVAR

Physical biochemistry Second edition. New York John Wiley & Sons Inc., 1951 355 p. 24 cm. $6.00. 2994

Contents [illegible]

Note [illegible]

CANTAROW ABRAHAM, AND BERNARD SCHEPARTZ

Biochemistry Illustrated. Philadelphia W B Saunders Company 1954 843 p. illus. 24 cm. 2995

Contents [illegible]

Note [illegible]

ters which present analytical and synthetic procedures for groups of compounds and specific compounds. The descriptions of procedures are condensed, but references are always given to paper or other publication in which full details may be found. The appendix includes nomograms, transparent maps, and graphs useful in counting. The author is Associate Professor Institute for Atomic Research in the Department of Plant Pathology of Iowa State College

ARTZ, NEAL ELLSWORTH, AND ELIZABETH M OSMAN

Biochemistry of glucuronic acid New York Academic Press, Inc., 1950 103 p illus 23 cm $4 50 2983

Contents Introduction. Analytical methods. Occurrence Origin of glucuronic acid in the body Detoxication. Bibliography Index.

Note. A digest of the international literature that bears on the biochemistry of glucuronic acid and especially on its metabolic significance. Statements and data in the text are carefully keyed to the bibliography which lists 456 books and papers.

ASIMOV, ISAAC

The chemicals of life, enzymes, vitamins hormones New York Abelard Schuman 1954 159 p illus 21 cm $2 50 2984

Content The all-important protein. Enzymes—proteins that make haste. Enzymes and body chemistry Enzymes and digestion. Enzymes and energy The friends and foes of enzymes. The B vitamins. Other vitamins. Protein hormones. Other hormones. Index.

Note. An elementary but scientifically accurate survey of human biochemistry It is intended for general readers, particularly young people and others who have read no other books on the subject. The author's style is easy to read, and the technical terms used are carefully explained when first introduced. The author is a member of the faculty of the School of Medicine of Boston University

BABKIN, B P

Secretory mechanism of the digestive glands With 233 illustrations Second edition revised and enlarged New York Paul B Hoeber, Inc Medical Book Department of Harper & Brothers, 1950 1,027 p illus 24 cm $20 00 2985

Contents Correlation of structure and function in the digestive glands. The secretory granules—and the digestive enzymes. Histology of the gastric mucous membrane Morphological and functional topography of the gastric mucosa blood and nerve supplies to the stomach. The enteric plexuses methods of investigation of gastric secretory function. Regulation of the secretory activity of the stomach. Spontaneous and continuous secretion of the digestive glands. Nervous mechanism of gastric secretion gastric mucus. Dissolved mucin and non-protein nitrogen in the gastric juice esophageal glands. Sympathetic innervation of the stomach Histamine as stimulant of gastric secretion Histamine, insulin, and the dilution-indicator method in clinical practice Intimate mechanism of gastric secretion Inorganic compounds of the gastric juice and theories concerning the variations of gastric acidity Further discussion of the theories on the variations of gastric acidity Chemical phase of gastric secretion. Triple mechanism of the chemical phase of gastric secretion Hormones of the alimentary canal. Regulation of the secretory activity of the salivary glands correlation of macroscopical structure with physiological function in the submaxillary gland. Ducts of the salivary glands Significance of the double innervation of the salivary glands. Augmented salivary secretion Fundamental features of the secretory process. Hydrelatic and ecbolic effects of nerves on the digestive glands. Bibliography Index of authors Index of subjects.

Note The results of experimental investigations in the author's own laboratory at McGill University and related results of other investigators are correlated in this noteworthy contribution to physiology The principal subject is the mechanisms of regulation of the secretory activity of the principal digestive glands under normal conditions The knowledge that has been gained about these mechanisms in experiments on carnivorous animals, such as dogs and on human subjects, is presented in some detail Gaps in the knowledge are pointed out Pathological aspects are not emphasized, but some information is included on them in such sections as the one entitled Abnormal functioning of the gastric secretory mechanism as possible factor in the pathogenesis of peptic ulcer. The first edition was published in 1944 A considerable amount of new material, based on research and publications since the writing of the first edition has been added to this second edition. Plates and illustrations have been increased in number, and literature published subsequently to 1943 has been added to the bibliography which is now 101 pages long

BIOCHEMICAL PREPARATIONS Volume 1. Herbert E Carter, editor in-chief New York. John Wiley & Sons, Inc., 1949 76 p. 24 cm. $4 00 2986

Content Adenosine diphosphate Adenosine triphosphate [illegible] alanine and L-serine. Azobenzene-p-sulfonic acid trihydrate, p-hydroxyazobenzene-p'-sulfonic acid. 5-nitronaphthalene-1-sulfonic acid dihydrate. Casein. β-3 4-dihydroxyphenyl-L-alanine. Diphosphopyridine nucleotide The α-glucose-1-phosphates. L-glutamine [illegible] glyceraldehyde 3-phosphoric acid. Lycopene L-lysine monohydrochloride. Lysozyme. D-tyrosine. Subject index

—— Volume 2 Eric G Ball, editor-in-chief New York John Wiley & Sons, Inc., 1952 109 p 24 cm $4 00 2987

Content Cytochrome Cucurbit seed globulin. Oxygen. Phosvitin, sodium salt. Crystalline lactate dehydrogenase Sodium pyruvate. Phosphoryl-enolpyruvic acid. L-α-glycerophosphoric acid Glucose-6-phosphate. C[14] uniformly labeled sucrose Fructose-1,6-diphosphate [illegible] and DL-epi-inositol-2 [illegible] DL-glutamic acid monohydrate L-aspartic acid. S-benzyl-L-cysteinylglycine. α-methyl carbobenzoxy-L-glutamate. N-carbobenzoxy-glutamyl-S-benzyl-L-cysteinylglycine. Glutathione. Reduced diphosphopyridine nucleotide Phosphorylcholine. Oleic acid and methyl oleate. Methyl ricinoleate Subject index.

—— Volume 3 Esmond E. Snell, editor in-chief New York John Wiley & Sons, Inc., 1953 128 p illus. 23 cm. $4 00 2988

Content Crystalline muscle phosphorylase Riboflavin [illegible] phosphopyridine nucleotide (DPN) Triphosphopyridine nucleotide (TPN) Pyridoxamine phosphate. Pyridoxal phosphate. Protoporphyrin dimethyl ester d-isocitric acid. dl-isocitric acid lactone. Dihydroxyfumaric acid. Oxaloacetic acid. L(+) and D(−) lactic acids. Sodium α-ketoiso-caproate D-glucose-6-phosphate [illegible] galacturonic acid. β-3 4-dihydroxyphenyl-DL-alanine. L-isoleucine and D-isoleucine, -alloisoleucine, and D-alloisoleucine. [illegible] monohydrochlorides. [illegible] and DL-citrulline (from [illegible] citrulline (from L-arginine) -kynurenine. L and D-[illegible] hydrochlorides. Elaidic acid. 2 4-dinitrofluorobenzene. Subject index.

—— Volume 4 W W Westerfeld editor in-chief New York John Wiley & Sons, Inc., 1955 108 p 23 cm $4 25 2959

Content α-D-galactose-1-phosphate. Homogentisic acid. [illegible] palmitoleyl)-L-α-lecithin α-lactalbumin. β-lactoglobulin. Alcohol dehydrogenase Inorganic pyrophosphatase Carnosine. [illegible] hydrochloride Urocanic acid. N-acetyl imidazole. Glycolaldehyde Sodium glyoxylate monohydrate. α-D-glucose-1-phosphate. Tetra-acetyl-D ribofuranose -argininic acid. DL-methionine sulfoxide DL-methionine sulfone and DL-ethionine sulfone. Linoleic acid and methyl linoleate. D-glutamic acid. D-glutamic acid, alternative procedure Subject index

Note Verified methods of synthesizing chemical compounds of biochemical interest are published in the biochemical compounds of biochemical interest are published [illegible] series. The compounds covered in the first four volumes are listed above Also included are lists of compounds of biochemical interest which have been published in *Organic syntheses* through Volume 34 Each compound included is the subject of standardized monographic essay There is first discussion of the basic principles This is followed by description of starting materials next comes an explicit description of the laboratory procedure and finally there are discussions of the properties and purities of the product and of other methods of preparation. Literature references are provided The subject index at the end of Volume 4 is a cumulative one covering the series up to and including Volume 4.

Racker, D R. Schwarz, E. Stadtman H. Waelsch. New York Academic Press Inc., 1954 341 p. illus. 23 cm. $8.50. 2999

Contents: Properties and organic chemistry [illegible] and disulfides; some physics, chemistry and speculation, by M. Calvin. The reactivity of the sulfhydryl group in glutathione and related peptides, by R. Benesch and others. Chemistry and properties of glutathione, by T. Wieland. Thiol-thioketone complex formation, by W. W. Kielley and others. The methods for detection and assay of glutathione and sulfhydryl compounds: Methods of glutathione assay—a review of chemical methods, by J. W. Patterson and A. Lazarow. Paper chromatography of glutathione and its hydrolysis products, by M. Gutcho and L. Laufer. Electrochemical experiments on sulfhydryls and disulfides, by R. J. Barrett and A. M. Seligman. Biochemical mechanisms. The enzymatic synthesis and reduction of glutathione, by S. Yanari and E. E. Conn. The biosynthesis of glutathione, by J. E. Snoke and K. Bloch. [illegible] and γ-glutamyl activation, by H. J. Strecker. Biosynthesis of component amino acids of glutathione in the rat, by J. A. Stekol. Glutathione in relation to transpeptidation reactions, by C. S. Hanes and others. γ-glutamyl transfer reactions, by H. Waelsch. Cysteine-containing peptide sequences in ovalbumin and ribonuclease, by C. B. Anfinsen. Glutathione as coenzyme in intermediary metabolism, by E. Racker. The coenzyme function of glutathione in cis-trans isomerization, by W. E. Knox and S. W. Edwards. Contrasting changes in blood level of glutathione and sulfhydryl, apparently in association with the formation of methemoglobin, by E. P. Vollmer. The role of sulfhydryl compounds in acyl-transfer reactions, by E. R. Stadtman. The enzymatic hydrolysis of S-acetyl and S-benzoyl glutathione, by W. W. Kielley and L. B. Bradley. SH and growth, by D. Mazia. Physiological actions and clinical aspects. Relation of glutathione to hormone action and diabetes, by A. Lazarow. Increased blood sulfhydryl in rats and guinea pigs treated with ACTH and cortisone, by E. P. Vollmer. Glutathione in radiation injury, by E. P. Cronkite and others. Remarks concerning sulfhydryl protection against radiation injury by H. M. Patt. Oxygen poisoning and X-irradiation—a mechanism in common, by R. Gerschman. The metabolism of injected radioactive glutathione (S^{35}) in X-irradiated and non-irradiated mice, by W. H. Chapman and J. W. Duckworth. Protective effect of glutathione against [illegible], by E. P. Vollmer. Glutathione and protein oxidation and precipitation in the process of aging and *cataract formation* in the lens, by Z. Dische. Glutathione in human disease, by D. R. [illegible] and others. Author index. Subject index.

Note: The papers presented and the discussions of them at a symposium sponsored by the National Science Foundation and the Office of Naval Research are published in this volume. Some of the papers report important advances in biochemistry and most of them include some results of recent research. The reports of the discussions are apparently unabridged, and important points are made in many of them. Literature references accompany most of the papers, and—an unusual feature in a volume of this kind—the names of the authors of the cited literature are assembled in the author index.

COWDRY EDMUND VINCENT

Laboratory technique in biology and medicine. Third edition. Baltimore The Williams & Wilkins Company 1952 382 p. 24 cm $5.00. 3000

Note: A standard reference book of information on chemical substances, instruments, and methods which are of interest in professional laboratory work in such fields as biology, biochemistry, and medicine. The information is supplied in concise paragraphs devoted to specific topics. The arrangement of topics is alphabetical with abundant cross-references. Citations of pertinent literature are given under most headings. The second edition was published in 1948. The third edition represents a very extensive revision with much new material added and all of the old that is still useful retained.

DEUEL, HARRY JAMES, JR.

The lipids their chemistry and biochemistry Vols. I–II. New York Interscience Publishers, Inc., 1951–55 2 v illus. 24 cm. Vol. I $18.50 vol. II $25.00 3001

Contents: Volume I: Chemistry. General characteristics and classification of lipids. The chemistry of fatty acids and glycerol. The chemistry of neutral fats. Waxes, higher alcohols including sterols, [illegible], glyceryl ethers, [illegible] oils, and hydrocarbons. Chemistry of the phosphatides and cerebrosides. Carotenoids and related compounds. Distribution, properties, and chemistry of the vitamins A. Distribution, properties, and chemistry of the provitamins D and vitamins D. Distribution, properties and chemistry of the vitamin E group. Distribution, properties, and chemistry of the vitamin K group. Author index. Plant and animal sources of lipids. Subject index. Volume II: Biochemistry; digestion, absorption, transport and storage. Introduction. The digestion and absorption of fats in the gastrointestinal tract. The digestibility of fats. The digestion, absorption, and digestibility of lipids other than fats. Blood lipids. The occurrence of lipids in the animal as [illegible] fats. Lipid distribution in specific tissues and in their secretions. Author index. Plant and animal sources of lipids. Subject index.

Note: A comprehensive, well-documented treatise on an abundant family of natural substances. Essentially it is an expertly made digest of the published literature, including the author's own papers. Particular care has been taken with the botanical and zoological nomenclature and with the literature references. All topics are treated at the professional level, and the work is of interest to graduate biochemists and scientists in other fields, such as medicine and food chemistry. References to the literature are printed in the form of footnotes and the names of the authors of that literature are assembled in the author indexes. A third volume, which will complete the work and will cover biosynthesis, metabolism, oxidation and nutritional value of the lipids, is scheduled for publication.

DOWNES HELEN R.

The chemistry of living cells. New York Harper & Brothers 1955 549 p illus. 24 cm $7.50 3002

Contents: Part I, Some preliminary considerations. Biochemical history and literature. Some selected properties of aqueous solutions. The structure of living forms. Part II, The organic constituents of cells. The chemistry of the carbohydrates. The compounds of nitrogen. The lipids. The enzymes. Part III, Intermediary metabolism. The methods used in the study of intermediary metabolism. Transportation systems. Digestion and absorption. Metabolism of the compounds of nitrogen. Lipid metabolism. Anaerobic carbohydrate metabolism. Biological oxidations. Biosynthetic mechanisms. Index.

Note: The basic principles and facts of biochemistry are expounded in this book, which is designed primarily as a textbook for college courses offered to advanced undergraduate students. The title notwithstanding, the book is not limited to biochemical processes within cells. The subject is biochemical processes in which living cells take part, in other words, all of biochemistry. Both animal and plant biochemistry are covered, but as would be expected in a general text, more space is given to the former. The "Suggestions for further reading" at the ends of chapters are well selected and are classified by topic. The index covers topics only but is fully detailed for them. The author is Professor of Chemistry in Barnard College of Columbia University.

EIGSTI O J AND PIERRE DUSTIN JR.

Colchicine—in agriculture medicine biology and chemistry Ames The Iowa State College Press, 1955 470 p. illus. 23 cm. $7.50 3003

Contents. The parent plant. Nucleus and chromosomes. Spindle and cytoplasm. Cellular growth. Sources of the drug. Chemistry. Pharmacology. Embryonic growth in animals. Experimental growth in animals. Neoplastic growth—in animals and plants. The experimental polyploids. The amphiploids. The autoploids. The aneuploids. Criteria for judging polyploidy. Techniques of colchicine treatment. Mechanisms of colchicine-mitosis. Author index. Subject index.

Note: In this book, the results of independent investigation by the two authors—an American botanist and a Belgian pathologist—and a review of the vast literature are combined. It is primarily a report of laboratory research, but due attention is paid also to the clinical use of the drug in the treatment of gout, cancer and other diseases. Although the authors provide a historical account, they emphasize investigations from 1934, when the "colchicine era" in biological research began, to the mid-1950's. The chapter treatments, which are systematic, close with summaries and extensive lists of references to the published literature.

FIESER, LOUIS FREDERICK, AND MARY FIESER

Natural products related to phenanthrene. Third edition of the monograph previously

are members of the faculty of Jefferson Medical College. A second edition entitled *Textbook of biochemistry* was published in 1957 867 p $12.00

CANTAROW, ABRAHAM, AND MAX TRUMPER

Clinical biochemistry Fifth edition Philadelphia W B Saunders Company, 1955 738 p illus 25 cm $9 00 2995A

Contents Carbohydrate metabolism. Lipid metabolism. Protein metabolism. Nucleic acid metabolism. Metabolism of hemoglobin and porphyrins. Biochemical aspects of diet. Calcium and inorganic phosphate metabolism. Phosphatase activity Magnesium metabolism Iron metabolism. Sulfur metabolism. Iodine metabolism. Sodium, potassium and chloride metabolism. Water balance. Acid-base balance. Respiratory exchange and basal metabolism. Hormone assay and endocrine function. Vitamins. Chemical investigation of gastric function. Pancreatic function. Hepatic function. Renal function. Cerebrospinal fluid. Index.

Note A standard survey of the biochemical knowledge which has significance in clinical medicine. It is designed both for use as medical college textbook and as a reference guide to the literature of the field. Correlations between biochemical knowledge and clinical implications are made as direct as possible, but the treatment is from the viewpoint of the medical clinician rather than the biochemist. The fourth edition appeared in 1949 In preparing this fifth edition information was added on number of topics including liver function plasma protein abnormalities, porphyrin metabolism, biochemical aspects of diet and potassium metabolism.

CHARGAFF, ERWIN, AND J N DAVIDSON, editors

The nucleic acids, chemistry and biology New York Academic Press, Inc., 1955 2 v illus 24 cm Vol I, $16 80 vol II $14 50 2996

Content Volume I Introduction, by J N Davidson and E. Chargaff. Chemistry of ribose and deoxyribose, by W G. Overend and M Stacey Chemistry of purines and pyrimidines, by A. Bendich. Chemistry of nucleosides and nucleotides, by J Baddiley Hydrolysis of nucleic acids and procedures for the direct estimation f purine and pyrimidine fractions by absorption spectrophotometry by H. S Loring. The separation of nucleic acid derivatives by chromatography on ion-exchange columns, by W E. Cohn. Separation of nucleic acid components by chromatography on filter paper by G R. Wyatt. *The electrophoretic separation f nucleic acid components*, by J D Smith. Color reactions of nucleic acid components, by Z. Dische. Isolation and composition of the deoxypentose nucleic acids and f the corresponding nucleoproteins, by E. Chargaff. Isolation and composition of the pentose nucleic acids and of the corresponding nucleoproteins, by B Magasanik. Evidence on the nature of the chemical bonds in nucleic acids, by D M Brown and A. R. Todd. The physical properties f nucleic acids, by D O Jordan Optical properties f nucleic acids and their components, by G. H. Beaven. Nucleases and enzymes attacking nucleic acid components, by G. Schmidt. Author index. Subject index. Volume II. The nucleic acid contents of tissues and cells, by I. Leslie. Cytochemical techniques for nucleic acids, by H. Swift. The isolation and composition f cell nuclei and nucleoli by A. L. Dounce. The deoxyribonucleic acid content f the nucleus, by R. Vendrely Nucleic acids in chromosomes and mitotic division, by B Thorell The cytoplasm, by G H Hogeboom and W C. Schneider *Biosynthesis of pentoses*, by G. E Glock Biosynthesis of purines and pyrimidines, by F Reichard Biosynthesis f nucleosides and nucleotides, by F Schlenk. Biosynthesis of nucleic acids, by G. B Brown and P M. Roll. The metabolism of the nucleic acids, by R. M. S. Smellie. The biological role of the deoxypentose nucleic acids, by R. D Hotchkiss The biological role of the pentose nucleic acids, by J Brachet. Author index. Subject index.

Note Editorship f this treatise was shared by an eminent American biochemist and an eminent British biochemist, and the chapter authors are from Great Britain Canada and the United States f America. All of the chapters are compactly written reviews of the pertinent international literature, with text and tabulated data number-referenced to citations of the source articles However the editors aimed at co-ordinated treatise rather than collection of reviews and to large extent they have succeeded. There is very little duplication among the chapters, and the field that the work was intended to cover is well covered. Assembling f the names f the authors of the cited literature in the two author indexes makes it possible to use the work as guide t the literature as well as survey of the extant knowledge.

CLARK, W MANSFIELD

Topics in physical chemistry, a supplementary text for students of medicine. Second edition. Baltimore The Williams & Wilkins Company, 1952 777 p 23 cm. $11.00 2997

Contents (abridged) Limiting laws. Review of certain indispensable conventions. The standard chemical balance. Measurements f volume. Density and some of its clinical uses. Sedimentation in gravitational and centrifugal fields. Certain colligative (bound together) properties of solutions. Distribution of solutes between phases. Diffusion. The laws of mass-action. Conductance of electricity by solutions of electrolytes. Equilibria in proton exchanges. A stepwise treatment f the equilibrium states of weak electrolytes. Brief excursions in thermodynamics. Oxidation-reduction with special reference to electromotively active systems. The glass electrode and potentiometry The polarograph A picture f atomic and molecular structure. Notes on isotopes. Emission and absorption of radiant energy Luminescence [fluorescence and phosphorescence] A few topics from colloid chemistry Appendix. Index.

Note A useful and widely used work. It is directed to first-year medical students, and it provides review of those basic principles of physical chemistry which are prerequisite to further study in biochemistry and related topics. It is not intended for classroom use but for self-instruction and reference. Although is self-contained in the sense that enough information is provided on most topics for the intended purpose, literature references are given. The topics discussed are those which the author's experience has shown to be the most needed. Suggestions for further reading and review problems are included at the ends of most chapters. The first edition was published in 1948. The organization and scope of the book have not been changed in this second edition, but the treatments of number of topics has been revised and expanded, and selection of the books published since the first edition was written has been added to the reference list.

CLARKE, HANS T , editor

Ion transport across membranes incorporating papers presented at a symposium held at the College of Physicians & Surgeons, Columbia University, October, 1953 Hans T Clarke editor, David Nachmansohn associate editor New York Academic Press, Inc., 1954 298 p illus 24 cm. $7.50 2998

Contents Note on the work of Jacques Loeb, by W J V Osterhout. Ion transport across biological membranes, by H. H Ussing. The Electrical processes in nerve conduction by A. F Huxley The generation of bioelectric potentials, by I. B Wilson and D. Nachmansohn. Some optical observations on the interaction between acetyl cholinesterase and its substrate, by S. L. Friess and others. Ion permeability of the red cell, by A. K. Parpart and J F Hoffman. Renal mechanisms of electrolyte transport, by R. J Mudge. Membrane permeability and electrical potential, by [illegible] Parlin and H. Eyring. Transport of ions through biological membranes from the standpoint of irreversible thermodynamics, by J G. Kirkwood. Transport of ions across charged membranes, by G. Scatchard. Electrochemical studies with model membranes, by K. Sollner and others. Theory of protein solutions, by T L. Hill. Interaction of proteins and ions with special reference to mercury derivatives of mercaptalbumin, by J T Edsall. The specificity of metal-protein interactions, by F R. N Gurd. Equilibrium and sedimentation of uncharged particles in inhomogeneous electric fields, by P Debye. Author index. Subject index.

Note The symposium named in the title of this book was meeting planned to encourage scientists to exchange ideas across the borders of their own specialties. The biological emphasis was dominant but the participants included physical chemists and specialists in protein chemistry as well as biologists. Some of the papers have an air of "specialist-talking-to-specialists, but others are clearly addressed to scientists outside the author's own field. Each paper includes list of literature references. All of the papers appear to have been written for the volume Eight of them were read at the symposium and six were contributed as invitations.

COLOWICK S , AND OTHERS, editors

Glutathione proceedings of the symposium held at Ridgefield, Connecticut, November 1953 Editors S Colowick, A. Lazarow E.

GRAFF SAMUEL editor

Essays in biochemistry New York John Wiley & Sons, Inc. 1956 345 p. illus. (part col d) 24 cm. $6.50 3009

Contents: Some metabolic products of basidiomycetes, by M. Anchel. Heterogeneity of desoxyribonucleic acid (DNA), by A. Bendich. Biosynthesis of branched-chain compounds, by K. Bloch. The biochemistry of [illegible], by E. Borek. The development of plasma volume expander, by M. Bovarnick and M. R. Bovarnick. The very big and the very small—remarks on conjugated proteins, by E. Chargaff. Unbalanced growth and death—a study in thymine metabolism, by S. S. Cohen. Some thoughts on the biochemistry of the steroid hormones, by L. L. Engel. The biochemistry of the bacterial viruses, by E. A. Evans. The biosynthesis of peptide bonds, by J. S. Fruton. On the nature of cancer, by S. Graff. Problems in lipide metabolism, by S. Gurin. Tetrazolium as carbonyl [illegible] and analogs, by R. M. Herbst. The structural basis for the determination of identical groups in asymmetric reactions, by H. Hirschmann. The nitrogen-sparing effect of glucose, by H. D. Kohrman. The metabolism of inositol in microorganisms—a study of molecular conformation and biochemical reactivity, by B. Magasanik. The biochemistry of ferritin, by A. Mazur. Some aspects of nitrogen transfer in biosynthetic mechanisms, by S. Ratner. On the kinetics of enzymes, by D. Rittenberg. The biosynthesis of porphyrins, by D. Shemin. The role of carbohydrates in the biosynthesis of aromatic compounds, by D. B. Sprinson. On determining the chemical structure of proteins, by W. H. Stein. Glycogen turnover, by DeW. Stetten, Jr. and M. R. Stetten. The uricase [illegible], by G. Wintersteiner. The chemical basis of hereditary [illegible], by S. Zamenhof. Index.

Note: Essays written in honor of Professor Hans Thacher Clarke, formerly Chairman of the Department of Biochemistry of the College of Physicians and Surgeons of Columbia University, are published in this volume. All of the authors are former students or faculty associates of Professor Clarke. Many of the essays are informal, in the sense that they are not the traditional reports of the results of recent research. Some do fall in this category, but many of them are in the nature of "shop talk." Since they discuss [illegible] number of biochemical problems still unsolved and in some instances indicate present or to approaches that might produce useful results, they are of interest to biochemists generally.

GREEN DAVID E. editor

Currents in biochemical research 1956 Twenty-seven essays charting the present course of biochemical research and considering the intimate relationship of biochemistry to medicine, physiology and biology New York Interscience Publishers, Inc. 1956 697 p. 24 cm. $10.00 3010

Contents: Chemistry and viral growth, by A. D. Hershey. Photosynthesis, by J. A. Bassham and M. Calvin. Bacterial fermentations, by H. A. Barker. Some aspects of vitamin and growth factor research, by E. E. Snell. The significance of induced enzyme formation, by S. Spiegelman and A. M. Campbell. Certain problems in the biochemical study of disease, by D. Stetten, Jr. The hormones, their present significance, their future, by D. Pressman. Problems of cellular biochemistry, by C. F. Cori. Enzymes as reagents, by E. Racker. Attempts at the formulation of some basic biochemical questions, by F. Lipmann. Enzyme complexes and complex enzymes, by H. R. Mahler. Relations between prosthetic groups, coenzymes and enzymes, by H. Theorell. Enzyme-substrate compounds and electron transfer, by B. Chance. On the nature of hemoproteins, by P. George. Aspects of protein structure, by R. W. Low and J. T. Edsall. The structure of insulin, by F. Sanger. A new concept of ribonucleic acids, by W. E. Cohn. Chemical structure as [illegible] guide in the study of biochemical systems, by K. Bloch. The role of nucleotides and coenzymes in enzymatic processes, by F. M. Huennekens. The biosynthesis of porphyrins: the succinate-glycine cycle, by D. Shemin. Problems in the study of multiple enzyme systems, by D. E. Green. Enzyme kinetics, by R. A. Alberty. The interconversion of sugars in nature, by L. F. Leloir. A theory of the primary event in muscle action, by M. F. Morales and J. Botts. Trends in the biochemistry of nerve cells, by D. Nachmansohn and I. B. Wilson. Blood—some functional considerations, by D. M. Surgenor. An integrated concept of carcinogenesis, by R. P. Rusch.

Note: The first book in this series bore the same title and was published in 1946. This new work was neither [illegible] revision, nor is it intended to supersede the earlier one. Instead, it has been edited to present the current picture of biochemical research, including recent accomplishments, research in progress, and areas still to be investigated. The contributors are established specialists, but the book is intended for readers other than graduate scientists working in biochemistry. It is written in scientific terminology and is therefore not [illegible] book for average lay readers. Scientists not specializing in biochemistry but working in other fields of biology and chemistry and in such fields as medicine and pharmacy will find it of interest. Literature references are included in the individual chapters, but the volume lacks indexes.

GREENBERG DAVID MORRIS compiler and editor

Amino acids and proteins theory methods application Springfield, Ill Charles C Thomas, 1950 950 p. illus. 26 cm. $15.00 3011

Contents: Properties of amino acids, by E. F. Howe. Methods for the determination of amino acids, by H. S. Olcott. The preparation of amino acids and polypeptides, by S. Archer. The synthesis of labeled alpha amino acids, by J. C. Reid and B. M. Tolbert. Isolation of amino acids, by M. S. Dunn and L. B. Rockland. Classification, purification and isolation of proteins, by H. L. Fevold. Determination of the molecular size of proteins, by H. P. Lundgren and W. H. Ward. Amphoteric properties of amino acids and proteins, by D. M. Greenberg. Criteria of the purity of proteins, by C. H. Li. Chemical reactions of proteins, by H. Fraenkel-Conrat. Nutritional applications of the amino acids, by H. J. Almquist. The chemistry of antibodies, by D. H. Campbell and F. Lanni. Biochemical applications of proteins and peptides, by D. M. Greenberg. The metabolism of amino acids and proteins, by H. Tarver. Index.

Note: A collection of original monographs on several aspects of the amino acids and proteins which are currently of interest in research. In each paper the topic named in its title is treated compactly with extensive references to the related literature. The book is written on [illegible] professional level and is aimed specifically at graduate students and postdoctoral biochemists beginning work in the field. It is [illegible] product of the Biochemistry Laboratory of the University of California.

GURD FRANK R. N editor

Chemical specificity in biological interactions. New York Academic Press Inc., 1954 234 p. illus 24 cm. (Harvard University Memoirs of the University Laboratory of Physical Chemistry related to Medicine and Public Health) $6.00 3012

Contents: Chemical specificity in biological interactions, by E. J. Cohn. The effects of X-ray and other radiation on proteins and living tissues, by S. Warren. Physical and chemical properties of the steroids related to protein binding, by E. S. Turner. Konrad Dobriner (1902–1952), by T. F. Gallagher. Biochemical problems of the steroid hormones, by T. F. Gallagher. Some studies on the active principles of the posterior pituitary gland, by V. du Vigneaud. The influence of ion-exchange chromatography upon our concept of the structure of ribonucleic acid, by W. E. Cohn. Special problems in the formation of metal complexes, by C. D. Coryell. Interactions of metals with small molecules in relation to metal-protein complexes, by J. Schubert. The specificity of metal complex formation, by G. Schwarzenbach. The interaction of proteins with small molecules and ions, by G. Scatchard and others. Author index. Subject index.

Note: Most of the papers in this volume had their origin in symposiums sponsored by the Laboratory of Physical Chemistry related to Medicine and Physical Health of Harvard University in 1952. However, they were written or put into final form after the symposiums and therefore describe some developments since it was held. Generally speaking, they are devoted to research in progress, research which has already produced interesting results and which will probably extend the borders of biochemical knowledge. The contributors are biochemists actively engaged in fundamental research, and they have addressed themselves to biochemists and other scientists working at similar levels. The paper on Konrad Dobriner is [illegible] tribute and is therefore an exception to the general pattern. The group of papers on metal complexes in biochemical processes is worthy of special attention.

entitled *Chemistry of natural products related to phenanthrene* by L F Fieser New York Reinhold Publishing Corporation 1949 704 p illus 24 cm (American Chemical Society Monograph series No 70) $10 00 3004

Content Quinones, morphine and related alkaloids. Resin acids. Sterols and bile acids. Sex hormones. Adrenal cortical hormones. Steroid metabolism. Cardiac active principles. Steroid saponins. Steroid and terpenoid alkaloids. Stereochemistry of the steroids, by Richard B Turner Author index. Subject index.

Note The steroids, which comprise bile acids, heart poisons, saponins, and sex hormones, constitute one of the largest groups of substances whose structures are similar to phenanthrene. This volume provides comprehensive survey of knowledge regarding the chemistry and molecular structure of such compounds. The present volume is double the size of the 1937 edition New chapters on adrenal cortical hormones and steroid metabolism have been added, while others dealing with the sterols and sex hormones have been greatly expanded. Like other volumes in the series, this monograph is based on an extensive survey of the literature of the subject.

FRUTON, JOSEPH S , AND SOFIA SIMMONDS

General biochemistry New York John Wiley & Sons, Inc., 1953 940 p illus 24 cm $12 00 3005

Content (abridged) Part I, Proteins Amino acids as structural units of proteins. Amino acids and proteins as electrolytes. Metalloporphyrin proteins and related conjugated proteins. Nucleoproteins. Part II, Enzymes Kinetics of enzyme action. Part III, Biological oxidation Pyridine nucleotides and dehydrogenases. The flavin nucleotides and flavoproteins. Metal-containing oxidases. Coupled enzyme-catalyzed reactions. Part IV Intermediate metabolism of carbohydrates Enzymatic cleavage and synthesis of glycosidic bonds. Anaerobic breakdown of carbohydrates. Aerobic breakdown of carbohydrates. Photosynthesis. Part Intermediate metabolism of lipids. Chemistry of fats and phospholipids. Metabolic breakdown and synthesis of fatty acids. The chemistry and metabolism of steroids. Chemistry and metabolism of carotenoids, anthocyanins, and related compounds. Part VI, Intermediat metabolism of nitrogen compounds Enzymatic cleavage and synthesis of peptide bonds Metabolic breakdown and synthesis of proteins. Special aspects of amino acid metabolism. Metabolism of porphyrins. Metabolism of nucleic acids. Part VII General aspects of metabolism Role of inorganic ions in metabolism. Heat changes in metabolism. The hormonal control of metabolism Vitamins and growth factors. Index.

Note A college textbook which may be used also by qualified readers as general up-to-date survey of biochemistry or as reference book giving synopses and literature citations on specific topics, such as the folic acid group of vitamins. The authors are members of the faculty of Yale University and the book is addressed primarily to advanced undergraduate and graduate students majoring in the biological sciences or preparing for medicine Selected literature is cited in footnotes throughout the book.

GLICK, DAVID

Techniques of histo- and cytochemistry a manual of morphological and quantitative micromethods for inorganic, organic and enzyme constituents in biological materials With a foreword by Robert R Bensley New York Interscience Publishers Inc. 1949 531 p illus 24 cm $9 50 3006

Contents (abridged) Microscopic techniques. Chemical techniques. Microbiological techniques. Mechanical separation of cellular components. Bibliography Bibliography appendix List of manufacturers. Index.

Note. Laboratory techniques and procedures for the freeze-drying preparation of tissue, for the detection of various inorganic and organic elements and substances in tissues by chemical and physical methods, and for the separation of cellular components by centrifuging are some of the techniques covered in this book. Techniques and procedures are described fully together with the apparatus and (in the case of chemical techniques) the reagents. The book is based on the literature and the text is cross-referenced to the 30-page bibliography Included in the appendix is a list of manufacturers of apparatus and chemicals. The book is addressed to prim scientists and professional research workers.

GOMORI, GEORGE

Microscopic histochemistry principles and practice Chicago University of Chicago Press, 1952 273 p illus 21 cm. (The University of Chicago Committee on Publications in Biology and Medicine, Emmet B Bay and others) $6 00 3007

Contents Part I Histochemical methods in general The nature of the processes of identification in histochemistry The special features of histochemical methods. The histochemical reaction Controls to prove validity of technique. Quantitation in histochemistry Part II, Systematic histochemistry Inorganic substances A, Metallic elements. B Nonmetallic elements. Organic substances. A, Saccharides General principles of the histochemical demonstration of saccharides Substances other than nucleic acids. Nucleic acids Appendix Ascorbic acid. B Lipids Histochemical methods for lipids. Physical methods. Chemical methods. C, Proteins, amino acids, and products of protein metabolism Proteins Amino acid components of proteins. Antigens. Urea. Uric acid. D Prosthetic groups. Phenolic substances, especially polyphenols. Adrenalin. The enterochromaffin substance. Sulfhydryl (thiol) groups. E, Various unclassified organic substances. F Pigments. Enzymes Preparation of tissues for enzymatic reactions. Histochemical reactions for enzymes I, Oxidizing enzymes Dehydrogenases. Oxidases. Peroxidases. Appendix Cases *Rotablitonsert* and *Senerstoferte*. II, Hydrolytic enzymes Methods for hydrolytic enzymes in general Phosphatases. Alkaline phosphatases. 5-nucleotidase. Lecithinase (phospholipase). Acid phosphatase. Phosphamidase. Phosphorylase. Zymohexase (aldolase) Sulfatase. Esterases Aliesterases. Cholinesterases. The results of histochemical methods for esterases. β-glucuronidase. Carbonic anhydrase. Urease. Appendix Buffers for use in histochemistry Additional references. Author index. Subject index.

Note A survey and summary of current information in the field of microscopic histochemistry This field between histology and analytical chemistry or biochemistry is emerging as an independent discipline with its own theoretical background methods, and special problems. In this volume the term "histochemistry" is used in the restricted sense to include only those methods of the identification and localization of chemical substances on cytological scale in which the identifying chemical reaction is observed directly through the microscope in tissues of which the architecture is not greatly altered. The work is suitable for use as textbook and as a laboratory guide. Bibliographical references are given in footnotes and additional references in an appendix.

GORTNER, ROSS AIKEN

Outlines of biochemistry Third edition edited by Ross Aiken Gortner, jr and Willis Alway Gortner New York John Wiley & Sons Inc. 1949 1 078 p illus. 24 cm. $9.75 3008

Contents (abridged) Part I, Colloids. The colloid state of matter Hydrogen-ion concentration. Oxidation-reduction Electrokinetic phenomena. Gels and the water relationships of the hydrophilic colloids. The Gibbs-Donnan equilibrium. Part II, Proteins The amino acids. The primary decomposition products of proteins. Protein structure and the possibilities of protein isomerism. Reactions of proteins with acids and bases. Protein denaturation. Biological reactions of the proteins. Part III, Carbohydrates and related substances: Metabolism of carbohydrates. The pectic substances. Lignin and the tannins Part IV The lipids and essential oils. Part Plant pigments. Part VI, Biochemical regulators. Vitamins. The hormones. Enzymes. Author index. Subject index.

Note An outline in the sense that it presents concisely wide range of information, this standard work is useful both as an introductory survey of the current knowledge and as guide to the literature. The treatment is essentially from the standpoint of chemistry rather than that of physiological systems. Both plant and animal biochemistry are included. In this edition, the chapters on protein denaturation, carbohydrate metabolism and lipid metabolism have been added, and numerous revisions have been made in other parts. In spite of the extensive revisions, considerable recent research is not included, probably because biochemistry has now grown too large to be encompassed in single volume no matter how condensed.

structure in relation to biological phenomena. Except clinical applications. Appendix. Index.

Note: A standard textbook directed to undergraduate students in medical college. The standard, accepted biochemical knowledge is correlated with basic aspects of clinical medicine. The third edition was published in 1951. In preparing the present edition, the discussions of a considerable number of topics were revised and in some cases expanded. Also, a fair number of new topics have been added. A selection of recent literature has been added to the bibliographies at the ends of chapters. The author is Professor of Biochemistry and Director of the Department of Biochemistry, New York Medical College. A new edition was scheduled for publication early in 1958.

KOCH, FREDERICK C., AND MARTIN E. HANKE

Practical methods in biochemistry. Sixth edition. Baltimore: The Williams & Wilkins Company, 1953. 537 p. illus. 24 cm. $5.00. 3019

Contents: Part I, The chemistry of cell constituents: Carbohydrates. Lipids. Proteins and amino acids. Some biochemical preparations. Enzymes [illegible] activity and pH. Part II, The chemistry of the digestive tract: Salivary digestion. Gastric digestion. Intestinal digestion. [illegible] Part III, Blood and urine: Blood and [illegible]. The quantitative analysis of blood. The quantitative analysis of urine. Microgasometric methods. Pathological urinary constituents. Part IV, Enzymes, vitamins and hormones: Enzymes. Colorimetric and fluorometric methods for vitamins. Microbiological methods. Chemical tests for hormones. Appendix. Index.

Note: A standard instruction and reference book used in laboratory courses in biochemistry in medical colleges. The main part of the book is devoted entirely to discussions and laboratory directions for individual experiments. These experiments are organized in parts and chapters, the titles of which are given in the above contents. The appendix—which [illegible] pages long—discusses biochemical laboratory techniques in general and provides instructions for the preparation of standard reagents and solutions used in biochemical laboratory work. This sixth edition is more than 100 pages longer than the preceding one. Most of the increased length is due to the addition of experiments, of which there are now 319.

LWOFF, ANDRÉ, AND S. H. HUTNER, editors

Biochemistry and physiology of protozoa. New York: Academic Press Inc., 1951–55. 2 v. illus. 23 cm. Vol. I, $9.50; vol. II, $9.00. 3020

Contents: Volume I: Introduction to biochemistry of protozoa, by A. Lwoff. The phytoflagellates, by S. H. Hutner and L. Provasoli. The nutrition of parasitic flagellates (Trypanosomidae, Trichomonadinae), by M. Lwoff. Metabolism of Trypanosomidae and Bodonidae, by T. von Brand. Nutrition of parasitic amebae, by M. Lwoff. Biochemistry of plasmodium and the influence of antimalarials, by R. W. McKee. The biochemistry of ciliates in pure culture, by G. W. Kidder and V. C. Dewey. Author index. Subject index. Volume II: Introduction, by S. H. Hutner. Comparative biochemistry of flagellates, by S. H. Hutner and L. Provasoli. Composition and synthesis of the starch of Polytomella caeca, by S. A. Barker. The nutrition of ciliates, by W. J. van Wagtendonk. Enzymes and enzymology of protozoa, by W. J. van Wagtendonk. Metabolism of free-living ciliates, by C. R. Seaman. Metabolism of [illegible] protozoa, by E. K. [illegible]. Developmental physiology of the [illegible], by M. [illegible]. The chemotherapy of malaria, piroplasmosis, trypanosomiasis, and leishmaniasis, by L. G. Goodwin and I. M. Rollo. Comparative studies on amebae and amebicides, by W. Balamuth and P. E. Thompson. Author index. Subject index.

Note: The biochemistry of protozoa is of considerable scientific interest. This work is an attempt to bring together the accumulated knowledge of the subject. As indicated above, it consists of reviews of specific topics in the field. Each of the papers contains an extensive list of references. All are written on the professional level and are addressed to zoologists, biochemists and other scientists having an interest in the subject.

METHODS OF BIOCHEMICAL ANALYSIS. Edited by David Glick. Volume I. New York: Interscience Publishers Inc., 1954. 521 p. illus. 23 cm. $9.50. 3021

Contents: Determination of sulfhydryl groups in certain biological substances, by F. P. Chinard and L. Hellerman. Analysis of phenolic compounds of interest in metabolism, by H. G. Bray and W. V. Thorpe. Microbiological assay of antibiotics, by F. C. Kavanagh and F. C. Fink. Microbiological assay of vitamin B_{12}, by E. H. S. Jørgensen. Chemical determination of ascorbic, dehydroascorbic, and diketogulonic acids, by J. H. Roe. Zone electrophoresis, by H. G. Kunkel. Chromatographic separation of the steroids of the adrenal gland, by W. J. Haines and J. N. Karnemaat. Analysis of mixtures of sugars by paper and cellulose column chromatography, by L. Hough. Chromatographic analysis of radioactive iodine compounds from the thyroid gland and body fluids, by J. Roche and others. Chemical estimation of choline, by R. W. Engel and others. Estimation of nucleic acids, by E. Volkin and W. E. Cohn. Determination of rutinose and hexoses in plant products, by H. C. S. de Whalley and D. Gross. Determination of ATP and related compounds—firefly luminescence and other methods, by B. L. Strehler and J. R. Totter. The assay of catalases and peroxidases, by A. C. Maehly and B. Chance. The in vitro determination of hyaluronidase, by S. Tolksdorf. Ultracentrifugal analysis of serum lipoproteins, by O. F. de Lalla and J. W. Gofman. The assay of urinary neutral 17-ketosteroids, by L. L. Engel. Index.

—— Volume II. New York: Interscience Publishers Inc., 1955. 470 p. illus. 24 cm. $9.50. 3022

Contents: Analysis of steroids by infrared spectrometry, by H. Rosenkrantz. Chemical determination of adrenaline and noradrenaline in body fluids and tissues, by H. Persky. Lipide analyses, by W. M. Sperry. Measurement of [illegible] activity, by R. T. Holman. Assay of compounds with folic acid activity, by T. H. Jukes. Determination of vitamin E, by R. W. Lehman. Methods for determination of coenzyme A, by G. D. Novelli. Assay of proteolytic enzymes, by N. C. Davis and E. L. Smith. Determination of [illegible], by J. W. Patterson and A. Lazarow. Determination of serum [illegible], by R. J. Winzler. New color reactions for the determination of sugars in polysaccharides, by Z. Dische. Recent developments in techniques for terminal and sequence studies in peptides and proteins, by H. Fraenkel-Conrat and others. Spectrophotometric assay of cytochrome c oxidase, by L. Smith. Author index. Subject index.

—— Volume III. New York: Interscience Publishers, Inc., 1956. 437 p. illus. 24 cm. $9.50. 3023

Contents: Determination of organic phosphorus compounds by phosphate analysis, by O. Lindberg and L. Ernster. Assay of [illegible] acid, by E. L. R. Stokstad and others. Quantitative determination of histamine, by C. F. Code and F. C. McIntire. Enzymatic micro determinations of uric acid, hypoxanthine, xanthine, adenine, and xanthopterine by ultraviolet spectrophotometry, by P. Plesner and H. M. Kalckar. Use of periodate oxidations in biochemical analysis, by J. R. Dyer. End group analysis of polysaccharides, by F. Smith and R. Montgomery. Use of infrared analysis in the determination of carbohydrate structure, by S. A. Barker and others. Measurement of complexion stability by the use of ion exchange resins, by J. Schubert. Analysis of metal-protein complexes, by T. R. Hughes and I. M. Klotz. Hydrogen ion buffers and metal indicators in biochemistry, by [illegible]. Determination of zinc in biological materials, by B. L. Vallee [illegible]. Flame photometry and spectrometry—principles and applications, by M. Margoshes and B. L. Vallee. Author index. Subject index. Cumulative index.

Note: The volumes listed above constitute a review series whose purpose it is to cover new analytical methods and improvements in established methods. The typical chapter or paper is based on a critical review of the pertinent literature and includes citations of the source articles. In most instances, considerable information is presented in addition to the description of the analytical method, and in a few instances, the whole area named in the chapter title is reviewed, including historical development, nomenclature, and special problems.

MITCHELL, PHILIP HENRY

A textbook of biochemistry. Second edition. New York: McGraw-Hill Book Company, Inc., 1950. 695 p. illus. 23 cm. $7.50. 3024

Contents: An introduction to biochemical literature. Carbohydrates. Photosynthesis. Fats and related substances. Proteins and amino acids. Nucleoproteins and nucleic acids. The vitamins. Enzymes. Digestion. Absorption and assimilation. Blood and lymph.

HARROW, BENJAMIN, AND ABRAHAM MAZUR

Textbook of biochemistry Sixth edition Philadelphia W B Saunders Company 1954 563 p illus 24 cm $6 50 3013

Contents Introduction Carbohydrates. The lipids. Proteins. Nucleoproteins and nucleic acids. Enzymes. Digestion. Absorption. Blood. Chemistry of respiration Biological oxidations. Metabolism of carbohydrates—of the lipids—of proteins—of nucleoproteins. Photosynthesis. Energy metabolism. Inorganic metabolism Foods. Vitamins. Chemistry of the tissues. Biochemistry of the kidneys—urine. Hormones. Detoxication. Immunochemistry and chemotherapy Appendix. Index.

Note One of the outstanding introductory textbooks in its field. It was first published in 1935 and a fifth edition was published in 1950. It is shorter than some introductory texts in the subject nevertheless, wide range of material is presented. The writing is concise and much use is made of tables in order to save space. There are many structural diagrams of biochemical compounds and reactions. Grouping of the entries in the lists of literature references according to their most important features is a valuable aid to students and other readers who wish to pursue specific topics. This sixth edition has been considerably reorganized. Two chapters have disappeared, but some of their contents have been incorporated in other chapters. One chapter has been added. Throughout the book there are many new or revised paragraphs and larger sections. This is the first edition to bear the name of a collaborator on the title page. Both the senior author and the co-author are members of the faculty of the College of the City of New York.

HAUROWITZ, FELIX

Biochemistry, an introductory textbook. New York John Wiley & Sons Inc, 1955 485 p illus 24 cm $6 75 3014

Contents Introduction. Water and its functions. The mechanism of biochemical reactions. Carbohydrates. Proteins. Lipids. Nucleic acids (purines, pyrimidines) Porphyrins and their derivatives. Mineral metabolism. Enzymes. Energy balances and nutrition. Human biochemistry Index.

Note Metabolism, both the general mechanisms and the intermediary reactions, is emphasized in this book. The field covered in biochemistry presented as the chemistry of all living organisms, both plant and animal. In the final chapter which is little more than an outline of high points, the basic biochemical reactions are related to human biochemistry In spite of the basic, general approach the impression of a catalogue of biochemical facts which is so common in biochemistry texts has not altogether been avoided. However the book presents a more consistent picture and is easier to comprehend than some introductory texts. The author an internationally known biochemist, is at present a member of the faculty of Indiana University

HAUROWITZ, FELIX

Chemistry and biology of proteins New York Academic Press, Inc, 1950 374 p illus 23 cm $6 80 3015

Contents Role of proteins in biology Isolation purification, and determination of proteins. Hydrolytic cleavage of proteins. Size and shape of protein molecules. Electrochemistry of proteins. Interaction of proteins with water Internal structure of globular proteins. Albumins, globulins, and other soluble proteins. Insoluble proteins (scleroproteins) Combination of proteins with other substances. Conjugated proteins. Proteins with enzymatic properties. Proteins with hormone activity Role of proteins in immunological reactions. Toxins (toxic proteins) The supply of amino acids for protein biosynthesis. Protein synthesis. Index.

Note. In this excellent book the author has presented proteins from the following standpoints (1) structure, (2) biological activity (3) biosynthesis in the living cell. These aspects are well integrated, but wherever knowledge is available to explain the behavior or biosynthesis of proteins on the basis of physical chemistry the author has presented it. The book is written on the graduate level. The treatment is compact but full of detail, and numbered references are made from the text to exceptionally extensive bibliographies. The author is Professor of Chemistry in Indiana University

HAWK PHILIP B, AND OTHERS

Practical physiological chemistry Thirteenth edition By Philip B Hawk, Bernard L Oser and William H Summerson New York The Blakiston Division, McGraw-Hill Book Company, Inc., 1954 1,439 p. illus. (part col d) 24 cm. $12 00 3016

Content (abridged) Physicochemical principles. Carbohydrates. Fats. Proteins. Nucleic acids and nucleoproteins. Epithelial and connective tissues. Muscular tissue. Nervous tissue. Enzymes and their action. Salivary digestion. Gastric digestion. Gastric analysis. Pancreatic digestion. Intestinal digestion. Bile and liver function. Intestinal absorption. Blood, lymph, and cerebrospinal fluid. Respiratory exchange and neutrality regulation. Energy metabolism. Hormones. Urine. Isotopes. Carbohydrate, fat, and protein metabolism. Inorganic metabolism. Vitamins and deficiency diseases. Metabolic antagonists and antibiotics. Appendix Index.

Note A textbook and laboratory guide which has been used for 50 years, the first edition having been published in [illegible] Another remarkable fact about it is that the senior author of the current edition was the sole author of the first edition and has been the sole or senior author for 50 years. It is concerned with the principles that underlie the methods used in present-day biochemical and diagnostic laboratories and with the methods themselves. Chapters such as that on muscular tissue contain compact discussions of the pertinent knowledge of biochemistry and provide specific directions for the laboratory preparation of extractives and chemical determinations on them. In contrast, the five chapters on [illegible] cover not only the biochemistry and the experimental techniques but also the full range of diagnostic tests. The literature is cited as footnotes. The 12th edition was published in 1947 For this 13th edition, several chapters were rewritten, and new and revised sections were added to others. The book is approximately [illegible] pages longer

HÖBER, RUDOLF

Physical chemistry of cells and tissues, by Rudolf Höber, with the collaboration of David I Hitchcock, J B Bateman, David R. Goddard, Wallace O Fenn New York McGraw Hill Book Company Inc., 1945 676 p. illus 24 cm $6 00 3017

Content (abridged) Section I Selected principles of physical chemistry by D. I. Hitchcock. Section II, Large molecules—their physicochemical properties and their architectural and functional significance in living matter by J. B. Bateman Some properties of large molecules in solution. Condensed systems of large molecules. Some properties of films and membranes. Section III, Introductory remarks concerning the architecture of protoplasm, by R. Höber Section IV The surface of the protoplast, its properties and its architecture by R. Höber The permeability of the cell to organic nonelectrolytes. Permeability to electrolytes. Permeability to weak bases and weak acids. Permeability to water Section V Influence of some extracellular factors on cellular activity by R. Höber Section VI, The respiration of cells and tissues, by D. R. Goddard. Section VII, Contractility by W O. Fenn Section VIII, Passive penetration and active transfer in animal and plant tissues by R. Höber Authors' index. Subject index.

Note. The fundamental thesis of this book is that physiology is essentially a branch of physical chemistry The elementary processes combined in the life of a cell are analyzed and discussed from this viewpoint. The discussion proceeds from the simplest principles of physical chemistry which are applicable to analyses of the more complex cell processes, such as muscular contraction, the transfer of body fluids, and the energetics of such phenomena. The work is based largely on published literature, but in some of their applications and interpretations the authors have purposely gone beyond other authorities. The book is primarily for graduate physiologists. There are many hundreds of references to pertinent literature

KLEINER ISRAEL S

Human biochemistry Fourth edition. With 93 text illustrations and five color plates. St. Louis The C V Mosby Company 1954 745 p illus. (part col'd) 25 cm. $7 50 3018

Contents. Introduction. Physical chemistry Carbohydrates. Lipids. Proteins. Tissues. Milk. Blood. Enzymes. Digestion. Chemical changes within the large intestine. Vitamins. Foods. Biological oxidations. Nitrogen metabolism. Carbohydrate metabolism Lipid metabolism. Mineral metabolism and water balance Energy metabolism. Chemistry of respiration and acid-base balance. Hormones. Changes in the chemical composition of blood.

to such topics as cancer than would be given in a general textbook of biochemistry. Most of the exposition deals with human biochemistry but there are incidental references to biochemical processes in lower forms of life. The chapters include extensive references to the literature. The illustrations are primarily representations of the structure of molecules, but some other types are included, for example, the reproduction of a roentgenogram of the major bones of the leg in a child recovering from rickets. The first edition was published in 1951 and the second, somewhat revised edition in 1954. A third edition was published in 1957. $12.00.

WEST EDWARD STAUNTON AND WILBERT R. TODD

Textbook of biochemistry Second edition New York The Macmillan Company 1956 1,356 p. illus. 24 cm. $12.00. 3029

Contents: Introduction. Gases and solutions. Electrolytic dissociation and the mass law. Acids, bases, and buffers. Osmotic pressure. The colloidal state and membrane phenomena. Lipids. Carbohydrates or the saccharides. Proteins. Nucleoproteins and nucleic acids. Composition of tissues. Enzymes. Digestion of food. Absorption from the intestine. Detoxication in the body. Blood and other body fluids. Chemistry of respiration, acid-base balance, and electrolyte and water balance. Energy metabolism. The vitamins. Biological oxidation and reduction. Introduction to intermediary metabolism. Organic phosphates in metabolism—chemical energetics. Lipid metabolism. Carbohydrate metabolism. Protein metabolism. Nutritional aspects of proteins and amino acids. Nutritional aspects of the lipids and the carbohydrates. The metabolism of the inorganic elements. Foods. Urine formation and composition. The hormones. Antimetabolic agents. Index.

Note: A comprehensive introduction used in courses offered to students preparing for medicine and other careers in which a thorough fundamental knowledge of biochemistry is essential. It presents a broad view of the subject, and at the same time a fairly detailed one. The chapters include long bibliographies divided into "General references" and "Special references." References are made from the text to citations in the latter group. The first edition of the book was published in 1951. The organization and scope are the same in this second edition, but there has been extensive rearrangement of the material in some of the chapters and a considerable range of revisions in others. There have included the addition to the bibliographies of literature published since the first edition was written.

WHITE ABRAHAM AND OTHERS

Principles of biochemistry by Abraham White, Philip Handler, Emil L. Smith, and DeWitt Stetten Jr. New York McGraw Hill Book Company Inc. 1954 1 117 p. illus. 23 cm. $15.00 3030

Contents (abridged): Part I. Chemical composition of cells. Chemistry of carbohydrates. Chemistry of lipids. The proteins. Nucleic acids and nucleoproteins. Porphyrins, hemoproteins, and chlorophyll. Part II, Catalysts. Enzymes. Part III, Metabolism. General metabolism. Biological oxidations. Carbohydrate metabolism. Lipid metabolism. Protein metabolism. Metabolism of nucleic acids. Evolution, genetics, and metabolism. Part IV. Body fluids. Blood. Plasma proteins. The chemistry of respiration. Electrolyte, water, and acid-base balance. Specialized extracellular fluids. Renal function and the composition of urine. Milk. Part V. Biochemistry of specialized tissues. Muscle. Nervous tissue. Connective tissue. Bone, calcium, and phosphorus metabolism. Erythrocyte and iron metabolism. Eye. Liver. Skin. Part VI, Biochemistry of the endocrine glands. Thyroid gland. Parathyroid glands. Gonads. Adrenal glands. Pancreas. Hypophysis. Part VII, Nutrition. The major quantitative nutrients. Chemical elements in nutrition. Water-soluble vitamins. Lipid-soluble vitamins. Index.

Note: A college textbook designed primarily for the instruction of students in medical colleges. It presents a broad view of mammalian biochemistry with emphasis on such aspects as catalysis and metabolism. Literature references are limited to brief lists, mostly of review articles, at the ends of the chapters.

WILLIAMS ROGER JOHN

Biochemical individuality the basis for the genetotrophic concept. New York John Wiley & Sons, Inc. 1956 214 p. illus. 23 cm $5.75 3031

Contents. Biochemical variation—its significance in biology and medicine. Genetic basis of biochemical individuality. Anatomical variation—significance. Individuality in composition. Individual enzymic patterns. Endocrine activities. Excretion patterns. Pharmacological manifestations. Miscellaneous evidences of individuality. Individuality in nutrition. The genetotrophic approach. Implications for the biological sciences. Implications for medical and dental research. Implications for advance in psychiatry. Index.

Note. The variability of individual organisms and particularly individual human beings in levels of endocrine activity, nutritional needs and other aspect of their biochemistry is the principal subject of the book; and the genetic basis for such variability is the underlying scientific thesis. Although the author—an eminent biochemist—has presented only a selection of the available evidence the book indicates a wide and varied array of it. As to its implications, he states: "... in biology and in medicine ... we have concentrated too much on a single recognizable picture of man and have given too little attention to man ... What we need is to understand people and patients for what they are. Knowledge about variability we believe contributes substantially to this understanding." Although written primarily for scientists, many sections of the book can be understood by educated laymen.

WILLIAMS ROGER JOHN AND ERNEST BEERSTECHER, JR.

An introduction to biochemistry Second edition. New York D Van Nostrand Company Inc., 1948 736 p. illus. 22 cm $7.00 3032

Contents (abridged): Section I, Composition of organisms: Cell structure. Inorganic constituents. Carbohydrates. Fats and related compounds. Proteins. Colloidal systems. Essential characteristics of living matter. Section II, Nutritional requirements of organisms. Section III, Mechanisms used by organisms in general for promoting and regulating chemical change. Enzyme action. Permeability. Nervous and endocrine control. Biochemical genetics. Section IV, Metabolism of simple cells. Section V, Metabolism in green seed plants. Section VI, Metabolism in mammals. Mammalian respiration. Digestion and absorption by mammals. Intermediate carbohydrate metabolism. Intermediate lipide metabolism. Intermediate protein metabolism. Excretion. Glossary. Index.

Note: A textbook for college students who have had college courses in general and organic chemistry. Although it is intended for courses offered in the senior year, it is considerably less difficult and also less comprehensive than some introductory texts in the subject. The first edition was published in 1931. In this edition the work is extensively revised, is 224 pages longer and contains three new chapters and many new illustrations. The directions for laboratory experiments that were included in the first edition have been omitted.

WITTCOFF HAROLD

The phosphatides. New York Reinhold Publishing Corporation, 1951 564 p. 24 cm. (American Chemical Society monograph series. No. 112 William A. Hamor editor) $14.00 3033

Contents (abridged): Part I, The chemistry of the phosphatides. Nomenclature and classification of lipides. The structure of lecithin. The structure of the cephalin phosphatides. The structure of sphingomyelin. The structure of the minor phosphatides. The purification and the chemical properties of the phosphatides. The physical chemistry of the phosphatides. Phosphatide complexes. The lysophosphatides and the lecithinases. Synthesis of the phosphatides. Part II, The analytical determination of the phosphatides. Part III, Phosphatides from plant sources. Part IV, Phosphatides from animal sources. Part V, The biochemistry and physiology of the phosphatides. General aspects of lipide metabolism. The phosphatides as metabolic elements. The role of phosphatide hydrolysis products in metabolism. The role of the phosphatides in pathological conditions. Biological and additive functions of the phosphatides. Part VI, The industrial aspects of the phosphatides. The manufacture of phosphatides. The industrial uses of phosphatides. Author index. Subject index.

Note: A comprehensive survey of the literature and current knowledge of the phosphorus-bearing lipides. The published literature is covered through 1949 with some data from papers published in 1950. The book is addressed to graduate chemists, and it is of particular interest to biochemists and to industrial chemists in the food industries.

Chemistry of respiration and acid-base regulation. Biological oxidation. Calorimetry and energy metabolism. Carbohydrate metabolism. Metabolism of the lipids. Protein metabolism. Urine. Composition of foods dietetics. The chemistry of animal tissues. Chemistry of the hormones. Chemotherapy Author index. Subject index.

Note The second edition of this textbook for undergraduate college students has been revised to include many significant developments since 1946. Important changes have been made in the chapters on the vitamins, enzymes, hormones, and the antibiotics. Essentially the book offers an introductory study of metabolism and food chemistry and their interrelationships as a basis for the science of nutrition. A knowledge of basic organic and physical chemistry on the part of readers has been presupposed. The references given at the end of each chapter cite monographic and periodical literature through 1950 and have some helpful through brief annotations. The purpose of this bibliography is to summarize the mass of literature in the field, rather than to document the text. The book has 90 figures and 85 tables.

NEURATH, HANS, AND KENNETH BAILEY, editors

The proteins chemistry, biological activity, and methods New York Academic Press Inc. 1953–54 2 v in 4 parts illus 24 cm Vol. I, pt A, $13 00, vol I, pt B $13 00 vol II, pt A, $14 00, vol II, pt. B, $16 50 3025

Contents Vol. I, pt. A The isolation of proteins, by J F Taylor The general chemistry of amino acids and peptides, by P Desnuelle. The amino acid composition of proteins, by G. R. Tristram. The structure and configuration of amino acids, peptides and proteins, by B W Low Optical properties of proteins, by P Doty and E. P Geiduschek. Electrochemical properties of the proteins and amino acids, by R. A. Alberty Vol. I, pt. B The size, shape and hydration of protein molecules, by J T Edsall. Protein interactions, by I M Klotz. Protein denaturation, by F W Putnam The chemical modification of proteins, by F W Putnam. The relation of chemical structure to the biological activity of the proteins, by R. R. Porter Author index for Volume I. Subject index for Volume I. Vol. II, pt. A: Nucleoproteins and viruses, by R. Markham and J D Smith. The oxidizing enzymes, by T P Singer and E. B Kearney Respiratory proteins, by F Haurowitz and R. L. Hardin. Toxic proteins, by W E Van Heyningen. Milk proteins, by T L McMeekin. Egg proteins, by R. C. Warner Seed proteins, by S. Brohult and E. Sandegren. Proteins and protein metabolism in plants, by F C. Steward and J F Thompson. Protein hormones by C. H Li. Author index. Subject index. Vol. II, pt. B Interstitial proteins—The proteins of blood plasma and lymph, by W L. Hughes. The proteins of immune reactions, by W C. Boyd. Structure proteins—I by J C. Kendrew Structure proteins—II, Muscle by K. Bailey Proteolytic enzymes, by N M. Green and H Neurath. Peptide and protein synthesis. Protein turnover by H. Tarver Author index for Volume II. Subject index for Volume II.

Note. A major comprehensive treatise composed of the contributed chapters whose authors and titles are listed above. Each of the chapters is an *expertly written literature digest* accompanied by an extensive bibliography in the form of footnote citations. Although the chapters are by separate authors and may be used independently of one another the work differs from the review type of survey composed of individual monographic chapters in that it was planned as a whole It is directed to graduate biochemists and physiologists.

NEW YORK ACADEMY OF MEDICINE

Cellular metabolism and infections Edited by E Racker Symposium held at the New York Academy of Medicine March 4 and 5 1954 New York Academic Press Inc. 1954 196 p 24 cm $4 80 3026

Content Part I Aspects of comparative biochemistry Some singular features of bacteria as dynamic systems, by R Y Stanier Some aspects of the comparative biochemistry of *Ascaris* and of *schistosomes*, by E. Bueding Energy production in animal tissues and in microorganisms, by H A Krebs Metabolic adaptation in animals, by W E. Knox. Metabolic approaches to chemotherapy by A. D Welch. Metabolic factors affecting chemotherapeutic response by B D Davis. Comparative biochemistry and chemotherapy by S. S. Cohen. Part II, Metabolic aspects of the infection process The tissues and body fluids as media for pathogenic agents, by R. J Dubos. Some effects of bacteria and their products on host-cell metabolism, by A. M. Pappenheimer, Jr. The role of host polysaccharides in virus reproduction, by M. H. Adams. Some metabolic and cytochemical aspects of bacteriophage infection, by S E. Luria. Metabolism of infected cells, by E. Racker *A study of phytopathogenic* microbial toxins of known chemical structure and mode of action, by D. W Woolley Intracellular survival of bacteria in acute and chronic tuberculosis, by H. Bloch. Inhibition of Theiler's GDVII virus by an intestinal mucopolysaccharide, by B Mandel. Relation of an enzyme dephosphorylating adenosine triphosphate to the virus of avian erythromyeloblastic leukosis, by J W Beard. Alteration of host energy metabolism during infection, by G. B. Pinchot. Concluding remarks, by A. Lwoff Author index. Subject index.

Note. Papers describing the results of fundamental research in biochemistry are published in this volume. The primary interest of the symposium of which the book is a product was in the metabolism of infected cells However as shown above, some of the papers deal with various aspects of comparative biochemistry not directly related to infections. Most papers include literature references.

UMBREIT, WAYNE WILLIAM, AND OTHERS

Manometric techniques and tissue metabolism by W W Umbreit, R. H. Burris, and J F Stauffer Chapters on specialized techniques by P P Cohen, G A LePage, V R. Potter and W C Schneider, and contributions by J A. Bain D E Green, H. A. Lardy A. L. Lehninger R. W McGilvery, and R. Wennesland Second edition. Minneapolis Burgess Publishing Company, 1949 227 p illus 29 cm 3027

Contents The Warburg constant volume respirometer The "direct method" for carbon dioxide. Carbon dioxide and bicarbonate. The "indirect method" of Warburg. Useful techniques in manometry Design and calibration flasks. The differential manometer with special reference to its use in studies of photosynthesis. Special methods employing manometric and electrometric techniques. "Thunberg techniques" for estimation of dehydrogenase activity Methods for preparation and study of tissues. The homogenate technique Methods for the isolation of particulate components of the cell. Chemical methods. Manometric estimation of metabolites and enzyme systems. Methods for the analysis of phosphorylated intermediates. Preparation of physiologically important intermediates and metabolites. Index.

Note This laboratory manual for beginning graduate students in biology provides clear description of various methods used in the study of tissue metabolism. The methods described are ones which the authors have found satisfactory in their own laboratories, including both manometric and other methods and approaches. The methods described require equipment such as is likely to be found in a laboratory engaged in biological research, the chief of which are respirator calorimeter and centrifuge. Bibliographical references, chiefly from the periodical literature, are listed at the end of each chapter A revised edition was published in 1957 338 p. $6.50

WALKER, BURNHAM S , AND OTHERS

Biochemistry and human metabolism. Second edition By Burnham S Walker William C Boyd and Isaac Asimov Baltimore The Williams & Wilkins Company, 1954 904 p. illus 24 cm 3028

Content Part I, Structure Proteins and amino acids. Protein structure. Tissue chemistry Blood and the anemias. Part II, Control Enzymes. Hormones. Part III, Growth Nucleoproteins and growth. Cancer Reproduction and heredity Part IV Metabolism Food and diet. Digestion Carbohydrates and diabetes. Lipid metabolism and ketosis. Proteins and starvation. Electrolytes and water—edema and shock. Respiration and acidosis. Heat and work Excretion and some of its disturbances. Part V Pathology Vitamins and vitamin deficiency diseases. Infection. Part VI, Appendices Colloids and colloid phenomena Isotopes. Principles of thermodynamics. Abbreviations and symbols Index.

Note The special organization and subject content of this book are due to its having been planned for the instruction of medical students rather than students of biochemistry Proteins, group of complex substances, are taken up first also more space is given

tory related to enzymology. The reviews are topical rather than chronological. In other words, each of the monographic chapters is based on a considerable body of recent literature pertinent to the topic of the chapter rather than on the literature of a specified calendar year or other arbitrary period of time. Each chapter is accompanied by an extensive bibliography. Contributors are drawn from countries from many nations, including the United States of America.

Colowick, Sidney P and Nathan O Kaplan editors

Methods in enzymology Advisory board Britton Chance and others. Volumes I–II. New York Academic Press Inc., 1955 2 v illus. 24 cm. Vol. I, $19.00 vol. II, $23.80 3043

Contents (abridged) Section I, General preparative procedures: Tissue slice technique. Tissue homogenates. Fractionation of cellular components. Methods of extraction of enzymes. Protein fractionation. Preparation of buffers. Section II, Enzymes of carbohydrate metabolism: Polysaccharide cleavage, and synthesis. Disaccharide hydrolysis and glucuronide metabolism. Metabolism of hexoses. Metabolism of pentoses. Metabolism of three-carbon compounds. Ketoses. Metabolism of three-carbon compounds. Reactions of two-carbon compounds. Reactions of formate. Section III, Enzymes of lipid metabolism: Fatty acid oxidation. Acyl activation and transfer. Lipases and esterases. Phospholipid and steroid enzymes. Section IV Enzymes of citric acid cycle. Author index. Subject index.

Note A comprehensive work addressed to graduate scientists working in enzymology and to scientists in related fields who occasionally need information about enzymological techniques. Each volume consists of signed contributions. In the first volumes there are 170 descriptions of techniques and related matters organized under the section titles given above. The typical signed section is six pages in length, is a specific and detailed description of a single laboratory procedure and is accompanied by literature references. Volumes III and IV deal with preparation and assay of enzymes. Volume III, *Preparation and assay of substrates*, $18.00 and Volume IV *Special techniques*, $14.00, were published in 1957

Edsall, John Tileston editor

Enzymes and enzyme systems their state in nature Cambridge, Mass. Harvard University Press, 1951 146 p. illus. 22 cm. $3.50. 3044

Contents The organized respiratory activity of isolated cell-free mitochondria, by A. L. Lehninger. The cytochrome system, by D. E. Green. Aspects of the specificity and mode of action of some peptidases, by E. L. Smith. The reactions of intracellular peroxidase with various ligands, by A. C. Maehly. The reaction of ferrocytochrome c with peroxidases and peroxides, by B. Chance. The state in nature of proteins and protein enzymes of blood and liver, by E. J. Cohn and others.

Note The first volume of a new series entitled "Memoirs of the University Laboratory of Physical Chemistry Related to Medicine and Public Health, Harvard University." It contains papers which were first presented at a symposium held in 1949. The papers reveal several common lines of approach to thinking on fundamental problems by workers in widely separate laboratories. Each paper is illustrated and has a documenting bibliography appended. The book is of interest to graduate biochemists and other scientists concerned with enzymes.

Emmens, Clifford Walter, editor

Hormone assay New York Academic Press Inc. 1950 556 p illus. 24 cm. $13.00 3045

Contents Statistical methods, by C. W. Emmens. Insulin, by R. L. Smith. Parathyroid hormone, by R. H. Thorp. Biological and chemical assay of adrenaline, by G. B. West. Posterior pituitary-like hormones, by R. H. Thorp. Biological assay of the melanophore expanding hormone from the pituitary, by F. W. Landgrebe and H. Waring. Gonadotrophins, by C. Hamburger. Adrenocorticotrophin, by F. S. Greenspan and others. Thyrotropic hormone, by C. W. Turner. Lactogenic hormone, by J. Meites and C. W. Turner. Mammogenic hormones, by C. W. Turner. Growth hormone, by F. S. Greenspan and others. Androgens, by R. I. Dorfman. Adrenal cortical hormones, by R. I. Dorfman. The chemical assay of steroids of the androgen and adrenocortical hormone groups, by R. K. Callow. Estrogens, by C. W. Emmens. Hormones of the corpus luteum, by C. W. Emmens. Chemical assay of estrogens and pregnanediol, by G. A. D. Haslewood. Thyroidal substances, by E. P. Reineke and C. W. Turner. The chemical assay of thyroxine and other substances with thyroidal activity, by R. Pitt-Rivers. Index.

Note A full treatment addressed to biochemists and others whose professional work requires a knowledge of practical methods and of the current state of development of the field. Each of the chapters is essentially a compact monograph based on the author's own work and the published literature. In the first chapter the application of statistical methods to hormone assays is outlined but, as the editor points out, the study of many hormones has not yet reached the point where a high level of statistical treatment is possible in papers such as make up this book.

Gordon, Edgar Stillwell, editor

A symposium on steroid hormones. Madison University of Wisconsin Press, 1950 396 p. illus. 24 cm $6.50 3046

Contents The steroids—a historical review, by G. F. Marrian. Review of research on the chemistry of the steroids, by L. F. Fieser. Biosynthesis of steroids, by K. Bloch. The metabolism of steroid hormones in humans, by K. Dobriner and S. Lieberman. Round table: Growth and fattening of animals, by S. A. Asdell and others. Round table: Metabolism and excretion of steroids, by H. L. Mason and others. Excretion of adrenal metabolites in man in health and disease, by E. H. Venning. The mechanism of the protein anabolic action of testosterone propionate, by C. D. Kochakian. Metabolic effects of adrenal steroids, by D. J. Ingle. Effects of adrenal steroids on blood cells and on certain aspects of protein metabolism, by A. White. Round table: The relation of structure to function of steroids, by A. L. White and others. The effects of steroids on prostatic cancer, by C. B. Huggins. The relationship of steroid hormones to cancer: clinical aspects, by O. H. Twombly. Round table: Lactation and reproduction in animals, by S. A. Asdell and others. Enzyme systems involved in the metabolism of androgens in the liver, by L. T. Samuels. Factors influencing endometrial growth in monkeys (*Macaca mulatta*), by F. L. Hisaw. Hormones and behavior with special reference to birds and the mechanisms of hormone action, by N. E. Collias. Steroids and pituitary hormones, by R. O. Greep and I. C. Jones. Some inherited hormonal factors influencing mammary carcinogenesis in virgin mice, by J. J. Bittner and R. A. Huseby. The metabolism of corticosterone, by E. C. Kendall, Jr. Genetic control of sex determination and differentiation in vertebrates, by R. R. Humphrey. Steroid hormones and sex differentiation, by L. V. Domm. Reconsideration of the influence of genetic factors and steroid hormones in sex differentiation, by C. R. Moore.

Note This book contains the major papers that were presented at a symposium held at the University of Wisconsin in 1949. The papers were written by leaders in the investigation of the steroids or in their applications in animal husbandry, clinical medicine, etc. Most of the papers are accompanied by extensive lists of references. The book lacks an index.

Henry Ford Hospital. International Symposium

Enzymes units of biological structure and function. Edited by Oliver H. Gaebler New York Academic Press Inc., 1956 624 p. illus. 24 cm. $12.00 3047

Contents (abridged) Introduction. Purpose and scope of the symposium, by B. D. Davis. Part I, The origin of enzymes: Remarks on the mechanism of enzyme induction, by J. Monod. Enzymes in cellular differentiation, by B. Ephrussi. Nucleic acids and enzyme synthesis, by E. F. Gale. On the nature of the enzyme-forming system, by S. Spiegelman. Part II, The status of the gene-enzyme relationship: Genetic structure and function in bacteriophage T2, by A. D. Hershey. The genetic organization of the deoxyribonucleic units functioning in bacterial transformations, by R. D. Hotchkiss. The role of the genes in the synthesis of enzymes, by N. H. Horowitz and M. Fling. Gene interactions in enzyme synthesis, by C. Yanofsky. The future of enzyme research, by L. Pauling. Part III, Enzymes and cell structure: Electron microscopy of mitochondria and other cytoplasmic structures, by G. E. Palade. Physiology of mitochondria, by A. L. Lehninger. Submicroscopic and biochemical characteristics of cytoplasmic particles, by E. L. Kuff and G. H. Hogeboom. Nuclear products and nuclear reproduction, by D. Mazia. Localization of photosynthesis in chloroplasts, by D. I. Arnon. Part IV Enzymatic basis of some physiological func-

WOLTERINK, LESTER F, editor
The biology of phosphorus By G Evelyn Hutchinson, Harry G Albaum, Harold C Hodge, Jacob Sacks, and Henry A Lardy East Lansing Michigan State College Press 1952 147 p illus 22 cm $2 00 3034

Contents. The biogeochemistry of phosphorus, by G. E. Hutchinson. The role of phosphorus in the metabolism f plants The incorporation of radiophosphorus during growth, by H. G Albaum The dynamic role of the skeleton as shown by radioisotopes, by H. C. Hodge. The significance of the phosphorylation cycle in intermediary metabolism, by J Sacks. The role f phosphate in metabolic control mechanisms, by H. A. Lardy

Note A collection of original papers which were first presented at a symposium held at Michigan State College in April, 1951 Each paper is essentially a short monograph in which the current status of a specific facet of the biological role f phosphorus is described and is related to the pertinent source articles. Accounts of recent developments, for example the use f radioactive isotopes in studying the biochemistry of the skeleton are included. The papers are addressed to such persons as graduate biologists and professional biochemists. The book is handy survey for such scientists as are in need of a review of the subject and as a guide to the significant literature.

HORMONES AND ENZYMES

ADVANCES IN ENZYMOLOGY AND RELATED SUBJECTS OF BIOCHEMISTRY, edited by F F Nord Volume x New York Interscience Publishers, Inc, 1950 533 p illus 24 cm. $10 75 3035

Content Blood clotting and related processes, by T Astrup. Tryptophanase-tryptophan reaction by F C. Happold. Phosphatase alcaline by J Roche and Nguyen-van Thoai. Synthesis of disaccharides with bacterial enzymes, by W Z. Hassid and M. Doudoroff Some aspects of streptomycin and other *Streptomyces* antibiotics, by N G. Brink and K. Folkers. Probleme des Citronensäurecyklus, by C. Martius and F Lynen Die Phytochemie des Schwefels, by T Bersin. Chemical changes in the harvested tobacco leaf Part II, Chemical and enzymic conversions during fermentation and aging, by W G. Frankenburg. Assimilation of hydrocarbons, by microorganisms, by C. E. Zobell Author index. Subject index. Cumulative index of Volumes I–IX.

—— Edited by F F Nord Volume XI New York Interscience Publishers Inc. 1951 471 p illus 24 cm $10 50 3036

Contents The nature of entropy and its role in biochemical processes, by H. Gutfreund. Reactions at interfaces in relation to biological problems, by J F Danielli and J T Davies. Chlorophyll fluorescence and photosynthesis, by E. C. Wassink. Thiol groups of biological importance, by E. S. Guzman Barron Pectic enzymes, by H. Lineweaver and E. F Jansen. Enzymic synthesis of polysaccharides—a biological type of polymerization by E. J Hehre. The biological transformations of starch, by S. Peat. Chemical investigations on allicin, the specific principle of garlic, by A. Stoll and E. Seebeck. Some problems of pathological wilting in plants, by E. Gäumann. Author index. Subject index. Cumulative indexes.

—— Edited by F F Nord Volume XII New York Interscience Publishers Inc. 1951 570 p illus 24 cm $11 00 3037

Contents Oxidoreduction in chloroplasts, by R. Hill. Mechanisms of fixation of carbon dioxide by heterotrophs and autotrophs, by M. F Utter and H. G. Wood. Enzyme-substrate compounds, by B. Chance. The specificity of certain peptidases, by E. L. Smith The enzymic hydrolysis and synthesis of acetylcholine by D Nachmansohn and I. B Wilson. The present status of starch chemistry by K. H. Meyer and G. C. Gibbons. Enzymes of starch degradation and synthesis, by P Bernfeld. Biological methylation by F Challenger Reaction of borate with substances of biological interest, by C. A. Zittle. Author index. Subject index. Cumulative indexes.

—— Edited by F F Nord. Volume XIII New York Interscience Publishers, Inc. 1952 413 p illus. 24 cm. $9.50 3038

Contents Localization of enzymes in cytoplasm, by H. Holter Some aspects of the application of tracers in permeability studies, by H H. Ussing. La biosynthèse induite des enzymes (adaptation enzymatique) by J Monod and M. Cohn. Genetic function of gene structure and gene action, by G. Pontecorvo. Adenosine triphosphate and the structural proteins in relation to muscle contraction by D M Needham. Hyaluronidases, by K. Meyer and M M Rapport. Certain aspects of intermediary metabolism of glutamine asparagine, and glutathione, by H. Waelsch. Stoichiometric inhibition of chymotrypsin, by A. K. Balls and E. F Jansen. The comparative biochemistry of nitrogen fixation, by P W Wilson. Author index. Subject index. Cumulative index of Volumes I–XIII.

—— Edited by F F Nord. Volume XIV. New York Interscience Publishers, Inc. 1953 470 p illus 23 cm. $10.50 3039

Contents Probleme des [illegible] by [illegible] by T Bücher Pantethine and related forms of the Lactobacillus bulgaricus factor by E. E. Snell and G. M. Brown. Metabolism of phenylalanine and tyrosine, by A. B. Lerner Oxidation of proteins by tyrosinase and peroxidase, by I. W Sizer. Chemismus der organischen Katalyse, by W Langenbeck. Enzymic isomerizations and related processes, by L. F Leloir Suggestions for a rational classification and nomenclature of enzymes, by O Hoffmann-Ostenhof Quelques techniques nouvelles pour l'étude de la structure des protéines, by P Desnuelle. Adsorption studies of enzymes and other proteins, by C. A. Zittle Principles and procedures in the isolation of enzymes, by S. Schwimmer and A. B. Pardee. Author index. Subject index. Cumulative index.

—— Edited by F F Nord Volume XV New York Interscience Publishers, Inc, 1954 557 p illus 23 cm. $11 00 3040

Contents. The mechanism of enzymic oxidoreduction, by S J Leach. Thermodynamique des réactions immunologiques, by R. Wurmser Chemistry metabolism and scope of action of the pyridine nucleotide coenzymes, by T P Singer and E. B. Kearney Alternate pathways of glucose and fructose metabolism, by E. Racker. Enzymic mechanisms in the citric acid cycle, by S. Ochoa. The mechanism of action of hydrolytic enzymes, by H. Lindley, Enzymic synthesis of polysaccharides, by M Stacey Urea synthesis and metabolism of arginine and citrulline, by S. Ratner, Thiaminase, by A. Fujita. Rennin and the clotting of milk, by N. J. Berridge. Die Struktur des Tabakmosaikvirus und seiner Mutanten, by G. Schramm. Author index. Subject index. Cumulative index.

—— Edited by F F Nord. Volume XVI. New York Interscience Publishers Inc. 1955 592 p illus. 23 cm $11 00 3041

Contents The structure of coenzyme A, by J. Baddiley Coagulation of the blood, by W H. Seegers. Comparative biochemistry of the phenolase complex, by H. S. Mason. Transamination, by A. Meister Intermediates in amino acid biosynthesis, by B D Davis. Structural and functional aspects of myosin by A. G. Szent-Györgyi. Beta-glucuronidase, by W H. Fishman. The chemistry of the cell nucleus, by V G. Allfrey and others. Author index. Subject index. Cumulative index.

—— Edited by F F Nord Volume XVII. New York Interscience Publishers, Inc., 1956 556 p illus. 23 cm $11 00 3042

Contents Enzyme kinetics, by R. A. Alberty The respiratory chain and oxidative phosphorylation by B. Chance and G. R. Williams. Solubilization, migration and utilization of insoluble matter in nature, by I. Mandl and C. Neuberg. Enzymatic phosphate transfer by B. Axelrod. The formation of oligosaccharides by enzymic transglycosylation by J Edelman. Nature and function of metalloflavoproteins, by H. R. Mahler Chemistry and biochemistry of xanthine oxidase, by E. C. De Renzo. Some controversial aspects of the mammalian cytochromes, by W W Wainio and S. J. Cooperstein. Metabolic aspects of chemical genetics, by A. G. DeBusk. Ribonucleic acids and virus multiplication, by R. Jeener. Author index. Subject index. Cumulative index of Volumes I–XVII.

Note A standard series published annually since 1941. It presents monographic reviews of recent developments in areas of biochem-

[illegible]

NORTHROP JOHN HOWARD AND OTHERS

Crystalline enzymes by John H. Northrop, Moses Kunitz and Roger M. Herriott. Second edition, revised and enlarged. New York Columbia University Press 1948 352 p. illus. 24 cm. (Columbia biological series No XII) $7.50 3053

[illegible]

[illegible]

PINCUS GREGORY AND KENNETH V THIMANN editors

The hormones. Physiology chemistry and applications. Volume III. New York Academic Press Inc., 1955 1,012 p. illus 23 cm. $22.00 3054

[illegible]

[illegible]

SUMNER JAMES BATCHELLER, AND G FRED SOMERS

Chemistry and methods of enzymes. Third edition revised and enlarged. New York Academic Press Inc., 1953 462 p. illus. 23 cm. $7.50. 3055

[illegible]

[illegible]

SUMNER, JAMES BATCHELLER, AND KARL MYRBACK, editors

The enzymes chemistry and mechanism of action. New York Academic Press Inc., 1950–52 2 v in 4 parts. illus 24 cm. Vol. I part I, $14.50 vol. I part II, $14.50 Vol. II part I $14.50 Vol. II, part II, $14.50 3056

[illegible]

tions The actomyosin system and its participation in organized enzyme reactions, by W F Mommaerts. Is energy transferred from ATP to myosin at the moment that ATP is split? by M F Morales. Enzymatic aspects of excretory mechanisms, by J V Taggart. The biochemistry of visual excit tion by G. Wald. The enzymatic basis of light emission, by W D McElroy and A. Green. Mechanochemical coupling in muscle, by A. Szent-Györgyi Part v Cellular energy sources Components of the cytochrome system by E. H. Stotz and others. Succinic dehydrogenase by T P Singer and others. Interaction of adenosinediphosphate with the respiratory chain by B Chance Structural and enzymatic pattern of the electron transfer system, by D E. Green. Hematin compounds in the metabolism of photosynthetic tissues, by M D Kamen Part vi, Regulation of enzyme activity Relations between enzymes and permeability (membrane transport) in bacteria, by B. D Davis. Action of drugs on enzyme systems, by J H Quastel I terference with nucleic acid metabolism, by A. D Welch. Regulation of enzyme activity in muscle during ork, by C. F Cori. Author index Subject index.

Not The proceedings of symposium of more than 40 prominent scientists orking in various fields of biology and chemistry are published in this book. The volume contains not only the principal papers whose thors and titles are listed above but also transcripts of the discussions of the papers by participants in the symposium and added comments" by individual scientists. Much of the information presented has not been published before. The book is potentially of interest to scientists orking in such diverse fields as metabolism, cytology and genetics as ell as those more directly concerned ith enzyme research.

Laidler, Keith J

Introduction to the chemistry of enzymes New York McGraw Hill Book Company, Inc., 1954 208 p illus 24 cm $5 00 3048

Contents General characteristics of enzymes. The kinetics of enzyme reactions. The proteolytic enzymes. Other hydrolytic enzymes, and the phosphorylases. The oxidative enzymes Catalase and peroxidase. Splitting, transferring, and isomerizing enzymes. The inacti iation of enzymes. The mechanisms of enzyme action. Bibliography Appendix Tables f enzyme data. Name index. Subject index.

Not The basic knowledge of enzyme chemistry is well presented in this relatively short book Although the style is strictly factual, it is not so condensed that reading is difficult. Brevity has been achieved largely by omitting cyclopedic detail. The level of discussion assumes the reader's acquaintance with basic organic chemistry and chemical terminology Literature citations are supplied both as footnote references to papers in which there is more ex tended exposition of specific points, and selected classified bibliography of book and articles for further reading.

Laurentian Hormone Conference

Recent progress in hormone research. Vol ume xi The proceedings of the 1954 Lauren tian Hormone Conference. Edited by Gregory Pincus New York Academic Press, Inc. 1955 518 p illus 23 cm $10 00 3049

Contents i, Pituitary hormones Aspects of the biochemistry and physiology of the neurohypophyseal hormones, by H. B van Dyke and others. The f t and metabolism f anterior pituitary hormones, by M. Sonenberg and W L. Money The mechanism of stimulation of ACTH secretion, by F L. Munson and F N Briggs. Studies on Amphenone and related compounds, by R Hertz and others. ii, Steroid chemistry and biochemistry The use of microorganisms in the synthesis f steroid hormones and hormone analogues, by J Fried and others. Recent progress in methods of isolation chemistry and physiology f aldosterone by S. A. Simpson and J F Tait. iii, Hormones and abnormal growth Experimental pituitary tumors, by J Furth The endocrinology of neoplastic disease, by R. W Rawson and J E. Rall, iv Hormones and aging in man Aspects of aging as reflected in the human ovary and testis, by E. T Engle. Steroid metabolism in aging men and omen by G Pincus and others. v Mechanism f hormone action On the mechanism of action f insulin, by R. Levine and M S Goldstein. Effects of ions and hormones on carbohydrate metabolism by A. B Hastings and others. vi Hormone-cardiovascular interrelations Dietary and hormonal factors in experimental atherogenesis and blood pressure regulation, by J Stamler and others Chemical and biological properties of the hepatorenal factors VEM and VDM (ferritin) by E. Shorr and others. Author index to Volume xi. Subject index t Volume xi. Cumulative subject index t Volumes i–x.

—— Volume xii. Proceedings of the Laurentian Hormone Conference 1955 Edited by Gregory Pincus New York Academic Press, Inc 1956 453 p. illus. 23 cm. $10.00. 3050

Contents i, Hormone biosynthesis and metabolism [illegible] metabolism of thyroid hormones, by J Roche and [illegible] adrenal medulla and the biosynthesis of pressor amines by P Hagen and A. D Welch. Biogenesis of the steroid [illegible] hormones, by R. D H. Heard and others. Some aspects of the biogenesis of adrenal steroid hormones, by M. Hayano and others. Enzymatic mechanisms of hormone metabolism—[illegible] tion of the steroid nucleus, by G. M. Tomkins—Mechanism of hormonal glucuronide formation, by K. J Isselbacher. ii, [illegible] mones and metabolism Influence of steroids on cerebral metabolism in man, by G S. Gordan. Studies of aldosterone in relation to water and electrolyte balance in man, by J. A. Luetscher. Functions of insulin and other regulatory factors in peptide formation by animal cells, by M. E. Krahl. iii, Pituitary hormones Human urinary gonadotropin by A. Albert. Hormonal control of melanin pigmentation, by A. B Lerner and Y Takahashi. Pituitary syndromes in man, by R. F Escamilla. iv Sex hormones [illegible] sex hormone and its role in reproduction, by T Mann [illegible] studies f testicular hormone production, by R. B. Leach and others. The mechanism of effect of the ovarian steroids, by [illegible] Author index. Subject index.

Note These volumes are the tw most recent (prior to [illegible]) in series which began publication in 1944. The series [illegible] the papers presented at annual conferences of eminent [illegible] working in areas of biochemistry pertaining to the hormones, together with transcripts f the discussions of the papers at the conferences. Most of the papers discuss the results of recent research and correlate it ith work that has been published previously. They include extensive lists of references to the international literature. The series is of interest not only to biochemists and others working directly in endocrinology but also to those working in tangential areas, and to medical specialists in endocrinology

Meyerhof, Otto, and others

A symposium on respiratory enzymes. Contributors Otto Meyerhof [and others] Madison The University of Wisconsin Press, 1942 281 p illus 24 cm. $4.50 3051

Contents Intermediate carbohydrate metabolism, by O. Meyerhof [illegible] Oxidative mechanisms in animal tissues, by E. G. Ball. [illegible] of hydrogen transport, by V R. Potter Pasteur effect, by F Lipmann [illegible] Oxidases, peroxidases, and catalase, by K. G. Stern. [illegible] thiamide nucleotide enzymes, by F Schlenk. The [illegible] T R. Hogness. Cytochromes, by E. Stotz. Phosphorylation of carbohydrates by C. F Cori. Discussion of phosphorylation [illegible] Kalckar Metabolic cycles and decarboxylation, by [illegible] Transamination, by P P Cohen. Discussion [illegible] ration C. A. Baumann. Discussion on bacterial respiration [illegible] Peterson. Discussion of animal tissue respiration [illegible]

Note Papers delivered at the Symposium on the Respiratory Enzymes and the Biological Action f Vitamins, held in connection with the University of Chicago's 50th anniversary in September 1941 The papers dealing with the biological actions of vitamins are published in separat olume by the University of Chicago Press.

Neilands J B, and Paul K Stumpf

Outlines of enzyme chemistry With a chapter on the synthesis of enzymes by Roger [illegible] Stanier New York John Wiley & Sons, Inc. 1955 315 p illus 24 cm. $6 50 3052

Contents Part General principles Introduction and [illegible] Equilibria and ionization Isolation methods. Criteria of purity Characterization. Part ii, Physical chemistry Reaction rates [illegible] of substrate concentration on elocity Action of inhibitors. Effect of [illegible] temperature. Effect of hydrogen-ion concentration. Energetics. Oxidation-reduction. Enzyme-substrate compounds. Specificity of enzymes. Part iii, Types of coenzymes and enzymes: [illegible] of coenzymes. Classification of enzymes. Respiratory enzymes. [illegible] iv Metabolic patterns Metabolic processes. Glycolysis. [illegible] monophosphate shunt. Tricarboxylic acid cycle. Oxidative phosphorylation. Fatty acid oxidation. The synthesis of enzymes [illegible] dex.

Not A book developed in a one-semester course given at the University of California. It is comparatively brief outline of

SEBRELL, W H., JR. AND ROBERT S HARRIS, editors

The vitamins chemistry physiology pathology New York Academic Press Inc. 1954 3 v illus. 24 cm. Vols. I–II, $16 50 per vol. vol. III, $15.00 3062

Contents: Volume [illegible] Vitamin A and carotenes. Ascorbic acid. Vitamin B_{12}. Biotin. Author index. Subject index. Volume [illegible] Choline. Vitamin D group. Essential fatty acids. Inositols. Vitamin K group. Niacin. Pantothenic acid. Author index. Subject index. Volume III: p-Aminobenzoic acid. Pteroylglutamic acid. Pyridoxine and related compounds (vitamin B_6 group). Riboflavin. Thiamine. The tocopherols. New and unidentified growth factors, by V. H. Cheldelin. Author index. Subject index.

Note: A critical survey of the accumulated knowledge on the vitamins. The presentation is very compact, and much use has been made of graphs and tables for the presentation of data. The individual chapters are organized under such sub-heads as: Nomenclature and formulas, Chemistry, Biochemical systems, Deficiencies, Occurrence, Requirements. The section under each sub-head is signed by its contributor; thus a chapter often has half a dozen authors. Footnote references to source literature are printed on the pages containing the information condensed from them, and the names of the authors of the cited literature are [illegible] in the author indexes. The set is a standard reference work for biochemists and others who are concerned with vitamin research or production.

VANDERBILT UNIVERSITY SCHOOL OF MEDICINE

Symposium on the role of some of the newer vitamins in human metabolism and nutrition. Proceedings of the Nutrition Symposium held at Vanderbilt University School of Medicine, Nashville, Tennessee October 20–21 1955 New York The National Vitamin Foundation, Inc. 1956 137 p illus. 27 cm. (Nutrition symposium series. No. 12) $2.50. 3063

Contents: History of vitamin B_6, by P. György. Vitamin B_6 deficiency in the [illegible] with particular reference to the occurrence of atherosclerosis, dental caries, and hepatic cirrhosis, by J. F. Rinehart and L. D. Greenberg. Neurochemical aspects of pyridoxine metabolism and function, by D. B. Tower. The neuropathology of experimental vitamin B_6 deficiency in monkeys, by M. Victor and R. D. Adams. Effects of vitamin B_6 on the central nervous activity in childhood, by D. B. Coursin. Some metabolic effects of vitamin B_6 in man, by E. W. McHenry. Evidence for abnormal vitamin B_6 metabolism in pregnancy and various disease states, by M. Wachstein. The metabolism of vitamin B_6 in human beings, by R. W. Vilter. Nutritional muscular dystrophy in monkeys receiving a diet deficient in both vitamins B_6 and E, by P. L. Day and J. S. Dinning. Some studies of tocopherol in infants and children, by H. H. Gordon and H. M. Nitowsky. Some studies of tocopherol deficiency in infants and children III, by H. M. Nitowsky and J. T. Tildon. Alpha-tocopherolquinone and muscle dystrophy, by F. L. Mason and K. E. Mason. Effects of limited tocopherol intake in man with relationships to erythrocyte hemolysis and lipid oxidation, by M. K. Horwitt and others. Studies of pantothenic acid metabolism, by B. Lubin and others. Effect of an study on the absorption of vitamin B_{12} by healthy young and old subjects, by B. F. Chow and others. Vitamin B_{12} serum level and pregnancy, by K. Okuda and others.

Note: The "newer vitamins" considered at the symposium of which this publication [illegible] are those named in the titles of the various papers. The papers are based primarily on recent investigations, but most of them refer also to related results published in the literature. Some of the authors have cited the literature extensively. Taken together the papers present a reasonably complete survey of the knowledge accumulated to mid-1955 on the human metabolic and nutritional roles of vitamin B_6 and other components of the B-vitamin complex as named in the titles of the papers.

VITAMINS AND HORMONES ADVANCES IN RESEARCH AND APPLICATIONS. Edited by Robert S. Harris, G F Marrian Kenneth V Thimann. Volume x. New York Academic Press Inc. 1952 421 p. illus. 23 cm. $9 50 3064

Contents: Dietary neuropathies, by E. K. Cruickshank. The problem of the absorption and transportation of fat-soluble vitamins, by A. E. Sobel. The nutrition of the crustacea, by E. Beerstecher Jr. Nutrition and the anterior pituitary with special reference to the general adaptation syndrome, by R. H. Ershoff. Hormone assays in obstetrics and gynecology, by R. Borth and H. de Watteville. Experimental glycosuria—its production, prevention and alleviation, by R. F. Ogilvie. Some effects of thyroxine and iodinated casein on dairy cows and their practical significance, by K. L. Blaxter. The intermediary metabolism of the non-benzenoid steroid hormones, by L. T. Samuels and C. D. West. The influence of corticoids on enzymes of carbohydrate metabolism, by F. Verzár. Steroids and tissue oxidation, by R. I. Dorfman. Author index. Subject index.

—— Volume XI. New York Academic Press Inc., 1953 356 p illus 23 cm $9 50 3065

Contents: Function of ascorbic acid in plants, by L. W. Mapson. The biochemistry and physiology of vitamin D by E. Kodicek and N. Eeg-Larsen. The physiology and biochemistry of ascorbic acid, by A. P. Meiklejohn. Endocrine disturbances in chronic human malnutrition, by S. Zubirán and F. Gómez-Mont. Relation of pantothenic acid to adrenal cortical function, by E. P. Ralli and M. E. Dumm. Recent knowledge of the biochemistry of the thyroid gland, by J. Gross and R. Pitt-Rivers. Evaluation of procedures for the cytological localization of ketosteroids, by H. W. Deane and A. M. Seligman. Synthesis of cortisone and related steroids, by C. Djerassi. Cumulative subject index for volumes VI–X. Author index for volume XI. Subject index for volume XI.

—— Volume XII. New York Academic Press Inc., 1954 305 p illus. 23 cm $7.50 3066

Contents: Chemistry of vitamin B_{12}, by K. Folkers and D. E. Wolf. The intestinal synthesis of vitamins in the ruminant, by S. K. Kon and J. W. G. Porter. The biochemistry and pathology of hypervitaminosis A, by C. Nieman and H. J. K. Obbink. Vitamin A requirements of animal species, by S. H. Rubin and E. De Ritter. Disturbances in nutrition relating to liver disease in man, by C. S. Davidson. Light regulation of hormone secretion, by J. Hammond, Jr. Estrogens and related substances in plants, by E. B. Bradbury and D. E. White. Effects of estrogens on domestic fowl and applications in the poultry industry, by F. W. Lorenz. Author index. Subject index.

—— Volume XIII. New York Academic Press Inc 1955 382 p illus. 23 cm. $9.00 3067

Contents: The role of the vitamins in antibody production, by A. E. Axelrod and J. Pruzansky. The physiology and biochemistry of the essential fatty acids, by H. J. Deuel, Jr. and R. Reiser. The biosynthesis of ascorbic acid, by L. W. Mapson. Role of vitamin B_{12} in the metabolism of microorganisms, by J. E. Ford and S. H. Hutner. The chemotherapeutic action of vitamin B_{12}, by C. C. Ungley. Vitamin requirements of human beings, by L. B. Pett. Parasitic infections and nutrition, by D. A. Smith. Hormones and mitotic activity, by W. S. Bullough. Concerning possible mechanisms of hormone action, by O. Hechter. Author index. Subject index.

—— Volume XIV New York Academic Press, Inc. 1956 486 p illus. 23 cm. $10 00 3068

Contents: Intestinal synthesis of vitamins in the nonruminant, by O. Mickelsen. Some aspects of vitamin A metabolism, by J. S. Lowe and R. A. Morton. Regulation of carbohydrate metabolism in isolated tissues, by A. E. Renold and others. Experimental hyperglycemic states not primarily due to a lack of insulin, by L. H. Stetten and J. Mayer. Biochemical studies on insect hormones, by P. Karlson. Glucuronide metabolism, with special reference to the steroid hormones, by G. A. Levvy. Bioassay of pituitary and placental gonadotropins in relation to clinical problems in man, by J. A. Loraine. Microbiological transformations of steroids and their applications to the synthesis of hormones, by S. H. Eppstein and others. Author index. Subject index.

C. The enzyme-substrate compounds and mechanism of action of the hydroperoxidases, by B Chance. Copper oxidases, by C. R. Dawson and W B Tarpley Oxidation of amino acids, by H. A. Krebs. Oxidation of amines, by E. A. Zeller Lipoxidase or unsaturated-fat oxidase, by R. T Holman and S. Bergström. Enzymes in luminescence, by E N Harvey Oxidation f organic sulfur by C. Fromageot. Anaerobic glycolysis, respiration and the Pasteur effect by F Dickens. Yeast and mold fermentations, by F F Nord and S. Weiss. Volume II, part II Bacterial fermentation by S. R. Elsden. Enzymes in detoxication by F Bernheim. Urea synthesis, by H. A. Krebs. Peptide bond synthesis, by P P Cohen. Enzymatic synthesis of glutamine by P P Cohen. Synthesis of acetylcholine—choline acetylase, by K. B Augustinsson. Oxidative assimilation by microorganisms, by C. E. Clifton. Enzymatic mechanism of carbon dioxide fixation by S Ochoa. Carbohydrate-fat conversion, by F L. Breusch. Photosynthesis in green plants, by W E. Loomis. Bacterial photosynthesis, by C. B Van Niel. Nitrogen assimilation, by A. I. Virtanen and N Rautanen Tumor enzymology by J P Greenstein and A. Meister Enzyme technology by A. F Langlykke and others. Author index. Subject index.

Not A comprehensive and valuable addition to the literature of enzymology written on the graduate and professional level. The chapters are monographic in form and have been prepared by specialists from the staffs of universities and biochemical and medical research organizations in the United States of America and other countries. Numerous footnot references constitute an extensive bibliography of the subject. Indexes for each volume are included in parts two, but no index for the set as a whole is provided.

TAUBER, HENRY

The chemistry and technology of enzymes New York John Wiley & Sons Inc., 1949 550 p illus 23 cm $10 50 3057

Contents (abridged) Part I, The chemistry f enzymes Esterases. Carbohydrases. Phosphorylases and related enzymes. Nucleases, amidases, and deaminases. Proteolytic enzymes. Iron-porphyrin enzymes. Oxidases containing copper Dehydrogenases containing codehydrogenase I and II. Flavoproteins. Decarboxylating and phosphopyridoxal enzymes. Hydrases, mutases, and other enzymes. Part II The technology f enzymes Yeast—production and utilization. Production of ethyl alcohol by fermentation. Mold fermentations. Bacterial fermentations. The production of antibiotics. Enzymes for medical use The role of amylases and proteinases in bread making and the production of malt syrup. Enzymes in dairy products. Enzymes in the meat, egg, vegetable, and fruit industries. Pectin-decomposing enzymes and their use in the fruit juice wine and jelly industries. Enzymes in textile, paper and related industries. The use of enzymes in the manufacture f leather Enzymes in other industries. Microbiological methods for the estimation of vitamins and amino acids. Author index. Subject index.

Note In this comprehensive work, the uthor has combined, in thoroughly revised form, the material found in two of his earlier works *Enzyme hemistry* New York 1937 and *Enzyme technology* New York, 1943 It is written on professional level and is designed primarily for the use of physiological and biological chemists, including those employed in industry It provides an up-to-date summary of the chemistry of practically all known enzymes, and description of their industrial production methods and present day uses.

VITAMINS

THE ASSOCIATION OF VITAMIN CHEMISTS INC

Methods of vitamin assay Prepared and edited by The Association of Vitamin Chemists Inc *Second edition revised and supplemented* New York Interscience Publishers Inc. 1951 301 p illus 24 cm $6 00 3058

Contents Sampling for vitamin analyses Vitamin A. Carotene. Ascorbic acid. Thiamine. Microbiological assay technics. Riboflavin. Niacin. Pantothenic acid. Vitamin B_6. Folic acid. Biotin. Vitamin B_{12}. Methods for other vitamins. Use of check samples in control of vitamin methods. Index.

Note The new edition of this practical manual for laboratory analysts differs from the original edition in having been revised throughout and in including assays for several members of the vitamin B complex, namely pantothenic acid, pyridoxine folic acid, biotin, vitamin B_{12} for which methods were not described in the first edition. As in the earlier edition the scope of the book is limited to methods which have been successfully applied by several members of the various committees of the sponsoring Association. The chapter "Methods for other vitamins, which discusses the vitamins for which specific methods have not been outlined, has been extended to provide the analyst with a basis for selecting procedure suitable to his work, and brief discussion is presented of the relative merits of the various published methods and their applicability t different types of samples. Selected bibliographical references appear at the ends of the chapters.

GYORGY, PAUL, editor

Vitamin methods. New York Academic Press, Inc., 1950–51 2 v 24 cm. Vol. I, $12 00, vol. II, $14 50 3059

Contents Volume I. Physical methods of [illegible] assay by E. T Stiller Chemical methods of vitamin assay by P György and I. H. Robin. Microchemical methods, by O. A. Bessey Microbiological methods in vitamin research, by E. E. Snell. The use of special instruments in vitamin analysis, by Erich Hirschberg [illegible] Author index. Subject index. Volume II. General aspects of [illegible] animal experimentation, by N B. Guerrant. The animal vitamin assays, by C. I. Bliss and P György Laboratory diagnosis of human vitamin deficiencies, by J H. Jones. Clinical signs of malnutrition, by N Jolliffe. Statistical methods in vitamin research, by C. I. Bliss. Supplement to Volume I Physical methods of vitamin assay by E. T Stiller Chemical methods of vitamin assay by P György and others. Microbiological methods in vitamin research, by L. D Wright and others. Author index. Subject index.

Note A work of fundamental significance to professional workers in medicine pharmacy food industries, and other fields in which vitamins are of importance. The emphasis is on analysis and assay, but wide range of related information which is of importance research workers is also included. Each part is essentially monograph of its particular topic and is supplemented by long list of related literature.

JOHNSON, BRUCE CONNOR

Methods of vitamin determination. Minneapolis Burgess Publishing Company, 1948 109 p illus 28 cm $2.25 3060

Content Outline of lecture course. Microbiological methods of vitamin analysis. Principles of colorimetric and fluorometric methods of analysis. Carotene. Vitamin A. Vitamin D. Vitamin E [illegible] pyridyl method. Vitamin K—prothrombin-time method. Thiamine. Riboflavin. Nicotinic acid. Pyridoxine. Pantothenic acid Biotin. Pteroylglutamic acid (folic acid) Inositol. P-aminobenzoic acid. Choline. Ascorbic acid. Microbiological determination of the amino acids.

Note Essentially a laboratory manual based on courses given graduate students in the field of animal nutrition at the University of Illinois. General procedures and techniques are followed by detailed outlines of the microbiological and chemical methods used in the determination f specific vitamins. An outline of lectures and brief list of reference in conjunction with the laboratory work and tools are included.

JUKES, THOMAS H

B vitamins for blood formation. Springfield, Ill Charles C Thomas 1952 113 p. 22 cm. (American lecture series. Publication no. 146. A monograph in American lectures in pharmacology edited by Chauncey D Leake) $4 00 3061

Contents Introduction—the megaloblastic anemias. B vitamins in the megaloblastic anemias of pregnancy and infancy Folic acid. The pteroylglutamic acid. The vitamin B_{12} group of compounds. The intrinsic factor Antagonists of pteroylglutamic acid. The citrovorum factor Metabolic reactions involving folic acid and vitamin B_{12}. Vitamin B_{12} deficiency and anemia. Index.

Not A brief review of the chemistry and physiology of the B-complex vitamins which are used in combating certain types of anemias. The book is concerned specifically ith pteroylglutamic acid, the vitamin B group, and the intrinsic factor each of which is discussed as to its properties, physiological effect, and therapeutic value. Extensive bibliographies are included. The author is associated with the Lederle Laboratories Division of the American Cyanamid Company

MICROBIOLOGY IMMUNOLOGY PARASITOLOGY

GENERAL

AMERICAN PUBLIC HEALTH ASSOCIATION

Diagnostic procedures and reagents: techniques for the laboratory diagnosis and control of the communicable diseases. Third edition. New York: American Public Health Association, Inc., 1950. 589 p. illus. (part col'd) 24 cm. $6.00. 3070

Contents: Culture media, by Lt. Col. P. R. Carlquist. The streptococci, by G. M. [illegible]. The pneumococcus, by [illegible]. The meningococcus (Neisseria meningitidis), by S. E. Branham. The gonococcus (Neisseria gonorrhoeae), by C. M. Carpenter. Hemophilus pertussis, by P. Kendrick and others. The diphtheria bacillus (Corynebacterium diphtheriae) by M. Frobisher, jr. The tubercle bacillus (Mycobacterium tuberculosis) by M. M. Cummings. Salmonella and Shigella, by M. R. [illegible]. Brucellosis (undulant fever) (Brucella abortus, Brucella suis, and Brucella melitensis), by [illegible] and D. E. West. Tularemia (Pasteurella tularensis) by [illegible]. The cholera vibrio (Vibrio comma, Vibrio cholerae) by C. V. Seastone. The laboratory diagnosis of [illegible], by W. A. [illegible]. The laboratory diagnosis of [illegible], by W. A. [illegible]. Serodiagnosis of syphilis, by J. F. Mahoney and M. R. [illegible]. Chancroid and granuloma inguinale, by [illegible]. Infectious mononucleosis, by C. A. Stuart. Leptospira icterohaemorrhagiae (Weil's disease) by A. R. [illegible]. Bacterial food poisoning, by G. M. Dack. The animal parasites of man, by A. [illegible]. Laboratory diagnosis of helminths and protozoa, by H. W. Brown. Trichinosis, by H. B. Shookhoff. Pathogenic fungi, by N. F. Conant. Blood cultures, by C. C. [illegible]. Technic of Rh testing, by P. Levine and M. Wigod. [illegible] antigen—bacterial [illegible] and [illegible] in body fluids, by C. R. [illegible]. Index.

Note: A more or less official handbook of accepted and standard procedures. Each of the monographic papers was prepared by one or more recognized specialists and was evaluated in manuscript by experts serving as referees. In the present edition, 4 of the chapters are new, and those carried over from the preceding edition have been slightly or extensively revised as required. As in earlier editions, the papers are accompanied by extensive literature references and in some instances by illustrations.

ANDERSON, HAMILTON H., AND OTHERS

Amebiasis: pathology, diagnosis and chemotherapy. By Hamilton H. Anderson, Warren L. Bostick, and Herbert G. Johnstone. Springfield, Ill.: Charles C Thomas, 1953. 431 p. illus. 26 cm. $11.50. 3071

Contents: Introduction. Epidemiology of amebiasis. Etiology and pathogenesis. Introduction to pathology of intestinal amebiasis. Pathology of intestinal amebiasis. Pathology of extra-intestinal amebiasis. Pathology of experimental amebiasis. Complications and sequels of amebiasis. Symptomatology and clinical manifestations. Laboratory diagnosis of amebiasis—technical appendix. Prevention and public health aspects. Chemotherapy and supportive therapy. Requirements for growth and control of E. histolytica. Index.

Note: A sound presentation of accumulated experience and knowledge of [illegible]. Once were thought to be confined to the tropics, but are recognized as worldwide in distribution. The primary viewpoint is that of clinical medicine: pathology, symptomatology, diagnosis and treatment are all well covered. There are also critical discussions of the research work done on the disease in animals, chapters on the public health aspects and on techniques of growth of E. histolytica in the laboratory. The book is based on the literature and on the authors' own observations. Most of the chapters contain extensive lists of references, and the names of the authors of the cited literature are assembled in the author index, thus making it for use as a literature guide as well as treatise. When the book was published, the authors were all associated with the School of Medicine of the University of California.

ANNUAL REVIEW OF MICROBIOLOGY. Volume 10. Charles E. Clifton, editor; Sidney Raffel and Roger Y. Stanier, associate editors. Palo Alto: Annual Reviews, Inc., 1956. 426 p. illus. 23 cm. $7.00 3072

Contents: Factors affecting resistance to infection, by [illegible]. The biology of the cellular slime molds, by M. Sussman. Review of the microbiological and immunological literature published in 1955 in the U.S.S.R., by P. Grabar. Antimicrobial chemotherapy, by E. Jawetz. Mutual relationships in fungi, by J. E. DeVay. Nutrition of bacteria and fungi, by L. D. Wright. The anaerobic bacteria with special reference to the genus Clostridium, by L. S. McClung. Nutrition of Protozoa, by W. H. Johnson. Antibodies as indicators for bacterial surface structures, by J. Tomcsik. Pox viruses, by A. W. Downie and K. R. Dumbell. Cytology of bacteria, by G. Knaysi. Metabolism of carbohydrates and related compounds, by D. J. O'Kane. Proteins and [illegible], by E. O. [illegible]. Metabolism of nitrogenous compounds, by C. R. [illegible]. Problems of localization in plant diseases, by H. Kern. [illegible], and their relation to [illegible], by J. R. [illegible]. The parasexual cycle in fungi, by G. Pontecorvo. Author index. Subject index.

Note: Survey chapters authored and titled as listed above are contained in this tenth volume of standard series. All but one are cast in the familiar pattern of very concise, narrative summaries of groups of original papers pertaining to specific topics within the larger field covered by the series. The exception is Grabar's "Review of the microbiological and immunological literature published in 1955 in the U.S.S.R.," which is a national rather than topical survey. The bibliography appended to this paper contains 193 citations of Russian publications with all titles translated into English. Recent literature is covered in all of the chapters, although some cover the literature of several years, while others cover the literature of approximately a single year. All chapters contain extensive bibliographies of the source articles.

BERGEY, DAVID HENDRICKS

Bergey's manual of determinative bacteriology. By Robert S. Breed, E. G. D. Murray and A. Parker Hitchens. Assisted by sixty contributors. Sixth edition. Baltimore: The Williams & Wilkins Company, 1948. 1,529 p. 24 cm. 3073

Note An annual review in which each paper is a compact, monographic survey of the current knowledge of the specific topic named in its title. The authors are outstanding specialists and in many instances have contributed to the advance of the subject about which they write. Extensive bibliographies accompany all of the papers. Earlier volumes of the series are still in print.

WILLIAMS, ROGER JOHN, AND OTHERS
The biochemistry of B vitamins, by Roger J Williams, Robert E Eakin, Ernest Beerstecher, jr, and William Shive New York Reinhold Publishing Corporation, 1950 741 p 23 cm (American Chemical Society monographs, William A Hamor, editor No 110) $17 50 3069

Contents (abridged) Section A, Characterization, [illegible], assay and biogenesis of B vitamins: Distribution of B vitamins. Assay methods. Biogenesis of the B vitamins. Section B, The catalytic functions of the B vitamins. Section C, The role of the B vitamins in animal and plant organisms: Methods of assay of B vitamin requirements. Factors influencing B vitamin requirements. B vitamin deficiency states. Section D The comparative biological activities of the B vitamins and related compounds: p-Aminobenzoic acid. Biotin. The folic acid group. The nicotinic acid group. Pantothenic acid. The vitamin B_6 group. Riboflavin. Thiamine. Biological activities of other nutritional factors of doubtful status. Index.

Note A substantial contribution to the literature of vitamins. Essentially it is a critical digest of the published literature of the field. Statements in the text are keyed to the extensive lists of original sources which accompany each chapter. As is characteristic of this series, the authors are all recognized experts, and the volume is addressed to persons with scientific training and interests. It is of interest to professional workers in many fields, including biochemistry pharmacology nutrition, and medicine.

[illegible]

CLIFTON, CHARLES EGOLF

Introduction to the bacteria. New York McGraw-Hill Book Company Inc., 1950. 528 p. illus. 24 cm. $6.00 3078

[illegible]

DREA, WILLIAM F., AND ANATOLE ANDREJEW

The metabolism of the tubercle bacillus. With a foreword by Esmond R. Long. Springfield, Ill., Charles C Thomas 1953 443 p. illus. 24 cm. $12.50. 3079

[illegible]

DUBOS, RENÉ JULES editor

Bacterial and mycotic infections of man. Second edition. 98 illustrations. Philadelphia J. B. Lippincott Company 1952 886 p. illus. 26 cm. $[illegible] 3080

[illegible]

DUBOS, RENÉ JULES

The bacterial cell in its relation to problems of virulence, immunity and chemotherapy, with an addendum by C. F. Robinow. Cambridge, Mass. Harvard University Press 1945 460 p. illus. 22 cm. (Harvard University monographs in medicine and public health) $5.00. 3081

[illegible]

DUBOS, RENÉ JULES

Biochemical determinants of microbial diseases. Cambridge, Mass. Harvard University Press 1954 152 p. 22 cm. $3.50 3082

[illegible]

FAUST, ERNEST CARROLL

Amebiasis. Springfield, Ill., Charles C Thomas 1954 154 p. illus. (part col'd) 22

Contents (abridged) Historical survey of classifications. How bacteria are named and identified. Rules of nomenclature. Class *Schizomycetes* Nägeli. Order I. *Eubacteriales* Buchanan Suborder I. *Eubacteriineae* Breed, Murray and Hitchens Family I. *Nitrobacteriaceae* Buchanan. Family II. *Pseudomonadaceae* Winslow et al. Family III. *Azotobacteriaceae* Bergey Breed and Murray Family IV *Rhizobiaceae* Conn. Family V *Micrococcaceae* Pribram. Family VI. *Neisseriaceae* Prévot. Family VII. *Lactobacteriaceae* Orla-Jensen. Family VIII. *Corynebacteriaceae* Lehmann and Neumann. Family IX. *Achromobacteriaceae*. Family X. *Enterobacteriaceae* Rahn Family XI. *Parvobacteriaceae* Rahn. Family XII. *Bacteriaceae* Cohn. Appendix Suborder *Eubacteriineae*—overlooked species and synonyms. Family XIII. *Bacillaceae* Fisher Suborder II. *Caulobacteriineae* Breed, Murray and Hitchens Family I. *Nevskiaceae* Henrici and Johnson. Family II. *Gallionellaceae* Henrici and Johnson. Family III. *Caulobacteriaceae* Henrici and Johnson. Family IV. *Siderocapsaceae* Pribram. Appendix—Family *Pasteuriaceae* Laurent. Suborder III. *Rhodobacteriineae* Breed, Murray and Hitchens Family I. *Thiorhodaceae* Molisch Family II. *Athiorhodaceae* Molisch. Family III. *Chlorobacteriaceae* Geitler and Pascher Order II. *Actinomycetales* Buchanan Family I. *Mycobacteriaceae* Chester Family II. *Actinomycetaceae* Buchanan. Family III *Streptomycetaceae* Waksman and Henrici. Order III *Chlamydobacteriales* Buchanan Family I. *Chlamydobacteriaceae* Migula. Family II *Crenotrichaceae* Hansgirg. Family III *Beggiatoaceae* Migula. Appendix—Family *Achromatiaceae* Massart. Appendix—Order *Caryophanales* Peshkoff Family I. *Pontothricaceae* Peshkoff. Family II. *Arthromitaceae* Peshkoff Family III. *Oscillospiraceae* Peshkoff Family IV *Caryophanaceae* Peshkoff. Order IV *Myxobacteriales* Jahn Family I. *Cytophagaceae* Stanier Family II. *Archangiaceae* Jahn. Family III. *Sorangiaceae* Jahn. Family IV *Polyangiaceae* Jahn. Family V *Myxococcaceae* Jahn. Order V *Spirochaetales* Buchanan Family I. *Spirochaetaceae* Swellengrebel Family II. *Treponemataceae* Schaudinn Supplement I Order *Rickettsiales* Gieszczykiewicz Family I. *Rickettsiaceae* Pinkerton. Family II. *Bartonellaceae* Gieszczykiewicz. Family III. *Chlamydozoaceae* Moshkovsky Supplement II: Order *Virales* Breed, Murray and Hitchens Suborder II. *Phytophagineae* Holmes Family II. *Marmoraceae* Holmes. Family III. *Annulaceae* Holmes. Family IV *Rugaceae* Holmes. Family V *Savoiaceae* Holmes. Family VI. *Lethaceae* Holmes. Suborder III. *Zoophagineae* Holmes Family I. *Borreliaceae* Holmes. Family II. *Borreliotaceae* Holmes. Family III. *Erronaceae* Holmes. Family IV *Charonaceae* Holmes. Family *Trifuraceae* Holmes. Family VI. *Rabulaceae* Holmes. Supplement III Family *Bartonomycetaceae* Turner Index of sources and habitats. Index of names of genera and species.

Note. An internationally recognized authority on the identification and taxonomy of bacteria. A seventh edition was published in 1957 1000 p. $15 00

Birkeland, Jorgen

Microbiology and man being an account of the diverse properties and characteristics of microorganisms a description of the various tools and techniques for their handling and an inquiry into their subtle relationships to everyday life Second edition. Baltimore Williams & Wilkins Company 1949 525 p illus 23 cm $5 00 3074

Contents (abridged) Section I, Fundamentals of microbiology How we study microorganisms. Biological characteristics of microorganisms. Microorganisms and the carbon and nitrogen cycles. Bacterial heredity and variation. How the environment affects microorganisms. Antibiosis and antibiotics. Section II, Infection and resistance How the body defends itself against infection. Epidemiology or the natural history of disease. Section III, Common infectious diseases. Section IV Microbiology f air food, milk water sewage, and soils Bacterial warfare Glossary References Index.

Note An introductory textbook primarily for college courses offered to students who need general knowledge f bacteriology but do not plan t do advanced work in the subject. Emphasis is on the methodology of bacteriological research and on the application of the knowledge of bacteriology to personal and community health. I this edition the work has been rather extensively revised. The taxonomic material included in the first edition has been deleted. Six new chapters have been added

Buchanan Robert Earle and Estelle Denis Buchanan

Bacteriology Fifth edition New York The Macmillan Company 1951 678 p illus 21 cm. $6 50 3075

Contents (abridged) The beginnings of bacteriology How microorganisms are named and classified. Bacteria, their morphology and classification. The viruses, their characteristics and classification. The yeasts, their morphology and classification The molds, their morphology and classification Inheritance, variability and mutation of microorganisms. Distribution of microorganisms. [illegible] Preparation and uses of culture media. Study of growth characters in pure cultures. Methods of observation of certain physiological characters. Methods of microscopic examination. Effects of physical agencies on microorganisms. Physical effects produced by microorganisms. Effects of chemical environment upon microorganisms. Basic mechanisms of chemical changes produced by microorganisms. Chemical changes of economic significance produced by microorganisms. Microorganisms in water and sewage. Microorganisms in [illegible] Microorganisms as symbionts and commensals in animals. Resistance to disease—immunology and serology Disease-producing microorganisms. The pathogenic cocci. Diphtheria group. Plague group. The intestinal group or enterobacteria. Undulant fever—abortus group The cholera-pseudomonad group. Group of plant pathogens. The hemophilic group Acid-fast or tuberculosis group. The [illegible] group The spirochete group. The typhus-tick fever group Viruses and bacteriophages. Fungi and yeasts pathogenic for man and animals. Pathogenic protozoa. Appendices. Index.

Note A standard textbook for introductory college courses. [illegible] knowledge is emphasized, but there is also much description of applications. Although pathogenic organisms are described and the diseases they produce are discussed briefly the book is not designed for pre-medical or medical students. In this edition it has been extensively rewritten and enlarged.

Burger, Martin

Bacterial polysaccharides their chemical and immunological aspects. Springfield, Ill. Charles C Thomas, 1950 272 p. illus. 24 cm. $6 75 3076

Contents Historical and introduction. Pneumococcus polysaccharides. Enzyme studies on bacterial polysaccharides and [illegible] tions. Streptococcus polysaccharides. Neisseria polysaccharides. [illegible] polysaccharides Anthrax polysaccharides Eberthella typhosa polysaccharides. Polysaccharides of the mycobacteria. Dysentery bacilli polysaccharides. Genus Hemophilus polysaccharides. Polysaccharides of the Salmonella, Brucella group polysaccharides. [illegible] polysaccharides. Polysaccharides of the more important Klebsiella, Escherichia, Aerobacter and Proteus groups. Appendix. Author index. Subject index.

Note A monograph on the polysaccharide substances [illegible] related to infection and immunity Essentially it is a digest of the published literature, and each of the short chapters is accompanied by an extensive bibliography Also, there are many tabular presentations f data. Techniques for isolation and identification of specific polysaccharides in the laboratory are given particular emphasis.

Burrows, William, and others

Textbook of microbiology Sixteenth edition With the collaboration of Francis Byron Gordon, Richard Janvier Porter, and James William Moulder Philadelphia W B. Saunders Company, 1954 824 p illus. 26 cm. $11 00 3077

Content (abridged) The history and development of microbiology Laboratory methods. Bacterial physiology by J W Moulder The action of physical agents, bactericidal substances (disinfectants) and chemotherapeutic drugs. Bacterial [illegible] The pathogenic bacteria and disease. The epidemiology of infectious disease. The bacteriology of water and sewage—milk and food. Immunity—antigens, antibodies and the antigen-antibody reaction—The immune state. The staphylococci. The streptococci The pneumococci. The gram-negative pathogenic cocci (neisseria —the gonococcus and the meningococcus. The enteric bacilli The cholera vibrio and related forms. Brucella. Pasteurella The hemophilic bacteria Pseudomonas. Bacillus—the spore-forming aerobes. Clostridium—the spore-forming anaerobes. Corynebacterium (the diphtheria bacillus) Mycobacterium. Medical mycology The spirochetes. Medical parasitology by R. J Porter The rickettsiae The viruses, by F B. Gordon. Bacteriophage (the bacterial viruses) Index.

Note Known in its early editions as Jordan's *Textbook of bacteriology* this ork has been used in its several editions since 1908 as textbook for medical college students and other students requiring professional grade treatment f microbiology Although considerabl attention is paid to the basic biology of the bacteria

KLUYVER, A. J., AND C. B. VAN NIEL

The microbe's contribution to biology. Cambridge, Mass. Harvard University Press, 1956. 152 p. illus. 21 cm. $4.00 3088

Contents: Microbial metabolism and the energetic basis of life, by A. J. Kluyver. Microbial metabolism, further evidence for life's unity, by A. J. Kluyver. Phototrophic bacteria, key to the understanding of green-plant photosynthesis, by C. B. van Niel. Life's flexibility: microbial adaptation, by A. J. Kluyver. Trial and error in living organisms; microbial mutations, by C. B. van Niel. Evolution as viewed by the microbiologist, by C. B. van Niel. References.

Note: An interesting, informal account of some of the research that has been done on microorganisms that has enriched and contributed to the fund of basic biological knowledge. The material was first delivered as the John M. Prather Lectures at Harvard University in April, 1954, and has been somewhat revised. The book is informative reading for laymen interested in biology and for biologists who are not specialists in microbiology. The first named author is a member of the faculty of the Technological University of Delft, and his coauthor is a member of the faculty of Stanford University.

KNAYSI, GEORGES

Elements of bacterial cytology. Second edition. Ithaca. Comstock Publishing Company Inc., associated with Cornell University Press, 1951. 375 p. illus. 24 cm. $5.00 3089

Contents: Form and size of the bacterial cell. Chemical composition and structural organization. Cytoplasm and cytoplasmic membrane. The nucleus. The cell wall and slime layer. Physicochemical properties of the bacterial protoplasm. Vegetative reproduction. Vacuoles and inclusions. The motility of bacteria. The spores of bacteria. [illegible]. Bacterial cultures. Cytology of the Actinomycetales. Cytology of the Spirochaetales. Cytology of the Myxobacteriales. Bibliography. Index.

Note: The standard treatise on the bacterial cell. In it the established knowledge is organized and expertly presented together with references to the source articles. The book is addressed to advanced undergraduate students of bacteriology and its coverage is thorough enough to make it useful also to graduate students in this field. The first edition was published in 1944. In this edition the work has been considerably enlarged and a good portion of it revised. There are 123 figures and 49 plates.

KRUEGER, WALTER W.

Principles of microbiology. Philadelphia. W. B. Saunders Company, 1953. 648 p. illus. 21 cm. $5.50. 3090

Contents (abridged): Part I. Introduction. Part II. The microscopic world. Part III. The physiology of microorganisms. Part IV. Microbiologic techniques and methods. Part V. Useful activities of microorganisms. Part VI. Microbiology of sewage and water. Part VII. Microbiology of foods. Part VIII. Infection and body defenses. Part IX. Infectious diseases. Index.

Note: A general introduction to microbiology designed for the instruction of college students who are taking their first course in the subject. The first part contains an outline of the history of the development of microbiological knowledge and a chapter on [illegible]. The second part contains chapters on the leading groups of microorganisms, including the bacteria, the fungi, and the rickettsiae and viruses. The fourth part includes a chapter on antibiotics and other chemotherapeutic agents. Inclusion of chapters on applications of microbiological knowledge, particularly in such areas as food technology, makes the book more interesting to beginning students. There are 143 figures and selected literature references to related books.

LAMANNA, CARL, AND M. FRANK MALLETTE

Basic bacteriology: its biological and chemical background. Baltimore. The Williams & Wilkins Company, 1953. 6[illegible]7 p. illus. 24 cm. $10.00. 3091

Contents: The scope of bacteriology. The occurrence and taxonomy of bacteria. General properties of bacteria. Microscopy. Dyes and staining. The structure of eubacteria. Surface properties of bacteria. Growth of bacteria. Enzymes and bacteria. Physical factors affecting bacteria. Variation of bacteria. The variation and genetics of bacteria. Bacterial metabolism. Chemical disinfection. Appendix. Index.

Note: A book that is complementary to most textbooks on bacteriology. It is directed to college students who have completed introductory courses in biology, chemistry and bacteriology and it is concerned with the basic biological, physical, and chemical science that underlies the scientific study of bacteria. Such aspects of the subject as the surface properties of bacteria are discussed in the light of the concepts and techniques of physical chemistry. Much biological and, particularly, biochemical knowledge is incorporated in many of the chapters. Selected literature references, many of them to publications in fields other than bacteriology, are included.

NEW YORK ACADEMY OF MEDICINE

Streptococcal infections. Edited by Maclyn McCarty. Symposium held at the New York Academy of Medicine February 25 and 26 1953. New York. Columbia University Press 1954. 218 p. illus. 23 cm. $5.00 3092

Contents: Cellular constituents of group A streptococci concerned in antigenicity and virulence, by R. C. Lancefield. Streptolysins and their inhibitors, by A. W. Bernheimer. The streptokinase-plasminogen system, by L. R. Christensen. Streptococcal proteinase, by S. D. Elliott. The metabolism of amino acids by streptococci, by H. D. Slade. The cellular localization of injected streptococcal antigens, by W. C. Schmidt. Host factors in experimental streptococcal infections, by D. W. Watson. The streptococcidal action of the serum [illegible] from patients, by W. S. Tillett. The clinical pattern of streptococcal infection in man, by J. H. Dingle. The antibody response to streptococcal infections, by M. McCarty. Transfer of skin reactivity to streptococcal products, by H. S. Lawrence. The epidemiology of streptococcal infections, by L. W. Wannamaker. The prophylaxis of streptococcal infections, by F. W. Denny, Jr. Acute hemorrhagic glomerulonephritis, by C. H. Rammelkamp, Jr. The relation of antibody response to rheumatic fever, by C. A. Stetson, Jr.

Note: Papers on the various biochemical, immunological, and clinical aspects of streptococcal infections named in the above titles are published in this volume. Many of them deal with the results of investigations in progress or concluded not long before the time of the symposium, and correlate these results with the related results reported in literature published earlier. Several of the papers are reports of investigations carried out at the Streptococcal Disease Laboratory, Francis E. Warren Air Force Base, Wyoming, under the sponsorship of a unit of the United States Armed Forces Epidemiological Board. Extensive bibliographies are included with most of the papers.

PORTER, JOHN ROGER

Bacterial chemistry and physiology. New York. John Wiley & Sons, Inc., 1946. 1,073 p. illus. 23 cm. $13.50 3093

Contents: Some physico-chemical properties of bacteria and their environment. The growth and death of bacteria. The effects of physical agents on bacteria. The effects of chemical agents on bacteria. The chemical composition of microorganisms. Bacterial enzymes and bacterial respiration. Bacterial nutrition. Metabolism of carbon compounds by microorganisms. Metabolism of nitrogen compounds by microorganisms. Microbial fermentations. Microorganism index. Subject index.

Note: A relatively comprehensive treatment that is based partly on material used in an advanced course at the University of Iowa. Both the nature of the subject matter and the skilled handling of the material make the work valuable not only to college students but to bacteriologists, chemists, and technicians in food and other industries. Many bacteriological interrelations and research trends are discussed, such as the effect of electromagnetic waves, sound waves, and temperature on bacteria; bacterial enzymes; and the use of bacteria in the interpretation of the results of experiments in chemotherapy. The numerous references to the pertinent recent literature are a valuable aid for the research worker.

PRESCOTT, SAMUEL CATE, AND CECIL GORDON DUNN

Industrial microbiology. Second edition. New York. McGraw-Hill Book Company Inc., 1949. 923 p. illus. 23 cm. $12.00. 3094

cm (American lecture series Publication no 191 A monograph in American lectures in internal medicine Edited by Roscoe L Pullen) $4 75 3083

Contents Definition etiology history and geographic distribution f amebiasis. The natural history f amebiasis. Pathogenesis and pathology of amebiasis. Manifestations and clinical evidences of amebiasis. Diagnosis, treatment and prognosis of amebiasis. Control of amebiasis. Bibliography Author index. Subject index.

Note. A concise presentation of accumulated knowledge on amebiasis. The subject is discussed both from the clinical and from the public health points of view It is designed for rapid reading, and the chapters, which are themselves short, conclude with even shorter summaries in which the main points are restated There is 17-page bibliography and references to it are incorporated directly in the text. The book is addressed primarily to general practitioners. The uthor is Head f the Division f Tropical Medicine and Public Health of Tulane University School of Medicine.

Faust, Ernest Carroll

Animal agents and vectors of human disease 216 text figures, 9 plates, including one in color Philadelphia Lea & Febiger, 1955 660 p illus 24 cm $9 75 3084

Contents (abridged) Section 1 General information and orientation: The natural history and epidemiology of animal parasites. Etiologic classification of animal agents and vectors of disease. Pathogenesis and symptomatology of disease produced by animal agents. Diagnosis, treatment and prognosis. Control and prevention. Section 2 Protozoan agents of disease. Section 3 Roundworms (Nematodes) Section 4 Tapeworms and flukes. Section 5 Other helminths parasitizing man Thorny-headed worms (Acanthocephalans) Gordiid worms or "hair snakes. The leeches or hirudineans. Section 6, Arthropods as agents and vectors. Section 7 Other invertebrate and vertebrate agents of disease Invertebrate agents other than the protozoa, helminths and arthropods. Fishes as causative agents of human disease. Reptiles as causative agents of human disease. Certain mammals harmful to man. Section 8, Technical aids: Parasitologic diagnosis. Culture technics. Immunologic diagnostic tests. *Entomological material Intermediate and reservoir hosts*. Index of authors. Subject index.

Not A comprehensive work which covers not only parasites, but also such carriers of disease as mosquitoes and animals with poisonous bites such as certain snakes. The agents and vectors are described as to morphology lif cycles, etc. and the human diseases transmitted or caused by them are discussed as to etiology epidemiology pathogenesis, symptoms, diagnosis, and control. Related matters such as the *in vitro* cultivation of protozoan parasites are discussed. Fairly extensive bibliographies are included in the chapters. The author is Head of the Division of Parasitology of the Department of Public Medicine and Public Health of Tulane University

Frobisher, Martin, jr

Fundamentals of microbiology Fifth edition, illustrated. Philadelphia W B Saunders Company 1953 633 p. illus (part col d) 24 cm $6 00 3085

Contents (abridged) Section 1, The relationships f microorganisms to each other and to the living world Protozoa, algae and bacteria Molds and yeasts. Viruses. The rickettsiae. Pleuropneumonia-like organisms Section II, Methods and phenomena of microbiology Optical methods in microbiology Morphology and structure f bacteria. Classification f bacteria Effect f chemical and physical agents on microorganisms. Cultivation of microorganisms. Variation of microorganisms. Destruction, removal and inhibition of microorganisms. Enzymes and microbiology Metabolism f microorganisms. Section III, Immunology the body's resistance to microorganisms. Section IV The bacteria (Class Schizomycetes) Section The microbiology of special environments Microbiology of water Microbiology of the soil. Microbiology f air Microbiology f milk. Microbiology f foods. Microbiology and industry Some viral diseases. Some rickettsial diseases Some protozoal diseases. Index.

Note A standard introductory textbook the first edition f which was published in 1937 and the fourth edition in 1949 It is used in courses offered to premedical students and other college students in need of more than general knowledge of microbiology The section and chapter titles indicate the wide [illegible] might be *anticipated*, the main emphasis is on medical and [illegible] health aspects. However much material of a basic nature is included also. Rather extensive lists of references are included [in] the chapters. *In comparison to the fourth edition*, this [illegible] represents a very extensive reorganization and revision. [illegible] material has been deleted, while accounts of advances made since the *fourth edition* was written have been incorporated. [illegible] is about 300 pages shorter but it still contains a wide range of information. There are 253 figures, [illegible] new in this edition. *The sixth edition was published in* [illegible] $6.50.

Grant, Madeleine Parker

Microbiology and human progress New York Rinehart and Company, Inc., 1953 718 p illus 23 cm $7 50 3086

Contents (abridged) Part I, The biology of microorganisms [illegible] Importance of microbiology Birth and development of microbiology Cultivation of microorganisms. The necessity for [illegible]tion. The Scientist's view of life. Microorganisms and the chemistry of life. The significance of classification. [illegible] Exotic microbic forms. Growth and reduction. Heredity [illegible] characteristics of microorganisms. Nature and origin of life. Part II, Microbic friends of man. Part III, Microbic foes of man—[illegible] I, *Biological aspects f infectious diseases*: The infectious [illegible] man defends himself. Science helps man defend himself. [illegible] Important infectious diseases. Infectious diseases of [illegible] things. *Infectious diseases of* the respiratory tract. Infectious diseases of the intestinal tract. Diseases caused by organisms entering the blood stream—the nose and throat—[illegible] Beyond the microscope. Index.

Note. A well-written introductory textbook designed for use [in] undergraduate college courses offered to students who do not plan to pursue further study of biology It is "cultural" type of text. In addition to teaching the elementary facts of biology, it has also the purpose of demonstrating some of the methods of science and the importance of science in modern life It includes [illegible] those of numerous applications, as in public health, of basic biological knowledge and of microbiology in particular. [illegible] activities of the World Health Organization in [illegible] health services in various nations of the world are depicted [illegible] illustrations. Most of the topics included are discussed at [illegible] length in style that contains minimum of specialized technical terms and is easy for lay readers to comprehend.

Kelly, Florene C, and K. Eileen Hite

Microbiology Foreword by G M. Dack Second edition New York Appleton-Century-Crofts Inc., 1955 615 p. illus. 24 cm $7 50 3087

Contents (abridged) Introduction to the microscopic world [illegible] nature f microscopic plants and animals Protozoa. Algae. [illegible] Bacteria. Rickettsiae and viruses. Methods for studying microorganisms The microscope and microscopic methods. Laboratory equipment and sterilization methods. Cultivation of microorganisms. The classification of bacteria. The physiology of bacteria [illegible] metabolism. Activities of bacteria in nature and industry. [illegible] bial populations Microbial associations—synergism and antibiosis. A ntimicrobial methods Surgical and medical asepsis. Chemotherapy. Microorganisms and disease Parasitism and pathogenicity [illegible] sistance to infection—immunity Pathogenic microbiology [illegible] cocci Streptococci. Pneumococci. Gram-negative cocci [illegible] importance—the genus *Neisseria* Spore-forming bacteria—the [illegible] Mycobacteria—tuberculosis and leprosy Gram-negative [illegible] teric bacteria. Genus *Brucella*—brucellosis, undulant fever [illegible] chetes. The rickettsial diseases. Virus diseases Epidemiology and public health. Technical methods of bacteriology Appendix [illegible] *milestones in microbiology* A book and journal library [illegible]

Note An introductory textbook designed for students who have [illegible] prospective professional interest in the subject. In other words, it is for students who want thorough rather than superficial knowledge. Reasonably full discussions of basic matters and [illegible] niques are included along with condensed descriptions of [illegible] genic organisms In the descriptions of organisms, there is [illegible] information on taxonomy and morphology but the main emphasis is on relation to disease. The reference material includes chronological arrangement of developments in microbiology [illegible] formulas for stains, indicators, culture media, etc. The first edition was published in 1949 Recent information was added to number f the chapters in preparing this second edition, and newer literature has been added to the chapter bibliographies

scribed in detail. The extensive bibliographies contain about 700 references.

SALLE, A. J

Fundamental principles of bacteriology Fourth edition. New York McGraw Hill Book Company Inc., 1954 782 p. illus. 24 cm. $8.50 3099

Contents: Introduction. The microscope. Biological stains. Morphology of bacteria. Yeasts. Molds. Technique of pure cultures. Effect of environment upon bacteria. Sterilization. Disinfection and disinfectants. Nutrition of bacteria. Enzymes of bacteria. Respiration of bacteria. Hydrolysis and putrefaction of proteins. Fermentation of carbohydrates and other compounds. Differentiation and classification of bacteria. Variation of bacteria. Associations of bacteria. Bacteriology of air—the soil—water—milk and milk products—food—soil. Infection and immunity. Bacterial diseases of man. Bacterial viruses. Bacterial and viral diseases of plants. Viral diseases of man. Rickettsial diseases of man. Index.

Note. An introductory textbook designed primarily for use in college courses provided for students who plan to become professional bacteriologists or at least to pursue the subject beyond the first course. The subject is covered with unusual comprehensiveness for an introductory book. Furthermore the separate chapters include [illegible] bibliographies of not only literature in English, but also in German and French. The third edition was published in 1948. The book has been very extensively revised in both text and illustrations in this fourth edition. There are now 246 figures. The comprehensive treatment, together with such supplementary material as abundant illustrations and extensive reference lists, makes the book also useful in reference libraries.

SARLES WILLIAM BOWEN AND OTHERS

Microbiology general and applied. Second edition. By William Bowen Sarles, William Carroll Frazier Joe Bransford Wilson Stanley Glenn Knight. New York Harper & Brothers, 1956 491 p. illus. 28 cm $6.00 3100

Contents (abridged) Part I, An introduction to the microorganisms. Part II, The physiology of microorganisms. Part III, Cultivation, observation, and classification of microorganisms. Part IV Microorganisms in industry Part [illegible] Soil microbiology. Part VI Microbiology of sewage, water, and air. Part VII, Microbiology of foods. Part VIII, Infectious diseases of animals and plants. Part IX, An outline of the history of microbiology. Appendixes. Index.

Note. An introductory textbook for use in college courses. The part on infectious diseases of animals and plants [illegible] less than 80 pages long, and the rest of the book is devoted to aspects of microbiology which are not related to disease. Applications to agriculture, industry and the home are given considerable emphasis. The first edition was published in 1951. About half of the chapters in this second edition have been revised to some extent, and several of them have been very extensively revised. The authors are faculty members of the Department of Bacteriology of the University of Wisconsin.

SKINNER, CHARLES EDWARD AND OTHERS

Henrici's Molds, yeasts and actinomycetes a handbook for students of bacteriology Second edition, by Charles E. Skinner Chester W Emmons, and Henry M Tsuchiya. New York John Wiley & Sons Inc., 1947 409 p. illus. 24 cm. $7.50. 3101

Contents: The structure and classification of the fungi. Yeastforms in the lower fungi. Methods for studying molds, yeasts, and actinomycetes. Molds belonging to the phycomycetes. Molds belonging to the fungi imperfecti and the ascomycetes. Fungous diseases of man and animals—general considerations. Infections caused by molds. Biological activities of molds. Morphology and classification of the yeasts and yeast-like fungi. Pathogenic yeast-like fungi. Biological activities of yeasts. Classification, morphology and biological activities of the actinomycetes. Actinomycoses. Antibiotic substances. Index.

Note. The late Arthur T. Henrici wrote Molds, yeasts, and actinomycetes, published in 1 [illegible], which before his death he started to revise. Three [illegible] his associates brought the revision to completion, involving [illegible] complete rewriting and [illegible] considerable change in the arrangement of topics. The book is [illegible] discussion of molds, yeasts, and actinomycetes for students of bacteriology including in the term students many individuals who have completed their formal education. It contains bibliographies at the ends [illegible] the chapters and 134 illustrations. The emphasis in the book is upon the forms of fungi of particular interest to the bacteriologist rather than to the botanist or phytopathologist. The stress on medical and industrial applications of mycology has been retained and intensified in the new edition.

SMITH DAVID T, AND OTHERS

Zinsser's textbook of bacteriology By David T Smith Norman F Conant, Joseph W Beard Hilda Pope D Gordon Sharp and Mary A. Poston Tenth edition New York Appleton-Century-Crofts Inc., 1952 1,012 p illus 25 cm. 3102

Contents (abridged) The general biology of bacteria and the general methods of bacteriology. Outline of the history and scope of bacteriology. Classification of bacteria. General morphology and reproduction of bacteria. Variability of bacteria. Growth of bacteria. Metabolism of bacteria. Effects of sulfonamides, antibiotics and chemical agents. Bacterial ecology and flora of the normal body. Infection and immunity. Pathogenic microorganisms. The spirochetes. The pleuropneumonia group of organisms. Rickettsia and the rickettsiae. Diseases caused by the filtrable viruses. Medical mycology. Technical methods. Bacteriology immunology and serology. Appendix. Antigenic structure of the Salmonella. Index.

Note. The first edition of this work appeared in 1910 and it has been extensively used as [illegible] text in schools of medicine and public health ever since that year. The subject is covered from the standpoint of the biology of the microorganisms and the host; nevertheless most of the space is given to specific information on diseases, disease control, and other topics of interest in medicine and public health. In preparing this edition the information on diseases caused by viruses has been much expanded, and information has been added on the effects of ACTH, cortisone, and the recently developed antibiotics on specific microorganisms. The 11th edition was published in 1957 [illegible] p. $12.00.

SMITH LOUIS DS

Introduction to the pathogenic anaerobes. Chicago University of Chicago Press 1955 253 p illus. 24 cm. (The University of Chicago Committee on Publications in Biology and Medicine Emmet B Bay and others) $7 50 3103

Contents: Anaerobic methods and media. Identification of the pathogenic anaerobic bacteria. *Clostridium novyi. Clostridium perfringens. Clostridium tetani. Clostridium botulinum. Clostridium septicum. Clostridium feseri. Clostridium bifermentans.* The proteolytic clostridia—*C. histolyticum, C. sporogenes, C. bifermentans.* Other pathogenic clostridia—*C.* [illegible], *C. difficile C.* [illegible] *C.* [illegible]. Actinomyces. Bacteroides—*B.* [illegible], *B.* [illegible], *B.* [illegible], *B.* [illegible], *B.* [illegible], *B.* [illegible]. *Dialister pneumosintes.* The anaerobic streptococci—*Streptococcus anaerobius, Strep. evolutus, Strep. foetidus, Strep. putridus, Diplococcus* [illegible]. Fusospirochetal infections. Anaerobic wound infections in man. Index.

Note. A concise and useful handbook in which the pathogenic anaerobic microorganisms, their toxins, and the diseases they cause in man and other animals are described. The first two chapters describe techniques of laboratory culture, culture media, and identification. The chapters that follow except for the terminal chapter are devoted to the individual species of anaerobic bacteria. In most of these chapters the data and discussion are arranged under the following subheadings: occurrence morphology cultural characteristics, toxins, isolation, serological aspects, infections in man, and diseases of animals. Toxins are discussed more fully than other aspects. In addition, each of these chapters begins with an outline of the history of the identification of the species under discussion and concludes with selected references to the literature. The terminal chapter is [illegible] compact summary of the accumulated knowledge of infections of wounds in man by anaerobes. The entire book is concisely written and is intended primarily for supplementary reading by advanced students of bacteriology and reference use by workers in biological and clinical laboratories.

Content (abridged) Saccharifying agents—methods of production d uses. The production of industrial alcohol by fermentation. Facts and theories concerning the mechanism of the ethyl alcohol fermentation. Brewing. Wine. The distilling industries. Production f yeast and yeast products. The glycerol fermentation. The acetone-butanol fermentation. Th acetone-ethanol fermentation *The butyl alcohol-isopropyl alcohol fermentation*. The acetic acid bacteria and some f their biochemical activities. The production f lactic acid by fermentation. Sauerkraut. Pickles. Some fermented milk products. Cheese The propionic acid fermentation The production and properties of *2,3-butanediol* Some minor bacterial activities with industrial implications. The molds. The citric acid fermentation. The gluconic acid fermentation. The fumaric acid fermentation. The gallic acid fermentation The itaconic and itatartaric acid fermentations. The kojic acid fermentation. The production f lactic acid by molds. Mannitol production by molds. Mold enzyme preparations—uses and products. The production of fat by molds. Some minor chemical activities f the lower fungi. A tibiotics. Textile microbiology The microbiology of wood. Appendixes Detergency disinfection and sterilization The treatment and disposal f industrial microbiological wastes. Index.

Note This work is both text for college students who have completed introductory courses in such fields as bacteriology and organic chemistry and reference guide for industrial chemists and other technical personnel in industries making use of fermentation. It covers comprehensively as of about 1948 both the theory and practice with emphasis on the latter of fermentations and related microbiological processes of industrial importance.

RAHN, OTTO

Microbes of merit New York The Ronald Press Company, 1945 277 p illus 24 cm $4 50 3095

Content (abridged) The discovery of bacteria. The relatives of bacteria. Bacteria divide when they multiply Contamination. Bacteria help the city people. Bacteria help the farmer The 1941 census of bacteria. Domesticated yeasts. When bacteria blunder Compromise between man and microbe. Microbes, the food f the future, Man parasite f bacteria. Inheritance among the meekest. The world without microbes. Index.

Note This easy-to-read volume is concerned chiefly with th so-called beneficial bacteria, molds, and yeasts, which are essential to the existence of life. The author *Professor of Bacteriology* t Idaho State College describes in nontechnical language how bacteria form an indispensabe link in the lif cycle and how they maintain the fertility f the soil bring about decomposition f organic matter purify contaminated water etc. Particular attention is given to the rol of bacteria in human utrition and in the formation of such common foods as bread, cheese, inegar and alcohol. The development of our knowledge of bacteria and some of the interesting techniques for studying them are also described.

REDDISH, GEORGE F , editor

Antiseptics, disinfectants fungicides and chemical and physical sterilization Philadelphia Lea & Febiger 1954 841 p illus 24 cm 3096

Contents Part Introduction Historical review by G F Reddish. Definition f terms, by G F Reddish Part II, Methods of testing: Methods f testing—General review by G F Reddish —Antiseptics, by G F Reddish—Disinfectants, by L. S. Stuart. Fungistatic and fungicidal test methods, by K. A. Oster and M J Golden Methods of testing chemical sterilizers and tests for *sterility by G F Reddish* Bacterial resistance and dynamics f antibacterial activity by O Wyss. Part III, Antiseptics Iodine, by L. Gershenfeld. Mercurials—inorganic and organic, by J H. Brewer *Heavy* metals other than mercury and silver by A. J Salle. The bis-phenols, by A. R. Cade and W S. Gump Essential oils, by A. R. Cade. Alcohols, by H. E. Morton. Surgical antiseptics, by P B Price. Antiseptic ointments, by W J Huss Antiseptic powders, by W O Fredell, Virucidal agents, by W B. Dunham. Silver compounds, by L. B. Romans. Oligodynamic metals, by I B Romans. Part IV Disinfectants Phenolic compounds, by E. G Klarmann and E. S. Wright. Chlorin and chlorine compounds, by W A. Hadfield. Quaternary ammonium compounds, by C A. Lawrence. Pla ed disinfectants, by B G. Philbrick. Oxidizing compounds, by A. G Bowers. Chemical disinfection of surgical instruments, by E. H Spaulding. Part Fungistats and fungicides Fungistatic and fungicidal compounds, by K. A. Oster and M. J Golden. Part VI, Preservatives. Food preservatives, by C. G Dunn. Industrial preservatives, by S S. Block. Part VII, Chemical and physical sterilization *Gaseous sterilization* by C. R Phillips. Bacteriological and surgical sterilization by heat, by J J Perkins. Thermal resistance of microorganisms by C. F Schmidt. Commercial processing of canned foods, by C. F Schmidt. Sterilizing by ionizing radiations, by R. E. Proctor and S. A. Goldblith. Part VIII, Pasteurization Pasteurization, by J J Perkins. Bibliographic index. Subject index

Note A professional grade reference book. The authors of the chapters are recognized specialists who are associated with schools, hospitals, pharmaceutical manufacturing firms, and public health agencies in the United States of America. Some [illegible] given to methods of testing and in the chapters on the [illegible] techniques are described in sufficient detail to enable [illegible] nicians to follow them in the laboratory without reference to the source literature. However references to sources are given not only in this section of the book, but in all others. The chapters on antiseptics, disinfectants, etc., are essentially literature reviews in which the high points of the abstracted articles are described concisely The "Bibliographic index" is an index to the names of uthors mentioned in the text or whose works are listed in the bibliographies. A second edition was published in 1957 [illegible] $15.00.

REES, CHARLES WILLIAM

Problems in amoebiasis. Springfield, Ill. Charles C Thomas, 1955 119 p. illus 23 cm $4 75 3097

Contents Introduction. Diagnosis of infection with *Entamoeba histolytica*. The usefulness of crude cultures of *Entamoeba histolytica*. The problem of eliminating complications [illegible] growth of species of bacteria in cultures of *Entamoeba histolytica*. The usefulness f monoxenic cultures of *Entamoeba histolytica* problems on growth requirements. Experimental chemotherapy of amoebiasis. Clinical notes—On the etiology pathology [illegible] management and therapy f amoebiasis, by C. A. [illegible] Author index. Subject index.

Note Written by the head of the Section on [illegible] of the National Institute of Health's Laboratory of Tropical Diseases, this book is addressed to other investigators of [illegible] begins with a brief critical survey of the various [illegible] points now current pertaining to pathogenicity of *E histolytica* and discussion f problems still awaiting solution. The [illegible] of the book, except for the terminal chapter, is devoted to [illegible] tions and critical discussions of techniques useful in the study of [illegible] amoebiasis. Although all of the chapters are clearly written [illegible] brief the author has included summary at the end of each. The last chapter written by physician who is a specialist in public health, is very condensed description of clinical aspects of amoebiasis. Each of the chapters, except the last one, includes an extensive list of literature references, and the names of the authors of this cited literature have been assembled in the [illegible] author index

RILEY, WILLIAM ALBERT, AND OSKAR A. JOHANNSEN

Medical entomology, a survey of insects and allied forms which affect the health of man and animals Second edition. New York McGraw Hill Book Company, Inc., 1938 4[illegible] p illus 23 cm (McGraw Hill publications in the zoological sciences A F Shull, consulting editor) $9 00 3098

Contents Early suggestions regarding the transmission of disease by insects. Ways in which arthropods may affect the health of man and animals. Classes of phylum Arthropoda. Class Arachnida Ixodoidea, or ticks. Myriapoda, or centipedes and millipedes [illegible] ture and development of insects. Hexapoda, or true insects [illegible] or lice. Hemiptera. Coleoptera. Lepidoptera. Diptera. Culicidae mosquitoes. Mosquitoes and disease. Measures for [illegible] extermination of mosquitoes. Other blood-sucking Diptera [illegible] House flies and their allies. Glossina, or tsetse flies. Myiasis, infestation of man and animals by Diptera. Siphonaptera, or fleas. Hymenoptera. Appendix. Bibliography Index.

Note This text is revision of the authors *Handbook of medical entomology*, Ithaca, N Y 1915 presenting the various [illegible] forms in their systematic order rather than in disease groups as in the former volume. The present work, intended for students and research workers, offers detailed study of insects and allied forms which affect the health of man and animals. The results obtained by earlier researchers in the field are constantly referred to, summarized and evaluated. Methods of transmission of disease, together [illegible] instructions for the control and destruction of the agents, are [illegible]

[illegible] primarily for use in advanced undergraduate and first-year graduate courses in bacteriology, also its viewpoint and scope make it of interest to such scientists as graduate biologists who find themselves in need of an authoritative introduction to bacteriology. Long lists of references in which review papers and papers with extensive bibliographies are especially marked are a useful feature.

WAKSMAN SELMAN A., editor

Perspective and horizons in microbiology A symposium edited by Selman A Waksman. New Brunswick Rutgers University Press, 1955 220 p. illus. 22 cm. $3 50 3109

Contents: Part I, The microbe as a living system: The microbe as a whole, by C. B. Van Niel. Some aspects of metabolic [illegible], by A. Lwoff. Genetics and microbiology, by J. Lederberg. Nutritional and enzymatic studies on microbial mutants, by B. D. Davis. Part II, Metabolism of microorganisms: Progress and problems in bacterial metabolism, by H. A. Barker. Molds as metabolic models, by J. W. Foster. Metabolic pathways, by W. W. Umbreit. Pathways in biological nitrogen fixation, by P. W. Wilson. Microorganisms and steroid transformation, by D. H. Peterson. Part III, Microorganisms and higher forms of life: Some unsolved problems in immunology, by M. Heidelberger. The inhibition of virus reproduction by chemical substances, by F. L. Horsfall, Jr. Challenging problems in antibiotic research, by H. Eagle. Microorganisms and plant life, by R. L. Starkey. Appendix: Addresses delivered at the dedication of the Institute of Microbiology: Dedication of the Institute of Microbiology, by L. W. Jones. Microbiology takes the stage, by S. A. Waksman. From Dutch settlements to the Rutgers Institute of Microbiology, by A. J. Kluyver.

Note: The occasion for this volume was the dedication of the Institute of Microbiology at Rutgers University, June 7 1954. It contains both the papers read at the symposium and the addresses delivered at the dedication ceremonies. Biological, and particularly physiological, aspects of microorganisms are emphasized in the papers. Although there are implications for medicine and agriculture, they are not stressed. Most of the papers are short and describe the results of recent research, usually correlating them with work that has gone before. Literature references are included in the papers, but not, of course, in the addresses.

WEDBERG STANLEY E.

Microbes and you. New York The Macmillan Company 1954 439 p. illus. (part col'd) 22 cm. $4 95 3110

Contents: Introduction. Highlights in the history of microbiology. Bacteria are classified as plants. Microbes great and small. Microbial structures and staining reactions. Cultivation and identification of bacteria. Bacterial multiplication. Effects of physical factors on bacteria. Effects of bacterial growth on the environment. The effect of chemicals on microorganisms. Polluted water can kill you. Biological sewage disposal. The air we breathe. The soil and they that dwell therein. Food poisoning and food infection. Disease transmission and host resistance. Pathogenic bacteria. Arthropods and disease transmission. The fungi—molds—yeasts. The rickettsiae. Viruses. Blood grouping. References. Index.

Note: An elementary survey of microbiology intended primarily for use in college courses offered to students who are not preparing for further study in biology. The elementary basic facts of the field are described, but the treatment goes somewhat further. For example, the techniques of standard tests used in the bacteriological testing of water, the evaluation of disinfectants, etc., are described. Many applications of microbiological knowledge are mentioned, and some are discussed at length. In addition to its use as a textbook, the book is suitable for lay readers who feel the need for knowledge of the elements of microbiology. The author is a member of the faculty of the University of Connecticut.

WEIL ALFRED J., AND IVAN SAPHRA

Salmonellae and shigellae laboratory diagnosis correlated with clinical manifestations and epidemiology Springfield, Ill. Charles C Thomas, 1953 247 p. illus. 24 cm. $7 75 3111

Contents: Introduction. The biological and immunological properties of salmonella and shigella. The shigellae—the taxonomy of the genus Shigella. The Salmonellae. Methods of isolation. Cultural methods for the identification of shigellae and salmonellae. The serological differentiation of shigellae. The serological differentiation of salmonellae. The widal test. Borderline organisms and the question of the pathogenicity of other enterobacteriaceae. Clinical features and epidemiology of salmonelloses and shigelloses. Natural and immune resistance; vaccination; the skin test—serotherapy—animal experimentation. Bacteriophages for diagnosis and therapy of salmonelloses and shigelloses. Sulfonamides and antibiotics. Notes on cultural methods. References. Index.

Note. Laboratory diagnosis is the principal subject of this manual. However, the descriptions of techniques are supplemented by descriptions of the clinical manifestations, epidemiology and therapy of salmonellae and shigellae infections. Basic information on the historical development of the knowledge of salmonellae and shigellae, on their biological properties, their taxonomy, etc., is presented in the early chapters. The book is directed primarily to graduate bacteriologists and medical clinicians. It contains also much information of value to experienced laboratory technicians. Public health officials find it useful, [illegible] dealing with outbreaks of salmonellosis and shigellosis. A fairly extensive bibliography is included.

WENRICH D H., editor

Sex in microorganisms A symposium presented on December 30 1951 at the Philadelphia meeting of the American Association for the Advancement of Science. Editorial Committee D H. Wenrich, chairman and editor Ivey F Lewis John R. Raper Washington, D C. American Association for the Advancement of Science 1954 362 p. illus. 24 cm. $5 75 3112

Contents: Genetic recombination in bacterial viruses, by M. Delbrück. Sex in bacteria—genetic studies, 1945-1952, by J. Lederberg and E. L. Tatum. Sex in bacteria—evidence from morphology, by W. G. Hutchinson and H. Stempen. Life cycles, sexuality and sexual mechanisms in the fungi, by J. R. Raper. Sexual reproduction in diatoms, by R. Patrick. Sex in unicellular algae, by R. A. Lewin. Sex in protozoa—a comparative review, by D. H. Wenrich. Mating type determination in *Paramecium aurelia*—a study in cellular heredity, by D. L. Nanney. Mating substances and the physiology of fertilization in ciliates, by C. B. Metz. Comments on the origin and evolution of "sex," by D. H. Wenrich. Author index. Subject index.

Note: The development and function of sex in the principal lower forms of life "from the viruses through bacteria, fungi, and unicellular algae to the protozoa," are described in this book for advanced students of biology. In the volume, the ground covered at the symposium is somewhat expanded. The longest of the chapters, that entitled "Sex in protozoa: a comparative review" (pages 134-265) presents, order by order, an illustrated review of sexual phenomena in the Mastigophora, the Sarcodina, the Sporozoa, and the Ciliophora. The final chapter includes a discussion of some problems in connection with sexuality in the microscopic organisms which are yet unsolved. Each of the chapters is accompanied by bibliographical references.

WERKMAN CHESTER HAMLIN AND P W WILSON editors

Bacterial physiology New York Academic Press, Inc., 1951 707 p illus. 24 cm. $9.80. 3113

Contents: Chemistry of the bacterial cell, by D. Knaysi. The structure of the bacterial cell, by G. Knaysi. Inheritance, variation, and adaptation, by J. Lederberg. Growth of bacteria, by I. C. Gunsalus. Physical factors affecting growth and death, by F. Mitchell. Chemical factors affecting growth and death, by O. Wyss. Bacterial nutrition—chemical factors, by E. E. Snell. Bacterial enzymes and the theory of action, by F. Schlenk. Anaerobic dissimilation of carbohydrates, by C. H. Werkman and F. Schlenk. Bacterial oxidations, by R. H. G. Burris. Autotrophic assimilation of carbon dioxide, by J. W. Foster. Assimilation of carbon dioxide by heterotrophic bacteria, by C. H. Werkman. Organic nitrogen, by E. F. Gale. Biological nitrogen fixation, by P. W. Wilson. Mineral metabolism, by B. G. Knight. The comparative biochemistry of molecular hydrogen, by H. Koffler and P. W. Wilson. Antibiotics by bacteria, by C. E. Clifton. Degradation and synthesis of complex carbohydrates, by H. A. Barker and W. Z. Hassid. Significance of autotrophy for comparative physiology, by W. W. Umbreit. Luminous bacteria, by F. H. Johnson. Bibliography. Subject index. Microorganism index.

SPOEHR, HERMAN AUGUSTUS, AND OTHERS

Fatty acid antibacterials from plants By H A Spoehr, J H C Smith, H H Strain, H W Milner, and G J Hardin Carnegie Institution of Washington, Division of Plant Biology, Stanford California Washington, D C Carnegie Institution of Washington, 1949 67 p illus 25 cm (Carnegie Institution of Washington Publication 586) $0 75 3104

Contents Introduction. The large-scale culture of *Chlorella pyrenoidosa*. The extraction of antibacterial material from culture solutions. *Chlorella* cells as a source of antibacterial material N ture of the fatty acids extracted from *Chlorella* cells. Antibacterial material from other plant sources. Antibacterial activity f fatty acids. Antibacterial activity of the fatty acids obtained from the fruits of the California laurel

Not The results of a research project which had as its primary objective the isolation of antibacterial substances from autotrophic organisms are reported in this pamphlet Culture methods and the techniques of separating the active material from the plants are f lly described. An unexpected discovery was that freshly prepared plant extracts showed little or no antibacterial activity but antibacterial properties were developed when the extracts were exposed to light and air It was found that this effect was due to the photo-oxidation of certain fatty acids in the extracts and the project was then diverted to an investigation of the antibacterial activity of certain fatty acids of medium chain length.

STEINHAUS, EDWARD ARTHUR

Insect microbiology an account of the microbes associated with insects and ticks, with special reference to the biologic relationships involved Ithaca Comstock Publishing Company, Inc., 1946 763 p illus 24 cm $7 75 3105

Contents Introduction Extracellular bacteria and insects. Specific bacteria associated with insects. Intracellular bacteriumlike and rickettsialik symbiotes. Rickettsiae. Yeasts and insects. Fungi and insects. Viruses and insects. Spirochetes associated with insects and ticks. Protozoa and insects (except termites) Protozoa in termites. Immunity in insects. Methods and procedures. References. Author index. Subject index.

Not In effect, this book is comprehensive survey and digest of all the data that has been published on its subject. The word 'microbe is taken in its broad sense thus bacteria, rickettsia, yeasts, fungi, spirochetes, protozoa and viruses are included. The word "associated" is likewise interpreted broadly to include relationships ranging from true symbiosis to those in which the insect or tick appears t act merely as mechanical carrier of the microorganism. Some idea f the comprehensiveness of the work is indicated by the fact that the bibliography which includes only references cited in the text contains approximately 1 700 references. The book is useful to any scientist interested in the subject, from student to specialist.

STITT, EDWARD RHODES, AND OTHERS

Practical bacteriology, hematology and parasitology By E R. Stitt, Paul W Clough Sara E Branham and contributors Revised tenth edition New York The Blakiston Division McGraw Hill Book Company Inc., 1951 991 p illus (part col d) 24 cm $10 00 3106

Content (abridged) Part Bacteriology Study and identification of bacteria. Spirochetes. Rickettsia and Bartonella. Filtrable viruses. Medical mycology Immunity and hypersensitiveness. Staining methods and special procedures. Part II Hematology· Technic of clinical blood examinations. Normal and pathologic blood cells. Diseases of the blood. Part III Parasitology The blood Protozoa. The intestinal Protozoa. Medical helminthology Keys to the helminths and laboratory technics. Medical entomology Scorpions, spiders, ticks, mites—class Arachnida. The insects. Poisonous snakes and lizards. Poisonous fish and coelenterates. Part IV Chemical and pathologic examinations of the various body fluids and [illegible] appendices Apparatus. Preparation of tissues for [illegible] microscopic sections. Equivalent-normal solutions. Colorimetric determinations. Anatomic and physiologic normals. Important [illegible] and injuries due to toxic plants. Laboratory procedures [illegible] diagnosis, indexed by diseases. Index.

Note. For many years, this [illegible] standard practical [illegible] for students and laboratory technicians in diagnostic laboratories. It is concerned with methods and laboratory procedures pertaining to the study and identification of parasites, bacteria, [illegible] the diagnosis of diseases with which these organisms are associated and the interpretation of laboratory data in clinical diagnosis. The tenth edition was published in 1948. This "revised tenth edition" contains small revisions made without change in the [illegible] of the volume.

TANNER, FRED WILBUR, AND FRED WILBUR TANNER, JR.

Bacteriology a textbook of microorganisms Fourth edition. New York John Wiley & Sons, Inc., 1948 625 p illus 22 cm $6.00 3107

Contents History and development of early theories [illegible] relationships of plant and animal groups. Living matter and the cell. Ultramicroscopic forms of life. Morphology of bacteria. Variability of microorganisms. Nomenclature and classification of bacteria. Molds. The yeasts and related organisms. The Protozoa. Action of physical agents on bacteria. Relation of chemical agents to bacteria. Mutual relationship—microbial association. [illegible] and metabolism of bacteria. Growth of bacteria. Bacterial enzymes. Nitrogen metabolism (cycle) sulfur metabolism (cycle) [illegible] metabolism. Microorganisms in air Water bacteriology. Sewage treatment and bacteriology Bacteriology of milk and milk products. Industrial fermentations. Food preservation. Food infection and food poisoning. Relation of bacteria to disease. Transmission of infecting agents. Factors influencing infection. Modes of bacterial action. Protective substances—immune bodies, antibodies. Variations of [illegible] munity Bacteria in plant diseases. Appendix Bacteriology [illegible] ture. Glossary Index.

Note. The new edition of this standard undergraduate textbook is the first to bear the name of junior author. It is [illegible] edition in the following respects. general review and minor changes to bring the 1937 (third) edition up to date new chapters on ultramicroscopic forms of life and variability of microorganisms added material on metabolism in the chapter on [illegible] of bacteria.

THIMANN, KENNETH V

The life of bacteria their growth, metabolism and relationships New York The Macmillan Company, 1955 775 p. illus. 24 cm $13 50 3108

Contents Part I, The morphology and general physiology of bacteria: How microorganisms have been cultivated and studied. The bacterial cell and its relationship to other organisms. The internal structure of bacteria. Conditions of culture—media, [illegible] and temperature—oxygen and oxidation. Bacteria and the [illegible] Part II, The role f microorganisms in the nitrogen cycle: Proteolysis. The breakdown of amino acids. The fixation of nitrogen. Part III, The Nitrification, denitrification, and the nitrogen cycle. Part [illegible] metabolism of carbohydrates: The alcoholic fermentation. The lactic [illegible] tic fermentation. The propionic fermentation. The "[illegible]" fermentation. Fermentations of the butyric type. The [illegible] fermentations. The breakdown of disaccharides and polysaccharides. Part [illegible] Fermentations making use of inorganic hydrogen acceptors. [illegible] Growth and synthesis Growth and protoplasm formation. [illegible] tion. The autotrophic mode f life. Bacterial photosynthesis [illegible] inhibition of growth—general—antibiotics. The evolution of bacteria. Author index. Index of organisms. Subject index.

Note. An outstanding textbook in which bacteriology is presented as branch of biology without bias toward any of its applications, as in medicine. The space is divided among the four parts of the book as follows: Part 253 pages Part II, 113 pages; Part III, 173 pages Part IV 166 pages. The level of treatment [illegible] that the reader will be familiar with the terminology and basic knowledge f organic chemistry Chemical reactions [illegible] sections of the book including the first one, and much of the discussion is in terms of hydrogen-ion concentration, chemical equilibria, and balanced chemical reactions. Many applications of bacteriology are mentioned, as in the chapters on [illegible] but the book is by no means descriptive text. It is [illegible]

[illegible] of action of antibiotics in rickettsial and virus diseases, by T. E. Woodward and R. T. Parker.

Note: Papers and discussions presented at a symposium in October 1953, at the Henry Ford Hospital in Detroit, Michigan, are published in this volume. The symposium was planned as an opportunity for scientists and physicians engaged in research on the virus and rickettsial infections to exchange ideas and to report on the results of recent research and clinical experience. The papers are supplemented by literature references. There is no volume index either to authors cited or to subjects.

Kidd, John G., editor
The pathogenesis and pathology of viral diseases. Symposium held at the New York Academy of Medicine December 14 and 15 1948. New York Columbia University Press 1950. 235 p. illus. 24 cm. (New York Academy of Medicine Section on Microbiology Symposium no. 3) $5.00. 3120

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Luria, S. E.
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Note: In this book virology [illegible] treated as [illegible] biological science rather than as [illegible] cause of disease. The viewpoint is [illegible] novel one, but [illegible] has the advantage of co-ordinating the wide range of material on viruses and of offering an approach to the subject that is of greater interest to the general biologist than the pathological or clinical. In the first three chapters, basic [illegible] are discussed, such as the range of [illegible] of viruses, [illegible], structure and [illegible] of viruses. The [illegible] chapters that constitute the main body of the book are devoted to properties of viruses outside the host, host-virus systems, variation, ecology and transmission of viruses under natural conditions. The book was developed in courses given by the author at the University of Indiana and the University of Illinois, and [illegible] designed for use as a textbook in courses of level in advanced undergraduate and graduate students of biology.

The scope and viewpoint render it useful also to graduate biologists in need of a [illegible] survey of the knowledge on viruses and of laboratory techniques useful in their study. The bibliography contains more than 700 literature citations.

Miner, Roy Waldo editor
Virus and rickettsial classification and nomenclature Conference chairman MacFarlane Burnet. Consulting editor Hilary Koprowski. New York Published by the Academy 1953 381–622 p illus. 22 cm. (New York Academy of Sciences Annals Vol. 56 art 3) $4.00 3122

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BURNET FRANK MACFARLANE

Virus as organism evolutionary and ecological aspects of some human virus diseases Cambridge Mass Harvard University Press 1945 134 p 22 cm (Harvard University monographs in medicine and public health) $2 00 3117

Contents Reproduction, variation, and survival. Evolution and change in virus disease The reaction of the host to virus infection. Herpes simplex. Poliomyelitis. Psittacosis and related infections Smallpox, alastrim and vaccinia Yellow fever Influenza. Conclusion. Bibliography

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EVANS, EARL ALISON, JR.

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HENRY FORD HOSPITAL

International symposium The dynamics of virus and rickettsial infections. Edited by Frank W Hartman Frank L. Horsfall, jr, and John G Kidd New York The Blakiston Division, McGraw Hill Book Company, Inc., 1954 461 p illus 24 cm. $7.50 3119

Contents I, Mechanisms of virus and rickettsial infections moderators, T M Rivers and J G. Kidd The initiation of cellular infection by viruses, by A. Gottschalk. Some central problems of viral growth, by A. D Hershey Cell attachment and penetration by viruses, by T T Puck. Genetic functions and developmental processes of bacterial viruses, by S. E. Luria. "Incomplete" forms of influenza virus, by P von Magnus. Studies on double infection with influenza virus, by G. K. Hirst. Cellular metabolism and virus growth, by F C. Bawden. Plant viruses and proteins, by B. Commoner Abortive infection with viruses, by M. H. Adams. Metabolic transformations in virus infected cells, by S. S. Cohen. Intracellular sites important to the development of animal viruses, by W W Ackermann. Enzymic changes in virus synthesis, by E. A. Evans, jr II, Ecology and pathogenesis of virus and rickettsial infections moderator A. B. Sabin Ecology and virus reservoirs, by R. E. Shope. The effect of host and vector densities on the epidemiology of scrub typhus, by J R. Audy Maintenance of yellows-type viruses in plant and insect reservoirs, by L. O Kunkel. Variation in virulence of rickettsia rickettsii under natural and experimental conditions, by W H. Price. Pathogenic mechanisms of virus diseases, by W McD. Hammon. Pathogenesis of variola, by A. W Downie and K. McCarthy III, Mechanisms of immunity in virus and rickettsial infections moderator J Paul Mechanisms of convalescent immunity and how it may be simulated, by J E. Salk. Sites of immune barriers in poliomyelitis, by D Bodian Mechanism of active induced immunity with attenuated living vaccines, by K. Habel. Practical application of living virus vaccines, by H Koprowski. IV Laboratory diagnosis of virus and rickettsial infections moderator A. J Rhodes Early diagnosis of infections by the psittacosis-lymphogranuloma venereum group, by K. F Meyer Early diagnosis of smallpox, by F O. MacCallum The diagnosis of virus infections employing tissue culture methods, by T H. Weller An evaluation of diagnostic procedures for virus and rickettsial diseases, by E. H. Lennette. Early detection of antigen as a diagnostic method, by J C. Snyder. Approaches to prophylaxis and therapy of virus and rickettsial infections moderator G. Dalldorf Interference and physical-chemical blockade by F L. Horsfall, jr Bacterial transformation as an infection by desoxyribonucleic acid by R. D Hotchkiss. Nutritional inhibitors, by A. F Rasmussen Inhibition of virus multiplication through considered ... metabolites, by D. W Woolley Suppression of growth by antibiotics, by I. W McLean and others. Clinical applic...

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HENRY FORD HOSPITAL

International symposium The dynamics of *virus and rickettsial infections Edited by* Frank W Hartman, Frank L Horsfall jr , *and John G Kidd New York* The Blakiston Division, McGraw Hill Book Company, Inc. 1954 461 p illus 24 cm $7 50 3119

Content I, Mechanisms of virus and rickettsial infections, moderators, T M. Rivers and J G. Kidd The initiation of cellular infection by viruses, by A. Gottschalk. Some central problems of viral growth, by A. D Hershey Cell attachment and penetration by viruses, by T T Puck. Genetic functions and developmental processes of bacterial viruses, by S E. Luria. *Incomplete forms* of influenza virus, by P von Magnus. Studies on double infection with influenza virus, by G. K. Hirst. Cellular metabolism and virus growth, by F C. Bawden Plant viruses and proteins, by B Commoner Abortive infection with viruses, by M. H. Adams. Metabolic transformations in virus infected cells, by S. S. Cohen. Intracellular *sites important to the development of animal viruses, by* W W Ackermann. Enzymic changes in virus synthesis, by E. A. Evans, Jr. II, Ecology and pathogenesis of virus and rickettsial infections; moderator A. B. Sabin Ecology and virus reservoirs, by R. E. Shope. The effect of host and vector densities on the epidemiology of scrub typhus, by J R. Audy Maintenance of yellows-type viruses in plant and insect reservoirs, by L. O Kunkel. Variation in virulence of rickettsia rickettsii under *natural and experimental* conditions, by W H. Price. Pathogenic mechanisms of virus diseases, by W McD Hammon. Pathogenesis of variola, by A. W Downie and K. McCarthy III, *Mechanisms of immunity in virus and* rickettsial infections moderator J Paul Mechanisms of convalescent immunity and how it may be stimulated, by J E. Salk. Site of immune barriers in poliomyelitis, by D Bodian. Mechanism of active induced immunity with attenuated living vaccines, by K Habel. Practical application of living virus vaccines, by H Koprowski. IV Laboratory diagnosis of virus and rickettsial infections moderator A. J Rhodes Early diagnosis of *infections by the* psittacosis-lymphogranuloma venereum group by K F Meyer Early diagnosis of smallpox, by F O MacCallum The diagnosis of virus infections employing tissue culture methods, by T H Weller An evaluation of diagnostic procedures for virus and rickettsial diseases, by E. H. Lennette Early detection of antigen as diagnostic method, by J C. Snyder Approaches to prophylaxis and therapy of virus and rickettsial infections moderator G. Dalldorf Interference and physical-chemical blockade, by F L. Horsfall, Jr Bacterial transformation as an infection by desoxyribonucleic acid, by R. D Hotchkiss. *Nutritional inhibitors,* by A. F Rasmussen Jr Inhibition of virus multiplication through considered use of antimetabolites, by D W Woolley Suppression of growth by clinical antibiotics, *by I W McLean and others.* Clinical application and

PATHOGENIC FUNGI

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Note: The first edition of this book, published in 1944, was prepared under the auspices of the Committee on Medicine of the Division of Medical Sciences of the National Research Council, in co-operation with the Surgeons General of the United States Army and Navy. The authorship was the same as in this second edition. The book is directed to general practitioners of medicine, and it presents background knowledge and clinical information designed to aid nonspecialists in the diagnosis and treatment of fungus diseases. In general, the following information is given for each disease included: definition and general description, geographical distribution, source of infection, symptomatology, mycology, pathology, immunology, differential diagnosis, prognosis, treatment and literature references. The discussions of most of the diseases were revised for this second edition and much information added. There are now 223 figures, 35 of which were newly added in this edition.

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LITTMAN M L AND LORENZ E. ZIMMERMAN

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Note: This volume is made up of a series of short monographs written for it by specialists in several fields. Most of the monographs embody not only the author's own work, but the information and experimental results which have been reported in published literature. Each paper is accompanied by an extensive list of the pertinent literature. The treatment is aimed at persons with scientific education in biology or medicine. The book is not intended as a textbook or as a comprehensive manual of the subject. Instead, its scope is limited to summarized presentations of the current knowledge of the specific aspects of pathogenic fungi which are named in the chapter titles.

STERNBERG THOMAS H. AND VICTOR D NEWCOMER, editors

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Not Much of the material in this collection, particularly that relating to control measures and the use of insecticides, is based on experience gained by the armed forces in Europe and other battle fronts during World War II. Each paper has been prepared by an expert in the fields of entomology biology or medicine, and in most cases an extensive bibliography is included. The work is addressed to persons trained in medicine and public health.

NEW YORK ACADEMY OF MEDICINE SECTION ON MICROBIOLOGY

The pathogenesis and pathology of viral diseases Symposium held at the New York Academy of Medicine December 14 and 15, 1948 Edited by John G Kidd. New York Columbia University Press, 1950 235 p illus 24 cm. $5 00 3124

Contents Introduction by J G. Kidd. The spread of viruses from infected to susceptible hosts, by R. E. Shope. The culture and effects f viruses in chick embryo cells, by C. J Buddingh. The relationships of viruses and cells, with particular reference to the interference phenomenon, by G. Dalldorf The activation of viruses by adsorption cofactors, by T F Anderson. The electron microscopic study of virus growth, by R. W G. Wyckoff. Pathology and pathogenesis of the cutaneous lesions of variola, vaccinia, herpes simplex, herpes zoster and varicella, by T F M Scott and others. Pathogenesis f the viral exanthems as exemplified by mouse pox (infectious ectromelia) of mice by F Fenner Cardiac lesions produced by viruses, by J M. Pearce. Pathology of yellow fever by J E. Ash. Reactions of the cells of the respiratory tract to virus infections, by T P Magill. Proliferative lesions caused by viruses and virus-lik agents, by J G Kidd. The pathology of lymphatic choriomeningitis virus infection—a discussion, by R. D Lillie. The pathology of some viral encephalitides, by A. Wolf. The nature and pathogenesis of neuronal changes in poliomyelitis, by H. A. Howe.

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POLLARD, ERNEST C

The physics of viruses New York Academic Press Inc. 1953 230 p illus 23 cm. $5 50 3125

Contents The nature of viruses and their relation to physics. The size, shape, and hydration of viruses. Ionizing radiation and viruses. Thermal inactivation of viruses. The surface of viruses. Action of ultraviolet light on viruses. Sonic and osmotic effects on viruses. Virus genetics, virus multiplication, and virus physics. Author index. Subject index.

Note Written by physicist, this book is an exploratory survey of the nature of viruses from physical point of view The concepts of physics and chemistry are applied in tentative way to the interpretation of basic knowledge about viruses which has been discovered mostly by bacteriologists. The author points out possible correlations and suggests interpretations rather than attempting complet hypotheses. Literature references are included.

RHODES, A J, AND C E VAN ROOYEN

Textbook of virology for students and practitioners of medicine. Second edition. Baltimore The Williams & Wilkins Company 1953 561 p illus 24 cm. 3126

Content (abridged) Section I, The fundamental characteristics of virus infections: Classification and biologic relationships of viruses and rickettsiae. Fundamental properties of viruses. Technical methods and apparatus used in virology The method of spread of virus diseases. Immunity mechanisms in virus diseases The specific treatment of virus diseases—experimental and applied aspects. The laboratory diagnosis of virus diseases. Present concepts of the nature of viruses. Section II, Skin diseases. Section III, Exanthemata. Section IV Respiratory diseases. Section V Venereal diseases. Section VI, Eye diseases. Section VII, Arthropod borne and tropical fevers. Section VIII, Infectious hepatitis and serum jaundice. Section IX, The Coxsackie viruses. Section X, Encephalomyocarditis and encephalomyelitis of animals. Section XI, Neurotropic virus diseases. Section XII, Rickettsial infections. Index.

Note. An introduction to virus and rickettsial diseases of man, addressed primarily to advanced students of medical schools, but of value also to students preparing for careers in public health and to graduate practitioners of medicine and public health. Basic information on techniques of study and diagnosis of viruses and rickettsia, on immunology and other topics is presented in the first section. Beginning with page 123 the book is devoted to descriptives of individual diseases. Although these descriptions are succinct, they cover both the clinical and public health aspects and are supplemented by literature references. A first edition was published in 1949 Bibliographies designed as guides for further reading were added in the second edition, and the discussions of laboratory diagnosis and treatment were expanded, among other scriptions of individual diseases. Although these descriptions are changes. A third edition was published early in 1958, 643 p., $10 00.

RIVERS, THOMAS MILTON, editor

Viral and rickettsial infections of man. Second edition 90 illustrations including 7 plates in color Philadelphia J B Lippincott Company, 1952 719 p illus (part col d) 26 cm. $7 50 3127

Contents General aspects of viral and rickettsial infections, by T M. Rivers. Chemical and physical procedures, by W M. Stanley and M. A. Lauffer Serologic reactions in viral and rickettsial infections, by J E. Smadel. Hemagglutination by viruses, by G. K. Hirst. Chick-embryo technics, by G. J Buddingh. Propagation of viruses and rickettsiae in tissue cultures, by J F Enders. Epidemiology by K. F Maxcy Interference between animal viruses, by R. W Schlesinger Diagnosis of viral and rickettsial infections, by A. B Sabin and others. Bacterial viruses—bacteriophages, by A. D Hershey and J Bronfenbrenner Viral encephalitides, by P K. Olitsky and J Casals. Rabies, by H. N Johnson. Poliomyelitis, by H. A. Howe. The Coxsackie group, by J L. Melnick and E. C. Curnen. Infectious hepatitis and serum hepatitis, by W P Havens, Jr and J R. Paul. Common cold, by F L. Horsfall, Jr. Primary atypical pneumonia, by F L. Horsfall, Jr. Influenza, by F L. Horsfall, Jr. Smallpox and vaccinia, by J E. Smadel. Psittacosis-lymphogranuloma group, by K. F Meyer Trachoma and inclusion conjunctivitis, by P Thygeson. Measles, by G. Rake. Rubella, by G. Rake. Exanthem subitum, by G. Rake. Diseases caused by the virus of herpes simplex, by T F McNair Scott. Epidemic keratoconjunctivitis, by T M. Rivers. Varicella-herpes zoster group, by J. Stokes, Jr Mumps, by J F Enders Infectious mononucleosis, by T M. Rivers. Colorado tick fever by H. R. Cox. Yellow fever by M. Theiler Rift valley fever by M. Theiler Dengue, by A. B. Sabin. Phlebotomus fever by A. B Sabin. The typhus fevers, by J. C. Snyder The spotted-fever group, by H. R. Cox. Scrub typhus, by J E. Smadel. Q fever by J E. Smadel. Infections of minor importance, by J Warren Bibliographic index. Subject index.

Note A comprehensive presentation of basic information, written primarily for nonspecialists in viral diseases, particularly medical students, general medical practitioners, and public health officers. Each chapter is accompanied by an extensive bibliography and the names of the authors of the cited literature are brought together in the bibliographic index, thus making it easy to trace specific original contributions. The relatively low price is due to partial underwriting of the cost of the preparation and publication by the National Foundation for Infantile Paralysis. The first edition was published in 1948. Although this edition is only few pages longer important revisions have been made and three new chapters have been added.

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Textbook of virology for students and practitioners of medicine. Second edition. Baltimore The Williams & Wilkins Company 1953 561 p illus. 24 cm 3126

Contents (abridged) Section I The fundamental characteristics of virus infections Classification and biologic relationships of viruses and rickettsiae. Fundamental properties of viruses. Technical methods and apparatus used in virology The method of spread of virus diseases. Immunity mechanisms in virus diseases. The specific treatment of virus diseases—experimental and applied aspects. The laboratory diagnosis of virus diseases. Present concepts of the nature of viruses. Section II, Skin diseases. Section III, Exanthemata. Section IV Respiratory diseases. Section V Venereal diseases. Section VI, Eye diseases. Section VII, Arthropod borne and tropical fevers. Section VIII, Infectious hepatitis and serum jaundice. Section IX, The Coxsackie viruses. Section X, Encephalomyocarditis and encephalomyelitis of animals. Section XI, Neurotropic virus diseases. Section XII, Rickettsial infections. Index.

Note An introduction to virus and rickettsial diseases of man, addressed primarily to advanced students of medical schools, but of value also to students preparing for careers in public health and to graduate practitioners of medicine and public health. Basic information on techniques of study and diagnosis of viruses and rickettsia, on immunology and other topics is presented in the first section. Beginning with page 175 the book is devoted to descriptions of individual diseases. Although these descriptions are succinct they cover both the clinical and public health aspects and are supplemented by literature references. A first edition was published in 1949 Bibliographies designed as guides for further reading were added in the second edition, and the discussions of laboratory diagnosis and treatment were expanded, among other scriptions of individual diseases. Although these descriptions are changes. A third edition was published early in 1958, 642 p., $10 00.

Rivers, Thomas Milton, editor

Viral and rickettsial infections of man. Second edition 90 illustrations including 7 plates in color Philadelphia J B Lippincott Company, 1952 719 p illus (part col'd) 26 cm $7 50 3127

Contents General aspects f viral and rickettsial infections, by T M. Rivers. Chemical and physical procedures, by W M. Stanley and M. A. Lauffer Serologic reactions in viral and rickettsial infections, by J E. Smadel. Hemagglutination by viruses, by G. K. Hirst. Chick-embryo technics, by G. J Buddingh. Propagation of viruses and rickettsiae in tissue cultures, by J F Enders. Epidemiology by K. F Maxcy Interference between animal viruses, by R. W Schlesinger Diagnosis of viral and rickettsial infections, by A. B Sabin and others. Bacterial viruses—bacteriophages, by A. D. Hershey and J Bronfenbrenner Viral encephalitides, by P K. Olitsky and J Casals. Rabies, by H. N Johnson. Poliomyelitis, by H. A. Howe. The Coxsackie group by J L. Melnick and E. C. Curnen. Infectious hepatitis and serum hepatitis, by W P Havens, Jr and J R. Paul. Common cold, by F L. Horsfall, Jr Primary atypical pneumonia, by F L. Horsfall, Jr Influenza, by F L. Horsfall, Jr Smallpox and vaccinia, by J E. Smadel Psittacosis-lymphogranuloma group by K. F Meyer Trachoma and inclusion conjunctivitis, by P Thygeson. Measles, by G. Rake. Rubella, by G. Rake. Exanthem subitum, by G. Rake. Diseases caused by the virus of herpes simplex, by T F McNair Scott. Epidemic keratoconjunctivitis, by T M. Rivers. Varicella-herpes zoster group, by J Stokes, Jr Mumps, by J F Enders. Infectious mononucleosis, by T M. Rivers. Colorado tick fever by H. R. Cox. Yellow fever by M. Theiler Rift valley fever by M. Theiler Dengue, by A. B. Sabin. Phlebotomus fever by A. B Sabin. The typhus fevers, by J C. Snyder The spotted-fever group by H. R. Cox. Scrub typhus, by J E. Smadel. Q fever by J E. Smadel. Infections f minor importance, by J Warren. Bibliographic index. Subject index.

Note A comprehensive presentation of basic information, written primarily for nonspecialists in viral diseases, particularly medical students, general medical practitioners, and public health officers. Each chapter is accompanied by an extensive bibliography and the names of the authors of the cited literature are brought together in the bibliographic index, thus making it easy to trace specific original contributions. The relatively low price is due to partial underwriting of the cost of the preparation and publication by the National Foundation for Infantile Paralysis. The first edition was published in 1948. Although this edition is only few pages longer important revisions have been made and three new chapters have been added.

Note. The authors of this book define immunochemistry as "the study of the chemistry of antigens and antibodies and of the chemical bases of immunity and resistance. However their book, as implied in the title, is devoted chiefly to laboratory techniques and procedures which are useful to chemists doing analytical and experimental work in this field. Essentially it is a well-organized survey of the techniques which have been reported in the literature. Many of the chapters include generalized discussions of particular techniques or problems, and also details of specific procedures for analytical determinations in the laboratory. There are good selected lists of references to related literature.

Miner, Roy Waldo editor

The relation of immunology to tissue homotransplantation. Conference co-chairmen John Marquis Converse and Blair O Rogers. Consulting editor Blair O Rogers. New York Published by the Academy 1955 277–466 p. illus. 22 cm. (New York Academy of Sciences. Annals. Vol 59 art. 3) $4.00 3137

Contents: Part I, General discussion of immunology—systemic and local factors: Tissue response in immunity by R. L. Kahn. The allergic response and the tuberculin reaction, by R. A. Cooke. Skin transplants—homografts, by M. B. Sulzberger. Compatibility and noncompatibility by H. S. N. Greene. The role of wound healing in relation to the tissue and humoral responses in homotransplantation, by F. B. Engley jr and others. Reticuloendothelial activity during antibody response, by E. R. Gabrieli. Part II, Techniques for detection of immune responses: Observations on the circulation of homologous grafts of skin to recipients treated with sodium salicylate, histadyl, and hyaluronidase, by R. B. Stark and others. Definition of survival time of homograft by A. C. Taylor and J. W. Lehrfeld. Studies on the localization of radioactively labeled specific protein globulin in skin homotransplantation, by M. Goodman. The antibody response to skin homografts in mice, by P. A. Gorer. Some remarks on the immunological aspects of homografts, by P. Gorer. Tissue antibody mechanism, by D. [illegible] Part III, Methods of modifying the host response: Effect of skin extracts on the viability of homologous skin grafts in mice by C. A. Hardin and A. A. Werder. Induced alteration of the normal host-graft relationships in homotransplantation of mouse tumors, by N. Kaliss. The possible role of cortisone in overcoming resistance to the growth of human cancer in heterologous hosts, by H. W. Toolan. Transplantation of rat kidneys in peritoneum and pseudoperitoneal cavity by J. Long and others. Acquired tolerance of skin homografts, by R. E. Billingham and others. Part IV Immune reactions in tissue homotransplants: The immune concept—its relation to tissue transplantation, by M. [illegible] and others. Immunological factors in homogenous bone transplantation—I, histological analysis, by P. H. Curtiss jr and C. H. Herndon. Ovarian homotransplantation, by P. L. Krohn. The acquired immunity concept in kidney homotransplantation, by M. Simonsen. The immune concept—its relation to corneal homotransplantation, by A. E. Maumenee. Lymphoid biological response to corneal transplantation, by B. T. [illegible].

Note. A collection of papers first presented at a conference held by the Section of Biology of the New York Academy of Sciences in February 1954. A majority of them are based on research in which their authors had a part, as well as on the literature. References to the literature are included in some of the papers and several of them are accompanied by transcripts of the discussion at the conference.

Sevag Manasseh Giragos

Immuno-catalysis and related fields of bacteriology and biochemistry (Second edition revised and enlarged.) With a preface by Stuart Mudd. Springfield, Ill Charles C Thomas, 1951 547 p. illus. 23 cm. $12 00 3138

Contents (abridged): Part I, Antigens to biocatalysis. Part II, Mechanism of antibody formation. Part III, Antibody as specific enzyme inhibitor. Part IV Anti-enzyme immunity. Part V, Antibodies against respiratory enzymes. Part VI, Physiology and biochemistry of shock. References. Author index. Subject index.

Note. A notable study in which the author has integrated a wide range of knowledge to support his central theme that the production of antibodies and substances which inhibit the activities of enzymes, etc., [illegible] catalytic reaction. He emphasizes the parallels between bacteria and their corresponding antibodies and enzymes and their inhibiting reaction products. He states "practically all proteins foreign to the species present a special sort of biocatalytic power, namely that of stimulating and directing specifically the synthesis of antibody. The results of certain studies would seem to show that under appropriate conditions specific activity as enzyme and as antigen may and frequently do in fact reside in the same specific chemical configuration of the protein molecule. The book is organized as a monograph with references from text statements to the 61-page bibliography. The first edition appeared in 1945. It was substantially revised and augmented for this edition.

Sevag Manasseh Giragos, and others, editors

Origins of resistance to toxic agents. Proceedings of the symposium held in Washington D. C., March 25–27 1954 Editors M G Sevag Roger D Reid Orr E Reynolds. New York Academic Press, Inc. 1955 471 p. illus 24 cm. $12 00. 3139

Contents: Section I, Resistance to microbicides: Spontaneous and induced mutations to drug resistance in *Escherichia coli*, by H. B. Newcombe. Origin of drug resistance in microorganisms, by W. Szybalski and V. Bryson. Mechanism of resistance to penicillin in *Bacterium aerogenes* (*Aerobacter aerogenes*) by A. C. R. Dean. Mechanisms of the origin of resistance to drugs in protozoa, by R. J. Schnitzer. Section II, Resistance to herbicides and insecticides: Resistance of plants to herbicides, by W. E. Loomis. Resistance factors against *Leptinotarsa decemlineata* Say isolated from the leaves of wild *Solanum* species, by R. Kuhn and I. Löw. Physiological aspects of insect resistance to insecticides, by L. E. Chadwick. The enzymatic dehydrochlorination of DDT by C. W. Kearns. Theories on evolution, by C. P. Martin. Section III, Tolerance and addiction to drugs and alcoholism: Some effects of alcohol on metabolic mechanisms with applications to therapy of alcoholism, by E. C. Hoff and J. C. Forbes. The genetotrophic approach to alcoholism, by R. J. Williams. Biochemical effects of administration of narcotics and alcohol, by J. H. Quastel. The phenomena of tolerance by N. B. Eddy. Possible mechanisms of physical dependence to narcotics, by M. H. Seevers. Section IV Resistance factors, infectious agents, and cancer cells: Studies on transformations to resistance and dependence in leukemic cells by L. W. Law. Biochemical investigations on the mechanism of carcinogenesis by the azo dyes, by E. C. Miller and J. A. Miller. The nature of tumor immunity by M. K. Barrett. Factors in resistance to infectious agents, by H. A. Schneider. Section V Physiological, chemical, and genetic viewpoints: Biochemical properties in relation to the action of drugs and inhibitors, by H. K. Mitchell. Protein molecule, resistance to microbicides, mutations, and related problems, by M. G. Sevag. Experiments in microevolution—a summary from the physiological viewpoint, by R. W. Gerard. Appendices: Posing of the basic questions. Historical notes. Author index. Subject index.

Note. The symposium mentioned in the title of this book was held under the joint auspices of the Office of Naval Research and the University of Pennsylvania. Its basic theme and general outline were planned in advance of the meeting, and its outline is included in the volume. Its four major subdivisions indicate the scope of the conference: "I, Basic differences between the parent sensitive and derived resistant individuals (strains, etc.) "II, Control of the development of resistance. "III, Origin of drug-resistant individuals (strains, etc.) and "IV Projection into future. The principal subject is the mechanism of development of resistance to toxic agents, and a theme that runs generally through the papers and discussion is that this mechanism is associated with alterations or loss in enzyme protein. Each of the five sections included a period of discussion among the participants in the symposium, and the transcripts of these discussions are included in the volume. Lists of literature references, some of them rather extensive, are included with the individual papers.

Sherwood Noble Pierce

Immunology Third edition. Illustrated St. Louis The C. V Mosby Company 1951 731 p. illus. 22 cm. $4 50 3140

Contents (abridged): Infection and infectious agents. Inflammation and leucocyte response. Anatomical and physiological factors in infection and resistance of the individual. Natural and acquired immunity. Immunity mechanisms in experimental infections. Complement. Isohemagglutinins—blood groups. The Rh and Hr factors of human blood. Measurement of antibodies. Mechanism of antigen-

Bonar. Therapeutic action of sulfur for powdery mildews and rusts, by C. E. Yarwood. The aromatic diamidines, cinnamic acids, and nitrostyrenes in the treatment of fungus diseases, by A. C. Curtis. Filipin, an antibiotic inhibiting fungi, by D Gottlieb. The sensitivity of pathogenic actinomycetes to various sulfonamide and sulfone compounds, by C. Halde and D Newstrand. The effect of chlorquinaldol alone and in combination with neomycin of the intestinal microbial flora of man by B A Shidlovsky and others. Preliminary results with a new antibiotic, 1968 (sepra) in mice with experimental histoplasmosis, sporotrichosis, and candidiasis, by C. C. Campbell. Nystatin and actidione two antifungal agents produced by *Streptomyces noursei* by R. Brown and E. Hazen. Studies of the chemical properties and structure of *nystatin* (mycostatin) by J H Dutcher and others. Some in vitro characteristics of nystatin (mycostatin) by R. Donovick and others. Bioassay of nystatin (mycostatin) in body fluids, by J F Pagano and H. Stander The effect of nystatin (mycostatin) on experimental candidiasis in mice and *embryonated eggs*, by B. A. Steinberg and W P Jambor Moniliasis in experimental animals—prophylaxis and therapy with nystatin (mycostatin) by E. Hazen and others. Cutaneous moniliasis in pediatrics—diagnosis and treatment with nystatin by B Dobias Therapeutic activity of nystatin (mycostatin) in candida infections, by E. Drouhet. First results in Italy with a new antimycotic, nystatin by F Flarer The use of nystatin as a topical antifungal agent, by J H. Graham and others. Two cases of abdominal wall moniliasis, after colostomy treated with nystatin by A. G. Ochoa. The action of nystatin on the growth of *Sporotrichum schenckii* and on its behavior in vivo, by F Mariat. Evaluation of the action of nystatin (mycostatin) on *Histoplasma capsulatum* in vitro and in hamsters and mice by E. Drouhet, and J Schwarz. Mycostatin and aminostilbamidine treatment of experimental coccidioidomycosis, by L. E. Gordon and C. E. Smith. Therapeutic activity of mycostatin in mice infected with *Histoplasma capsulatum Coccidioides immitis Cryptococcus neoformans Candida albicans* or *Sporotrichum schenckii* by C. C. Campbell. Evaluation of nystatin in the treatment of coccidioidomycosis in man, by V D Newcomer and others. The sensitivity of *Histoplasma capsulatum* to rhodanine and related compounds, by I. B Christison and others. Structural elements of *Histoplasma capsulatum* and their role in immunization against experimental disease, by S. B Salvin and E. Ribi. Histoplasmosis—pathogenesis and immunology in relation to therapy by P K. Beamer and others. Problems in treatment of chronic histoplasmosis as experienced in over twenty cases, by C. A. Brasher and M. L. Furcolow Trials with 2-hydroxystilbamidine, aminostilbamidine MRD-112 and other agents in pulmonary histoplasmosis—experiments with more than twenty cases, by M L. Furcolow and C. A. Brasher Sulfonamides and experimental histoplasmosis, by R. L. Mayer and J Lanzola. The isolation of *Cryptococcus neoformans* from pigeon droppings, by C. W Emmons. Some ecologic studies of *Coccidioides immitis* in soil, by R. Lubarsky and O A. Plunkett. *Coccidioides immitis* in the soil of the southern San Joaquin valley by R. O Egeberg and A F Ely In vitro inhibition of *Coccidioides immitis* by antihistaminics, by D Pappagianis and G. Kobayashi. Effectiveness of DDS in the treatment of chromoblastomycosis and of mycetoma caused by *Nocardia brasiliensis* by A. González Ochoa. Successful treatment of mycetoma caused by *Monosporium apiospermum* by H. Seeliger and M. Reiffenscheid. Index of contributors. Index of subjects.

Note Scientists to the number of 108 from nine countries, including the United States of America, participated in the symposium of which this book is a product. As printed in the volume, the papers are somewhat condensed versions of the papers read at the meeting. Many of them are accompanied by literature references.

Swartz, Jacob Hyams

Elements of medical mycology Introduction by Fred D Weidman Second revised edition. New York Grune & Stratton 1949 179 p illus 22 cm $5 50 3133

Contents General discussion. Diagnosis of fungus infection. Blastomycetes yeastlike fungi. Genus *Microsporum* (Gruby 1843) Genus *Trichophyton* Other pathogenic fungi. Common contaminants and probable pathogens. Immune reactions. Sulfanilamide and its derivatives effect on fungi.

Note. A basic study of the elements of pathologic and clinical investigation of diseases caused by fungous agents. Its presentation of experimental, diagnostic and therapeutic procedures is systematically keyed to practical application. Special discussion is made of the common ringworm infections. An added feature of the volume is a large folding chart classifying the organisms by general and mycologic characteristics, and pathogenicity

IMMUNOLOGY

Boyd, William C

Fundamentals of immunology Third edition, completely revised and rewritten New York Interscience Publishers, Inc. 1956 776 p illus 23 cm $10 00 3134

Content Immunity and immunology Antibodies and antibody specificity Antigens. Cell antigens. Blood groups. Antibody-antigen reactions. Complement and complement fixation. Immediate hypersensitivity Delayed hypersensitivity Non-immunological equivalents of hypersensitivity reactions. Hypersensitivity and immunity Autoimmunization and disease. Immunity in action some examples. Practical use of immunity and hypersensitivity Laboratory and clinical technic. Index.

Note An introduction to the basic principles and facts of immunology directed to medical students and research workers in the fields of chemistry and biology The serological aspects are emphasized, but chapters are included also on laboratory techniques and clinical applications and in this edition the three "practical" chapters, Immunity in action "Practical use of immunity and hypersensitivity and "Laboratory and clinical technic, taken together are 250 pages long. The second edition was published in 1947 This third edition is substantially longer contains several new chapters, and many of those carried over have been extensively rewritten. Most of the chapters have been revised to some extent. Recent literature has been added to the extensive and useful chapter bibliographies.

Carpenter, Philip L

Immunology and serology Philadelphia W B Saunders Company 1956 351 p. illus. 24 cm. $6 50 3135

Contents Infection and immunity The immune reactions. Antigens. Serum proteins. Production of antibody The antigen-antibody reaction. Precipitation. Agglutination. Isohemagglutination. Toxins and antitoxins. Phagocytosis. Cytolysis and complement fixation. Antiviral immunity Allergy Appendix Experiments in serology Index.

Note A textbook based on the author's experience in teaching a course in immunology and serology at the University of Rhode Island. It provides an introduction to the subject at the advanced undergraduate and first-year graduate level In other words, it is directed to students with considerable previous education in biology biochemistry and physiology who are taking their first courses in immunology and serology It is written from a general, fundamental viewpoint without special emphasis on medical aspects although much information is included which is basic to medicine. Selected literature references are included. Laboratory experiments are described in the 14-page appendix.

Kabat, Elvin Abraham, and Manfred M Mayer

Experimental immunochemistry with a foreword by Michael Heidelberger Springfield Ill. Charles C Thomas 1948 567 p. illus. 24 cm. $10 00 3136

Content (abridged) Part I, Immunological and immunochemical methodology Precipitin reaction. Agglutination Complement and complement fixation. Anaphylaxis and allergy Antibodies and their characterization. Part II, Applications and uses of quantitative immunochemical methods. Estimation of antigens. Cross reactions. Effects of chemical treatment in altering immunochemical properties of proteins and polysaccharides. Part III, Chemical and physical methods and special procedures used in immunochemistry Kjeldahl nitrogen determination. Phosphorus estimation. Amino nitrogen determination. *Acetyl determination.* Estimation of uronic acid. Glucosamine estimation. Nucleic acid determination. Estimation of protein with the Folin-Ciocalteu phenol reagent. Determination of protein concentration by density measurement. Estimation of enzyme activity Electrophoretic analysis. Ultracentrifugal analysis. Ultraviolet absorption spectra Titration of proteins with acid and alkali. Dialysis and ultrafiltration. Extraction of antigens from microorganisms. Part IV Preparations Crystalline serum albumins. Gamma globulins. Crystalline enzymes and enzyme precursors. Bence-Jones proteins. Purification of antibodies. Acetylated and malonyl proteins. Phosphorylated proteins. Diphtheria toxin. Balvin-type antigens. Blood group substances. Appendix. Index.

Histoplasma, by A. B. Sabin. Some epidemiological and clinical aspects of pulmonary histoplasmosis in a farm family by C. G. Loosli. An outbreak of an unusual form of pneumonia at Camp Gruber Oklahoma, a review of the outbreak and followup studies, by A. E. Feller and others. Followup of the Camp Gruber epidemic, by H. W Larsh and M. L. Furcolow. *Epidemics of histoplasmosis*, by J. T Grayston and M. L. Furcolow. Discussion of serology of histoplasmosis, by S. B. Salvin. Laboratory infections with *Histoplasma capsulatum*, by M. J. Wills and M. L. Furcolow. Summary, by C. E. Smith, chairman. Second session, Mycological aspects of histoplasmosis: *Histoplasma capsulatum*, a review of its historical background, by L. Ajello. Growth of *Histoplasma capsulatum* in liquid mediums, by S. B. Salvin. The problem of selective isolation mediums for *Histoplasma capsulatum*, by M. A. Gordon. Laboratory studies of *Histoplasma capsulatum*: Size of spores, by G. C. Cozad and M. L. Furcolow. Efficiency of the flotation method in isolation of *Histoplasma capsulatum* from soil, by H. W Larsh and others. The size of spores of *Histoplasma capsulatum*, by A. L. Hubbell and H. W Larsh. Isolation of *Histoplasma* by animal inoculation, by C. W Emmons. The mouse as an aid in the isolation of *Histoplasma capsulatum* and the effect of adjuvants, by H. W Larsh and others. Infection of mice with single spores of *Histoplasma capsulatum*, by L. Ajello and L. C. Runyon. Experimental histoplasmosis in mice, a preliminary report, by J. T. Grayston and others. Actidione in the treatment of experimental histoplasmosis in mice, by C. W Emmons. Immunization of mice against *Histoplasma capsulatum*, by S. B. Salvin. Cultivation of *Histoplasma capsulatum* in the chick embryo, by H. W Larsh and others. Summary by H. W Larsh, chairman. Third session, Serological diagnosis of histoplasmosis: Evaluation of histoplasmin antigens for the complement fixation test, by J. R. Schubert. The collodion agglutination test, by S. Saslaw. The precipitin test in human histoplasmosis, by S. B. Salvin and M. L. Furcolow. A study of the complement fixation reaction in histoplasmosis, employing whole yeast-phase cells as antigen, by J. T. Grayston. Use of yeast-phase antigens in complement fixation test for histoplasmosis. Results with ground yeast-phase antigens in serial specimens of serums from 37 patients, by C. C. Campbell. Cross reactions of mycotic antigens, by C. C. Campbell. Comparative serologic study. Introduction, by M. L. Furcolow. Histoplasmin and whole yeast phase *Histoplasma capsulatum* as antigens in complement fixation tests on histoplasmosis, by D. J. Tenenberg. Collodion agglutination test and complement fixation test with ground yeast-phase antigen, by S. Saslaw. Precipitin and complement fixation with [illegible] whole yeast-phase antigen, by S. B. Salvin. Preliminary experiments on the separation of antiprotein and antipolysaccharide antibodies in North American blastomycosis, by D. S. Martin. Summary and recommendations, by A. B. Sabin, chairman. Fourth session. The skin test as an epidemiological tool: Analogy of coccidioidin and histoplasmin sensitivity by C. E. Smith. Histoplasmin sensitivity conversion rates, by M. E. Mason. The interrelationship of histoplasmin sensitivity in an endemic area, by L. D. Zeidberg. Histoplasmin and tuberculin sensitivity among Illinois residents, by W. G. Bandemkopf and others. Geographic distribution of histoplasmin reactors among school-age children in Jackson County Iowa, by J. T. Grayston, and others. Histoplasmin sensitivity in animals, by R. W Menges. Continued observations on histoplasmin sensitivity and calcified pulmonary lesions in a rural community by C. F. T. Mattern, and others. Standardization of histoplasmin, by W. G. Workman and G. A. Hottle. Availability of standardized histoplasmin, by A. B. Hillegas. Summary by C. G. Loosli. Fifth session. Natural reservoirs of the fungus. Isolation of *Histoplasma capsulatum* from soil, by C. W Emmons. Soil studies, by L. D. Zeidberg. Soil studies, by H. W Larsh and A. Hinton. Studies of *Histoplasma capsulatum* experimentally introduced into tap-water by C. Ritter and R. L. Cody. Water as a possible natural reservoir of *Histoplasma capsulatum*, by M. A. Gordon. Pathological studies of histoplasmosis. Preliminary report on 30 cats and 30 dogs from Loudoun County Virginia, by D. A. Rowley. Histoplasmosis in animals, by C. W Emmons. Animal histoplasmosis, by C. R. Cole and others. The role of animals in the epidemiology of histoplasmosis, by R. W Menges and others. Air and water in the natural history of *Histoplasma capsulatum*, by M. L. Furcolow and W. H. Kurz. Summary by K. Habel, chairman. Sixth session. Summarization and recommendations (J. M. Andrews, chairman). Clinical aspects, pathology and epidemiology. Serology. Skin tests. Mycology. Natural reservoirs. Discussion. Bibliography

Note Histoplasmosis, a fungus infection of the human and domestic-animal population, knowledge of which has tremendously increased since the close of World War II. The Conference on Histoplasmosis was called in 1952 by the Communicable Disease Center of the U S Public Health Service to consider the various aspects of the disease. Those who participated in the conference were asked not to review the literature or to summarize their published work, but to deal entirely with their current research, even if incomplete. These published *Proceedings* are a permanent and valuable result of the conference, covering all aspects of the disease, especially its cause and prevention. Each of the papers is accompanied by a list of bibliographical references.

PARASITOLOGY

Baker E. W., and others

A manual of parasitic mites of medical or economic importance. By E. W Baker, T M Evans D J Gould W B Hull and H L. Keegan. New York National Pest Control Association Inc., 1956 170 p illus 23 cm. $4.25 3144

Contents: Introduction. Morphology. Mounting and examining mites. Key to included species. Holothyridae. Dermanyssidae. Halarachnidae. Rhinonyssidae. Miscellaneous mesostigmatic mites. Macrochelidae. Uropodidae. Pyemotidae. Scutacaridae. Tetranychidae. Cheyletidae. Demodicidae. Myobiidae. Psorergatidae. Trombiculidae. Trombidiidae. Erythraeidae. Hydrachnellae. Acaridae and Glycyphagidae. Sarcoptidae. Psoroptidae. Epidermoptidae. Listrophoridae. Cytoditidae. Laminosioptidae. Feather mites. Oribatei. Index.

Note A reference book useful in the identification and control of parasitic mites. It is not as strictly limited in scope as the title indicates. A number of mites are described which are of no known economical or medical importance. According to the introduction, "The species discussed are either of direct medical and veterinary importance or are frequently encountered because they are parasitic on animals in which man is interested. In the latter category are mites parasitic or predaceous on bees, mosquitoes, grasshoppers, roaches, moths and earthworms. All but a few pages of the volume are devoted to concise monographs on individual species in which (in most instances) there is first a short general discussion covering such points as range, host parasitized, and diseases transmitted; then descriptions of morphology, life cycle and control methods. One or more drawings is usually included. Literature references are given.

Belding David Lawrence

Textbook of clinical parasitology Second edition. New York Appleton-Century-Crofts Inc., 1952 1 139 p. illus. 25 cm. $12.00. 3145

Contents (abridged) Section one, General parasitology: The pathology of parasitic infections. The immunity of parasitic infections. The transmission of parasitic diseases. The diagnosis of parasitic diseases. The treatment and prevention of parasitic diseases. Section two, The protozoa. Section three, The nemathelminthes or roundworms. Section four, The Cestoidea or tapeworms. Section five, The Trematoda or flukes. Section six, Arthropods. Section seven, Technical methods for the diagnosis and treatment of parasitic infections. The examination of parasitic protozoa. The examination of helminths. Serological and chemical methods of diagnosis. The methods of examination of intermediate and reservoir hosts, including mollusks, fishes, birds, mammals and arthropods. Useful drugs in the treatment of parasitic diseases. Insecticides and repellents. Index of authors. Index of subjects.

Note. In this book designed for the instruction of medical students, public health officials, etc., the zoology of the parasites has been subordinated to the pathology diagnosis, treatment, and prevention of diseases. This is true, though the greater part of the work is arranged by systematic zoological groups. In the discussions of each group and subgroup, there is some information on classification and morphology but more space is given to descriptions of life cycles, pathogenicity treatment, and other aspects of interest in medicine and public health. The material added in the present edition includes recently developed knowledge in the amoebida, malaria, etc., recently developed diagnostic methods, and new chemotherapeutic agents. The bibliographies and illustrations have been revised. The scaled drawings of the morphology and life cycles of particular parasites which were a feature of the first edition have been retained.

Boyd Mark Frederick, editor

Malariology a comprehensive survey of all aspects of this group of diseases from a global standpoint. By sixty five contributors Philadelphia W B Saunders Company 1949 2 v illus. 26 cm $35.00 3146

Contents (abridged) Volume I. Section I, Introduction. Historical review I. M. F Boyd. Section II, Parasitology: A catalogue of the species of the genus *Plasmodium*, and index of their hosts, by R.

antibody reactions—cellular agglutination. Precipitins. Toxins and antitoxins. *Normal convalescent and immune sera.* Biological and antigenic specificity Modified and conjugated antigens. Bacterial antigens and specificity The importance of antibodies in diagnosis. The basis of bacterial complement fixation technique. Flocculation *tests in syphilis. Hypersensitiveness. The significance of allergy in* tuberculosis and a few other diseases. Colloids. Authors index. Subject index.

Note A standard treatise which was used as a text in medical schools and *as a survey and guide to the literature by medical* graduates. The field is covered in a compact style with frequent references to the source literature. Extensive bibliographies are included in the chapters. Although intended primarily for readers *who will make clinical applications of the knowledge, the clinical* aspects are not emphasized over the fundamental knowledge. The second edition was published in 1941 Important revisions were made throughout the work in preparing this edition. These include changes in *the text of many chapters and additions to the bibliographies.*

WHITELOCK, *OTTO V ST*, *editor*

Natural resistance to infections Editor in chief *Otto v St. Whitelock.* Associate editor Franklin N Furness Conference chairman Walsh McDermott Consulting editor J S Kiser New York Published by the Academy 1956 *233–414* p illus 22 cm (New York Academy of Sciences Annals Vol 66, art. 2) $3 50 3141

Contents The nature of the properdin system and its interactions with polysaccharide complexes, by L. Pillemer The demonstration *of the bactericidal activity of the properdin system, by A. C.* Wardlaw and L. Pillemer The kinetics of the bactericidal activity of the properdin system, by R. J Wedgwood and L. Pillemer Inactivation of virus by the properdin system, by H. S. Ginsberg and R. J Wedgwood. *The relationship of Terrapterone antibody activator* to the serum-properdin system, by H. A. Feldman. Properdin levels in infectious and noninfectious disease, by C. F Hinz, Jr The properdin system in relation to fatal bacteremia *following* total-body irradiation *of laboratory animals, by O. A. Ross. The effect of* irradiation on natural resistance to infection by C. P Miller Increase in resistance *following administration* of bacterial lipopolysaccharides, by M. Landy *Some factors affecting the resistance of animals to bacterial infection, by D Rowley The effect of various* substances on resistance to experimental infections, by J S. Kiser and others. The effect of peripheral vascular collapse on the antibacterial defense mechanisms, by J Fine. N utritional and genetic *factors in the natural resistance of mice to Salmonella infections, by* H. A. Schneider Cellular products affecting the establishment of bacteria of different virulence by W Braun. Nonspecific defense reactions in bacterial infections, by A. A. Miles. Effect of compo*nents of the tricarboxylic-acid cycle on bacterial infections*, by L. J Berry Biochemical studies on the bactericidal power of phagocytic cells, by J G. Hirsch. *Phagocytosis-promoting factor of* plasma and serum, by J L. Tullis and *D M Surgenor Serum bactericidins active against gram-positive bacteria, by Q N Myrvik.* Effect of levan and dextran on the inflammatory process, by S. Hestrin Concluding remarks, by A. A. Miles.

Note. Papers first presented at a conference held by the Section of Biology of the New York Academy of Sciences in March, 1956, have been made available in this publication. The subject of the conference—as its title is intended *to indicate*—was natural resistance rather than the immunity of antibodies. In the "Concluding remarks Miles raises but does not attempt to answer the question of whether there is such a thing as natural resistance, or whether all resistance to infection is due to antibodies.

WHITELOCK, *OTTO V ST*, editor

Second tissue homotransplantation conference Editor in chief Otto v St. Whitelock Associate editor Franklin N Furness Conference chairmen John Marquis Converse and *Blair O Rogers. New York Published* by the Academy, 1957 735–1073 p. illus 22 cm *(New York Academy of Sciences* Annals. Vol. 64, art. 5) $4 50 3142

Contents Introductory remarks, by H. Koprowski. Introduction, by J M Converse and B. O. Rogers. Part I, Genetics, phylogenetics, and acquired tolerance The genetics of skin grafting, by E. J. Eichwald and others. The genetics of skin homotransplantation in the human by B O Rogers. Prolonged survival of a skin homograft in a patient with very extensive burns, by C. D Kay Scale homotransplantation in goldfish (*Carassius auratus*) by W H. Hildemann. Postpartum induction of tolerance to homologous skin in rats, by M F A. Woodruff. Studies on epidermal cell suspensions, with particular reference to problems of transplantation immunity by R. E. Billingham. The homotransplantation of functional erythropoietic elements in the rat following total-body irradiation, by T T Odell and others. Part II Cellular antibodies, serum antibodies, and delayed hypersensitivity phenomena Similarities between *homograft rejection* and tuberculin-type allergy—*a review of* recent experimental findings, by H. S. Lawrence. Observations on immunological manifestations of the homograft rejection phenomenon in man—the recall flare by F T Rapaport and J M. Converse. *In vitro* studies on cell injury in the tuberculin-type reaction—implications in homotransplantation, by C. B. Favour Passive immunity against four mouse leukoses by means of isoimmune sera, by D B. Amos and E. D. Day The problem of specific inhibition of *antibody synthesis in adult animals by immunization of embryos,* by M. Cohn. Production of delayed sensitivity to protein without detectable circulating antibody by J W Uhr and others. Transplantation studies in patients with agammaglobulinemia, by R. A. Good and others. The level of gamma globulin postoperatively after perforating keratoplastics—a preliminary report on 14 cases, by R. Klen and M Kinsky The demonstration of delayed-type reactivity in congenital agammaglobulinemia, by H. M. Porter Part III, Embryonal, adult, and tumor tissue homotransplants The possibilities of trephoplastic transplants, by R. M. May Studies on kidney homotransplant rejection using a cross-circulation technique, by R. H. Egdahl and D M. Hume. The relation of hair cycles to the survival time of suprapanniculur and subpanniculur skin homografts in rats, by D L. Ballantyne, Jr and J M. Converse. Prolonged survival of skin homografts in uremic patients, by G. J. Dammin and others. The survival of homografts in mice pretreated with antisera to mouse tissue, by N Kaliss. Immune phenomena elicited by transplanted tumors—II, Cytotoxic effects of immune guinea pig sera on mouse cancer cells, by O. N Rambo, Jr and others. Chemical studies on the enhancing factor by A. A. Kandutsch. Part IV *Lymphocytes,* lymph nodes, and homotransplantation Studies on tissue homotransplantation in mice, using diffusion-chamber methods, by G. H Algire and others. *Cellular and humoral factors in the immunity to skin homografts—experiments with a* porous membrane, by M. F A. Woodruff. *Studies on the response of the regional lymph node to skin homografts, by R. J Scothorne.* Studies on the homotransfer of *suspensions of lymph-node cells,* by T N Harris and S. Harris. *Studies on the role of antibodies in the failure of homografts, by G. A. Voisin and P Maurer*

Note Papers originally presented at a conference held by the Section of Biology of the New York Academy of Sciences in February 1956 constitute this monograph. The conference was the second one on tissue transplantation held by the Section on Biology The monograph based on the proceedings of the first conference held in February 1954 is described above under Miner Roy Waldo, editor The papers of the second conference represent a different body of experience than those presented at the first conference. The second conference was devoted largely to the results of basic experiments designed to throw light on fundamental physiologic principles bearing on tissue homotransplantation, while the first conference included papers on the results of both basic experimentation and clinical experience.

WILLIS, *MYRON J*, *editor*

Proceedings of the Conference on Histoplasmosis *held at Excelsior Springs, Missouri,* November *18–20 1952* Sponsored by the Communicable Disease Center of the Public *Health Service. Washington D C.* Government Printing Office, 1956 *322 p illus. 26 cm* (United States. Public Health Service. Public health monograph no 39) $2 00 *3143*

Contents First session, Clinical pathological, and epidemiological aspects of histoplasmosis Clinical diagnosis of histoplasmosis, by M L. Furcolow The fungistatic action of stilbamidine and 2 hydroxy-stilbamidine against *Histoplasma capsulatum* as compared to *Blastomyces dermatitidis,* by I Snapper and S. S. Schneierson. General aspects of the pathology of histoplasmosis, by J Schwarz. Problems in the histological diagnosis of histoplasmosis, by H. E. Fisher-Moloney Differential pathology of histoplasmosis, by H. E. Fisher-Moloney Differential pathology of histoplasmosis pneumonitis caused by ton. An epidemic of military granulomatous pneumonitis caused by

absence made during World War II and subsequently. Also, the recent literature has been added to the extensive, classified bibliography. A sixth edition was published in 1951. $15.00.

CRAIG CHARLES FRANKLIN

Laboratory diagnosis of protozoan diseases. Second edition, with 56 illustrations and 7 colored plates. Philadelphia Lea & Febiger 1948. 384 p illus. (part col d) 24 cm $6.50. 3150

Contents (abridged) Part I, Laboratory diagnosis of amebiasis and flagellate infections. Part II, Laboratory diagnosis of the leishmaniases—kala-azar, oriental sore and espundia. Part III, Laboratory diagnosis of the trypanosomiases—West African or Gambian sleeping sickness—East African or Rhodesian sleeping sickness—Chagas' disease. Part IV Laboratory diagnosis of coccidiosis. Part [illegible] Laboratory diagnosis of the malaria plasmodia. Part VI, Laboratory diagnosis of balantidiasis, Blastocystis cells. References. Author's index. Subject index.

Note A text and reference book designed for physicians who conduct their own clinical laboratories, for public health officials, and for laboratory technicians. The volume includes those methods for laboratory diagnosis which have proved their value in work with protozoan diseases, together with an evaluation of their usefulness. Each section concludes with "Critique of diagnostic methods" wherein suggested diagnostic procedures based on the author's own experience. The revisions and changes made in this new edition are due largely to wartime experience and research, especially with regard to [illegible] malarial fever [illegible], and other intestinal flagellate infections. A few references, published since the previous edition (1943), have been added to the nine-page bibliography.

CULBERTSON JAMES THOMAS

Immunity against animal parasites. New York Columbia University Press, 1941 274 p. illus. 23 cm. $3.50 3151

Contents Introduction. Natural resistance and acquired immunity. Natural resistance [illegible] specifically acquired immunity. [illegible] for immune response. [illegible] Immunity. Mechanisms of acquired immunity. Demonstrations of immunity. Immunity in specific diseases. The amebiases. The leishmaniases. The trypanosomiases. The malarias. The coccidioses. The trematodiases. The cestodiases. The nematodiases. Response to arthropods. Applied immunology. Classification of parasites. Vaccination against parasites. Diagnosis of parasitic infection.

Note An extensive but highly technical discussion of a branch of the study of human disease which was practically unknown before the advent of the 20th century. The reader is assumed to be well versed in parasitology and immunology. The literature on these two subjects from the year 1929 onward has been consulted and significant material thus acquired has been incorporated.

FAUST ERNEST CARROLL

Human helminthology A manual for physicians, sanitarians, and medical zoologists. Third edition, thoroughly revised, with 313 engravings. Philadelphia Lea and Febiger 1949 744 p illus. 24 cm. $10.00 3152

Contents (abridged) Section [illegible] The scope of helminthology. The phenomenon of parasitism in helminth groups. The [illegible] of helminthic infections. The interrelations of the helminth parasite and its host. Control of the helminthic infections of man—the scope of the problem. The scientific nomenclature of helminth parasites. Section II. The Platyhelminths or flatworms. The trematodes or flukes. The human blood flukes. Trematode parasites of the intestinal tract, biliary passages and lungs. The cestodes or tapeworms. Section III, The Acanthocephala, or thorny-headed worms. Section IV The Nematoda, or true roundworms. The aphasmid nematode parasites of man. The phasmid nematode parasites of man. Section [illegible] The Gordiacea, or "hair worms." Section VI, The Annelida. The leeches (Hirudinea). Section VII, Technical aids in the diagnosis and treatment of helminthic infections. The basic equipment required for the diagnosis of helminthic infections. The collection, preparation and preservation of helminthological material. The identification and differential diagnosis of helminth parasites, their larvae and eggs. Intermediate and reservoir hosts involved in human helminthic infections. Anthelmintics and their use. Important literature on human helminthology. General literature. Literature on special groups. Author index. Subject index.

Note A comprehensive manual which is used both for teaching and for reference. The third edition is an extensive revision of the previous edition. New data and concepts have been introduced, including information from findings resulting from investigations conducted during military operations in warm climates during the war years 1942-1945; older information has been re-evaluated. The chapter on Hirudinea (leeches) is new as is glossary of zoological and medical terms contained in the first chapter. The bibliography has been substantially increased and brought up to date. Thirty-four new illustrations have been added, and some older ones revised and remodeled.

GOULD, SYLVESTER EMANUEL

Trichinosis. Springfield Ill Charles C Thomas 1945 356 p illus. 25 cm. $6.00 3153

Contents Historical. Life cycle. Morphology. Epidemiology. Trichinosis in animals. Pathology. Immunology. Laboratory diagnostic methods. Symptomatology. Diagnosis. Treatment. Prognosis. Control measures. Bibliography. Author index. Subject index.

Note The aspects of trichinosis which are of interest to medicine, food inspection, and public health are covered in this monograph. The chapters on the clinical aspects are especially full. The work is essentially a digest of the world literature pertaining to the subject. The bibliography covers publications issued 1822–1945. Statements in the text are keyed to the bibliography. There are approximately 121 figures, of which a considerable number are reproduced from microphotographs of trichina-infected tissue.

HERMS, WILLIAM BRODBECK

Medical entomology with special reference to the health and well being of man and animals. Fourth edition. Based on the book known as *Medical and veterinary entomology* New York The Macmillan Company 1950 643 p illus. (part col d) 24 cm. $9.00 3154

Contents Introduction. Scope and method. Parasites and parasitism. How arthropods cause and carry disease. Structure, development, and classification of insects and arachnids. Insect and arachnid mouth parts. Cockroaches and beetles. Bugs. The lice. Gnats (exclusive of mosquitoes). Mosquitoes—classification and biology. Mosquitoes as vectors of disease. Mosquito abatement. Horseflies, deer flies, and snipe flies. Houseflies. Bloodsucking muscoid flies. Myiasis. Louse flies. Fleas. Ticks and tick-borne diseases. Mites. Venomous and urticarial arthropods. Index.

Note A standard textbook and reference work in which the subject is presented chiefly from the standpoint of public health. However there is also a good deal of material of veterinary interest, for instance a detailed description of the technique of the control of poultry lice by dipping the birds. Statements in the text are carefully identified with the source articles, hence, the book serves as a guide to a considerable range of literature. It has been substantially revised in this edition and now includes discussions of DDT and other new insecticides in the control of insect pests. It does not of course include material on all of the recently developed insecticides.

JAMES MAURICE THEODORE

The flies that cause myiasis in man. Washington D C. Government Printing Office 1947 175 p. illus 23 cm. (United States. Department of Agriculture Miscellaneous publication no 631) Gratis. 3155

Contents Introduction. Types of myiasis. Life histories. Morphology. Technique for rearing, preserving, and shipping. Classification of the Diptera. Keys to families of Diptera. The family Sarcophagidae. The family Calliphoridae. The family Gasterophilidae. The family Cuterebridae. The family Hypodermatidae. The family Oestridae. The family Muscidae (including the Anthomyiidae). The family Tipulidae. The family Psychodidae. The family Sylvicolidae. The family Stratiomyidae. The family Therevidae. The family Syrphidae. The family Ephydridae. The family Drosophilidae. The family [illegible]idae. The family Piophilidae. The family Sepsidae. The family Phoridae. The family Larvaevoridae (Tachinidae). Literature cited. Index.

Coatney and R. L. Roudabush. Life cycles of the malaria parasites with special reference to the newer knowledge of pre-erythrocytic stages, by C. G. Huff The human parasites of the genus *Plasmodium* by E. Brumpt. A photographic atlas of human plasmodia, by M F Boyd. Synopsis of species found in other mammals, by L. T Coggeshall. Synopsis of species of avian malaria parasites, by R. Hewitt. Laboratory diagnosis of malaria infections, by M F Boyd and others. In vitro methods for study and cultivation of plasmodia, by Q M Geiman. Section III Definitive hosts Insect vectors, by Col Sir R. Christophers. Anopheline mosquitoes—morphology in different stages and instars—life history by H. S. Leeson and P A. Buxton The physiology of mosquitoes, by V B Wigglesworth. Ecology of anopheline mosquitoes, by M. Bates. Culicine and aedine mosquitoes and the malaria infections of lower animals, by L. Vargas. Laboratory technics for the study of simian malaria, by R. J Porter Technics applicable to experimental infection of birds, by R. Hewitt. Section IV Intermediate host Epidemiology of malaria—factors related to the intermediate host—factors related to the definitive host, by M F Boyd. Endemic and epidemic prevalence, by Col. Sir R. Christophers. Volume II. Surveys—epidemiologic and entomologic, by M F Boyd and others. The pathologic anatomy of malaria, by H. C. Clark and W J Tomlinson. The physiologic pathology of malaria, by J D Fulton and B. G. Maegraith. Immunity in the malaria infections, by W H. Taliaferro. Old and new plasmodicides, by L. T Coggeshall and B Craige. Prevention of malaria infections by drug prophylaxis, by J J Sapero Treatment of patent infections, by W S. Dove. Induced malaria as a therapeutic agent, by F T Becker Section V Control and eradication General considerations in control and eradication by Sir M Watson. Species sanitation and species eradication for the control of mosquito-borne diseases, by F L. Soper Mosquito repellents, by E. F Knipling Imagocides, by F C. Bishopp. Drainage of mosquito-breeding water collections, by E. H. Magoon and others. Larvicides, by F C. Bishopp. Naturalistic methods of anopheline control, by K. B Williamson. Control of malaria in the United States Army by J S. Simmons. Planning for malaria control by M. F Boyd. Appendixes. Indices.

Note The contributors to this monumental work include authorities of several nations and their papers were written especially for it. The two volumes contain together 70 papers or chapters. Not listed above but nevertheless valuable are three series of six papers each which cover the anophelines, the incidence of malaria, and the control of malaria in the various regions of the world. The appendixes contain lists of equipment for field and laboratory investigations, directories of manufacturers and distributors of equipment and supplies for use in mosquito control Each chapter is accompanied by extensive references. The indexes are exceptionally full, and the author index includes the names of authors of cited papers.

CHANDLER, ASA C

Introduction to parasitology, with special reference to the parasites of man Ninth edition. New York John Wiley & Sons, Inc, 1955 799 p illus 23 cm $8 50 3147

Content Introduction Parasites in general. Part I, Protozoa Introduction to protozoa. Spirochetes. Amebas. Intestinal flagellates and ciliates. Hemoflagellates—I, Leishmania and leishmaniasis—II, Trypanosomes. The Sporozoa—I Malaria. Other Sporozoa, and arthropod-borne microorganisms other than protozoa. Part II Helminthology Introduction to the worms. The trematodes or flukes—I, General account—II Schistosomes—III, Other trematodes The Cestoidea or tapeworms. Acanthocephala (spiny-headed worms) The nematodes in general Trichuris, Trichinella, and their allies. The hookworms and their allies—suborder Strongylata. Other intestinal nematodes. Filariae, Spiruroids, and guinea worm. Part III, Arthropods Introduction to arthropods. The Acarina (mites) and Pentastomida. Ticks. Bedbugs and other Hemiptera Lice (Anoplura and Mallophaga) Fleas (Siphonaptera) Diptera—Bloodsucking and disease-carrying flies other than mosquitoes—II Mosquitoes—III, Fly maggots and myiasis Sources of information. Index.

Note A long-established, introductory text in which the biological aspects of human parasitology are emphasized. Life cycles, epidemiological factors, interrelations of parasite and host, and other aspects which underlie medical and public-health techniques of treatment and prevention are given more attention than classification, nomenclature, and morphology It is used as a text for first courses in parasitology in medical schools, schools of zoology, etc and as a reference book. The eighth edition was published in 1949 In this edition the most obvious changes are in the illustrations, many of which are new and in the bibliographies to which have been added references to literature published as recently as 1954 In addition a number of the chapters have been rewritten in whole or in part although the scope and arrangement of the book are unchanged.

COGGESHALL, LOWELL T, AND OTHERS

The chemotherapy of filariasis New York The New York Academy of Sciences 1948. 152 p illus 24 cm (New York Academy of Sciences Annals Vol 50, p 19–170 1948) $2 50 3148

Contents Filariasis, by L. T Coggeshall. General experimental methods used in studying filaricides, by R I. Hewitt. Use of arsenicals in filariasis, by G. F Otto and T H. Maren. Treatment of filariasis with anthiomaline (lithium antimony thiomalate) by H. W Brown Treatment of filariasis with neostibosan and some other compounds, by J T Culbertson. Experimental therapy of onchocerciasis with trivalent antimonials by F C. Rector and others. Tolerance of antimony and arsenic by intensively treated patients, by H. M Rose. Chemistry of the cyanine dyes, by L G S. Brooker Chemotherapeutic activity of cyanines and related compounds in filariasis in the cotton rat, by H. N Wright and others Effect of cyanine dyes on the metabolism of *Litomosoides carinii*, by E. Bueding. Antifilarial action toxicology and clinical trial of cyanine dyes in filariasis, by L. Peters. The chemistry of piperazine compounds in the chemotherapy of filariasis, by S. Kushner and others. Parasitology of piperazines in the treatment of filariasis, by R. I. Hewitt and others. Some toxicological and pharmacological properties of 1-diethylcarbamyl-4-methylpiperazine hydrochloride, hetrazan, by B K. Harned and others. The treatment of filariasis bancrofti with 1-diethylcarbamyl-4-methylpiperazine hydrochloride (hetrazan) by D Santiago-Stevenson and others.

Note The papers presented in this volume were read at a conference held by the New York Academy of Sciences in October, 1947 Filariasis, a parasitic disease, the chief complication of which is elephantiasis, had been given increased attention after thousands of American soldiers contracted it in the Pacific during World War II. Since control of the infection by means of insecticides and immunization holds little promise of success, the main effort is now being directed toward the discovery of effective drugs. Results of experiments with various chemical compounds on animals and humans are reported in these papers. Brief bibliographies are given at the ends of some of the papers.

CRAIG, CHARLES FRANKLIN, AND ERNEST CARROLL FAUST

Clinical parasitology With a chapter on "Control of medically important arthropods," by Albert Miller Fifth edition thoroughly revised illustrated with 326 engravings and 6 colored plates Philadelphia Lea & Febiger 1951 1 032 p illus (part col'd) 24 cm 3149

Contents (abridged) Section I General introduction and orientation The epidemiology of parasitic infections The disease processes produced by parasites in the human body and their manifestations. Diagnosis, prognosis and treatment of parasitic infections. The geographical distribution of parasitic infections, with special reference to human disease. Scientific nomenclature. Section II, Protozoa and protozoan infection. Section III, Helminths and helminthic infections The roundworms. The aphasmid nematode parasites of man. The Gordiacea or "hairworms. The morphology biology and classification of the flatworms (Platyhelminthes) The digenetic trematodes of flukes, general considerations. The cestodes or tapeworms of man. The Acanthocephala or thorny-headed worms. The leeches (Hirudinea) Section IV Arthropods and human disease The morphology biology and classification of arthropods of medical importance. Insects of medical importance Biting lice (Mallophaga) and sucking lice (Anoplura) The flies or Diptera. The fleas or Siphonaptera. Insects causing vesication urtication and venenation of man. Section V Technical appendix Technics and aids for the collection, culture preparation and identification of parasitic protozoa. Technics and aids for collection, culture, preparation and identification of helminths. Technics and aids for the collection, preparation and identification of arthropods of medical importance. Synoptic tables on diagnosis, recommended treatment and teaching aids in clinical parasitology Section VI, The literature of clinical parasitology Index of authors. Subject index

Note. A long-established comprehensive text for students and reference manual for practitioners, laboratory workers, and directors of diagnostic laboratories. In it are presented the most essential facts regarding symptoms, methods of diagnosis, treatment and control of those parasites which are of clinical and public health interest. The fourth edition was published in 1945 A substantial amount of material has been added in the present edition, reflecting the development of new drugs, new insecticides, and the other

VON BRAND THEODOR

Chemical physiology of endoparasitic animals. New York Academic Press, Inc. 1952 339 p. illus. 23 cm. $8.50. 3161

Contents (abridged) Part I. Chemical composition of endoparasites: Dry matter and inorganic substances. Carbohydrates. Lipids. Proteins. Miscellaneous physiologically active substances. Pigments. Toxic substances. Part II. Metabolism of endoparasites: Water metabolism and osmotic relationships. Carbohydrate metabolism. Lipid metabolism. Protein metabolism. The aerobic and anaerobic gaseous exchanges. The growth requirements of parasites. Part III. Chemical host-parasite relationships: Nutritional relationships between parasites and hosts. Metabolic disturbances in parasitic infections. Endocrinological relationships. Parasite physiology and chemotherapy. Author index. Subject index.

Note A summary of the established knowledge of the chemical composition, metabolism, and biochemical aspects of host-parasite relationships of such parasites as protozoa and the endoparasitic arthropods. The text is a compact literature digest with careful references to the source articles. The author index includes the names of all authors of cited papers. The book is of interest to professional biochemists, physicians specializing in tropical medicine and parasitology and zoologists doing research in parasitology. The author is associated with the Laboratory of Tropical Diseases of the National Institutes of Health.

Note The families, genera, and species of Diptera responsible for myiasis in man are identified and described in this monograph, myiasis being defined as the condition resulting from the invasion of tissues or organs of man or animals by dipterous larvae. For the families and genera, there are general descriptions, followed by keys to aid in identification of both adults and larvae. The species are described under the following headings synonyms, recognition characters, geographical distribution life history and pathogenesis, and literature. The total known world geographical distribution for each species is given not merely the geographical distribution of recorded myiasis. The bibliography lists 160 references in eight languages.

MORSE, KENNETH T , editor

Some protozoan diseases of man and animals anaplasmosis, babesiosis, and toxoplasmosis. Editor in chief Kenneth T Morse. Conference organizing committee Clarence R. Cole, *chairman, and others. Consulting* editor Ross F Nigrelli New York Published by the Academy, 1956 25–277 p illus 22 cm. (New York Academy of Sciences Annals Vol 64, art. 2) $3.50 3156

Contents Part I, Anaplasmosis Manifestations and diagnosis of anaplasmosis, by H. Schmidt. The status of the complement-fixation test for the diagnosis of anaplasmosis in 1955 by D. W Gates and T O. Roby Transmission of anaplasmosis, by P L. Piercy The prevention and treatment of anaplasmosis, by J G. Miller Part II, Babesiosis Classification, transmission, and biology of piroplasms of domestic animals, by W O Neitz. *Babesiosoma* gen. nov and other babesioids in erythrocytes of cold-blooded vertebrates, by S. Jakowska and R. F Nigrelli. The manifestations and diagnosis of babesia infections, by W D Malherbe. Treatment and control of babesiosis, by J Carmichael. *Part III*, Toxoplasmosis Introductory remarks, by F S. Markham. Propagation, morphology and biology of *Toxoplasma*, by L. Jacobs. Congenital human toxoplasmosis, by H. A. Feldman and L. T Miller Toxoplasmosis acquisita lymphnodosa—clinical and pathological aspects, by J C. Siim. The laboratory diagnosis of toxoplasmosis, by H. F Eichenwald. Pathogenesis of toxoplasmosis and of infections with organisms resembling *Toxoplasma*, by J K. Frenkel. Newer knowledge of the chemotherapy of toxoplasmosis, by D E. Eyles. On the nomenclature of *Besnoitia besnoiti* protozoan parasite, by W L. Jellison. Transmission of the protozoan *Besnoitia jellisoni* by ingestion, by W L. Jellison and others. Summary and challenge, by D E. Eyles.

Note Papers first presented at conference held by the Section of Biology of the New York Academy of Sciences in November 1955 are published in this monograph. All are listed by title and author above. Most of the papers include literature references.

NEW YORK ACADEMY OF MEDICINE SECTION ON MICROBIOLOGY

Parasitic infections in man. Symposium held at the New York Academy of Medicine March 15 and 16 1949 Edited by Harry Most. New York Columbia University Press 1951 229 p illus. 24 cm $4 50 3157

Contents Introduction—the world health importance of parasitic diseases, by P F Russell. The significance of new findings in the life cycle of malarial parasites, by C. G. Huff. Immunological mechanisms in parasitic infections, by J T Culbertson. Immunological diagnosis of parasitic diseases, by J Bozicevich. Diagnosis of intestinal helminths and protozoa—current perspective, by N R. Stoll Studies on growth and metabolism of Endamoeba histolytica, by W W Frye. The physiology of blood flagellates, by T von Brand. Biochemistry and metabolism of malarial parasites, by R. W McKee. The cultivation of malarial parasites, by Q M Geiman. Metabolism of helminths, by E. Bueding. Pharmacologic evaluation and clinical application of amebacides with special reference to the thioarsenites, by H. H. Anderson. The status of antimalarial drugs, by G. R. Coatney Theory of filariasis and the more common intestinal helminths, by H. W Brown *The treatment of schistosomiasis*, by F J Brady

Note. A collection of original papers prepared for delivery at the symposium mentioned in the book's title. The authors are recognized authorities in parasitology and related fields, and their papers are addressed primarily to professional orkers in medicine and public health. The book as hole presents a cross section of the current knowledge and research in human parasitology. Substantial lists of references accompany most of the papers. The book contains neither subject nor author indexes.

SAWITZ, WILLIAM G

Medical parasitology for medical students and practicing physicians Second edition. New York McGraw Hill Book Company, Inc. 1956 342 p illus 23 cm $6 00 3158

Contents Protozoa. Helminths. Arthropods. Treatment. Synopsis. Techniques for laboratory diagnosis. Vocabulary of technical terms. Index.

Note. A well-organized manual f essential information on human parasitology for medical students and practitioners. Its purpose is to aid in the identification of parasites and in the diagnosis and treatment of parasitic infection. It is arranged to facilitate reference use. In the discussions of individual species of parasites, subheadings in distinctive type are used, and treatment is either explicitly described or reference is made to the exact page in the chapter on treatment. The latter chapter is 43-page summary of drugs and other therapeutic measures applicable to specific parasitic infections. The volume is illustrated with many line drawings of parasites and their anatomy which are clearly drawn and reproduced in large scale. The first edition was published in 1950. The organization of this second edition is similar. The synopsis chapter is a new addition and important revisions have been made in the chapter on treatment, among other changes.

STRONG, RICHARD PEARSON, AND OTHERS

Onchocerciasis with special reference to the Central American form of the disease. Cambridge Mass Harvard University Press, 1934 234 p illus 26 cm. $5 00 3159

Contents (abridged) Part I, Onchocerciasis with special reference to the Central American form of the disease, by R. P Strong Previous investigations relating to Central American onchocerciasis. The regions in Guatemala in which the present investigations were particularly conducted. Epidemiological and endemiological studies. Clinical and pathological observations. *Description of the adult* parasite and microfilariae. *Other* pathological conditions. Ocular complications. Transmission. *Other* parasites found in dissections. Immunity Studies of microfilaricidal substances. Public health aspects. Prophylaxis and treatment. Bibliography Part II, On the validity of the various species of the genus Onchocerca Diesing, by J H. Sandground *Outline of the history of Onchocerca and species attributed thereto*. Material. Definition of the genus and discussion of taxonomic criteria for the species. Discussion. Summary and conclusions. Bibliography Part III, Notes on the black-flies or Simuliidae, with special reference to those of the Onchocerca region of Guatemala, by J C. Bequaert Introduction. Early stages. *Adult flies*. Taxonomy Bibliography Part IV Some epidemiological facts about the onchocerciasis of Guatemala, by M. Muñoz Ochoa Geographical information. Seasons and climate. Population, races, certain customs. Statistics. Discussion. Summary

Note A detailed discussion of this rare, parasitic condition by group of authorities, who lived and orked in the restricted area here it is endemic.

UNITED STATES NAVAL MEDICAL SCHOOL

Medical protozoology and helminthology Revised 1955 Bethesda, Md. Naval Medical School 1955 218 p. illus (part col d) 26 cm. 3160

Contents (abridged) Medical parasitology Medical protozoology I testinal protozoa. Malaria parasites. Blood and tissue flagellates. *Medical helminthology* Flukes (Class Trematoda) Tapeworms (Class Cestoidea) Intestinal roundworms. Laboratory diagnosis of intestinal nematode infections. Trichinosis. Tissue roundworms. Laboratory diagnosis of tissue roundworm infections. Key to the eggs of helminths. Key to the larval forms of helminths. Key to the adult helminths. Laboratory methods for detection and recognition of helminths. Reference list.

Note. A concise manual useful as an introduction to parasitology It is primarily guide to laboratory diagnostic procedures, but it contains also information on the biological classification, life cycles, etc. of the parasites discussed. It is exceptionally well illustrated for a book of its scope. The illustrations include 91 text figures, many of them in large scale and several plates in color

medicine. Nervous and mental diseases. Obstetrics and gynecology. Ophthalmology. Orthopedic surgery. Pathology and physiology. Pediatrics. Physical medicine. Preventive and industrial medicine and public health. Radiology. Surgery, general and abdominal. Urology. Arthritis and rheumatism. Miscellaneous topics. Commercial exhibits. Index.

Note The scientific exhibits have been a valuable feature of the meetings of the American Medical Association for a number of years. Essentially these are a graphic presentation of advances in medicine and surgery. Prior to 1955, no photographic record was kept, and except for isolated instances, the exhibits were dismantled and the material dispersed. In 1955 the publisher of this volume began to publish a record of them in which each exhibit is reproduced from photographs taken of it at the annual meeting. Charts, diagrams, explanatory legends, instruments and equipment are all reproduced as they appeared in the exhibits though often in a much reduced scale and without color. In this second volume in the series, the material is organized under the headings given above, which serve to illustrate the breadth of scope.

American Medical Association

J. A. M. A. queries and minor notes. St. Louis. Published for the American Medical Association by The C. V. Mosby Company 1956. 334 p. 23 cm. $5.50 3169

Contents (abridged) Body as a whole. Integumentary system. Musculoskeletal system. Respiratory system. Cardiovascular system. Blood and lymphatic systems. Digestive system. Urogenital system. Endocrine system. Nervous system. Organs of special sense. Miscellaneous.

Note One of the features of the *Journal of the American Medical Association* is a column of questions from physicians seeking information on matters of diagnosis, programs of treatment, prognosis of cases and other clinical matters. Answers to the questions are supplied by competent authorities, and both questions and answers are published. The questions and replies published in the *Journal* during the 12 months ended June, 1955 are republished in this volume. Although [illegible] the book is interesting and sometimes helpful reading for graduate general practitioners.

American Medical Association

Standard nomenclature of diseases and operations. By Richard J. Plunkett, editor and Adaline C. Hayden, associate editor. Fourth edition. New York. McGraw Hill Book Company Inc., 1952. 1,034 p. illus. 22 cm. $8.00 3170

Contents (abridged) Instructions to medical record librarians. Scheme of classification. Nomenclature of diseases. Nondiagnostic terms for hospital records. Supplementary terms. Operations, introduction. Classification of operative procedures. Nomenclature of operations. Anesthesia section. Disease index. Operation index. Appendix. Code numbers of International list of causes of disease, injuries and causes of death cross-referenced to "standard" code numbers.

Note The standard United States authority on nomenclature and classification of diseases and operations and on subjects pertaining thereto. The present edition represents an extensive and careful revision. Among the important changes is the inclusion of code numbers that correlate this work with the *International statistical classification of diseases, injuries, and causes of death*.

Andrews, Edmund

A history of scientific English: the story of its evolution based on a study of biomedical terminology. West Ridge, N. H. Richard R. Smith, 1947. 342 p. illus. 24 cm. $7.50. 3171

Contents (abridged) Indo-European philology. Semantics: the science of meanings. The history of medical terminology. Prehellenic influences. The Aryan heritage. Greek. Latin. Dead Latin. Arabic. French. English. Science vs. vulgarity. German. The future. Bibliography. Index.

Note An informal but not uninformed treatise. The author is Doctor of Medicine, and there is more emphasis on medical etymology than might be inferred from the title and table of contents. Planned as philology [illegible] rather light reading, but it can not be overlooked by professional students of language. The index includes every word discussed in the text—a feature that makes the book easy to use for quick reference.

Annual review of medicine.

Volume 7. Edited by David A. Rytand and William Creger. Palo Alto. Annual Reviews Inc. 1956. 611 p. 23 cm. $7.00 3172

Contents Viruses of the upper respiratory tract, by D. D. Jackson. Nutrition and nutritional diseases, by W. J. Darby. Endocrinology (the hormones), by C. Dodds and others. Obstetrics, by A. C. Barnes. Advances in the treatment of sterility, by E. J. Farris. Psychiatry, by L. C. Kolb. Pulmonary emphysema, by R. V. Ebert. The metabolic response to trauma, by J. E. Rhoads and others. Laboratory aids to diagnosis and therapy, by J. G. Reinhold. Toxicological aspects of occupational hazards, by H. E. Stokinger. Sympathetic blocking agents, by F. F. Yonkman. Kidney (cardiac during anesthesia), by E. M. Papper and S. H. Ngai. Radioactivity injury and recovery from radiation exposure, by J. W. Howland. Diseases of the kidney, by C. Bras and others. Cardiovascular diseases (medical), by B. Lopez and C. Tomlin. Diseases of the cardiovascular system (surgical), by C. Hufnagel. Diseases of the gastrointestinal tract, by J. Cole and R. A. Rovelstad. Hematopoietic responses to radiation injury, by L. Jacobson. Neoplastic diseases (cancer), by D. Laszlo and others. Immunity (properdin, agammaglobulinemia, irradiation and immunologic paralysis), by S. Raffel. Pediatrics, by R. V. Platou. Diseases of the nervous system, by W. H. Sweet. Audiology, by D. M. Markle and E. P. Fowler, Jr. Diseases of the bones and joints, by J. R. Bauer. Applied preventive medicine, by H. S. Leavell. Annotated list of reviews in medicine, by E. MacKay and L. MacKay. Author index. Subject index.

Note The list of annotated reviews in medicine which appears near the end of the present volume is a special feature of this series. It lists annually the review articles that have been published during a period of approximately one year. In this instance the coverage is from late 1954 to late 1955. The information given about each article includes title, author's name, title of journal, volume number, pages and year of publication, the number of references and sometimes a very short annotation. In previous years the list was classified more or less in accordance with the topics covered in the surveys in the particular volume. In this volume that arrangement has been abandoned in favor of an alphabetical arrangement of topics running from "allergy" to "vascular system." The other chapters in the book are very concise summaries of the recent international literature on the topics named in their titles. Some cover the literature of only a single year, others of a longer period. For example, Darby's "Nutrition and nutritional diseases" is based on the literature of approximately a five-year period ending in 1955.

Binger, Carl

The doctor's job. New York. W. W. Norton & Company Inc. 1945. 243 p. 21 cm. $3.75 3173

Contents (abridged) Background and changes. Specialties and specialists. The choice of physician, medical fees and etiquette. The relationship of doctor and patient. Medicine and psychoanalysis. Psychiatry and medicine. Psychosomatic medicine or mind and body relationships. Stomach ulcer. Allergy: asthma and tuberculosis. High blood pressure. The care and control of diseases. Convalescence and chronic disease. The prevention of illness. Office practice, hospitals and outpatient departments. Socialized medicine or paying the piper. Past, present and future. Bibliography. Index.

Note Here the author, a medical doctor, provides for lay readers an authoritative discussion of the cause and treatment of some common diseases. He also deals with the problems of doctor-patient relationships, the choice of a physician, the family doctor versus the specialist, and topics in the field of psychosomatic medicine. Throughout the book, effective use is made of illustrative anecdotes taken from the author's personal experience and from events in medical history. The work is the first volume of the Vernon Medical Award which was established to encourage the writing of books for general readers on medicine and the medical profession.

Brodman, Estelle

The development of medical bibliography. Baltimore. Medical Library Association. 1954. 226 p. illus. 19 cm. $5.00 3174

Contents The history of medical bibliography. Development of bibliographic technique in the 17th Century. Golden Age of bi-

MEDICINE

GENERAL, INCLUDING TEXTBOOKS FOR GENERAL MEDICINE

ADVANCES IN INTERNAL MEDICINE Volume IV Editors, William Dock and I Snapper, associate editors, Tinsley R. Harrison, Chester S Keefer, Warfield T Longcope, J Murray Steele Chicago The Year Book Publishers, Inc., 1950 549 p illus 23 cm $10 00 3162

Contents Nitrogen mustards in the treatment of neoplastic disease, by D A. Karnofsky Use of radioactive isotopes in medicine, by L R. Wasserman and R. Loevinger Brucellosis, by A. I Braude and W W Spink. Advances in the neuromuscular disorders, by D McEachern and R. Rabinovitch Use of sodium depletion in therapy by W Dock. Clinical use of anticoagulants, by J E. Estes and E. V Allen. Hepatitis and cirrhosis of the liver by A. J Patek, jr Hepatic tests, by H. Popper and F Schaffner The vascular physiology of hypertension, by G W Pickering. Author index. Subject index. Cumulative index Volumes I-IV

—— Volume V Editors William Dock and I Snapper Chicago The Year Book Publishers, Inc. 1952 464 p illus 23 cm. $10 50 3163

Contents Diseases of the pregnant woman affecting the offspring, by M. H. Ross. Catheterization of the heart, by R. J Bing. Portal hypertension and its treatment, by A H. Blakemore. The anemia of infection XVII. A review by G. E. Cartwright and M. M Wintrobe. Gout, a derangement of purine metabolism, by A. B Gutman and T F Yü. Clinical aspects of ganglionic and adrenergic blocking agents, by R. H. Lyons and V L. Love Aspects of the influenza problem, by J Mulder Experiences with adrenocorticotropic hormone (ACTH) and cortisone by C. Ragan. Abnormal proteins in myeloma, by J Waldenström.

—— Volume VI. Editors William Dock and I Snapper Chicago The Year Book Publishers Inc., 1954 375 p illus 23 cm. $10 00 3164

Contents Uropepsin by H C. Balfour jr Glucagon the hyperglycemic-glycogenolytic hormone of the pancreas, by P P Foà Diagnosis of cancer of internal organs by Papanicolaou technic, by R. M Graham Spatial vectorcardiography by A. Grishman. The L E. cell phenomenon, by M M Hargraves. Biopsy studies of the liver and kidney by P Iversen and others. Thrombotic thrombocytopenic purpura, by K. Singer Porphyria, by C. J Watson Diaphragmatic hernia, by S. Weintraub. The determination of insulin in blood, by A. F Willebrands and J Groen. Author index. Subject index.

—— *Volume VII. Editors William Dock* and I Snapper Chicago The Year Book Publishers Inc 1955 311 p illus 23 cm $8 50 3165

Contents Pathogenesis and treatment of renal lithiasis—newer concepts, by A. J Butt. Hepatic coma, by C. F Davidson. The pathophysiology of the pancreas, by D A. Dreiling and H. D Janowitz. Clinical significance of serum mucoproteins, by E M Greenspan. Advances in physiology of clinical disorders of the adrenal cortex, by J W Jailer Diseases of the pericardium, by V A. McKusick and A. M Harvey The nephrotic syndrome by J R Squire. Applied pulmonary physiology by D J Stone. Author index. Subject index.

—— Volume VIII Editors William Dock and I Snapper Chicago The Year Book Publishers, Inc., 1956 366 p. illus. 23 cm. $9 00 3166

Contents. Disorders of esophageal motor function, by F J Ingelfinger Peptic ulcer—review of recent literature pertaining to etiology pathogenesis, and certain clinical aspects, by J. B. Kirsner and others. Digitalis and potassium, by B. Lown. Aldosterone, by J A. Luetscher jr Adrenalectomy and hypophysectomy in the treatment of advanced cancer by O H. Pearson. Chemotherapy of tuberculosis, by W F Russell, jr and others. Trace metals and chronic diseases, by H. A. Schroeder Hemoglobins and disease, by R. J Watson. Author index. Subject index.

Note A useful review series of the kind which publishes reviews of topics of current interest rather than reviews of the literature of a chronological period such as a year Recent literature is, of course emphasized, but each reviewer covers whatever he considers necessary for an adequate treatment of his topic. The reviews are written by authorities, often by authors who have themselves contributed to the progress about which they write. The series is of interest both to general practitioners of medicine and to specialists who wish to keep up with developments in this branch of medicine.

AMERICAN FOUNDATION

Medical research a midcentury survey Boston Published for the American Foundation by Little Brown and Company 1955 2 v 23 cm $15 00 3167

Contents Volume I. American medical research—in principle and practice Introductory Medical research in the perspective of biological chemical, physical, mathematical science. Current trends and current problems in medical and biological research in the United States. Research agencies. Clearing results and controlling products of medical research. Appendix Major sources. Volume II. Unsolved clinical problems—in biological perspective Introductory Current metabolic concepts orienting research in biology and medicine. Cancer Infertility Arteriosclerosis. Hypertension. The rheumatic syndromes. Tuberculosis. The nature of viruses and of virus diseases. Alcoholism. Biology of schizophrenia. Appendix Major sources.

Note The results of a very extensive study of medical research and medical care are published in this work. Medical research is taken to include research in biology chemistry and mathematics contributing, or capable of contributing to medicine. The study was carried out under a consultant committee comprised of eminent teachers of medicine in medical colleges and hospitals, chemists and biologists, with Esther Everett Lape of the American Foundation staff in charge of the project Presented in the first volume are information and discussions on the concepts, methods, financing, governmental relations, professional literature etc., of medical and related research in contemporary United States of America. Types of research agencies and individual research agencies also are described in this volume. The second volume is devoted to a summary of accumulated knowledge and a discussion of problems awaiting investigation or further investigation in the nine clinical entities named in the above Contents for Volume II. Extensive though selected bibliographies are included in both volumes. Unfortunately no index has been provided to authors or subjects.

AMERICAN MEDICAL ASSOCIATION

A. M A. scientific exhibits 1956 Sponsored by Council on Scientific Assembly, American Medical Association New York Grune & Stratton 1956 411 p illus 28 cm. $10 00 3168

Contents (abridged) Anesthesiology Dermatology Diseases of the heart. Gastroenterology and proctology General practice. Internal medicine Laryngology otology and rhinology Military

General

thyrotoxicosis. Management of myxedema. Treatment of cardiovascular manifestations of thyroid disorders. Management of disorders of cardiac rhythm. Medical management of hypertension. Treatment of painful disorders of skeletal muscle. Use of new antimicrobial agents in genitourinary infections. Management of the menopause. Treatment of morphine addiction. List of conferences for volumes 1, 2, and 3.

—— Volume five. Edited by Harry Gold, David P Barr McKeen Cattell Frank C. Ferguson, jr., Frank Glenn and George Reader New York The Macmillan Company 1952 295 p. 21 cm. $4.50. 3181

Contents: Treatment of cough. The management of fever. General indications for vitamin therapy. Treatment of obesity. Low cholesterol diet in the treatment of atherosclerosis. Use of hypnotics and sedatives. Addiction as a complication of the therapeutic use of drugs. Treatment of some chronic muscular diseases. Relief of pain by ethyl chloride spray. Use of curare and curare-like agents. Problems in treatment of the [illegible] cavity. Treatment of acute arterial occlusion. Treatment of carbon monoxide poisoning. Treatment of pneumonia. Treatment of bacterial meningitis. List of conferences for volumes 1, 2, 3, and 4.

—— Volume six. Edited by Harry Gold, David P Barr McKeen Cattell Frank C. Ferguson, jr., Frank Glenn and George Reader New York The Macmillan Company 1953 287 p. 21 cm. $4.50 3182

Contents: Treatment of the patient in coma. Some therapeutic applications of ganglion-blocking agents. The place of anticoagulants in coronary thrombosis. Drugs and measures in the treatment of leukemia. Therapeutic applications of psychotherapy. Therapeutic use of combinations of antibiotic agents. One-dose prophylaxis and three-day cure of gonorrhea. Ion-exchange resins. Treatment of burns. Current developments in the treatment of bacterial endocarditis. Treatment of osteoporosis. Drugs in the diagnosis of one of the curable forms of hypertension. Treatment of hiatus hernia. Medical treatment of peptic ulcer. Re-evaluation of the problems of treatment of barbiturate poisoning. List of conferences for volumes 1, 2, 3, 4, and 5.

—— Volume seven. Edited by Harry Gold, David P Barr McKeen Cattell, Frank C. Ferguson, jr Frank Glenn and George Reader New York The Macmillan Company 1954 259 p. 21 cm. $4.50. 3183

Contents: How to evaluate a new drug. Selection of digitalis preparations and the proper administration. Choice of a diuretic agent. Most effective application of therapeutic measures in the management of congestive failure. Treatment of paroxysmal [illegible]. A re-evaluation of quinidine therapy. Choice of narcotics and anesthetics in the patient with shock. The choice of therapy in intractable bronchial asthma. Utility of medications in the treatment of headache. The doctor's bag reviewed. Management of poliomyelitis by penicillin. Choice of therapy in [illegible] classification. Use and abuse of physical therapy. Management of [illegible] associated with portal hypertension. Surgical treatment of mitral valvular disease. List of previous conferences.

Note: These volumes contain edited stenographic reports of a series of conferences held under the auspices of the Departments of Medicine and Pharmacology of Cornell University Medical College—New York Hospital. Inaugurated in 1937, the original purpose of the conferences was to assist the third- and fourth-year students of the college in the translation of pharmacology and general medical practice. The discussions soon proved to have a wide appeal to the profession, and reports of them have been published regularly in medical journals. Participants in the conferences include staff members of the college and hospital, pharmacists, visiting practitioners, and specialists. As collected in this form, they are of considerable interest to general practitioners.

FISHBEIN, MORRIS

Medical writing the technic and the art. With the assistance of Jewel F Whelan. Second edition. New York The Blakiston Division McGraw-Hill Book Company Inc., 1948 292 p. illus. 24 cm. 3184

Contents: An acceptable paper. Style. The subject and the material. Construction of the manuscript. Words and phrases. Spelling. Capitalization. Abbreviations. Numbers. Pharmaceutic products and prescriptions. Bibliographic material. Preparation of the manuscript. Illustrations. Tables and charts. Revision of the manuscript. Proofreading. Indexing. Abbreviations of names of periodicals. Index.

Note: The material for this manual was compiled during the course of the work of the Editorial Department of the American Medical Association in preparing their various publications for the press. Although primarily a manual for the guidance of medical writers it contains material of interest to most scientific writers. Containing the usual features of any good style manual, it gives particular attention to the special problems of the writer on medical topics. A third edition was published in 1957. $7.00.

GARLAND, JOSEPH editor

The physician and his practice Boston Little, Brown and Company 1954 270 p. 21 cm. $5.00 3185

Contents: Evolution of the doctor, by C. S. Burwell. Family and community relations, by H. F. Howe. The doctor's wife, by K. L. McCabe. Choice of opportunities, by J. E. Means. General medicine, by D. M. Clark. Specialty practice, by L. S. McKittrick. Group practice, by E. P. Jordan. Doctor and hospital, by A. Kramer. Medical organization, by W. B. Martin. Community medical resources, by H. F. Howe. Reading and writing, by R. W. Buck. Laboratory facilities, by D. W. Boardman. Drugs and medical supplies, by A. C. DeGraff. The office and related business aspects, by J. A. Ford. Auxiliary services, by F. R. Bryant. Office records, by R. T. Cree. Accounting practices—the income tax, by F. Gallo. Economic security, by J. A. Appleman. Medicine and the law, by L. J. Regan. Index.

Note: Primarily addressed to young physicians who are beginning the practice of medicine, this book contains 19 essay chapters written by eminent authorities, most of whom are experienced medical practitioners. However, the chapters written on the non-medical aspects of medical practice were written by authorities from other fields. For example, the chapter on office records was written by a professional management consultant. Taken together, the chapters provide a wide range of helpful advice and useful information on the practical aspects of medical practice.

GIBSON, H. LOU

The photography of patients including discussions of basic photographic and optical principles. Springfield, Ill. Charles C Thomas 1952 118 p. illus. (part col d) 22 cm. (American lecture series Ralph P Creer editor Publication no. 95) $5.50. 3186

Contents: Fundamentals. Equipment and space. Making closeups with self-fixing cameras. Lens properties. Positioning and lighting. Films and filters. Printing methods. Paper selection, quality control and print quality. Appendix A. Index.

Note: A short, practical manual on the basic knowledge and techniques of photography that are useful in the production of clear photographic records in connection with medical research and practice. The author is a member of the Medical Division of the Eastman Kodak Company.

GIVNER, ISADORE AND MAURICE BRUGER

The prevention of disease in everyday practice by Isadore Givner and Maurice Bruger and contributors. With 50 text illustrations. St. Louis The C. V Mosby Company 1955 964 p. illus. (part col d) 25 cm. $10.00 3187

Contents (abridged): A practical outline of cancer prevention, by E. L. Wynder. Prevention of poisoning—accidental and intentional, by E. Press. Preventive pediatrics, by G. J. Ginandes. Preventive aspects of infectious diseases, by E. Appelbaum. Prevention of deformities in the orthopedics of childhood, by R. J. Mann. Preventive immunology, by F. Vogel and R. E. Rosenfield

dividual bibliographers. Development of cooperative bibliography The present situation. Appendix References. Medical bibliographies published since 1500. Author index to bibliography General index.

Note Two aspects of medical bibliography are treated in this book. As the title implies, one of them is the historical development of medical bibliography However in order to cover this subject within reasonable compass, the author imposed rather severe limitations. Only bibliographies in the western languages are considered, and among these only those which attempted to cover medicine in general. Bibliographies of specialties, such as surgery or subdivisions of medicine, such as industrial medicine, are not discussed. Another important omission is catalogues. Such lists of medical literature as the *catalogues of booksellers, publishers and libraries are omitted with the single exception of the Index-catalogue of the library of the Surgeon General's Office.* Within these limitations the historical aspect is covered in reasonable detail with discussions of not only the scope of the bibliographies considered, but also of their formats and their influence The other aspect treated is bibliographical control of medical literature, which is the predominant topic of the fourth and fifth chapters but also runs through the other chapters. The current situation as to bibliographical control is discussed rather thoroughly from the viewpoint of the author's long experience in medical libraries.

CECIL, RUSSELL L, editor

The specialties in general practice. Philadelphia W B Saunders Company, 1951 818 p illus 26 cm 3175

Contents Minor surgery by W A Barnes. Orthopedic surgery by L. R. Straub. Fractures and dislocations, by C. H. Herndon Urology by H J Jewett. *Diseases of the anus, rectum and colon* by C. G Child. Gynecology by L. M. Hellman Obstetrics, by L. M. Hellman. Pediatrics, by R. C. Eley Ophthalmology by R. T Paton. Diseases of the nose and throat, by A. W Proetz. Diseases of the larynx, bronchi and esophagus, by C. L. Jackson. Otology by E. P Fowler Dermatology and syphilology by G. M. Lewis. Psychiatry by D D Bond and J M. Flumerfelt. Index.

Note The several chapters of this work have been written by eminent specialists, but the book is designed, as the title indicates, for the general practitioner The emphasis is on knowledge that can be put to practical use in the regular work of general practitioners. *Much of the information is—as might be expected—familiar* but some of the techniques, *for instance a number of those treated in* the chapter on orthopedic surgery *are outside the usual knowledge of the general practitioner Each chapter is supplemented by litera* ture references. There are 470 figures and an exceptionally full index. A second edition was published in 1937 780 p., $10.00.

CECIL, RUSSELL L, AND ROBERT F LOEB, editors

Textbook of medicine Associate editors Alexander B Gutman, Walsh McDermott and Harold G Wolff Ninth edition Philadelphia W B Saunders Company 1955 1,786 p illus (part col'd) 27 cm. $15 00 3176

Content (abridged) The infectious diseases Viral diseases. Rickettsial diseases. Bacterial diseases. Spirochetal infections. Protozoan infections. Metazoan infections. Diseases of unproved etiology Diseases of allergy Collagen diseases. Diseases due to physical agents. Diseases due to chemical agents. Deficiency diseases. Diseases of metabolism. Diseases of the ductless glands Diseases of the thyroid glands. Diseases of the pituitary gland. Diseases of the adrenal glands. *Diseases of the thymus gland. Diseases of the* parathyroid gland. Diseases of the sex glands. Diseases of the digestive system Diseases of the mouth, salivary glands and pharynx. Diseases of the esophagus. Diseases of the stomach. Diseases of the intestines. Diseases of the liver Diseases of the gallbladder and bile ducts. Diseases of the pancreas. Diseases of the peritoneum. Diseases of the respiratory system Diseases of the nose. Diseases of the larynx. Diseases of the bronchi. Diseases of the lungs. Diseases of the pleura. Diseases of the mediastinum Diseases of the diaphragm. Diseases of the kidneys. Diseases of the spleen and reticuloendothelial system. Diseases of the blood Diseases of the cardiovascular *system. Diseases of the locomotor* system *Diseases of the muscles. Diseases of the joints.* Diseases of the bones. Diseases of the nervous system Important symptoms and signs. Diseases of the motor tracts. Hereditary familial and congenital diseases. Diseases of various etiology Diffuse and focal diseases of the spinal cord. Diffuse and focal diseases of the brain. Diseases of nerve roots, plexuses and nerves. Diseases of other roots and nerves. Vasomotor and trophic disorders. *Psychosomatic medicine. The psychoneuroses. The psychoses. Appendix and* index.

Note A leading American textbook on internal medicine. It is encyclopedic in scope and is used both as a text in medical schools and as a reference book by medical graduates. Most of the space is devoted to descriptions of individual diseases, and each disease is discussed under such subheadings as. definition, epidemiology etiology bacteriology diagnosis, treatment, prognosis, and prophylactics. The contents given above is much abridged. Actually the book is organized into several hundred small sections, each one of which bears the name of the author There are approximately 170 contributors to this edition. The eighth edition was published in 1951 As would be expected in a work of this nature, much of the material in the ninth edition has been carried over from the preceding one, but important revisions and additions have been made, including the addition of articles on 39 *subjects not covered in previous editions. Recent literature* has been added to the reference lists.

CORNELL CONFERENCES ON THERAPY [Reports] *Volume one. Edited by Harry Gold,* David P Barr, Eugene F DuBois McKeen Cattell, and Charles H Wheeler New York The Macmillan Company, 1946 *322* p. *21* cm $4 50 3177

Content The doctor's bag. Use and abuse of bed rest. Hypnotics and sedatives. Psychologic aspects of the treatment of pain. Surgical measures for the relief of pain. Treatment of heart failure. Digitalis *vs. digitoxin.* The use of the mercurial diuretics. Treatment of subacute bacterial endocarditis. Management of abdominal distention. Treatment of some intestinal infestations. Treatment of some common diseases of the eye Treatment of poisoning. The RH factor in therapy

—— Cornell Conferences on Therapy [Reports] Volume two Edited by Harry Gold David P Barr, Eugene F DuBois, McKeen Cattell Paul A Bunn, and Walter Modell. New York The Macmillan Company 1947 354 p 21 cm. $4 50 3178

Contents The use of placebos in therapy Treatment of poliomyelitis. Treatment of meningitis. Treatment of syphilis. Treatment of rheumatic fever Oral penicillin. Choice of sympathomimetic amines. The management of gallbladder disease. Principles of treatment of edema and dehydration. Treatment of edema by drugs. Uses and abuses of quinidine. Treatment of coronary artery disease. Treatment of some tropical diseases. Surgical treatment of hypertension. Evaluation of local antiseptics.

—— Cornell Conferences on Therapy [Reports] Volume three. Edited by Harry Gold, David P Barr Eugene F DuBois, McKeen Cattell Walter Modell and Ralph R. Tompsett. New York The Macmillan Company, 1948 337 p *21 cm. $4 50* 3179

Contents The dose of a drug. An optimal routine for the management of congestive failure. Uses of streptomycin. Uses of protein hydrolysates. Management of peptic ulcer with protein hydrolysates Treatment of pneumonia. Treatment of barbiturate poisoning. Therapeutic uses of BAL. Treatment of hepatic insufficiency Management of pain due to muscle spasm. Treatment of thrombophlebitis Treatment of alcoholism. The rational use of cathartic agents. Treatment of infections of the genitourinary tract.

—— *Volume four Edited by Harry Gold,* David P Barr, Frank Glenn McKeen Cattell Walter Modell *and* George Reader New York The Macmillan Company, 1951 342 p *21* cm. $4 50. *3180*

Contents Household poisonings. Treatment of diabetic emergencies. Therapeutic uses of gamma globulin. Treatment of cardiac. Treatment of neurosyphilis. Management of vascular syphilis.

sity School of Medicine. Yale Medical Library Historical Library Publication no. 1) $8.50. 3192

Contents: Preface. Introduction. List of abbreviations. Manuscripts. Orientalia. Incunabula. General works. Cushing memorabilia.

Note: A short-title catalogue, compiled by Margaret Brinton and Henrietta T. Perkins, listing all the printed books, manuscripts, and bound memorabilia belonging to Dr. Cushing, and turned over to Yale University at the time of his death.

HARVEY SOCIETY OF NEW YORK

The Harvey lectures 1951–1952 (Series XLVII) Under the patronage of the New York Academy of Medicine. New York Academic Press, Inc., 1953 271 p. illus. 20 cm. $7.50 3193

Contents (abridged) The nucleotides—some recent chemical research and its biological implications, by A. R. Todd. Hydrostatic pressures affecting the flow of urine and blood in the kidney, by F. R. Winton. An ascending reticular activating system in the brain stem, by H. W. Magoun. Studies on the cellular immunology of acute bacterial infections, by W. B. Wood, Jr. Metabolic blocks in carbohydrate metabolism in diabetes, by I. L. Chaikoff. Morphogenesis and the metamorphosis of insects, by C. M. Williams. The development of the cerebral cortex—a cytological, functional, and biochemical approach, by L. B. Flexner. Coagulation of the blood, by W. H. Seegers. Some biochemical studies based on chromatographic methods, by L. Zechmeister. Active members. Associate members. Honorary members.

—— 1952–53 (Series XLVIII) New York Academic Press Inc., 1954 273 p. illus. 20 cm. $7.50 3194

Contents (abridged) The hormonal control of plant growth, by J. Bonner. Experiments on chemical alteration of virus infections, by F. L. Horsfall, Jr. Biological synthesis of cholesterol, by K. Bloch. Congenital malformations induced by maternal dietary deficiency, by J. Warkany. The functions of the lung, by J. H. Comroe, Jr. Glycogen structure and enzyme deficiencies in glycogen storage disease, by G. T. Cori. Mechanisms for stabilizing the chloride content of the body, by R. F. Pitts. Acetyl coenzyme A and the fatty acid cycle, by F. Lynen. Active members. Associate members. Honorary members.

—— 1953–54 (Series XLIX) New York Academic Press Inc., 1955 299 p. illus. 20 cm. $7.50 3195

Contents (abridged) The metabolism of sulfur and its relations to general metabolism, by C. Fromageot. Adenosine triphosphate and motility of living systems, by H. H. Weber. Metabolism and function of the nerve cell, by D. Nachmansohn. The significance of the intercellular substances of the connective tissue in human disease, by P. Klemperer. The genetic chemistry of the pneumococcal transformations, by R. D. Hotchkiss. Enzymes in action in living cells—the steady state of reduced pyridine nucleotides, by B. Chance. Oxidative phosphorylation, by A. L. Lehninger. Abnormality of hemoglobin molecules in hereditary hemolytic anemias, by L. Pauling. Control of heat loss and heat production in physiologic temperature regulation, by J. D. Hardy. Active members. Associate members. Honorary members.

—— 1954–55 (Series L) New York Academic Press, Inc. 1956 421 p. illus. 20 cm. $8.00 3196

Contents (abridged) Hormones of the posterior pituitary gland—oxytocin and vasopressin, by V. du Vigneaud. The metabolism of the heart, by R. J. Bing. Lipoproteins of human plasma, by J. L. Oncley. Control and interrelations of metabolic and viral diseases of bacteria, by A. Lwoff. The intermediary metabolism and biological activities of ferritin, by E. Shorr. Some aspects of the organization and behavior of normal and malignant cells maintained in continuous culture, by G. O. Gey. Biochemical explorations with bacterial mutants, by B. D. Davis. The biosynthesis of porphyrins, by D. Shemin. The Harvey Society—its first fifty years and its future (an address given on the occasion of the fiftieth anniversary of the founding of the Harvey Society May 19 1955) by H. Emerson. Osmotic activity in relation to the movement of water under normal and pathological conditions (fiftieth anniversary Harvey lecture) by E. L. Opie. Former officers of the Harvey Society. Active members. Associate members. Honorary members. Deceased members. Cumulative tables of contents (Series 1-50). Cumulative author index (Series 1-50). Cumulative subject index (Series 1-50).

Note: The object of the Harvey Society is "the diffusion of scientific knowledge in selected chapters in anatomy, physiology, pathology, bacteriology, pharmacology, and physiological and pathological chemistry through the medium of public lectures by men who are workers in the subjects presented." The lectures are delivered by eminent scientists of the world and are published in this series of volumes together with illustrations, literature references, and also the constitution, list of authors, and roster of the Harvey Society.

HOLLANDER, JOSEPH LEE, editor

Comroe's Arthritis and allied conditions. Fifth edition with 399 illustrations. Completely revised and rewritten. Collaborating editors Nathan R. Abrams and others. Philadelphia Lea & Febiger 1953 1 103 p. illus 24 cm. $16.00 3197

Contents (abridged) Part I, The study of the rheumatic diseases. Introduction to arthritis and the rheumatic diseases, by J. L. Hollander. Examination of the arthritic patient, by J. L. Hollander. The synovial fluid, by H. C. Coggeshall. Radiology in rheumatic diseases, by C. J. Smyth. Part II, Rheumatoid arthritis. The pathology of rheumatoid arthritis, by E. F. Rosenberg. The clinical picture of rheumatoid arthritis, by C. Ragan. The visceral lesions of rheumatoid arthritis, by E. F. Rosenberg. Rheumatoid arthritis—differential diagnosis, by H. C. Coggeshall. Gold therapy for rheumatoid arthritis, by R. H. Freyberg. Corticotropin, cortisone, and hydrocortisone, by R. H. Freyberg. Prevention of deformities from arthritis, by J. G. Kuhns and T. A. Potter. Correction of arthritic deformities, by J. G. Kuhns and T. A. Potter. Physical therapy in arthritis, by M. A. Bowie. Part III, Factors influencing the onset or course of the rheumatic diseases. Psychogenic factors in rheumatic diseases, by E. W. Boland. Climate and the rheumatic diseases, by W. P. Holbrook. The role of the endocrine glands in rheumatic diseases, by J. Lansbury. The ameliorative effect of pregnancy and jaundice on certain rheumatic diseases, by J. Lansbury. Diet and vitamins in arthritis, by E. F. Rosenberg. Part IV, Important rheumatic diseases closely allied to rheumatoid arthritis. Spondylitis, by E. W. Boland. Rheumatic fever, by W. P. Holbrook. Fibrositis syndrome (non-articular rheumatism), by W. Graham. Part V, The diseases of collagen, by J. Lansbury. Part VI, Degenerative joint disease (osteoarthritis). The etiology and pathogenesis of degenerative joint disease, by N. R. Abrams. Treatment of degenerative joint disease, by N. R. Abrams. Part VII, Arthritis from disorders of metabolism. Gout, by C. J. Smyth. Part VIII, Arthritis caused by or occurring with specific infections. Gonorrheal arthritis, by V. G. Balboni. Tuberculous arthritis, by V. G. Balboni. Arthritis with tropical diseases, by V. G. Balboni. Part IX, Miscellaneous conditions of obscure etiology. Hemophilic arthritis, by M. A. Bowie. Sarcoidosis, by J. Lansbury. Tumors of joints and tendon sheaths, by J. G. Kuhns and T. A. Potter. Part X, Regional disorders of joints and related structures. Traumatic arthritis and allied conditions, by N. R. Abrams. The painful shoulder, by W. Graham. Painful feet, by J. G. Kuhns and T. A. Potter. Low back pain and sciatica, by P. D. Wilson and P. D. Wilson, Jr. Index.

Note: A comprehensive work in which rheumatism, arthritis and related conditions are covered from the viewpoints of both internal medicine and orthopedics. In each of its editions, it has been outstanding for its broad scope and [illegible] for the source of information. Included are diagnosis and treatment. Three editions were published during Dr. Comroe's lifetime, the first appearing in 1940. This fifth edition is the second one prepared by the present group of editors and contributors. It is organized in 10 parts and 57 chapters, of which only a selection are listed above. The editors are all specialists in the field, but they have written primarily for graduate general practitioners who are not specialists. Since the book is used primarily for reference, the individual chapters are compactly written, and the chief points in management are often summarized in tabular form. The bibliographies are extensive. Comparing the fourth edition, published in 1949, with the fifth edition, extensive revisions have been made including deletions, rewriting of chapters, and the addition of new chapters.

Preventive aspects of diabetes mellitus and spontaneous hypoglycemia, by M Bruger Preventive aspects of peripheral vascular disease, by A. W Duryee Preventive aspects of pulmonary disease, by D Ulmar Preventive aspects of gastroenterology by H. A. Ralsky and H. D Feis. Preventive aspects of arthritis and allied rheumatic disorders, by E. F Hartung. Preventive aspect of tropical medicine, by R. A. Marin. Preventive aspects of allergic disorders, by W C. Spain. Preventive dermatology by M. B Sulzberger and V H. Witten. Preventive psychiatry by P Polatin. Preventive neurology by C. Rupp Preventive radiology by A. L. Bachman Preventive aspects of industrial medicine, by A. J Lanza. Preventive aspects of surgery by J L. Chassin Preventive anesthesiology by S. Goldenberg and L. S. Blancato. Preventive aspects of abdominal surgery by F W Bancroft and B Lewis. Preventive aspects of thyroid surgery by R. R. Moolten Preventive aspects of thoracic surgery by J M Chamberlain and C. F Daniels. Preventive ophthalmology by L Givner and others. Preventive otolaryngology by G. E. Shambaugh Jr Preventive laryngology and bronchoesophagology by H. von Leden. Preventive aspects on neurological surgery by K. J Stually Preventive proctology by H. E. Clark. Preventive urology by P R. Roen. Preventive gynecology by W B Silberblatt. Preventive dentistry by J Schaffer Index.

Note A treatise written from an uncommon viewpoint. Its subject is not preventive medicine in the public health sense, nor is it strictly the prevention of disease. Instead, there are three principal themes cognizance of conditions that lead to disease the early recognition and treatment of disease and the management of established diseases so as to avoid further complications. There is much emphasis on symptoms and their significance, on diagnosis and differential diagnosis. The chapters on preventive aspects of various regional surgeries include discussions of the management of surgical procedures so as to avoid complications, but are not limited to this subject The 37 chapters are the work of 47 contributors. Extensive bibliographies are included. The book is directed to advanced medical students, internes and graduate practitioners.

GLASSER, OTTO, editor

Medical physics Chicago Year Book Publishers Inc. 1944 1,744 p illus 27 cm Vol I, $20 00 3188

—— Volume II Editor in-chief Otto Glasser Editorial Assistant Jessie C Tucker Chicago The Year Book Publishers, Inc. 1950 1,227 p illus 28 cm $25 00, both volumes $40 00 3189

Note The two volumes of this set are complementary to one another Both are reference books of physical knowledge of interest in medicine and biology—knowledge pertaining to such matters as the effects of physical agents on living tissues, physical instruments and devices used in medicine or possessing medical interest, biological effects and medical uses of radiation etc. In addition to signed articles, there are numerous tables. The typical article is several pages in length. Bibliographies and fully detailed subject indexes are included.

GREEN DAVID EZRA, AND W EUGENE KNOX editors

Research in medical science New York The Macmillan Company 1950 492 p illus 24 cm. $6 50 3190

Contents Bacteriophages and their action on host cells, by T F Anderson Viruses, by F M. Burnet Rickettsial diseases, by H. M. Rose. Epidemiology by J R Paul. The methodology of medical genetics, by L. Hogben. Anthropology by M. F Ashley Montagu. Immunochemistry by E. A. Kabat. Enzyme chemistry and physiologic mechanisms, by W E. Knox. Chemotherapy by R. O. Roblin, Jr Microorganisms and vitamin research, by D D Woods The biosynthesis and metabolism of porphyrins—an illustration of the use of isotopes in biologic and medical research, by D Shemin and I. M. London. Differentiation and specialization of biologic media, by J P Peters. Kidney physiology by R. F Pitts. Pulmonary physiology by D W Richards, Jr Liver injury by P György The role of hepatorenal vasotropic principles in experimental shock by E. Shorr and others. Plasma proteins in the investigation of disease mechanisms, by S. H. Armstrong, Jr Some aspects of red-cell production by M. M. Wintrobe. Endocrinology in cancer research, by C. P Rhoads. Rheumatic fever—a disease for adventure by A F Coburn Hypertension, by L. F Leiter. Pediatrics Nuclear jaundice (kernikterus) in hemolytic disease of the newborn by R. Day Congenital malformations, by T H. Ingalls. Galactosemia—glycogen storage disease, by H. H. Mason. The celiac syndrome, by D H Andersen. The direction of surgical effort, by I. S. Ravdin. Neurology by J Ebbs. Research in psychiatry by K. A. Menninger Some biochemical problems in military engineering, by A. Wolman.

Note The typical article in this book contains a brief outline of the development of study in the field of medical or biological research named in its title, describes the more important findings to date, and indicates probable lines of future development. Literature references are included for each article. The style is semitechnical, and the book is suitable for persons who are thinking of entering research and for physicians, biochemists, and even laymen who want to get a view of the scope of the field or of the more significant discoveries.

HARRISON, T R., AND OTHERS, editors

Principles of internal medicine. Second edition. Edited by T R Harrison, Raymond D Adams, Paul B Beeson William H Resnik, George W Thorn and M M Wintrobe. New York McGraw Hill Book Company, Inc., 1954 1,790 p illus (part col d) 26 cm. $16 00 3191

Content (abridged) Part I, The physician and the patient Approach to the patient. Part II Cardinal manifestations of disease Pain. Fever Shortness of breath and cough. Disturbances of circulation. Indigestion and jaundice. Polyuria, oliguria, uremia, and edema. Alterations of weight. Anemia, bleeding, and lymphadenopathy Disorders of nervous function. Part III Biologic considerations. Inheritance and aging. Neoplastic diseases. Fluid and electrolyte balance. Intermediary metabolism. Electrophysiology Normal emotional development. Part IV Reactions to stress and to antigenic substances Reactions to injury and stress. Immune mechanisms. Part V General care of the patient The care of the patient. Iatrogenic disorders. Part VI, Metabolic and endocrine disorders Nutritional disturbances. Hormonal disturbances. Metabolic disorders of bone. Disorders of muscle. Inborn errors of metabolism. Part VII, Disorders due to chemical and physical agents. Chemical agents. Physical agents. Part VIII, Diseases due to biologic agents. Chemotherapy of infection. Infections due to gram-positive cocci Infections due to gram-negative cocci. Infections due to enteric gram-negative bacilli. Infections due to bacteria of the hemophilic group. Other gram-negative bacillary infections. Anaerobic infections. Miscellaneous bacterial infections. Diseases due to toxin-producing bacteria. Mycobacterial infections. Fungous diseases involving the internal organs. Fungous diseases involving only the skin and subcutaneous tissues. Fungous diseases of skin, hair or nails. Spirochetal infections. Rickettsial infections. Viral infections of the respiratory tract. Exanthematous viral infections. Neurotropic viral infections. Viral infections of the liver. Miscellaneous viral infections. Protozoan infections. Diseases caused by nematodes, or roundworms. Diseases caused by trematodes, or flukes. Diseases caused by cestodes, or tapeworms. Disorders due to venoms. Part IX, Diseases associated with reactions to stress and to antigenic substances. Disorders associated with reactions to stress and to antigenic substances Part X, Diseases of organ systems The hemopoietic system. The cardiovascular system. The kidneys. The respiratory tract. The alimentary tract. The liver, gallbladder and bile ducts. The nervous system. Index.

Note Primarily a textbook for use in medical school courses, this book is used also for orientation and reference by beginning practitioners of medicine. Its scope is cyclopedic. Only the titles of the parts and sections are given above There are 311 chapters, all of them signed with the names of distinguished contributors. There is as much emphasis on the basic mechanisms of disease as on the descriptions of specific diseases Such a wide number of topics is covered that there could be no general pattern of organization of chapters. However in the chapters on diseases, etiology pathology diagnosis, therapy and prognosis are all discussed. Selected literature references are included, and the volume is very well indexed. The first edition was published in 1950 Fairly extensive revisions were made in preparing this second edition and there has been some reorganization of the material but the over-all plan of the volume is unchanged.

THE HARVEY CUSHING COLLECTION OF BOOKS AND MANUSCRIPTS New York Abelard-Schuman 1943 207 p 28 cm (Yale Univer

[illegible] of his investigation. Electrokinetics. Stability of colloidal systems. Membrane phenomena. Biological energy exchange. Appendixes. Index.

Note The chief topics in physical chemistry that are of interest in medicine are treated in this text for undergraduate college students who are preparing for medical schools. The topics are well chosen, and although the main emphasis is on basic matters, applications to biology and medicine are frequently pointed out in such instances as, A valuable technique in diffusion studies on biological materials is known as the porous disk method. The level of treatment assumes previous study of basic physics and general chemistry

MAYO CLINIC ROCHESTER, MINNESOTA
Collected papers of the Mayo Clinic and the Mayo Foundation. Volume XLVII. 1955 published June, 1956 Edited by Richard M Hewitt and others. Philadelphia W B Saunders Company 1956 791 p. illus. 24 cm. $12.50. 3205

Contents (abridged) Surgery of the heart and blood vessels with special reference to the extracorporeal bypass pump-oxygenator. Blood and circulatory organs. Alimentary tract. Genitourinary diseases. Ductless glands. Dermatology Head, trunk and extremities. Thorax. Brain, spinal cord and nerves. Radiology *Physical medicine and rehabilitation.* Anesthesia, gas and intravenous therapy Miscellaneous. Index of contributors. Index of subjects.

Note The 47th in [illegible] series of annual volumes designed to make generally available reports on advances in medicine which have taken place at the Mayo Clinic and the Mayo Foundation. In this volume, 14 papers or reports are published in full, 53 in abridged form, 43 in abstract form, and 191 by title only In every case, [illegible] reference is given to the original reading or publication of the paper. The series is of interest to physicians in all branches of medical science.

MEAKINS JONATHAN CAMPBELL, editor
The practice of medicine. Associated editors Alvan L. Barach and others. Sixth edition. With 518 illustrations including 4 in color St. Louis The C. V Mosby Company 1956 1916 p. illus. (part col d) 26 cm. $16.00 3206

Contents (abridged) Section I, Bacterial infections, by L. Weinstein, associate editor Section II, Diseases due to viruses, by D M. Horstmann, associate editor. Section III, Spirochetal diseases, by [illegible] associate editor Section IV Diseases due to infestations, by R. T Parker, associate editor. Section [illegible] Diseases due to animal agents and vectors, by E C Faust, associate editor Section VI, The chemotherapy of infections, by C. S. Keefer associate editor Section VII, The allergic states by R. Rose, associate editor. Section VIII, Diseases due to abnormal environments, A. L Fleming, associate editor. Section IX, Diseases of the laryngotracheobronchial system, by C L. Jackson, associate editor Section X, Diseases of the pulmonary parenchyma, by A. L. Barach, associate editor Section XI, Diseases of the heart and pericardium, by L. W [illegible] and R. P Lopez, associate editors. Section XII, Diseases of the blood vessels, by J W Culbertson, associate editor Section XIII, Disorders of the [illegible], diaphragm, and pleura, by J. C Meakins Section XIV Diseases of the kidneys and urinary tract, by A. Merrill, associate editor Section XV Disorders of the gastrointestinal tract and pancreas, by T E. Machella, associate editor Section XVI, Diseases of the liver and biliary tract, by C S Davidson and G K Mallory associate editors Section XVII, Diseases of metabolism and nutrition, by M. M. Hoffman, associate editor Section XVIII, Diseases of the ductless glands, by H W McIntosh, associate editor Section XIX, Diseases of the hematopoietic system, lymphatic tissue, and spleen, by R. K. Wheeler associate editor Section XX, The musculoskeletal system, by R. H. Freyberg, associate editor Section XXI, Organic diseases of the brain, spinal cord, and peripheral nerves, by G. M. Sky associate editor Section XXII, Psychosomatic aspects of medicine, by S G Margolin, associate editor Index

Note A standard textbook used in undergraduate courses in medical colleges It presents [illegible] general approach to medicine and is in effect [illegible] cyclopedic treatment of present-day medicine in one volume The first edition was published in [illegible] 936, and the fifth edition in 950 All of the editions up to the sixth edition were written by Dr Meakins. The sixth edition, which is the work of 87 contributors, is, therefore, [illegible] radical departure in authorship though not in scope or purpose from previous editions. It is organized in 22 sections, the titles and editors of [illegible] hich are listed above, and in 214 signed chapters. The typical chapter is [illegible] concise essay on small group of related diseases [illegible] hich it discusses in regard to their etiology pathology signs and symptoms, diagnosis and treatment. Selected literature references are given for each disease or group of related diseases.

MEDICAL PROGRESS 1956 a review of medical advances during 1955 Morris Fishbein editor New York The Blakiston Division Mc Graw Hill Book Company Inc., 1956 389 p. 24 cm. $5.50 3207

Contents: Medicine by M. Fishbein. Allergy by G. T Brown. Rheumatic diseases, by E. W Boland. Diabetes, by E. P Joslin. Gynecology by E. A. Kale and A. R. Corbie. Gastroenterology by F P Brooks and D J Sandweiss. Laboratory procedures, by R. B. H. Gradwohl. General surgery by E. S. Judd and F J Squires. Ophthalmology by M. L. Stillerman. Poliomyelitis vaccine, by P H. Long. Neurology by F M. Forster Physical medicine and rehabilitation, by G. M. Martin. Dermatology by H. Rattner Nutrition, by K. H. Shull and others. Cardiovascular disease by W A. Brams. Psychiatry, by F J Braceland and M. R. Jackson. Neuropsychiatry by W Overholser and L. J. Kosiek. New drugs, by F L. Warner Endocrinology by L. M Hurxthal. Ear nose, and throat, by F L. Lederer and R. J Schwartz. Orthopedic surgery by P Lewin. Index.

Note The fourth volume of an annual series, the first volume of which was published in 1953. Each of the chapters is [illegible] concise review of [illegible] selection of the published literature pertaining to its specific topic. In general, each chapter reviews the literature of [illegible] year but exceptions are made in order to round out the presentation of [illegible] subject. T[illegible] cite an example 11 of the 30 literature references included in the chapter on allergy in this volume were published earlier than 1955. There is some variation in topics and authors from year to year but the over-all pattern of the volumes does not vary The purpose of the series is to enable graduate medical practitioners to keep informed about developments in fields of medicine of interest to them but in which they find it impractical to read all of the published literature.

METHODS IN MEDICAL RESEARCH Volume 1 Van R. Potter editor in-chief Chicago The Year Book Publishers, Inc., 1948 372 p illus. 24 cm. $8.00 3208

Contents (abridged) Section I, Assay of antibiotics, by H. Welch, associate editor Assay of penicillin potency Assay of streptomycin potency Assay of tyrothricin potency Assay of bacitracin potency Pyrogen tests for penicillin and streptomycin. Toxicity—safety tests for penicillin and streptomycin. Section II, Circulation—blood flow measurement, by H. D Green, associate editor Venous drainage recorders. Mean flow recorders. Pulsatile flow meters. Perfusion systems. Indirect methods for regional blood flow Collateral circulation. Cardiac output and contractility Analysis of cardiovascular activity Section III, Selected methods in gastroenterologic research, by A. C. Ivy associate editor. Section IV Cellular respiration, by V R Potter associate editor Index.

—— Volume 2 Julius H. Comroe Jr., editor-in-chief Chicago The Year Book Publishers Inc. 1950 361 p illus. 22 cm $6.50 3209

Content (abridged) Section I, Methods of study of bacterial viruses, by M. H. Adams, associate editor Section II, Pulmonary function tests, by J. H. Comroe, Jr associate editor Section III, Assay of hormone secretions, by E. H. Venning, associate editor Subject index Name index.

—— Volume 3 Ralph W Gerard, editor in-chief. Chicago The Year Book Publishers Inc., 1950 312 p. illus. 22 cm. $7.00 3210

Contents (abridged) Section I, Genetics of micro-organisms, by S. E. Luria, associate editor Section II, Assay of neurohumors, by J H. Gaddum, associate editor Section III, Selected psychometric [illegible] methods, by W R. Miles, associate editor Section IV Methods for study of peptide structure, by C. H. Li, associate editor Subject index. Name index.

HYMAN, HAROLD THOMAS

An integrated practice of medicine, a complete general practice of medicine from differential diagnosis by presenting symptoms to specific management of the patient. 1,184 illustrations, 305 in color 319 differential diagnostic tables Philadelphia W B Saunders Company 1946 4 v and index. illus (part col'd) 24 cm With Progress volume, described below, $70 00 3198

Contents Volume I, Bodily injuries and bodily responses to injury General reactions of bodily tissues. Infection. Allergy Neoplasms. Metabolism. Poisoning. Disturbances of systems of communication and coordination: The circulatory system. Volume II, The blood and blood forming organs, including the spleen. The organs of internal secretion. The nervous system, including psychiatry The eye. Disturbances of end organ systems The digestive system, Volume III, The respiratory system. The urinary system. The male reproductive system. The female reproductive system. Obstetrics. Pediatrics. The skeletal and locomotor systems. Volume IV The tegumentary system. The technics of medical diagnosis and therapy The technics of physical diagnosis. Laboratory methods. Medical therapeutics, including pharmacotherapy Surgical therapeutics. Prognosis. Appendix. Index volume: Index of differential diagnosis and general index.

Note: An encyclopedic work covering the whole field of medicine and designed to serve as comprehensive reference tool for the general practitioner The aim is to present a concise summary of accepted opinion and practice regarding the clinical manifestations, diagnosis, and treatment of the various diseases. Excellent integration of the various topics, an outstanding feature of this work, is obtained by the use of tabulations of symptoms and causes and by numerous cross references. These devices, and the provision of a separate index volume in addition to the volume indexes, contribute to the ease with which information concerning the diagnosis and treatment of a specific disease may be located. Bibliographies are not included.

HYMAN, HAROLD THOMAS

An integrated practice of medicine. Progress volume Modern developments in therapeutics and methods of treatment Philadelphia W B Saunders Company, 1950 4133–4867 p 24 cm $10 00 3199

Note A supplement to the author's cyclopedic *Integrated practice of medicine*, described above. Its purpose is to cover developments between the writing of that work and some unspecified date in 1950 Topics are arranged alphabetically from actinomycosis to yellow fever and references are given to the pages of the original work, to which the new material is related. The volume contains both the general indexes to the main work and an index to the *Progress* volume itself

KELLY, EMERSON CROSBY

Encyclopedia of medical sources Baltimore The Williams & Wilkins Company, 1948 476 p 23 cm $7 50 3200

Note A useful reference book whose purpose is to direct surgeons, medical practitioners, and medical librarians to the original source descriptions of operations, methods, tests, etc., which are known by the names of their originators, or at least by the names of individuals associated with them in medical literature. In other words, it is compilation of eponyms that can be used to identify and trace the origin of such terms as Babinski's sign the Schick test, and Sabin's method. The person whose name is identified with the particular term is identified as to full name, nationality profession, and dates of birth and death The eponym is then defined, and a reference is made to a periodical article or other source in which it was given an early authoritative description.

McCOMBS, ROBERT P

Internal medicine, a physiologic and clinical approach to disease Chicago The Year Book Publishers, Inc., 1956 706 p. illus. 24 cm $10 00 3201

Contents. Disorders of the heart. Hypertension and vascular disease. Renal disease and renal failure. Body fluids and electrolytes. Endocrine disorders. Infectious diseases. Pulmonary diseases. Allergic diseases. Disorders of the gastrointestinal tract. Disorders of the blood and blood forming organs. Rheumatic disorders and diseases of bone. Nutritional and metabolic disorders. Index.

Note: This successor to the author's *Internal medicine in general practice* second edition, 1947 is primarily a text for medical school students and secondarily review and reference book for general practitioners. It is shorter than some of the standard texts on internal medicine. The relative brevity has been achieved partly by omitting such specialties as neurology and such techniques as electrocardiography Aside from these omissions, the book provides a wide range of basic information on physiology diagnosis, critical manifestations of specific diseases, and therapy The chapter on infectious diseases is 100 pages long and covers most of the infectious diseases encountered in general practice. Selected literature references are included in the chapters.

McMANUS, JOSEPH FORDE ANTHONY, editor

Progress in fundamental medicine. 74 illustrations and 2 colored plates. Philadelphia Lea & Febiger, 1952 316 p. illus (part col'd) 26 cm. $9 00 3202

Contents: Recent advances in parenteral nutrition with particular reference to protein hydrolysates, by P R. Cannon. Melanotic tumors of the skin, by J A. Cunningham. Pathology of systemic lupus erythematosus, by P Klemperer The diagnosis of fungus infections with particular reference to staining methods, by A. M. Kligman. The liver by G K. Mallory and T B Mallory A survey of techniques for the histochemical approach to pathology by J F A. McManus. Coronary artery disease, by J C. Paterson. The problem of carcinoma in situ with reference to the human cervix uteri, by L. D Stoddard. The recognition of carcinoma in situ of the cervix uteri by Papanicolaou's method, by W K. Cuyler Non-silica pneumonoconioses, by J P Wyatt. Index.

Note A volume made up of original monographs in which the authors have organized and interpreted significant recent advances in selected areas of medicine. The book is the result of planned effort to do justice to these advances by providing graduate medical practitioners with rather full accounts of them and by providing lists of the literature in which they were originally reported.

MAINLAND, DONALD

Elementary medical statistics the principles of quantitative medicine Philadelphia W B Saunders Company 1952 327 p. illus. 22 cm $5 00 3203

Contents The place of statistics in medicine. On looking at evidence. Estimating the error in enumeration data. Comparison of samples of enumeration data. Variation between measurements. Relationships between measurements—concomitant variation and trends. Statistical ideas in clinical medicine. Some further hints for investigators. Answers. References. Appendix. Index. Graphs.

Note An introductory textbook in which the reader is introduced to certain basic statistical concepts and techniques, but in which the main emphasis is on the application of statistical techniques to medical research and other matters of medical interest. The author is Professor of Medical Statistics in the College of Medicine of New York University

MATSEN FREDERICK ALBERT AND OTHERS

Pre-medical physical chemistry by F A. Matsen Jack Myers and Norman Hackerman New York The Macmillan Company 1949 344 p. illus 22 cm $5 00 3204

Contents (abridged) Mathematical introduction. Atomic structure. Molecular structure and intermolecular forces. Gases. Imperfect gases and the liquid state. The solid state. Elementary kinetics. Equilibrium and free energy Equilibria in one-component systems. Equilibria in two-component systems. Oxidation-reduction equilibria. pH and determination of pH. Titration. Buffers. Surface equilibria. Molecular orientation at interfaces. The colloidal state and physical

Press, Inc., 1955 131 p. 22 cm. (New York Academy of Medicine. Lectures to the laity No. XVII) $3.00 3218

Contents: Foreword, by H. B. Craig. Introduction, by I. Galdston. Disease and its social setting, by Sir J. Spence. The biology of ethics, by R. W. Gerard. The natural history of neurotic behavior, by H. S. Liddell. Environment and heredity, by T. H. Ingalls. Changing concepts of child care, by M. J. E. Senn. Environment in nutrition, by R. M. Wilder. Index.

—— Medicine in a changing society. Iago Galdston, editor. New York, International Universities Press, Inc., 1956 166 p. 22 cm (New York Academy of Medicine. Lectures to the laity No. XVIII) $3.00 3219

Contents: Foreword, by W. B. Parsons. Introduction, by I. Galdston. Adventure and security in a changing world, by F. Alexander. Changes in family life and mental health, by J. A. Rose. Organic factors and personality functions, by W. Malamud. What the laboratory can teach us about nervous breakdown, by W. H. Gantt. Science and the man, by I. Galdston. Index.

Note: These books contain the lectures given in the 16th, 17th and 18th annual "Lectures to the laity" united series in which eminent medical practitioners and scientists associated with research in medicine and biological sciences interpret selected areas of their fields for the benefit of laymen, including members of professions such as law, teaching and social work. In most of the lectures there is some emphasis on recent advances. The series is both readable and authoritative.

New York Hospital-Cornell Medical Center

Practitioners conferences held at the New York Hospital-Cornell Medical Center. Edited by Claude E. Forkner. Volume I. New York, Appleton-Century-Crofts, Inc., 1955 411 p. illus. 22 cm. $6.75 3220

Contents: [illegible] and primary atypical pneumonia. The harmful effects of tobacco. Newer drugs in the therapy of malignant disease. Congestive heart failure. Acute and chronic [illegible]. Nodules in the breast. Anemia. Present status of ACTH and cortisone. Acute adrenal [illegible]. The home care of acute poliomyelitis. Rehabilitation of the patient paralyzed by poliomyelitis. Diagnosis and treatment of pulmonary tuberculosis. Present methods in the treatment of pulmonary and extrapulmonary tuberculosis. Headache. Diabetes mellitus. Addison's. Disorders of the feet.

—— Volume II. New York, Appleton-Century-Crofts, Inc., 1955 387 p. illus. 22 cm. $6.75 3221

Contents: The dangers of the sulfonamides and antibiotics. Acute and chronic hepatitis. Menopausal symptoms. Sciatica and low back pain. Bright's disease. Psychosomatic. Alcoholism. Cholelithiasis and cholecystitis. Tumors of the stomach. Multiple myeloma. Rheumatoid arthritis. Penetrating wounds, lupus erythematosus, dermatomyositis, scleroderma. Arteriosclerosis and atherosclerosis. Psychotherapeutic measures useful in medical practice. Pheochromocytoma tumors. The acute abdomen. Syphilis.

—— Volume III. New York, Appleton-Century-Crofts, Inc., 1956 293 p. illus. 22 cm. $6.75 3222

Contents: Cancer of the skin and precancerous lesions of the skin and of the oral cavity. The detection of early cancer. Hodgkin's disease and lymphosarcoma. Ulcerative colitis. Eczema including seborrheic dermatitis and contact dermatitis. The adrenal disease—lymphogranuloma venereum, granuloma inguinale, chancroid, gonorrhea. Tumors of the bone. Convulsive seizures. Neurovascular syndromes of the shoulder girdle. The common cold and its complications. Hay fever.

—— Volume IV. New York, Appleton-Century-Crofts, Inc., 1956 407 p. illus. 22 cm. $6.75 3223

Contents: Pulmonary hypertension. Hyperthyroidism and tests of thyroid function. Hyperthyroidism. Fractures of the hip. Mechanisms of the anemias. Treatment of the anemias. Burns. Obesity. Ileitis (ileojejunitis, regional ileitis, regional enteritis). Hypersensitivity. Pheochromocytoma. The role of religion in healing. Cancer of the rectum and anus. Patent ductus arteriosus and coarctation of the aorta. The treatment of chronic rheumatic heart disease. Parasitic infection—enterobiasis, oxyuriasis.

Note: These volumes are products of an unusual venture in post-graduate medical education. They are the proceedings of conferences sponsored by the New York Hospital-Cornell Medical Center for graduate physicians in New York City and the region around it. At these conferences selected practitioners give informal —often bedside—discussions of specific cases, and the physicians attending the conference ask questions, make comments based on their own experience, etc. Both the discussions and the comments are reproduced in these books and are followed by summaries written by the volume editor and by references to related literature.

Osler, Sir William, Bart

The principles and practice of medicine designed for the use of practitioners and students of medicine. Originally written by William Osler. By Henry A. Christian. Sixteenth edition. New York, D. Appleton-Century Company Inc. 1947 1,539 p. 24 cm. $12.50. 3224

Contents (abridged): Functional diseases of the nervous system. Infectious diseases. Parasitic infection. Metazoan parasites. Insects and reptiles. Diseases due to physical agents. The intoxications. Deficiency diseases. Diseases of metabolism. Diseases of the oral cavity. Diseases of the digestive system. Diseases of the respiratory system. Diseases of the urinary tract. Diseases of the blood. Diseases of the spleen. Diseases of the lymph nodes. Diseases of the heart. Diseases of the arteries. Diseases of the veins. Vasomotor and trophic diseases. Diseases of the glands of internal secretion. Diseases of the locomotor system. Organic diseases of the nervous system. Index.

Note: A classic text for students and practitioners and best known for its fine clinical descriptions, classifications, and complete coverage of the field of internal medicine. The first eight editions were written by the late Sir William Osler, the next four by the late Dr. Thomas McCrae and the next four by the present author.

Piersol, George Morris, editor

American medicine 56. George Morris Piersol, editor-in-chief. Edward L. Bortz, assistant editor. Alton Ochsner, surgery. Claude E. Heaton, obstetrics. Francis L. Lederer, otology, laryngology and rhinology. Frederick H. Falls, gynecology. Robert A. Lyon, pediatrics. Conrad Berens, ophthalmology. Philadelphia, F. A. Davis Company *1956* *927* p. illus. 26 cm. $11.50 *3225*

Contents: Allergy. Anesthesia. Cancer. Dermatology and syphilology. Diet and dietotherapy. Endocrinology. Endocrinology. Gynecology and obstetrics. Medicine. Neurology and psychiatry. Ophthalmology. Otolaryngology. Pathology, clinical. Pediatrics. Physical medicine and rehabilitation. Radiology. Surgery. Teeth and mouth, diseases of. Therapeutics. Urinary. Index.

Note: The latest in a series of annual volumes in which a carefully chosen selection of recent medical literature published in the United States of America is reviewed and interpreted by a group of experts. It is addressed primarily to general practitioners. Each of the sections or chapters is a readable digest of recent articles on specific topics with references to the source articles. The names of the contributors who, in addition to the editors, are responsible for each section are given in the volume.

Richardson, Henry Barber

Patients have families. Cambridge, Mass. Harvard University Press 1945 408 p. 24 cm. $3.00. 3226

Contents: Part I. The family as the unit of illness. A family as seen in the hospital. A family as seen from other angles. The family

—— Volume 4 Maurice B Visscher, editor in-chief Chicago The Year Book Publishers, Inc., 1951 306 p illus 22 cm $7 00 3211

Contents (abridged) Section I, Histochemical staining methods, by G Gomori associate editor *Section II Fluid and electrolyte distribution*, by L. B Flexner associate editor Section III, Studies on gastrointestinal pressures, innervation and secretions, by J P Quigley associate editor *Section IV Tissue culture methods, by C. M. Pomerat*, associate editor Subject index. Name index.

—— Volume 5 A C Corcoran, editor in *chief Chicago The Year Book Publishers* Inc., 1952 394 p illus 22 cm. $7 50 3212

Contents (abridged) Section I Methods for separation of complex mixtures and higher molecular weight substances, by L. C. Craig, *associate editor Section II, Methods of renal study by A. C* Corcoran associate editor Section III, Immunochemical methods for determining homogeneity of proteins and polysaccharides, by M. Cohn, associate editor Subject index. Name index.

—— Volume 6 J Murray Steele, editor in-chief Chicago The Year Book Publishers Inc 1954 271 p. illus 22 cm $7 00 3213

Contents (abridged) Section I Some methods of studying human genetics, by *A. Ciocco, associate editor* Section II, Methods in environmental medical research, by R. G Daggs, associate editor Section III, Statistics in medical research, by D Mainland, associate editor Section IV Design and construction of metabolism cages, by A. Lazarow associate editor Subject index. Name index.

Note A *serial series dedicated to the publication of monographic* papers on currently important and newly developed methods and techniques in medical research. The term "medical research" has *been interpreted broadly The series includes selected* topics from biochemistry physiology pharmacology bacteriology immunology biophysics, radiobiology etc. It is addressed to scientists and technicians engaged in medical research at the professional level. The individual volumes, except the first, are organized in sections, *each of which is the responsibility of an associate editor* The titles of the sections and the names of the associate editors are listed above. Each section consists in turn of several papers on specific topics. For example, the sixth volume is organized in four sections which together contain 27 individual signed monographs. Each volume contains a detailed subject index and name index that includes the authors of cited literature.

Michal Smith Harold

The mentally retarded patient Philadelphia J B Lippincott Company 1956 203 p 21 cm $4 00 3214

Contents The role of the physician. Brain impairment, learning and emotional factors. *Classification of mental retardation, by L. B* Slobody Attitudes toward prevention and etiology The psychological situation The problem of family adjustment. Education Vocational prognosis. Looking forward. Appendix. Index.

Note Written by clinical psychologist and addressed to *graduate* physicians, this book deals primarily with the psychological aspects of the care of patients who are mentally subnormal The chapter on the classification of mental retardation was written by an *eminent physician and contains medical definitions* and descriptions of abnormalities and diseases associated with mental retardation Other chapters in the book deal with those aspects of patient care which are named in their titles. *It is noteworthy that the problem of family adjustment is accorded one* chapter A bibliography of modern literature for professional workers including not only physicians but also social workers and others who are concerned with the care of mental defectives, and *several lists of literature* for laymen are included.

Miller *James Alexander and others*

Medical addenda related essays on medicine and the changing order Cambridge Mass. Harvard University Press 1947 156 p illus 22 cm $1 75 3215

Contents Preface, by F B Kirkbride. The doctor himself, by J A. Miller Psychosomatic medicine, by L. Hamman. Medical social work, by M A. Cannon and H. M. Bartlett. Psychiatric social work, by W W Arrington. Rehabilitation and convalescence, by H A. Rusk. Chronic diseases, by E. P Boas.

Note Supplementing earlier monographs in this series of the New York Academy of Medicine's Committee on Medicine and the Changing Order the present collection of essays completes the committee's consideration of medical service as a whole. As previously the writing is for both the professional and the layman who are associated with or interested in current medical practice.

Musser, John Herr, *and Michael G* Wohl, editors

Internal medicine, its theory and practice. Originally edited by John H Musser Fifth edition edited by Michael G Wohl With 80 *contributors, 236 illustrations* and *10* colored plates Philadelphia Lea & Febiger, 1951 1,563 p illus 27 cm. $15 00 3216

Contents Part I, Infectious diseases Some aspects of infection and resistance, by P R. Cannon. The viral diseases, by C. Woodhouse. The rickettsial diseases, by H. Pinkerton. Diseases due to spirochetes, by J A. Kolmer The bacillary diseases, by J. Felsen. The coccal diseases, by R. A. Kinsella. The contagious diseases of childhood, by P F Lucchesi and A. C. La Boccetta. The protozoan diseases, by C. F Craig. The metazoan diseases, by E. C. Faust. Fungous infections or mycoses, by N F Conant. Principles of antimicrobial therapy by H. F Flippin. Diseases of doubtful etiology by F F Rosenthal and others. Part II, Diseases due to physical and chemical agents *Diseases due to physical and toxic agents*, by D P Barr. Diseases due to chemical agents, by M. C. Piccolo and R. S. Fisher Part III Diseases of nutrition—metabolism—endocrine glands General considerations, by P Gyorgy Diseases of nutrition, by M. G. Wohl and others. Diseases of metabolism, by J. H. Talbott and others. Diseases of the endocrine glands, by M. G. Wohl and others. Part IV Diseases of allergy and collagen disease Diseases of allergy by R. A. Cooke and others. Collagen diseases, by M. G. Wohl and others. Part Systemic diseases Genetics and medical practice, by L. H. Snyder Psychosomatic aspects of medical practice, by E. Weiss. Diseases of the heart, by S. Bellet and others. Diseases of the respiratory tract, by J W Peabody and others. *Diseases of the kidneys, by L. Leiter Diseases of blood* vessels and lymph vessels and abnormalities of blood pressure by I. S. Wright and C. D. Marple. Diseases of the blood, by C. C. Sturgis. Diseases of the spleen and the reticulo-endothelial system, by E. B Krumbhaar and E. P Custer Diseases of the alimentary tract, by C. M. Jones. Diseases of the locomotor system, by S. R. Mettier Part V Care of the aged and rehabilitation The care of the aged, by R. A. Kern. Medical practice and rehabilitation, by H. A. Rusk. *Part VI, Diseases of the nervous system* Diseases and abnormalities of the mind including the neuroses, by E. A. Strecker and M. M. Pearson. Organic diseases of the nervous system, by G. Wilson and others. *Index.*

Note A standard textbook and reference manual which is outstanding for its comprehensiveness. Most of the authors of the various chapters are professors on the faculties of leading medical schools in the United States of America. The fourth edition, the *last one edited by the late Professor* John H. Musser was published in 1945 Although the length of the book has been increased by only about 50 pages in this edition, the work has been extensively revised and several chapters have been added. The subject index is very detailed.

New York Academy of Medicine

Medicine and science Iago Galdston, editor New York International Universities Press Inc. 1954 159 p *illus. 22 cm (New* York Academy of Medicine. Lectures to the laity No XVI) $3 00 3217

Contents Introduction by H R. Craig. Men, machines, and the world about, by N Wiener The renaissance in endocrinology, by H. Selye and P Rosch The relation of animal psychology to *psychiatry by D M. Levy* Quest for antibiotics, by P R. Burkholder Stress, emotions and bodily disease by H. G Wolff. "Miracles"—some produced, by J E. McKeen. Index

—— *Society and medicine.* Iago Galdston *editor New York International Universities*

and Part two, Subjects. Part one, Authors, reproduces in book form all catalog cards prepared by the Library in 1955 for materials of medical interest, including current acquisitions, titles recatalogued from the old collections, and pre-1801 and Americana titles cataloged in the History of Medicine Division. Part two, Subjects, reflects the Library's policy of limiting subject headings to titles published within the last 25 years. However, important reference and historical materials, biographies, bibliographies, and materials of similar types are listed in the subject section regardless of date of publication. The Catalog is published as a supplement to the Library of Congress catalogs. The 1954 Catalog, issued in 1955, is similar in scope and organization, but is based on cards prepared in 1954 and appears under the authorship of the National Library of Medicine, reflecting an official change in status and name of the sponsoring library

UNITED STATES. NATIONAL LIBRARY OF MEDICINE

Index-catalogue of the Library of the Surgeon General's Office United States Army (National Medical Library) Fourth series, Vol. I–XI, (A–Mn) Washington, D C. Government Printing Office 1936–55 11 v 29 cm. Vol. 1 o.p vol. 2 o.p vol. 3 $2 75 vol. 4 $2.00 vol. 5 $2 75 vol. 6 $2 75 vol. 7 $2 75 vol. 8 $2.50 vol. 9 o p vol. 10 $4.25 vol. 11 $9.00 3231

Note: The first volume of this monumental printed catalogue of one of the world's greatest medical libraries was published in 1880. It consists of four series as noted below, the fourth series being incomplete. Publication of the traditional format came to an end with the 11th volume in this series. In the course of preparation is a *Supplementary series* which will be limited to monographic publications published in the period 1936–1949. When the *Supplementary series* is completed and published, no more volumes of the *Index-catalogue* will be published, nevertheless the set will provide nearly complete record of the Library's holdings to 1950. Beginning with 1950, book accessions to the Library now the National Library of Medicine, are recorded in its annual *Catalog*—described in the entry preceding this one—and periodical material is recorded in the monthly Current list of medical literature. The following table shows the number of entries in the *Index-catalogue*

	Author titles	Subject titles: Books and Pamphlets	Subject titles: Journal articles
First series, 1880–95, 16	174,364	168,537	511,112
Second series, 1896–1916, 21	149,182	136,408	643,875
Third series, 1918–32, 10	83,478	87,034	469,400
Fourth series, 1936–55, 11	60,144	56,533	793,767

UNITED STATES NATIONAL LIBRARY OF MEDICINE

National Library of Medicine classification. A scheme for the shelf arrangement of books in the field of medicine and its related sciences. Second edition. Washington, D C. Superintendent of Documents, 1956 314 p 26 cm. $2.00 3232

Contents: Introduction. Classification of serial publications. Serial numbering. Table G. Synopsis. Schedules. Preclinical sciences, QS–QZ. Medicine and related subjects, W–WZ. Nineteenth century schedule. Index

Note: The first edition of this work was published 1951 as the classification of the Armed Forces Medical Library. During the preparation of the second edition, the name of the Library was changed to National Library of Medicine. In the new edition the tables have been revised (1) to effect further simplification, (2) to make provision for new concepts and developments, and (3) to incorporate the four change lists which have been issued at yearly intervals since the first edition appeared. The tables are planned as a scheme for the shelving of medical books rather than as a classification of medicine. Table G, outlined in the preliminary pages, [illegible] modified Cutter arrangement which the Library finds useful in certain classes for permitting [illegible] shelving under which [illegible] controlled both geographically and alphabetically

UNITED STATES OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT

Advances in military medicine made by American investigators working under the sponsorship of The Committee on Medical Research. Edited by E. C. Andrus. Tucker man Day associate editor Foreword by Alfred N Richards. Volume I–II. Boston Little Brown and Company 1948 2 v Illus. 22 cm. (Science in World War II) 2 vols $20 00 net. 3233

Contents (abridged): Volume I. Part I, Medicine. Venereal diseases, by J. E. Moore. Tropical diseases, by L. R. Farquhar. Part II, Surgery. The prevention of infection in accidental wounds, by F. L. Meleney. Experimental wound healing, by E. L. Howes. The application of penicillin to surgical problems, by J. W. Hirshfeld. The problem of gas gangrene by W. A. Altemeier and W. L. Furste. The burn problem by O. Cope. New surgical plastics and hemostatics, by W. K. Francis. Studies on wound ballistics, by E. N. Harvey. Part III, Aviation medicine. The effects of acceleration and their counteraction, by E. M. Landis. Visual problems, by W. R. Miles and D. W. Bronk. Motion sickness by P. Bard. Altitude decompression sickness, by J. F. Fulton. Part IV, Physiology. The history of plasma fractionation, by E. J. Cohn. Blood substitutes, by C. A. Janeway and J. L. Oncley. Volume II. Problems of nutrition, by J. B. Youmans and G. M. Guest. Protective clothing, by S. Robinson and H. S. Belding. Part V, Chemical-warfare agents. Recent research on respiratory irritants, by R. W. Gerard. Protection and treatment of the skin exposed to blister gases, by M. B. Sulzberger. Part VI, Anti-pest agents. The development of new insecticides, by H. L. Haller and S. J. Cristol. The toxicology and mechanism of action of DDT in mammals, by R. A. Ormsbee. The development of new insect repellents, by R. O. Schultz. The development of new rodenticides, by R. A. Ormsbee. Part VII, The synthesis of adrenocortical steroids, by T. F. Gallagher. Part VIII, Malaria. The synthesis of antimalarial drugs, by R. C. Elderfield. The clinical testing of antimalarial drugs, by J. A. Shannon. Part IX, Penicillin. Research in the development of penicillin, by K. B. Raper. Part X, Sensory devices, by G. W. Corner. Bibliography. List of contracts. Index.

Note: These two volumes constitute a report to the general public of the vast program of medical research carried out under the auspices of the Committee on Medical Research, and of the resulting advances in medicine which occurred during World War II. Because of the wide variety of topics discussed, much technical data has been omitted, and the treatment of each subject is comprehensive rather than exhaustive. Particular attention is of course given to those fields of medical research which have specific military applications. Periodical articles which report on the various projects sponsored by the Committee on Medical Research are cited in 73-page bibliography. The series, of which this work is part, serves as an official record of the activities and accomplishments of the Office of Scientific Research and Development.

UNITED STATES PUBLIC HEALTH SERVICE

The ship's medicine chest and first aid at sea. Completely revised as a joint project of the United States Public Health Service and the War Shipping Administration. Washington, D C. Government Printing Office, 1947 498 p Illus. 24 cm. (United States Public Health Service Miscellaneous publication no 9) $3.50. 3234

Contents: Preface. Historical introduction. The human body—its structure and function. Hygiene, sanitation, and preventive medicine. The sickbay and medicine chest. General nursing care. First aid and the emergency treatment of injuries. The classification and treatment of diseases. Medical advice by radio. Birth and death at sea. Appendix. Regulations governing medical relief of merchant seamen and others. Excerpts from regulations governing foreign quarantine. List of U. S. marine hospitals and other medical relief stations. List of disinfecting plants. Special safeguards for Harrison Law narcotic drugs. Salt-water soap. Weights, measures, and approximate equivalents. Glossary. Index.

Note: The latest revised edition of a work which was first published in 1881 is intended like its predecessors for use on ships having no physician. It describes in simple and nontechnical language

as the unit of illness. The family equilibrium. Different types of family equilibrium. Part II, The family as the unit of treatment The family practitioner The family and the physician's responsibility as viewed from the hospital. The cooperation of the physician and the psychiatrist. The case worker and the family unit. The medical social worker and the family unit. The public health nurse and the family unit. Part III, Present and future The family in wartime. The family unit in hospital practice and medical school teaching. The family unit as the subject of research. Appendix. Index of families and their members. General index.

Note. Maintaining that it is not enough for medical practice to stop at treating "the patient rather than the disease," the author calls for a broader view one which recognizes family difficulties as the base of much illness, both physical and emotional. Based on study conducted jointly by Cornell University Medical College, the New York Hospital, and the Community Service Agency the book represents also the experience of the author in both medical and social science. Dr Richardson insists that since today's medical specialist no longer knows the patient and his family status, as did the now nearly outmoded general practitioner there must be a marshaling of forces among doctor psychiatrist, social worker public health nurse and others to produce really intelligent diagnosis and treatment. The full appendix includes outlines of suggested procedures and reports of the case histories discussed in the text.

ROUECHÉ, BERTON

Eleven blue men and other narratives of medical detection Boston Little Brown and Company, 1953 215 p 21 cm. $3 50 3227

Contents A pig from Jersey A perverse ungrateful, maleficent malady A game of wild Indians. The alerting of Mr Pomerantz. *Birds of a feather* Eleven blue men. A man from Mexico. A lonely road. A pinch of dust. Something extraordinary Family reunion. The fog.

Note The twelve essays collected in this book appeared originally in the *New Yorker* magazine. Detection by medical and public health authorities of the causes of specific outbreaks of disease is the central theme. One of the outstanding accounts describes the sequence of events in 1946 when the first outbreak of the disease later named *rickettsialpox* occurred among the residents of a middle-class housing development in New York City and not only was identified as a new disease, but its causative agent and vector were identified through the co-operation of physicians, public health specialists, and a layman in the business of pest exterminating. The book is a good example of science journalism. Without resort to sensationalism or distortion, it describes in a fascinating manner the methods and some achievements of medical men and associated scientists. It is addressed to lay readers.

SODEMAN, WILLIAM A., editor

Pathologic physiology mechanisms of disease. Second edition Philadelphia W B Saunders Company 1956 963 p 26 cm. $13 00 3228

Contents. Part I, Pathologic physiology by W A. Sodeman. Part II, Genetics, growth and neoplasia. Genetics of abnormal growth and neoplasia, M. T Macklin. Part III, Metabolism and the endocrine glands Nutritional factors, protein and fat metabolism, by W A. Sodeman. Carbohydrate metabolism, by H. T Ricketts and J M. Goldinger Water and electrolyte balance, by R. L. Pullen and R. F Kushner Endocrine glands, by E. C Reifenstein Jr Part IV Infection and allergy Factors affecting infections, by G T Harrell, Jr *Effects of infection* by G T Harrell, Jr Recovery by G. T Harrell, Jr Alteration of the course of an infection by G T Harrell, Jr Allergy by R. A. Cooke and W B Sherman Part Physical, toxic and chemical agents Physical and toxic agents, by W Bean. Chemical agents and disease, by J H. Foulger Part VI, Circulatory system Hemodynamics—the blood vessels, by W A. Sodeman. Dynamics and circulation of heart muscle cardiac curve heart pain the cardiac cycle, by J T Roberts. The electrocardiogram, by F D Johnston. Cardiac output, hypertrophy and dilatation valvular diseases congenital defects, pericardial diseases, extracardiac factors, by E. Hall. Cardiac failure and function tests, by J S. La Due Part VII, Respiratory system Pulmonary ventilation and respiration tests of respiratory function, by J H. Seabury Protective mechanisms of the lungs pulmonary disease pleural disease by H. L. Alexander Part VIII, Digestive system The esophagus, by W L. Palmer and J B. Kirsner The stomach, by W. L. Palmer and J B Kirsner The small intestine, by L. Schiff. The large intestine, by L. Schiff. The liver by F J Ingelfinger The gall-bladder and pancreas, by R. Elman. Part IX, Urinary tract The kidney by A. C. Corcoran and I. H. Page. Part X, Blood and spleen Disorders of the blood, by W B. Castle. The spleen and reticuloendothelial system, by C. A. Doan. Part XI, Locomotor system The joints, by R. H. Freyberg. Part XII, Nervous system: The nervous system, by R. N De Jong. Index.

Note A treatise composed of chapters written specifically for this work by 39 authors, the majority of whom are members of the faculties of medical colleges in the United States of America. Its purpose is to interpret the clinical manifestations of disease in terms of dysfunction of basic physiological processes. The presentation is a critical one, and the authors do not hesitate to point out gaps in the available knowledge and the disagreements among authorities. In most of the chapters the first few pages are devoted to descriptions of the pertinent physiological processes these are followed by compact discussions of diseases. Extensive lists of references accompany most of the chapters. The first edition was published in 1950. In this second edition the scope of the volume is unchanged, but there has been some reorganization. The number of chapters has been increased by four and some of the chapters carried over have been extensively revised. The number of figures is now 173

STUDIES IN MEDICINE A VOLUME OF PAPERS IN HONOR OF ROBERT WOOD KEETON Springfield, Ill Charles C Thomas 1951 396 p. illus 24 cm $8 50 3229

Contents Robert Wood Keeton, by L. H. Sloan. Bibliography of Robert W Keeton. The relation of serum colloid osmotic pressure to refractometrically corrected electrophoretic protein distribution during spontaneous remissions of severe nephrosis, by S. H. Armstrong, Jr and others. Physiologic and clinical basis for sympathetic denervation as therapy in peripheral vascular disorders, by D I. Abramson. A stereotaxic instrument for use on the human brain, by P Bailey and S. N Stein. Some small studies in blood clotting, by C. La Fleur Birch. Overnutrition—its causes and consequences, by A. J Carlson and F Hoelzel. The role of nutrition in surgery by W H. Cole. Management of diabetes in children, by A. R. Colwell. The control of environmental factors in clinical research, by M. K. Fahnestock and others. The role of protein in liver disease, by E. F Foley and M. A. Spellberg. Psychiatric implications of dental erosion, by F J Gerty and others. The diagnosis of congenital stenosis of the pulmonic valve with associated auricular septal defect, by R. L. Grissom and others. Studies on factors controlling cholesterol synthesis in the body by R. G. Gould. The present status of knowledge concerning gastrin, by M. I. Grossman and A. C. Ivy Circulatory failure as a cause of fever by F K. Hick and M. M. Montgomery The art of using lantern slides, by T S. Jones. Nutritional and endocrinological relationships in cirrhosis of the liver by R. M. Kark and N. O. Calloway The microdetermination of lipids—the synthesis of labile phosphorus compounds of the phospholipids by reaction with monobasic sodium phosphate, by A. B. Kendrick. The pathologic physiology of the upright posture, by F C. Lendrum. Unusual and diagnostic bone marrow patterns, by L. R. Limarzi and others. The progress of applied pharmacology during Dr Keeton's life, by H. A. McGuigan. Some metabolic aspects of obesity in man and animals, by H. H. Mitchell Viscosity studies in whole blood following the administration of heparin dicumarol and paritol C, by L. A. Nalefski and others. Outline of a course in practical nutrition for medical students, by E. S. Nelson Primary tumors of renal pelvis and ureter by V J O'Conor Allergy and immunity to insulin, by H. T Ricketts and M. G. Goldner Comments regarding the etiology of sarcoidosis, by A. Rosenberg, Jr Observations on the behavior of eosinophils, by M Sacks and others. Fetor hepaticus, by F Steigmann. Chronic ulcerative colitis—clinical and bacteriological response to aureomycin, by M. H. Streicher Clinical applications of ACTH and cortisone.

Note Organized on the familiar *Festschriften* plan, this book contains original papers gathered and titled as noted above. Bibliographical references are included with many of the papers

UNITED STATES ARMED FORCES MEDICAL LIBRARY

Catalog 1955 A list of works represented by Armed Forces Medical Library cards Washington D C The Library of Congress 1956 986 p 28 cm $17 50 3230

Note The 1955 annual volume of this *Catalog* supplements the 1950–1954 cumulated edition, Ann Arbor Mich., J W Edwards, 1955, 6 volumes. It is published in two parts Part one Authors,

so as to facilitate use. Pronunciations and derivations are given. Medical and chemical binomial terms are listed and defined under the common part of the term, e.g., under reaction are defined 78 different specified reactions; under reagent are defined 87 reagents; under radium, approximately 115 radium compounds, under test several hundred tests are defined. It includes short biographical sketches of persons prominent in medical history. "Gould" is retained in the title in recognition of the lineage with various dictionaries of medical terms compiled by George Milbry Gould and published as early as 1890. Beginning with the edition published in 1949, however, this dictionary has been a completely new one, compiled under the direction of a carefully chosen group of editors. In preparing this second edition of the new work, terms have been added from many fields of medicine and allied sciences, and some changes have been made in the definitions of terms carried over from the first edition. As before, the appendix consists of useful tables of terms classified under such headings as bacilli, muscles, nerves, enzymes, hormones, anesthetics and [illegible], plexuses, poisons and vitamins. A table on radioactive isotopes has been added.

DE VRIES, LOUIS AND OTHERS

German-English medical dictionary New York McGraw Hill Book Company Inc., 1952 586 p. 24 cm. $12.50. 3241

Note: This work gives the English equivalents of 60,000 German terms and is meant to be a desk book for physicians and others who read or translate medical literature written in German. Terms from related fields, such as psychiatry, physiology and pharmacology, are included. Idioms and verbs in the past tense are translated, but definitions, pronunciation, and abbreviations are not given. The author who had the assistance of 16 medical collaborators is an established authority in the science dictionary field.

DORLAND WILLIAM ALEXANDER NEWMAN

The American illustrated medical dictionary a complete dictionary of the terms used in medicine surgery dentistry pharmacy chemistry nursing veterinary science biology and medical biography with their pronunciation, derivation and definition. Twenty-second edition with 720 illustrations, including 49 plates. Editorial board Richard M Hewitt and others. Contributors Lloyd W Daly and Austin Smith. Philadelphia W B Saunders Company 1951 1 736 p. illus. (part col d) 25 cm. 3242

Note: One of the standard comprehensive dictionaries. The twenty-second edition published in 1951 was the semi-centennial edition, the book having been published first in 1900. It was the result of extensive revision of the preceding edition and was printed from new type. It defined approximately 105,000 terms and included a number of supplementary features of reference value such as an article on medical etymology written by Lloyd W Daly and a reference table of drugs and dosages compiled by Austin Smith. The twenty-third edition was published in 1957 1,598 p $13.50

GOLDBERG MORRIS

English-Spanish chemical and medical dictionary comprising terms employed in medicine surgery dentistry veterinary biochemistry biology pharmacy allied sciences, and related scientific equipment. New York Mc Graw Hill Book Company Inc., 1947 692 p. 23 cm. $15.00. 3243

Note: An excellent dictionary, which gives not only the Spanish equivalents of English terms, but also definitions in Spanish. Thus the entry under dextrocardia reads: "dextrocardia, dextrocardia, f., [illegible] de los [illegible] en forma de [illegible] [illegible] definida." The number of words for which equivalents are given is about 30,000. Medical terms predominate but there is a fair number of chemical terms.

GOLDBERG MORRIS

Spanish-English chemical and medical dictionary comprising terms employed in medicine biochemistry surgery dentistry veterinary biology, pharmacy allied sciences and related scientific equipment New York Mc Graw Hill Book Company Inc., 1952 608 p 24 cm. $17.50. 3244

Note: A complement to the author's English-Spanish chemical and medical dictionary, New York, 1947. The number of Spanish words for which English equivalents are given is about 33,000. Renderings are brief, not encyclopedic; for instance, mortinato, L. [illegible], form of aphasia characterized by an inability to [illegible]. However a short definition is always given in addition to the English equivalent of the Spanish term.

JAEGER, EDMUND C.

A source-book of medical terms. Illustrations by Lloyd Mason Smith and the author Springfield Ill. Charles C Thomas, 1953 145 p 25 cm. $5.50 3245

Note: A useful compendium of the elements and etymology of medical terms. It is not a dictionary of terms as such, but is devoted instead to prefixes, suffixes and other combining forms. Examples of uses of the elements in medical terms are given, but these terms are not defined. Included are not only the elements used to form the technical terminology of medicine, but also those used in medical terms which are part of the common language such as "mouth," "stomach" and "tooth." The following is a sample entry: "Icter—L. The Latin term icterus Gr. ikteros, jaundice; also, some yellow bird, perh. the oriole, the sight of which was alleged to cure yellow jaundice. Gr. ikterikos, jaundiced. Ex: icter-ic [illegible] sub-icter-ic.

SKINNER HENRY ALAN

The origin of medical terms. Baltimore The Williams & Wilkins Company 1949 379 p 26 cm. $7.00 3246

Note: A reference book for medical students and other nonspecialists in etymology. A certain amount of encyclopedic information is included. The source word is always given, as is customary in etymological dictionaries, and this information is frequently supplemented by a discussion—sometimes many sentences in length—in which is given historical and general information on the early uses of the word. Another feature is the inclusion of short biographical sketches of prominent physicians and other persons who made some contribution to the development of medicine. The author is Professor of Anatomy at the University of Western Ontario.

TABER CLARENCE WILBUR

Taber's Cyclopedic medical dictionary including a digest of medical subjects medicine surgery nursing dietetics physical therapy treatments, drugs, etc. Seventh edition. Illustrated. Philadelphia F A. Davis Company 1956 1,305 p illus. 21 cm. $5.25 3247

Note. A standard and useful dictionary intermediate in scope between the pocket-size compilations and the large compendiums. It is printed in small type, two columns to the page, so as to present a large amount of information in a volume of handy size. A majority of the terms are defined in a few lines. However the more important ones are the subject of concisely written presentation of various pertinent information such as etiology, diagnosis, and treatment of diseases of interest in medicine and nursing. This is a cyclopedic feature. Pronunciation is indicated for most of the terms. The appendix includes a considerable range of useful data, such as a glossary of Latin medical words, lists of muscles, bones, nerves, etc. A fair number of new terms and other matter were added in this seventh edition.

the diseases and medical emergencies most commonly encountered at sea, the signs and symptoms by which they are recognized, and directions both for first aid and for follow-up or prolonged emergency treatment. The edition currently available is one issued in 1955 with minor additions and changes from the 1947 edition.

WILDER, LUCY

The Mayo Clinic. Illustrated by Ruth Barney Second edition Springfield, Ill Charles C Thomas, 1955 69 p illus. (part col d) 26 cm. $3 75 3235

Contents (abridged) The Mayo Clinic. The past. The future. The present.

Note A short and unpretentious book about one of the most famous of medical institutions in the United States of America. It outlines briefly the history of the Mayo Clinic and describes in a sympathetic manner the routine of handling a typical patient who has come to the clinic for diagnosis and treatment. It is intended for the information of the general public, particularly visitors to the Mayo Clinic and their friends.

WILLIAMSON, PAUL

Office procedures Philadelphia W B Saunders Company, 1955 412 p 1100 illus 28 cm. $12 50 3236

Contents: Ear nose and throat. Eye. Musculoskeletal system. Gynecology Obstetrics. Urology Proctology Pediatrics. Minor surgery Internal medicine. Psychological testing. Anesthesia. Physiotherapy The small laboratory Roentgenography Index.

Note A reference manual of diagnostic and therapeutic procedures most of which may be carried out without instruments or with simple instruments in the offices of practicing physicians. Techniques of physiotherapy and roentgenography are described in sections at the end of the book, but here also the coverage is limited to procedures within the scope of office equipment. As the section titles listed above indicate, a wide range of techniques is covered. The book is illustrated with simple but clear drawings at the rate of several pictures per page.

YATER, WALLACE MASON

Fundamentals of internal medicine Fourth edition prepared with the assistance of William Francis Oliver New York Appleton Century-Crofts Inc., 1954 1,276 p illus 25 cm $13 50 3237

Contents Diseases of the heart. Diseases of the blood vessels. Diseases of the kidneys. Diseases of the blood and blood-forming organs. Diseases of the respiratory system. Diseases of the digestive system. Diseases of the locomotor system, by W M. Yater and W J Martin. Diseases of the endocrine glands, by E. J Kepler and F R Keating, Jr revised by L. H Kyle. Diseases of the spleen and reticuloendothelial system. Diseases of the metabolism. Diseases of allergy by W M. Yater and G T Brown. Diseases due to intoxications, by T Koppanyi and W M Yater Diseases due to physical agents, by S. M Rosenthal. Diseases due to vitamin deficiency and malnutrition by W H. Sebrell and others. The infectious diseases Diseases of the nervous system, by J M. Williams. Mental diseases, by L Rodis. Diseases of the skin by W O Teichmann. Diseases of the ear by F C. Schreiber Diseases of the eye, by E. J Cummings and W H. Hanna. Dietetics. Antibiotic therapy including the sulfonamide compounds, by W E. Wellman and W E. Herrell. Symptomatic and supportive treatment, by H. H. Hussey Inhalational therapy by P F Jaquet. Clinical values and useful tables. The physician himself Index.

Note A standard introduction to this field, used chiefly as a text for medical college students, but valuable also as a reference book to general practitioners of medicine and to medical specialists in fields other than internal medicine. It is comprehensive in the sense that much ground is covered. On the other hand the discussions of many diseases is much more concise than they would be in specialized treatises. Literature references are provided for those readers who need more information on specific topics The third edition was published in 1949 As was true of the third edition, this fourth edition contains chapters written by Dr Yater himself and also chapters written by other authorities. (Those by Dr Yater alone are listed without an author's name in the above table of contents.) Revisions are to be found in many of the chapters, and they have to do with such matters as newly described diseases, new diagnostic techniques, and new drugs. Chapter titles are the same but there are several new contributors. The literature references have also been revised so as to include publications issued since 1949

YEAR BOOK OF MEDICINE

The year book of medicine (1956–57 year book series) Edited by Paul B Beeson, Carl Muschenheim, William B Castle, Tinsley R. Harrison, Franz J Ingelfinger Philip K. Bondy Chicago The Year Book Publishers, Inc., 1956 744 p illus 20 cm $6 75 3238

Contents Part I, Infections. Part II, The chest. Part III, The blood and blood-forming organs. Part IV The heart and blood vessels and the kidney Part V The digestive system. Part VI, Metabolism. Index. Index of authors.

Note. An annual publication addressed to general medical practitioners and designed to enable them to keep abreast of progress in the fields of medicine named in the above-quoted part-titles. It is organized on essentially the same plan as the other volumes in this publisher's useful Year Book Series. The parts are composed of fairly long abstracts of articles selected from the world medical periodicals and published during a period of one year In the volume at hand, for example, the material has been taken from journals received by the editor between May 1955 and May 1956. The abstracts of the individual articles are long enough to contain the gist of the original articles. However a reference to the source article is given in all cases. Many of the abstracts are supplemented by a short editorial comment in which the editor evaluates the results reported in the abstract or relates them to other work. There are 118 figures in this issue.

DICTIONARIES

AMERICAN POCKET MEDICAL DICTIONARY Nineteenth edition A dictionary of the principal terms used in medicine nursing, pharmacy dentistry veterinary science and allied biological subjects Philadelphia W B Saunders Company 1953 639 p 17 cm Plain, $3 25 thumb-indexed $3 75 3239

Note. An abridged dictionary which has been widely used in its various editions for over 50 years. It is based partly on the fuller *American illustrated medical dictionary* A large number of terms are defined but their definitions are brief, and there are no illustrations. Pronunciation is indicated for some of the terms and accentuation for all of them. Some tables are included, for example, a table of bones of the human body In this 19th edition, it has been given a new format and is truly of pocket size.

BLAKISTON'S NEW GOULD MEDICAL DICTIONARY a modern comprehensive dictionary of the terms used in all branches of medicine and allied sciences, including medical physics and chemistry dentistry pharmacy nursing veterinary medicine, zoology and botany as well as medicolegal terms with illustrations and tables. Second edition. Normand L. Hoerr and Arthur Osol editors Editorial board Normand L. Hoerr Arthur Osol Samuel W Chase, Carl C. Francis. With the cooperation of an editorial board and 88 contributors 252 illustrations on 45 plates, 129 in color New York The Blakiston Division, McGraw Hill Book Company Inc., 1956 1,463 p illus (part col d) 26 cm. $12 50 3240

Note A standard, comprehensive dictionary of terms and abbreviations. Defined words and terms are arranged two columns to the page and are listed in boldface type with definitions indented

are accompanied by a short, explanatory text which in some instances explains the pictures but in others simply furnishes additional information on medicine in the period to which they pertain. Most aspects of the development of medicine from [illegible] to the beginning of chemotherapy are represented, with many portraits of medical figures, many depictions of dissections and operations, and—to lighten the story—some cartoons and advertisements of patent medicines. The book is too fragmentary to serve as a dependable work of reference; nevertheless, it is of interest to most medical practitioners and to others who are curious about medical history.

BREASTED JAMES HENRY, editor

The Edwin Smith surgical papyrus, published in facsimile and hieroglyphic transliteration with translation and commentary in two volumes. Chicago The University of Chicago Press, 1930 2 v 30 and 41 cm. (The University of Chicago. Oriental Institute publications. Vol. III–IV) $20.00 set. 3254

Contents Volume I Foreword General explanatory notes for physicians and other non-Egyptological readers. General introduction. Part I. The surgical treatise (the recto) Special introduction. Translation and commentary Consecutive translation. *Part II. The incantations and recipes.* Special introduction. Translation and commentary Consecutive translation. Part III. The [illegible] Egyptian glossary General index Addenda. The date of the Edwin Smith papyrus. Additional textual notes Discovery of [illegible] example of ancient Egyptian [illegible] Volume II Introduction. The original text of the Edwin Smith papyrus. The hieroglyphic transliteration. Facsimile plates and hieroglyphic transliteration. Recto The surgical treatise Verso [illegible] incantations and recipes appended on the back

Note In these two volumes the author presents the first translation of the papyrus which was named after Edwin Smith. Edwin Smith acquired the papyrus in Luxor in 1862 and after his death it was presented to the New York Historical Society This study shows that it constitutes the oldest known treatise on surgery It consists of cases, not recipes; it is systematically organized in an arrangement of cases, beginning with injuries of the head and proceeding downward through the body like modern treatises on anatomy [illegible] rational and chiefly surgical, with resort to magic in only one case out of the 48 preserved, each case is classified as favorable, uncertain, or unfavorable (not to be treated) The [illegible] appear here for the first time in the history of medicine.

BROMBERG WALTER

Man above humanity a history of psychotherapy Philadelphia J B Lippincott Company 1954 342 p. illus. 24 cm. $5 75 3255

Contents Scope and meaning of psychotherapy Magic, faith and [illegible] Witchcraft and psychotherapy Medicine [illegible] mental healing The era of asylums The return of faith-healing The [illegible] heritage The emergence of dynamic psychotherapy Psychoanalysis and its derivatives. Mental hygiene, psychotherapy's catalyst *The return of physiology* *The breadth of psychotherapy* Observations Index

Note Described by the author as a "rethinking and rewriting" of his *The mind of man*, 1937 this book is a history of psychotherapy in the broad sense of the term. It is not limited to formal psychotherapy but goes back in time to include medicine men, witchcraft, faith healing, etc. An account of the evolution of the care of the insane is included Approximately half of the book is devoted to modern psychotherapy and the terminal chapter is a survey of the methods and directions of contemporary psychotherapy Developments in all periods are related to the cultural milieu from which they sprang Literature references are given in the form of footnotes throughout the volume. The volume is of interest to physicians and other professional workers in psychotherapy and to lay readers who are interested in the history of medicine

BURKE, RICHARD M

An historical chronology of tuberculosis. Second edition. Springfield Ill. Charles C Thomas. 1955 125 p. illus. 19 cm. $3 75 3256

Contents Ancient period. Pre-modern period. Modern period Pathology—experimental and clinical [illegible]—bacteriology—[illegible] pathology—treatment—prevention Milestones in the history of tuberculosis. Bibliography Index of names. Subject index.

Note The greater part of this volume is a chronologically arranged list of landmarks in the description and treatment of tuberculosis. Within the larger periods listed above the arrangement is by year The events therein are described briefly as in these typical entries. "Thomas Sydenham (1624–89) Foremost [illegible] He is a strong advocate of fresh air and horse exercise in consumption. Thinks [illegible] of thorax beneficial. [illegible] Graham. Performed successful total pneumonectomy (for cancer) "The United Nations World Health Organization creates a tuberculosis section. References to sources are given for most of the events listed with the consequence that the bibliography is a fairly comprehensive bibliography of the history of tuberculosis. The first edition was published in 1938 Events since it was written, including the development of successful drug therapy for tuberculosis, have been added in this second edition.

CASTIGLIONI, ARTURO

A history of medicine. Second edition, revised and enlarged. Translated from the Italian by E. B Krumbhaar New York Alfred A. Knopf 1947 1 192 p illus. 27 cm $17.50 3257

Content (abridged) Medical thought in its historical evolution. Empiric, demoniac, animistic, magic medicine Old Egyptian medicine. The medicine of the people of Israel. Canonical codifications of sanitary laws The medicine of ancient Persia and India. Systematic theories. Systems of scholastic medicine. The medicine of ancient Greece. The temples and cult of *Asclepius*—the Greco-Italian schools—the dawn of scientific medicine. The golden age of Greek medicine. Hippocratic medicine—the Alexandrian school. Beginnings of anatomical and physiological studies. *The Latin concept of medicine and sanitary legislation.* Christian dogmatic medicine. The Byzantine school. Arabian medicine. Lay medicine, Renaissance of classic doctrines. *From monastic medicine to the lay medicine of Salerno.* The universities and humanism. The Renaissance. The revival of anatomy and physiology *The seventeenth century Dawn of scientific liberty Biological and experimental trends in medicine.* The eighteenth century *First half of the nineteenth century* The cell doctrine. The second half of the nineteenth century Clinical *medicine based on the fundamental sciences. Growth of the specialties.* The twentieth century Bibliography Index of subjects. Index of persons.

Note A comprehensive, well-balanced account of *the evolution of* medical theory and practice from earliest times. The author devotes about equal attention to medical ideas, medical facts, and medical personages. Although text of the entire volume was revised for this revision, the major change made was the revision and expansion of the treatment of the modern period—1840 to the present—with the medical work of the recent war years receiving particular emphasis. There are 524 illustrations and 45 pages of bibliography

CHESNEY ALAN MASON

The Johns Hopkins Hospital and the Johns Hopkins University School of Medicine a chronicle. Volume I. Early years, 1867–1893 Baltimore The Johns Hopkins Press, 1943 318 p. illus. 23 cm. $3.00 3258

Contents (abridged) The founder original hospital trustees, and selection of site. John Shaw Billings. Appointment of Daniel C. Gilman as president. Preliminary plans and engineering problems. First steps by the University toward the establishment of the School of Medicine. [illegible] organization and selection of the hospital staff. *First years of operation of the hospital.* Formation of the Women's Fund Committee. Announcement of the opening of the School. Appendix. Index.

Note The first volume of a projected history of the Johns Hopkins Hospital and School of Medicine. Emphasis is placed on the importance of this period for both institutions, since it was during this period that plans were made and principles and policies established which were to influence their future development. The material is based largely upon the official records of the Hospital and the University and upon previously published biographies and autobiographies of men connected with the development of the institution. The work is illustrated with contemporary photographs.

TAYLOR, NORMAN BURKE, editor

Stedman's medical dictionary of words used in medicine with their derivations and pronunciation including dental veterinary, chemical, botanical, electrical, life insurance and other special terms, anatomical tables of titles in general use, the terms sanctioned by the Basle Anatomical Convention the new British Anatomical Nomenclature, pharmaceutical preparations official in the U S and British *Pharmacopoeias or contained in the* National Formulary, biographical sketches of the principal figures in the history of medicine Edited by Norman Burke Taylor, in *collaboration with* Allen Ellsworth Taylor Eighteenth revised edition with etymologic and orthographic rules Baltimore The Williams & Wilkins Company, 1953 1,561 p illus (part col'd) 25 cm 3248

Note A standard work that has held place for many years as one of the world's chief dictionaries of medical terms. Definitions are adequately full. Etymology is indicated for principal terms and accentuation is indicated for all. A selection of abbreviations is included in the main alphabet. *Although* trade names were a feature of older editions, they have been all but eliminated in the current edition. An appendix of the dictionary proper contains such reference information as weights and measures, comparative temperature scales, common and scientific mes for pathogenic microparasites and "New nomenclature in Latin and English adapted by the *Anatomical Society of Great Britain and Ireland,* with Basle anatomical nomenclature [BNA] equivalents. The 17th edition was published in 1949 I this 18th edition, an unstated number of obsolete terms were deleted and some thousands of new terms added The length of the work has been increased by 100 pages, but part of this increase is due to the inclusion of new illustrations. *The 19th revised edition was published* in *1957 1,656* p., $12 50

HISTORY

ACKERKNECHT, ERWIN HEINZ

Malaria in the Upper Mississippi valley 1760–1900 Baltimore The Johns Hopkins Press 1945 142 p. illus. 26 cm. (Supplements to the Bulletin of the history of medicine Henry E Sigerist, editor, Genevieve Miller associate editor No 4) $2 00 3249

Content (abridged) Introduction. The rise and fall of malaria in the Upper Mississippi valley Possible factors for the disappearance of malaria from the Upper Mississippi valley Population movements. Clearing, cultivation and drainage. Prosperity Housing Screening Food. Cattle breeding. Mosquitoes. *Quinine.* The evolution f quinine treatment in the United States and the Upper Mississippi valley during the 19th century Climate and weather Some remarks on malaria and history Alphabetic list of books and articles quoted.

Note This detailed study of the history and epidemiology of malaria in states bordering the Upper Mississippi emphasizes economic and social development as factors in the rise and then almost complet disappearance of malaria in these states In spite of the inadequacies f existing reports, the author has produced revealing picture of the background and course of the malaria epidemics in this area. Charts and population maps illustrate the relationship between population movements and the decline of the epidemic.

ACKERKNECHT, ERWIN HEINZ

A short history of medicine New York The Ronald Press Company 1955 258 p illus. 21 cm $4 50 3250

Contents. Paleopathology and paleomedicine. Primitive medicine Medicine of ancient civilizations Ancient India and China. Greek medicine—physicians, priests, philosophers—Hippocratic medicine—Alexandria and Rome. Medieval medicine. Renaissance medicine. Medicine in the seventeenth century—eighteenth century The clinical schools of the first half of the nineteenth century The basic sciences *during the nineteenth century* Clinical medicine in the second half of the nineteenth century Bacteriology Surgery and gynecology in the nineteenth century The new specialism of the nineteenth century Public health and professional developments in the nineteenth century Medicine in the United States prior to 1900. Main trends in medicine in the first half of the *twentieth* century Nobel laureates in medicine and physiology 1901 1953 Suggestions for further reading Index.

Note A relatively brief account in which the main emphasis is on trends and landmarks. The text proper is only 223 pages long and is designed for reading rather than reference. Pages 229–244 are devoted to an extensive list of source books and recommended *reading. Although not fully annotated,* this list contains helpful comments on many of the titles. The uthor is *Professor* of the History of Medicine in the University of Wisconsin Medical School

BAUER, LOUIS H , editor

Seventy five years of medical progress 1878–1953 Philadelphia Lea & Febiger, 1954 286 p illus 24 cm $4 00 3251

Contents Anesthesiology by H. K. Beecher Dermatology and syphilology by M B. Sulzberger and V H. Witten. General practice, by U R. Bryner Internal medicine, by D L. Wilbur and M H. McLain. Neurological surgery by J. D French. Obstetrics and gynecology by N J Eastman. Ophthalmology by D Vail. Orthopedic surgery by C. L. Compere. Otorhinolaryngology by J Lempert. Pathology by K. M. Brinkhous. Pediatrics, by *L. McQuarrie. Physical medicine and rehabilitation,* by H. A. Rusk. Plastic surgery by W G. Hamm and F F Kanthak. Preventive medicin and public health, by J S. Simmons. Proctology by L. J Hirschman Psychiatry by L. H. Bartemeier Radiology by A. H. Dowdy and S. L. Warren. Surgery by A. Blalock and E. M Nanson. *Thoracic surgery by M. E. DeBakey and D. A. Cooley Urology by J H. Morrissey*

Note. The first Western Hemisphere *Conference* of the World Medical Association was held in Richmond, Virginia, in April, 1953 It was devoted to the commemoration of 75 years of medical progress. This volume contains the papers presented. Generally speaking, each paper is concise tline of landmark developments in one area of medicine or surgery The papers are readable rather than scholarly but they are authoritative. In most cases the authors have *included references to the chief source articles.*

BEAUMONT, WILLIAM

William Beaumont's formative years two early notebooks 1811–1821 with annotations and an introductory essay by Genevieve Miller New York Abelard-Schuman, Ltd 1946 87 p illus. 24 cm. $6 00 3252

Contents List f illustrations. Introduction. Part Beaumont's medical notebook. Notes. Part II Beaumont's general notebook. Notes. Index.

Note William Beaumont, born in Lebanon, Connecticut, in 1785 is best known for his direct observations of the processes of digestion on the person of Alexis St. Martin. This volume reproduces the material contained in two f his notebooks which were kept during the years 1811 to 1821 One contains Beaumont's medical notes and observ tions, the other consists of his personal notes of a nonmedical nature. Together they provide an insight into the status of American medical knowledge during a period in which the War of 1812 occurred, and a first-hand account f American *frontier life* of that time.

BETTMANN, OTTO L

A pictorial history of medicine With a foreword by Philip S Hench *Springfield Ill* Charles C Thomas, 1956 318 p illus 28 cm $9 50 3253

Contents. Egypt and the ancient East. The Greeks. The Romans. The early Middle Ages. Moslem medicine. The lat Middle Ages. The Renaissance The seventeenth century The ighteenth century The ineteenth century I. The nineteenth century II. Acknowledgments Bibliography Index.

Note Some of the pages of this book contain six pictures, and the verage umber of pictures per page is over three. The pictures

known bases of medical history but rather upon the history of medical ideas as ... continuous process, stressing the motivations rather than the specific accomplishments of medical scientists. The style is dignified and plain, and there is ... considerable amount of little-known information presented.

GORDON BENJAMIN LEE

Medicine throughout antiquity Foreword by Max Neuburger 157 illustrations. Philadelphia F A. Davis Company 1949 818 p illus. 24 cm. $6.00. 3265

Contents: Part I, Prehistoric and protohistoric medicine: Introduction. The antiquity of medicine. Paleontologic evidence of the antiquity of medicine. Prehistoric medicine. Primitive concepts of disease and death. Nature worship and medicine. Medicine in Assyro-Babylonia. Medicine of ancient Egypt. Ancient Hebrew medicine. Medicine in ancient Persia. Antiquity of Indian medicine. Medical concepts in China. Medicine in ancient Japan. Medicine among the prehistoric Americans. Part II. The Greco-Roman period Dawn of Greek medicine. Influence of philosophy on medicine Medical philosophers and practitioners. Hippocrates, the great teacher. Hippocratism, the classics. The drift towards dogmatism. The Athenians. The Peripatetics, Epicureans, and Stoics. Alexandrian school. Empiricism. Roman medicine. The methodic school. The encyclopedists. The pneumatics and eclectics. Galen. Talmudic medicine. Talmudic diagnosis and treatment. Index.

Note: A comprehensive yet readable account of the art of medicine from the beginning of man's existence to 476 ... The book, which ... written for both laymen and practitioners, discusses the medical beliefs and knowledge held by the men of that early period, and describes the diseases from which they suffered and the therapeutic measures employed. Numerous extracts from the ancient records upon which the book ... based are woven into the general narrative. Chapter bibliographies are provided.

HAYMAKER, WEBB editor

The founders of neurology one hundred and thirty three biographical sketches, prepared for the fourth International Neurological Congress in Paris by eighty four authors. Edited by Webb Haymaker with the bibliographical and editorial assistance of Karl A. Baer Springfield Ill. Charles C Thomas, 1953 479 p. illus. 24 cm. $10.50 3266

Contents (abridged): The meaning of some of the academic terms used in these biographies—In France, by P I Yakovlev—In Germany by H. Kuhlenbeck and E. A Spiegel—In Great Britain, by D Denny-Brown Biographical sketches Neuroanatomists Neurophysiologists Neuropathologists Clinical neurologists. Neurosurgeons Name index Subject index.

Note: The biographical sketches in this book average about three and one-third pages in length and provide concise information on the personal traits, education, and contributions to the neurology of the biographees A portrait and literature references are also given. The scope of the volume is international, but the authors of the sketches are American. The book was planned by ... committee of the American Neurological Association as ... historical account of the achievements in neurology Although admittedly it does not include sketches of all those men who have made significant contributions to neurology ... nevertheless ... valuable reference book of the history of the specialty

JONES WILLIAM HENRY SAMUEL

Philosophy and medicine in ancient Greece. Baltimore The Johns Hopkins Press 1946 100 p. 26 cm. (Supplements to the Bulletin of the history of medicine Henry E. Sigerist, editor Genevieve Miller associate editor No 8) $2.00 3267

Contents (abridged): Section I, The pre-Hippocratics and Plato. Section II, Hypotheses in Greek thought, Philosophy and medical [illegible]. Section III Introduction to Ancient medicine Text, translation and commentary Authorities.

Note: A critical analysis of the concepts ... which dominated Greek thought on medicine and physiology during the centuries between the founding of the Pythagorean school and the writings of Aristotle. The book "Ancient medicine" from the Hippocratic "Corpus medicorum Graecorum," which the author considers as most revealing in this connection, is quoted almost in its entirety in the Greek version and in the author's translation. The monograph will be of particular interest to students of Greek philology and philosophy and to medical historians. A knowledge of Greek language and philosophy will facilitate an understanding of the discussion.

KEYS THOMAS EDWARD

The history of surgical anesthesia with an introductory essay by Chauncey D Leake and a concluding chapter The future of anaesthesia, by Noel A. Gillespie New York Abelard-Schuman, Inc., 1945 191 p illus 24 cm. $6.00 3268

Contents: Introductory essay by C. D. Leake. The development of anesthesia. A chronology of events relating to anesthesiology and allied subjects. Selected references by subject. Selected references by author The future of anesthesia, by N A. Gillespie. Appendix The Morton and Warren tracts on ether (letheon) by J. F Fulton. Index.

Note: A scholarly and well-written account of the development of anesthesia from man's first attempts to relieve pain up to the present time. The author has not attempted to dramatize his subject, but the book will appeal to both the layman interested in medical history and to persons in medicine and allied professions. Of particular interest to the latter groups are the carefully documented accounts of early experiments and the extensive bibliography arranged both by subject and author The volume contains excellent portraits of men ... who have done outstanding work in the field of anesthesia.

LEAKE, CHAUNCEY D

The old Egyptian medical papyri. Lawrence University of Kansas Press 1952 108 p 21 cm. (University of Kansas, Logan Clendening lectures on the history and philosophy of medicine. Second series) $1.50. 3269

Contents: The chief Egyptian medical papyri. Old Egyptian weights and measures. Drug measurements in the old Egyptian medical papyri. Ancient Egyptian therapeutics. The Hearst medical papyrus. Organization of the Hearst medical papyrus. Diseases in the Hearst medical papyrus. The ingredients of the Hearst papyrus prescriptions. Summary Appendix—List of prescriptions in the Hearst medical papyrus. References. Index.

Note: In this work, the main features of ancient Egyptian medical practice as revealed by the study of eight papyri dating from 1900 ... to 1200 ... are summarized. The greater part of the book deals with the diseases and methods of treatment described in the Hearst papyrus (1550 ...) which was acquired by the University of California in 1901.

LINK, VERNON B

A history of plague in the United States of America. Washington D C Government Printing Office 1955. 120 p illus. 26 cm. (United States Public Health Service. Public health monograph no 26) $0.60 3270

Contents: Introduction. The first San Francisco epidemic. The second San Francisco epidemic, including other bay area cities. Plague in Seattle. Plague in wild rodents. The New Orleans epidemics. Plague in Gulf Coast cities. Los Angeles pneumonic plague outbreak. Maritime quarantine measures. Plague in the Territory of Hawaii. Plague in Puerto Rico. Modern plague control methods. Treatment and prophylaxis of plague. References. Appendix.

Note: This monograph gives ... narrative account of plague in the United States of America, including Hawaii and Puerto Rico, during the first half of the 20th century when large amounts of money were spent to keep plague away from the United States, to suppress epidemics which occurred in principal seaports, and to control or eradicate epizootics in domestic and wild rodents. The potential danger from plague (bubonic, septicemic, pneumonic) has [illegible]

DUBOS, RENE, AND JEAN DUBOS

The white plague tuberculosis, man and society Boston Little, Brown and Company, 1952 277 p 21 cm. $5 00 3259

Contents Part I, *The white plague in the nineteenth century* The captain of all the men of death. Death warrant for Keats. Flight from the north winds. Contagion and heredity Consumption and the Romantic Age. Part II, The causes of tuberculosis Phthisis, consumption and tubercles. Percussion auscultation and the unitarian theory of phthisis. The germ theory of tuberculosis. Infection and disease. Part III, Care and prevention of tuberculosis The evaluation of therapeutic procedures. Treatment and natural resistance. Drugs, vaccines and public health measures. Healthy living and sanatoria. Part IV Tuberculosis and society: The evolution of epidemics. *Tuberculosis and industrial civilization.* Tuberculosis and social technology Appendices. Bibliography and notes. Index.

Note A unique combination of medical and social history this account of tuberculosis in Western society is of interest both to laymen and to physicians. The main theme is that tuberculosis is a social disease still unconquered, still dangerous if principles of healthful living are ignored, if man fails to "incorporate physiological principles in the complex fabric of industrial society" Woven around it are studies of the attitudes of the Romantic Age of the 19th century toward consumption of the tuberculous histories of John Keats, the Brontës, the family of Ralph Waldo Emerson, and other celebrated persons of the halting progress toward the discovery of the causative agent of tuberculosis the rise and fall of various therapies and finally of the social factors.

EDELSTEIN, EMMA JEANNETTE (LEVY), AND LUDWIG EDELSTEIN

Asclepius a collection and interpretation of the testimonies Baltimore The Johns Hopkins Press, 1945 2 v 26 cm. (Johns Hopkins University Institute of the History of Medicine Publications Second series Texts and documents Vol. II) $7 50 3260

Content Volume I, A collection of the testimonies. Legend. Descendants. Deification and divine nature Medicine. Cult. Images. Sanctuaries. Index locorum. *Volume II, Interpretation of the testimonies* The hero Asclepius. The god Asclepius. Temple medicine. Cult. Image. Temples. List of abbreviations. Index of testimonies. Index of names.

Note In this scholarly work, the references to Asclepius and the Asclepian cult which are found in extant Greek and Latin literature have been collected and are discussed. The allusions or "testimonies" are collected and classified in the first volume. In each instance reference is given to the source and the passage is quoted in the original language and also in English translation. The second volume is a historical and critical study based on the testimonies, of the hero and the god Asclepius, and of his significance to medicine. The work is of value not only to students of the history of medicine, but to students of the history of religion and of civilization as well.

ESSAYS IN THE HISTORY OF MEDICINE, presented to Professor Arturo Castiglioni on the occasion of his seventieth birthday, April 10 1944 (Supplements to the Bulletin of the history of medicine No 3) Baltimore The Johns Hopkins Press 1944 358 p illus 25 cm. $3 50 3261

Content Epistola dedicatoria, by H. E. Sigerist. Vita and bibliography of Professor A. Castiglioni. Paul Bert's triumph, by E. H. Ackerknecht. Random thoughts with a hopeful purpose, by A. Ascoli. La historia de la medicina y el perfeccionamiento médico, by J. R. Beltrán Giovanni Maria Lancisi and De subitaneis mortibus, by M. Calabresi. Sydenham and Cervantes, by L. Edelstein. O Museu de psiquiatria e de antropologia criminal organizado por Cesare Lombroso, by C. Fox. Polydore Vergil, his chapters on the history of physick and his *A gftes Historie*, by J. F. Fulton. *Jean Antoine François Ozanam, 1773–1837* soldier physician, epidemiologist, by I. Galdston. Angina inflammatoria (diphtheria?) as described in David Orme's *Edinburgh* dissertation (1750) and Benjamin Morris' Leyden dissertation (1750) by E. B. Krumbhaar and W. B. McDaniel, 2d. Medicina aborigen peruana, by J. B. Lastres. A short chronology of important events in cardiology by A. A. Luisada. Dialbetikerdiäten der Vergangenheit, by A. Magnus-Levy Los hospitales de América durante la epoca colonial, by C. Martinez Durán. Mignotydes, an undescribed epidemiological monograph of the cinquecento, by C. F. Mayer. La historia y la filosofía de la ciencia, by A. Mieli. Directions for the use of an early American marine medicine chest, by G. Miller Some relations between British and German medicine in the seventeenth century by M. Neuburger Medical matters in Marco Polo's Description of the world, by L. Olschki. Medidas de seguridad contra la fiebre amarilla durante el virreynato del Perú, by C. E. Paz Soldán. Der Zahnbrecher des Hans Sachs, by C. Proskauer. Beccaria (1733–94) by G. Sarton. *Frédéric Bérard, historien de la médecine*, by R. de Saussure. La manuscrit du *Régime du corps* d'Aldebrandino de la Bibliothèque d'Ajuda, à Lisbonne, by A. da Silva Carvalho. Retail pharmacy as the nucleus of the pharmaceutical industry by G. Urdang.

Note A collection of scholarly papers written for this memorial volume. As the titles indicate, several of them are in languages other than English.

FRIEDENWALD, HARRY

Jewish luminaries in medical history and a catalogue of works bearing on the subject of the Jews and medicine from the private library of Harry Friedenwald. Baltimore The Johns Hopkins Press, 1946 199 p illus. 24 cm $3 00 3262

Note The essay that gives this book its title occupies only 24 of its pages and was originally delivered as a lecture at Johns Hopkins University in 1943 It outlines the major contributions of Jews to medicine and mentions significant books and outstanding men. The remainder of the volume is devoted to the catalogue mentioned in the title.

FULTON, JOHN FARQUHAR

The great medical bibliographers, a study in humanism Philadelphia University of Pennsylvania, 1951 107 p illus. 22 cm (The Rosenbach Fellowship in Bibliography Publications) $4 00 3263

Contents. The beginnings: Trithemius, Champier and Gesner The seventeenth and eighteenth centuries medical book sales, Beughem, Van der Linden, Haller and the rise of medical bibliography Medical subject indices Ploucquet, Forbes, Callisen, and Billings Choulant and Osler Keynes and the rise of personal bibliography Appendices. Index.

Note: The history of medical bibliography is skillfully outlined in this collection of lectures that were delivered in 1950 on the A. S. W. Rosenbach Fellowship in Bibliography at the University of Pennsylvania. The bibliographical accomplishments of the great medical bibliographers are emphasized, but there is enough on their other accomplishments and personal life to make the account interesting. Among the appendix material is a list of early sale catalogues of medical books, bibliographical descriptions of the *Bellay Rabelais*, and descriptions of the bibliographies of Geoffrey Keynes. The illustrations include reproductions of portraits and facsimiles of title pages. The author himself a noted contributor to medical bibliography is Sterling Professor of the History of Medicine in Yale University School of Medicine.

GALDSTON, IAGO

Progress in medicine a critical review of the last hundred years With a foreword by *Henry E Sigerist* New York Alfred A. Knopf, 1940 361 p 22 cm $3.50 3264

Contents: Introduction *Preludes to Pasteur* The genius of Pasteur The *Pasteurians.* The reign of the microbes. The challenge of nutrition The inner realm and the endocrines. From Mesmer to Freud. Freud and modern psychiatry A century of clinical progress. Whither medicine? Index.

Note. The author traces the progression of ideas as witnessed in the development of medicine during the last hundred years, and draws from present-day trends in medical thought such deductions as to its future as seem warranted by the facts. Although the book is written for the layman, it is not a popularized account in the usual sense. The emphasis is not upon the well-

those who pass the examinations and meet the other requirements. It exerts an elevating influence on the practice of surgery in the United States of America. Its history during the first 35 years of its existence is recounted in detail in this short book. The account furnishes an excellent example of the rise and successful functioning of a voluntary regulatory body within a profession.

ROSEN, GEORGE

Fees and fee bills some economic aspects of medical practice in nineteenth century America. Baltimore The Johns Hopkins Press, 1946 93 p. 26 cm. (Supplements to The Bulletin of the history of medicine Henry E. Sigerist, editor Genevieve Miller associate editor No 6) $1.50 3278

Contents: Early fee bills. Reasons for the origin of fee bills. Economic problems of the medical profession. Fees during the 'thirties. Medical charges in eastern cities. Rules for professional conduct in pecuniary matters. Some fees in Vermont, New York and Connecticut in 1843. Fees and economic problems in the southwestern states. Medical charges during the middle of the century. Economic problems and social controls of the medical profession. Fee bills and price changes. Medical prices during the Civil War. A fee table for specialists. Medical price levels during the 'eighties and 'nineties. Conclusion. Index of medical societies.

Note: A brief survey of American medical prices reflected in the tables of charges stipulated by a number of medical societies in the period from 1818 to 1891. The lists, which are quoted verbatim, are revealing not only with regard to the economic situation of the medical profession during that period, but also with regard to the general cost of living, credit abuses, economic differences between urban and rural areas, etc. By pointing out those items in the fee bills which might be indicators of the growing specialization, development of new medical instruments, procedures, and professional trends, the author has hoped to stimulate further research into economic medical history in the United States of America.

RUSKIN ARTHUR, compiler

Classics in arterial hypertension Springfield, Ill Charles C Thomas, 1956 358 p. illus. 23 cm. (American lecture series. Publication no. 290 A monograph in the Bannerstone division of American lecture series classics in science and medicine W W Nowinski, editor) $9.50 3279

Contents: Methods: Stephen Hales (1733) Jean-L. M. Poiseuille (1828) Carl Ludwig (1847) Jean Faivre (1856) Etienne J. Marey (1875) Samuel S. K. von Basch (1880) Scipione Riva-Rocci (1896) Nikolai S. Korotkov (1905) Significance: Carlo Amoroso (1900) Johann J. Wepfer (1658) Thomas Young (1809) Richard Bright (1827) George Johnson (1868) Ludwig Traube (1856) William W. Gull and Henry G. Sutton (1872) Fred A. Mahomed (18[illegible]) Pierre C. Potain (1875) William R. Gowers (1876) Clifford Allbutt (1896) Robert Tigerstedt and Per G. Bergman (1897) Harvey Cushing (1906) Leo Ambard and Eugene Beaujard (1904) Heinrich F. Ewing 1924 Eberhard Koch and Heinz Mies (1929) Harry Goldblatt *et al.* (1934) Bibliography

Note: An anthology of classic papers and other writings on arterial hypertension. Writings originally in languages other than English have been translated into English. Notes of a biographical and historical nature, written by the compiler, accompany each of the selections.

SARTON GEORGE

Galen of Pergamon. Lawrence University of Kansas Press, 1954 112 p. illus. 22 cm. (University of Kansas. Logan Clendening lectures on the history and philosophy of medicine Third series) $2 50. 3280

Contents: The Roman world in the second century. Pergamon. Galen's life. Galen's writings. The medical sects in Galen's time. The anatomist and physiologist. The physician, surgeon and pharmacist. The philosopher, historian, and philologist. Character and style. Galen's influence. Appendices: Chronological summary. Galenic treatises translated from the Arabic. Galenic texts available in English translation. Index.

Note: A broad survey of information on Galen's personality, life, writings, work and influence is presented in this small book. The titles of the 10 lectures of which it is composed are given above. Although most of the topics mentioned are covered in essentially an outline form, and others are treated superficially, the late author's erudition in the history of science is apparent on every page. Literature references are given in support of most of the statements made. The chronological summary and the two bibliographies of Galenic treatises are complementary to the lectures and will be equally useful to anyone beginning a serious study of Galen.

SHRYOCK RICHARD HARRISON

American medical research past and present. Cambridge, Mass Harvard University Press 1947 350 p 21 cm. (The New York Academy of Medicine. Committee on Medicine and the Changing Order Monograph studies) $2.50 3281

Contents: Preface, by J. F. Fulton. Introduction. Formative influences. Early support of research 1840-1913. The changing economic and social background. The era of private support, 1913-1940. Research trends. Research fields. Public relations. Public support. The future. Index.

Note: In this book, a considerable amount of factual information is buttressed by the author's scholarship and wide acquaintance with our national culture to make this a valuable addition to the social and economic, as well as the medical, history of the United States. The story of medical research before 1900 is by no means slighted, but its accelerating expansion since Welch's early days at Johns Hopkins, its present status, and its future prospects constitute the bulk and the real value of the book. Socio-economic implications, involving especially finance and control, are presented with careful objectivity but considerable challenge. Thoroughly documented.

SHRYOCK RICHARD HARRISON

The development of modern medicine an interpretation of the social and scientific factors involved New York Alfred A. Knopf 1947 457 p. illus 22 cm $5 75 3282

Contents: First attempts to establish a physical science, 1600-1700. The partial failure of physical science, 1700-1800. Social factors in medical lag after 1700. Renewed progress toward an objective science, 1750-1800. Early contributions of physic and physicians to the public welfare, 1750-1800. Science in a romantic age, 1800-1850. Medicine and "the basic sciences." Medicine, mathematics, and the social sciences. The emergence of modern medicine, 1800-1850. The influence of French medicine in Europe and America. Modern medicine in Germany 1850-1880. Medicine and the public health movement, 1800-1880. Public confidence lost. The triumphs of modern medicine, 1870-1900. Further progress and some of the consequences. Public confidence regained. A delayed advance against mental disease. Practice in a changing society 1850-1900. American experience. Some contemporary questions. Index.

Note: This scholarly study traces the advance of scientific medicine from the close of the Renaissance to the present, stressing especially the relationship of medical thought and practice to contemporary scientific and social attitudes. It is shown that the predominant philosophy of any given age determines the contemporary concept of healing, and that not until the scientific revival in early 19th-century France did "modern" medicine really take form. That form has developed into the medical science of today in harmony with general scientific and social progress and has been especially influenced by German methods of investigation, by the emphasis on bacteriological studies, and by the opportunities afforded by 20th-century research. An earlier edition of the work (University of Pennsylvania, 1936) was entitled *The development of modern medicine.* That edition has been extensively rewritten, and the type has been reset.

SIGERIST HENRY ERNST

Civilization and disease. Ithaca Cornell University Press, 1943 255 p illus. 23 cm. $3 75 3283

Contents: Introduction. Civilization as a factor in the genesis of disease. Disease and economics. Disease and social life. Disease and the law. Disease and history. Disease and religion. Dis-

while been greatly reduced by modern methods of rodent and ectoparasitic control and by the use of antibiotic drugs. Between 1900 and 1951 there were 523 recorded cases of plague in the United States, most of them in port cities on the west and Gulf coasts. The appendix contains a variety of facts and figures concerning the disease in the United States and a list of publications on plague by officers of the Public Health Service

MacKinney, Loren Carey

Early medieval medicine, with special reference to France and Chartres. Baltimore The Johns Hopkins Press 1937 247 p illus 20 cm (Institute of the History of Medicine, The Johns Hopkins University Publications 3rd series. Vol 3) $2 75 3271

Contents The Dark Age concept and early medieval medicine Medicine in Merovingian and Carolingian France. Medical progress at Chartres in the tenth and eleventh centuries. Notes. Plates. Index.

Note The Hideyo Noguchi lectures, given in 1936 for the first time by a layman a professor of medieval history rather than a physician. They are interpretive and general. References are included in the notes section, and the plates are mostly photographic reproductions of medieval manuscripts on medical subjects.

Major, Ralph H

A history of medicine. Springfield, Ill Charles C Thomas, 1954 2 v illus 22 cm $14 50 3272

Contents Volume 1. The dawn of medicine Greek medicine Medicine in the Roman Empire The Middle Ages—earlier period—later period. The Renaissance. The seventeenth century Volume II. The eighteenth century The nineteenth century—the first half The rise of American medicine. The nineteenth century—the second half The twentieth century General bibliography Index of names. Index of subjects.

Note An episodic account of the development of medicine, rather than a well-integrated interpretation of the important events and influences of medical history The plan of organization provides for each main period, first, a narrative survey in which the personalities and works of the most important persons are described and, second, a "biographical addenda" in which the biographical facts on eminent but less important figures are concisely related. However this plan is modified to suit the man and the period. Sometimes a man of secondary importance is discussed in the main survey The addenda sections of early chapters are slight, while the section of the chapter on the second half of the 19th century alone runs to 42 pages. Both volumes are extensively illustrated. The organization of the work does not encourage reading of it from beginning to end. On the other hand, it is a repository of a wide array of facts and pictures and is well indexed. It is useful for ready reference and also for orientation in the history of specific periods.

Mullett Charles Frederic

Public baths and health in England 16th–18th century Baltimore The Johns Hopkins Press 1946 85 p 26 cm. (Supplements to the Bulletin of the history of medicine Henry E Sigerist, editor Genevieve Miller associate editor No 5) $1 50 3273

Contents Public baths and health in England, 16th–18th century Bibliography Index of names or titles Index of spas

Note. Essentially a bibliographic essay on the English spas in the 16th to 18th centuries. The text offers brief outlines of the contents of various papers, books, and articles on the subject, starting with the first English dissertation on baths in 1562 The 238 references cited in the bibliography are keyed to the text proper Primarily of interest to students of the history of medicine, the monograph also sheds some light on the social aspect of the period.

Orr, Hiram Winnett

On the contributions of Hugh Owen Thomas of Liverpool, Sir Robert Jones of Liverpool and London, John Ridlon, M.D., of New York and Chicago, to modern orthopedic surgery Springfield Ill Charles C Thomas, 1949 253 p. illus 22 cm. $4.50. 3274

Contents Biographies Hugh Owen Thomas. Sir Robert Jones. John Ridlon. A review of past and present methods in surgical practice. Rest as the fundamental factor in the relief of pain and the arrest and cure of inflammation. Methods of securing rest in fractures and in articular disease. Diagnosis and treatment of hip disease Disease of the knee joint, foot, and ankle. The prevention and cure of disability and deformity in fractures. Comments upon methods still in use in orthopedic practice from the writings of H. O. Thomas, Sir Robert Jones, and Dr John Ridlon Supplement: Ridlon and his share in molding orthopedic surgery by A. Steindler Annotated bibliography

Note. The scope of this contribution to the history of orthopedic surgery is indicated by the title and table of contents. The biographical sketches at the beginning of the book are short, but in the chapters which follow there is much additional information on the influence of these men and many quotations from their writings. There are 20 figures, most of which show early orthopedic appliances.

Petersen, William Ferdinand

Hippocratic wisdom for him who wishes to pursue properly the science of medicine a modern appreciation of ancient scientific achievement. Springfield, Ill Charles C Thomas, 1946 263 p illus. 22 cm $5 00. 3275

Contents. The poles of the earth. Seasons and erysipelas. Ascaris. Reproduction—The dancer lost her baby Epilepsy and hydrophobia. The medical clinic Pneumonia, pleurisy empyema. Phthisis. The patient who lived on Broadway In the surgery The art. Practice—The skull. Fractures and dislocations. Theory The cosmic concept. The unstable equilibrium. Resumption Too much and too early The era. "Le miracle grec. Appendix. Glossary Index of illustrations Index of contents.

Note In the main part of this book, extensive quotations from Hippocratic texts are interspersed with additions and discussion by Dr Petersen. The appendix—which is more than 80 pages in length—consists largely of explanatory notes and accounts of contemporary medical observations and cases that parallel observations in the Hippocratic texts. The book's chief purpose is to demonstrate to medical students and young physicians the significance and pertinence of Hippocrates to the ethics and philosophy of modern medicine.

Rapport, Samuel, and Helen Wright, editors

Great adventures in medicine New York The Dial Press, 1952 874 p 22 cm $6 00 3276

Note An anthology covering the whole field of medical history from early times to the present It presents a selected group of significant writings by and about medical pioneers and practitioners arranged roughly in chronological order Each of the six parts into which the work is divided contains a separate introductory synopsis written by the editors The book is of interest not only to physicians and students of medicine but also to laymen interested in medical history

Rodman, J Stewart

History of the American Board of Surgery 1937–1952 Philadelphia J B Lippincott Company 1956 104 p illus 23 cm $3 00 3277

Contents. Organization, 1935–1937 The first five years. The second 5 years. The third five years.

Note The American Board of Surgery is an organization which promulgates standards for education, training and ethics in the practice of surgery holds examinations for those who have completed the required education and training, and issues diplomas to

Medical Library Historical Library Publication no. 15) $4.00. 3290

Contents: Forerunners of surgical anesthesia. Crawford Williamson Long. Horace Wells and nitrous oxide. William T. G. Morton. Henry J. Bigelow & Edward Warren. Charles Jackson. Sir James Y. Simpson and chloroform. Other studies on individual surgical anesthetics (to 1875). Early general monographs on surgical anesthesia. Regional and block anesthesia. Studies on individual anesthetics (after 1875). Anesthesia and psychiatry. History and bibliography of surgical anesthesia. Addendum. Index.

Note: The books, pamphlets, leaflets, and patents listed in this exhibition catalogue are given full bibliographical descriptions, and these are supplemented by notes that tell something about the history of the person. Locations of copies in American libraries are given. Editorial paragraphs at the heads of chapters and interspersed among the bibliographical material summarize steps in the discovery and acceptance of anesthetics and describe the fortunes and misfortunes of the various men who are associated with the development. The bibliographies of regional and block anesthesia, and of studies on individual anesthetics, mentioned in the contents, are not in this book, but will appear in a scheduled Part II of the Catalogue.

GENERAL PATHOLOGY

ACKERMAN LAUREN V AND OTHERS

Pathology seminars. Edited by Robert S. Haukohl and W A. D Anderson. St. Louis The C. V Mosby Company 1955 195 p. illus. 26 cm. $7.50 3291

Contents: Tumor seminar, moderated by L. V. Ackerman. An introduction to pathology of the skin, moderated by A. C. Allen. Tumors of the bone and thyroid, moderated by J. E. Ash. Tumor seminar, moderated by A. P. Stout. Tumor seminar, moderated by R. A. Willis. Index.

Note: Published in this volume are the proceedings of five seminars held at the Marquette University School of Medicine. The proceedings were not formal, and, as printed in the book, they consist of concise descriptions of cases. Discussions, which in most instances are reproductions of microphotographic diagnoses submitted by experts on the basis of the case history and the illustrative material, and discussion of the submitted diagnoses. Literature references are given also. The book is typical of the "slide seminar," postgraduate educational device that is currently used—often under the sponsorship of a professional society—in medicine and surgery in the United States of America.

ADAMS RAYMOND D AND OTHERS

Diseases of muscle a study in pathology By Raymond D Adams D Denny Brown, and Carl M. Pearson. With 347 illustrations. New York Paul B Hoeber Inc., Medical Book Department of Harper & Brothers, 1954 556 p. illus (part col d) 24 cm. $16.00 3292

Contents: Part I. The nature of skeletal muscle: Embryology and histology of skeletal muscle. Innervation and blood supply of muscle, with brief consideration of chemistry and physiology of muscular contraction. Part II. The pathologic reactions of skeletal muscle: Experimental pathology. The general reactions of human muscle to disease. Part III. The pathology of muscle disease: Congenital defects of skeletal muscle. Muscular dystrophies. Inflammatory diseases ("myositis"). Tumors. Traumatic and circulatory diseases. Spinal and neural muscular atrophies. Miscellaneous diseases. Toxic, metabolic, and endocrine diseases—II. Disorders of excitability and contractility. Differential diagnosis and methods of pathologic study. Index.

Note: At the time this note was written, this was the only recent monograph in the English language on the diseases of muscle. It is, in addition, a work in which much recent research, including some hitherto unpublished work of the authors, is surveyed. Because it is designed primarily for use as a textbook in advanced courses in medical schools, considerable space is devoted to basic anatomy and physiology. The chapter on experimental pathology—which is one of the longest ones in the book—is a critical survey of the published results of many researchers. In the chapters on specific diseases of muscle, the emphasis is on pathology. Extensive bibliographies are a feature of most of the chapters. The majority of illustrations are reproductions of microphotographs. All of the authors are members of the medical staff of Boston City Hospital, and two of them are also members of the faculty of the Harvard Medical School.

ANDERSON W A D editor

Pathology With 1241 illustrations and 10 color plates. Second edition. St. Louis The C. V Mosby Company 1953 1,393 p illus (part col'd) 27 cm. 3293

Contents: Introduction, by P. Klemperer. Cells and their behavior, by E. V Cowdry. Inflammation, by M. McCutcheon. Degenerative changes and disturbances of metabolism, by W. A. D Anderson. Disturbances of circulation, by V H. Moon. Physical agents in the causation of injury and disease, by A. R. Moritz. Chemical injury, by W. W. Jetter. Effects of radiation, by C. E. Dunlap. General principles of infection and resistance, by F. R. Cannon. Bacterial diseases, by H. C. Hopps. Tuberculosis, by J. D. Gunn. Leprosy, by E. Keppich. Spirochetal and venereal diseases, by K. R. Pund. Rickettsial and viral diseases, by H. Pinkerton. Fungus infections, by R. D. Baker. Protozoal and helminthic infections, by E. Keppich. Vitamins and deficiency diseases, by H. Pinkerton. Neoplasms, by S. Warren. The heart, by E. M. Hall. The blood and lymphatic vessels, by E. M. Hall. The kidneys, by W. A. D Anderson. The lower urinary tract and male genitalia, by E. B. Pund. The lung, by J. D. Gunn. The organs of special senses, by J. E. Ash. The lips, mouth, teeth, and neck, by W. H. Bauer. The gastrointestinal tract, by J. R. Schenken and E. L. Burns. The liver, by W. A. D. Anderson. The gall bladder and the biliary ducts, by R. Halpert. The pancreas, by W. A. D Anderson. Diabetes mellitus, by S. Warren. The blood and bone marrow, by M. N. Richter. The spleen, lymph nodes, and reticulo-endothelial system, by M. N. Richter. The thymus, by W. A. D. Anderson. The pituitary gland, (hypophysis) by J. E. Kraus. The pineal, by W. A. D Anderson. The thyroid, by W. A. D. Anderson and T. Winship. The parathyroids, by W. A. D. Anderson. The adrenal glands, by W. A. D Anderson and J. A. Sexton, Jr. The female genitalia, by W. Schiller. The breast, by J. F. Kernan. The skin, by A. C. Allen. The bones, by G. A. Bennett. The joints, by G. A. Bennett. The nervous system, by J. Mischler. Heredity and constitution in disease, by M. T. Macklin. Index.

Note: A cyclopedic presentation of the current knowledge of pathology. It is suitable for use as a textbook in medical school courses and as a reference book in the offices of graduate medical practitioners who are not specialists in pathology. By the use of small type much more material has been included than even the large number of pages would indicate. Most of the chapters are supplemented by selected though unnecessarily lengthy lists of references. The first edition was published in 1948. Extensive revisions were not made in preparing this edition, but numerous small changes have been made throughout the volume in both text and illustrations. A new edition was published in 1957 1,402 p. $18.00.

APPERLY FRANK LONGSTAFF

Patterns of disease on a basis of physiologic pathology 50 figures and 37 charts. Philadelphia J B Lippincott Company 1951 456 p. illus 24 cm. $8.00 3294

Contents: Life and disease. Pathology, the science of disease. The positive changes in disease—nutrition and its disturbances—disturbances of the peripheral circulation. The reactive changes to injury—the local reaction—inflammation—the general reaction—leukocytosis, fever and antibodies—the local reaction—repair. Infection and resistance. Some special types of inflammation—the reaction to certain other living forms. Pigmentation and certain degenerations. Hypertrophy and hyperplasia. Tumors. Cysts. Diseases of the cardiovascular system. Diseases of blood and the organs of blood formation. Diseases of the urinary system. Diseases of the respiratory system. Diseases of the gastro-intestinal tract and the peritoneum. Diseases of the liver and the gallbladder. Diseases of the pancreas. Diseases of the female reproductive organs. Diseases of the breast. Diseases of the male reproductive organs. Diseases of the cerebrospinal system. Diseases of the ductless glands. Diseases of the locomotor system. Disease and the man. Index.

Note: An unconventional but useful presentation of pathology. The detailed descriptions of diseased tissues and the numerous illustrations that are a feature of most texts on pathology are largely lacking. The author has devoted his attention to the beginnings and progressions of diseases and to the compensatory mechanisms set into action by the body. Descriptions of specific diseases and pathological conditions are short but are cast in a style that is easy to read. The author is Professor of Pathology at the Medical College of Virginia.

ease and philosophy Disease and science. Disease and literature. Disease and art. Disease and music. Civilization against disease. Epilogue. Index.

Note This volume is based on the Messenger lectures on the evolution of civilization, given at Cornell University in 1940. The major aspects of the complex relationships between civiliza tion and disease are discussed. Nontechnical language is used, as the book is intended for laymen.

SIGERIST, HENRY ERNST

A history of medicine. Volume I Primitive and archaic medicine. New York Oxford University Press 1951 564 p. illus, 24 cm (Yale Medical Library, Historical Library Publication no 27) $12 50 3284

Contents Introduction. Primitive medicine. Ancient Egypt. Mesopotamia. Appendixes *Histories of medicine. Source books of medical history* Museums of medical history Literature of paleopathology since 1930. Index.

Note The first volume published of an eight-volume work planned on a more comprehensive scale than has been attempted before. It is the author's purpose to apply to the history of medicine the same principles as are applied in scholarly histories of other segments of human life. A reading of the part of his introduction entitled "The historic approach to medicine is essential to an understanding of his plan, but the subheadings in his chapter on Mesopotamia, "The setting, "Social environment, Principles and sources of Mesopotamian medicine Patient and physician, "Content of Mesopotamian medicine Rational elements in Mesopotamian medicine *indicate the scope of his method and the inclusion of much material* on the social and economic setting His style is both scholarly and readable. Sources are scrupulously noted.

SIGERIST, HENRY ERNST

Medicine and human welfare New Haven Yale University Press, 1941 148 p illus 21 cm (The Terry lectures) $3 00 3285

Content Preface. List of illustrations. Disease. Health. The physician. Index of proper names.

Note Medicine, its close and continued relation to religion and the changes that have taken place in man's attitude toward *disease form the subject matter of the first chapter f this book.* The chapter entitled "Health is concerned with the development of the concept of the pursuit of health from the days of *ancient Greece when it was an individual matter* luxury confined to the favored few up to the present day when awakening social consciousness is bringing the realization that health must be the privilege of all. The third chapter gives realistic account of the development of the medical man. His gradual emergence is traced from the condition of craftsman attached to a court, a rich family or perhaps city to that of scientist working independently *The* other stresses the inadequacy of the present 'commercialized system and ends with stirring appeal to mak *medical treatment* public service

STERN BERNHARD JOSEPH

American medical practice in the perspectives of a century Cambridge, Mass Harvard University Press, 1945 170 p 21 cm (New York Academy of Medicine Committee on Medicine and the Changing Order Studies) $1 50 3286

Contents Social and economic changes in American life. The expanding horizons of medicine. The specialist and the general practitioner The supply and distribution of physicians The patient load in medical practice. *The income of physicians.* The distribution of medical services. Appendix Th *effect of recruitment* on the supply *of physicians in civilian areas* Index.

Note. A short historical sketch whose chief purpose is to familiarize physicians, and others concerned with the problems of contemporary medicine with some of the origins of these problems. The author traces the evolution f the social and economic forces in the world today revealing the effect which the growth of machine production and industrial urbanization *has* had on health. He sketches the concurrent growth of medicine, the increasing costs of its services, the increasing duration and costliness of medical education, the growth of specialization, the development f th modern hospital, and surveys the present distribution of medical care.

STEVENSON, LLOYD G

Nobel prize winners in medicine and physiology, 1901–1950 New York Abelard Schuman, Ltd, 1953 291 p illus. 22 cm $6 50 3287

Note A reference work on the Nobel laureates in medicine and physiology during the first 50 years of the 20th century For each year in which the prize was awarded, the book contains a separate chapter which includes the following concerning the prize winner biographical sketch, description of the prize-winning work in the words of the recipient, the significance of the winning work in the theory and practice of medicine, and bibliographical *references. In most instances the description of the prize-winning* work is an excerpt from the Nobel lecture delivered in Stockholm at the time f the presentation of the prize. A separate section of illustrations contains photographic portraits of the prize winners.

WEBB, GERALD BERTRAM

Tuberculosis With 17 illustrations New York P B Hoeber Inc. Medical Book Department of Harper & Brothers, 1936 205 p. illus 17 cm (Clio medica, a series of primers on the history of medicine editor, E. B Krumbhaar XVI) $2 50 3288

Contents Epidemiology Knowledge of the ancients. The Middle Ages. Contagion Pathology The tubercle. The tubercle bacillus. Immunity Diagnosis. Treatment. Rest treatment of tuberculosis. Climate. Sanatoria. Legislative prophylaxis. Bibliography Index of personal names. Index of subjects.

Note This handbook gives a brief history of this disease, which has been present in man since the dawn of civilization. The author has traced the earliest records of the disease found in writings, in pictures, vases, etc., and in other relics of antiquity and the earliest records of the forms of treatment, often *bizarre. He has also traced the development of the words em*ployed in describing the various forms of the disease in different languages. The later course of the development of our knowledge of the etiology diagnosis, and treatment of tuberculosis is also described, with mention of the men who have made outstanding contributions in this field. The book is intended for student, physician and layman.

WINSLOW, CHARLES EDWARD AMORY

The conquest of epidemic disease a chapter in the history of ideas Princeton Princeton University Press 1943 411 p 24 cm. $6 00 3289

Contents The world of demons. The wrath of God. Metaphysical medicine. The universe of natural law Primitive concepts f contagion. The great teacher Fracastorius. The conception of contagium animatum. The English Hippocrates. The last of the *plague tractates.* The enigma of yellow fever. The great sanitary awakening. Three pioneer epidemiologists. Pasteur Pettenkofer—the last stand. *The concept of the carrier* The insect host. The modes of infection. *Acknowledgments.* References. Index.

Note. The story of how man solved the mystery of epidemic disease, told as far as possible in the actual words of the various participants, after an analysis by the author of all their surviving works. Hippocrates, Galen, Fracastorius, Paracelsus, Kircher Mead, Rush, Pasteur and Chadwick are some of these participants. For the layman as well as public health workers and *members of the medical profession*

YALE UNIVERSITY SCHOOL OF MEDICINE. YALE MEDICAL LIBRARY

The centennial of surgical anesthesia an annotated catalogue of books and pamphlets bearing on the early history of surgical anesthesia compiled by John F Fulton and Madeline E Stanton New York Abelard-Schuman Ltd 1946 102 p illus. 23 cm (Yale

KARSNER, HOWARD T

Human pathology 557 illustrations in black and white and 19 subjects in color on 14 plates. Eighth edition. Philadelphia J B Lippincott Company 1955 960 p illus. (part col d) 26 cm. $15 00. 3300

Contents: Part I, General pathology: General phenomena of disease. Pathologic pigmentation. Degenerations and infiltrations. Necrosis and somatic death. Mineral infiltrates and concrements. Atrophy. Disturbances of circulation. Inflammation. Principles of infectious disease. The infectious granulomas. Progressive tissue changes. Tumors. Part II, Systemic pathology: The cardiovascular system. The hematopoietic system. The respiratory system. The alimentary canal. Liver and pancreas. The urinary system. The genital system. Endocrine glands. The organs of locomotion. The nervous system. The eye and adnexa. The skin. Index.

Note: A standard and long established work, useful as a text in medical colleges and as an office reference book by physicians and surgeons. The scope is comprehensive with both congenital anomalies and the pathology of diseases, and rare conditions as well as common ones, included. However many of the disorders are described only briefly with reference being given to fuller discussions in the literature. The author's style is straightforward and easy to read. In this edition, 40 per cent of the space is devoted to the first part on the general principles and aspects of pathology and 60 per cent to the pathology of systems and organs. The seventh edition was published in 1949. A considerable range of new material has been added in this eighth edition, including a new chapter on the pathology of the nervous system, several extensively revised chapters, and new and revised sections in a number of other chapters. A selection of new literature has been added to the bibliographies.

MENKIN VALY

Biochemical mechanisms in inflammation. Completely revised second edition. Springfield, Ill. Charles C Thomas, 1956 438 p illus. 23 cm. (American lecture series. Publication no. 288. A monograph in the Bannerstone Division of American Lectures in Dentistry edited by Edward J Ryan) $9 50 3301

Contents: The problem of the initial increased capillary permeability and the migration of leukocytes in inflammation (leukotaxine). The rôle of the hydrogen ion concentration and the cytology of an exudate: glycolysis in inflammation, some aspects of the chemistry of exudates. The rôle of inflammation in immunity. Phagocytosis, chemical factors in alkaline exudates concerned with the mechanism of leukocytosis and leukopenia. The pattern of injury in inflammation (necrosin). Cause of fever in inflammation (pyrexin): chemical factors in acid exudates concerned with the mechanism of leukopenia and leukocytosis, determination of the white blood cell level with inflammation. Diabetes in inflammation. Repair: cellular injury: possible relation to neoplasia and precancerous lesions. The anti-inflammatory problem. Recapitulation and conclusions. Index.

Note: A revision and enlargement of the author's *Newer concepts of inflammation*, Springfield, Ill. 1950, this book is a synthesis of a wide range of research studies on the biochemistry of inflammation. The author defines inflammation as "the complex vascular, lymphatic and local tissue reaction elicited in higher animals by the presence of micro-organisms or of non-viable irritants," and he views this reaction as an immunological mechanism of definite significance in bodily economy. The presentation is a critical one, and on matters where the author does not agree with the views of other workers in this field, he describes the differences explicitly. The pertinent literature is carefully cited. In comparison to the first edition, the book has been more than doubled in length and much new information has been incorporated. The author is widely recognized as an investigator of inflammation and an authority on the aspects of pathology and immunology.

MORITZ ALAN RICHARDS

The pathology of trauma. Second edition, enlarged and thoroughly revised. Philadelphia Lea & Febiger 1954 414 p. illus. 24 cm. $8.50. 3302

Contents: Mechanical injuries. Trauma and infection. Trauma and tumors. Mechanical injuries of the cardiovascular system. Mechanical injuries of the respiratory system. Mechanical injuries of the alimentary canal. Mechanical injuries of the liver, gall bladder, bile passages, pancreas and spleen. Mechanical injuries of the urogenital tract. Mechanical injuries of the central nervous system. Mechanical injuries of the skeletomuscular system. The medicolegal autopsy.

Note: A standard work on the pathological aspects of lesions produced by mechanical violence. It deals largely with but is not limited to the aspects of trauma associated with criminal violence. Trauma associated with industrial and other accidents and with military operations are considered also. The principal causes of mechanical injury, the pathological characteristics of the resulting lesions, the pathogenesis of their complications and sequelae, and collateral evidence of medicolegal interest are discussed concisely but in adequate detail. The first edition was published in 1942. The terminal chapter is new in this second edition, and sections of other chapters have been extensively revised, usually in collaboration with other authorities whose names are given. A selection of recent literature has been added to the bibliographies, and the illustrations have been revised and their number increased somewhat.

NEUBUERGER, KARL THEODORE

Atlas of histologic diagnosis in surgical pathology. With a section on Exfoliative cytology by Walter T Wikle. Photography by Glenn E. Mills. Baltimore The Williams & Wilkins Company 1951 460 p. illus. 26 cm. $11.00 3303

Contents: Skin and subcutaneous tissues. Lymph nodes. Spleen. Muscles and tendons. Bones, joints, and bursae. Nose and paranasal sinuses. Larynx and trachea. Bronchi and lungs. Pleura. Thymus. Thyroid. Parathyroids. Branchiogenic lesions. Carotid body. Oral cavity. Salivary glands. Tonsils. Esophagus. Stomach. Intestines. Appendix. Peritoneum. Liver. Gall bladder. Pancreas. Adrenals. Kidneys and ureters. Urinary bladder and urethra. Prostate. Male genitalia except prostate. Uterus. Fallopian tubes. Ovaries. Vagina and vulva. Breast. Meninges (cerebral). Brain. Spinal cord and spinal meninges. Pituitary. Peripheral and sympathetic nervous system. Blood vessels. Eye. Ear. Exfoliative cytology: Vaginal tract. Respiratory tract. Gastrointestinal tract. Urinary tract. Body fluids. Supplement. Index.

Note: A comprehensive work in which the author has endeavored to include microphotographs that exhibit all the common lesions observable in tissues. Rare conditions have been omitted; nevertheless, a considerable range of material has been included for all of the principal systems and organs. The special section on exfoliative cytology pertains to the interpretation of smears. Each of the 880 figures is accompanied on the same page with a short description in which diagnostic features are emphasized. The author is Professor of Pathology in the School of Medicine of the University of Colorado.

SMITH LAWRENCE WELD AND EDWIN S GAULT

Essentials of pathology. Third edition. With a foreword by the late James Ewing. New York McGraw Hill Book Company Inc., 1948 764 p illus. (part col d) 28 cm. $12.00. 3304

Contents: General pathology. Retrograde processes. Disturbances of circulation. Somatic [illegible] The [illegible] Inflammation. Specific bacterial infections. Diseases caused by animal parasites. Oncology. Systemic pathology: Diseases of the circulatory system. Diseases of the respiratory system. Diseases of the gastro-intestinal tract. Diseases of the liver and the pancreas. Diseases of the hematopoietic and reticulo-endothelial systems. Diseases of the urinary tract. Diseases of the male genitalia. Diseases of the female genitalia. Diseases of the ductless glands. Diseases of the nervous system. Diseases of the organs of locomotion. Diseases of the teeth and related structures. Bibliography. Index.

Note: In this text for medical students the authors have sought to make the treatment of practical value by emphasizing fundamentals rather than attempting an encyclopedic presentation; by frequent citations of case histories; by avoiding controversial subjects and theories; and by the extensive use of photomicrographs and gross pathological pictures. The page size of this edition has been reduced,

BELL, E T

A text book of pathology Eighth edition, enlarged and thoroughly revised with 545 illustrations and 5 color plates Philadelphia Lea & Febiger 1956 1,028 p illus (part col'd) 24 cm $14 50 3295

Contents: Introduction—predisposition to disease. Mechanical injuries. Injuries due to physical agents. Injuries due to chemical agents. Diseases due to deficiency of vitamins (avitaminosis and hypovitaminosis) Circulatory disturbances. Retrogressive tissue changes. Inflammation. Tuberculosis. The venereal diseases. Other chronic infectious diseases. The mycoses or fungus infections, by J S McCartney Bacterial diseases. Tumors. Diseases of the blood. Certain diseases caused by animal parasites. Diseases of the thymus and lymph nodes. Diseases of the spleen. Diseases of the respiratory system. Diseases of the digestive system. Diseases of the pancreas. Diseases of the liver and gall-bladder by J S. McCartney Diseases of the heart, by B J Clawson. Diseases of the blood-vessels. Diseases of the urinary system. Diseases of the reproductive organs of the male. *Gynecological pathology* Diseases of the ductless glands. Neuropathology Diseases of the bones and joints. Index.

Note A long-established text for use in medical school courses in general pathology The first eight chapters are devoted to the general mechanisms of disease, and the 22 chapters that follow them to specific diseases. The descriptions of the pathology of specific diseases are very concise but they are supplemented by illustrations, and by references to the literature. The seventh edition was published in 1952 Small revisions were made in many sections in preparing this eighth edition. A selection of recent literature was added to the bibliographies and the number of illustrations has been slightly increased, but many parts of the book are unchanged.

BOYD, WILLIAM

A text book of pathology an introduction to medicine Sixth edition thoroughly revised, with 570 illustrations and 32 colored plates Philadelphia Lea & Febiger 1953 1 024 p illus (part col d) 24 cm. $12 50 3296

Content Part I General pathology The content of pathology Degenerative processes and disturbances of metabolism. Circulatory disturbances. Inflammation. Repair Infection and resistance. Bacterial infections. Diseases caused by animal parasites. Growth and its disorders. Tumors. Vitamin deficiency Injuries caused by physical irritants. Injuries caused by chemical poisons. Heredity and constitution in disease. Part II, Special pathology The heart. The blood vessels. The respiratory system. The mouth, neck and esophagus. The stomach and duodenum. The intestines. The liver and gall-bladder The pancreas. The peritoneum and abdominal wall. The urinary system. The male reproductive system. The female reproductive system. The breast. The ductless glands. The lymphoid structures. The blood. The nervous system. The bones. The joints. The muscles, tendons and bursae The skin. Dental pathology Index.

Note A standard textbook widely used in undergraduate courses in medical schools It is written in a straightforward, explicit style that is easy to comprehend. As noted in the title, there are hundreds of illustrations. These are well selected, and the majority of them are clearly reproduced. The references to additional reading are classified so that the reader who wishes more information on a single topic for example, carcinoma of the cervix, is referred to several papers specifically on the subject The first edition was published in 1932 and the fifth edition in 1947 A number of sections carried over from the fifth to this sixth edition were rewritten A considerable list of new topics has been added, but the discussions of some of these are brief The author is Professor of Pathology in the University of British Columbia.

FORBUS WILEY DAVIS

Reaction to injury pathology for students of disease based on the functional and morphological responses of tissues to injurious agents 532 illustrations 20 of which are in color Baltimore The Williams & Wilkins Company, 1943 797 p illus (part col'd) 26 cm $9 00 3297

Contents (abridged) Part one Introduction to the study of disease Its nature. Causation Extrinsic, intrinsic factors. Extrinsic intrinsic factors. Part two 1 *The inflammatory reaction and diseases arising therefrom.* Inflammatory diseases of bacterial etiology—focal and local infections, scarlatina, rheumatic fever nephritis, alimentary tract infections, biliary tract, urinary tract and kidneys, gonorrhea, respiratory tract, osteomyelitis, endometritis, endocarditis. 2, Virus and rickettsial diseases. 3 Chronic granulomatous diseases—typhus and typhoid, tuberculosis, leprosy tularemia, etc., Hodgkin's disease, syphilis, fungus diseases. Index.

—— Volume II The reactions of submission and adaptation and the disease entities arising out of their elaboration 836 illustrations, 54 of which are in color Baltimore The Williams & Wilkins Company 1952 1 110 p illus (part col'd) 26 cm $20.00 3298

Content (abridged) Part three, The submissive reaction to injury and the disease entities arising therefrom—disturbances in metabolism and function with and without structural alteration of the tissues Section one, Disturbances in function and metabolism of cells and tissues with and without their structural alteration. Section two, *Disturbances in organic and systemic function,* and metabolism with and without structural alteration of the tissues. Section three, Disturbances in function and metabolism related to the process of growth and development. Part four *Reaction to injury through adaptation—functionally and structurally adaptive, sometimes compensatory reactions of cells, tissues and organ systems following injury* Section one, Applications of the principle of adaptation to the study of disease. Section two, Adaptive reactions following injury to the circulatory system. Section three, Adaptive reactions following injury to the respiratory system. *Section four* Adaptive reactions following obstruction to the passage of body fluids from and through the hollow viscera. Index.

Note A treatise on pathology which is organized on an unusual plan. The author's thesis is that disease is a matter of the abnormal outcome of a constantly changing relation between the ultimate biological unit, the cell, and its environment stated another way disease is a matter of qualitative and quantitative reaction of an individual to environmental stimulation. A wide range of pathological conditions is covered from this viewpoint, and most of them are described in detail. Extensive literature references are included. The author is Professor of Pathology in Duke University Medical School.

HERBUT, PETER A.

Pathology 1,378 illustrations on 651 figures and 6 color plates Philadelphia Lea & Febiger 1955 1 227 p illus (part col d) 27 cm $16 00 3299

Content Orientation. The autopsy Congenital anomalies. Degenerations. Inflammations. Physical disturbances. Tumors. Heart. Vessels. Upper respiratory system. Larynx. *Lower respiratory system. Thyroid gland.* Parathyroid glands. Upper digestive system Esophagus. Stomach. Small intestine. Appendix. Large intestine. Liver and biliary system. Pancreas. Peritoneum Reticulo-endothelial system. Blood. Spleen. Lymph nodes. Thymus. Adrenal glands. Lower urinary system. Kidneys. Male generative system Female generative system. Breast. Bones. Joints. Fascias, tendons, and bursae. Skeletal muscle. Skin. Central nervous system, by B J Alpers. Index.

Note. A compact, concisely written treatise suitable for use as text in medical college courses and as reference book. The first chapter is concerned with definitions of basic terms and with the historical development of the study of pathology The second chapter describes the purposes and techniques of autopsies. The five chapters that follow it are devoted to broad categories of disease processes. All of the remaining chapters—and there are 40—are devoted to the pathology of specific systems and organs. Specific diseases are described very concisely In most instances, information is given on all of these points, definition incidence, cause, gross appearance microscopic appearance, complications, clinico-pathologic correlation, diagnosis, treatment, and prognosis. Long bibliographies are included in the chapters. The illustrations are of high quality and are well reproduced.

generally speaking, each one includes information on the general features of the disease with which it is concerned, the special characteristics of the causative organism, the more important methods of isolation and identification, and biological and immunologic procedures for diagnosis. In some of the chapters there are discussions of clinical features and pathology. Literature references are always given.

ANNINO JOSEPH

Clinical chemistry principles and procedures. Boston Little, Brown and Company 1956 280 p. illus. 24 cm. $7.50 3311

Contents: Part I, Basic technics and fundamental information. Laboratory apparatus and standard solutions. Colorimetry A review of quantitative analysis. Collection, preservation and identification of samples, and normal values. Part II, Methods. General orientation; methods and physiological interpretations. Carbon dioxide. Chloride. Sodium and potassium. Flame photometry. Determination of pH and the physiological significance of electrolyte concentrations. Glucose. Nitrogen. Protein. Calcium and phosphorus. Liver function tests. Enzymes. Drug levels. Creatinine, creatine and uric acid. Cerebrospinal fluid (C.S.F.) analyses. Kidney function tests and notes on urinalysis. Index.

Note: A useful text on the analytical techniques used in hospital diagnostic laboratories and on the scientific principles that underlie them. The first part describes standard laboratory apparatus and its care; standard solutions; reviews very briefly the principles and techniques of colorimetry, turbidimetry, nephelometry and fluorophotometry; and provides useful information on the collection, preservation and identification of samples. The second and longer part describes specific techniques for a considerable range of diagnostic tests. These methods are, of course, selected, but they are those most commonly used in the leading diagnostic laboratories. In discussing the individual techniques, due attention is given to such matters as reagents, detailed procedures, calculations, and accuracy of the determinations. Also, the physiological significance of the findings is usually indicated. The author is Clinical Chemist for the Massachusetts Memorial Hospitals in Boston.

BAUER, JULIUS

Differential diagnosis of internal diseases clinical analysis and synthesis of symptoms and signs on pathophysiologic basis. Second revised and enlarged edition. New York Grune & Stratton 1955 987 p. illus. 23 cm. $15.00 3312

Contents: Part I, Leading symptoms. Headache. Chest pain. Abdominal pain. Backache. Pain in the extremities, dysesthesias, paresthesias. Disturbance of general feelings. Disturbance of consciousness. Vertigo, nausea, and vomiting. Paralysis, incoordination and involuntary movements. Cough and dyspnea. Diarrhea and constipation. Hemorrhages. Part II, Leading signs. The general appearance (habitus). Hyperthermia, fever and infectious diseases. Respiratory system. Cardiovascular system. Digestive system. Hematopoietic system. Urogenital system. Glycosuria. Index.

Note: Techniques of differential diagnosis, many of them originated with the author, are thoroughly expounded in this textbook for medical college courses. Many case histories are described and discussed. Neurotic and psychosomatic aspects are given due emphasis. The importance of thorough observation and examination in cases where there is no emergency is fully emphasized. Selected but extensive bibliographies are included in the chapters. The first edition was published in 1950. Further extensive revisions and augmentations have been made in this second edition, and the bibliographies have been enlarged. The author is Clinical Professor of Medicine in the College of Medical Evangelists.

BEHRMAN HOWARD TAFT

Dermatologic clues to internal disease. New York Grune & Stratton, 1947 165 p. illus. 23 cm. $4.00 3313

Note: In this reference manual, the skin manifestations of a considerable range of diseases are described concisely and are illustrated in numerous photographs. The arrangement is alphabetical by name of disease. The volume is intended as an aid in diagnosis.

BRAY WILLIAM EDWARD

Clinical laboratory methods Fourth edition. With 119 text illustrations and 18 color plates. St. Louis The C. V Mosby Company 1951 614 p. illus. (part col d) 22 cm. 3314

Contents: General rules—laboratory examinations of value in various cases. Urinalysis. Hematology. Blood chemistry. Gastric analysis. Feces and intestinal parasites. Puncture fluid examination—cerebrospinal fluid examination. Sputum. Bacteriology. Mycology. Water and milk examinations. Serology. Basal metabolism tests. Allergy tests. Poisons and foreign substances. Surgical pathology. Indicators, stains and staining solutions, reagents, renewal of laboratory stains, atomic weights, table of equivalents, table of normals. Index.

Note: A long-established reference book addressed to medical college students and clinical laboratory technicians. In it accepted procedures are described step by step and in detail, with special reference to such matters as collecting of specimens, chemical and microscopical examinations, staining techniques and special points, such as precautions, useful variations in procedures, etc. Literature references are included for many of the methods. The third edition entitled *Synopsis of clinical laboratory methods* was published in 1944. A fifth edition was published in 1957 [illegible]

BRUST RAYMOND W

Physical diagnosis. Introduction by Truman G Schnabel New York Appleton-Century-Crofts Inc., 1951 294 p. illus. 22 cm. $5.00 3315

Contents (abridged): Part one, Orientation. Part II, The body in general. Part III, The pulmonary system. Part IV The cardiovascular system. Part V The gastrointestinal system. Part VI, The nervous system. Index.

Note: A concise text on diagnostic techniques, such as can be carried out in the physician's office without resort to laboratory tests. The discussions are direct and specific. The material is arranged logically and liberal use has been made of paragraphs and subtitles to facilitate rapid study and reference use. There are 40 illustrations.

DUNPHY J ENGLEBERT AND THOMAS W BOTSFORD

Physical examination of the surgical patient. Philadelphia W B Saunders Company 1953 326 p. illus 24 cm. $7.50 3316

Contents: Part I, The elective examination: The lesson of the physical examination. Examination of the head and neck. Examination of the breast. Examination of the inguinal and femoral regions and the male external genitalia—the differential diagnosis of hernia. Examination of the abdomen. Examination of the abdomen of infants and children. Examination of the extremities. Special examinations of the peripheral blood vessels. Ulcer and gangrene of the extremities. Examination of the spine and hips. Examination of the female external genitalia and pelvis. Examination of the anus and rectum. Part II, The emergency examination: General principles in examination of the injured patient. Injuries of the head and face. Injuries of the thoracic wall, heart and lungs. Abdominal injuries. Injuries of the kidney, bladder and urethra; fractured pelvis. Injuries of the spine and extremities. Bibliography. Appendix. Index.

Note: This book teaches diagnosis by visual observation, palpation, etc. It is limited to the diagnosis of conditions for which surgery is the indicated therapy, hence the title. It is clearly written and well illustrated. Almost all of the illustrations are from drawings, and these are of excellent quality and are clearly reproduced. The appendix contains a brief but useful checklist for physical diagnostic examination. The authors are members of the faculty of Harvard Medical School and of the surgical staff of Peter Bent Brigham Hospital in Boston.

GOODALE, RAYMOND H.

Clinical interpretation of laboratory tests. 105 illustrations—6 in color Third edition. Philadelphia F. A. Davis Company 1954 720 p illus. (part col d) 24 cm. 3317

and most of the chapters have undergone some form of revision. Case histories have been condensed and set in fine print, and subject specialists have assisted in the revision of such chapters as those on endocrine gland pathology the hematopoietic system, and pathological chemistry A new chapter on pathology of teeth and related structures has also been added. Bibliographies, arranged according to chapter are again included at the end of the volume.

UNITED STATES NAVAL MEDICAL SCHOOL

Color atlas of pathology Prepared under the auspices of the U S Naval Medical School of the National Naval Medical Center, Bethesda, Maryland Volume I. Illustrated with 1 053 figures in color on 365 plates Philadelphia J B Lippincott Company 1950 546 p illus (col d) 25 cm. $20 00 3305

Content Diseases of the hematopoietic system. Diseases of the reticulo-endothelial system. Diseases of the respiratory tract. Diseases of th cardiovascular system. Diseases of the alimentary tract. Diseases of the liver Diseases of the kidney and urinary tract. Diseases of the musculoskeletal system. Index.

—— Volume II. Illustrated with 1,032 figures in color on 343 plates Philadelphia J B Lippincott Company, 1954 450 p illus (col'd) 25 cm $20 00 3306

Content Diseases of the endocrine system. Gynecologic lesions. Obstetric lesions. Diseases of the breast. Disease f the male genital tract. Diseases of the skin. Index.

Not Each of the chapters of this work is divided into "descriptive survey" and color unit. The descriptive survey is a *compact summary of the diseases of specific physiological system.* The color unit consists of reproductions of color photographs of gross and microscopic pathological specimens. These ar reproduced three to plate and are printed in the outer columns of the pages bearing illustrations. The inner columns of these pages ar occupied by concise but specific *descriptions f the illustrations on* the page. The work was prepared over a considerable period f years at the National Naval Medical Center It is valuable reference volume of interest to medical practitioners, diagnosticians, and pathologists in all fields.

WELLS BENJAMIN B

Clinical pathology application and interpretation. Second edition Philadelphia W B Saunders Company 1956 488 p illus 25 cm $8 50 3307

Contents Introductory considerations. Infectious *diseases.* Diseases f the gastrointestinal system. Diseases of the respiratory system. Diseases of the cardiovascular system Diseases of the kidney and urinary tract. Diseases of the blood. Metabolic and endocrine disorders. Clinical laboratory studies in surgery Clinical *laboratory studies in obstetrics.* Laboratory *procedures.* Index.

Note A useful introduction to laboratory methods in clinical diagnosis. It is addressed both to students in medical colleges and to graduate physicians, and its purpose is to guide such readers in the practical use of the more important clinical tests. It is *arranged mainly—as the chapter titles show—by class f disease.* In the chapters specific type of disease or disorder is described briefly from the diagnostic viewpoint. Then the useful tests are described, and the interpretation f results obtained with them is discussed. Limitations f specific tests are indicated Most topics are treated *compactly* but not so compactly that the reader must refer to other literature for essential procedural details. The first edition was published in 1950. This edition represents very extensive revision with considerable amount of material added that did not appear in the first edition.

THE YEAR BOOK OF PATHOLOGY AND CLINICAL PATHOLOGY (1955–1956 year book series) Edited by William B Wartman Chicago The Year Book Publishers Inc. 1956 480 p illus 20 cm $6 50 3308

Contents (abridged) Pathology Introduction, General pathology —Infectious diseases—Neoplasia—radiation effects. Cardiovascular system. Hemopoietic system. Respiratory system. Alimentary system. Liver Pancreas. Urinary and male genital systems. Female *genital system and breast. Endocrine glands.* Musculoskeletal system and skin. Nervous system. Clinical pathology Hematology Clinical chemistry Clinical microbiology Index. Index to authors.

Note. As in the similar books issued by the publisher in other fields of medicine, this annual publication is designed to provide a digest and key to the significant literature in its field which was published during the preceding year In preparing it, selection of the world's literature is made by the editors, then the articles are abstracted and organized into readable summaries under main topics and subtopics. The abstracts themselves are fairly long, and a footnote reference is made in each instance to the original publication. Some abstracts are supplemented by notes written by the editor in which reference is *frequently* made to the work of still other authorities. There are 161 figures in this year's issue.

DIAGNOSIS

AMERICAN ASSOCIATION OF CLINICAL CHEMISTS

Standard methods of clinical chemistry *Volume I. Editor in-chief Miriam Reiner* New York Academic Press, Inc. 1953 142 p illus 24 cm. $4 50 3309

Contents Introduction, by M. R. Hodes. Amylase. Bilirubin. Calcium. Carbon dioxide content (titrimetric) Carbon dioxide determination by the Van Slyke volumetric and manometric apparatus. Chloride. Total and free cholesterol. Creatinine. Glucose (Folin-W) Glucose (Nelson-Somogyi) Lipase (Tributyrinase) Alkaline and acid phosphatases. Inorganic phosphate. Total protein, albumin, and globulin. Prothrombin time. Sodium and potassium by flame photometry Thymol turbidity Urea nitrogen. Uric acid. Author index. Subject index.

Note The first volume of series in which carefully selected and checked methods for analytical procedures in clinical laboratories will be published. Each method included is the subject of monographic essay containing short introduction a discussion of the basic principle a list of the necessary reagents (with directions for making those which would not be stocked regularly in every clinical laboratory) detailed and explicit directions for the laboratory procedure a supplementary discussion of the procedure and other helpful information such as points on interpreting the results, a list of precautions, etc. Before publication, each *procedure* is checked in laboratory other than the laboratory of the submitter. Submitters' names and checkers' names are given in all cases. Bibliographies are given for most of the procedures, and there is an occasional picture of apparatus.

AMERICAN PUBLIC HEALTH ASSOCIATION

Diagnostic procedures for virus and rickettsial diseases. Second edition New York American Public Health Association, 1956 578 p illus. 23 cm $7 50 3310

Contents General principles underlying laboratory diagnosis of virus and rickettsial infections, by E. H. Lennette. Poliomyelitis, by J R. Paul, and J L. Melnick. ECHO viruses Tissue culture methods for the cultivation of poliomyelitis and other viruses, by J L. Melnick. The Coxsackie viruses, by G. Dalldorf and G. M. Sickles. Encephalitis (arthropod-borne virus encephalitides and lymphocytic choriomeningitis) by W McD Hammon. Rabies, by H. N Johnson. Influenza, by K. E. Jensen. Primary atypical pneumonia, by A. E. Feller and M. R. Hilleman. Mumps, by J. F Enders and K. Habel. Herpes simplex, by T F McN. Scott. Variola and vaccinia, by C. H. Kempe Yellow fever by J C. Bugher Dengue, by A. B. Sabin. *Phlebotomus (Pappataci or sandfly)* fever by A. B. Sabin. Psittacosis, by K. F Meyer and B. Eddie. Trachoma, by P Thygeson. Inclusion blennorrhea, by P Thygeson. Lymphogranuloma venereum, by G. Rake. Miscellaneous virus diseases, by M. R. Hilleman. Rickettsial diseases, by J E. Smadel. Index.

Note Originally product of panel discussion at the 1947 meeting of the American Public Health Association, this book is now an established reference manual. It is an authoritative presentation of laboratory diagnostic techniques for the virus and rickettsial diseases which are named in the chapter titles and includes also a long chapter on the general principles of such diagnoses. The chapters are not organized according to set pattern but,

Cancer (syphilis). The liver. The clotting of blood and hemorrhagic ... Iron and hemoglobin. Calcium and phosphorus. The thyroid. Sterols and other hormones. Nucleic acids. Vitamins. Gastric and pancreatic secretion, by A. Lerman. Biological antagonists. [illegible]. Index.

Note: A broad, general treatise addressed primarily to general practitioners of medicine. The author has defined his purpose as ... to acquaint the students and practitioners of the various branches of medicine with the qualitative and quantitative of the biochemical ... demonstrable body constituents than occur in the diseased state and to show them how to utilize that information in diagnosis, prognosis and treatment. Each of the chapters begins with ... compact but inclusive survey of background information, then proceeds to discussions of specific biochemical processes, such as the renal excretion of glucose and to specific tests. The tests are discussed from the viewpoint of the general practitioner—that is to say full directions are given for administering the tests to patients and the taking of samples for the laboratory. Difficulties in applying particular tests are discussed, and the interpretation of test results are discussed in relation to prognosis and therapy.

Kampmeier, Rudolph Herman

Physical examination in health and disease. With 550 illustrations 1 in color Philadelphia. F A. Davis Company 1950 821 p. illus. (part col'd) 24 cm. $5.00 3323

Contents (abridged): The case history. The body in action, by W. F. Orr. The general survey. The head. The neck. The breast. The chest. The heart and blood vessels. The abdomen. The genitalia, perineum, anus, rectum. Musculoskeletal system and extremities. Index.

Note: A textbook for use as first courses in the subject in medical ... The separation of normal and abnormal conditions into separate chapters is a feature that facilitates study. Also, the normal ... [illegible] ... A majority of the illustrations are reproductions of photographs. The author is a member of the faculty of the Vanderbilt University School of Medicine.

Keefer, Chester S., and Samuel E. Leard

Prolonged and perplexing fevers. Boston Little Brown and Company 1955 248 p. 21 cm. $5.50 3324

Contents: Part I. Regulation of temperature and diagnostic ... Variations in normal body temperature. Diagnostic procedures. Part II. Infectious fevers. Tuberculosis. Local septic infections—common sepsis and ... [illegible] ... Other infectious fevers. Uncommon causes of infectious fevers. Part III. Non-infectious fevers. Tumors frequently causing prolonged fever. Tumors infrequently causing prolonged fever. Blood dyscrasias. [illegible] ... Summary and conclusions. Bibliography. Index.

Note: The diagnosis of prolonged fevers—those lasting more than two weeks—is covered in this book from the standpoint of the general practitioner of medicine. The authors point out that such fevers are often difficult to diagnose. After an introductory part on both normal variations in body temperature and the diagnostic problems presented by prolonged fevers in general are discussed, the diseases of which such fevers are manifestations ... are taken up and their diagnosis ... discussed. The chapters on specific diseases include a large number of case histories in some of which the correct diagnosis was made ... the patient was living but in others was made at autopsy. The authors, who are members of the Boston University School of Medicine, based the book on their own extensive experience and on the literature. The bibliography ... limited to publications cited in the text ... [illegible].

Kolmer, John Albert and others

Approved laboratory technic. By John A. Kolmer Earle H. Spaulding and Howard W Robinson. Fifth edition, with 403 illustrations and 28 color plates. New York Appleton-Century-Crofts Inc., 1951 1 180 p. illus. (part col'd) 25 cm. $12.00. 3325

Contents (abridged): Part I. General laboratory methods. The microscope and methods of microscopy. Diseases of animals and methods for the care, inoculation and bleeding of animals. Part II. Clinical pathologic methods. Methods for the examination of the blood, by C. J. D. Zarafonetis. Methods for conducting kidney function tests. Methods for the examination of stomach contents. Methods for conducting liver function tests. Methods for conducting pancreas function tests. Methods for the examination of cerebrospinal fluid. Methods for the examination of the blood and urine for hormones. Part III. Bacteriologic, mycologic and virologic methods. Methods for the collection and handling of specimens. Methods for the preparation of culture media. Diagnostic bacteriologic methods. Methods for the preparation of bacterial vaccines. Methods for testing disinfectants. Diagnostic mycologic methods. Part IV. Parasitologic methods. Part V. Serologic methods. Methods for the preparation and preservation of ... and serum. Methods of conducting hemagglutinins ... and blood grouping tests, by L. Diamond. Methods for conducting immunologic and allergic skin tests. Part VI. Chemical methods. Colorimetric methods. Methods for the preparation of standard volumetric solutions. Determination of basal metabolic rate. Methods for chemical examinations of milk and ... foods. Methods for toxicologic examinations. Part VII. Pathologic methods. Appendix. Index.

Note: A comprehensive manual of medical laboratory methods of general value. It contains a wide range of information on equipment, care of laboratory animals, laboratory methods of various kinds, and the prevention and emergency treatment of laboratory accidents. In its present edition, the work has been very extensively revised. Many new methods have been added. The authors are members of the faculty of Temple University School of Medicine.

Kolmer, John Albert

Clinical diagnosis by laboratory examinations. Second edition. New York Appleton-Century-Crofts Inc., 1949 1,212 p. illus. 25 cm. $12.00. 3326

Contents (abridged): Part I. The clinical interpretation of laboratory examinations. Blood examinations. Urine examinations. Blood chemistry examinations. Glucose tolerance tests. Kidney function tests. The basal metabolic rate and the iodine ... test. Technique examinations. Liver function tests and examinations of the bile. Examination of the saliva and sputum. Examinations of the stomach, duodenal contents and pancreas function tests. Parasitologic examinations. Cerebrospinal fluid examinations. Bacteriologic examinations. Mycologic examinations. Serologic examinations. Immunologic and allergic skin tests. Examinations for hormones and vitamins. Part II. The practical applications of laboratory examinations in clinical diagnosis. Diseases of the blood and hemopoietic system. Diseases of the kidneys and urinary system. The venereal diseases. Diseases of the stomach, intestines and pancreas. Diseases of the liver and biliary tract. Diseases of the cardiovascular system. Diseases of the respiratory tract. Diseases of metabolism. Diseases of vitamin deficiency. Diseases of the endocrine glands. Part III. Technic of laboratory examinations. Blood examinations. Urine examinations. Blood chemistry examinations. Functional examinations. Examinations of gastric contents. Feces examinations. Spinal fluid examinations. Bacteriologic examinations. Serologic examinations. Index.

Note: A comprehensive work on the use of laboratory tests and findings in the diagnosis of disease. The first part—in which diseases are covered by classes and individually—is 634 pages long in this edition. The second part also is addressed to the clinician rather than the laboratory technician and it occupies an additional 373 pages. The third part on the techniques of the laboratory is useful but relatively minor section. The book is useful as ... complementary work to standard texts on internal medicine, because of its particular emphasis on laboratory diagnosis. The first edition was published in 1944. Fairly extensive revisions were made in preparing this edition.

Leopold Simon Stein

The principles and methods of physical diagnosis correlation of physical signs with physiologic and pathologic changes in disease 390 illustrations with 19 color plates. Philadelphia W B Saunders Company 1952 430 p. illus. (part col'd) 24 cm. 3327

Contents: Routine data. Examination of the head. Examination of the neck. Examination of the musculoskeletal system. Examination of the breasts. Sounds from the thoraco-acoustic principles (by S. R. Warren, Jr.) Examination of the chest. Palpation of the chest. Percussion of the chest. Auscultation of the chest. Physical signs in certain diseases of the lungs and pleura—correlative data. Examina-

Contents Part I, Body fluids, excreta, and functional tests. Hematology Blood chemistry Serology Urine. Gastric and duodenal contents. Cerebrospinal fluid. Sputum and saliva. Feces. Transudates and exudates. Spermatozoa. Basal metabolic rate. Tests for liver and biliary function. Bacteriological examinations. Rickettsiae and viruses. Mycological examinations. Skin tests. Toxicologic examinations. Part II Diseases with associated laboratory findings The blood and hematopoietic organs. Heart and blood vessels. The respiratory system. Gastrointestinal tract and pancreas. Liver and biliary tract. The genitourinary system. Endocrine glands. Central nervous system. Bacteriological diseases and diseases of doubtful cause. Vitamin deficiency Fluid balance and electrolyte metabolic disorders Collection and care of laboratory specimens. Index.

Note This manual provides concise, specific information on diseases for which useful diagnostic laboratory tests are available describes the tests and discusses the interpretation of their results. In addition it provides useful information on methods of collecting specimens for laboratory examination and on the care and labelling of these specimens prior to their delivery to the laboratory It is addressed to the clinician rather than to laboratory technicians, but it is useful to the latter group for background information The actual procedures of laboratory tests are not covered in sufficient detail to make the book useful as a guide to laboratory technicians. Selected literature references are given and the book is thoroughly indexed. The second edition was published in 1951 In this edition the length of the volume has been increased by more than 100 pages. Many revisions and augmentations have been made in both the text and illustrations A fourth edition was published January 1958 $8 75.

Gradwohl, R B H

Clinical laboratory methods and diagnosis a textbook on laboratory procedures with their interpretation Fifth edition St. Louis The C V Mosby Company, 1956 2 v illus. (part col'd) 26 cm $38 50 3318

Content Volume I. General considerations. Urine analysis. Blood chemistry Hematology Blood groups and transfusion. Gastric analysis. Index. Volume II. Examination of puncture fluids. Feces. Special tests. Bacteriologic applications to clinical diagnosis. Medical mycology Parasitology and tropical medicine Serology Tissue cutting and staining. Toxicologic technic. Basal metabolism. Electrocardiography Index.

Note A practical guide and reference work prepared for the use of medical students, technicians in diagnostic laboratories, and graduate physicians. The techniques of laboratory procedures are explicitly described from the viewpoint of laboratory workers. Interpretation of the results of tests are related to practical diagnosis in medicine. A few of the techniques included, for example, electrocardiography are covered less thoroughly and the reader is warned in the book itself that the discussion is not intended to be complete. The fourth edition was published in 1948 in three-volume format. The principal change in organization of this fifth edition has been the elimination of the third volume and the condensation of the material formerly contained in it into single chapter Numerous revisions and augmentations have been made in chapters carried over from the first volumes of the fourth edition. The number of text figures is now 783 and the number of color plates 52 Each of the two volumes contains a complete subject index to the entire work.

Harvey, A McGehee, and James Bordley III

Differential diagnosis the interpretation of clinical evidence Philadelphia W B Saunders Company 1955 665 p 25 cm $11 00 3319

Contents Introduction. Aortic insufficiency Heart failure. Pain in the chest. Sudden death. Failure of urinary excretion. Hematemesis and melena. Jaundice Hepatomegaly and ascites. Lymphadenopathy and splenomegaly Fever of obscure origin. Diseases involving the lungs or mediastinum. Meningitis. Special diagnostic problems, including the diagnosis of certain rare diseases Unknown cases for study. Laboratory values of clinical importance (adult) Special index of symptoms, signs, and laboratory findings. General index

Note Drawn largely from cases discussed at clinical-pathological conferences held as part of the teaching program at Johns Hopkins Medical School, this volume uses the case method of exposition and is, in essence, a series of clinical-pathological conferences in print. A sound approach to diagnosis is expounded in the introductory chapter After this chapter most of the book is devoted to chapters on differential diagnosis in specific diseases. Except a few these chapters are organized on a set pattern first, a generalized discussion of the disease its signs and symptoms, causes, clinical picture when complicated by another disease, helpful points on differentiation second, a series of illustrative cases. The case histories are condensed transcripts of actual cases in which the diagnosis was checked in autopsy Clinical data from the admission record, the physical examination, course in the hospital and laboratory tests are compactly presented, then discussed at some length. Finally the findings of the anatomical diagnosis (autopsy) are presented and the case is summarized. In the terminal chapter 11 cases are presented separately from the discussions, autopsy findings, etc. to enable the reader to test his own ability to arrive at the correct diagnosis.

Hepler, Opal E

Manual of clinical laboratory methods. Fourth edition With a foreword by James P Simonds Springfield Ill Charles C Thomas, 1951 395 p illus. 28 cm. $9.50 3320

Contents Urinalysis. Hematology Gastric and duodenal contents. Liver function tests. Feces. Sputum. Cerebrospinal fluid. Body fluids. Pregnancy tests. Bacteriology Mycology Serology Blood groups. Clinical chemistry Allergy extracts. Tissue sectioning. Basal metabolism. Electrocardiography Solutions used in routine tests. Index.

Note A standard reference book of methods useful in hospital and other laboratories where clinical tests are made. Although in most instances only one method for particular determination is described, a wide range of tests is covered. Procedures are described specifically usually in numbered steps. However the interpretation of results is not covered. More than 80 tables of reference data are included. The book was developed originally for use by medical students in the Medical School of Northwestern University but it is suitable also for the guidance of laboratory technicians who are not medical graduates. The first three editions were not published commercially The fourth edition was published in 1951 and has been reprinted sometimes with slight revisions and augmentations, several times since.

Hiller, Alma

Practical clinical chemistry, a guide for technicians. Springfield, Ill Charles C Thomas 1953 266 p. 23 cm. 3321

Contents General laboratory procedures. Standard solutions of acid and alkali. Photometry Determination of Amylase in plasma or serum and in urine. Direct and total bilirubin in serum. Bromsulfalein in plasma Calcium in serum and spinal fluid. Carbon dioxide combining capacity of plasma. Cephalin flocculation test in serum. Determination of Chloride in plasma, serum, and spinal fluid Chloride in urine Total cholesterol in plasma or serum. Creatinine in blood Icterus index in plasma or serum. Nitrogen by Micro-Kjeldahl analysis. Non-protein nitrogen in blood. Inorganic phosphorus in plasma or serum. Inorganic phosphorus in urine. Alkaline and acid phosphatase in serum. Protein in plasma or serum. Protein in spinal fluid. Sugar in blood. Sugar in spinal fluid. Sugar in urine. Sulfonamides in blood. Sulfonamides in urine Uric acid in plasma or serum. Uric acid in urine. Index. Outlines of methods (removable)

Note Described in this book are methods which, according to the author have been employed successfully over period of several years in the Laboratory of Clinical Chemistry of the Presbyterian Hospital of the city of Chicago. Each procedure is described explicitly and the description is supplemented by a briefer outline. An unusual feature of the volume is that these outlines are printed twice, first in the body of the book adjacent to the techniques to which they pertain, and second in perforated section of pages at the end of the volume so that they may be removed and bound in cellophane or otherwise protected for use in the laboratory The descriptions of techniques are preceded by three chapters on general laboratory procedures, standard solutions, and on photometry as noted in the above table of contents. A second edition was published January 1958, 330 p., $6.50.

Hoffman, William S

The biochemistry of clinical medicine Chicago The Year Book Publishers, Inc., 1954 681 p illus 25 cm. $12 00 3322

Contents Introduction. Proteins. Carbohydrates. Lipids. Diabetes mellitus. Water and electrolytes. The kidneys and urine. Bright's

MILLER, SEWARD E editor

A textbook of clinical pathology Fifth edition. Baltimore The Williams & Wilkins Company 1955 1,208 p. illus. 24 cm. $11.00 3333

Contents: Blood technique, by L. W Diggs. Blood cells—bone marrow examination, by L. W Diggs. Anemias, erythrocytosis, hemoglobinuria, and abnormal hemoglobin compounds, by L. W Diggs. Laboratory tests used in the diagnosis and management of hemorrhagic and thromboembolic diseases, by L. W Diggs. Diseases primarily affecting leukocytes, by I Davidsohn. Blood groups, including [illegible] and other immunohematologic tests, by I. Davidsohn. Blood chemistry, by C. Cohn and A. Kaplan. Hepatic tests, by C. Cohn and A. Kaplan. The assay of chemotherapeutic and antibiotic agents, by A. Milzer. Diagnosis of viral and rickettsial diseases, by A. Milzer. Immunologic tests, by R. McBurney. Medical bacteriology by A. Milzer Medical mycology by E. R. Mann and A. W McQuown. Medical parasitology by S. E. Miller. The assay of vitamins, by E. von Haam. The assay of hormones, by E. von Haam. Examination of transudates, exudates, skin and mucous membranes, by E. von Haam. The diagnosis of venereal lesions, by E. von Haam. Syphilis serology, by S. E. Miller Cerebrospinal fluid, by S. E. Miller. Renal function tests and urine examination, by S. E. Miller. Saliva, sputum, and bronchial secretions, by S. E. Miller. Gastric and duodenal contents, by S. E. Miller. Seminal fluid, by S. E. Miller. Feces, by S. E. Miller

Note One of the standard United States of America texts on diagnosis by means of clinical laboratory tests. The subject is covered from the medical practitioner's viewpoint rather than that of the laboratory worker. The diseases that may be detected by such tests, techniques of taking samples and interpretation of laboratory analyses and findings are the main topics. The latter is handled critically in such statements as, "Unless the worker has special training the laboratory identification of [illegible] [illegible], both positive and negative reports, are valueless." Selected literature references are included, and illustrations are numerous. The first edition was published in 1935 and the fourth edition in 1952. In this fifth edition the two chapters at the end of the volume are new although part of the material that they contained was previously included in other chapters. Several other chapters have been extensively revised, in some cases by new co-author.

NEW YORK ACADEMY OF MEDICINE. SECTION ON MICROBIOLOGY

Diagnosis of viral and rickettsial infections. Symposium held at the New York Academy of Medicine January 29 and 30 1948. Edited by Frank L. Horsfall, jr New York Columbia University Press, 1949 153 p. illus. 24 cm. $3 75 3334

Contents Introduction, by F L. Horsfall, jr Laboratory diagnostic procedures for [illegible], by G. K. Hirst The diagnosis of [illegible], by G. [illegible] and W [illegible] The diagnosis of infections caused by the psittacosis-lymphogranuloma group of viruses, including trachoma and inclusion blennorrhea, by G. Rake. The diagnosis of primary atypical pneumonia, by F L. Horsfall, jr The diagnosis of neurotropic virus infections, including the viral encephalitides, lymphocytic choriomeningitis, and poliomyelitis, by J Casals and P K. Olitsky The diagnosis of infections with the virus of herpes simplex, by T F M Scott and others The diagnosis of rabies, by H N Johnson The diagnosis of dengue, by R W Schlesinger The diagnosis of infectious mononucleosis, by J. R. Paul. The diagnosis of epidemic, murine, and scrub typhus, as well as Q fever, by J E Smadel The diagnosis of Rocky Mountain spotted fever and rickettsialpox, by H R Cox. The diagnosis of infectious hepatitis by W P Havens, jr

Note A collection of original papers presented on the occasion mentioned in the book title Many of the authors have themselves made contributions to the knowledge of viral and rickettsial infections, and some of the information included has not been previously published. The lectures were intended for practitioners of medicine and other graduate scientists with professional interests in the subject Each paper is accompanied by list of literature references, but there are no indexes.

PETERS JOHN PUNNETT AND DONALD D VAN SLYKE

Quantitative clinical chemistry Volume I Interpretations. Second edition. Baltimore The Williams & Wilkins Company 1946 1,041 p illus. 24 cm. $7.00 3335

Contents: Part I, Energy metabolism. Part II, Carbohydrates Chemistry Physiology Clinical. Part III, Lipids Lipids. Steroid hormones. Fat-soluble vitamins. Part IV Protein metabolism. The net metabolism of protein. Amino acids. Urea. Ammonia. Creatine and creatinine. Purines and pyrimidines. Index.

Note A very comprehensive presentation of the current knowledge of the chemistry of physiological processes in both health and disease. The text consists chiefly of integrated, concise summaries of the findings reported in thousands of periodical articles. Full references are given to the original publications. Although the main viewpoint is clinical, the tremendous scope of the work makes it valuable reference book in general biochemistry as well. The first edition appeared in 1931, and was immediately recognized as work of major importance. In the present edition the work is being completely rewritten. The volume described here is the only one yet published of the second edition, but second part of Volume is in preparation and Volume II of the first edition has been reprinted, 961 p., $10.00.

POPPER, HANS AND DANIEL S KUSHNER, editors

Clinical pathologic conferences of Cook County Hospital. Volume I Cardiovascular renal problems. New York McGraw Hill Book Company Inc. 1954 325 p illus 24 cm. $5 00. 3336

Contents: Part I, Cardiac problems: Aortic insufficiency with sudden death Chronic congestive failure in [illegible] alcoholic. Cyanotic congenital heart disease. Chronic pulmonary insufficiency in [illegible] [illegible] Fever jaundice, and congestive failure. Dyspnea, shock, and sudden death. Severe congestive failure in child. Hypertension with congestive failure and sudden death. Differential diagnosis of pulsating thoracic mass. Complications of coronary artery disease. Differential diagnosis of pericardial effusion. Part II, Vascular problems: Post-partum shock Hemorrhagic diathesis and [illegible] [illegible] Polyarthritis, polyneuritis, and peripheral neuropathy Congestive failure, peripheral neuropathy and fever. Pulmonary [illegible] Deforming arthritis and edema. Renal insufficiency with hematuria. Part III, Renal problems Post-partum coma. Convulsions and fever in child. Differential diagnosis of uremia. Pyelonephritis with uremia. Hypertension, uremia, and hematuria. Lower urinary tract obstruction in young man. Differential diagnosis of shock. Anemia and [illegible] in child. Final pathologic diagnoses.

Note As indicated in the title, this volume has its origin in clinical-pathological conferences at Cook County Hospital in Chicago. In these conferences, "the attempt is made to select broad, clinical problem, often represented by an unusual manifestation, for which the pathologic solution is either unusual or if typical, presents uncommon aspects. This provides the opportunity to combine the exhibition of the art of clinical association with the teaching of pathology to learn about the usual from the unusual." The book is composed largely of compact presentations of case histories and the discussions of these at conferences. The pattern of presentation for each case is, clinical data clinical diagnoses pathologic observations; clinical pathologic correlation; final pathologic diagnosis; and literature references. The book is another example of an effective teaching device now used primarily in graduate instruction in medical schools and large hospitals in the United States of America.

REQUARTH WILLIAM

Diagnosis of acute abdominal pain. Chicago The Year Book Publishers, Inc., 1953 243 p illus. 21 cm. $5.00. 3337

Contents: Examination of the abdomen. Differential diagnosis from standpoint of location and type of pain. Acute intestinal obstruction. Diseases for which immediate operation is imperative Diseases for which operation can be delayed. Diseases for which operation is contraindicated or harmful. Traumatic wounds of the abdomen. Diagnosis of acute abdominal lesions in infants. Differential diagnosis of acute gastro-esophageal hemorrhage. Index.

Note A compact and useful manual on the diagnosis, and particularly the differential diagnosis, of both traumatic and non-traumatic acute abdominal emergencies. General techniques of examination and diagnosis are covered in the first two chapters. The remainder of the book is devoted to specific diseases and wounds. In these chapters, specific diagnostic techniques are discussed, along with clinical description of the disease or disorder The chapters

tion of the circulatory system. Physical signs in certain diseases of the heart and great vessels—correlative data. Examination of the abdomen. The gynecologic examination. Examination of the male genitalia, and of the anus, rectum and rectosigmoid colon. Examination of the extremities. Neurologic examination. Psychiatric survey The history Index.

Note. A medical college textbook in which the underlying principles and the basic routines of physical diagnosis are emphasized rather than clinical manifestations of diseases. A concise, clearly written text is supplemented by high number of illustrations, many of which are reproductions of photographs. The author is Associate Professor of Clinical Medicine in the School of Medicine of the University of Pennsylvania. A second edition was published in 1957 537 p., $9.00.

LEVINSON, SAMUEL A , AND ROBERT P MACFATE

Clinical laboratory diagnosis Fifth edition, thoroughly revised, with 244 illustrations and 13 plates, 11 in color 142 tables Philadelphia Lea & Febiger, 1956 1,246 p illus. (part col'd) 24 cm. $12 50 *3328*

Contents The mouth. The stomach. The duodenum and related organs. The intestine. Metabolism. Chemical analysis of the blood. The kidneys. Chemical analysis of the urine. Hematology Immunology and serology Cerebrospinal fluid. Transudates and exudates. General bacteriology The sputum. Skin tests and other biologic examinations. Laboratory methods in pediatric procedures. Tropical diseases. Milk and water analysis. Histologic technic. Legal medicine and toxicology Appendix. Index.

Note. A standard work, outstanding for its comprehensiveness and its detailed descriptions of laboratory procedures. The first named author is Director of Laboratories f the University of Illinois Research and Educational Hospitals, the co-author is Chief f the Division of Laboratories of the Chicago Board of Health and the methods described are used in the laboratories that they direct. Several of the chapters and parts of chapters were contributed by other authors. An outstanding example of contributed chapter is the one on hematology which is 228 pages long and is the work of four authors other than the authors of the volume. Descriptions f individual laboratory diagnostic tests and procedures are given primary emphasis, but much background and supplementary material is included also. The appendixes contain among other material useful, alphabetical arrangement under the names of diseases of important laboratory tests for the individual diseases Page references are made from this tabulation to the discussion of the test in the body of the book. The fourth edition was published in 1951 This fifth edition is exactly 100 pages longer and it contains many revised and augmented sections.

MACBRYDE, CYRIL MITCHELL, editor

Signs and symptoms applied pathologic physiology and clinical interpretation Second edition With 98 illustrations 50 charts and 8 color plates Philadelphia J B Lippincott Company 1952 783 p illus (part col d) 24 cm *3329*

Contents Introduction by C M MacBryde. Pain, by C. M. MacBryde. Headache by H. G. Wolff. Sore tongue and sore mouth, by R. W Vilter Thoracic pain, by J R. Smith and R. Paine. Abdominal pain by S. M Jordan. Backache and back pain, by R. H. Freyberg. Joint pain by R H. Freyberg Pain in the extremities, by R. D Williams. Clubbed fingers and hypertrophic osteoarthropathy by B S. Lipman and E. Massie. Palpitation and tachycardia, by E. Massie. Cough, by D M. Skilling, Jr Hemoptysis, by D M Skilling Jr Dyspnea, by D. P Barr Cyanosis, by D P Barr Anorexia, nausea and vomiting by J L. Horner Constipation and diarrhea, by J L. Horner Hematemesis and melena, by L. Schiff Jaundice, by S. A. Portis Nervousness and fatigue by E. F Gildea. Fever by P B Beeson. Disturbances f consciousness and of muscle movement, by W O. Leanne. Fainting, by E. A. Stead, Jr Vertigo and dizziness, by H H. Hyland. Dehydration, by C. M MacBryde. Edema, by H A. Schroeder Obesity by C M. MacBryde. Weight loss and undernutrition, by C. M. MacBryde. Pathologic bleeding, by B Alexander Pigmentation of the skin by H. Jeghers and E. A. Edwards. Itching (pruritus) by S. Rothman and A L. Shapiro. Index.

Note A textbook and practical guide to physical diagnosis in medicine. It is composed f a series of original monographs which deal separately with the interpretation of various classes or types of pain and other symptoms and signs. The discussions are systematic and concise. Each chapter is accompanied by a selected bibliography of literature in which fuller discussions of particular points are to be found. The first edition appeared in 1947 A third edition was published in 1957 975 p. $12.00.

MAJOR, RALPH H , AND MAHLON H DELP

Physical diagnosis Fifth edition. Illustrated Philadelphia W B Saunders Company, 1956 358 p illus 26 cm $7 00 3330

Contents Introduction History taking and recording. Pain. General inspection. Examination of the head and neck. Inspection, palpation and percussion of the chest. Auscultation of the lungs The physical findings in diseases of the lungs. Inspection, palpation and percussion of the heart. Auscultation f the heart. The pulse. Blood pressure. Physical findings in cardiovascular diseases. Abdomen and genitalia. The extremities. Examination of the nervous system. Index.

Note. A standard work used primarily as a medical college text book since the publication of the first edition in 1937 Its purpose is to provide students and practicing physicians with practical information regarding methods of physical examination, history taking, *and the interpretation of signs and symptoms. The normal* and abnormal are contrasted, and emphasis is placed on the need for careful observation of physical signs, and an understanding of the underlying physical causes if a correct diagnosis is to be reached. The fourth edition was published in 1951 This fifth edition *was th first to bear the name of co-author In comparison* to the preceding edition there has been some reorganization of the material and considerable revision and augmentation There are now 334 figures.

MEAKINS, JONATHAN CAMPBELL

Symptoms in diagnosis Second edition. Illustrated Baltimore The Williams & Wilkins Company, 1948 542 p 24 cm $7.50 3331

Contents Skin. Skeletal system. Gastro-intestinal system. Respiratory system. Circulatory system. Genito-urinary system. Ocular symptoms and signs. Ear nose and throat. Nervous system. Symptoms in psychiatry Index.

Note An exceptionally comprehensive presentation of pain and other patients' symptoms in diagnosis. The author has found in long medical experience that such symptoms are of considerable importance, particularly in the preliminary steps in diagnosis, and he has presented this extensive accumulation of facts about them *to aid general practitioners nd clinicians in interpreting* and coordinating the patients' symptoms with the findings of laboratory tests and other modern methods of diagnosis. In preparing the second edition, the entire text was extensively revised and it now includes several chapters written by other specialists on the interpretation of special types of symptoms, such as the chapter on symptoms in psychiatry written by Dr Karl Stern.

MERCK AND COMPANY, INC

The Merck manual of diagnosis and therapy Ninth edition Editorial Board Charles E Lyght editor, and others. Rahway, N J Merck & Company Inc. 1956 1,870 p 17 cm $6 75 *3332*

Contents Part I. Allergy Blood and lymphatic Cardiovascular Deficiency and metabolic. Dental and oral. Ear nose and throat. Endocrine. Eye. Gastrointestinal. Genitourinary Gynecologic and obstetric. Infectious and parasitic. Liver and biliary Musculoskeletal. Nervous system. Neuropsychiatric. Physical and chemical. Respiratory Skin and connective tissue. Venereal. Part II. Routine immunization procedures. Clinical procedures. Bedside procedures. Office laboratory Preoperative and postoperative routines. Diets. Office laboratory procedures. The physician bag. Ready reference guides. Part III Index.

Note A long-established reference manual designed primarily for general practitioners of medicine. Basic physiology pathology diagnosis and treatment are emphasized. Prescriptions for drugs are given. Surgical procedures are not covered. The entire book is concisely written and is fully cross referenced and indexed. The first edition was published in 1899 and the eighth edition in 1950. In comparison to the eighth edition, this ninth edition contains a wide range of new and revised material. It was carefully compiled under the direction of distinguished five-member editorial board. It is *printed on thin paper of good quality and, in spite f its length,* is of size that can be conveniently carried in physician's bag

RADIOLOGY

ARCHER, VINCENT WILLIAM

The osseous system a handbook of roentgen diagnosis. Chicago The Year Book Publishers, Inc., 1945 320 p. illus. 21 cm. $7.00 3343

Contents (abridged) Technic. General principles of interpretation. Normal bones and joints and their variations. Differentiation of fractures from anatomic standards. Injuries to the skeletal system other than the spine. Shoulder and clavicle. Elbow joint. Carpal bones. Phalanges. Ribs. Pelvis. Sacrum and coccyx. Ankle joint. Spine—general considerations. Bone diseases and abnormalities in childhood. Bone diseases occurring principally in adult life. Joints between. Index.

Note This volume covers the X-ray examination of the skeletal system and is intended to serve as a concise guide for the physician who only occasionally carries out radiologic examinations. The discussion of technique is very brief and limited to mention of special points in connection with bone films. The remainder of the book deals with interpretation of roentgenograms, and the presentation is in atlas form with reproduction of roentgenograms on right hand pages and analyses of them on the facing left-hand pages. The author is Professor of Roentgenology in the Department of Medicine of the University of Virginia.

BEARD, DONALD E., AND OTHERS

Radiologic diagnosis of the lower urinary tract. By Donald E. Beard, William E. Goodyear and H. Stephen Weens. Springfield, Ill. Charles C Thomas, 1952 143 p. illus. 24 cm. $6.50. 3344

Contents Introduction. The normal urethrogram. Diseases of the anterior urethra. The membranous urethra. The posterior urethra. The bladder. Urethrography and cystography in children. References. Index.

Note A practical introduction to urethrography and cystography as diagnostic techniques in studying disorders of the lower urinary tract. The authors present a simplified technique for urethrography based on the use of a contrast medium consisting of 77 per cent sodium iodide in gum acacia. Essentially the book is an atlas of approximately 300 pictures, most of which are reproductions of roentgenograms. The pictures are accompanied by descriptive captions and a brief, clearly written text.

BENDICK, ARTHUR J

Diagnostic advances in gastrointestinal roentgenology selected methods with clinical evaluation. New York Grune & Stratton 1954 131 p. illus. 26 cm. $6.00 3345

Contents Advances in X-ray equipment. Technic of mucosal films, crib sois and complete filling. Diseases of the esophagus. Diseases of the stomach. Diseases of the duodenum. Diseases of the small bowel. Colon—technic and diseases. Technic of intestinal infusion. Diseases of the gall bladder and pancreas. Roentgen examination of the newborn. Index.

Note Addressed to practicing gastroenterologists and radiologists rather than to students or medical graduates just beginning practice, the book is devoted largely to new and special techniques. It stresses the value of mucosal films in diagnosis in the stomach and several other areas of the gastrointestinal tract and has much to say about the use of soda water as a source of carbon dioxide gas for distending the stomach or selected regions of the intestines. Techniques developed by the author. Many other techniques are discussed, usually in the light of the author's clinical experience with them. The 75 figures are nearly all reproductions of radiographs. The author is Director of Radiology for Beth Israel Hospital in the City of New York.

BRAASCH, WILLIAM FREDERICK, AND JOHN L. EMMETT

Clinical urography an atlas and textbook of roentgenologic diagnosis. Philadelphia W B Saunders Company 1951 736 p. illus. 26 cm. $25.00 3346

Contents Methods in urographic diagnosis. The plain film of the urinary tract. The normal urogram. Dilation of the urinary tract. Urinary stasis, the obstructive uropathies, urinary anomalies and urinary stasis, neuromuscular dysfunction. Urinary calculi. Nontuberculous infections of the urinary tract. Tuberculosis of the genito-urinary tract. Renal cysts. Tumors of the genito-urinary tract. Anomalies of the urinary tract. Urethrography, seminal vesiculography, arteriography and other special methods of examination. Miscellaneous. Index.

Note A comprehensive, lavishly illustrated treatise. There are 2,381 figures, most of which contain reproductions of more than one roentgenograph. Throughout the book the textual discussions are directly related to the roentgenograms. Nevertheless the text is expanded so that it constitutes a monograph of urographic diagnosis. Selected bibliographies are appended to the chapters.

BUCKSTEIN, JACOB

The digestive tract in roentgenology Second edition. Two volumes. 1,534 illustrations in 897 figures Philadelphia J B Lippincott Company 1953 2 v illus 26 cm. $30.00 3347

Contents (abridged) Volume one. Introduction. History of roentgenology of the alimentary tract. The hypopharynx and the esophagus. The stomach. The duodenum. Volume two. The small intestine. The large intestine. Herniation and eventration of the diaphragm. The gallbladder and the bile ducts. Bibliographic index. Subject index.

Note A monumental work based on 33 years' experience in Bellevue Hospital in New York City. The wealth of illustrative matter is indicated in the subtitle. The illustrations are accompanied by as many case histories. Many rare conditions are included as well as common ones. The diagnostic features of each roentgenogram are expertly demonstrated and discussed, and the roentgenograms are supplemented by numerous photographs of gross pathology. Literature references are included. The first edition was published in 1941. In this second edition, the work has been expanded from a single volume of 639 pages to two volumes totalling 1,702 pages, and the number of illustrations has been increased from 1,035 to 1,534.

CAFFEY, JOHN

Pediatric X-ray diagnosis a textbook for students and practitioners of pediatrics surgery & radiology Third edition. Chicago The Year Book Publishers, Inc., 1956 1,059 p. illus 27 cm. $28.00 3348

Contents Section I. The head and neck. Skull. Individual cranial structures. Intracranial structures. Intracranial pneumography. Extracranial structures. Neck. Section II. The thorax. External thorax. Thoracic walls. Respiratory tract. Pathologic intrathoracic changes. Primary pulmonary tuberculosis. Mediastinum. Heart. Section III. The abdomen & gastro-intestinal tract. Abdomen. Diseases of the abdominal walls. Liver. Biliary tract. Spleen. Pancreas. Mesentery and omentum. Abdominal lymph nodes. Digestive tract. Section IV. The pelvis and genito-urinary tract. Pelvis. Urinary tract. Adrenal glands. Reproductive system. Section V. The extremities. Soft tissues. Bones. Joints. Section VI. The vertebral column. Normal vertebral column. Congenital disturbances. Traumatic lesions. Calcification of intervertebral disks. Diseases involving vertebrae. Index.

Note A comprehensive treatment based in part on many years of collective experience in the Babies Hospital, New York. Information and illustrations from the periodical literature have also been incorporated, and in this third edition, the section on the urinary tract is based in part on the files of Dr. Frederic N. Silverman, pediatrician and radiologist to the Children's Hospital in Cincinnati. Under each of the anatomical regions named in the chapter titles, conditions which are of interest in roentgenology are discussed. Generally speaking, there is a brief description of the specific disease or abnormality and this is followed by a longer discussion of the anatomy and pathology in relation to roentgen diagnosis. Normal roentgen appearances are described and illustrated for purposes of comparison. The second edition was published in 1950. The book has been extensively revised and enlarged in this third edition. The number of pages has been increased by almost 200 and there are 350 new illustrations.

DE LORIMIER, ALFRED ALEXANDRE

The arthropathies a handbook of roentgen diagnosis. Second edition. Chicago The Year

include also such miscellaneous information as comments on incidence of specific disorders correlated with age and sex, on symptoms that have no diagnostic significance, and on emergency care of the patient during diagnosis. Extensive references to the literature are included in all of the chapters.

RUBIN, ELI H

The lung as a mirror of systemic disease Springfield Ill Charles C Thomas, 1956 288 p illus 29 cm. $12 50 3338

Contents Chest roentgenography in mass surveys. Diseases of metabolism. Diseases of the blood. Allergic diseases. Diseases of the skin and mucous membranes. *Pulmonary manifestations of certain abdominal and metastatic diseases. Pulmonary manifestations of cardiovascular diseases.* Diagnosis—the changing scene—symptoms and signs. The chest X-ray—anatomical and technical considerations. Pitfalls in *roentgen diagnosis. Laboratory and exploratory aids.* Index.

Note The chest X-ray when fully exploited for diagnostic purposes is a useful means for discovering not only pulmonary diseases, but diseases of other systems of the body which have pulmonary manifestations. This fact is the reason for the present monograph, which, however is not limited either to chest X-rays in diagnosis or t roentgenographic manifestations of lung diseases. What can be seen in the chest roentgenogram is the primary topic, but correlation with the results of other diagnostic studies is also covered. The general clinical features of a ide range of diseases are described. There are 92 figures, most of which are reproductions of roentgenograms. Literature references are included. The author is member of the faculty of the Albert Einstein College of Medicin of Yeshiva University

SUNDERMAN, FREDERICK WILLIAM, AND FREDERICK BOERNER

Normal values in clinical medicine Philadelphia W [redacted] Saunders Company, 1950 845 p illus (part col'd) 26 cm $15 00 3339

Contents (abridged) Section I, Circulatory system (normal values in cardiology) *Electrocardiogram. Roentgen cardiac measuration.* Circulation time. Blood pressure. Section III, Chemical components and physical properties of blood (normal values in blood, extracellular fluids and lymph) *Protein and nonprotein components of blood plasma.* Blood sugar Lipids. Hemoglobin porphyrins and related compounds. Blood vitamins. Body fluids. The lymph. Enzymes and miscellaneous constituents of the blood. Section Digestive system (*normal values in gastroenterology*) *The esophagus and stomach.* The small intestine. The colon. The liver Th gallbladder The pancreas. Section VI, The nervous system (normal values in neurology) Encephalogram. The cerebrospinal fluid. Section XV Endocrines (normal alues in endocrinology) Androgens and 17-ketosteroids. Estrogens. Progesterone. Gonadotrophic hormones. Section XVIII Teeth and saliva (normal values in dentistry) Formation and eruption of teeth. *Chemistry of teeth. Relative hardness of teeth.* Section XIX, Miscellaneous data *Statistical methods.* Food values. Drugs and their doses. Isotopes. Life and actuarial tables. Appendix Tables of weights, measures and standards. Index.

Note A reference book of wide scope. There are 400 tables, some of which are several pages in length, and 237 figures. These compact presentations of data ar supplemented by considerable verbal discussion Some sections, for instance the chapter on normal body temperature consist entirely of verbal discussion and literature references. Both the discussions and the tabulated data hav been selected chiefly from published literature to which references are carefully given. In selecting th material the uthors had the assistance and advice of an impress group of collaborators.

TODD, JAMES CAMPBELL, AND OTHERS

Clinical diagnosis by laboratory methods a working manual of clinical pathology Twelfth edition With 946 illustrations 197 in color on 403 figures By James Campbell Todd Arthur Hawley Sanford and Benjamin B Wells Philadelphia W B Saunders Company, 1953 998 p illus (part col d) 24 cm $8 50 3340

Contents The microscope. The sputum. *Urine.* Blood. Clinical chemistry Gastric and duodenal contents. *Feces. Animal parasites.* Pus, puncture fluids and animal inoculation. Nose mouth, pharynx, ear and eye. Viruses and rickettsiae. Bacteriologic methods. Milk and water Introduction to serodiagnostic methods. Serologic tests for syphilis. Serologic tests for diseases other than syphilis. Medical mycology Vaccines. Antibiotics. Biologic skin tests. Semen and hormones. Appendix. An index-outline of laboratory findings in important diseases. Index.

Note A standard ork, used in its various editions for half a century It is comprehensive manual of laboratory tests and techniques useful in the diagnosis of disease and methods of interpreting the findings. Test procedures are described in detail. The *Index-outline* "lists the diseases alphabetically giving their outstanding laboratory characteristics and citing the pages on which the pertinent tests are to be found. The eleventh edition published in 1948 was a thorough revision and most of its text has been carried over to this t elfth edition. However important changes were made in five chapters resulting in an increase of 45 pages in the length of the vol me

WAKEFIELD, ELMER G

Clinical diagnosis New York Appleton-Century Crofts, Inc. 1955 1,611 p illus. 25 cm. $22 50 3341

Contents Part Regional diagnosis Descriptive terms. The complaint and the history Examination Topography and regional diagnosis of diseases of the head and organs of special sense. Topography and regional diagnosis of diseases of the neck. Diseases affecting locomotion *Diseases of the anorectal regions and genitalia.* Diseases of the skin subcutaneous tissues and breasts. Part II, The systemic diseases. Diseases of the thoracic wall, pleurae, mediastinum, bronchi and lungs. Disorders of the heart, blood pressure, *pulmonary arteries and thoracic aorta.* Diseases of the urinary organs. Diseases of the hemic system. Diseases of the esophagus, abdominal wall and abdominal contents exclusive of the endocrine glands, spleen and genitourinary tract. *Diseases of the endocrine system.* Some disorders in ol ing the cranial portion of the central nervous system. Part III, The body as a whole The constitution. Communicable and infectious diseases. The allergic state. Diseases due to trauma, physical agents and chemical agents. Injuries and diseases due to animals and plants. The physical effects of heat and cold on the body as hole. Diseases due to or associated with disorders f metabolism. The utonomic (egetative) nervous system. Index.

Note A textbook and reference book of broad scope. The organization places emphasis on topography or region in undertaking diagnosis. Visual and manual techniques of examination which may be carried out in the physician s office are fully described. References are made to such diagnostic procedures as roentgenology and their applications in the diagnosis of specific diseases are indicated, but their techniques are not described in detail *Prognosis* and treatment are discussed for some conditions but not all. An unexpected feature is the inclusion of emergency treatment and related measures in cases of poisoning Rather extensive literature lists are included [illegible] most of the chapters.

WALKER, HARRY

Physical diagnosis With 126 illustrations. St. Louis The C. V Mosby Company, 1952 461 p illus 26 cm. $5 00 3342

Contents (abridged) Physical diagnosis. Diseases of the respiratory system, by E. S. Ray Diseases of the circulatory system, by R. R. Porter Index.

Note A textbook for use in medical colleges The author emphasizes that physical examination is still the foundation for diagnosis He states, when the physical examination is well done, the ext step in determining the diagnosis can be taken with more logic and the diagnosis can be arrived at in more direct manner The more one know about physical diagnosis, the better diagnostician he is certain to be. The first section of the book is divided into 26 hapters, most of which deal ith the examination of character istic such as build, or region such as the thorax. In this section the chapter on the abdomen was written by H C. Lee the chapter on diagnosis of female pelvic disease was written by R. H. Hoge that on neurologic examination by R. A. Adams and the chapter on psychiatric examination by P H. Drewry Jr Section three also contains six chapters on such topics as the diagnosis of the abnormalities of the heart beat and the diseases of the pericardium Throughout the book the examination techniques are described step by step, and the significance of physical signs is indicated.

EPSTEIN BERNARD S AND LEO M DAVIDOFF

An atlas of skull roentgenograms. 603 illustrations on 315 engravings. Philadelphia Lea & Febiger 1953 415 p. illus. 26 cm. $15 00 3354

Contents. The normal skull. Congenital variations, anomalies and malformations Trauma Infections. Brain tumors. Gliomas, primary sarcomas, Tumors of the brain. Craniopharyngiomas and pituitary adenomas Miscellaneous tumors. Tumors of the vault of the skull. Non-neoplastic diseases of the skull. Index.

Note As the title states, this work is an atlas, not a treatise or textbook. The roentgenograms reproduced in it have been taken largely from the authors' own extensive files. They are organized under the headings given in the above Contents. Each of the "chapters" contains a brief discussion of the topic of the particular chapter, but the main emphasis is on the reproduced roentgenograms and their legends. The legends are concisely phrased and explicit. The chapter entitled "Brain tumors" contains an extensive series of meningiomas.

ETTER, LEWIS E.

Atlas of roentgen anatomy of the skull. Springfield, Ill. Charles C Thomas, 1955 215 p. illus. (part col'd) 29 cm. $14 75 3355

Contents Section I, General views of the skull. Section II, General views of the skull with analysis of individual bone components The sphenoid bone components of the skull. Frontal and ethmoid bone components of the skull. Parietal bone components of the skull. Occipital bone components of the skull. Section III, The paranasal sinuses and mandible: The Granger view of the sphenoid sinuses. Section IV Radiographic anatomy of the temporal bone and petrous mastoid portions, by J R. Facon. Radiographic anatomy of the temporal bone—petrous and mastoid portions. Section [illegible] The orbits and optic foramina: The frontal and ethmoid bone components of the orbits in the PA view The frontal and ethmoid bone components of the orbits in the lateral view. The frontal and ethmoid bone components of the orbits in the PA oblique (Waters') projection The oblique orbital line. The zygomatic bone components of the orbit in the basal (vertico-submental) view The zygomatic bone components of the orbits in the PA oblique (Waters') view. The orbit and optic foramina (Rhese projection) Section VI, Maxillo-facial components of the skull Section VII, The roentgen anatomy of the skull in the newborn infant, by S Rosenbaum and L J Sherman The roentgen anatomy of the skull in the newborn infant. Index.

Note A valuable addition to the literature on the anatomy of the skull as revealed in radiography. It is largely a fresh study based on a special technical approach. The technique and its purpose are described in the author's own words thus: "… the various component bones of dry skulls were disarticulated and radiographs were made of each, first posed separately in various standard projections and then replaced in the respective skulls similarly oriented for routine radiography. In this way it has been possible to determine exactly which features each of the bones studied contributed to the image of the intact skull." Not all of the radiographs reproduced in the book were made by this technique, but a large proportion of them were so made, and all of them are designed to make more clear the interpretation of skull radiographs. As noted above, two of the sections were contributed by other authors. Both sections are substantial contributions to the correlation of radiographs with skull anatomy although not made by the aforementioned special technique. The volume contains 219 plates, practically all of which are reproduced clearly and in large scale.

FELDMAN MAURICE

Clinical roentgenology of the digestive tract. Third edition. Baltimore The Williams & Wilkins Company 1948. 901 p illus. 24 cm 3356

Contents The esophagus The stomach. The duodenum. The small intestine The colon. Hernia Diaphragm The appendix. The gall bladder The biliary ducts. The liver The pancreas. The peritoneum. The omentum. The mesentery and retroperitoneal tumors. Lymphogranuloma Hodgkin's disease The abdominal vessels. The spleen. Deficiency diseases. Miscellaneous.

Note A comprehensive reference book of information useful in the interpretation of roentgenograms of the digestive tract. It is used primarily by roentgenologists but is also valuable to specialists in gastroenterology and internal medicine who wish to understand the interpretation of such roentgenograms. Specific disorders and diseases are discussed concisely In practically all instances the following points are covered etiology pathology incidence, sex and age of typical patients, clinical aspects, symptoms, associated conditions, roentgen diagnosis, and differential diagnosis. References to related literature then follow immediately In comparison to the second edition, published in 1945, the present edition has been very substantially revised. The main chapter headings are the same, but within the chapters, there are numerous discussions of conditions not treated in the earlier edition, and discussions of conditions considered there have in many cases been rewritten. There are 641 illustrations. A fourth edition was published in 1957 778 p., $13 00.

GENERAL ELECTRIC X RAY CORPORATION CHICAGO TECHNICAL SERVICE DEPARTMENT

Medical radiographic technic, prepared by the Technical Service Department of General Electric X ray Corporation under the editorial supervision of Glenn W Files, director in association with these contributors John R. Armstrong, George A Ashworth Charles H Buckingham and others Springfield Ill. Charles C Thomas, 1943 365 p illus 26 cm. $7.50 3357

Contents: Fundamental electrical concepts. Electron theory and the X-ray tube. Basic X-ray generating circuits. X-ray apparatus. Radiographic calibration. Factors affecting the quality of the radiograph The processing room Stereoscopy Planigraphy Foreign-body localization. Fluoroscopy Soft-tissue radiography Anatomy Positioning and technic. Dental technic. Photograph of the fluorescent screen image. Index.

Note This book will interest radiologists and technicians. In it the fundamentals of electricity and physics are explained in simple terms, aided by the liberal use of illustrations. Factors affecting the quality of radiographs are considered in detail, while the following subjects are treated briefly: stereoscopy planigraphy foreign-body localization, fluoroscopy soft-tissue radiography and photofluorography The atlas on positioning and technique is of special value for technicians. A photograph of each standard position is shown on a separate page, with views of the patient from both the top and side, obtained simultaneously by means of a mirror On the same page appear a reproduction of the radiograph and a description of the position. Full-page anatomical plates are also provided. The book contains 381 original figures and has an excellent cross index.

GOLDEN ROSS editor

Diagnostic roentgenology Baltimore Williams and Wilkins Co 1936–1956 3 v illus. 26 cm $60.00 3357A

Contents (abridged) Volume I Diagnosis of diseases of the skull and intracranial contents, by C. G. Dyke and A. E. Childe. Examinations of the paranasal sinuses and the mastoids, by G. W Grier. Radiology of the heart and great vessels, by C. E. Rubin. Clinical roentgenology of the cardiovascular system, by H. Roesler Examination of the digestive tract, by R. Golden. Diagnosis of diseases of bones, by F C. Hodges and others. Volume II Diagnosis of spinal cord tumors, by C. G. Dyke. Diagnosis of diseases of the urinary tract, by L. Jacobs and M. L. Sussman. Pneumoperitoneum by R. A. Rubin and A. A. Rosenberg. The use of the Roentgen ray in obstetrics, by H. C. Moloy and P C. Steinberg. Volume III Diagnosis of fractures and dislocations, by L. K. Garland Dental roentgenology by L. M. Ennis. The soft tissues of the air and food passages of the neck, by B R. Young The abdomen, by R. Golden. Roentgen diagnosis in infants and children, by J Caffey Soft-tissue roentgenography by J. R. Lingley and W J. Elliott. Development and implications of body section radiography by S. Moore. Angiography by J D Camp and E. V Allen. Index.

Note: A comprehensive summary of the theory and practice of Roentgen examination in both normal and pathologic conditions, intended as a guide and reference work for the radiologist, pathologist, surgeon, and general practitioner The editorial policy of the work is to lay stress on the importance of training and experience, upon the necessity for continuous study of groups of cases and the correlation of the Roentgen manifestations of disease with the pathology disclosed at the operation or necropsy. There are exten-

Book Publishers, Inc., 1949 335 p illus 21 cm $7 00 3349

Contents Part I, The peripheral joints Developmental malformations. Osteochondritis. Group in which changes are essentially concerned with mechanical stresses. Group essentially concerned with protein reactions, toxins or actual bacterial invasion of the joint—the true arthritides. Part II The joints of the spine: Developmental malformations. Spondylolisthesis. Osteochondritis. Group in which changes are essentially concerned with mechanical stresses. Group essentially concerned with protein reactions, toxins or actual bacterial invasion of the joint. Ochronosis. Neoplasms. Spinal arthralgias—miscellaneous causes. Part III, The temporomandibular joints. Arthropathies. Selected references. Index.

Note A thorough work on the use of X-ray in diagnosis of diseases of the joints. In this edition, there are 57 plates, and the majority of them contain reproductions of two or more roentgenograms. The plates are accompanied by descriptions f the abnormalities and disease manifestations which can be seen in them. The chapters on diseases are preceded by an introduction in which th techniques of producing high-quality roentgenograms of the joints and surrounding tissues are described. The first edition was published in 1943 Both the text and the illustrations have been extensively revised and augmented.

DE LORIMIER, ALFRED A, AND OTHERS

Clinical roentgenology By Alfred A. De Lorimier, Henry G Moehring, and John R. Hannan. Springfield, Ill Charles C Thomas, 1954–56 4 v illus 29 cm. Vols I and II, $18 50 per vol, vol. III, $20 50, vol. IV $24 50 3350

Content (abridged) Volume I, Developmental and systemic conditions and local lesions in the extremities The extremities. Developmental malformations. Traumatic lesions. Metabolic disorders. Endocrinopathies. Infections. Neoplasms. Blood dyscrasias. Miscellaneous Arthropathies. Special studies. Index. Volume II The head, neck and spinal column The skull. Intracranial lesions. The skull differential aspects. Skull fractures. Maxillo—facial fractures. Foreign bodies. Temporo-mandibular joints. The para-nasal sinuses and mastoids. Teeth. Neck. The spine. Index. Volume III, The lungs and the cardiovascular system emphasizing differential considerations Thorax. Diaphragm. Mediastinum. Pleura. Lung. Mediastinal tumors. Heart and great vessels. Congenital malformations of the heart and great vessels. Acquired heart disease. Cardiac trauma. Cardiac failure. Tumors and cysts f the heart and pericardium. Pericarditis. The aorta. Index. Volume IV The digestive tract, the gall bladder liver and pancreas, the excretory tract and special studies emphasizing differential considerations The abdomen. Gastrointestinal tract. Small intestine. The colon Gallbladder and biliary ducts. The urinary tract. Miscellaneous. Obstetrical roentgenology Gynecological roentgenology Index.

Not A work of cyclopedic scope, suitable for use as text in medical schools and as a reference work in the offices of practicing roentgenologists, pathologists, and general practitioners. The authors have had extensive experience in roentgenology Throughout their careers they have in addition systematically collected material from other specialists in the field The emphasis is strongly on diagnosis and roentgenographic techniques are given relatively little space. The importance of considering as many diagnostic features as possible is emphasized, and criteria are considered not only in relation to one condition but also in relation to others that may be indicated. The number f illustrations in each volume varies from 734 in the second volume to 1,112 in the fourth volume. Literature references are included for all conditions and diseases that are discussed. Each volume contains its own index and may be used independently of the others

DEUTSCHBERGER OTTO

Fluoroscopy in diagnostic roentgenology With an introduction by Frank J Borrelli 888 illustrations on 523 figures Philadelphia W B Saunders Company 1955 771 p illus 27 cm $22 00 3351

Content Part I, General considerations f fluoroscopy Development of fluoroscopy The fluoroscopic equipment. The conventional fluoroscopic image. The electronically amplified fluoroscopic image. Physical evaluation of the fluoroscopic image. Clinical evaluation of the fluoroscopic image. The hazards of fluoroscopy Foreign bodies and their localization. Part II, Clinical considerations. Fluoroscopy of the head—neck—chest. Abdomen. Extremities. Appendix Compilation f fluoroscopic findings. Index of authors. Index of subjects.

Note One of the few modern books on fluoroscopy this is a full-scale treatise of interest to specialists in radiology and in other fields as well as to general practitioners. The advantages and disadvantages of fluoroscopy in comparison to radiographic techniques that require the taking and development of photographic image are clearly set forth. Equipment is described and pictured, and unusual apparatus, such as that required to project fluoroscope on a large screen for an audience, is described along with standard office equipment. Other chapters in the introductory part deal with the general aspects named in their chapter titles. The greater part of the space is devoted to the clinical uses of fluoroscopy In the clinical chapters, specialized fluoroscopic techniques, including interpretation of the image, are discussed thoroughly from the viewpoint of medical practitioners. The illustrations are well reproduced. Extensive literature references included in most of the chapters are made the more useful by the index of authors in which the names of all authors of cited literature are brought together The author is a member of the faculty of New York Medical College.

ECKER, ARTHUR, AND PAUL A RIEMENSCHNEIDER

Angiographic localization of intracranial masses Springfield Ill Charles C Thomas, 1955 433 p illus. 24 cm. $13 50 3352

Content Part I, Orientation Introduction. Part II, Localization Intrasellar masses with parasellar extension. Suprasellar masses. Presellar masses. Arterial pressure on the optic nerve. Frontobasal masses. Frontocentral masses. Frontopolar masses. Frontomedial and anterior callosal masses. Frontolateral masses. Frontoparasagittal masses. Frontoparietal parasagittal masses. Parietal parasagittal masses. Posterior callosal masses. Suprasylvian parietal masses. Frontoparietal extracerebral masses. Intersylvian (parietal) masses. Infrasylvian (parietotemporo-occipital) including posterior basal ganglia masses. Masses of the occipital lobe. Posterior temporal masses. Middle temporal masses. Inferomedial temporal masses. Masses of the interpeduncular cistern. Temporal extracerebral masses. Pinealomas. Masses f the brain stem. Masses in the cerebellopontine angle. Cerebellar masses. References. Index.

Note An important addition to the professional literature of cerebral angiography Essentially it is an atlas with most of the space given to the 431 figures (representing a considerably higher number of illustrations because of the inclusion of several pictures in one figure) Most of these figures are reproductions of angiograms and X-ray pictures made by the angiographic technique and related techniques such as pneumoencephalography Two or more views are shown for most cases. In many instances the X-ray pictures are supplemented by reproductions f ordinary photographs of gross pathology and by line drawings which facilitate interpretation of the X-ray views. Most of the material has come from the case files of the Neurological Service of the Upstate Medical Center of Syracuse Memorial Hospital in Syracuse, New York. Details of techniques and descriptions of normal angiograms are not included because they have already been covered in the senior author's *The normal cerebral angiogram* 1951 described above.

ECKER, ARTHUR

The normal cerebral angiogram Springfield Ill Charles C Thomas 1951 190 p. illus 24 cm. $7.25 3353

Content Part I, Technic. General technical considerations. Specific technic. Complications. Part II, Angiographic anatomy Arteriographic anatomy Venographic anatomy Artifacts. Vascular relations to the tentorial notch and foramen magnum. References. Index.

Note. A short but valuable monograph on the radiography of the blood vessels f the brain. In the first part, specific and detailed descriptions of techniques are supplied The second part is built around series of remarkable X-ray photographs of blood vessels in the brain. The purpose of the work is to describe the normal (and "normal variations") anatomy of the major blood vessels of the brain as these are seen in angiograms and to describe the techniques f angiography for the guidance of neurologists and neuroradiologists.

—— Visceral radiology By Emerick Markovits. New York The Macmillan Company 1951 612 p. illus. 26 cm. $12.50. 3364

Contents (abridged) Part i. The chest and the respiratory system. Part ii. The circulatory system. Part iii. The digestive system. Part iv. The abdomen and abdominal organs. Part v. The genitourinary system. Part vi. The central nervous system. Bibliography. Index.

Note This and the preceding title are [illegible] in organization and [illegible]. However, they may be used independently. In each the basic plan of organization is by systems. Under each system there is, first, [illegible] discussion of the anatomy and physiology, then [illegible] discussion of diseases and, finally, there is some information on radiographic techniques and specific information on the interpretation of radiographs. Both books are fully illustrated. They are based on [illegible] long experience in radiology [illegible] in Vienna and Budapest, but part of [illegible] in the United States of America.

MESCHAN ISADORE

An atlas of normal radiographic anatomy With the assistance of R. M. F. Farrer-Meschan. 1,044 illustrations in 367 figures. Philadelphia W. B. Saunders Company 1951 393 p. illus. 26 cm. $15.00 3365

Contents Fundamental background for radiographic anatomy. Introduction to the radiographic anatomy of the skeletal system. Radiographic anatomy of the upper extremity. The radiographic anatomy of the pelvis and lower extremity. Radiographic anatomy of the skull. Detailed consideration of certain areas of the skull. The radiographic study of the brain. The radiographic anatomy of the vertebral column and subarachnoid space. Radiographic anatomy of the respiratory system. The radiographic anatomy of the mediastinum. Special studies of the heart and major blood vessels. The radiographic anatomy of the upper gastrointestinal tract. Radiographic anatomy of the intestines beyond the duodenum. Radiographic anatomy of the abdomen and peritoneal space. The urinary tract. The genital system. Index.

Note As indicated in the title, this textbook is concerned with normal anatomy as [illegible] appears in radiographs. In their discussions of the various regions and systems, the authors combine verbal descriptions with drawings and radiographs. Many of the drawings are assembled in sets consisting of (1) [illegible] diagram of the positioning of the subject, (2) [illegible] reproduction of [illegible] radiograph made in this position and (3) [illegible] line drawing in which the various parts visible in the radiograph are identified.

MESCHAN ISADORE

Roentgen signs in clinical diagnosis. With the assistance of R. Farrer-Meschan. 2,216 illustrations on [illegible] 80 figures Philadelphia W. B. Saunders Company 1956 1,058 p. illus. 26 cm. $20.00 3366

Contents Background fundamentals [illegible] radiographic technique. Protection from roentgen irradiation. The radiograph—its basic [illegible] and terminology. Introduction to the radiography of the skeletal system. Fractures of the extremities [illegible] and complications. Fracture healing, complications from fractures, and general summary of treatment methods. Congenital and hereditary abnormalities of the extremities. Radiolucent bone [illegible] of multiple occurrence. Radiolucent bone disease of [illegible] occurrence. Osteosclerotic and hypertrophic bone changes of the extremities. The pathology of joints. Radiography of the skull. Diseases of the facial bones, paranasal sinuses, and temporal bones. [illegible] lesions within the cranium. The radiography of the vertebral column. Introduction to analysis of the chest. Roentgen signs of abnormality of the [illegible], pleura and thoracic cage. Radiographic differentiation [illegible] pulmonary diseases characterized by [illegible] shadows on the lungs. Nodular lesions of the lung parenchyma. Lesions of the lungs characterized by increase in linear markings. Lung lesions characterized by increased radiolucency in the lung fields. Radiography of the mediastinum excluding the heart. The radiography of the heart. Congenital heart disease. The value of the plain survey of the abdomen. Radiography of the urinary tract and suprarenal glands. Radiography of the gallbladder. Upper gastrointestinal tract: oropharynx, laryngopharynx, esophagus. Stomach, duodenum, and pancreas. Radiology of the small intestine. Radiography of the colon. Radiography in obstetrics and gynecology. Index.

Note A textbook for the instruction of advanced undergraduate and graduate medical students [illegible] diseases on the basis of [illegible] signs that can be seen by the techniques of fluoroscopy and roentgenography. Special attention is paid to radiographic features that are significant in differential diagnosis, and there is some discussion of the correlation of these [illegible] other clinical signs and symptoms. It is complementary to the author's Atlas of normal radiographic anatomy and is addressed to students and medical practitioners [illegible] have acquired some knowledge of the appearance [illegible] normal anatomy in radiographs. However it may be used independently [illegible] the Atlas. As noted in the title, it is fully illustrated. The illustrations include drawings as well as reproductions of radiographs. They are accompanied by [illegible] organized and readable text. The author is Director of the Department of Radiology at the Bowman Gray School of Medicine of Wake Forest College.

MORGAN RUSSELL H., editor

Handbook of radiology Associate editor Kenneth E. Corrigan. Chicago The Year Book Publishers Inc., 1955 518 p. illus. 19 cm. $10.00 3367

Contents (abridged) Section i. Definitions of physical terms and units (including conversion [illegible] and [illegible]). Section ii. General physical information (including [illegible] data). Section iii. Radiotherapeutic data. Section iv. Radioisotopes. Section v. Radiography and fluoroscopy. Section vi. Radiation protection. Appendix. Index.

Note An authoritative and useful reference [illegible] some native data and descriptions of techniques in radiography and fluoroscopy. Most of the data are assembled in tables, but some are presented in graphical form. Fluoroscopic techniques are illustrated in small pictures. The appendices contain [illegible] list of drugs commonly used in radiology [illegible] series of mathematical tables and schematic diagrams of X-ray generators and particle accelerators. The editor of the volume is Radiologist-in-Chief of the Johns Hopkins Hospital.

PENDERGRASS EUGENE P., AND OTHERS

The head and neck in Roentgen diagnosis. Second edition. By Eugene P. Pendergrass J. Parsons Schaeffer and Philip J. Hodes Springfield, Ill. Charles C Thomas 1956. 2 v. illus. (part col d) 26 cm. $37.50 3368

Contents Volume i: The skull. Fractures of the skull. Diseases of the bone. Tumors of the scalp and skull. The teeth and jaws. The nose, lacrimal passageways, and paranasal sinuses. The external ear, the temporal bone and structures of the mastoid and petrous. The eye and orbit. Index. Volume ii: Intracranial tumors and other lesions. Cerebral pneumography. Cerebral angiography. The neck. Diseases of the bones and joints and tumors of the cervical spine. Tumors and other lesions involving the vertebrae, spinal cord. Index.

Note A comprehensive treatise useful as [illegible] textbook at the graduate level and as [illegible] reference book for neuroradiologists, otolaryngologists, dentists, neurologists, and general practitioners of medicine. Although the strictly roentgenological aspects of the subject, such as positioning, interpretation of radiographs, etc., are thoroughly covered, the work is not limited to such topics but includes also much related information from anatomy, pathology and physiology. The illustrations, most of [illegible] the negative reproductions of radiographs, are of high quality and are well reproduced. In this second edition, there is much new matter of both textual and illustrative nature. Also, [illegible] of the literature published since the first edition was written has been added to the bibliography. There are 1,243 figures, many of which contain more than one illustration. A subject index covering the contents of both volumes [illegible] included in each volume.

POPPEL, MAXWELL H., AND OTHERS

The roentgen aspects of the papilla and ampulla of Vater By Maxwell H. Poppel Harold G. Jacobson, and Robert W. Smith. Springfield, Ill. Charles C Thomas 1953 195 p. illus. 24 cm. $5.50. 3369

Contents Introduction. Historical. The major papilla. The ampulla of Vater. Sphincter of Oddi (muscular program or musculature of the Vaterian segment). The congenital variants of the Vaterian segment. Roentgen methods. The roentgen manifestations

tive bibliographies at the end of most of the chapters plus 1,617 reproductions of roentgenograms and clinical photographs. The loose-leaf feature permits insertion of periodic revisions issued by the publisher

HODGES, FRED JENNER

The gastro-intestinal tract, a handbook of Roentgen diagnosis. Chicago Year Book Publishers Inc, 1944 320 p illus 21 cm $7 00 3358

Contents (abridged) The esophagus Cardiospasm, diverticulum neoplasm, foreign body intrinsic lesions identity indefinite, miscellaneous findings. Upper gastro-intestinal tract Normal stomach and duodenum, diverticulum ulcer neoplasia, fistulae, miscellaneous findings. Biliary tract Cholecystography abnormal liver shadow cholangiography miscellaneous findings. Colon Normal diverticulitis, ulcerative colitis, neoplasm and fistula, intrinsic lesion, indefinite identity sinus tract injection. The abdomen generally Calcium deposits, extra-alimentary mass, intestinal obstruction subphrenic abscess, diaphragmatic hernia, miscellaneous findings. Findings of particular interest Esophagus stomach and colon jejunum and ileum biliary tract miscellaneous.

Note Five methods of approach are available to the radiologist engaged in gastro-intestinal diagnosis: 1 abdominal scout film 2 upper gastro-intestinal examination 3 cholecystogram 4 colon examination 5 examination other than those mentioned. The application of these methods is discussed in general roentgenography of the various regions of the gastro-intestinal tract as outlined above, is then set forth in detail. Each section is very copiously illustrated by X-ray pictures of the conditions discussed. Short case histories are introduced as examples. *Bibliographies*, mostly referring to clinical application of roentgenography to the gastro-intestinal tract accompany each section. While the book covers the entire field of roentgenologic examination more attention is paid to fluoroscopic work.

HODGES, FRED JENNER, AND OTHERS

Radiology for medical students By Fred Jenner Hodges Isadore Lampe and John Floyd Holt. Second edition Chicago The Year Book Publishers Inc 1954 439 p illus 21 cm $8 00 3359

Content Introduction. Part I, Diagnostic radiology General view of diagnostic radiology The head. The spine and extremities. The thorax. The gastrointestinal tract. The genitourinary tract. Part II, Therapeutic radiology General view of therapeutic radiology Skin, lips and oral cavity The head and neck. The breast and female genital tract. Male genitalia and urinary tract. Lymphoblastomas and leukemias. Bone chest gastrointestinal tract central nervous system. Infections and miscellaneous conditions Index.

Note This concise text for undergraduate medical students covers basic principles and techniques of both diagnostic and therapeutic uses of X-rays, radium and radioactive isotopes The first part on diagnostic radiology is 265 pages long, while the part on therapeutic radiology is 158 pages in length The first edition was published in 1947 In preparing this second edition, the authors—all faculty members of the Department of Radiology of the Medical School of the University of Michigan—rewrote extensively and added to the discussion of therapeutic radiology There are now 106 plates, most of which contain reproductions of several radiographs or in a few instances, photographs.

HOLMES, GEORGE W AND LAURENCE L ROBBINS

Roentgen interpretation Eighth edition thoroughly revised with 371 illustrations Philadelphia Lea & Febiger 1955 525 p illus 24 cm. $10 00 3360

Contents Introduction Confusing shadows, calcium deposits and artefacts. Anatomical variations and development Fractures and dislocations. Diseases of bone The skull. The spine Joints, tendons and bursae. The chest. The abdomen. The gastro-intestinal tract. The genito-urinary tract. Fluoroscopy Glossary

Note A standard textbook for use in medical school courses offered to students who have completed courses in pathology It provides a comprehensive introduction to the essentials of roentgen diagnosis without emphasis on any special area of the body However the books on specialties are listed in the bibliographies. These bibliographies include also references to a selection of journal articles. The radiographs—of which there are 371 in the present edition—are accompanied by a concise and explicit text. The first edition of the book, written by Holmes and Howard E. Ruggles, was published in 1919 and the seventh edition, written by Holmes and Robbins, appeared in 1947 In comparison to the seventh edition, this eighth edition contains important revisions in both text and illustrations. The discussions of roentgen diagnosis of the heart, lungs, and gastro-intestinal tract have been rewritten, and new material has been added in other sections. The most obvious change is in the illustrations which are now printed as negatives rather than as positives, as in earlier editions.

LEVITIN, JOSEPH, AND BEN COLLOFF

Roentgen interpretation of fractures and dislocations Springfield, Ill Charles C Thomas 1956 265 p illus 24 cm $7 75 3361

Content Part I, Upper extremity Fractures and dislocations of the hand. The wrist. Fractures of the forearm. Fractures and dislocations of the elbow The arm The shoulder Part II, The thorax Fractures of the ribs. Fractures of the sternum. Part III, The lower extremity Foot. Fractures of the bones of the lower extremity Fractures of the ankle. Fractures of the shaft of the tibia and fibula. Fractures of the knee. The thigh. The hip. Part IV Pelvis Fractures of the pelvis. Part Spine Fractures and dislocations of the spine. Appendixes Bone age charts. Common appliances used in internal fracture fixation. Bibliography Index.

Note Addressed primarily to roentgenologists, this book explains in a simply written text, which is supplemented by clear vivid diagrams, the positions "that bones usually assume when they are fractured. Information on the estimating the age of fractures is included, and there is considerable emphasis on describing what constitutes satisfactory reduction in specific varieties of fractures. There are 238 figures and an extensive bibliography The first named author is Chief of the Department of Radiology of Mount Zion Hospital in San Francisco, and his collaborator is a member of the staff of the Department of Orthopedic Surgery of the same hospital.

LEWIS, RAYMOND W

The joints of the extremities a radiographic study Notes on non routine methods, non routine ideas and less-common pathology Springfield Ill Charles C Thomas 1955 108 p illus 29 cm $8 50 3362

Content The shoulder The elbow The wrist and hand. The hip. The knee. The ankle and foot. Index.

Note The sub-title of this book accurately indicates its scope It presents briefly but in sufficient detail for practical use by experienced roentgenologists and orthopedists a number of uncommon techniques and, in addition describes some uncommon pathological conditions that can be detected by a study of radiographs of the bones and of the soft tissues surrounding them. Typical of the material is a technique of making a radiographic study of the shoulder with the patient in a standing position. The volume contains 102 figures, most of which are reproductions of radiographs Many of the figures contain more than one picture. In some instances the additional pictures are reproductions of radiographs, in others they are diagrams included for the purpose of pointing out salient features of the X-ray picture The book is complementary to the larger standard treatises in the field.

MARKOVITS EMERIK

Bone and joint radiology New York The Macmillan Company 1949 446 p illus. 26 cm $12 50 3363

Content (abridged) Part I, General part. Section A—Anatomy physiology and radiologic anatomy of bones and joints. Section B—Diseases of the bones Section C—Diseases of the joints. Section D—Diseases of the muscles and of the soft tissues. Part II, Regional part. The skull. The spine. The pelvis and the hip joint. The femur The knee joint. Tibia and fibula. The ankle joint. Tarsal and metatarsal bones and phalanges of the foot. The thorax (ribs, clavicle, sternum, and scapula) The shoulder joint. The humerus. The elbow joint. Radius and ulna. The wrist joint. Carpal and metacarpal bones and the phalanges of the hand. Bibliography Index.

Note A thorough treatise based on the author's life-long experience in the Department of Radiology of Boston City Hospital and in private practice. It covers specifically and in detail the diagnosis by means of roentgenography of diseases and disorders of the chest and neck. Although the greater part of the space is devoted to diseases of the heart and lungs and the tissues directly associated with them, there are discussions of other tissues, for instance, the breast, which are not always included in books devoted to the chest. Discussions of diseases are not limited to diagnosis, but include also such aspects as pathology and general clinical manifestations. The harmful effects of X-rays in diagnosis of the chest are discussed as well as their uses. Specialized techniques such as bronchography are included. The first edition was published in 1931. Although some of the material in this second edition has been carried over from the first, revisions and augmentations are to be found in all of the sections; and in the discussion of such topics as the congenital anomalies of the heart there is much new material. In this edition as in the preceding one most of the illustrations are reproductions of roentgenograms. The literature references have been revised to include a selection of the more important publications since 1930.

RITVO MAX AND L. A. SHAUFFER

Gastrointestinal X-ray diagnosis. 470 illustrations, with 2 in color Philadelphia Lea & Febiger 1952 838 p. illus. (part col'd) 24 cm. $20.00 3376

Contents. General considerations. The pharynx—the esophagus. The stomach. The duodenum. The jejunum and the ileum. The colon. The appendix. The gallbladder. The liver. The pancreas, spleen, urinary calculi, peritoneum and abdomen. Hernia. Index.

Note A comprehensive treatise in which both common and rare gastrointestinal conditions subject to diagnosis by X-ray are covered. It is addressed primarily to graduate roentgenologists and gastroenterologists. Although limited largely to diagnosis, a certain amount of background and incidental information useful in diagnosis is included, for instance "There is a distinction between erosions, acute ulcers and chronic ulcers. An acute ulcer is a localized loss of tissue which penetrates deeper than the muscularis mucosae. A more superficial loss of tissue is referred to as an erosion." Extensive lists of the related literature are included. Most of the illustrations are reproductions of roentgenograms. In some instances, a larger scale would have been desirable, but in general the reproductions are clear.

RITVO MAX

Roentgen diagnosis of diseases of the skull. With four hundred and sixty-six illustrations. Foreword by George W Holmes. New York Paul B Hoeber Inc., Medical Book Department of Harper & Brothers 1949 409 p. illus. 27 cm. (Annals of roentgenology a series of monographic atlases. Vol. XIX) $16.00. 3377

Contents The roentgenologic examination of the skull. Congenital, hereditary and developmental anomalies. Traumatic and postoperative changes. Infections. Nutritional, endocrine, and metabolic disturbances. Roentgen study of the fetal skull during pregnancy. Intracranial calcifications, foreign bodies, intracranial air. [illegible] intraocular calcifications. Neoplasms. Cerebral angiography. Index.

Note Most of the illustrations in this work are reproductions of roentgenograms selected from the files of the Boston City Hospital. The author has made a special effort to represent rare conditions as well as common ones. Another useful feature is the inclusion for purposes of comparison of roentgenograms of normal skulls, both infant and adult. The illustrations take up most of the space, but the long legends which accompany them and the more generalized text are valuable also. The author is a member of the faculty of the Medical School of Harvard University.

SCHWARTZ CHARLES WADSWORTH AND LOIS COWAN COLLINS

The skull and brain roentgenologically considered. Springfield, Ill. Charles C Thomas, 1951 386 p. illus. 24 cm. $10.50 3378

Contents: Technique. Normal skull. Practical considerations. Congenital anomalies. Traumatic disorders. Neoplastic diseases—skull—intracranial. The meningiomas. The gliomas. Tumors of the hypophysis cerebri. Tumors of the acoustic nerve. Lesions of blood vessel origin. Miscellaneous tumors. Infectious diseases. Miscellaneous diseases. Index.

Note: A reference manual on the interpretation of roentgenograms of the skull and brain. It is organized around more than 300 excellent reproductions of roentgenograms. The pictures are accompanied by concise discussions of the anomalies and diseases manifested in them. Roentgenograms that are clearly typical of the disorders represented were chosen, rather than borderline cases. However, special points useful in differential diagnosis are included in the discussions and in three charts. The authors are members of the faculty of the College of Physicians and Surgeons of Columbia University

SCHWEDEL, JOHN BERNARD

Clinical roentgenology of the heart. With seven hundred and forty nine illustrations on two hundred and thirty-two figures. New York Paul B Hoeber Inc., Medical Book Department of Harper & Brothers, 1946 380 p illus. 27 cm. (Annals of roentgenology Vol. XVIII) $12.50. 3379

Contents: Methods of examination. Cardiac measurements. Normal cardiac contours. Normal variations in the heart. Left ventricle. Right ventricle. Left auricle. Right auricle. General cardiac enlargement. Aorta. Venae cavae and brachiocephalic vessels. Lungs in heart disease. Pericardium. Congenital heart disease. Cardiac displacement. Cardiac and extracardiac calcification. Index.

Note: As indicated in the title the outstanding feature of this important work is the large collection of roentgenograms. Based on an analysis of over 20,000 fluoroscopic and roentgenographic examinations, the volume outlines the methods of roentgenology as applied to cardiology and provides the physician with a practical aid in his clinical diagnosis of heart disease. The textual material is closely integrated with the numerous illustrations, and most plates carry explanatory paragraphs. Selective bibliographies are given at the end of each chapter.

SHURTLEFF FORREST E.

Children's radiographic technic. Philadelphia Lea & Febiger 1951 80 p. illus. 26 cm. $3.75 3380

Contents: Equipment and accessories. Children's radiographic positions. Special radiographic procedures. Children's technic. Index.

Note. A brief but clear description of the special techniques which have been developed at the Children's Medical Center in Boston for X-ray examinations of children. Thirty-two figures illustrating positions and apparatus are included. The final chapter tabulates the procedures according to the part of body being X-rayed and age of the child.

SNOW WILLIAM

Principles in roentgen study of the chest. Springfield Ill. Charles C Thomas, 1946 414 p. illus. 26 cm. $10.50 3381

Contents (abridged) The average lung. The role of the bronchial tree. Lobar pneumonia. Broncho-pneumonia. Bronchitis. Foul lung abscess. Staphylococcus sepsis. Tuberculosis. Neoplasms of the chest. Chest injury. The diaphragm. Mediastinitis. Pulmonary allergy. Post-operative atelectasis. Pneumoconiosis. Infection with higher organisms. Special chest problems in children. Circulatory system. Bibliography. Index.

Note: A well-organized and clearly written treatise. The author emphasizes the importance of correlating a knowledge of physiology and pathology with the information available from the patient's history and physical symptoms in interpreting chest roentgenograms. His chapter on the role of the bronchial tree reviews both functions and important symptoms, and the chapter on the thoracic cage interprets bone abnormalities and diseases that are sometimes detected on chest roentgenograms. More than 300 roentgenograms are reproduced and interpreted.

of diseases of the Vaterian segment (including the normal roentgen anatomy and physiology) Diseases of the Vaterian segment. Differential diagnosis between the various etiological factors capable of producing a small mass in the region of the Vaterian segment. Bibliography Index.

Note A monograph on " those structures which extend obliquely downward on the outer superior margin of the duodenal window to the orifice on the duodenal surface of the major papilla (including its caudally appended fold or frenulum) Although there is a bibliography of 133 references to the literature, the book is based primarily on original study which included the examination of anatomical material from 100 autopsies. The anatomic specimens were free of disease as determined by the history gross evidence, and microscopic examination. Surgical cases of Vaterian disease also were included in the study which was aimed at establishing criteria of normality and abnormality of major papilla and Vaterian ampulline that would be useful in roentgen diagnosis of disease in this region. The authors' findings are described explicitly and in detail. There are 104 figures, including photographs of gross pathology microphotographs, and roentgenograms.

POPPEL, MAXWELL H.

Roentgen manifestations of pancreatic disease. Springfield, Ill Charles C Thomas, 1951 389 p illus. 25 cm $11 50 3370

Contents General considerations. The pancreas. The duodenum. Roentgen methods of examination Roentgen manifestations. Calcareous diseases of the pancreas. Primary pancreatic tumors. Pancreatic infections. Pancreatic (exocrine) insufficiency Lesions of the pancreas of secondary origin Differential diagnosis. Statistics. References. Index.

Note A series of 166 reproductions of roentgenograms, some of which illustrate conditions never portrayed before, are a feature of this valuable monograph. The work is not limited to pancreatic disease but includes diseases and abnormalities of the surrounding viscera as well.

RABIN, COLEMAN B

X ray diagnosis of chest diseases Baltimore The Williams & Wilkins Company, 1952 208 p illus 26 cm $12 00 3371

Content (abridged) Part I, General considerations The value of special examinations. The use of accessory apparatus. The use of contrast media. Fluoroscopy Part II, General Roentgen pathology —the roentgenologic manifestations of single pathologic processes. The normal chest. Conditions bordering on the normal. Congestion of the lungs. Pulmonary infiltration. Cavitation. Calcification. Part III, Regional Roentgen pathology—roentgenologic manifestations of the diseases. Part IV Differential diagnosis of certain Roentgen shadows Abnormalities of the pulmonary markings. Sharply defined linear shadows. Round circumscribed shadows. Differential diagnosis of pulmonary cavities. Interpretation of Roentgen artifacts. Bibliography Index.

Note A thorough treatment addressed primarily to specialists in radiology What can be seen of chest abnormalities and diseases by fluoroscopy and roentgenography is discussed thoroughly and in detail. Diseased conditions that do not show on roentgenograms but must be diagnosed by other techniques are also mentioned. As might be expected, most of the space is devoted to roentgenography but fluoroscopy is given about 37 pages. There are 188 figures and an extensive bibliography The importance of studying series of roentgenographs of the same patient is stressed.

RHINEHART, DARMON ARTELLE

Roentgenographic technique a manual for physicians, students and technicians Fourth edition thoroughly revised with 520 illustrations on 216 engravings Philadelphia Lea & Febiger 1954 454 p illus 19 tables 24 cm $8 50 3372

Contents. Electricity and electric currents. Roentgen-ray machines. Roentgen-rays or X-rays. Dark-room equipment and technique. The operating characteristics of X-ray machines, and the laws that govern X-ray exposures. A basic roentgenographic technique. Advanced experiments Roentgenograms. Combination of exposure factors Roentgenographic technique with smaller X-ray machines. Miscellaneous instructions. The upper extremity The lower extremity The vertebral column, thorax, and pelvis. The head. The teeth. The thoracic viscera. The gastrointestinal tract. The urinary tract. Miscellaneous examinations. Index.

Note A book useful to X-ray technicians, students who are preparing to become X-ray technicians, and physicians who use X-ray equipment infrequently It serves to introduce the reader to the principles of X-rays and X-ray machines and to techniques of roentgenography Basic principles are only outlined, but equipment is covered more thoroughly while such matters as the positioning of patients and film, calculations of exposures, and other techniques of production of good roentgenograms are covered in considerable detail. The third edition was published in 1941. The organization and purpose of this fourth edition are unchanged, but revised and newly added sections are to be found in many of the chapters. A selection of the literature published since the third edition was written has been added to the bibliographies in the chapters that have been revised. There has been some substitution of new illustrations for older ones, and the total number of illustrations has been slightly increased.

RIGLER, LEO G

The chest, a handbook of Roentgen diagnosis Second edition Chicago The Year Book Publishers Inc., 1954 380 p. illus. 21 cm $8 00 3373

Contents Introduction Methods of examination. Normal observations. Normal chest. Physiology of respiratory tract. Pathologic conditions Diseases of bronchi and lungs. Diseases of mediastinum. Diseases of pleura. Interpretation of roentgenograms of chest. Lungs and bronchi. Mediastinum. Pleura. Thorax—post operatively Lungs—postoperatively Bibliography Index.

Note. A concise guide to the interpretation of roentgenograms of the chest. It is intended primarily for graduate medical practitioners who are not specialists in roentgen diagnosis. Most of the presentation is in atlas form, with reproductions of actual roentgenograms on right-hand pages and analyses of them on the facing left-hand pages. The first edition was published in 1946. About 30 pages of new matter have been added in this second edition. The author is Chief of the Department of Radiology of the University of Minnesota Medical College.

RITVO, MAX

Bone and joint X ray diagnosis. 568 illustrations on 398 engravings Philadelphia Lea & Febiger 1955 752 p illus 27 cm. $20 00 3374

Contents. General considerations. Hereditary congenital and developmental disturbances of the skeleton. Traumatic lesions. Infections. Glandular nutritional and metabolic disturbances. Bone changes due to chemical substances and physical agents. Diseases of the joints and the periarticular tissues. Bone tumors. Diseases of the spinal canal. Soft tissue roentgenography General references. Index.

Note. An outstanding work on the diseases and abnormalities of bones and joints in which X-rays are a useful diagnostic tool. It is not limited to diagnosis as the title might be taken to indicate, but discusses the clinical picture signs and symptoms, pathology and differential diagnosis of each disease with particular reference to roentgen manifestations. As would be expected, most of the illustrations are reproductions of roentgenograms. Brief lists of Additional reading" are included. The book is intended for medical school graduates in training for the specialty of radiology and practicing roentgenologists, and it is of interest also to general and orthopedic surgeons.

RITVO, MAX

Chest X ray diagnosis Second edition thoroughly revised 633 illustrations on 426 engravings and 1 color plate. Philadelphia Lea & Febiger, 1956 640 p illus. 27 cm. $16 00 3375

Contents (abridged) Section I, Roentgen methods of examination of the lungs. Section II, The mediastinum. Section III, The diaphragm. Section IV The pleura. Section Diseases of the bony thorax and soft tissues of the chest wall the breasts. Section VI, The soft tissues of the neck. Section VII, The heart and great vessels. Section VIII, The aorta. Section IX, The pulmonary artery Section X, The innominate artery the azygos etc. Section XI, The pericardium. Index.

Note: A thorough treatise based on the author's life-long experience in the Department of Radiology of Boston City Hospital and in private practice. It covers specifically and in detail the diagnosis by means of roentgenography of diseases and disorders of the chest and neck. Although the greater part of the space is devoted to diseases of the heart and lungs and the tissues directly associated with them, there are discussions of other tissues, for instance, the breast, which are not always included in books devoted to the chest. Discussions of diseases are not limited to diagnosis, but include also such aspects as pathology and general clinical manifestations. The harmful effects of X-rays in diagnosis of the chest are discussed as well as their uses. Specialized techniques such as bronchography are included. The first edition was published in 1931. Although most of the material in this second edition has been carried over from the first, revisions and augmentations are to be found in all of the sections and in the discussion of such topics as the congenital anomalies of the heart there is much new material. In this edition as in the preceding one most of the illustrations are reproductions of roentgenograms. The literature references have been revised to include a selection of the more important publications since 1930.

RITVO MAX, AND I A. SHAUFFER

Gastrointestinal X ray diagnosis 470 illustrations with 2 in color Philadelphia Lea & Febiger 1952 838 p. illus. (part col d) 24 cm. $20.00. 3376

Contents: General considerations. The pharynx—the esophagus. The stomach. The duodenum. The jejunum and the ileum. The colon. The appendix. The gallbladder. The liver. The pancreas, spleen, secondary anomalies, peritoneum and abdomen. Bibliography.

Note: A comprehensive treatise in which both common and rare gastrointestinal conditions subject to diagnosis by X-ray are covered. It is addressed primarily to graduate roentgenologists and gastroenterologists. Although limited largely to diagnosis, certain amount of background and incidental information useful in diagnosis is included, for instance: "There is a distinction between common, acute ulcers and chronic ulcers. An acute ulcer is a localized loss of tissue which penetrates deeper than the muscularis mucosae. A more superficial loss of tissue is referred to as an erosion." Extensive lists of the related literature are included. Most of the illustrations are reproductions of roentgenograms. In some instances, a larger scale would have been desirable, but in general the reproductions are clear.

RITVO MAX

Roentgen diagnosis of diseases of the skull. With four hundred and sixty-six illustrations. Foreword by George W Holmes. New York Paul B Hoeber Inc. Medical Book Department of Harper & Brothers, 1949 409 p. illus. 2 cm. (Annals of roentgenology a series of monographic atlases. Vol. XIX) $16.00 3377

Contents: The roentgenologic examination of the skull. Congenital, hereditary and developmental anomalies. Traumatic and postoperative changes. Infections. Nutritional, endocrine, and metabolic disturbances. Roentgen study of the fetal skull during pregnancy. Intracranial calcifications, foreign bodies; intracranial or [illegible] of unusual [illegible] vascular calcifications. Neoplasms. Cerebral angiography. Index.

Note: Most of the illustrations in this work are reproductions of roentgenograms selected from the files of the Boston City Hospital. The author has made a special effort to represent rare conditions as well as common ones. Another useful feature is the inclusion for purposes of comparison of roentgenograms of normal skulls, both infant and adult. The illustrations take up most of the space, but the long legends which accompany them and the more generalized text are valuable also. The author is a member of the faculty of the Medical School of Harvard University.

SCHWARTZ, CHARLES WADSWORTH AND LOIS COWAN COLLINS

The skull and brain roentgenologically considered. Springfield, Ill. Charles C Thomas, 1951 386 p. illus. 24 cm. $10.50 3378

Contents: Technique. Normal skull. Practical considerations. Congenital anomalies. Traumatic disorders. Neoplastic diseases—skull—intracranial. The meningiomas. The gliomas. Tumors of the hypophysis cerebri. Tumors of the acoustic nerve. Lesions of blood vessel origin. Miscellaneous tumors. Infectious disease. Miscellaneous diseases. Index.

Note: A reference manual on the interpretation of roentgenograms of the skull and brain. It is organized around more than 300 excellent reproductions of roentgenograms. The pictures are accompanied by concise discussions of the anomalies and diseases manifested in them. Roentgenograms that are clearly typical of the disorders represented were chosen, rather than borderline cases. However, special points useful in differential diagnosis are included in the discussions and in three charts. The authors are members of the faculty of the College of Physicians and Surgeons of Columbia University.

SCHWEDEL, JOHN BERNARD

Clinical roentgenology of the heart. With seven hundred and forty-nine illustrations on two hundred and thirty-two figures. New York Paul B Hoeber Inc., Medical Book Department of Harper & Brothers, 1946 380 p. illus 27 cm (Annals of roentgenology Vol. XVIII) $12.50 3379

Contents: Methods of examination. Cardiac measurements. Normal cardiac contours. Normal variations in the heart. Left ventricle. Right ventricle. Left auricle. Right auricle. General cardiac enlargement. Aorta. Venae cavae and brachiocephalic vessels. Lungs in heart disease. Pericardium. Congenital heart disease. Cardiac displacement. Cardiac and extracardiac calcification. Index.

Note: As indicated in the title the outstanding feature of this important work is the large collection of roentgenograms. Based on an analysis of over 30,000 fluoroscopic and roentgenographic examinations, the volume outlines the methods of roentgenology as applied to cardiology and provides the physician with a practical aid in his clinical diagnosis of heart disease. The textual material is closely integrated with the numerous illustrations, and most plates carry explanatory paragraphs. Selective bibliographies are given at the end of each chapter.

SHURTLEFF FORREST E

Children's radiographic technic. Philadelphia Lea & Febiger 1951 80 p. illus. 26 cm. $3 75 3380

Contents: Equipment and accessories. Children's radiographic positions. Special radiographic procedures. Children's technic. Index.

Note: A brief but clear description of the special techniques which have been developed at the Children's Medical Center in Boston for X-ray examinations of children. Thirty-two figures illustrating positions and apparatus are included. The final chapter tabulates the procedures according to the part of body being X-rayed and age of the child.

SNOW WILLIAM

Principles in roentgen study of the chest. Springfield Ill Charles C Thomas 1946 414 p illus. 26 cm. $10.50 3381

Contents (abridged): The average lung. The role of the bronchial tree. Lobar pneumonia. Broncho-pneumonia. Bronchitis. Fluid lung abscess. Staphylococcus sepsis. Tuberculosis. Neoplasms of the chest. Chest injury. The diaphragm. Mediastinitis. Pulmonary allergy. Post-operative atelectasis. Pneumoconiosis. Infection with higher organisms. Special chest problems in children. Circulatory system. Bibliography. Index.

Note: A well-organized and clearly written treatise. The author emphasizes the importance of correlating a knowledge of physiology and pathology with the information available from the patient's history and physical symptoms in interpreting chest roentgenograms. His chapter on the role of the bronchial tree reviews basic functions and important symptoms, and the chapter on the thoracic cage interprets bone abnormalities and diseases that are sometimes detected on chest roentgenograms. More than 300 roentgenograms are reproduced and interpreted.

STEEL, DAVID

Roentgen anatomy Roentgen anatomía Springfield, Ill Charles C Thomas, 1951 109 p illus 32 cm. $8 00 3382

Note. An atlas of reproductions selected so as to illustrate the appearance in roentgenograms of normal anatomic structures The book is organized so that each roentgenogram faces a diagram in which the structures are identified in both English and Spanish terms.

STORCH, CHARLES B

Fundamentals of clinical fluoroscopy, with essentials of Roentgen interpretation Second revised edition New York Grune & Stratton, 1956 305 p illus 26 cm $8 75 3383

Contents Basic concepts—mechanics, protection and dark adaptation. Fluoroscopy of the chest. Fluoroscopy of the pathological chest. Fluoroscopy of the heart Fluoroscopy of the pharynx, hypopharynx and esophagus. Fluoroscopy of the stomach. Fluoroscopy of the small bowel. Fluoroscopy of the colon. Intestinal obstruction. Fluoroscopy of the gallbladder Bibliography Index.

Note A comprehensive practical guide to the techniques of fluoroscopic examination. It is written for general practitioners and other physicians who are not specialists in roentgenology but who use the fluoroscope in diagnosis Each chapter includes descriptions of the anatomy of the regions under discussion, and covers preliminary preparation of the patient, positioning, examination procedures and diagnostic implications of the fluoroscope images. As an aid in self-instruction questions and answers pertaining to some of the fluoroscopic images reproduced in the book and designed to teach interpretation are included in the legends accompanying the illustrations. The first edition was published in 1951 In this second edition the book is more than 100 pages longer contains approximately 100 additional figures. The revised bibliography cites literature published as recently as 1955

UNITED STATES NATIONAL BUREAU OF STANDARDS NATIONAL COMMITTEE ON RADIATION PROTECTION SUBCOMMITTEE ON X RAYS UP TO TWO MILLION VOLTS

X ray protection recommendations of the National Committee on Radiation Protection Issued December 1 1955 Washington D C Government Printing Office, 1955 41 p illus 20 cm (United States National Bureau of Standards Handbook 60) $0 20 3384

Contents I. General Definitions. Planning, surveys, and inspections Working conditions. Structural details of protective barriers. Plans for an X-ray installation II Additional rules for specific applications Medical fluoroscopic X-ray installations Medical radiographic X-ray installations. Dental radiographic installations Special requirements for mobile medical diagnostic equipment Photographic equipment Therapeutic X-ray installations operated at potentials of 400 kv and below Therapeutic X-ray installations operated at potentials above 400 kv Appendix Determination of protective barriers References.

Note This handbook of recommendations for the protection of radiation workers and the public supersedes National Bureau of Standards Handbook 41 *Medical X-ray protection up to two million volts,* prepared by the National Committee on Radiation Protection in 1949 Because of the large number of copies of Handbook 41 in use, the sections of Handbook 60 have been numbered to correspond with the sections of Handbook 41 However Handbook 60 is complete in itself and reference to Handbook 41 is unnecessary Where major changes have been made asterisks are used. The section on electrical protection is omitted from the revision as not falling within the scope of the Handbook The word "medical" was dropped from the title, as many of the recommendations and suggestions can be used equally well for industrial applications.

WEYL, CHARLES, AND S REID WARREN JR

Radiologic physics Second edition With a foreword by Eugene P Pendergrass. Springfield, Ill Charles C Thomas, 1951 491 p. illus 24 cm $11.25 3385

Contents Part I, Scientific method, electromagnetism and electromagnetic devices Discussion of scientific method. The experimental basis of electromagnetism tentative atomic theories for correlating the observed phenomena. The quantitative analysis of electric circuits. Electrical measuring instruments. Transformers, generators, and motors electric power distributing systems. Principles of electronics. Electronic devices. High-voltage generators for X-ray equipment. Part II Radiant energy and its interactions with matter The theory of radiant energy—a historical survey X-rays and matter Radioactivity and nuclear physics. The measurement and control of X-rays and radioactive emissions. Physical aspects of therapeutic and tracing techniques equivalent dose for X-rays and radioactive emissions protection. Physical aspects of fluoroscopic and roentgenographic techniques. The effects of variations of exposure factors on roentgenographic results. Fluoroscopic and roentgenographic techniques. Appendix. Mathematical tables. Name index. Subject index.

Note A standard text on general physics and on those aspects of physics which apply particularly to X-rays and other radiation used in medical diagnosis and therapy It is used primarily as a text in graduate courses offered to physicians who are preparing to specialize in radiology Although some rather advanced matters are taken up in the latter parts of the book, the authors have not assumed that their readers will have foundations in either mathematics or physics. The first edition was published in 1941 Changes and revisions made in preparing this edition include an expansion of the discussions of electronic phenomena and devices, of artificial radioactivity and of the uses of radioactive isotopes. Recent literature has been added to the chapter bibliographies.

YEAR BOOK OF RADIOLOGY (1955–1956 Year Book series) Radiologic diagnosis edited by *John Floyd Holt and Fred Jenner Hodges.* Radiation therapy edited by Harold W Jacox and Morton M Kligerman. Chicago The Year Book Publishers, Inc., 1955 413 p illus 23 cm. $9 00 3386

Contents Part I, Radiologic diagnosis Introduction. Technical developments. Head and neck. The spine and extremities. Chest. Gastrointestinal tract. Genitourinary tract. Part II, Radiation therapy Introduction. Head and neck. Thorax. Nervous system. Breast. Gynecology Genitourinary system. Blood dyscrasias and lymphomas. Miscellaneous conditions. Radioactive isotopes. Physics, dosimetry and treatment technics. Hazards and injuries. Radiobiology Index. Index to authors.

Note Similar in organization to the other annuals in this publisher's Year book series, this one presents in the form of abstracts the advances in radiology which have been reported in the international literature. Each abstract is long enough to give the gist of the original article. In each instance a reference is given to the publication of the original. Some of the abstracts are supplemented by brief notes written by the editor in which the findings reported are evaluated and are sometimes related to the work of other authors in the same field. As befits the subject, an exceptional number of illustrations is included in this particular annual, this specific issue containing 144 figures The articles abstracted in this 1955–56 issue were received by the editors between June, 1954 and June 1955

YOUNG, BARTON ROGERS

The skull, sinuses & mastoids, a handbook of roentgen diagnosis Chicago The Year Book Publishers Inc, 1948 328 p illus. 21 cm $7 00 3387

Contents (abridged) Part I, The skull Normal adult skull. Normal skull in infancy and childhood. Craniofacial disease. Fractures. Conditions involving the skull. Tumors. Deformities of sella turcica. Intracranial tumors. Brain abscess tuberculoma, cysticercosis, echinococcosis. Multiple brain calcifications. Part II, The nasal sinuses Roentgen diagnostic procedures. Normal adult sinuses; developmental variations. Normal sinuses in infancy and childhood. Maxillary sinus disease. Frontal sinus disease Sphenoid sinus disease. Part III, The mastoids Roentgen diagnostic procedures. Normal variations. Normal temporal bone in infancy and childhood. Mastoiditis. Paget's disease. Benign and malignant tumors. Bibliography Index.

Note Essentially a compilation of plates depicting the roentgen appearance of normal and diseased skulls, sinuses, and mastoids.

[illegible] each [illegible] is [illegible] of the particular features to be observed in the [illegible] of each normal or abnormal condition. Most of the illustrative material is from the files of Department of Radiology of Temple University [illegible] the author is Professor of Radiology. Descriptions of techniques and positions of the [illegible] for obtaining best results are also given. A five-page bibliography is included.

ALLERGY

COCA ARTHUR F AND OTHERS
Familial nonreaginic food-allergy Third edition. Springfield, Ill. Charles C Thomas, 1953 279 p. illus. 24 cm. $10.50 3388

Contents: Introduction. Classification of [illegible] diseases. Practical management of idioblaptic allergy. Definition of interpretation of the pulse-diet record. The art of interpreting the pulse-diet record. The idioblaptic shock-organ. The symptoms of idioblaptic allergy. Headache. Dermatologic manifestations of idioblaptic allergy. Idioblaptic diseases of the alimentary tract. [illegible] as an aid in the relief of idioblaptic food-allergy. Essential hypertension. Clinical versus etiological diagnosis. Idioblaptic allergy as [illegible] predisposing cause of low-grade infections. [illegible] The botanic groupings of food-allergens. List of foods and drugs arranged according to botanical orders, by [illegible] Price. The [illegible] [illegible] The specific mechanism of idioblaptic allergy. The normal human adult pulse. The statistical method in the study of the effects of idioblaptic allergy. Inheritance of idioblaptic allergy. Idioblaptic cigarette sensitivity. The incidence of idioblaptic allergy among persons affected with cancer of the breast. Is multiple sclerosis [illegible] manifestation of idioblaptic allergy? by M. G. Meyer and others. Concerning special problems of idioblaptic disease [illegible] affects women, by A. [illegible] and A. F. Coca. Allergy in glaucoma, by C. Berens and others. Author index. Subject index.

Note: In this book, the author is concerned with [illegible] relatively large group of allergic conditions and [illegible] number of other disorders hitherto unrecognized as allergic all of which are characterized by lack of reaction in the usual skin tests. It is the author's belief that this type of allergy is widespread. He states that it can be detected by an acceleration of the heart beat which follows ingestion or inhalation of the material which excites the allergic symptoms. He believes further that [illegible] (as he terms this kind of allergic disease) to be the primary cause of [illegible] disease, and [illegible] predisposing cause of some infectious diseases, and thus the condition has [illegible] hereditary basis. His conclusions have not as yet been widely accepted by the medical profession. The first edition was published in 1942 and the second edition in 1945. In comparison to the second edition, revisions and additions have been made in this third edition. The principal additions are the three contributed chapters at the end of the volume, but some matter has been added to other chapters.

FEINBERG SAMUEL MAURICE
Allergy in practice With the collaboration of Oren C Durham and Carl A. Dragstedt. Second edition, revised. Chicago The Year Book Publishers, Inc. 1946 838 p. illus. 23 cm. $10.50 3389

Contents: Introduction and history. Hypersensitiveness in animals—anaphylaxis. Hypersensitiveness in man. General causes of allergic disease. Epidermal allergens. Pollens and pollen allergy by Oren C. Durham. Allergy to [illegible] Miscellaneous inhalants. Food allergy. Allergy to drugs. Allergy to injected substances. Internal allergens (infectious allergy). Allergy to physical agents. Asthma—symptoms and pathology. Diagnosis—asthma and allergy. Treatment of [illegible] diseases—symptomatic and specific. Treatment of allergic [illegible] Hay fever—manifestations, causes, diagnosis. Hay fever treatment. Hyperesthetic rhinitis. Urticaria and angioneurotic edema. Atopic dermatitis and dermatophytids. Contact [illegible] Allergy of the digestive tract. Migraine and allergic headaches. Allergy of the eye. Miscellaneous manifestations. Preparation of allergens. Histamine in anaphylaxis & allergy by Carl A. Dragstedt. Histamine antagonists. Index.

Note: [illegible] comprehensive manual of the causes, diagnosis, and therapy of all types of allergies. Extensive literature references are included. The book [illegible] designed for use both as [illegible] textbook and as [illegible] reference manual for practitioners. In this edition the additions include new material on pollen counts and on histamine.

HANSEL, FRENCH K.
Clinical allergy With 86 illustrations and 3 color plates St. Louis The C V Mosby Company 1953 1,005 p illus. (part col d) 26 cm. $10 00 3390

Contents (abridged): Terminology of allergy. History of allergy. Basic concepts of anaphylaxis and allergy. Serum, allergy and anaphylactic shock. Allergy to biologic products. Extravagant [illegible] allergy. Allergy. Allergy to drugs. Foods as allergens. Pollens in hay fever. Allergy to inhalants (nonpollen). Methods of diagnostic testing in allergy. Nose and paranasal sinuses. Allergy in otolaryngology. Nasal and sinus manifestations of allergy. Cytology of the secretions in allergy. Diagnosis and differential diagnosis of the nasal and sinus manifestations of allergy. Local and surgical treatment of the nose and paranasal sinuses. Hay fever. Allergy in otology. Allergy in ophthalmology. Bronchial asthma. Bronchology in respiratory allergy. The antihistamines. ACTH and cortisone. Treatment of allergic manifestations by [illegible] methods. Allergy in children. Gastrointestinal allergy. Food allergy. Dermatological manifestations of allergy. Allergic dermatitis. Cerebral allergy: allergic headache: migraine. Relation of allergy to the cardiovascular system. Index.

Note: A reference book for graduate physicians, especially those who are not specialists in allergy. It presents from the clinical viewpoint [illegible] wide range of information on allergens and on the practical aspects of the management of allergic patients. It is organized in 53 chapters, of which eight chapters are devoted to allergens, about 15 to respiratory allergies, about five to allergy in children, two to food allergy, etc. The chapters on food allergy include various diets and recipes, also forms for patients' records of food eaten. Fairly extensive bibliographies are included in the chapters. The volume is thoroughly indexed for topics, but not for authors of cited literature.

RINKEL, HERBERT JOHN AND OTHERS
Food allergy By Herbert J Rinkel Theron G Randolph and Michael Zeller Springfield Ill Charles C Thomas, 1950 492 p. illus. 24 cm. $9.50 3391

Contents (abridged): Introduction. The clinical importance of the cyclic concept of food allergy. Etiology. Symptomatology. The specific diagnosis of food allergy. The treatment of food allergy. Specific foods as allergens. Recipes for use with therapeutic diets. Clinical case records. Appendix. Index.

Note: A monograph in which most of the emphasis is on the practical aspects of food allergy. However, the basic mechanism of food allergy are adequately discussed in the earlier chapters. From chapter four onwards, the book is devoted to recognition, specific diagnosis, and treatment. There are two chapters on symptomatology, five on specific diagnosis, and two on treatment. Also, there is [illegible] long chapter of recipes. The book is primarily of interest to general practitioners of medicine and other medical practitioners who do not specialize in allergy. Literature references are supplied with each chapter.

ROWE, ALBERT HOLMES
Elimination diets and the patient's allergies a handbook of allergy Second edition thoroughly revised. Philadelphia Lea & Febiger 1944 256 p. illus. 24 cm. $3.50 3392

Contents: Elimination, test [illegible] and other trial diets. [illegible] of allergy. Causes of allergy and their control. Clinical allergy and its control. The elimination diets. Appendix.

Note: The new edition stresses the importance of food allergy in the production of allergic manifestations. Emphasis is placed upon menus and special recipes with supplemental diets for unusual problems. Other causes of clinical allergy and methods of diagnosis and control are also discussed.

SAMTER MAX, AND OREN C DURHAM editors

Regional allergy of the United States Canada Mexico and Cuba a symposium of thirty-nine contributors. Springfield Ill.

Charles C Thomas, 1955 395 p illus 22 cm (American lecture series Publication no. 224 A monograph in the Bannerstone division of American lectures in allergy, edited by Max Samter) $8 50 3393

Contents (abridged) Part I, Eastern section. Part II, Central section. Part III, Western section. Appendix. Index.

Note. A reference book of information about pollens, molds, industrial dusts, weather and other meteorologic and climatologic features of interest in the practice of allergy It is addressed to physicians and is intended as an aid in advising patients on the allergenic features of specific geographical regions in which they may be contemplating taking up residence. It is arranged as shown in the above Contents. The sections are composed of signed chapters written by physicians practicing allergy in the regions discussed. Some of the chapters are devoted to a single state others cover a region that ignores state boundaries but has a fairly uniform climatic and allergenic pattern. For example, the state of Colorado, eastern Wyoming, and western Nebraska are discussed in one chapter.

TAUB, SAMUEL JAMES

Clinical allergy a practical guide to diagnosis and treatment. Second edition, revised and reset. New York Paul B Hoeber, Inc., Medical Book Department of Harper & Brothers 1951 276 p 24 cm $5 50 3394

Contents Introduction. Immunochemistry and its relation to clinical allergy The dynamics of allergy Seasonal pollinosis or seasonal hay fever Perennial hay fever Asthma. Etiologic diagnosis and treatment of asthma. Molds. Disturbances of the skin due to allergy *Drug allergy* *Miscellaneous allergic conditions.* Serum sickness and prophylaxis. Preparation of extracts. Appendix. Index.

Note In its second edition this useful work remains a brief practical manual suitable for the general medical practitioner or medical student who is unable to make a detailed study of allergic diseases. The main types of allergy are described concisely with reference to symptoms, tests diagnosis, methods of treatment. Summarized case histories are included. In this edition a number of useful additions and revisions have been made and the book is about 75 pages longer than the first edition.

TUFT, LOUIS

Clinical allergy Second edition, with 54 illustrations, 3 colored plates and 46 tables Philadelphia Lea & Febiger, 1949 690 p illus (part col'd) 24 cm. $12 00 3395

Contents (abridged) Section I, General principles Anaphylaxis. Methods of diagnosis. Methods and principles of treatment. Section II, Etiologic types Serum allergy Drug allergy Food allergy Pollen allergy Allergy to fungi. Allergy to other inhalants. Bacterial allergy Physical allergy Section III, Clinical manifestations. Asthma. Allergic rhinitis. Hay fever Gastro-intestinal allergy Migraine. Section IV Allergic dermatoses and allergy in relation to the specialties Allergic dermatoses—general principles and methods of diagnosis. Urticarial dermatoses. Atopic dermatitis. Contact dermatitis Allergy in children. Allergy in relation to the other specialties. Appendix. *Bibliography* Index.

Note An authoritative manual addressed primarily to general practitioners of medicine. The style is concise, and more information is included than the number of pages might indicate. Aspects of interest to the general practitioner such as clinical manifestations, diagnosis, and treatment are emphasized. However there are adequate discussions of general principles and etiology Typical histories are presented in synopsis form. A variety of useful information on laboratory methods, preparation of extracts, rules for patients, household and food allergies, and special diets is included in the appendix.

URBACH ERICH, AND PHILIP M GOTTLIEB

Allergy Second edition New York Grune & Stratton 1946 968 p illus 26 cm $15 00 3396

Contents (abridged) Part I Fundamentals of allergy Historical survey The phenomena of hyper and hyposensitiveness. Mechanism of allergy *Predisposing and contributory factors in allergy* The experimental basis of allergy Pathology of tissues and blood in allergy *Chemistry of allergy* Antigens (allergens) Antibodies. Diagnosis of allergic diseases. *Principles of treatment.* Part II, Etiologic agents of allergic diseases. Inhalants. Ingestants. Injectants. Contactants. Physical agents. Infectants. Part III, Symptomatology and therapy of allergic diseases. Allergic diseases of the respiratory tract. Allergic diseases of the gastro-intestinal tract. Allergic diseases of the liver and gallbladder Allergic skin diseases. Allergic diseases of the nervous system. Allergic diseases of the eye. Allergic diseases of the ear. Allergic diseases of the cardiovascular system. Allergic diseases of the joints. Allergic diseases of the urinary tract. Allergic manifestations due to functional and pathologic changes of the female genital organs. Allergy in the newborn, in infancy and in childhood. Allergy in the aged. Appendix. Index of authors. Index of subjects.

Note: A comprehensive presentation of the knowledge of allergy Fundamental principles, methods of diagnosis and treatment, and the more common etiological causes are discussed in detail. Afterwards there are thorough studies of the various allergic diseases from the clinical and therapeutic viewpoint. The authors' own experiences have been drawn upon as the foundation for many of the interpretations and opinions expressed, but the literature of the subject has also been surveyed and is abstracted in the text with keyed references from the text itself to the footnotes in which full citations are given. Although the number of pages is fewer in the present edition, the reduction is due to the adoption of a two-column format. The matter included has been increased by about 10 per cent. There is new material on such subjects as the psychosomatic aspects of allergy the Rh factor allergic bronchitis, allergic cough and the former discussions of such topics as antibiotics, toxic and allergic dermatitis, the allergy of infectious diseases, and the diagnosis of complications of asthma have been enlarged. The number of references to allied literature has been greatly increased.

VAUGHAN, WARREN T

Practice of allergy by Warren T Vaughan Revised by J Harvey Black. Third edition. St. Louis The C. V Mosby Company, 1954 1,164 p illus. 26 cm $12 50 3397

Contents (abridged) Part I, Steps in the development of our present understanding of clinical allergy Historical, Terminology. Experimental anaphylaxis. Immunology and pathology of clinical allergy Part II, General characteristics of clinical allergy Allergic diseases. Climate, environmental factors and social status. Heredity Part III, Physiology of allergy Part IV Allergic diagnosis. Skin testing. *Mucous membrane tests.* The patch test. Diagnostic study of the nasal and ocular secretions. Pulmonary function studies, by J Holman. The determination of vital capacity by J Holman. Part V Diagnosis and treatment of food allergy The diagnostic program in food allergy Trial diets. The food diary The elimination program. Treatment of food allergy Part VI, Food allergens: Food allergens and their avoidance. Foods and their avoidance. Edible animal foods. Part VII, Pollens and pollinosis, and other inhalant allergy Pollen distribution. Aerobiology—development and technic, *by O C Durham.* Etiologic diagnosis in pollinosis. Treatment extracts and dosage nomenclature. Preseasonal hyposensitization. Perennial pollen therapy Specific treatment of allergy to inhalants other than pollen. Part VIII, Bacteria. Part IX, *Fungi.* Part X, *Entomophthora and percutaneous or dermal allergy* Part XI, Anaphylactic shock. Part XII, Drugs. Part XIII, Contact allergy Part XV Pharmacology Part XVI, Allergic diseases Asthma. Hay fever and allergic rhinitis. Allergy of the nervous system. Skin diseases. Gastrointestinal allergy Cardiovascular disease. Allergy of the eye and ear Index.

Note A general treatise designed primarily as a guide for general practitioners of medicine. It is written in a leisurely style which is easy to read. Some information that might not be expected is included, such as botanical descriptions of plants that may cause allergies. Diagnostic aspects of the subject are well covered. Another useful feature is the inclusion of formulas for the treatment of such disorders as fungus infections which are sometimes associated with allergy The bibliography is an extensive one.

PSYCHOSOMATIC MEDICINE

ALEXANDER, FRANZ

Psychosomatic medicine its principles and applications. With a chapter on the functions of the sexual apparatus and their disturbances by Therese Benedek. New York W W Norton & Company, Inc., 1950 300 p. illus. 22 cm. $3 00 3398

Contents: Part I, General principles: Introduction. The role of modern psychiatry in the development of medicine. The influence of psychoanalysis upon the development of medicine. The contribution of Gestalt psychology, neurology and endocrinology. Conversion hysteria, vegetative neurosis, and psychogenic organic disturbances. Progress in etiological thought. Methodological considerations concerning the psychosomatic approach. Fundamental principles of the psychosomatic approach. Part II, Emotional factors in different diseases: Emotional factors in gastrointestinal disturbances. Emotional factors in respiratory disturbances. Emotional factors in cardiovascular disturbances. Emotional factors in skin diseases. Emotional factors in metabolic and endocrine disturbances. Emotional factors in the disturbances of the joints and skeletal muscles. The functions of the sexual apparatus and their disturbances. Therapy. Bibliography. Index of names. Subject index.

Note: The director of the Chicago Institute for Psychoanalysis has in this book presented an introductory survey of the basic concepts of psychosomatic medicine and of their implications in treating disease. The book is written in non-technical style. It may be read without much difficulty by sophisticated general readers and by professional workers in fields related to medicine. Also, its content is substantial enough to make it valuable to general practitioners of medicine in search of [illegible] generalized presentation. There is a bibliography of 240 references.

ALEXANDER, FRANZ, AND THOMAS MORTON FRENCH

Studies in psychosomatic medicine: an approach to the cause and treatment of vegetative disturbances. New York: The Ronald Press Company, 1948. 568 p. illus. 24 cm. $10.00. 3399

Contents: Part I, General principles: Fundamental concepts of psychosomatic research, by F. Alexander. Present trends in psychiatry and the future outlook, by F. Alexander. Training principles in psychosomatic medicine, by F. Alexander. Physiology of behavior and choice of neurosis, by T. M. French. Hypothalamic functions in psychosomatic interrelations, by R. R. Grinker. A note on the psychogenesis of organic symptoms, by L. J. Saul. The physiological effects of psychoanalytic therapy, by L. J. Saul. Part II, Disturbances of the gastrointestinal tract: Psychologic factors in gastrointestinal [illegible]. Gastrointestinal symptoms, by F. Alexander and others. A case of peptic ulcer and personality disorder, by F. Alexander. The influence of psychiatric [illegible] on the functioning of the gastrointestinal tract, by F. Alexander and W. C. Menninger. A study of [illegible] in two cases of peptic ulcer, by C. Van der Heide. The [illegible] from [illegible] to conversion hysteria, by G. W. Wilson. Part III, Disturbances of the respiratory system: Bronchial asthma in children, by M. W. Gerard. Psychogenesis in bronchial asthma, by T. M. French and A. M. Johnson. Report of a case of acute laryngeal [illegible] conversion symptom during analysis, by G. W. Wilson. A study of structural and instinctual conflicts in cases of hay fever, by G. W. Wilson. Part IV, Cardiovascular disturbances: Emotional factors in essential hypertension, by F. Alexander. Psychoanalytic study of a case of essential hypertension, by F. Alexander. Blood pressure findings in relation to inhibited aggressions in psychotics, by M. L. Miller. The [illegible] of the [illegible] to [illegible] and [illegible] with [illegible] on effort syndrome, by M. L. Miller and H. V. McLean. Hostility in cases of essential hypertension, by L. J. Saul. Part V, Endocrinology and metabolism: A psychosomatic study of hyperthyroid patients, by F. [illegible] and S. A. Portis. Correlation between emotions and carbohydrate metabolism in two cases of diabetes mellitus, by A. Meyer and others. Part VI, Skin diseases: A psychological study of a case of eczema and a case of neurodermatitis, by M. L. Miller. Incidental observations on pruritus ani, by L. J. Saul. The emotional settings of some attacks of urticaria, by L. J. Saul and C. Bernstein, Jr. Part VII, Joints and skeletal muscles: The psychogenic [illegible] in [illegible] development, by M. W. Gerard. Preliminary report on a psychosomatic study of rheumatoid arthritis, by A. M. Johnson and others. Part VIII, Miscellaneous studies: Enuresis—a study in etiology, by M. W. Gerard. Anorexia after [illegible], by M. Grotjahn and T. M. French. A case of migraine, by A. M. Johnson. A clinical note on a mechanism of psychogenic back pain, by L. J. Saul. Some observations on the relations of emotions and allergy, by L. J. Saul. Conclusion, from Ten years report by the Institute for Psychoanalysis. Index of names. Subject index.

Note: An authoritative collection of research papers written by staff members of the Institute for Psychoanalysis in Chicago. Most of the papers appeared originally in various scientific and medical journals, and are collected here mainly for the convenience of medical practitioners and psychiatrists, but also for the education of laymen.

AMERICAN PSYCHIATRIC ASSOCIATION

Research in psychosomatic medicine. Papers presented at the Southern Regional Research Conference held under the joint auspices of the American Psychiatric Association and Duke University School of Medicine, Department of Psychiatry, Durham, North Carolina, November 19–20, 1954. Washington, D. C.: American Psychiatric Association, 1956. 93 p. 23 cm. (American Psychiatric Association. Psychiatric Research Reports 3, February 1956. Edited by members of the Committee on Research, Jacques S. Gottlieb, chairman) $2.00 3400

Contents: Symposium, Problems in the laboratory study of emotions and bodily functions: Application of [illegible] methods in the field of psychosomatic research, by F. L. Engel. Electrical activity of the brain, by L. [illegible]. Stress, by J. E. Hill. Psychophysiologic variables in the study of the effect of LSD-25 on cerebral blood flow and metabolism, by S. [illegible]. Interdisciplinary research, with some special reference to cardio-vascular research, by K. L. White. Discussion of symposium, L. Thompson, moderator. Address: Reviewing and evaluating proposals in the field of psychosomatic medicine, by J. [illegible]. Symposium, Problems in the measurement, testing, and rating of psychological and social functioning: Definition of psychological variables in psychosomatic research, by E. [illegible]. A note on the separation of experiments, by L. D. Cohen. Response to anxiety and stress, by W. J. [illegible]. Effects of stressful situations on learning, by M. Thaler. Projective techniques, by O. [illegible]. Social science in psychosomatic research, by R. L. Smith. Discussion of symposium, D. A. Young, moderator. Symposium, Problems in establishing [illegible] psychodynamic explanation: The development of concepts and methods, by G. C. Ham. The use of the hypnotically induced complex in psychosomatic research, by G. Tourney. Psychodynamic certainty in psychosomatic research—problems of experimental design, by L. J. West. Research—data and design, by C. Watkins. Random remarks, by E. [illegible]. Certain of the problems in arriving at psychodynamic formulation of specific psychological factors producing psychosomatic illness, by R. H. Barnes. Individual [illegible] differentiated aspects of the field, by R. C. [illegible]. Comments on methodology, by W. G. Reese. Discussion of symposium, M. H. Greenhill, moderator.

Note: The conference of which this collection of papers is a product was planned to bring together investigators who were conducting research in psychosomatic medicine in a variety of ways and from a variety of points of view. The titles of the separate symposia given above indicate some of the approaches that were represented. It should be noted that psychologists and sociologists as well as physicians participated in the conference. Most of the papers are short and state a point of view or summarize a research approach. In other words, they are not reports of specific investigations or studies of a series of cases such as might be expected in a volume bearing the title that this one does. The publication is valuable primarily for its illustrations of the many facets of contemporary psychosomatic medicine.

BASOWITZ, HAROLD, AND OTHERS

Anxiety and stress. An interdisciplinary study of a life situation, by Harold Basowitz, Harold Persky, Sheldon J. Korchin, and Roy R. Grinker, from the *Institute for Psychosomatic and Psychiatric Research and Training of the Michael Reese Hospital, Chicago*. New York: McGraw-Hill Book Company, Inc., 1955. 320 p. illus. 24 cm. $8.50 3401

Contents: The problem of anxiety. Some pertinent previous studies. Rationale and purposes of the present study. Design of the studies. Methodological studies. Psychological functioning under stress of paratroop training. [illegible] functioning under stress of paratroop training. [illegible] experimental procedures. Consistency of performance on repeated measures. Differences among groups in basic measures of personality. Relationships between personal characteristics and experimental measures. Relationship of psychological [illegible] to adequacy in training. The study of inter-

individual variability Selected case studies. Synthesis and integration of the data. Implication of the results. References. Index.

Note Presented in this book are the results of a research project on anxiety The psychosomatic and psychiatric processes involved were examined by the interdisciplinary study of a special group *subject to anxiety and stress, namely healthy young American men* in paratroop training. The following questions are quoted to show the trend of the experiments "How are various types and quantities of anxiety related to psychosomatic functions, and which are the most significant systems participating in the whole patterned process? If we disturb a single peripheral cycle acting through the central nervous system, what effect does such a kick have on anxiety and on the other peripheral variables?

BAUER, JULIUS

The person behind the disease New York Grune & Stratton *1956 136 p 22 cm* $3 50 3402

Content Etiologic and pathogenetic factors in the diseased person Uniqueness of the individual Pathogenic and nonpathogenic mutations. Clinical syndromes and irregular polygenopathies. Constitutional biologic organ inferiority Holistic medicine—the parts and the whole. *Psychologic medicine. Bibliography* Index.

Note An essay in which the author presents a holistic concept of medicine based on the genetic uniqueness of each individual Support for the concept is derived from genetics and physiology

BELLAK, LEOPOLD, editor

Psychology of physical illness, psychiatry applied to medicine, surgery and the specialties New York Grune & Stratton, 1952 243 p 24 cm $5 50 3403

Contents Introduction by L. Bellak. Psychiatric considerations in general practice by M Malev Psychiatry applied to internal medicine, by E. Hammerschlag Psychiatric problems of malignancy by J A. M. Meerloo and A. Zeckel. Psychiatric problems in general surgery by V H Rosen Psychiatric aspects of plastic surgery by L. Linn. Psychiatric implications in gynecology and obstetrics, by S. Hans. Psychiatric aspects of diseases of the genitourinary system, by J M. Silagy Rehabilitation orthopedics and psychiatry by M. Grayson and A S. Rusek. Ear nose and throat diseases and psychiatry by A. Zeckel. Psychiatric and psychoanalytic aspects of neurological disease, by A Rosner Psychiatric aspects of pediatric practice, by M L Levine. Psychiatric aspects of dermatology by M. Hecht. Psychiatric aspects of dentistry by S. J Ewen The *personality of the physician as a factor by L. L. Altman. Index.*

Note Integration of medicine in such a way that the psychological aspects of illness will always be taken into account in diagnosis and treatment is the main theme of this book. The editor points out that a traditional separation of psyche and soma is out of date and states that "the alert and informed doctor will use the taking of the medical history as an occasion for appraising not only the psychosomatic aspects of the onset of symptoms, chief complaints, and the like, but also for a stock-taking of such emotional involvements as already mentioned. Most of the chapters are devoted to discussions of psychological or psychiatric aspects of specific classes of medical and surgical disorders. The book is addressed to general medical practitioners and general surgeons rather than to psychiatrists or specialists in psychosomatic medicine. Essentially it is a statement of a thesis and an outline of the main aspects with literature references for those who wish to pursue particular phases further

BENEDEK, THERESE

Psychosexual functions in women. New York The Ronald Press Company 1952 435 p illus (part col'd) 24 cm (Studies in psychosomatic medicine of The Institute for Psychoanalysis, Chicago Illinois Vol 2) $10 00 3404

Contents Introduction General survey of the material. Vaginal smear and basal body-temperature techniques of hormone evaluation. General aspects of the application of psychoanalytical method Interpretation and prediction. A study of 1 cycles. Critical evaluation of the methods and the discrepancies. The gonadal and the emotional cycle Personality structure and the sexual cycle. Variations in sexual cycles. Comments and conclusions. The psychosomatic implications of the primary unit mother-child. Climacterium a developmental phase. The functions of the sexual apparatus and their disturbances. Some psychophysiological problems of motherhood. Bibliography Index of names. Index of subjects.

Note A collection of studies based on psychoanalytic investigations of 15 women of child-bearing age, carried out in conjunction with physiologic observations over a period of several years. The aim of the studies was to discover whether a physiological function, such as ovulation, which in animals determines their "social behavior could be recognized in the emotions and behavior of a particular group of emotionally unbalanced women. Although the work does not purport to be a comprehensive presentation of the psychology of women the *findings of the studies are* basic information for psychiatrists, gynecologists, and general practitioners of medicine. The first 11 chapters are reprinted from a National Research Council monograph of 1942 of which the co-author was Boris B Rubenstein. The added chapters include one giving a brief comparison of the psychosexual problems of men and women.

CANTOR, ALFRED J , AND ARTHUR N FOXE, editors

Psychosomatic aspects of surgery The proceedings of the first annual meeting of the Academy of Psychosomatic Medicine, held in New York City, October 1954 New York Grune & Stratton, 1956 *220* p *22* cm $7.00 3405

Contents Presidential address—The physician's role in the preparation of a patient for surgery by W Kaufman. Psychosomatic aspects of anesthesia, by E. A. Rovenstine and E. B. Raginsky Psychosomatic aspects of cardiovascular surgery by L. F Bishop and others. Psychosomatic aspects of obstetrics and gynecology by W S. Kroger and E. Bergler Personality problems in cleft palate and orthodontic patients, by J A. Salzmann and J Short General semantics of ambulatory proctology by A. J Cantor and H. Gaze. Observations on psychosomatic implications of patients in neurosurgery by L M. Greenberg and S. Merlis. Some psychogenic factors in the pathogenesis of primary glaucoma, by T F Schlaegel Jr and M Straker Psychosomatic medicine and plastic surgery by A. J Barsky and others. Psychosomatic aspects of breast surgery by C. D Haagensen and J A. P Millet. Psychosomatic aspects of orthopedics, by L W Nachlas and E. Rosen. Recognition and management of post-traumatic psychosomatic manifestations, by I Neufeld. Panel discussion—What every doctor should know about the psychosomatic aspects of surgery by H. Conway and others. Summary by A. N Foxe. Index.

Note The papers presented and the discussions of them at the first annual meeting of the Academy of Psychosomatic Medicine are published in this volume. Most of the papers deal with matters which are closely related to the preparations of patients for surgery and to their psychological care after surgery

COBB, STANLEY

Emotions and clinical medicine With an introduction on semantics and definitions by John R Reid New York W W Norton & Company Inc 1950 243 p illus 21 cm $4 00 3406

Contents Physiology The anatomy of emotion. The hypothalamus. Caricatures of emotional expression. Docility sexuality and oral behavior Endocrinology and the autonomic nervous system. Classification of emotional reactions. *Lesions in man associated with* changes in emotional behavior Clinical application The normal functions of the emotions and psychosomatic medicine. Anorexia nervosa as a psychosomatic problem. Patterns of personality The problem of specificity in psychosomatic reactions— sensitization of conflict and choice of the organ Emotions and social psychiatry Bibliography Index.

Note. An interpretive synthesis of *recently gained knowledge* pertaining to the relations among the emotions, certain areas in the brain, and endocrinology The results of frontal lobotomy for instance are summarized, as well as the current *knowledge of the* function of the pituitary The book is written in a nontechnical style and is suited to mature general readers and to professional workers in such fields as child study where a fundamental knowledge of the bases of emotion is useful. The author is a member of the faculty of Harvard Medical School.

DUNBAR, HELEN FLANDERS

Emotions and bodily changes. A survey of literature on psychosomatic interrelationships, 1910–1953 Fourth edition, with supplementary material and additional bibliography New York Columbia University Press, 1954 1 192 p. 24 cm. $15.00. 3407

Contents: Part I, Orientation and methodology: Problems of integration and differentiation. Problems of acute and chronic illness. Problem of measurement. Part II: Organs or organ-systems: General considerations relating to organs or organ-systems. Nervous system. Musculature. Endocrines. General metabolism and heat regulation. Cardiovascular system. Respiratory system, including ear-nose-laryngology. Gastrointestinal system. Genitourinary system and gynecology. Special sense organs exclusive of skin. Skin. Bones, including stomatology. Part III, Therapeutic considerations and concluding remarks. Bibliography. Additional bibliography. Supplementary bibliography. Index. Chart: Personality profiles of eight psychosomatic diagnostic groups.

Note: This broad survey of the literature bearing on psychosomatic medicine has gained the status of a standard reference book in the field. Most of the text of the chapters consists of compact abstracts of published articles and quotations of passages from the abstracted articles. The text that is written around and between the abstracts contains many comments that aid in interpretation and evaluation such as: "Perhaps the most significant comment on recent literature relative to genitourinary symptoms and obstetrics is that many syndromes to which chapters were devoted some years ago appear to be fading out. Chlorosis in the adolescent girl is rarely encountered. Amenorrhea, dysmenorrhea, frigidity, morning sickness, and many complications of childbirth and of the menopause are on the wane. The abstracted literature has been selected, but a very large body of publication has been covered, nevertheless. The third edition was published in 1946. In this fourth edition, the combined bibliographies are 344 pages long. Much material has been added, raising the increase in the number of pages from 604 to 1,192. In some of the chapters, there is a separate discussion of developments since 1933.

DUNBAR, HELEN FLANDERS

Mind and body psychosomatic medicine. New enlarged edition. New York Random House, 1955 298 p. 21 cm. $3.50 3408

Contents: The child you were. Delayed-action mines of childhood. The beloved symptom. The doctor looks at the patient. The patient looks at the doctor. The patient's dilemma. The doctor's dilemma. The accident habit. The mind and the heart. "The hyphen of quiet mind." Nausea. Indigestion. Allergy. [illegible] Failure in chemistry. "Fall in love with [illegible] death." "Fall in love with life." The complete patient. Index.

Note: The author's successful experience in many phases of psychiatric practice and teaching served her well in writing this explanation of psychosomatic medicine for the layman. The scientific relationship of the mind to bodily ills is presented simply and clearly and the psychiatric procedures to effect cures are indicated although not explained in technical detail. Particular attention is given to the possibility of emotional causes of heart disease, accidents, diabetes, hypertension, the allergies, and stomach ulcers. The author is careful to insist that psychiatry [illegible] neither [illegible] nor techniques to be handled casually by the inexperienced. Throughout the book, the topics discussed are well illustrated by brief case histories. The first edition was published in 1947. Revisions for this second edition included the addition of a number of new topics such as obesity, senility and chronic illness, and several discussions of more than were in the first edition.

GRINKER, ROY R., AND FRED P ROBBINS

Psychosomatic case book. New York The Blakiston Division, McGraw-Hill Book Company Inc., 1954 346 p 24 cm. $6.50 3409

Contents: I, General considerations: Introduction to the field. Modern theoretical concepts. The field concept of psychosomatic medicine. Anxiety. The [illegible] of the psychosomatic field. II, The problems of diagnosis. Methods of examination. Differential diagnosis. Formulation of the case problem. III, Special syndromes: The head and special senses. Cardiovascular syndromes. Respiratory syndromes. Gastrointestinal syndromes. Endocrine syndromes. Genitourinary syndromes. Musculoskeletal syndromes. Dermatological syndromes. IV Therapy: Planning and beginning therapy. Some methods of treatment. The doctor-patient relationship in therapy. General summary. General bibliography. Index.

Note: An introduction to psychosomatic medicine written from the viewpoint of psychiatry. Its title is due to the inclusion of 79 selected case histories which carry most of the burden of exposition, but are nevertheless supplemented by a considerable amount of expository discussion. Some clinical details are included in the case histories, but no attempt is made to cover thoroughly the somatic aspects of disease. Techniques of treatment used by psychiatrists on psychosomatic patients are outlined. Literature references are given in short lists appended to the chapters and in the general bibliography. The book is directed to advanced medical students and graduate practitioners of medicine.

GRINKER, ROY R.

Psychosomatic research. New York W W Norton Company Inc., 1953 208 p 20 cm. $3.50. 3410

Contents: Introduction. Historical concepts. Current conceptual models. Evaluation of theoretical formulations and operational procedures. Empirical observations. Psychosomatic differentiation. Factors influencing psychosomatic differentiation in health and illness. The structure and functions of the mouth. The psychological implications of oral functions. Integration of field theory. Anxiety and psychosomatic transactions. Conclusions. Bibliography. Index.

Note: An authoritative survey of concepts, hypotheses and research in psychosomatic medicine as of approximately mid-1952. The author argues for a broader view of psychosomatic medicine, and points out lines of research which he believes would be more fruitful than narrow studies of relations between somatic systems and emotional states.

HINSIE, LELAND EARL

The person in the body an introduction to psychosomatic medicine. New York W W Norton & Company Inc., 1945 263 p. 21 cm. $3.50 3411

Contents: The interdependence of mind and body. The laws of emotional growth. The scope of psychosomatic medicine. The inner man emerges. Psychological versus organic one. The search for recognition. Sex becomes vitalized. Varieties of psychosomatic syndromes. Illness as a defense against homosexuality. Marriage as a cure for sickness. The body protects the person in it. Types of somatic personalities. The introvert. The extrovert. The [illegible] person. The change of life. The role of environmental forces. Your part in psychotherapy. Index.

Note: An elementary but authoritative presentation for general readers, particularly those who are being treated for physical disorders based upon emotional disturbances. Its purpose is to delineate some of the ways in which emotions can bring about illnesses that appear to be physical, and to do so in language that the patient can understand. Case histories as such are not presented, but the author has drawn frequently upon records of actual cases to illustrate his points. Also, the book provides for anyone interested good insight into the philosophy and methods of this new branch of medicine.

HOLMES THOMAS H., AND OTHERS

The nose an experimental study of reactions within the nose in human subjects during varying life experiences. By Thomas H. Holmes, Helen Goodell, Stewart Wolf and Harold G Wolff With a foreword by Warfield T Longcope. Springfield, Ill. Charles C Thomas, 1950 154 p. illus. 24 cm. $4.50. 3412

Contents: Review of nasal physiology; objective and method of present study. Range of nasal function in normal subjects. Alterations in nasal function following specific threats to respiratory apparatus. Alterations in nasal function following general threats to bodily integrity. Relation of nasal changes to bodily disturbances involving the eyes and deeper respiratory structures. Personality and background of an intensively studied subject. Alterations in nasal function occurring as part of the organism's pattern of adjustment to his environment. Temporal correlation of threatening life situations with nasal disturbances in one hundred patients with chronic or recurrent nasal disease. The relation of nasal to sexual function.

The relation of nasal to gastric function. Mechanisms involved in disorders of the nasal and paranasal spaces. Pain from the nasal and paranasal structures—the mechanism of "sinus headache. Considerations and formulation. Summary Index.

Note A technical report of a series of planned observations of the changes in color and other properties of the nasal mucosa and of alterations in nasal and respiratory functions in response to emotional stimuli. The observational methods are described, and the results of particular experiments and groups of experiments are summarized. A variety of detailed case histories are included. The presentation is technical and is addressed chiefly to medical graduates. The work is of particular interest in psychosomatic medicine.

KALINOWSKY, LOTHER B, AND PAUL H. HOCH

Shock treatments, psychosurgery, and other somatic treatments in psychiatry Second revised and enlarged edition Foreword by Nolan D C Lewis. New York Grune & Stratton 1952 396 p 24 cm. $8 75 3413

Contents Historical development. Insulin shock treatment. The convulsive therapies. Combined insulin-convulsive treatment. Psychosurgery Other somatic treatments. Theoretical considerations. Bibliography Index.

Note A survey of techniques and experience up to about mid-year 1951 It is based on the literature evaluated to the authors' experience, and the text is keyed to 55-page bibliography It is addressed to psychiatrists and to neurologists and neurosurgeons, and its purpose is to aid in the appraisal of the value of these relatively new therapies. Much important material has been added in this edition, especially in the chapter on *psychosurgery*

MASSACHUSETTS GENERAL HOSPITAL PSYCHIATRIC SERVICE

Case histories in psychosomatic medicine. By the staff of the Psychiatric Service, Massachusetts General Hospital, Boston. Edited by Henry H W Miles Stanley Cobb and Harley C Shands New York W W Norton & Company, Inc., 1952 306 p illus 22 cm $4 50 3414

Note. Twenty-one cases which illustrate considerable range of psychosomatic illnesses are discussed in this book. They illustrate not only varities and manifestations of psychosomatic medicine but also show expert techniques in diagnosing and treating such cases. Participants in the discussion are for the most part physicians associated with the Massachusetts General Hospital and faculty members of Harvard Medical School. Literature references are included for the most of the papers.

MILLER, HYMAN, AND DOROTHY W BARUCH

The *practice of psychosomatic medicine* as illustrated in allergy New York McGraw Hill Book Company Inc., 1956 196 p 23 cm. $5 00 3415

Contents Part I, Modern concepts in allergy The physical pattern of allergy The emotional pattern in allergy Part II, The etiologic approach to diagnosis and treatment Seeing the allergic individual in his family—an essential point of view *Trigger* mechanisms in the production of symptoms. Basic objectives in psychosomatic treatment. Part III, Diagnosis as the beginning of treatment The initial appointment with the adult patient. The initial appointment with the child patient and his parents. Emotional problems in diagnostic medical procedures with adults. Modifications in diagnostic medical procedures with children. Part IV Treatment in progress Treatment principles applied to the adult patient. Treatment principles applied to child patient and parent. Medication and regimen in the treatment of *adult and child. References.* Bibliography Index.

Note In the early chapters of this book, the authors marshall the evidence in support of the hypothesis that allergies arise from the emotions, or at least that psychologic factors are of fundamental importance in understanding and treating allergy The remainder of the space is devoted to discussions and illustrations of techniques in the practice of psychosomatic medicine, with the case histories drawn from an allergy practice. Interviews with patients and associated office procedures are discussed in detail and include numerous examples of conversations between patients and the physician. The first-named author is Associate Clinical Professor of Medicine in the University of California Medical School and specialist in allergy and psychosomatic medicine, and his collaborator is graduate psychologist.

OSBORN, LESLIE A.

Psychiatry and medicine an introduction to personalized medicine. New York McGraw Hill Book Company, Inc., 1952 494 p. 24 cm $7.50 3416

Contents (abridged) Part I, Theoretical considerations Section one, Nature of the subject Attitudes in illness. Origin and nature of symptoms. Adaptation and adjustment. Internal medicine and psychiatry Organic mental reactions, Section II, Development and relationship Developmental needs. Mating and parenthood. Maturing and independence. Individuality Friendship and rapport. Section III, Social living Self-assertion and freedom. Frustration and its effects. Heredity and its implications. Part II, Practical *application* Section I, Types of reaction to life experiences Descriptive and dynamic psychiatry Degree of reaction. Kind of reaction. Section II, The clinical study Observing and interviewing. The organic investigation. Psychological testing. Steps in correlation. Section III Therapy; Psychotherapy Change of environment. Psychosomatic considerations. Relatives and social work. Symptomatic treatment. Helping children. Part III, Mental hygiene Preventive medicine and psychiatry Appendix. Index.

Note Integration of psychiatry and general medical practice is the chief theme of this book, which was written for use as text in undergraduate courses in medical schools. No previous acquaintance with psychiatric concepts is assumed and nowhere does the author lean heavily upon technical terminology of psychiatry although he makes use *of it after defining it. More often, he uses the* common language in such passages as, "Each person has private thoughts, feelings, asides, and undeclared motives that he keeps to himself. The author who is Professor of Psychiatry and acting Director of the Wisconsin Psychiatric Institute in the Medical School of the University of Wisconsin, has had extensive experience in both the general practice of medicine and in psychiatry

SELYE, HANS

The stress of life. New York McGraw Hill Book Company, Inc. 1956 324 p illus. 22 cm. $5 95 3417

Contents Book I, The discovery of stress Precursors of the stress concept. My first glimpse of stress. How to question nature. The birth of the G. A. S. Book II, The dissection of stress: Why did we need blueprint for the dissection? Inventory of assets—( ) the facts—(b) the abstractions—( ) materials and techniques. How does one dissect biologic mechanism? Results of the dissection. Stress in nutshell. Stress and inflammation. Synoptic view of the whole *stress-mechanism. The nature of adaptation.* Book III, The diseases of adaptation Diseases of the kidney the heart, and the blood vessels. Inflammatory diseases. Other diseases. "When scientists disagree. Book IV Sketch for unified theory The search for unification. How could the stress concept lead to more unified interpretation of biology and medicine? *Apologia for* teleologic thought in biology and medicine. Book Implications and applications Medical implications of the stress concept. Psychosomatic implications. Philosophic implications. The road ahead. Glossary *Index.*

Note A popular book about the author' significant work in medical research. It takes its title from his concept of stress, defined as essentially the rate of all the wear and tear caused by life. This theory and the companion idea, the general "adaptation syndrome, are fully discussed, and their medical *and* other implications are described. Much space is also devoted to descriptions of the technique of the author's work, including discussion of how his *Annual report on stress* is compiled. A summary of the controversy over the *stress* concept is included.

SULLIVAN, ALBERT JOSEPH, AND THOMAS E MCKELL

Personality in peptic ulcer Springfield, Ill. Charles C Thomas, 1950 100 p illus 22 cm. $3 00 3418

Contents: Emotional factors in peptic ulcer. Physiologic [illegible] the [illegible] emotion in ulceration. Theory of multiple etiology. Clinical classification of cases. The ulcer personality. The craving for [illegible] The precipitating situation. Inter-relation of various etiologic factors. Observations and predictions. Treatment. Report of cases. References. Index.

Note: A short but valuable study of peptic ulcer from the psychosomatic viewpoint. It is based on clinical observation of over 1,000 cases and detailed analyses of over 200. On these bases the authors divide ulcer patients into four groups: (a) the typical ulcer personality (b) definitely psychoneurotic cases, (c) cases due to striking external precipitating situation, and (d) those with no personality or situational psychic factors. The typical ulcer personality is described in some detail under these subheadings: drive, [illegible] ability, emotional [illegible], self-reliance, [illegible] sexual adjustment, [illegible], age, sex, race, geography. Eighteen cases typical of the four groups are described in some detail.

WEIDER, ARTHUR, editor

Contributions toward medical psychology theory and psychodiagnostic methods. New York The Ronald Press Company 1953 2 v illus. 23 cm. $12.00 3419

Contents: Volume 1, Part I, Psychology and medicine. The [illegible] of psychology as seen by a doctor of medicine, by A Gregg. The psychological aspects of medicine, by F Alexander. Part II, Some aspects of psychology. Theoretical schools of psychology by A. Ellis. Human infancy and the embryology of behavior, by A Gesell. Needs and drives of organisms, by [illegible] Determinants and components of personality by C Kluckhohn. What is normal behavior? by O. H. Mowrer. Part III, Psychosomatic interrelationships. Concept of psychosomatic affection, by J. L. Halliday. Guide to interviewing and clinical personality study by J. C. Whitehorn. Techniques of interviewing a patient with psychosomatic disorder by S. Cobb. The general adaptation syndrome in its relationships to neurology, psychology and psychopathology by H. Selye. Psychosomatic aspects of childhood, by L. W. Sontag. Life situations, emotions, and genetic function—summary by S. Wolf and H. G. Wolff. Life stress and bodily disease, by H. G. Wolff. The concept of culture and the psychosomatic approach, by M. Mead. Personality and chronic illness, by J. Ruesch. Psychosurgery by M. Greenblatt. Rehabilitation and convalescence—the third phase of medical care, by H. A. Rusk. Volume II. Part IV. Psychodiagnostic methods and medical practice. [illegible]

[illegible]

Note: A well-selected anthology of significant recent writings pertinent to medical psychology. It provides readily accessible background reading for such professions (and students preparing for them) as clinical psychology, psychotherapy and the general practice of medicine. The contributors include some of the most eminent physicians and psychologists now working in the United States of America, in such fields as psychology, psychological testing, and psychiatry.

WEISS, EDWARD, AND O SPURGEON ENGLISH

Psychosomatic medicine the clinical application of psychopathology to general medical problems. Second edition. *Philadelphia* W B Saunders Company 1949 803 p. illus. 24 cm. 3420

Contents. Part I, General aspects of psychosomatic medicine. Psychosomatic medicine. Personality development and psychopathology. Psychosomatic diagnosis. Treatment—general principles of psychotherapy. Treatment—"normal" problems in psychotherapy. Treatment—special psychotherapeutic procedures. Training in psychosomatic medicine. Part II, Special applications to general medicine and the specialties. The cardiovascular system. The cardiovascular system—emotional factors in organic heart disease. The cardiovascular system—essential hypertension. The gastrointestinal system. Endocrine system and metabolism. The genito-urinary system and the sexual function. The respiratory system. The central nervous system. Ear and eye. Skin disorders and allergies. Deceptive arthritis and orthopedic problems. Appendix. References. Selected references. Index.

Note: A useful treatise based on extensive clinical experience and written in terms of average medical practice. Its purpose is to help graduate medical practitioners who are not specialists in psychoanalysis and psychopathology to differentiate between symptoms of psychic origin and those of organic etiology, to pick out the emotional factors complicating physical disease, to uncover the underlying causes of these emotional disturbances, and to institute therapy. The first-named author is Professor of Clinical Medicine and his associate is Professor of Psychiatry. The first edition appeared in 1943. The original text was rearranged and widely rewritten for this edition. Also, much material, derived partly from medical experience during World War II and partly from additional civilian practice has been added. The book is suitable for use as a survey and orientation guide for graduate physicians and as [illegible] in courses in psychosomatic medicine offered to advanced medical college students. A third edition was published in 1957. 557 p. $10.00.

WITTKOWER, ERIC D, AND R. A CLEGHORN editors

Recent developments in psychosomatic medicine. Philadelphia J B Lippincott Company 1954 495 p 24 cm. $10.00 3421

Contents: Part I, General. Basic concepts of psychosomatic medicine, by A W Macleod and others. The problem of specificity in the psychosomatic process, by L. S. Kubie. Historical notes on psychosomatic medicine, by E. L. Margetts. Experimental research, by H. G. Wolff. Research—experimental and theoretical aspects, by R. B. Malmo. Studies on limbic system ("visceral brain") and their bearing on psychosomatic problems, by P. D. MacLean. The critical oversimplification of the symbolic process in relation to psychosomatic disorders, by L. S. Kubie. Psychotherapeutic principles in psychosomatic practice, by E. G. Margetts. Part II, Specific. The interplay between endocrine and psychological dysfunction, by R. A. Cleghorn. The thyroid, by T. Lidz. Psychological aspects of diabetes mellitus, by T. Lidz. Psychological aspects of gynecology and obstetrics, by D. O'Neill. Rheumatoid arthritis, by A. Q. Ludwig. Psychological aspects of skin diseases, by F. F. D. Seitz. Motivation and respiratory disorders, by L. J. Saul and J. W. Lyons. Psychological aspects of pulmonary tuberculosis, by J. Hartz. Cardiovascular disorders, heart disease, and hypertension, by M. F. Reiser and others. Psychosomatic aspects of patients with peptic ulcer by M. [illegible]. Psychological aspects of non-specific ulcerative colitis, by C. Mushatt. Venereal disease, by H. W. Brody. Psychosomatic medicine and pediatrics, by M. Sperling. Psychosomatic disorders and psychoses, by W. D. Ross. Disablement—the somatopsychological problem, by R. G. Barker and B. A. Wright. Psychosomatic disease due to battle stress, by A. E. Moll. Psychosocial medicine, by C. Cobb. Index of authors. Index of subjects.

Note: A broad survey of contemporary research in which the emphasis is on recent developments. Twenty-one of the contributors are from the United States of America, six are from Canada, and two from England. As to the choice of contributors, the editors have stated [illegible] number of individuals known for the excellence of their studies in their respective fields was requested to contribute. In some instances younger workers were invited who had recently been active in the field." The volume is addressed to graduate practitioners of medicine and is designed for reading rather than reference.

WOLFF, HAROLD G

Stress and disease Springfield, Ill. Charles C Thomas, 1953 199 p illus 22 cm. (American lecture series Publication no 166 A monograph in the Bannerstone division of American lectures in physiology, edited by Robert F Pitts) $5 50 3422

Contents The nature of stress for man. Experimentally observed effects of stress in man. The patient-physician relationship and the alteration of attitudes and bodily reactions. Epitome. Bibliography Author index. Subject index.

Note. In this book, stress is defined as " the interaction between its external environment and organism, with the past of experience of organism as a major factor " The general nature of stress for man and its concomitant bodily effects is covered, together with detailed analysis of experimental results of specific reactions of various organs of the body to stress. How attitudes and goals engendered by cultural pressures and individual experiences relate to offensive and defensive reactions in human functioning, producing diseases such as asthma, acne, diarrhea, hypertension headache, ulcers, and vasomotor rhinitis, is discussed on the basis of experimental and clinical evidence. Also discussed from the same viewpoint is the occurrence of epidemics in populations subjected to stress during war mass emigration from rural to industrial areas, and other transplantations from a known cultural milieu to a unaccustomed one. The book is based on the literature, including the author's own extensive writings on the subject, and includes a bibliography of 210 references.

YACORZYNSKI, GEORGE K.

Medical psychology, a basis for psychiatry and clinical psychology New York The Ronald Press Company, 1951 535 p illus 24 cm $6 00 3423

Content Introduction. Part I Basic psychobiological principles Biological needs. Emotions. Learning. Perception. Motives. Adjustment to conflicts. Part II, Inheritance and maturation Introduction to genetic psychology Inheritance of behavioral responses. Maturation related to physical and physiological factors. Maturation of more complex functions. Part III Integration—structure and structuralization of personality Introduction to personality The biological substratum of personality Behavioral manifestations of personality The structuralization of personality A partial list of some of the more recent texts in psychiatry and clinical and abnormal psychology Index of names. Index of subjects.

Note A succinct, introductory presentation of the generally accepted principles of human behavior written for medical college students who are preparing for further study of psychiatry and clinical psychology The style is more technical and the level of treatment more advanced than would be appropriate in a text intended for general college students. Also, there is more emphasis on the underlying physiology References to papers in which important experiments and clinical studies have been reported are carefully given. The author is Associate Professor of Nervous and Mental Diseases in the Medical School of Northwestern University

HEMATOLOGY

BIRCH, MRS CARROLL (LAFLEUR)

Hemophilia, clinical and genetic aspects Urbana The University of Illinois, 1937 151 p illus. 28 cm. (Illinois medical and dental monographs Vol I no 4) $2 00 3424

Contents History Clinical manifestations. Blood findings. Diagnosis. Course of the disease. Transmission. Hemophilia in the female. Summary of ninety-eight cases. Interesting facts found in family histories. Death rate. Genealogical charts. Bibliographical references. Index.

Note: This monograph presents data collected by the writer during period of nine years at the Research and Educational Hospital of the University of Illinois. Following a discussion of the various aspects of the disease, the case reports are presented with graphs and genealogical charts, the latter compiled with great care and limited largely to verified data. The book is well illustrated. It is intended for all students and practitioners of medicine.

BLACKFAN, KENNETH D, AND LOUIS K DIAMOND

Atlas of the blood in children. With illustrations by C Merrill Leister Cambridge, Mass Harvard University Press, 1944 320 p illus. (part col'd) 28 cm. $12.00 3425

Contents The blood cells. The erythrocytes in anemia. The leukocytes in disease. Leukemia. The platelets. Bibliography Plates. Index.

Note A work of interest to pediatricians and also to practitioners of medicine concerned with blood disorders in adults. It is based on the authors' clinical experience in the Infants' and Children's Hospitals in Boston. It does not represent an attempt to cover all of the blood disorders of childhood, but it does cover the diseases encountered by the authors in approximately 20 years of experience at these hospitals. The text occupies 144 pages, but it is supplemented by selected bibliography of pertinent literature. The 70 plates are reproduced in color.

CARTWRIGHT, GEORGE E

Diagnostic laboratory hematology New York Grune & Stratton, 1954 104 p. illus. 22 cm $3 00 3426

Contents (abridged): The equipment and its care. Obtaining the specimen of blood. Determination of hemoglobin. Volume of packed red cells. Calculation of corpuscular constants. The blood smear Examinations concerned with coagulation of blood. Examinations concerned with hemolysis. Examination of bone marrow Examination of blood pigments related to hemoglobin. Examination of urine pigments related to hemoglobin. Examination of stool pigments related to hemoglobin. Other examinations. Preparation of solutions. Index.

Note A useful, compact manual of diagnostic procedures in hematology It is limited to methods that can be carried out in the offices of general medical practitioners and in student laboratories with simple, low-cost equipment. Techniques are described explicitly and in detail, and the interpretation of the results also is discussed where necessary The volume is not for specialists, nor are the methods described necessarily those that would be followed in a fully equipped diagnostic laboratory

CUSTER, RICHARD PHILIP

An atlas of the blood and bone marrow 285 illustrations 42 in color Philadelphia W B Saunders Company, 1949 321 p. illus. (part col'd) 29 cm. $18 00 3427

Contents. Part I, The hemolytopoietic system: Terminology Hematopoiesis. Normal blood and bone marrow Part II, Disorders of the blood and bone marrow: Classification. Deficiency anemias. Aplastic and hypoplastic anemias. Displacement of bone marrow Hypersplenism. Hemolytic anemias. Ill-defined anemias. Hemorrhagic states. Effects of physical and chemical agents. Leukocytosis, leukemoid reactions, and leukopenia. Infections. The leukemias. Polycythemia. Technic. Index.

Note: A considerable number of excellent reproductions of microphotographs made at high orders of magnification and showing rather large microfields are main feature of this book. Some of the microphotographs have been reproduced in color. The illustrative matter is accompanied by full textual discussions of points that are important in diagnosis in diseases of the blood and bone marrow. Special attention is given to the correlation of changes in the bone marrow with changes in the blood.

DALAND, GENEVA A

A color atlas of morphologic hematology with a guide to clinical interpretation. By Geneva A. Daland edited by Thomas Hale Ham. Illustrations by Etta Piotti From the second and fourth (Harvard) medical services and the Thorndike Memorial Laboratory Boston City Hospital. Cambridge Mass. Harvard University Press 1951 74 p. illus. (part col'd) 29 cm $5 00 3428

Contents: Value and limitations of the blood film in diagnosis. Preparation of blood films. Preparation of the color plates. General characteristics of formed elements of blood stained with Wright's stain. Plate I, The red cells and the erythrocytic series. Plate II, The white cells. The platelets and the thrombocytic series. Case studies of various disorders of the blood. Plate III, Pernicious anemia. Plate IV Hypochromic anemia (iron-deficiency anemia) Plate V Cooley's anemia (thalassemia major, Mediterranean anemia). Plate VI, Sickle-cell anemia. Plate VII, Hemolytic anemia —chronic and acute. Plate VIII, Erythroblastosis fetalis. Plate IX, Acute blood loss; chronic lead poisoning. Plate X, Myelogenous leukemia. Plate XI, Monocytic leukemia. Histiocytic leukemia and leukocytes in other conditions. Plate XII, Lymphocytic leukemia. Plate XIII, Plasma-cell leukemia. Plate XIV Infectious mononucleosis. Bibliography. Index.

Note: The 14 plates in full color, the titles of which are given above, are the heart of this book. Its purpose is to facilitate the detection of abnormalities of blood cells in blood films stained with Wright's stain. The plates are accompanied by detailed interpretations. The plates and the specific interpretations are prefaced by descriptions of techniques of preparing blood films or glass slides and of the types of blood cells.

DAMESHEK, WILLIAM AND C. STUART WELCH

Hyperspleniam and surgery of the spleen. Based on exhibits presented at the annual meetings in *1947 and 1951* of the American Medical Association. New York Grune & Stratton, 1953 84 p. illus. (part col'd) 31 cm. $10.00. 3429

Contents: The spleen. Hypersplenism. Hemolytic anemia. "Idiopathic" thrombocytopenic purpura. Splenectomy. Surgery of the spleen—splenectomy. Portal hypertension and its therapy. Summary and conclusions. Bibliography.

Note: Display material created for the two exhibits mentioned in the title has been assembled in this volume with little modification. The aspects of the subject which are treated in the above contents are covered, not in narrative text designed for straightforward reading but by presenting the information in graphs, microphotographs, colored photographs and explanatory legends. It affords an authoritative view of hypersplenism and surgery of the spleen which can be looked through in less than an hour, but the main point of interest is in the techniques of teaching by display which it illustrates. The volume does not have conventional format, but consists of leaves printed on one side and held together with plastic ring binding strip.

DAMESHEK, WILLIAM editor

Morphologic hematology New York Grune & Stratton, 1947 200 p. illus. 26 cm. (Blood, the journal of hematology Special issue no. 1) *$4 75* 3430

Contents: The histopathology of lesions in the bone marrow of patients having active brucellosis, by R. D. Sundberg and W. Spink. In vitro study of bone marrow: I. A method for marrow culture—II. Studies of erythropoiesis, by C. M. Plum. Normal bone marrow as obtained by sternal puncture, by S. L. Vaughan and F. Brockmyre. Hemopoiesis and myelopoiesis of the healthy female mice of C-57 brown and CFW strains, by K. M. Endicott and H. Gump. Cytomorphological observations in Hodgkin's disease, by J. Furtado. A physiological study of erythroblasts in the duck, by R. E. Rebuck and R. H. Rigdon. A method for the separation of leukocytes from whole blood by flotation on serum albumin, by B. L. Vallee and others. The preparation of morphologically intact leukocytes from peripheral blood by means of [illegible] and lysolecithin, by T. F. Singer and others. Comparative studies of phagocytosis in normal and in anemic blood, by L. J. Berry and others. The influence of anemia on phagocytic functions in rats, by L. J. Berry and E. C. Ritter. The influence of anemia on phagocytic function and resistance to infection in mice, by L. J. Berry and E. C. Ritter. Certain characteristics of the leukocytes of guinea pig blood with particular reference to the Kurloff body, by E. Smith. Studies on the adhesion of human blood platelets and bacteria, by R. B. Houlihan. The adhesion of dog platelets to bacteria, by R. B. Houlihan. Studies on platelets: The effect of platelets on the surface tension of saline solutions and heparinized plasmas, by A. L. Copley and D. F. Glass. The isolation of platelets from human and dog blood. The agglutination of platelets isolated from human, dog and [illegible] blood, by A. L. Copley and R. B. Houlihan. Index.

Note: A collection of papers prepared by scientists and research workers associated with some of the leading medical schools in the United States of America. Each paper is based on investigations carried out by the writer. Bibliographies or lists of references are given at the end of each paper and general index has been provided.

FOWLER, WILLIS MARION

Hematology for students and practitioners. Revised second edition. With 184 illustrations, eight plates in full color New York Paul B Hoeber Inc., Medical Book Department of Harper & Brothers 1949 535 p. illus. (part col d) 24 cm. $8.50. 3431

Contents: The hematopoietic system. The erythrocytes. The leukocytes. The blood platelets or thrombocytes. Normal hematologic values. Leukocytosis and leukopenia. Classification and general discussion of anemia. Pernicious anemia and related macrocytic anemias. Iron deficiency anemias. Aplastic anemia. Myelophthisic anemias and anemias secondary to other diseases. Anemia due to acute blood loss—blood donors. Hemolytic anemias. Banti's syndrome. Polycythemia. Hemorrhagic diseases. Leukemia. Lymphomata. Agranulocytosis. Infectious mononucleosis. Multiple myeloma and lipoid dystrophies. Hematology in infancy and childhood. Transfusion of whole blood and blood derivatives, by E. L. DeGowin. Hematologic methods. Index.

Note: A practical textbook developed from material used in teaching in the Medical School of the University of Iowa. The author treats hematology as part of internal medicine and not as specialized field. Controversial issues are avoided. This revision of the 1945 edition incorporates new developments in the field with emphasis on clinical aspects and treatment. Among others, the therapeutic values of folic acid, urethane, nitrogen mustard, and radiophosphorus are discussed and evaluated. There are extensive citations of periodical literature documenting each chapter.

LAWRENCE, JOHN H

Polycythemia physiology a diagnosis and treatment based on 303 cases. New York Grune & Stratton, 1955 136 p. illus. (part col d) 23 cm. (Modern medical monographs. No 13) $5.50 3432

Contents: Introduction. Polycythemia vera. Relative polycythemia. Secondary polycythemia. Summary. Case histories. References. Index.

Note: The disorders of the blood discussed in this monograph are uncommon but are of considerable physiologic and clinical interest. In the case of secondary polycythemia vera, there is correlation between incidence and high altitudes. The book is based partly on the literature and partly on the author's experience and investigations. Polycythemia vera is discussed in regard to clinical picture, physiology, incidence, pathology, therapy, prognosis, etc., and the chapter on it includes the results of studies by the author and his associates on more than 150 patients, including patients treated with radioactive phosphorus, therapeutic technique introduced by the author. The chapter on secondary polycythemia includes the findings made in studies by the author and others on people living between 14,000 and 16,400 feet altitude in Peru. The clinical features of the three diseases, polycythemia vera, relative polycythemia, and secondary polycythemia, are concisely surveyed in the summary chapter. A comprehensive bibliography is included.

LEJWA ARTHUR, editor

Nutritional anemia. Springfield, Ill. Charles C Thomas, 1948 194 p. illus. 23 cm. (Symposia on Nutrition of The Robert Gould Research Foundation. Vol. 1) $2 75 3433

Contents: Introductory remarks, by E. V. McCollum. Physiological implications of the anemic state, by M. M. Wintrobe. The physiology of folic acid, by C. A. Elvehjem. The treatment of nutritional anemias with folic acid, by W. J. Darby. The syndrome of megaloblastic anemia in infancy, by W. W. Zuelzer. Some biochemical aspects of metabolism of iron and copper, by M. O. Schultze. Studies on the iron-binding capacity of serum, by G. E. Cartwright. Iron metabolism and hypochromic anemia, by C. V. Moore. Hypochromic anemia in infancy, by G. M. Guest. The vitamin B complex and anemia, by W. H. Sebrell. Vitamin C and anemia, by R. W. Vilter.

Wolff, Harold G

Stress and disease. Springfield Ill. Charles C Thomas, 1953 199 p. illus 22 cm. (American lecture series Publication no 166 A monograph in the Bannerstone division of American lectures in physiology, edited by Robert F Pitts) $5.50 3422

Contents. The nature of stress for man Experimentally observed effects of stress in man. The patient-physician relationship and the alteration of attitudes and bodily reactions. Epitome. Bibliography Author index. Subject index.

Note In this book, stress is defined as the interaction between its external environment and organism, with the past of experience of organism as a major factor The general nature of stress for man and its concomitant bodily effects is covered, together with a detailed analysis of experimental results of specific reactions of various organs of the body to stress. How attitudes and goals engendered by cultural pressures and individual experiences relate to offensive and defensive reactions in human functioning, producing diseases such as asthma, acne, diarrhea, hypertension, headache, ulcers, and vasomotor rhinitis, is discussed on the basis of experimental and clinical evidence. Also discussed from the same viewpoint is the occurrence of epidemics in populations subjected to stress during war, mass emigration from rural to industrial areas, and other transplantations from a known cultural milieu to a unaccustomed one. The book is based on the literature, including the author's own extensive writings on the subject, and includes a bibliography of 210 references.

Yacorzynski, George K.

Medical psychology, a basis for psychiatry and clinical psychology New York The Ronald Press Company, 1951 535 p illus. 24 cm. $6 00 3423

Contents Introduction. Part I, Basic psychobiological principles Biological needs. Emotions. Learning. Perception Motives. Adjustment to conflicts. Part II, Inheritance and maturation Introduction to genetic psychology Inheritance of behavioral responses. Maturation related to physical and physiological factors. Maturation of more complex functions. Part III, Integration—structure and structuralization of personality Introduction to personality The biological substratum of personality Behavioral manifestations of personality The structuralization of personality A partial list of some of the more recent texts in psychiatry and clinical and abnormal psychology Index of names. Index of subjects.

Note A succinct, introductory presentation of the generally accepted principles of human behavior written for medical college students who are preparing for further study of psychiatry and clinical psychology The style is more technical and the level of treatment more advanced than would be appropriate in a text intended for general college students. Also, there is more emphasis on the underlying physiology References to papers in which important experiments and clinical studies have been reported are carefully given. The author is Associate Professor of Nervous and Mental Diseases in the Medical School of Northwestern University

HEMATOLOGY

Birch, Mrs Carroll (LaFleur)

Hemophilia, clinical and genetic aspects. Urbana The University of Illinois 1937 151 p illus 28 cm. (Illinois medical and dental monographs Vol I, no 4) $2 00 3424

Contents History Clinical manifestations. Blood findings. Diagnosis. Course of the disease. Transmission. Hemophilia in the female. Summary of ninety-eight cases. Interesting facts found in family histories. Death rate. Genealogical charts. Bibliographical references. Index.

Note. This monograph presents data collected by the writer during a period of nine years at the Research and Educational Hospital of the University of Illinois. Following discussion of the various aspects of the disease, the case reports are presented with graphs and genealogical charts, the latter compiled with great care and limited largely to verified data. The book is well illustrated. It is intended for all students and practitioners of medicine.

Blackfan, Kenneth D, and Louis K. Diamond

Atlas of the blood in children With illustrations by C. Merrill Leister Cambridge, Mass. Harvard University Press, 1944 320 p illus. (part col'd) 28 cm. $12.00 3425

Contents The blood cells. The erythrocytes in anemia. The leukocytes in disease. Leukemia. The platelets. Bibliography Plates. Index.

Note. A work of interest to pediatricians and also to practitioners of medicine concerned with blood disorders in adults. It is based on the authors' clinical experience in the Infants' and Children's Hospitals in Boston. It does not represent an attempt to cover all of the blood disorders of childhood, but it does cover the diseases encountered by the authors in approximately 20 years of experience at these hospitals. The text occupies 144 pages, but it is supplemented by a selected bibliography of pertinent literature. The 70 plates are reproduced in color.

Cartwright, George E

Diagnostic laboratory hematology New York Grune & Stratton, 1954 104 p. illus. 22 cm. $3 00 3426

Contents (abridged) The equipment and its care. Obtaining the specimen of blood. Determination of hemoglobin. Volume of packed red cells. Calculation of corpuscular constants. The blood smear Examinations concerned with coagulation of blood. Examinations concerned with hemolysis. Examination of bone marrow Examination of blood pigments related to hemoglobin. Examination of urine pigments related to hemoglobin. Examination of stool pigments related to hemoglobin. Other examinations. Preparation of solutions. Index.

Note: A useful, compact manual of diagnostic procedures in hematology It is limited to methods that can be carried out in the offices of general medical practitioners and in student laboratories with simple, low-cost equipment. Techniques are described explicitly and in detail, and the interpretation of the results also is discussed where necessary The volume is not for specialists, nor are the methods described necessarily those that would be followed in a fully equipped diagnostic laboratory

Custer, Richard Philip

An atlas of the blood and bone marrow 285 illustrations 42 in color Philadelphia W B Saunders Company 1949 321 p. illus. (part col'd) 29 cm. $18 00 3427

Contents Part I, The hemolytopoietic system Terminology Hematopoiesis. Normal blood and bone marrow Part II, Disorders of the blood and bone marrow Classification. Deficiency anemias. Aplastic and hypoplastic anemias. Displacement of bone marrow Hypersplenism. Hemolytic anemias. Ill-defined anemias. Hemorrhagic states. Effects of physical and chemical agents. Leukocytosis, leukemoid reactions, and leukopenia. Infections. The leukemias. Polycythemia. Technic. Index.

Note: A considerable number of excellent reproductions of microphotographs made at high orders of magnification and showing rather large microfields are main feature of this book. Some of the microphotographs have been reproduced in color The illustrative matter is accompanied by full textual discussions of points that are important in diagnosis in diseases of the blood and bone marrow Special attention is given to the correlation of changes in the bone marrow with changes in the blood.

Daland, Geneva A

A color atlas of morphologic hematology with a guide to clinical interpretation. By Geneva A. Daland edited by Thomas Hale Ham Illustrations by Etta Piotti. From the second and fourth (Harvard) medical services and the Thorndike Memorial Laboratory Boston City Hospital. Cambridge Mass. Harvard University Press 1951 74 p. illus. (part col d) 29 cm. $5 00 3428

E. Gasser. Abnormal hemorrhage with normal platelet count and normal clotting, by R. L. Haden and others. Clinical aspects of hypoprothrombinemia, by C. S. Davidson and H. J. Tagnon.

Note: The papers comprising this volume were prepared by medical authorities and research workers in the field of hematology and were first presented at a conference sponsored by the New York Academy of Sciences. Based on the original investigations of the authors, and in some cases on a survey of literature of the subject, they provide a review of current knowledge and some new information regarding various aspects of the mechanism and physiology of blood coagulation and hemorrhage. Most of the papers include brief bibliographies. There is no index.

STEFANINI, MARIO, AND WILLIAM DAMESHEK

The hemorrhagic disorders a clinical and therapeutic approach. *New York* Grune & Stratton 1955 368 p. illus. (part col'd) 26 cm. $12.50 3440

Contents: The normal hemostatic process. Classification of hemorrhagic diseases. Hemorrhagic disorders due to defects of the vascular factor of hemostasis. The thrombocytopenic states. Disorders due to deficiency of factors participating in the blood coagulation mechanism. Hemorrhagic diseases of complex etiology with involvement of multiple hemostatic mechanisms. Hemorrhagic disorders due to circulating anticoagulants. Bleeding tendency due to fibrinolysis ("fibrinolytic purpura"). The bleeding tendency of obstetric accidents—Of dysproteinemias. General considerations on the treatment of hemorrhagic disorders. Hereditary aspects of the hemorrhagic disorders. Appendix: Technics in the study of hemorrhagic disorders. Addendum. References. Index.

Note: A monograph of broad scope addressed primarily to [illegible] physicians. The range of hemorrhagic disorders covered is apparent from the chapter titles which are listed above. The first chapter is an extensive discussion of the normal hemostatic mechanism, and it concludes with a statement of a working hypothesis offered as a step-by-step description of the coagulation mechanism in vivo. Most of the book is devoted to the known hemorrhagic disorders. Generally speaking, each disease is described as to pathogenetic mechanism, clinical picture, laboratory findings, management and prognosis. Techniques of laboratory clinical study of hemorrhagic disorders are fully described in the 24-page appendix. There are 127 figures and a bibliography of 413 references.

STURGIS CYRUS C

Hematology Second edition. Springfield, Ill. Charles C Thomas, 1955 1,222 p. illus (part col'd) 26 cm. $19.50 3441

Contents: Classification and general remarks concerning the anemias. Simple chronic anemia. Iron deficiency anemia (hypochromic, microcytic anemia). Anemias of pregnancy. The hemolytic anemias. Pernicious anemia and other macrocytic anemias. Chronic congestive splenomegaly (Banti syndrome). Aplastic and allied anemias. Sickle cell anemia. Ovalocytosis. Hereditary leptocytosis (Mediterranean anemia). Erythroblastosis fetalis. Hemorrhagic states due to changes in the normal clotting elements of the blood. Hemorrhagic states (platelet deficiencies). Changes in leukocytes. The leukemias. Malignant lymphoma. Infectious mononucleosis. Agranulocytosis. Polycythemia. The lipidoses. Sternal puncture. Blood transfusion and blood substitutes. Index.

Note: A comprehensive, well-organized text and reference book on pathological conditions of the blood and on related topics. About half of the space is devoted to the various anemias. Synonyms, definitions, history, etiology, symptoms and signs, laboratory problems, treatment and prognosis are covered for each disorder. The first edition was published in 1948. The extent of revision and augmentation can be gauged by the fact that, in spite of the deletion of some material, there has been an increase of approximately 300 pages. Again, there is extensive citation of the literature. However the comprehensive bibliography has been [illegible] up and the bibliographies now are included in the chapters. In [illegible] the published contributions of others, the author often interprets criticism of his own in such terms as the following: "I have had no experience with this form of therapy and would not employ [illegible] the patient were seriously ill, and only after [illegible] had been given a trial."

STURGIS CYRUS C

Hypersplenism a clinical evaluation. The Beaumont Lecture, Wayne County Medical Society January 21 1952 Springfield Ill. Charles C Thomas, 1953 97 p. illus. 22 cm. (A monograph in American lectures in medicine. Publication no. 175) $3.25 3442

Contents: Introduction. Hypersplenism. Structure and function of the spleen. Circulation of the spleen and the relation of the spleen filter to [illegible]. Changes resulting from removal of the normal accessories spleen. The effect of splenectomy on pregnancy in women of the child-bearing age. The mechanism of hypersplenism—the theory supported by Dameshek. The theory that hypersplenism is due to a humoral effect on the bone marrow. Auto-antibody theory in relation to hypersplenism. Classification and types of hypersplenism. The diagnosis of hypersplenism. Hereditary spherocytosis. Acquired hemolytic anemia. Idiopathic thrombocytopenic purpura. Banti's syndrome. Splenic neutropenia. Primary and secondary acquired splenic panhematopenia. Miscellaneous conditions in which hypersplenism may play a role. Recurrence following splenectomy. Summary of indications for and contraindications against splenectomy. Bibliography. Index.

Note: A brief and readable survey written primarily from the clinical viewpoint but including also an outline of the physiological knowledge. A bibliography of 64 citations is included.

SUNDERMAN, F WILLIAM AND OTHERS

Clinical hemoglobinometry by F William Sunderman R. P MacFate D A. MacFadyen, G F Stevenson and B E Copeland. Baltimore The Williams & Wilkins Company 1953 79 p. illus. 26 cm. $2.50 3443

Contents: Part I, General considerations. Part II, Hemoglobinometry. Part III, Appendix: Methodology and practical considerations. Bibliography.

Note: Although only a thick pamphlet in format, this work is a contribution of importance to its subject. Its purpose is to point out the need for the establishment of uniform techniques and standards of measurement in hemoglobinometry. It presents background information, describes current techniques, and presents full descriptions of methods recommended for practical use in clinical laboratories. A bibliography of 449 references lists the pertinent international literature. The material was originally prepared for a symposium at a joint meeting of the American Society of Clinical Pathologists and the College of American Pathologists.

THANNHAUSER, SIEGFRIED J

Lipidoses diseases of the cellular lipid metabolism. Edited by Henry A. Christian. (Reprinted from Oxford loose-leaf medicine with the same page numbers as in that work) Second edition New York Oxford University Press 1950 595 10 p. illus. (part col'd) 24 cm. $18.00 3444

Contents (abridged): Part I, The physiology and chemistry of lipid metabolism. Part II, Hyperlipemia. Part III, Xanthomatoses: Hypercholesteremic xanthomatoses. Hyperlipemia (accumulation of neutral fat in serum) with secondary eruptive xanthoma. Normocholesteremic xanthomatoses. Part IV Gaucher's disease (reticular and histiocytic cerebrosidosis). Part V Niemann-Pick's disease (reticular and histiocytic sphingomyelinosis). Supplement: Infantile amaurotic idiocy. Hurler-Pfaundler syndrome (gargoylism). Index.

Note: A monographic review of the groups of diseases named in the part-titles. The first chapter is an outline with key-numbered references to the literature of the knowledge of the biochemistry of lipid metabolism. Comprehensive lists of international literature pertaining to each group of diseases are a special feature. There are 124 figures. The first edition was published in 1940. Moderately extensive revisions are evident in several parts of this edition.

TOCANTINS LEANDRO M., editor

The coagulation of blood methods of study Prepared with the help and under the sponsorship of the Panel on Blood Coagulation of the Committee on Medicine and Sur

Note This volume is made up of papers prepared for the Symposium on Nutritional Anemia organized by The Robert Gould Research Foundation and held in Cincinnati on October 16–18, 1947 under the auspices of the College of Medicine of the University of Cincinnati. The program was prepared in collaboration with members of the Scientific Advisory Committee of the Foundation, 11 specialists being invited to present various aspects of their particular fields of research.

POLLAK, OTAKAR JAROSLAV

Grouping, typing and banking of blood. Springfield, Ill Charles C Thomas, 1951 163 p illus 24 cm $5 75 3434

Contents Theoretical background of blood grouping. Technic of blood grouping. The Rh factors. Technic of Rh testing. Erythroblastosis fetalis. Compatibility tests. The blood bank. Whole blood transfusion. The use of blood fractions. References. Charts. Index.

Note A compendium of technical information designed primarily for use by such personnel as nurses, hospital house officers, and physicians who are concerned with the management of blood banks. The various aspects of blood bank administration and blood transfusion that are named in the chapter titles are discussed practically and with relative simplicity The list of 100 references is a selected one. There are 40 tables of reference data in the text itself and 10 charts at the end of the book printed so that they may be removed and mounted more conveniently

PONDER, ERIC

Hemolysis and related phenomena With 69 illustrations New York Grune & Stratton, 1948 398 p illus 23 cm $10 00 3435

Contents Introduction. Shape changes unaccompanied by volume changes. Shape changes accompanied by volume changes. Cytochemistry and architecture. The kinetics of hemolysis. Inhibition and acceleration of hemolysis. Hemolysis in vivo. Appendices The red cells of the Camelidae. Hemolysis and related phenomena observed in nucleated red cells. Red cell counting. Red cell metabolism. References. Author index. Subject index.

Note An exhaustive account of the present status of knowledge of the red blood cell and the hemolytic processes in mammals. Following the chapters on the shape changes, the cytochemistry and the architecture of the erythrocyte, hemolysis is explained from the viewpoint of kinetics and discussed in connection with phenomena preceding, accompanying, and following the lysis. A major part of the text is devoted to the description and analysis of measuring methods and tabulation of data. Addressing himself primarily to specialists in the field, the author supplies a critical evaluation of methods and results in each of the problems discussed, stressing the inadequacy of present solutions and the need for further investigations. The bibliography contains references to more than 600 articles.

PONDER, ERIC AND OTHERS

Some aspects of red cell production and destruction. New York New York Academy of Sciences 1947 128 p illus 24 cm (New York Academy of Sciences Annals Vol. 48 p 577–704 1947) $2 00 3436

Content Red cell cytochemistry and architecture by E. Ponder The endocrine system and hemopoiesis, by A. S Gordon and H. A. Charipper Hemoglobin and red cell production in experimental hemorrhagic anemia, by F S. Robscheit Robbins. Iron and porphyrin metabolism in relation to the red blood cell by S. Granick. Etiologic considerations in macrocytic anemias, by W B Castle. Hemolytic mechanisms, by W Dameshek.

Note A collection of papers presented at a conference held in April, 1946, under the auspices of the New York Academy of Sciences. Each paper has been prepared by an authority in the field of hematology Together the papers provide a review of studies regarding the formation and destruction of red blood cells. The results of experiments and various hypotheses are critically evaluated and lines of future research indicated. Bibliographies are included.

PROGRESS IN HEMATOLOGY Volume I 1956 Edited by Leandro M Tocantins with 27 contributors New York Grune & Stratton 1956 336 p illus 26 cm $9 75 3437

Contents Introduction, by L. M. Tocantins. Gastric intrinsic factor and vitamin B₁₂ interrelationships, by C. C. Ungley and K. B Thompson. Parenterally administered iron in the treatment of hypochromic anemia, by E. B Brown and C. V Moore. Exchange transfusion as a therapeutic measure with special reference to its use in erythroblastosis fetalis, by T R. Boggs, Jr The life span of erythrocytes and their post-transfusion survival, by M. M. Strumia. Abnormal hemoglobins, by W R Zeller and others. Radioactive colloidal gold in the treatment of severe acquired hemolytic anemia refractory to splenectomy by L. M. Tocantins and G. C. Wang. Radioactive phosphorus in the treatment of primary polycythemia (vera) by L. A. Erf. The autoimmune thrombocytopenias, by W J Harrington and others. Guiding principles in the surgery of hemophilic patients, by A. F DePalma. Mechanisms of production of acute fibrinogen deficiencies, by C. L Schneider Local environmental factors affecting hemostasis in bleeding from the gastrointestinal tract, by T Bódi and others. Systemic lupus erythematosus and the blood, by M. M. Hargraves and R. W Opfell. Chemotherapy of human leukemia, by J. H Burchenal and R. R. Ellison. The biochemistry and enzymatic activities of leukocytes in health and disease by W N Valentine. Hematologic recovery from irradiation injury by L. O. Jacobson Agammaglobulinemia—congenital, acquired and transient forms, by D Gitlin and C. A. Janeway Index.

Note The first volume of a series. Apparently the frequency of appearance of further volumes had not been determined when this volume was sent to press. The titles and authors' names of the papers contained in it are listed above. The papers are topical reviews based on extensive literature surveys, and each is accompanied by a long list of references to the international literature. Unlike some review series, the authors were not limited to reviewing the literature of a stated period, but ranged over as much of the field as was necessary in order to present an adequate account of the current state of their topics. Some literature published as long ago as the 19th century is cited in some of the papers. However, publications of recent years predominate The reviews are addressed to graduate physiologists and graduate physicians.

SEEGERS, WALTER HALTER, AND ELWOOD A. SHARP

Hemostatic agents, with particular reference to thrombin, fibrinogen and absorbable cellulose. Springfield, Ill. Charles C Thomas, 1948 131 p illus (part col'd) 23 cm. $4 75 3438

Contents Clotting of the blood. Mechanics of topical hemostasis with thrombin. Thrombin. Fibrinogen. Oxidized cellulose. Fibrin foam and gelatin sponge. References. Index.

Note A brief but useful evaluation from the viewpoint of practical clinical medicine of some recent developments and discoveries regarding the chemistry of blood clotting and hemorrhage control. The book is based on a survey of literature of the subject and deals primarily with the properties, methods of preparation and clinical use of various hemostatic agents. The references, cited throughout the text, are keyed to a 25-page bibliography which includes mainly literature published in the period 1936–1946.

SHWARTZMAN GREGORY AND OTHERS

Hemorrhage. New York New York Academy of Sciences 1948 178 p illus 24 cm. (New York Academy of Sciences. Annals. Vol 49 p 483–660 1948) $3 00 3439

Content Introductory remarks, by G. Shwartzman. A review of some basic facts of blood coagulation by J H. Ferguson. Heparin in blood clotting and thrombosis, by C H. Best and L. B. Jaques. The relationship of Vitamin K to hemorrhage and coagulation, by S. A. Thayer. Hemorrhagic manifestations observed in experimental deficiency of pantothenic acid, choline and cystine, by P György The effects of hemorrhage on the circulation, by W Richards, Jr Experimental studies on traumatic and hemorrhagic shock, by M. I. Gregersen. Vasomotion in the hemodynamics of the blood capillary circulation, by R. Chambers. Reactions of peripheral blood vessels in experimental hemorrhage by B W Zweifach and others. Hepato-renal factors in circulatory homeostasis III The influence of humoral factors of hepato-renal origin on the vascular reactions to hemorrhage by E. Shorr and others. Effects of hemorrhage on the kidney by D D. Van Slyke Metabolic changes associated with hemorrhage by A. E. Wilhelmi and C. N H. Long Certain anatomopathologic aspects of hemorrhage by P Klemperer Hemorrhagic manifestations of bacterial and virus infections experimental studies and pathological interpretations, by G Shwartzman and L.

E. Gerber. Abnormal hemorrhage with normal platelet count and normal clotting, by R. L. Rosen and others. Clinical aspects of hypoprothrombinemia, by C. E. Davidson and H. J. Tagnon.

Note: The papers comprising this volume were prepared by medical authorities and research workers in the field of hematology and were first presented at a conference sponsored by the New York Academy of Sciences. Based on the original investigations of the authors, and in some cases on a survey of literature of the subject, they provide a review of current knowledge and some new information regarding various aspects of the mechanism and physiology of blood coagulation and hemorrhage. Most of the papers include brief bibliographies. There is no index.

STEFANINI, MARIO AND WILLIAM DAMESHEK

The hemorrhagic disorders a clinical and therapeutic approach. New York Grune & Stratton, 1955 368 p. illus. (part col'd) 26 cm. $12.50. 3440

Contents: The normal hemostatic process. Classification of hemorrhagic diseases. Hemorrhagic diseases due to defects of the vascular factor of hemostasis. The thrombocytopenic states. Diseases due to deficiency of factors participating in the blood coagulation mechanism. Hemorrhagic diseases of complex etiology with involvement of multiple hemostatic mechanisms. Hemorrhagic diseases due to circulating anticoagulants. Bleeding tendency due to fibrinolysis ("fibrinolytic purpura"). The bleeding tendency of [illegible] accidents—Of dysproteinemias. General considerations on the treatment of hemorrhagic disorders. Hereditary aspects of the hemorrhagic disorders. Appendices: Technics in the study of hemorrhagic disorders. Addendum. References. Index.

Note: A monograph of broad scope addressed primarily to graduate physicians. The scope of hemorrhagic disorders covered is apparent from the chapter titles which are listed above. The first chapter is an extensive discussion of the normal hemostatic mechanism, and it concludes with a statement of a working hypothesis offered as a step-by-step description of the coagulation mechanism in vivo. Most of the book is devoted to the known hemorrhagic disorders. Generally speaking, each disease is described as to pathogenetic mechanism, clinical picture, laboratory findings, management and prognosis. Techniques of laboratory clinical study of hemorrhagic disorders are fully described in the [illegible]-page appendix. There are 117 figures and a bibliography of [illegible] references.

STURGIS CYRUS C.

Hematology Second edition. Springfield, Ill. Charles C Thomas 1955 1,222 p. illus. (part col'd) 26 cm. $19.50. 3441

Contents: [illegible] and general remarks concerning the anemias. Simple chronic anemia. Iron deficiency anemia. Chlorosis. Macrocytic anemia[illegible]. Anemias of pregnancy. The hemolytic anemias. Pernicious anemia and other macrocytic anemias. Chronic congestive splenomegaly (Banti's syndrome). Aplastic and allied anemias. Sickle cell anemia. Ovalocytosis. Hereditary leptocytosis (Mediterranean anemia). Erythroblastosis fetalis. Hemorrhagic states due to changes in the normal clotting elements of the blood. Hemorrhagic states (platelet deficiencies). Changes in leukocytes. The leukemias. Malignant lymphoma. Infectious mononucleosis. Agranulocytosis. Polycythemia. The [illegible]. [illegible]. Blood transfusion and blood substitutes. Index.

Note: A concentrated, well-organized text and reference book on pathological conditions of the blood and on related topics. About half of the space is devoted to the various anemias. Synonyms, definitions, history, etiology, symptoms and signs, laboratory findings, treatment and prognosis are covered for each disorder. The first edition was published in 1948. The extent of revision and [illegible] can be judged by the fact that, in spite of the [illegible] of some material, there has been an increase of approximately [illegible] pages. Again, there is extensive citation of the literature. However, the comprehensive bibliography has been given up and the bibliographies now are included in the chapters. In summarizing the published contributions of others, the author often interjects [illegible] of his own in such terms as the following: "I have had no experience with this form of therapy and would not employ it unless the patient were severely ill, and only after [illegible] had been given a trial."

STURGIS CYRUS C

Hypersplenism a clinical evaluation. The Beaumont Lecture, Wayne County Medical Society January 21 1952 Springfield, Ill. Charles C Thomas, 1953 97 p. illus. 22 cm. (A monograph in American lectures in medicine. Publication no. 175) $3.25 3442

Contents: Introduction. Hypersplenism. Structure and function of the spleen. Circulation of the spleen and the relation of the [illegible] to [illegible]. Changes resulting from removal of the normal [illegible] spleen. The effect of splenectomy on pregnancy in women of the child-bearing age. The mechanism of hypersplenism—the theory supported by Dameshek. The theory that hypersplenism is due to a hormonal effect on the bone marrow. Auto-antibody theory in relation to hypersplenism. Classification and types of hypersplenism. The diagnosis of hypersplenism. Hereditary spherocytosis. Acquired hemolytic anemia. Idiopathic thrombocytopenic purpura. Banti's syndrome. Splenic neutropenia. Primary and secondary acquired splenic panhematopenia. Miscellaneous conditions in which hypersplenism may play a role. Recurrences following splenectomy. Summary of indications for and contraindications against splenectomy. Bibliography. Index.

Note: A brief and readable survey written primarily from the clinical viewpoint but including also an outline of the physiological knowledge. A bibliography of 64 citations is included.

SUNDERMAN F WILLIAM AND OTHERS

Clinical hemoglobinometry by F William Sunderman, R. P MacFate, D A MacFadyen, G F Stevenson and B E. Copeland. Baltimore The Williams & Wilkins Company 1953 79 p. illus. 26 cm. $2.50. 3443

Contents: Part I. General considerations. Part II. Hemoglobinometry. Part III. Appendix: Methodology and practical considerations. Bibliography.

Note: Although only a thick pamphlet in format, this work is a contribution of importance to its subject. Its purpose is to point out the need for the establishment of uniform techniques and standards of measurement in hemoglobinometry. It presents background information, describes current techniques, and presents full descriptions of methods recommended for practical use in clinical laboratories. A bibliography of [illegible] references lists the pertinent international literature. The material was originally prepared for a symposium at a joint meeting of the American Society of Clinical Pathologists and the College of American Pathologists.

THANNHAUSER, SIEGFRIED J

Lipidoses diseases of the cellular lipid metabolism. Edited by Henry A. Christian. (Reprinted from Oxford loose-leaf medicine with the same page numbers as in that work) Second edition. New York Oxford University Press, 1950 595 10 p. illus. (part col'd) 24 cm. $18.00 3444

Contents (abridged): Part I. The physiology and chemistry of lipid metabolism. Part II. Hyperlipemia. Part III. Xanthomatoses: Hypercholesteremic xanthomatosis. Hyperlipemia (accumulation of neutral fat in serum) with secondary eruptive xanthoma. Normocholesteremic xanthomatosis. Part IV. Gaucher's disease (cellular and [illegible]). Part V. Niemann-Pick's disease (cellular and [illegible] sphingomyelinosis). Supplement. Infantile amaurotic idiocy. Hurler-Pfaundler syndrome (gargoylism). Index.

Note: A monographic review of the groups of diseases named in the part-titles. The first chapter is an outline with key-numbered references to the literature of the knowledge of the biochemistry of lipid metabolism. Comprehensive lists of international literature pertaining to each group of diseases are a special feature. There are 13 figures. The first edition was published in 1940. Moderately extensive revisions are evident in several parts of this edition.

TOCANTINS LEANDRO M., editor

The coagulation of blood methods of study Prepared with the help and under the sponsorship of the Panel on Blood Coagulation of the Committee on Medicine and Sur

gery of the National Academy of Sciences, National Research Council. New York Grune & Stratton, 1955 240 p illus 24 cm $6 25 3445

Contents (abridged): Processing of blood, preparation of glassware and reagents, by L. M Tocantins and others. Introductory exercises, by L. M. Tocantins. Determination of the clotting time of whole blood, by L. B. Jaques. Measurement of the rate and extent of clot retraction, by L. M. Tocantins. Blood platelets, by L. M. Tocantins and others. Plasma thromboplastin and precursors, by R. R. Holburn and others. Thrombin and precursors, by B Alexander and others. Accessory plasma or serum coagulant factors, by R. T Carroll and others. Fibrin and precursors, by L. M. Tocantins and others. Fibrinolysin precursors and inhibitors, by R. R. Holburn and E. C. Loomis. Tissue coagulants, by J F Johnson and W H. Seegers. Anticoagulants in the blood, plasma and serum, by R. R. Holburn and others. Anticoagulants of tissue origin, by L. B Jaques and others. Appendix. Index.

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WALL, ROBERT L

Practical blood grouping methods a manual of immunohematology Springfield, Ill. Charles C Thomas, 1951 175 p 22 cm (American lecture series. Publication number 122 A monograph in the Bannerstone Division of American lectures in hematology, edited by Russell L Haden) $5 00 3446

Contents: The development of the blood groups. Materials and methods. The ABO blood group system. The Rh blood group system. The MN(S) and P blood group system. Other blood group systems. Autoagglutinins, panagglutinins, "cold-type" agglutinins. Antibodies associated with hemolytic type anemias. The cross-matching tests. Differential agglutination tests. Recent advances and trends in immunohematology Appendix. Bibliography Index.

Note A compact manual of basic information and tested methods. It is addressed primarily to laboratory and hospital personnel and to medical practitioners, but its scope and organization make it useful as a reference book to anyone with professional interests in the field.

WAUGH, THEODORE ROGERS

White blood cell differential tables. New York D Appleton-Century-Croft Company, Inc. 1943 126 p 18 cm $1 60 3447

Content The white blood cells. Enumeration of the leukocytes. The differential count. Use of the tables. Specific examples of use of the tables. The tables.

Note These tables are designed to aid in computing rapidly the actual number per cubic millimeter of each type of white blood cell from the differential percentages. They are intended for the use of clinicians, pathologists, and laboratory workers. The introductory notes and description of their use are written in very simple style for the benefit of less-experienced workers and may be disregarded by trained technicians.

WIENER, ALEXANDER S

Rh–Hr blood types applications in clinical and legal medicine and anthropology Selected articles in immunohematology New York Grune & Stratton, 1954 763 p illus. 26 cm $11 50 3448

Contents (abridged) Historical background. Fundamental observations. Pathogenesis of erythroblastosis fetalis. Rh antibodies—technic. Rh-Hr types and their heredity Nomenclature of the Rh-Hr types. Anthropologic aspects. Erythroblastosis fetalis and exchange transfusion. The M N-S blood types. Medicolegal applications. A-B-O incompatibility in pregnancy Autoantibodies and disease. Blood transfusion. Fundamental principles. Technic of tests. General. Author's bibliography Author index. Subject index.

Note A collection of previously published articles by Dr. Wiener one of the leading hematologists of the world. The author himself made the selection. The articles have been reprinted by a photolithographic process from the original publication therefore, the pages are not uniform, and the appearance of the volume, as the pages are turned, is unusual and esthetically unsatisfactory However all the reproductions are clear enough for easy reading, and the full author and subject indexes give the volume considerable reference value. The "Author's bibliography" is comprehensive, chronologically arranged list of Dr. Wiener's published writings down to late 1953 It contains 113 entries.

WIENER, ALEXANDER S

An Rh Hr *syllabus*, the *types* and their applications New York Grune & Stratton, 1954 82 p illus 22 cm. (Modern medical monographs No 9) $3 75 3449

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Note. A brief but authoritative presentation of the accumulated knowledge on Rh-Hr types. The eight chapters, whose titles are given above, are organized in the form of compact paragraphs set off by distinctive typography and written in a style that suits them for use in review or reference. Included are 19 tables in which additional data are presented. The book is well indexed.

WINTROBE, MAXWELL M

Clinical hematology Fourth edition, thoroughly revised. 236 illustrations and 20 plates, 18 in color Philadelphia Lea & Febiger, *1956 1,184 p illus. (part col d) 24* cm. $15 00 3450

Contents The origin and development of the cells of the blood in the embryo, infant and adult. The erythrocyte—morphology and normal values—the production and the destruction of red corpuscles. The leukocytes. Blood platelets and coagulation. The blood as a whole. Blood groups and blood transfusion. The principles and technic of blood examination. Anemia—general considerations and treatment. Pernicious anemia and related macrocytic anemias. The normocytic anemias—acute post-hemorrhagic, primary refractory simple chronic and myelophthisic anemias—hemolytic anemias—sickle cell disease, thalassemia and the abnormal hemoglobin syndromes. Hypochromic microcytic (iron deficiency) anemia. Anemia and other disorders in infancy and childhood. Polycythemia. The purpuras. Hemophilia and other hemorrhagic disorders. Leukemia. Tumors and tumor-like conditions involving the blood-forming organs. Agranulocytosis and infectious mononucleosis. Appendices. Bibliography Index.

Note A standard, comprehensive treatment, based on the literature of the subject and written primarily to meet the needs of general practitioners. Although written in sufficient detail to serve the intended readers in most instances, all important statements, formulas, and data are number-referenced to the listing of the source articles in the bibliography Emphasis is placed on basic knowledge and on diagnosis. Laboratory procedures which may be carried out in the office of the average physician are considered in detail. There is also adequate discussion of the interpretation of the findings of tests made in diagnostic laboratories. The third edition was published in 1951 Revisions and augmentations made for this fourth edition were based on a comprehensive review of the literature published since the writing of the third edition. Two new chapters were added. Several others were thoroughly rewritten, and most of the others contain extensively revised sections. The bibliographies, which continue to be a prominent and most useful feature include references to literature published as recently as 1955.

UROLOGY

Addis, Thomas

Glomerular nephritis diagnosis and treatment. New York The Macmillan Company 1948. 338 p. illus. 24 cm. $8.00. 3451

Contents: Special clinical laboratory methods for the physical examination of patients with renal disease. Special clinical diagnostic methods. Inferences as to the nature of the renal lesion. Inferences as to the extent of the renal lesion. The theory of the differentiation of glomerular nephritis from other diseases. The differentiation of glomerular nephritis from other diseases. Glomerular nephritis. Theory and practice in the treatment of glomerular nephritis. Appendix. References. Index.

Note: This book is based on the author's own extensive experience in the treatment of renal disease. Furthermore, the author contends that accepted present-day methods of treatment are inadequate. The main point of his theory is that rest, supplemented by an adequate diet which does not impose an unnecessary burden on the kidneys, is essential. After a preliminary section which deals with laboratory and clinical observations, the book is devoted to discussion of practical clinical application of the author's method. The methods and work of other authors are not discussed in the text but are referred to in the bibliography.

Barnes, Roger W and Henry L. Hadley

Urological practice. With contributions by R. Theodore Bergman, Clyde W Collings Emil J Krahulik, Walter E. MacPherson, John R. Paxton, and Murray Russell. St. Louis The C. V Mosby Company 1954 494 p. illus. 26 cm. $10.00 3452

Contents (abridged) Part 1, Leading symptoms, signs and findings in urological disease—an index of urological symptoms outlined for use in diagnosis. Symptomatic treatment of common urological complaints—an index of urological complaints outlining the symptomatic treatment of each. Part 2, A Compendium for the general practitioner of genitourinary disease. Genitourinary diagnostic procedures. Urogenital infections. Urinary calculi (urolithiasis, urinary stones) Diseases of the penis. Diseases and lesions of the anterior urethra. Lesions of the scrotum and its contents. Infertility. Chronic congestion (toxic hypertrophy) of the prostate. Infections of the posterior urethra, prostate and seminal vesicles. Benign prostatic hypertrophy. Carcinoma of the prostate. Surgery of the prostate. Urethral and bladder disorders in women. Cystitis and infections of the bladder. Vesical calculi (bladder stones). Tumors of the bladder (vesical neoplasms) Surgical procedures applied to the urinary bladder. Enuresis (bed-wetting) Diseases, injuries and malformations of the ureter. Hydronephrosis (pyelonephrosis) Nonsurgical diseases of the kidney. Movable kidney (nephroptosis) Kidney stones (nephrolithiasis, renal calculi) Tumors and cysts of the kidney and perirenal space. Malformations (anomalies) of the kidney. Injuries and surgery of the kidney. Index.

Note: A practical work written primarily as a guide for graduate medical practitioners who are not specialists in urology. It begins with a tabular arrangement of symptoms and symptomatic treatment which together run to 81 pages. Diagnosis and differential diagnosis are discussed concisely but adequately. The material on individual diseases is arranged conventionally with attention paid primarily to symptoms, diagnosis and treatment. Surgical techniques, such as circumcision, which may be carried out in the physician's office, are fully described, but only the principles and general nature of surgical techniques that require hospitalization are covered. There are 145 figures but no literature references. The authors are members of the faculty of the School of Medicine of the College of Medical Evangelists.

Bell, Elexious Thompson

Renal diseases. Second edition, thoroughly revised, with 123 illustrations and 4 color plates Philadelphia Lea and Febiger 1950 448 p. illus. (part col'd) 24 cm. $8.00 3453

Contents: Introduction—Classification of renal diseases. Normal histology. Normal and pathological physiology. Developmental anomalies. Obstruction of the urinary tract—hydronephrosis. Glomerulonephritis. Tubular disease. Lower nephron nephrosis. Embolic glomerular nephritis (pyelonephritis) Diseases of the blood vessels. Diseases of the kidney related to metabolic disorders. Tumors of the kidney. Index.

Note: The purpose of this monograph is to bring about closer co-operation between the pathologist and the clinician in the understanding of renal disease. Accordingly for each disease covered the structural changes in the kidney are correlated with the clinical manifestations. In the case of diseases where the pathology is not fully understood, the crush syndrome for instance, the views of various authorities are concisely stated. The book is based on experimental studies and a very extensive series of cases. In this second edition the basic plan has not been changed, but several chapters have been revised and the bibliographies brought up to date.

Butt, Arthur J compiler and editor

Etiologic factors in renal lithiasis. Springfield, Ill. Charles C Thomas, 1956 401 p. illus. 26 cm. $12.50 3454

Contents: Historical survey of etiologic factors in renal lithiasis, by A. J. Butt. Anatomy by A. J Butt. Calcium and phosphorus metabolism and its relationship to nephrolithiasis, by I. Snapper and E. Gechman. On calcium oxalate stones, by G. Hammarsten. Uric acid metabolism in relation to renal calculi, by W. E. Kittredge and T. K. Waite. The biochemical background of cystine lithiasis, by H. E. Dent. Sulfonamide concretions and calculi, by E. F. Poppe. Relationship of upper urinary tract obstruction and stasis, to calculus disease and their surgical correction, by F. E. B. Foley. Role of infection in the etiology of renal lithiasis, by J. McCarthy. Randall's plaques and their relationship to the etiology of urolithiasis, by V. Vermooten. Geographic, racial, and climatic factors in etiology of urolithiasis, by V. Vermooten. The importance of colloid science in the etiology of kidney stones, by E. A. Brunner. A study of the urinary colloids in normal male subjects by electrophoresis by D. E. Schenker and S. Bay. The mucopolysaccharide structure of the kidney by W. E. Ehrich. The ground substance of the mesenchyme—old and newer data, by F. Duran-Reynals. The effect of hyaluronidase on human urine, by J. Seifter and D. Baeder. Pathogenesis of renal lithiasis—a working hypothesis, by A. J. Butt. Analysis of urinary calculi—using flame photometry for calcium determinations, by R. H. Leonard and A. J. Butt. Bibliography. Name index. Subject index.

Note: The current state of knowledge pertaining to the formation of calculi in the urinary tract is surveyed in this volume which is a collaborative effort by 23 eminent investigators. The titles of the individual papers or chapters together with the authors' names are given above. The historical survey which appears first covers from prehistoric times to the present and includes a bibliography of 148 references. The chapter on anatomy is a short one, comprised only of illustrations and identifying legends. The chapter on the effect of hyaluronidase describes an important discovery made by the editor of this volume and outlines the subsequent research. In a chapter that immediately follows this one the volume editor offers a hypothesis to explain the formation of urinary calculi and marshals the evidence in support of it. The book is an important addition to the literature of its subject.

Callomon, Fritz T., and John F Wilson

The nonvenereal diseases of the genitals etiology differential diagnosis and therapy Springfield, Ill. Charles C Thomas 1956 352 p. illus. 26 cm. $17.50 3455

Contents: Part I: Pyogenic diseases of the anogenital region. Dermatomycoses of the anogenital region. Diseases of the genital region due to animal parasites. Nonvenereal diseases of the genitals related to filtrable viruses. Aphthosis of the genitals, ulcus vulvae acutum (Lipschütz) and Stevens-Johnson syndrome—their possible relationship to erythema multiforme exudativum. Behçet's syndrome. Neurodermatitis of the anogenital region. Involvement of the genital region in drug eruptions. Other dermatoses involving the anogenital region. Pigmentary changes of the genital region. Changes of the penis and genital hair. Reaction of the genital region to nutritional deficiencies. General principles of treatment. Part II: The "nonvenereal ulcer" of the genitals. Diffuse inflammation of the glans and prepuce and of the vulva. Progressive sclerotic atrophic processes of penis and vulva. Neoplasms of the external genitals. Nonvenereal affections of the lymphatic system of the anogenital region. Part III: Nongonococcal (nonspecific) urethritis. Nonvenereal diseases of Cowper's and Bartholin's glands. Infections of Skene's ducts. Nonvenereal diseases of the testes, epididymis and spermatic cord. Nonvenereal diseases of the urogenital organs. Index.

Note: A reference book directed to general practitioners in medicine and specialists in dermatology. It deals with diseases other

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UROLOGY

ADDIS THOMAS

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BELL ELEXIOUS THOMPSON

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Etiologic factors in renal lithiasis Springfield Ill. Charles C Thomas 1956 401 p. Illus. 26 cm. $12.50 3454

Contents: Historical survey of etiologic factors in renal lithiasis, by A. J. Butt. Anatomy by A. J. Butt. Calcium and phosphorus metabolism and its relationship to nephrolithiasis, by L. Sangree and R. Ochsner. On calcium oxalate stones, by G. Hammarsten. Uric acid metabolism in relation to renal calculi, by W. E. Kittredge and T. E. Weiss. The biochemical background of cystine lithiasis, by H. H. Zinsser. Sulfonamide concretions and calculi, by H. F. Hipple. Relationship of upper urinary tract obstruction and stasis, to calculous disease and their surgical corrections, by F. E. B. Foley. Role of infection in the etiology of renal lithiasis, by J. McEntire. Randall's plaques and their relationship to the etiology of urolithiasis, by V. Vermooten. Geographic, racial, and climatic factors in etiology of urolithiasis, by V. Vermooten. The importance of colloid science in the etiology of kidney stones, by E. A. Hauser. A study of the urinary colloids in normal male subjects by electrocardiometry by D. E. Beischer and E. Born. The mucopolysaccharide structure of the kidney by W. E. Ehrich. The ground substance of the mesenchyme—old and newer data, by F. Duran-Reynals. The effect of hyaluronidase on human urine, by J. Seifter and D. Baeder. Pathogenesis of renal lithiasis—a working hypothesis, by A. J. Butt. Analysis of urinary calculi—using flame photometry for calcium determination, by R. E. Leonard and A. J. Butt. Bibliography. Name index. Subject index.

Note: The current state of knowledge pertaining to the formation of calculi in the urinary tract is surveyed in this volume which is a collaborative effort by 20 eminent investigators. The titles of the individual papers or chapters together with the authors' names are given above. The historical survey which appears first covers from prehistoric times to the present and includes a bibliography of 118 references. The chapter on anatomy is a short one, comprised only of illustrations and identifying legends. The chapter on the effect of hyaluronidase describes an important discovery made by the editor of this volume and outlines the subsequent research. In a chapter that immediately follows this one the volume editor offers a hypothesis to explain the formation of urinary calculi and marshals the evidence in support of it. The book is an important addition to the literature of its subject.

CALLOMON FRITZ T AND JOHN F WILSON

The nonvenereal diseases of the genitals etiology differential diagnosis and therapy Springfield, Ill. Charles C Thomas, 1956 382 p Illus. 26 cm. $12.50 3455

Contents: Part I: Pyogenic diseases of the anogenital region. Dermatomycoses of the anogenital region. Diseases of the genital region due to animal parasites. Nonvenereal diseases of the genitals related to filterable viruses. Aphthosis of the genitals, ulcus vulvae acutum, pluriorificialis and Stevens-Johnson's syndrome—their possible relationship to erythema multiforme exudativum. Behçet's syndrome. Neurodermatitis of the anogenital region. Involvement of the genital region in drug eruptions. Other dermatoses involving the anogenital region. Pigmentary changes of the genital region. Changes of the pubic and genital hair. Reaction of the genital region to nutritional deficiencies. General principles of treatment. Part II: The "nonvenereal ulcer" of the genitals. Diffuse infiltrative inflammation of the glans and prepuce and of the vulva. Progressive sclerotic atrophic processes of penis and vulva. Neoplasms of the external genitals. Nonvenereal affections of the lymphatic system of the anogenital region. Part III: Non-gonococcal (nonspecific) urethritis. Nonvenereal diseases of Cowper's and Bartholin's glands. Infections of Skene's ducts. Nonvenereal diseases of the testis, epididymis and spermatic cord. Nonvenereal diseases of the corpora cavernosa. Index.

Note: A reference book directed to general practitioners in medicine and specialists in dermatology. It deals with diseases other

than syphilis, chancroid and gonorrhea that affect the genital organs and adjacent regions. Each of the diseases is considered in relation to its etiology diagnosis, and therapy and in the discussions of some diseases, other aspects also are covered, such as incidence and histology Particular attention is given to differential diagnosis, including differentiation from the venereal infections. There are 150 figures and fairly extensive references to the literature.

CLARKE, B G, AND LOUIS R. M DEL GUERCIO

Urology New York The Blakiston Division, McGraw Hill Book Company, Inc. 1956 245 p illus 24 cm $6 50 3456

Content Part I, Diagnosis of genitourinary disorders History taking. Physical examination Laboratory diagnosis. X-ray diagnosis. Part II Physiologic disturbances Physiology of the kidney by J M. Hayman, Jr Diseases of the nephron, by J M. Hayman, Jr Physiology of urine transport. Neurogenic dysfunction of the bladder Physiology of semen conduction and male infertility Part III, Principles of treatment Surgical anatomy catheterization, and surgical technic. Embryology of the urogenital tract and treatment of malformations. Urinary and genital infections, by J J Finn, Jr and B G Clarke. Urinary disturbances in the female Genito-urinary tuberculosis. Physiology and treatment of urinary calculi. Urinary obstructions. Urogenital wounds and injuries. Tumors of the urogenital organs. Index.

Note A brief but fully illustrated textbook. It is designed for use in undergraduate courses in medical school. The illustrations, of which there are 162 are principal feature. Included are photographs illustrating examination techniques, reproductions of line drawings, reproductions of radiographs and reproductions of photomicrographs of normal and pathological histology Most of the illustrations are accompanied by long, explanatory legends which make it obvious that the authors view them as a primary medium of exposition. The accompanying text is brief but well written. The bibliographies are extensive.

COLBY, FLETCHER H.

Essential urology Third edition. Baltimore The Williams & Wilkins Company, 1956 656 p illus (part col d) 24 cm $8 00 3457

Contents Part I, Embryology anatomy and physiology of the genito-urinary organs Development of the kidneys and ureters. Physiology of the kidney The ureters. The bladder The penis. The male urethra. The female urethra. The prostate. The testis and epididymis. The seminal vesicles. The scrotum. Part II, Examination of the urological patient Methods of examination. Part III, Diseases of the genitourinary organs Kidney Ureter Bladder Prostate. Seminal vesicles. Male urethra. Female urethra. Penis. Scrotum. Testis. Epididymis. Male sterility Tuberculosis of the genito-urinary organs. Index.

Note A standard work used both as textbook by students in medical colleges and as an office reference book by general practitioners. The basic information on embryology anatomy and physiology is covered concisely in Part I, which in this edition is 121 pages long. Methods of examination of patients are discussed for the benefit of students and general practitioners in a 15-page chapter Beginning with the 13th chapter and page 143 the space is devoted to specific diseases, and these are described individually according to the following pattern etiology pathology symptoms, diagnosis, treatment, and prognosis. Illustrations, which include many pictures of gross and microscopic pathology number 358 in this third edition. The second edition was published in 1950. The length of the work has been increased, and important changes have been made in both text and illustrations. Literature published as recently as 1955 has been added to the bibliography

CORDONNIER JUSTIN J

Clinical urology for general practice. Illustrated St Louis The C V Mosby Company 1956 252 p illus 26 cm. $6 75 3458

Contents. Steps for urologic diagnosis. Obstructive uropathy Neoplasms of the genitourinary tract. Infections of the genitourinary tract. Renal failure Urinary calculi. Neurogenic bladder dysfunction Senescence fertility and impotence in the male Injuries of the genitourinary tract. Female urology Congenital anomalies. Index.

Note A concise text addressed to general practitioners and more particularly to advanced students in medical colleges who are preparing for general practice It deals with diagnosis, types of urologic disorders, and with the diseases and disabilities that the practitioner is most likely to see in general practice. It does not cover rare diseases. Selected literature references are given, and there are 67 figures including considerable number of roentgenograms reproduced in large scale. The author is Professor of Urology in Washington University School of Medicine.

FARR, LEE E

Treatment of the nephrotic syndrome. Springfield Ill. Charles C Thomas, 1951 61 p 22 cm (American lecture series. Publication no 64 A monograph in American lectures in circulation, edited by Irvine H. Page and Arthur Curtis Corcoran) $2 25 3459

Content Treatment of edema. Treatment of malnutrition. Treatment of the renal lesion. Treatment of complications Nephrotic crises. Cortisone, ACTH and nitrogen mustard. General comments. References.

Note A brief survey addressed primarily to the general practitioner of the various treatments currently used on patients with nephrotic syndrome. It is based both on an analysis of published experiments and on clinical practice. Advantages and disadvantages of each treatment are discussed. There is a bibliography of 71 citations.

GROLLMAN, ARTHUR

Acute renal failure. Springfield, Ill. *Charles C Thomas 1954 92 p illus. 22 cm.* (American lecture series Publication no 192 A monograph in American lectures in internal medicine, edited by Roscoe L Pullen.) $4.00. 3460

Contents: Introduction. Etiology Pathology Physiology Clinical course. Treatment. Epilogue. Bibliography Index.

Note A short but valuable monograph in which the accumulated knowledge pertaining to the pathogenesis of acute renal failure and its management is presented together with references to the literature. The chapter on treatment includes discussion of the artificial kidney but it emphasizes other methods of treatment. The book concludes with the following statement "On the basis of our present knowledge acute renal failure should become rare occurrence with a low mortality except in such cases where it is merely an accompaniment of irreversible and fatal damage elsewhere than in the kidney The bibliography contains 103 literature references.

HERBUT, PETER ANDREW

Urological pathology 527 illustrations, including 2 in color Philadelphia Lea & Febiger *1952 2 v* illus (part col d) 24 cm. $24 00 3461

Content Volume I Embryology of urinary system. Urethra. Bladder Ureters and pelves. Kidneys. Index. Vol. II Adrenals. Embryology of male genital system Penis. Prostate. Seminal vesicles. Spermatic cord. Epididymides. Testes. Scrotum. Index.

Note A comprehensive, well-illustrated work It is arranged by region, and under each region the individual diseases are discussed under the following subheadings definition, distribution, cause, clinical manifestations, microscopic appearance gross appearance complications, clinicopathologic correlation, diagnosis, treatment and prognosis Extensive literature references are included. Although suitable for use in instruction, the book is essentially reference work rather than textbook. The author is Professor and Head of the Department of Pathology of Jefferson Medical College.

LIPPMAN RICHARD WILLIAM

Urine and the urinary sediment a practical manual and atlas. Springfield Ill Charles C *Thomas 1952 124* p. illus (part col d) *26* cm 3462

Contents: Preliminaries and elements of the urinary sediment. Observations on the urine in disease. General considerations and technique. References. Index.

Note: The main feature of this short monograph is a series of 37 reproductions in color of photographs of urinary sediments. These photographs are original and were made by the author. In the text of the book the author has discussed the examination of urine from the standpoint of the clinician interested in the diagnosis of disease. Also he has described specifically and in detail selected clinical laboratory procedures. The list of references includes 93 citations. A second edition was published in 1937. 190 p., $3.50.

LOWSLEY, OSWALD SWINNEY, AND THOMAS JOSEPH KIRWIN

Clinical urology. Drawings by William P Didusch. Third edition. Baltimore: The Williams & Wilkins Company, 1956. 2 v. illus. (part col'd) 29 cm. $32.50 3463

Contents (abridged): Volume I. History-taking and physical examination. Examination of the urine. Tests of renal function. Instrumental examination. Roentgenography of the genito-urinary tract. Anesthesia in urology. Embryology, anatomy, anomalies, and physiology of the penis. Injuries and diseases of the penis. Operative treatment. Embryology, anatomy, anomalies, and physiology of the scrotum and scrotal contents. Injuries and diseases of the scrotum and the scrotal contents. Operative treatment. Embryology, anatomy, anomalies, and physiology of the vas deferens, seminal vesicle, and ejaculatory duct. Injuries and diseases. Operative and postoperative treatment. Embryology, anatomy, anomalies, and physiology of the male urethra. Injuries and diseases. Operative treatment. Embryology, anatomy, anomalies, and physiology of the female urethra. Injuries and diseases. Operative treatment. Embryology, anatomy, anomalies, and physiology of the prostate gland. Injuries and diseases. Operative and postoperative treatment. Volume II. Embryology, anatomy, anomalies, and physiology of the bladder. Injuries and diseases. Operative and postoperative treatment. Embryology, anatomy, anomalies, and physiology of the ureter. Injuries and diseases. Operative treatment. Embryology, anatomy, anomalies, and physiology of the kidney. Injuries and diseases. Operative and postoperative treatment. The adrenal gland. Chemotherapy and antibiotics in urology. Index.

Note: A comprehensive, fully illustrated treatment, which presents the modern views of the authors. It is used both as a textbook for the instruction of advanced students in medical colleges and as a reference book for general practitioners of medicine and general surgeons. Some portions are of interest to graduate specialists in urology. Basic information, such as general techniques of diagnosis, history taking, anatomy and descriptions of diseases, are adequately covered. The textual descriptions of surgical techniques are somewhat brief, but the illustrations portray lucidly to surgical operations and include many step-by-step sequences of preferred techniques. The second edition was published in 1944 and was also in two volumes. The work was extensively revised for this third edition, with much new matter added in both text and illustrations. The two-volume format has been retained, but there are now three columns of print on a page. The total number of pages in the two volumes is 999, and the total number of figures 599. Extensive bibliographies in the chapters are noteworthy features, and these now contain many references to literature published since the second edition was written.

MCCREA, LOWRAIN EDWARD

Clinical cystoscopy: technic, procedures, diagnosis, treatment. Drawings by R. Engle Shafter. With 742 illustrations, 201 in color. Second edition. Philadelphia: F. A. Davis Company, 1949. 585 p. illus. (part col'd) 26 cm. $28.00 3464

Contents (abridged): Vol. I. The cystoscope. Introduction of the cystoscope. The normal bladder. Cystitis. Miscellaneous disorders of bladder. Tumors of the bladder. Vesical calculus. The neurogenic bladder. Prostatic hypertrophy. The urethra. Ureteral catheterization. Bibliography. Index. Vol. II. Renal anomalies. Renal function tests. Hydronephrosis. Nonobstructive infections of the kidney. Medical diseases of the kidney. Specific infections of the kidney. Renal cysts. Tumors of the kidney. Retroperitoneal cysts and tumors. Urology in the female. Urology in children. Urological roentgenography. Bibliography. Index.

Note: A comprehensive, fully detailed treatise addressed to upper-class and graduate medical college students, general practitioners of medicine, roentgenologists, and specialists in urology. The various cystoscopic manipulations and procedures are both described in the text and shown in the illustrations. The illustrations are a special feature. Not only are they numerous but they are clear and well reproduced. Many of the colored illustrations are reproductions of photographs taken in color. The first edition was published in 1945. Many useful revisions and augmentations have been made in this edition. Both the textual material and the illustrations have been increased. The index has been much improved.

MACLEAN, JOHN T

Acute renal failure, including the use of the artificial kidney. Springfield, Ill.: Charles C Thomas, 1952. 114 p. illus. 24 cm. $4.00 3465

Contents: Factors concerned in the production of acute renal failure. The role of acid-base balance in renal failure. Renal circulation—intrarenal circulation—renal anoxemia. Lower nephron nephrosis. The diagnosis of acute renal failure due to lower nephron nephrosis. The treatment of acute renal failure due to an intrinsic lesion of the lower nephron nephrosis type. Methods of removing the excess waste products from the blood. Dialysis with the artificial kidney. Adreno-cortico trophic hormone. Index.

Note: A useful brief summary addressed to general practitioners. The causes and physiology of renal failure are discussed with particular emphasis on the biochemical and clinical aspects. Methods and treatment within the scope of the practitioner with limited hospital and laboratory facilities are described compactly, and literature references are given to fuller discussions. Although the artificial kidney is not an instrument available to physicians practicing in small communities, its principles and applications are described so that the general practitioner will know what may be accomplished by its use. The author is a prominent Canadian urologist.

MCMANUS, JOSEPH FORDE ANTHONY

Medical diseases of the kidney (an atlas and introduction). 100 illustrations. Philadelphia: Lea & Febiger, 1950. 176 p. illus. 26 cm. $6.00 3466

Contents: The nephron in general. Connective tissue, vessels and nerves. The glomerular rest. General reactions of the kidney to injury. Acute renal failure—clinical features—acute glomerulonephritis—the crush kidney—acute hypertension—eclampsia—acute pyelonephritis; the toxic nephroses. Chronic renal failure. The problem of the shrunken kidney. Chronic pyelonephritis. Chronic glomerulonephritis. Intercapillary glomerulosclerosis. Polycystic kidneys. Incidental diseases. The kidney in hyperparathyroidism—in diabetes—in amyloidosis—in its evolution—in syphilis. References. Index.

Note: An introductory work in the form of an atlas containing 100 pictures, many of which are reproductions of microphotographs. Most of the photomicrographs are taken from sections prepared by the periodic acid-Schiff's reagent technique. The illustrations are accompanied by many discussions and rather long legends. The book is divided in the two main groupings of acute renal failure and chronic renal failure. The bibliography is selected. The author is Professor of Pathology in the Medical College of Alabama.

MARSHALL, VICTOR F

Textbook of urology. New York: Paul B Hoeber, Inc., Medical Book Department of Harper & Brothers, 1956. 268 p. illus. 24 cm. $5.50 3467

Contents: Introduction. Obstruction-infection. Obstructions in the upper urinary tract. Diseases of the prostate. Urinary calculi. Congenital anomalies. Neurogenic bladder. Unusual tuberculosis. Trauma. Urethritis. Local genital lesions and disorders. Miscellaneous diseases. Impotency and infertility in men. Neoplasms of the penis, scrotum, and testes. Neoplasms of the bladder. Cancer of the prostate. Neoplasms of the kidney. Hematuria. Urologic surgery. Appendix. Index.

Note: A well-written and comparatively simple introduction to urology. It contains much less information than the conventional orthopedic treatises, but is authoritative and up to date. It is designed for use as a textbook in undergraduate courses in medical colleges and is suitable also for reading and reference by graduate general practitioners who undertake urological diagnosis and simple operations in the course of their practice. The 64 figures are all reproductions of line drawings. A briefly annotated list of books for further reading is supplied in the appendix. The author is a member of the faculty of Cornell University Medical College.

MERRILL, JOHN P

The treatment of renal failure, therapeutic principles in the management of acute and chronic uremia. New York Grune & Stratton, 1955 238 p illus 23 cm. $6 75 3468

Contents Normal renal function. Normal composition of body fluids. The diseased kidney Signs and symptoms of renal failure Acute renal failure. Chronic renal failure. Treatment of renal failure by extrarenal routes. Intestinal lavage. Peritoneal lavage. Replacement transfusions. The artificial kidney Transplantation of the human kidney Appendix. References. Index.

Note. Experience and studies in the Cardiorenal Service of the Peter Bent Brigham Hospital in Boston were the basis for this monograph, which is designed to guide general practitioners and other physicians who are not specialists in nephrology in the treatment of renal insufficiency and renal failure. Renal physiology etiology and pathophysiology are covered in outline, and the chapters devoted to them are intended only as background for the chapters on treatment. All currently useful methods of treatment are discussed, including the artificial kidney and kidney transplantation. In the chapter on the artificial kidney the author devotes several paragraphs to contra-indications, and points out the various factors that must be considered in addition to the therapeutic ones. In the chapter on transplantation he makes it clear that much work remains to be done on this technique. The literature of the field is extensively cited. The technique of short term continuous transperitoneal dialysis is described in an appendix.

MOORE, JOSEPH EARLE

Penicillin in syphilis. Springfield, Ill Charles C Thomas, 1946 319 p illus. 24 cm. $5.50 3469

Contents Introduction. Penicillin and its chemistry The pharmacology of penicillin in relation to its use in syphilis. The toxicity of penicillin in animals and man. The activity of penicillin against various infections in vivo and in vitro Penicillin in experimental syphilis. The mechanism of action of penicillin and its implications in syphilis. Penicillin administered for other purposes as source of confusion in the diagnosis of syphilis. Penicillin in the treatment of early syphilis. Penicillin in the treatment of early syphilis resistant to arsenic and bismuth. Penicillin in the treatment of latent syphilis. Penicillin in the treatment of benign late (gummatous) syphilis, including hepatic syphilis and acute syphilitic nephrosis. Penicillin in the treatment of cardiovascular syphilis. Penicillin in the treatment of ocular syphilis. Penicillin in the prevention of prenatal syphilis by treatment of the syphilitic pregnant woman. Penicillin in congenital syphilis. Penicillin in neurosyphilis. The post-treatment observation of syphilitic patients treated with penicillin. Streptomycin in syphilis. Author index. Subject index.

Note: A valuable supplement to the author's *Modern treatment of syphilis*, Springfield, Charles C Thomas, second ed., 1941 It serves as practical guide to the use of penicillin in syphilis, as developed up to the time of publication. Almost half the space is devoted to basic information concerning the chemistry pharmacology and therapeutic action of penicillin. The remaining chapters, which describe clinical methods and procedures of treatment, are based on information derived from a nation-wide study conducted by 44 co-operating groups and clinics. The author states that the references given at the end of each chapter constitute an exhaustive bibliography of the subject through October 1946.

NARATH, PETER ALFRED

Renal pelvis and ureter New York Grune & Stratton, 1951 429 p illus 26 cm. $12 50 3470

Content Terminology The embryology of the ureter and the renal pelvis. The final form of the renal pelvis. The normal anatomy of the ureter and the renal pelvis. The normal histology of the renal pelvis and the ureter. The dynamics of the upper urinary tract. The tonus of the urinary tract. Resorption and absorption in the upper urinary tract. Various forms of extravasations. The roentgenography of the upper urinary tract. Bibliography Index of authors. Index of subjects.

Note: A monograph on the embryology gross and microanatomy and the physiology of a major part f the urinary system. Basic knowledge is emphasized, but since the book is designed to be of practical aid to urologists, considerable information that is directly related to diagnosis is included. The book is based both on the literature and on the author's own investigations. The bibliography covers publications from 1677 to 1950 and is arranged chronologically The 264 figures include reproductions of many exceptional roentgenographs.

PRATHER, GEORGE CALVIN

Urological aspects of spinal cord injuries. Springfield, Ill. Charles C Thomas, 1949 146 p illus 22 cm. (American lecture series. Publication no 30 A monograph in American lectures in neurosurgery, edited by Michael E DeBakey and R. G Spurling. Division of neurosurgery, editor, Barnes Woodhall) $3 75 3471

Contents The bladder. Changes in upper urinary tract after spinal cord injury Changes in sexual organs after spinal cord injury. Genito-urinary complications. Results of treatment. Military policy Suggested program for treatment. References. Subject and author index.

Note: An authoritative résumé of the pertinent neurological and urological knowledge, of methods of treatment, and of experience, especially in World War II. Essentially it is a digest of previously published literature including the author's own contributions. Since references are incorporated in the text to the citations of source articles in the extensive bibliography the book is also a guide to the literature of the subject.

SMITH, HOMER WILLIAM

The kidney, structure and function in health and disease. New York Oxford University Press, 1951 1,049 p. illus (part col'd) 24 cm. $17.50 3472

Contents (abridged) Anatomy Studies on individual nephrons. Measurement f the filtration rate. Excretion of urea. Clearances involving active tubular reabsorption. Clearances involving tubular excretion. Other clearances. Excretion of protein. The reliability of inulin as measure of glomerular filtration. The antidiuretic hormone and the excretion of water Excretion of sodium and other strong electrolytes. The adrenal cortex and Addison's disease. Acid-base equilibria in plasma and urine. The control f the renal circulation and the action of pharmacodynamic agents. Trophic and other factors related to renal function. Renal function in infancy and childhood. Renal hemodynamics. Limitations of clearance methods during disturbed renal function. Disturbances of renal function in non-renal disease. Chronic congestive heart failure. Essential hypertension. Acute renal failure related to traumatic and toxic injuries. The juxtamedullary circulation. Diseases of the kidney and urinary tract. Diuretics. Bibliography Index.

Note A comprehensive monograph of the current knowledge of renal function and dysfunction. It covers both the physiology of the kidney and the part played by the kidney in the physiology of the body The work is based on a comprehensive survey of the literature and good part of the text consists of concise digests of previously published papers including the author's own. *Statements in the text* are key numbered to the bibliography and as an added reference feature the page numbers on which references are made to a particular publication are noted in the bibliography The books and papers listed in the bibliography number 2,300.

THOMAS, EVAN WELLING

Syphilis, its course and management. Foreword by John F Mahoney Chapter on "Public health aspects of syphilis" by Theodore J Bauer New York The Macmillan Company 1949 317 p. illus. 24 cm $5 50 3473

Contents Etiology of syphilis. A general description of the course of untreated syphilis. Immunology of syphilis. Interpretation of quantitative serologic tests for syphilis (STS) Iodides, bismuth, arsenicals, and fever therapy Antibiotics in the treatment of syphilis. Principles underlying antisyphilitic treatment. The examination and education f the patient. The diagnosis and treatment of early infectious syphilis. Latent syphilis. Late benign syphilis. Cardiovascular syphilis. Neurosyphilis. Syphilis and pregnancy Congenital syphilis. The public health aspects of syphilis. Index.

Note: A comparatively short presentation in which modern diagnostic tests and treatment with antibiotics, especially penicillin, are stressed. Many data are presented in tabular form to save space. The book is based largely on an extensive experience with the rapid treatment of early syphilis at Bellevue Hospital.

TRUSSELL, RAY E.

Trichomonas vaginalis and trichomoniasis. With an introduction by E. D Plass. Springfield, Ill. Charles C Thomas, 1947 277 p. illus. (part col'd) 23 cm. $6.00. 3474

Contents (abridged): Part I, Trichomonas vaginalis: Morphology. Growth requirements. Culture media. Viability and the effect of physical and chemical agents. Pathogenicity. Classification and the question of the identity of species. Part II, Trichomonas vaginalis infestation: Rate and incidence of infection. Sources of infection—methods of transmission—prevention. Duration of infection. Symptoms. Laboratory diagnosis. Clinical findings associated with Trichomonas vaginalis. Trichomonas vaginalis and puerperal morbidity. Trichomonas vaginalis and abortion. Part III, Treatment: Alphabetical index and description of chemicals utilized in efforts to eradicate Trichomonas vaginalis. Bibliography. Index.

Note: A monographic survey of the current knowledge of this parasite. In addition to incorporating all of the experimental work of the author and his colleagues, the literature has been reviewed and digested, with references from the text to the numbered bibliography. The number of references in the bibliography, 1,314, is indicative of the scope of the work. Included is a long, alphabetically-arranged list of drugs which have been tried. Results with these drugs which have been reported in the literature are summarized briefly. In his preface the author points out that the book does not contain the final answer to the medical problems caused by this parasite.

ULLERY JOHN C.

Stress incontinence in the female. New York Grune & Stratton, 1953 149 p. illus. (part col'd) 26 cm. $6 75 3475

Contents: Stress incontinence in the female. Embryology and anatomy. The physiology of micturition and continence. Etiology of stress incontinence. Diagnosis of stress incontinence. Treatment of stress incontinence in the female. Results of treatment—evaluation of the present day operative procedures. Summary. Bibliography. Index.

Note: The information on involuntary loss of urine under conditions of stress such as coughing, sneezing, and emotional stress which has been published in the international literature is presented in this monograph, together with hitherto unpublished information from the experience of the author and his associates in the Division of Obstetrics and Gynecology of the Pennsylvania Hospital in Philadelphia. Essentially all of the chapters but the last one, whose title begins "Results of treatment, are based on the literature. The information of the original publications is expertly abstracted and integrated with little critical comment by the author. Operative techniques published in the literature are described in considerable detail with illustrations. In the terminal chapter, experience in the Pennsylvania Hospital with several operative techniques on two series of cases, one numbering 28 and one numbering 39, are described and, on the basis of this experience, the author makes certain recommendations and also points to the need for more research.

UNITED STATES. PUBLIC HEALTH SERVICE. VENEREAL DISEASE RESEARCH LABORATORY CHAMBLEE, GEORGIA

Serologic tests for syphilis 1955 manual. U S. Department of Health, Education, and Welfare, Public Health Service, Bureau of State Services, Division of Special Health Services, Venereal Disease Program. Washington, D C. Government Printing Office, 1955 106 p. illus. 23 cm. (United States. Public Health Service. Publication no 411) $1.00. 3476

Contents: General information. General equipment. APHA reference microflocculation test. Hinton tests. Kahn tests. Kline tests. Kolmer tests. Mazzini tests. Rein-Bossak tests. VDRL tests. Appendix: Collection and preservation of sheep blood. Preparation of hemolysin (sheep red cells). Preparation and preservation of complement. Use of merthiolate as bacteriostat. Quantitative determination of spinal fluid protein.

Note: This is the fifth edition of a manual originally issued by the U. S. Public Health Service in 1939 as Supplement 9 to *The journal of venereal disease information.* This edition, like the preceding editions, brings together in one place the technical procedures to be observed in the performance of each of eight groups of reliable serologic tests for syphilis now employed in the United States. It is hoped so that serologists and serologic technologists may keep themselves abreast of the latest developments in this field without the necessity of searching in journals and other scattered sources. The manual was prepared with the assistance of the originators of each of the test techniques.

VOGL, ALFRED

Diuretic therapy the pharmacology of diuretic agents and the clinical management of the edematous patient. Baltimore The Williams & Wilkins Company 1953 248 p illus. 24 cm. $5.00. 3477

Contents: Edema—classification, pathogenesis and principles of treatment. Indications for diuretic treatment. Pharmacology of the diuretic drugs (their action and relative effectiveness). Antidiuretic agents. The practice of diuretic therapy. Closing remarks. Bibliography. Index.

Note: Written by the physician who was the first to observe the diuretic properties of an organic mercurial compound, this book has indisputable quality of authority. It is based on the clinical experience of the author and other clinicians in the three and one-half decades since that discovery was made. It covers diuretic therapy comprehensively from the clinical standpoint, including not only pharmacology—which is the subject of a 30-page chapter—but also such everyday matters as diets. The historical aspects of the subject also are covered. Throughout the book, the text is key-numbered to citations of the source articles listed in the bibliography.

THE YEAR BOOK OF UROLOGY (1955–1956 Year Book series) Edited by William Wallace Scott. Chicago The Year Book Publishers, Inc., 1956 397 p illus. 20 cm. $6.50 3478

Contents: The tenth congress of the International Society of Urology at Athens. General considerations. The kidney. The adrenals. The ureter. The bladder. The prostate. The genitalia. Index. Index to authors.

Note: This annual publication is organized similarly to the other year books in this publishers' [illegible] Year Book series. The chapters consist of abstracts from the world medical literature. The volume at hand covers journals received by the editor between November, 1954, and October 1955. In most cases the abstracts are long enough to be read without reference to the original literature. However, reference to the source article is given in all cases. The abstracts are supplemented in many instances by short editorial comments written by the editor in which he has related them to other work or offers evaluatory comments. In this issue there are 82 illustrations.

ONCOLOGY

ACKERMAN LAUREN V., AND JUAN A. DEL REGATO

Cancer diagnosis, treatment, and prognosis. With 02 text illustrations and 23 color reproductions. Second edition. St. Louis The C. V Mosby Company 1954 1,201 p. illus. (part col'd) 26 cm. $22.50. 3479

Contents: Part I, Introduction. Cancer research, by M. R. [illegible]. Pathology of cancer. Surgery of cancer, by E. M. Bricker. Radiotherapy of cancer. Cancer of the skin. Cancer of the respiratory system and upper digestive tract. Tumors of the thyroid gland. Tumors of the mediastinum. Cancer of the digestive tract. Cancer of the genitourinary tract. Cancer of the male genital organs. Tumors of the suprarenal gland. Cancer of the female genital organs. Cancer of the mammary gland. Malignant tumors of bone. Sarcomas of the soft tissues. Cancer of the eye. Hodgkin's disease. Leukemia. Index of authors. Index of subjects.

Note: An exceptionally comprehensive presentation of the modern clinical knowledge of cancer. Among the more general chapters at the beginning of the book, the one on radiotherapy—which in this

edition is 44 pages long—is outstanding. The greater part of the space is devoted to discussions of cancer according to systems and anatomic types. For each type the modern knowledge as to its anatomy incidence, etiology pathology clinical evolution diagnosis, treatment, and prognosis is presented clearly and fully Lymphatics are given special attention and the lymphatic system of each potential cancer type is represented diagrammatically Details of surgical and radiotherapeutic techniques are not covered. The first edition was published in 1947 In preparing this second edition the chapters contributed by Dr M. V Shimkin and by Dr E. M. Bricker were rewritten and revised, and added sections have been inserted in many of the other chapters. Illustrations were revised and new ones added, although the total number has been reduced. Literature published since the first edition was written was added to the extensive chapter bibliographies.

ADVANCES IN CANCER RESEARCH Edited by Jesse P Greenstein and Alexander Haddow Volume I New York Academic Press, Inc., 1953 590 p illus 23 cm. $12 00 3480

Contents: Electronic configuration and carcinogenesis, by C. A. Coulson. Epidermal carcinogenesis, by E. V Cowdry The milk agent in the origin of mammary tumors in mice, by L. Dmochowski. Hormonal aspects of experimental tumorigenesis, by W U Gardner Properties of the agent of Rous No. 1 sarcoma, by R. J C. Harris. Applications of radioisotopes to studies of carcinogenesis and tumor metabolism, by C. Heidelberger The carcinogenic aminoazo dyes, by J A. Miller and E. C. Miller The chemistry of cytotoxic alkylating agents, by W C. J Ross. Nutrition in relation to cancer by A. Tannenbaum and H. Silverstone. Plasma proteins in cancer by R. J Winzler Author index. Subject index.

—— Volume II New York Academic Press, Inc., 1954 517 p illus 23 cm. $11 00 3481

Contents. The reactions of carcinogens with macromolecules, by P Alexander Chemical constitution and carcinogenic activity by G M. Badger Carcinogenesis and tumor pathogenesis, by I. Berenblum. Ionizing radiations and cancer by A. M. Brues. Survival and preservation of tumors in the frozen state, by J Craigie. Energy and nitrogen metabolism in cancer, by L. D Fenninger and G. B. Mider Some aspects of the clinical use of nitrogen mustards, by C. T Klopp and J C. Bateman. Genetic studies in experimental cancer by L. W Law The role of viruses in the production of cancer by C. Oberling and M. Guérin. Experimental cancer chemotherapy by C. C. Stock. Author index. Subject index.

—— Volume III New York Academic Press, Inc., 1955 369 p illus 23 cm. $8 50 3482

Contents Etiology of lung cancer by R. Doll. The experimental development and metabolism of thyroid gland tumors, by H. P Morris. Electronic structure and carcinogenic activity and aromatic molecules—new developments, by A. Pullman and B Pullman. Some aspects of carcinogenesis, by P Koller. Pulmonary tumors in experimental animals, by M. B Shimkin. Oxidative metabolism of neoplastic tissues, by S. Weinhouse. Author index. Subject index.

—— Volume IV New York Academic Press Inc. 1956 416 p illus 23 cm $10 00 3483

Contents Advances in chemotherapy of cancer in man, by S. Farber and others. The use of Myleran and similar agents in chronic leukemias, by D A. G. Galton. The employment of methods of inhibition analysis in the normal and tumor-bearing mammalian organism, by A. Goldin. Some recent work on tumor immunity, by P A. Gorer Inductive tissue interaction in development, by C. Grobstein. Lipids in cancer by F L. Haven and W R. Bloor The relation between carcinogenic activity and the physical and chemical properties of angular benzacridines, by A. Lacassagne and others. The hormonal genesis of mammary cancer by C. Mühlbock. Author index. Subject index.

Note An annual series in which are published monographic reviews of advances in the understanding and treatment of cancer The individual papers are monographs based on the literature and are essentially critical reviews of the experimental results and other information published in it. Each one is accompanied by an extensive bibliography Although recent literature is emphasized, the authors are not limited to reviewing the literature of a specific year or even of a specific term of years, but each one covers those publications which he considers essential to the presentation of an adequate review of his specific topic. The series affords to scientists and others who are engaged in cancer research and to practitioners of medicine who are interested in progress in the field a means of keeping abreast of the major developments and the significant literature.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

Antimetabolites and cancer A symposium presented on December 28–29, 1953, at the Boston meeting of the American Association for the Advancement of Science. Edited by Cornelius P Rhoads Washington, D C. American Association for the Advancement of Science, 1955 312 p illus 23 cm. $5 75 3484

Contents Metabolic facts of the cancer cell, by S. Weinhouse. Competitive inhibition of microbial growth by normal metabolites, by B. D. Davis. Antimetabolites in study of biochemistry of purines and pyrimidines, by E. M. Lansford, Jr and W Shive. Antimetabolites of nucleic acid precursors, by D W Visser. Metabolic requirements for formation of citrovorum factor and studies of mechanism of resistance to A-methopterin, by C. A. Nichol and A. D. Welch. The seeing eye in science, by C. P Rhoads Mammalian fetal development and antimetabolites, by M. M. Nelson. Effects of antigrowth substances in normal and atypical plant growth, by L. G. Nickell. Antimetabolite studies on bone marrow in vitro by J R. Totter Obliteration of spontaneous cancer through discovery and application of some fundamentals about antimetabolites, by D W Woolley Antimetabolite studies in Tetrahymena and tumors, by R. E. Parks, Jr Some aspects of the metabolism of 8-azaguanine, by H. G. Mandel. Mechanism of drug resistance to metabolic antagonists in neoplastic cells, by H E. Skipper Studies on analogs of purines and pyrimidines, by G. H. Hitchings. Tumor-destroying effects of viruses, by D. R. Ginder. Antimetabolite principle as applied to hormone-induced tissue growth and to hormonal control of neoplasms, by R. Hertz. Antimetabolite treatment of leukemia, by J H. Burchenal. Metabolic basis for optimism regarding chemotherapy with nucleic acid derivatives, by G. B Brown. Discussion.

Note. The status in 1953 of the role of antimetabolites in the control of cancer is well surveyed in this collection of papers originally presented at a symposium. The authors and titles of all papers are listed in the above contents. The editor of the volume—who is also the contributor of one paper—is associated with the Sloan-Kettering Institute for Cancer Research in the city of New York, and the other contributors are eminent scientists currently engaged in cancer research, biochemistry or closely related fields. In most of the papers, recent research is emphasized. The volume is useful as a portrayal of the field at the time the papers were composed and as a guide to the significant literature published up to that time. It is also a prime example of a scientific symposium which drew contributions from several areas of science to a relatively new and active area of research.

AMERICAN CANCER SOCIETY

Bladder tumors a symposium. Philadelphia J B Lippincott Company 1956 97 p. illus. 27 cm $4 00 3485

Contents Current clinical problems regarding bladder tumors, by V F Marshall. The prognosis with untreated bladder tumors, by G. R. Prout and V F Marshall. The treatment of bladder carcinoma by local excision and fulguration, by J A. Nichols and V F Marshall. Treatment of histologically benign papilloma of the urinary bladder by local excision and fulguration, by J A. Nichols and V F Marshall. Survival of patients with bladder carcinoma treated by simple, segmental resection, by V F Marshall and others. Permanent cutaneous ureterostomy by G. A. Humphreys. Simple total cystectomy for carcinoma of the urinary bladder, by M. Bryce, II and others. A technique for radical total cystectomy by A. J Paquin, Jr Radical surgery for carcinoma of the urinary bladder by W F Whitmore, Jr and V F Marshall. The surgical treatment of cancers of the urinary bladder by V F Marshall and W F Whitmore, Jr Pelvic exenteration for polypoid myosarcoma (sarcoma botryoides) of the urinary bladder of an infant by V F Marshall. Hormonal influences on the experimental production of bladder tumors in dogs, by V F Marshall and others. Secondary carcinoma of the penis, by A. J Paquin and S. L. Raines. Index.

Note: A valuable survey of the present state of bladder tumor therapy. It is based on the experience and methods of five medical research institutions and hospitals in New York City. Several of the authors point out that some of the reports in the literature which seem to indicate good recovery rates from this disease are due to the confusion of bladder papillomas with cancers. Surgical treatments with details of the operations are specifically described, and [illegible] considerable body of experience is reviewed, but the truth pointed out in the Foreword—"that medicine has only [illegible] little bit of the answer to bladder cancer"—is not glossed over.

BARZILAI, GEMMA

Atlas of ovarian tumors. Preface by Fred W. Stewart. New York, Grune & Stratton, 1943 261 p. illus. (part col'd) 30 cm. $15.00 3486

Contents: Preface. Introduction. Classification. Granulosa cell tumor. Theca cell tumor. Arrhenoblastoma. [illegible] lipoid cell tumor. Dysgerminoma. Teratoma, adult and embryonal. Fibroma. Sarcoma and fibrosarcoma. Brenner tumor. [illegible]. [illegible] carcinoma. Pseudomucinous adenoma. [illegible] or papillary. Pseudomucinous adenocarcinoma. [illegible]. Secondary tumors of the ovary.

Note: This book, written especially for pathologists and clinicians, is primarily a diagnostic atlas. The authors' stated purpose is to present a systematic, clear, and complete survey of the complex field of ovarian oncology in order to help in reducing the number of ovarian neoplasms that defy [illegible] correct diagnosis. The illustrations have detailed legends. Short chapters in which each tumor is systematically defined and its histopathologic characteristics are described accompany the illustrations. Also included are data on the [illegible] frequency and age incidence, outstanding gross pathologic features, clinical signs and symptoms, and treatment.

CAMERON, CHARLES S.

The truth about cancer. Englewood Cliffs, N. J. Prentice-Hall, Inc., 1956 268 p. illus. (part col'd) 24 cm. $4.95 3487

Contents: Preface, by Elmer Hess, President, American Medical Association. The big IF. Part I, The over-all picture: What is cancer? Cancer in the world. The causes of cancer. Some misconceptions about cancer. Diagnosing cancer. Treating cancer. The cancer quacks. Cancer research. Part II, A closer look: Cancer of the skin. Cancer of the lip and mouth. Cancer of the larynx. Cancer of the esophagus and stomach. Cancer of the intestine and rectum. Cancer of the breast. Cancer of the uterus. Cancer of the lung. Cancer of the bladder and kidney. Cancer of the [illegible]. Cancer of the prostate. The [illegible] diseases. Bone [illegible]. Cancer in children. The responsibility is yours. Index.

Note: A popular presentation of facts about cancer by a medical doctor who [illegible] Medical and Scientific Director of the American Cancer Society. The first half of the book contains introductory [illegible] of [illegible] general nature on cancer. The second half describes cancer in various parts of the body with specific information concerning detection and treatment. The colored illustrations show [illegible] in various stages. The book is written in a non-technical style and is useful to medical and social workers as well as being of potential practical importance to every individual.

CANTRIL, SIMEON THEODORE

Radiation therapy in the management of cancer of the uterine cervix. Springfield, Ill. Charles C Thomas 1950. 196 p. illus. 22 cm. (The American lecture series. No. 55. A monograph in American lectures in radiation therapy, edited by Milton Friedman) $5.50. 3488

Contents: Introduction. Clinical considerations. The pathology and spread of cancer of the cervix. The complications of cervical cancer. [illegible] of cancer of the cervix. [illegible] Radium therapy. Cancer of the cervical stump. Cancer of the cervix in pregnancy. The [illegible] of surgery in the management of carcinoma of the cervix. Appendixes. The staging of cancer of the uterine cervix. Dosimetry in intracavitary radium therapy. [illegible]. Index.

Note: This monograph serves a dual purpose in reviewing those features of cancer of the cervix [illegible] by [illegible] and radium therapy and its prognosis. [illegible] history of the development of radiation therapy based on the concepts as evolved from the Swedish and French schools of radiotherapy. Some emphasis is placed on X-ray therapy and the technics of application as well as on problems of dosimetry. Excellent diagrams and X-ray photographs and [illegible] summary of worldwide results of radiation treatment make this volume a useful reference work. The author is Director of the Tumor Institute of the Swedish Hospital in Seattle, Washington.

COLEY, BRADLEY LANCASTER

Neoplasms of bone and related conditions: their etiology, pathogenesis, diagnosis, and treatment. With 622 illustrations and 53 tables. New York, Paul B. Hoeber, Inc., Medical Book Department of Harper & Brothers, 1949 765 p. illus. 26 cm. $17.50 3489

Contents (abridged): Section I, Classification, etiology, and diagnosis: Diagnostic survey in suspected cases of bone tumor. Differential diagnosis. Blood chemistry in the diagnosis of diseases of bone, by H. Q. Woodard. Section II, Benign tumors and tumorlike lesions of bone: Osteoma. Nonosteogenic fibroma of bone. Chondroma. Benign chondroblastoma of bone. Hemangioma of bone. Solitary bone cyst. Fibrous dysplasia of bone. Giant cell tumor. Adamantinoma. Chordoma. Section III, [illegible] development in benign lesions of bone. Section IV, Primary malignant tumors of bone. Section V, Tumors invading bone by extension. Section [illegible], Metastatic tumors involving bone. Section VI, Tumors of bone in special locations: Tumors of the skull—jaw bones—thoracic wall—pelvic bones—vertebral column—hands and feet. Tumors of bone in childhood. Section VII, Surgical treatment. Section VIII, Radiation therapy. Section IX, Constitutional therapy: Effects of bacterial products on tumors of bone. Biochemical treatment of tumors of bone. Treatment with radioactive isotopes. Section X, Lesions of the skeletal system that may simulate neoplasms of bone. Section XI, Miscellaneous pathologic fractures. Medicolegal aspects of trauma in tumors of bone. The experimental production of bone sarcoma. Index.

Note: A comprehensive work written from the clinical viewpoint. The [illegible] subsections cover all facets of the subject which are pertinent to diagnosis, prognosis, and treatment. Most of the conditions discussed are shown also in the illustrations. An unusual feature is the inclusion of more than 50 tables in which data from case histories are summarized. The book is based primarily on the author's extensive experience in the Bone Tumor Department of Memorial Hospital for Cancer and Allied Diseases in New York City. However, here he has also searched the literature and has incorporated the pertinent results of other workers in the field. Each of the sections concludes with a bibliography.

CONWAY, HERBERT

Tumors of the skin. Springfield, Ill. Charles C Thomas 1956 267 p. illus. (part col'd) 27 cm. (American lecture series. Publication no. 270. A monograph in the Bannerstone division of American lectures in surgery, edited by Michael E. DeBakey and R. Glen Spurling. Plastic surgery division, editor James Barrett Brown) $13.50. 3490

Contents: Part I, Benign tumors of the skin: Cysts, sinuses and fistulas. Foreign body tumors. Warts. Keratoses. Fibroma. Nevi. Hemangioma. Tumors of the [illegible]. Tumors of muscle. Neuromas. Lymphangioma. Rare benign epithelial tumors. Miscellaneous benign tumors of the skin. Part II, Malignant tumors of the skin: Carcinoma of the skin. Intraepidermal and superficial carcinoma. Carcinoma in cutaneous scars and sinuses. Post-radiation dermatitis and malignancy. Melanoma. Sarcoma of the skin. Lymphoblastoma. Author index. Subject index.

Note: A fully illustrated work based in part on the literature and in part on the case records of the New York Hospital-Cornell Medical Center. The space is almost evenly divided between the material on benign tumors and that on malignant tumors. Diagnosis, clinical features, and treatment are the principal topics, but information is included also on incidence, prognosis, etc. Although the book is addressed to surgeons and is not designed to teach surgery, surgical operations are described and illustrated. Another noteworthy feature is the inclusion of numerous before-and-after sets of photographs of patients showing the cosmetic effect of surgical treatment to remove tumors from the face and adjacent regions.

CORSCADEN, JAMES A

Gynecologic cancer Second edition Baltimore The Williams & Wilkins Company, 1956 546 p illus 24 cm. $10 00 3491

Contents. Introduction. Diagnosis. Cancer of the vulva. Cancer of the vagina. Cancer of the cervix. Cancer of the endometrium. Cancer of the myometrium. *Neoplastic disease of the chorion.* Cancer of the ovary The menopause. Management of the cancer patient. The nature of cancer Index.

Note A comprehensive work addressed to general practitioners of medicine and to specialists, including both specialists in gynecology and oncology The author believes strongly in the effectiveness of early diagnosis and treatment, and in his introductory chapter carefully demolishes the arguments of those who contend that these are ineffective on a statistical basis. Techniques of diagnosis and of therapy are thoroughly covered. The latter are covered critically and the author does not hesitate to stat that certain therapies are ineffective if he so believes. The first edition was published in 1951 *This second edition represents a thorough revision and extension* of the original work. Changes have been made in the text, the illustrations and the bibliographies. The number of pages has been substantially increased.

COWDRY, E V

Cancer cells. 137 illustrations Philadelphia W B Saunders Company, 1955 677 p. illus. (part col'd) 26 cm $16 00 3492

Contents Cancers defined. Malignant growth of cancer cells. Cytoplasm of normal and malignant cells compared. Nuclei and division of normal and malignant cells compared. Chemical properties of cancerous tissues. Occurrence of cancers in animals and plants. Agents causing cells to become malignant. Single trauma cancers. Viruses as cancer agents. Mutations as cancer producers. Cellular susceptibility to cancer Heredity and susceptibility to cancer Age and sex susceptibility of cells to cancer. Latency in cancer development. Modifying factors in cancer development. Geographic frequency of different types of cancer. Cancer prevention. Cancer diagnosis and treatment. Unexplained disappearance and changes in malignancy of cancer cells. Cancer research. Appendices Names of tumors. Cancer registries. Cancer journals. Reviews. Books. Conferences and symposia. Reports. Bibliography Index.

Note. An expert survey of accumulated knowledge on cancer The title notwithstanding, it is not limited to the knowledge on cells, but includes, in the later chapters especially many other aspects of cancer It is not an exhaustive compendium, but it is a cyclopedic one. The assembled information is presented largely in the form of chapters whose titles are given above. The facts are conveyed in a readable text, and there are only 30 tables in the entire volume. *The survey of cancer research in the terminal chapter* is international in scope. The bibliography which is a list of cited literature contains approximately 2,500 entries. The author is Director of the Wernse Cancer Research Laboratory of Washington University

CUNEO, HENRY M , AND CARL W RAND

Brain tumors of childhood Springfield, Ill Charles C Thomas, 1952 224 p. illus 23 cm (American lecture series Publication no 104 A monograph in American lectures in neurosurgery) $5 75 3493

Contents Astrocytoma. Medulloblastoma. Craniopharyngioma. *Ependymoma. Pinealoma.* Papilloma of the choroid plexus. Glioblastoma (spongioblastoma) multiforme. Meningioma. Glioma of the optic nerve. Metastatic and malignant invasive tumors. Eosinophilic granuloma of bone, xanthomatosis and reticulo-endotheliosis. Infectious granulomata. *General considerations.* Index.

Note: A monograph based primarily on a decade of experience in the Children's Hospital in Los Angeles during which "83 verified cases of brain tumor and/or granulomatous lesions were encountered" and secondarily on the literature. The classes of tumors named in the table of contents above are discussed against background of actual case histories. The 60 illustrations are largely drawn from the same cases. The book is of interest to tumor specialists and pediatricians.

DONNER FOUNDATION

Index to the literature of experimental cancer research 1900–1935 Philadelphia. Donner Foundation, Inc., 1948 1,057 p. 27 cm. $10 00 3494

Note. The unsigned introduction to this bibliography contains the *following statement* on its scope "Our objective was the inclusion of every publication with adequate bearing on experimental cancer research, between the years 1900 and 1935. The importance or significance of the paper was not considered, as this is in no way a *critical bibliography*." This statement notwithstanding, certain classes of articles were omitted. These included philosophical discussions, articles in which no new work was reported, and early articles on a topic on which later articles on the same topic by the same author were listed. There are two main alphabets in the volume. First, there is an author index in which under the names of authors are listed the titles of their publications, together with the journal titles, volume numbers, pages and years of publication. *This index is followed by a subject index* in which the same writings are listed under subjects. The scope of the work is international, and titles of articles are given in the original language, except that titles in non-Latin alphabets have been translated into a language such as French or English using the Latin alphabet.

DYER, HELEN MARIE

An index of tumor chemotherapy A tabulated compilation of data from the literature *on clinical and experimental investigations.* Washington, D C. Government Printing Office, *1950 329* p 23×29 cm (United States. Federal Security Agency Public Health Service) Gratis. 3495

Contents Historical resumé. Selection of material for the Index. Classified index of therapeutic data. Inorganic compounds. Metal- and halogen—containing organic compounds. Organic sulfur compounds and sulfur derivatives of miscellaneous organic compounds. Organic compounds. *Aliphatic compounds. Aromatic compounds.* Miscellaneous carbocyclic compounds. Miscellaneous heterocyclic compounds. Aldehydes. Alkaloids. Antibiotics. Carbohydrates. Carcinogenic compounds. Dyes. Lipids. Mustard gas and nitrogen mustards. Miscellaneous oils. *Proteins* and protein derivatives. *Sulfonamides* and related substances. Vitamins, provitamins and vitamin antagonists. *Peroxides.* Radioactive agents. Miscellaneous materials: Coagulants and anticoagulants of blood. Enzymes. Hormones. Plant products. Venoms. *Alphabetical* index of agents. *References.*

Note: A comprehensive survey of the literature on the treatment of tumors by chemical methods is presented in this index for investigators in cancer research. The work consists of four parts: (1) 11 pages of introductory text, (2) 168 pages of the classified tabulated index of chemotherapeutic tests, comprising 3031 numbered items, (3) 58 pages of alphabetic index, and (4) 96 pages containing 3313 bibliographical citations of periodicals and other sources for the indexed items. Tabulated for each of these 3031 reported experiments are the *following*: its number the name of the chemical agent, the type of tumor the species (whether man, dog, rabbit, rat, mouse, etc.) of the host, the number of hosts involved in the experiment, the dosage, the number and period of treatments, the route (whether oral, local, injected, subcutaneous, inhaled, etc.) of the treatment, the effect (or effects) claimed, the reference number to the bibliographical list, and the date of the report.

ELLER, JOSEPH JORDON, AND WILLIAM DOUGLAS ELLER

Tumors of the skin benign and malignant. *Second edition, thoroughly revised* and enlarged. 550 illustrations and 3 colored plates. Philadelphia Lea & Febiger 1951 697 p. illus. (part col d) 24 cm $15 00 3496

Contents General considerations. Benign tumors of the skin Tumors of connective tissue origin. Tumors originating from muscle or nerve tissue. Nevi and other developmental disturbances of the skin. Tumors of infectious origin. *Precancerous* conditions of the skin. Malignant tumors of the skin Carcinoma of the skin. Malignant melanoma. Sarcomas. Lymphomas (leukemia) Cutaneous surgery and plastic repair in skin tumors. Radiation physics. Author index. Subject index.

Note: Skin tumors and tumors of other tissues, such as those of the mouth, which are often first seen by the dermatologist are covered in this book. The treatment is comprehensive, with emphasis on diagnosis and treatment. The book is based both on the authors' own extensive experience and on the literature. A considerable fraction of the illustrations are photographs selected from [a] wide range of cases. Extensive bibliographies are included. The revisions and additions made in the text, illustrations, and bibliographies for this edition are substantial.

FARBER, SEYMOUR MORGAN AND OTHERS
Cytologic diagnosis of lung cancer By Seymour M Farber Milton Rosenthal, Edwin F Alston, Mortimer A. Benioff and Allen K. McGrath, jr Springfield, Ill. Charles C Thomas, 1950 59 p. illus. 29 cm. $7.50 3497

Contents: Introduction. Evolution of cytologic technique. Technique. Histology of the respiratory tract in normal and benign pathologic conditions. Pathology of bronchogenic carcinoma. Technical advantages for the study of cell detail with wet smears. Identification of non-malignant cells. Cytologic criteria of malignancy. Clinical material and data. Clinical and pathologic results. Conclusion. Bibliography. Color plates.

Note: An authoritative work on the diagnosis of lung cancer by examination of sputum and bronchial washings, [a] technique which affords much earlier diagnosis than is possible with other diagnostic procedures. The work is based on [a] study of 1,328 cases. Cytologic diagnosis was found to be fully as accurate as bronchoscopy. However, the authors point out that it is [a] sensitive method that is reliable only after the cytologist has gained considerable experience with it. A bibliography lists 94 references. There are 40 reproductions in color of microphotographs of tissues and cells.

GATES OLIVE, AND SHIELDS WARREN
A handbook for the diagnosis of cancer of the uterus by the use of vaginal smears. With a foreword by George N Papanicolaou. Third edition. Cambridge, Mass. Harvard University Press 1950 214 p illus. 28 cm. $5.50. 3498

Contents: General considerations relating to the vaginal smear method. Technique. Morphology of genital tract. Normal cytology of the vaginal smear. Pathology of cancer of the uterus. Characteristics of malignant cells in smears. Diagnosis of smears taken following radiation therapy. Sources of error in diagnosis. General aids in use of the vaginal smear method. Current appraisal of the vaginal smear method. The vaginal smear in relation to carcinoma in situ and early carcinoma. References. Plates. Index.

Note: A standard laboratory guide written for both the practicing pathologist and the laboratory technician. The material is presented so as to be of particular value to those who must resort to self-training in learning this technique for detecting cancer in its incipient forms. The third edition reflects further experience with the technique and some extension of its applications. Changes have been made in the text of all but two of the chapters. The wide interest in the technique is reflected in the 78 references which have been added to the bibliography. Eighteen illustrations have been added.

GENGERELLI JOSEPH A. AND FRANK J KIRKNER
The psychological variables in human cancer A symposium presented at the Veterans Administration Hospital, Long Beach, California, October 23 1953 Berkeley University of California Press 1954 135 p. illus. 22 cm. $3.00. 3499

Contents: The nature of the cancer process in relation to [a] possible psychosomatic influence, by M. Cutler. Origin and development of the psychological approach to the cancer problem, by F M. West. Results of the psychological testing of cancer patients, by E. M. Blumberg. Comparative case summaries with psychological profiles in representative rapidly and slowly progressive neoplastic diseases, by F W Ellis and E M Blumberg. A preliminary report on autonomic functions in neoplastic disease, by T. L. Cleveland. Cancer—host-resistance and host-acquiescence, by J. K. L. Jacobs.

Note: Physicians and psychologists participated in the symposium of which this book is [a] product. For the most part the papers are reports of preliminary investigations of the psychosomatic aspects of cancer, with emphasis on [a] possible psychological factor in the genesis of cancer. They are accompanied by transcripts of discussion and by literature references.

GREENSTEIN JESSE P
Biochemistry of cancer Second edition revised and enlarged. New York Academic Press Inc., 1954 653 p. illus. 24 cm. $12.00 3500

Contents: Introduction—the oncological sciences. The general phenomena and taxonomy of cancer. The induction of tumors. Extrinsic factors. Intrinsic factors. Attempts at control of tumor induction and of tumor growth. Nutrition. Endocrinology. Chemotherapy. The properties of tumors. Chemistry of tumors. Chemistry of the tumor-bearing host. The present status of the problem. Author index. Subject index.

Note: This monograph provides [a] comprehensive digest of the current knowledge of the biochemical aspects of cancer. Although it is essentially [a] literature survey the author's own comments and interpretations are valuable. The interdependence of the various research approaches to the cancer problem is stressed, and many of the gaps in our chemical knowledge are pointed out. The eighth and ninth chapters, "Chemistry of tumors," and "Chemistry of the tumor-bearing host," taken together are [illegible] pages long in this edition and summarize, partly in tables, the published information on the topic. The first edition was published in 1947 and contained 389 pages. The substantial increase in length reflects the large amount of literature published since the first edition was written. Some material has been deleted, and much has been added to most of the chapters. The author is Chief of the Laboratory of Biochemistry of the National Cancer Institute of the United States Public Health Service.

HAAGENSEN, C D
Diseases of the breast. Illustrated with 962 illustrations on 404 figures and 25 charts. Philadelphia W B Saunders Company, 1956 751 p illus. 26 cm. $16.00 3501

Contents: Anatomy of the mammary gland. The physiology of the breasts. Hypertrophy of the breast. The detection of breast disease. Methods of diagnosis of breast disease. The technique of excision of benign tumors of the breast. Cystic disease of the breast. Adenosis. Fibrous disease of the breast. Mammary duct ectasia. Fat necrosis in the breast. Adenofibroma of the breast. Intraductal papilloma. Non-epithelial tumors of the breast. Tumors of the skin and the accessory glands of the skin over the breast. Infections in the breast. The etiology of breast cancer. The frequency and age distribution of mammary carcinoma. The natural history of breast carcinoma. The symptoms of mammary carcinoma. The diagnosis of breast carcinoma. The papillary type of mammary carcinoma. Paget's carcinoma of the breast. Inflammatory carcinoma. Special pathological forms of breast carcinoma. The choice of treatment for breast carcinoma. The surgical treatment of mammary carcinoma. The radiotherapy of breast carcinoma. The hormonal treatment of mammary carcinoma. Carcinoma of the male breast. The problem of breast carcinoma in profile. Index of authors. Index of subjects.

Note: A comprehensive and important work. It is based on 23 years of interest in the subject on the part of the author and on the extensive experience of the Columbia Presbyterian Medical Center which has had [a] follow-up system for surgical patients in operation since 1915. Although all diseases of the breast are covered, more than 400 of the pages are devoted to breast cancer. All aspects of this subject are covered fully. Surgical techniques are fully described. Many data are presented in tables, of which there are 144 in the volume. Selected but extensive bibliographies are included in the chapters.

HAHN PAUL F editor
Therapeutic use of artificial radioisotopes. New York John Wiley & Sons, Inc. 1956 414 p. illus. 24 cm. $10.00. 3502

Contents: Introduction to the therapeutic radiation problems, by G Hevesy. Introductory radiological physics, by C. W Sheppard.

Dosimetry of therapeutic use of internally administered radioisotopes, by A. A. Yalow Availability and procurement of isotopes, by D L. Tabern, Production and handling of therapeutic isotopes, by P F Hahn and others. Synergistic effect of radioisotopes used in combination, by H. L. Friedell and P R. Salerno. Treatment of the leukemias and polycythemia vera with radioactive phosphorus, by E. E. Osgood. Treatment of chronic leukemias by intravenously administered radioactive colloids, by P F Hahn and others. Treatment of thyrotoxicosis by radioiodine, by N B Myant. Radioiodine treatment of thyroid carcinoma, by E. E. Pochin. Carcinoma of the cervix treated with radioactive gold colloids, by A. L Sherman. The treatment of carcinoma of the prostate with radioactive colloidal gold, by R. H. Flocks and others. Intraperitoneal application of radioactive colloids, by J H. Muller Treatment of pleural effusion with radioactive colloids, by G. A. Andrews. Use of radioactive isotopes in the treatment of patients with bladder tumors, by D W Smithers and others. Radioactive isotopes for β- and γ-ray applicators, by M. Lederman and W K. Sinclair Silver-coated radioactive colloids as adjuvants in the surgical treatment of bronchiogenic tumor by P F Hahn. Interstitial implantation with radioisotopes, by U K. Henschke. Teletherapy with cobalt⁶⁰ by G. H. Fletcher Index.

Note Together the 19 chapters in this volume present broad survey of progress and experience to approximately the end of 1954 in the use of radioactive isotopes in the treatment of the malignancy The view presented is an international one. Although the majority of contributors are resident in the United States of America, one is from Sweden, one is from Switzerland, and seven from England. A wide range of techniques is described. Although most of the papers are based on clinical experience in which the author had a part, literature references are included in all In his preface the editor states: "If any plea is to be made at the present time, it should be that a wider use of isotopes in therapy be directed toward the commonly occurring tumors.

HARTWELL, JONATHAN LUTTON

Survey of compounds which have been tested for carcinogenic activity Second edition. Washington, D C Government Printing Office 1951 583 p illus 24 cm (United States Federal Security Agency Public Health Service. Publication no 149) $4 25 3503

Contents Introduction Tabular review Inorganic compounds. Organic compounds Aliphatic. Monocyclic. Bicyclic. Tricyclic. Tetracyclic. Pentacyclic. Hexacyclic and higher Azo compounds. Steroids. Heterocyclic compounds. Unclassified. Addenda. Bibliography Compound index. Route index. Site-of-application index. Species index. Tumor-site index. Vehicle index.

Note This book lists in systematic fashion 1,329 chemical compounds which have been tested on animals, chiefly mice and rats, for carcinogenic activity as reported in the literature of the subject through 1947 Only chemical compounds are listed. Mixtures such as tars, irradiated sterols and articles of diet were excluded. Also excluded were reports where the observations extended for period of less than one month from the first administration. Tabulated for each compound are the following reference to the literature by author and date, animal and number of animals, strain or type of animal, sex, preparation and dose, site and route, number of animals with tumors and the type of tumor if any survival records, and duration of the experiment. The first edition of the survey was published in 1941 The second edition included the tests that were listed in the first edition and about as many more the results of which were published from 1940 to 1947

IASON, ALFRED H.

Gastric cancer Illustrations by Alfred Feinberg New York Grune & Stratton 1953 316 p illus 26 cm $7 50 3504

Contents Anatomy Histology Incidence. Etiology Pathology Symptomatology Diagnosis and differential diagnosis. Presurgical preparation. Anesthesia. Surgery Postsurgical treatment. Complications. Prognosis. References. Index.

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INGALLS, RAYMOND G

Tumors of the orbit and allied pseudo tumors an analysis of 216 case histories. Springfield Ill. Charles C Thomas, 410 p. illus 24 cm $11.50 3505

Contents: Introduction. Angioma, hemangioma-lymphangioma. Pseudo tumors. Lymphosarcoma. Dermoid cyst. Retinoblastoma. Meningioma. Melanoma. Neurofibroma. Cholesteatoma. Rhabdomyosarcoma. Neuroblastoma. Hematoma. Myoblastoma. Fibroma. Osteoma. Neurinoma. Leiomyosarcoma. Lipoma. Dermolipoma. Glioma. Sarcoma of the orbit. Carcinoma of the orbit, Extension from accessory nasal sinus. Extension from lacrimal gland. Carcinoma—extension from lids. Metastic carcinoma of the orbit. References. Index.

Note The basis of this outstanding book is material originally assembled for exhibition at the 1947 meeting of the American *Academy of Ophthalmology and Otolaryngology The material* included both biopsies and specimens of 216 orbital tumors of 37 types. Not all the known types of tumors of the orbit are represented, but the collection is a rich one, nevertheless. Most of it came from the pathology laboratories f the Institute of Ophthalmology of the *Presbyterian* Hospital. The data on each case were analyzed in detail and the results of the studies are presented in this book.

LEWISON, EDWARD F

Breast cancer and its diagnosis and treatment. Baltimore The Williams & Wilkins Company 1955 478 p. illus. (part col'd) 26 cm $15 00 3506

Contents The history of breast cancer and its treatment. The surgical anatomy of the breast, by R. E. Handley Physiology of the breast, by F H. Trimble. Experimental aspects of mammary cancer in mice, by J J. Bittner The pathology of cancer of the breast, by R. C. Hora Jr The *relationship between benign breast* disease and cancer. The psychological aspects of breast cancer. Diagnosis. Breast biopsy A *review* of the surgical treatment of breast cancer The surgical treatment of breast cancer Extended radical mastectomy by J A. Urban, Postoperative care. Prognosis. Radiotherapy of breast cancer by V P Collins. Hormonal alterations in the palliative treatment of breast cancer by R. A. Huseby Breast cancer and pregnancy or lactation. *Self-examination* of the breast. The statistics of breast cancer Cancer of the breast in the male. Index.

Note A comprehensive and authoritative treatise. It is not an exhaustive survey of all the available knowledge but it contains and presents very wide range of *carefully selected information*. All of the facets of the subject which are named in the chapter titles listed above are treated at length. T cite few examples, the chapter on history is 37 pages long the chapter on physiology 27 pages long the chapter on diagnosis 57 pages long and the three chapters on surgical treatment, including extended radical mastectomy total nearly 100 pages long. Bibliographies are included in the chapters, and there are 181 figures representing considerably higher number of illustrations. The author is member of the faculty of the *Johns Hopkins University School of Medicine* and surgeon on the staff of the *Breast Clinic of Johns Hopkins Hospital.*

MAYER, EDGAR, AND HERBERT C MAIER, editors

Pulmonary carcinoma pathogenesis diagnosis and treatment. New York New York University Press distributed by J B Lippincott Company Philadelphia 1956 540 p illus (part col d) 24 cm $15 00 3507

Contents Foreword, by C. S. Cameron. Editors' preface. Modern concepts f cancer research, by C. P Rhoads. The history of cancer with special reference to the cancer of the lung—experimental studies, by W E. Smith. Environmental and occupational factors

in the development of lung cancer, by E. C. Hammond and [illegible]. Pathologic aspects, by A. A. Liebow. Clinical aspects, by E. Mayer, and others. [illegible] diagnosis of lung cancer, by [illegible]. Bronchoscopic examination, by H. C. Maier. Exfoliative cytology in diagnosis of lung cancer, by G. N. Papanicolaou and [illegible] A. A. Liebow. The search for the early case, by W. E. O'Donnell and E. Day. Differential diagnostic aspects, by E. Mayer and I. Rappaport. Functional aspects of pulmonary disease as applied to the management of cancer of the lungs, by I. Rappaport and H. C. Maier. Surgical treatment, by H. C. Maier. Radiotherapy in lung cancer, by J. J. Nickson and B. Roswit. Radioisotope therapy in lung cancer, by B. Roswit. Chemotherapy of lung cancer, by D. A. Karnofsky. Medical management of the surgically incurable patient, by E. Mayer and J. LaDue. Secondary cancers of the lung, by B. Roswit and J. LaDue. The psychological aspects of cancer of the lung, by A. M. Sutherland. Benign tumors of the lung—benign and malignant tumors of the trachea—tumors of the pleura, by H. C. Maier. The outlook for cancer, by C. P. Rhoads. Appendix: A list of case presentations—pitfalls in diagnosis and lessons learned in retrospect, by E. Mayer and others. Index.

Note: An authoritative work whose authors include eminent specialists in cancer pathology, [illegible], medicine, radiology and surgery now teaching and practicing in the United States of America. It is directed primarily to general practitioners of medicine and to general surgeons, and those aspects of lung cancer which are named in the chapter titles are dealt with rather fully. The first three chapters present useful background information on the present state of knowledge of the etiology of cancer, including a résumé of the evidence supporting cigarette smoking as one of the causative factors in lung cancer. The principles of surgical treatment, including indications and contraindications, are covered, but the techniques of operations on the lung are not described. Inclusion of a chapter on the management of incurable patients is noteworthy. Selected but nevertheless extensive bibliographies are included in most of the chapters.

Meigs, Joe V., editor

Surgical treatment of cancer of the cervix. New York, Grune & Stratton, 1954. 462 p. illus. (part col'd) 26 cm. $14.00. 3508

Contents: The anatomy and blood vessels of the pelvis—the observations of W. C. Quinby, Jr. The lymph nodes and lymph channels of the pelvis—I, the observations of [illegible]—II, the observations of C. T. Javert. The physiologic and pathophysiologic nerves of the ureters and bladder—the observations of L. R. McCrea. Hysterectomy for carcinoma in situ—the method of R. W. T. Lindo. Radical hysterectomy with bilateral dissection of the pelvic lymph nodes—I, the method of F. R. Cattell—II, the method of J. V. Meigs—III, the method of Wertheim [illegible] operation, by P. Werner and J. Sederl. Radical vaginal hysterectomy—I, the Schauta-Amreich operation, by E. Navratil—II, the Schauta operation, by M. A. van B. [illegible]—III, the Schauta operation, by S. Mitra. Retroperitoneal lymph node dissection (Taussig)—the method of D. C. Morton. Total exenteration of the pelvic organs—I, the method of A. Brunschwig—II, the method of L. Parsons—III, the method of E. M. Bricker. Resection of the anterior female pelvic organs—the method of J. M. Ingersoll. Resection of the posterior female pelvic organs—the method of H. Ulfelder. The treatment of uterine or vaginal recurrence of cancer of the cervix—I, the treatment by [illegible] of recurrent cancer of the cervix following radiation, by R. L. Kottmeier—II, report of [illegible] and [illegible] following [illegible] of recurrent cancer of the cervix after radiation, by A. [illegible]—III, recurrent cancer of the cervix following surgery and its treatment, by J. R. Graham. The ureters and bladder in radical pelvic surgery—urinary tract complications of radical pelvic surgery—their prevention and treatment, by F. H. Colby. Index.

Note: An authoritative and comprehensive monograph covering all aspects of surgical treatment of cancer of the cervix and the [illegible]. In the 24-page introduction the editor outlines the history of treatment of cancer of the cervix including the early surgical approaches with their high mortality, the almost complete abandonment of surgery in favor of radiation therapy and the resurgence of surgical treatment in recent years. Discusses the question of surgical operation versus radiation treatment, defines the types and classifications of cancer of the cervix, and discusses briefly anatomy, diagnosis, and related topics. The contents of the other chapters are apparent from the titles given above. Full discussions and descriptions are characteristic of all of the chapters. Surgical techniques are fully described and illustrated. There are several hundred illustrations, some of which are reproductions of well-executed drawings. Literature references are given throughout the book. The editor is Clinical Professor of Gynecology on the faculty of the Harvard Medical School. Three of the contributors are from Austria, two from Sweden, one from Holland, and one from India; the others are from the United States of America.

Miner, Roy Waldo editor

Ascites tumors as tools in quantitative oncology. Conference chairman and consulting editor Theodore S. Hauschka. New York, Published by the Academy, 1956. 637–1030 p. illus. 22 cm. (New York Academy of Sciences. Annals. Vol. 63 art. 5) $4.50. 3509

Contents: Introductory remarks, by H. Koprowski. Part I. Growth and population analysis: Conversion of solid neoplasms into ascites tumors, by G. Klein and E. Klein. Prospects for [illegible] genetics of somatic and tumor cells, by J. Lederberg. Growth of cell suspensions in tissue culture, by W. R. Earle and others. Immunoselection of polyploids from predominantly diploid cell populations, by T. S. Hauschka and others. Serological differences between comparable diploid and tetraploid lines of three mouse ascites tumors, by D. R. Amos. Growth characteristics of free tumor cells in various body fluids and tissues of the mouse, by H. Goldie. Measurement and nature of ascites tumor growth, by H. M. Patt and R. L. Straube. Part II. Cytologic nature of ascites tumors: Exfoliative cytology in the study of ascites tumors, by I. Koprowska. Electron microscope studies of ascites tumor cells, by C. C. Selby and others. Chromosomes in cancer tissue, by A. Levan. Cytological variability in human carcinomatosis, by P. C. Koller. Further evidence favoring the concept of the stem cell in ascites tumors of rats, by S. Makino. Changes in nuclear DNA in normal and ascites tumor cells, by R. M. Richards and others. Film demonstration of in vitro growth of the Yoshida ascites sarcoma, by A. Schleich. Contributions of the ascites hepatoma to the concept of malignancy of cancer, by T. Yoshida. The value of ascites tumors in problems of tumor immunity, by P. A. Gorer. Part III. Ascites tumors as assay tools: Ascites tumors as culture media in quantitative growth studies of viral agents, by H. Koprowski. Ascorbic acid studies with mouse Ehrlich ascites tumor, by S. Harvey and A. Howard. Radiation effects on ascites tumor chromosomes, by A. D. Conger. Study of metabolism with the aid of labeled ascites tumor cells, by J. L. Ambrose and others. Models of ascites tumors for chemotherapeutic screening, by K. Sugiura and H. J. Creech. Part IV. Advantages of free-cell suspensions for metabolic studies: Comparative metabolic study of MCIM ascites and [illegible] suspensions of [illegible] cells obtained from MCIM solid tumors, by L. P. Kaltenbach and M. H. Kaltenbach. Comparative uptake of amino acids by free-cell populations, by H. N. Christensen and others. Aminopterin-induced [illegible] as correlated with chromosome constitution in sublines of the Ehrlich ascites tumor, by E. K. Patterson and L. Podber. Studies of nucleic acid synthesis in ascites tumor cells, by G. A. LePage and others. On the control of metabolism in ascites tumor cell suspensions, by B. Chance and B. Hess. Carbohydrate metabolism in ascites tumor cells, by E. Racker. Resistance to colchicine, hypochlorite, and [illegible] in selected sublines of the Ehrlich ascites tumor, by H. Lettré. Concluding remarks, by A. Haddow.

Note: Papers first presented at [illegible] conference held and supported jointly by the Section of Biology of the New York Academy of Sciences and the Damon Runyon Memorial Fund for Cancer Research, Inc., in May 1955, are published in this monograph and are listed above by titles and authors. Described in the papers are [illegible] wide range of research results which have flowed from the techniques of tumor transplantation by ascitic fluid and from the study of ascites tumors. Discussion and literature references are included for most of the papers.

Miner, Roy Waldo editor

Cancer cytology and cytochemistry. Conference chairman and consulting editor: M. J. Kopac. New York, Published by the Academy, 1956. 1033–1462 p. illus. 22 cm. (New York Academy of Sciences. Annals. Vol. 63 art. 6) $4.50. 3510

Contents: Introductory remarks, by H. Koprowski. Part I. General problems in cancer cytology: The Conference on Cancer Cytology and Cytochemistry—its aims and results, by M. J. Kopac. The history of the Inter-society Cytology Council, by J. V. Meigs. Malignant properties of cancer cells, by L. V. Ceroty. Early uterine cancer detection by cytologic screening, by C. C. Erickson. Teamwork between pathologists and cytologists, by L. S. Lipid and P. Klemperer. Accomplishments and shortcomings of cancer cytology, by E. Day. Part II. Morphologic features of malignancy on cells: Observations of nucleoli in tumor cells, by E. C. MacCarty. Chromosome anomalies in human neoplasms with special reference to the mechanisms of polyploidization and aneuploidization in the HeLa strain, by T. C. Hsu and P. S.

Dosimetry of therapeutic use of internally administered radioisotopes, by A. A. Yalow Availability and procurement of isotopes, by D L. Tabern. Production and handling of therapeutic isotopes, by P F Hahn and others. Synergistic effect of radioisotopes used in combination, by H. L. Friedell and P R. Salerno. Treatment of the leukemias and polycythemia vera with *radioactive phosphorus*, by E. E. Osgood. Treatment of chronic leukemia by intravenously administered radioactive colloids, by P F Hahn and others. Treatment of thyrotoxicosis by radioiodine, by N B. Myant. Radioiodine treatment of thyroid carcinoma, by E. E. Pochin. Carcinoma of the cervix treated with radioactive gold colloids, by A. L Sherman. The *treatment of carcinoma of the prostate* with radioactive colloidal gold, by R. H. Flocks and others. Intraperitoneal application of radioactive colloids, by J H. Muller Treatment of pleural effusion with radioactive colloids, by G. A. Andrews. Use of radioactive isotopes in the treatment of patients with bladder tumors, by D W Smithers and others. Radioactive isotopes for β- and γ-ray applicators, by M. Lederman and W K. Sinclair Silver-coated radioactive colloids as adjuvants in the *surgical treatment* of bronchiogenic tumor by P F Hahn. Interstitial implantation with radioisotopes, by U K. Henschke. Teletherapy with cobalt[60] by G. H. Fletcher Index.

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HARTWELL, JONATHAN LUTTON

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IASON, ALFRED H.

Gastric cancer Illustrations by Alfred Feinberg New York Grune & Stratton, 1953 316 p illus 26 cm $7 50 3504

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INGALLS, RAYMOND G

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LEWISON, EDWARD F

Breast cancer and its diagnosis and treatment. Baltimore The Williams & Wilkins Company, 1955 478 p illus. (part col d) 26 cm. $15 00 3506

Contents The history of breast cancer and its treatment. The surgical anatomy of the breast, by R. S. Handley *Physiology of the breast, by F H. Trimble. Experimental aspects of mammary* cancer in mice, by J J Bittner The pathology of cancer of the breast, by R. C. Hora, Jr The relationship between benign breast disease and cancer The psychological aspects of breast cancer Diagnosis. Breast biopsy A review of the surgical treatment of breast cancer The surgical treatment of breast cancer Extended radical mastectomy by J A. Urban. Postoperative care. Prognosis. Radiotherapy of breast cancer by V P Collins. Hormonal alterations in *the palliative treatment of breast cancer* by R. A. Huseby Breast cancer and pregnancy or lactation. Self-examination of the breast. The statistics of breast cancer Cancer of the breast in the male. Index.

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MAYER, EDGAR, AND HERBERT C MAIER, editors

Pulmonary carcinoma pathogenesis diagnosis, and treatment. New York New York University Press distributed by J B Lippincott Company Philadelphia 1956 540 p illus (part col d) 24 cm. $15 00 3507

Content Foreword, by C. E. Cameron. *Editors' preface* Modern concepts f cancer research, by C. P Rhoads. The biology of cancer with special reference to the cancer of the lung—experimental studies, by W E. Smith. Environmental and occupational factors

suffering from uterine cancer and from the relatives of 313 control probands, total of 4,443 individuals. The methods of study are fully described, and the results are analyzed in series of more than 80 tables. Among the conclusions is, "the evidence supports the conclusion that heredity factors affect the frequency with which cancer appears in the uterus. The author is Associate Professor of Obstetrics and Gynecology at the University of Pennsylvania.

NATIONAL CANCER CONFERENCE

Proceedings of the Second National Cancer Conference. American Cancer Society Inc., National Cancer Institute of the U S Public Health Service, and American Association for Cancer Research. New York American Cancer Society Inc., 1954 2 v illus. 24 cm. Gratis. 3514

Contents (abridged) Part I, Introductory remarks. Part II, General sessions: Virus pneumonia, tuberculosis, cancer—that is the problem, by R. H. Overholt. Clinical cancer chemotherapy by A. Gellhorn. Discussion, by D. A. Karnofsky. Viruses and the cancer problem, by W. M. Stanley. Radiation therapy in cancer by R. H. Chamberlain. Present status and future trends of exfoliative cytology by G. N. Papanicolaou. The problem of malignant melanoma, by G. T. Pack. The cancer potential of the silent lung shadow by E. P. Pendergrass. Recent progress in the study of chemical carcinogenesis, by A. Haddow. The present status and likely future accomplishments of surgery of alimentary tract cancer by O. H. Wangensteen. Part III, Round table discussions: Significance of statistical analysis of end-results in the treatment of breast cancer. Joint meeting of breast, female genital tract, genitourinary and steroid endocrinology panels. Part IV Panel meetings: Breast. Genitourinary. Head and neck. Lymphoma-leukemia. Female genital tract. Gastrointestinal. Lung. Radiobiology. Genetics. Cytology. Chemotherapy. Virology. Steroids. [illegible] Index.

Note: The contents of these volumes present a comprehensive view of the state of cancer research, diagnosis, and therapy as of approximately March, 1952. The papers listed by title and author above are short surveys of the topics named in their titles, and together they occupy less than 100 pages. Most of the space in both volumes is devoted to the round table discussions and to the proceedings of the panels. The latter consist of series of short papers and transcripts of discussions. Illustrations and statistical tables are included in many of these papers. The index covers both authors and subjects. The Proceedings of the Third National Cancer Conference was published by J. B. Lippincott in 1957 951 p., $9.00.

NETTLESHIP ANDERSON

Basic principles of cancer practice a book on diagnosis prognosis, and treatment of human neoplasms for the general practitioner and medical student. Baltimore The Williams & Wilkins Company 1952 398 p. illus. 24 cm. $7.00. 3515

Contents (abridged) The status of present day cancer practice. Clinical behavior of neoplasms. Methods of cancer diagnosis. The clinical pathology of neoplasms. Local and systemic effects of cancer. Treatment of cancer. Neoplasms of children. Neoplasms of the skin. Neoplasms of the gastro-intestinal tract, liver, and pancreas. Neoplasms of the breast. Neoplasms of the female genital system. Neoplasms of the male genito-urinary system, kidney, bladder, and prostate. Neoplasms of blood forming organs. Neoplasms of the lung, nasopharynx, larynx, trachea, and bronchi. Neoplasms of bone, muscle, and connective tissue. Neoplasms of the central nervous system. Neoplasms of the endocrine organs. A review of the biochemistry of cancer. Relation of occupation and trauma to cancer. Index.

Note The expressed purpose of this book is to make available to advanced medical college students and general practitioners of medicine the highlights of the contemporary status of cancer diagnosis and treatment. The physician is offered information on general aspects, such as the pathological behavior of tumors and also on very specific topics, such as the current status of hormone therapy. No subject is covered exhaustively. Good literature lists are included for those physicians who wish to read further. There are 106 figures. The purpose of the book is to alert the general physician to the detection of cancer and to inform him about therapies and about the prognosis of various types. The author is Professor of Pathology in the University of Arkansas.

NIEBURGS, H. E

Cytologic technics for office and clinic. New York Grune & Stratton, 1956 233 p. illus. (part col d) 24 cm. $7 75 3516

Contents: Introduction. Oral cavity. Laryngeal mirror. Cytologic diagnosis of cancer of the maxillary sinuses. Cytologic diagnosis of pulmonary carcinoma. Esophagus. Stomach. Duodenal drainage. Descending colon and rectum. Vulva. Cervix uteri. Prognosis of cervical tissue response to radiation. Endometrium. Carcinoma of the fallopian tube. Ovarian carcinoma. Office procedures for the estimation of hormonal activity. Breast. Serous effusions. Urine. Prostate. Skin. Histocytology and operating room procedures. Mailing of specimens. Organization and function of cytologic laboratory. Inter- and intradepartmental coordination. Considerations on the training of cytotechnicians, cytologists and cytopathologists. Laboratory procedures. References. Appendix. Index.

Note: Techniques related to the collection of cellular material for use in the diagnosis of cancer and other disorders that may be detected by the examination of cells washed or abraded from living tissues are the subject of this book. The primary emphasis is on collection, but such related matters as the preparation of smears and staining are covered also. Interpretation of the microscopic findings when the collected material is examined is discussed briefly in most of the chapters, but diagnosis is not covered as thoroughly as it would be in a specialized monograph on cytologic diagnosis. The book contains 171 figures, of which some are diagrams of steps in techniques while others are reproductions of microphotographs of cellular material. The author is Director of the cytology laboratory of a large hospital in New York. The book is of interest to physicians in charge of such laboratories, technicians working in them as well as to physicians who are interested in cytological techniques as diagnostic procedures.

PAPANICOLAOU, GEORGE NICHOLAS

Atlas of exfoliative cytology Cambridge Mass. Published for The Commonwealth Fund by Harvard University Press 1954 227 p. illus. (part col d) 29 cm. $18.00. 3517

Contents: Introduction. Technique. Criteria of malignancy. Female genital system. Urinary and male genital systems. Respiratory system. Digestive system. Pleural, peritoneal and pericardial exudates. Breast. Plates. Bibliography. Index.

Note: A more general work than the author's earlier monographs *Diagnosis of uterine cancer by the vaginal smear* and *The epithelia of women's reproductive organs*, it extends the techniques of exfoliative cytology to the alimentary tract and other systems. The 54 plates are divided as follows: female genital system, 12; urinary and male genital organs, 4; respiratory system, 5; alimentary tract, 11; pleural, peritoneal and pericardial exudates, 2; breast secretions, 2; leukocyte cells, 1; cells related to pregnancy, 1; cells affected by radiation, 11; undetermined cells of various types, 1; mitotic figures found in normal and malignant cases, 2. All of the plates are reproduced in color; some of them from paintings by the artist, Hashime Murayama, and some of them from photomicrographs. Identifying legends are supplied for all of the figures in the plates; and in addition, short discussions by the author of the characteristics and diagnostic significance of some of the cells illustrated are included. The plates are preceded by the chapters whose titles are given above. In these chapters a history of the development of exfoliative cytology is outlined; procedures of preparing and staining exfoliative material are described, criteria for normality and abnormality in exfoliated cells are discussed, and normal and abnormal cells associated with various body systems are described with some emphasis on neoplastic cell types. The volume is published in a looseleaf binder to facilitate the addition of new material.

PAPANICOLAOU GEORGE NICHOLAS AND HERBERT F TRAUT

Diagnosis of uterine cancer by the vaginal smear Cambridge Mass. Harvard University Press 1943 46 p. illus. (part col d) 28 cm. $5.00 3517A

Contents: Diagnosis of uterine cancer by means of vaginal smears. General classification of the epithelial cells of the vagina and cervix found in the vaginal fluid. The cellular contents of the vaginal fluid at different periods of the normal sex cycle. Effect of modified physiological and of pathological conditions on the cellular contents of the vaginal fluid. Clinical material and

Moorhead. Nuclear variability in human neoplastic cells, by M. E. Long and H. C. Taylor Jr. Intraepithelial carcinoma of the uterine cervix—a histochemical and cytomorphological approach, by A. G. Foraker The electron microscopy of normal and malignant cells, by A. J Dalton and M. D Felix. Part III, Specialized developments in cytochemistry Applications of soft X-ray methods to a study of normal and neoplastic cells, by P J Fitzgerald. Quantitative cytology and cytopathology—nucleic acids and proteins in the mitotic cycle of normal and neoplastic cells, by R. C. Mellors. Evaluation of the color-translating ultraviolet microscope, by R. M. Graham and R. Crosier Automatic screening of cytological smears for cancer—the instrumentation by W E. Tolles and R. C. Bostrom. Topological cytochemistry by M. J Kopac. Part IV The cytology of early cancer: Dysplasia of the uterine cervix, by J W Reagan and M. J Hamonic. Unusual patterns of squamous epithelium of the uterine cervix—cytologic and pathologic study of koilocytotic atypia, by L. G. Koss and G. R. Durfee. The precancer cell—a new problem in cancer research, by J E. Ayre. Cellular changes associated with inflammation, by E. D Blumenthal and E. L. Hecht. Precancer cells in amphibian adenocarcinoma, by W R. Duryee. Some early effects of carcinogenic hydrocarbons on mouse skin by J J Biesele and others. Part V Perspectives in cancer cytology The cyto-viewer—a new automatic scanning microscope, by H. E. Nieburgs. Identification of cells in exudates and effusions, by N C. Foot. A histocytologic and electron microscopic study of effusions associated with malignant disease, by S. A. Luse and J W Reagan. Aspiration biopsy—technique and application, by J T Godwin. Cytology of pulmonary carcinoma, by P A. Herbut. Newer advances in the exfoliative cytology of the gastrointestinal tract, by C. E. Rubin. The cytology of endometrial cancer by E. L. Hecht. Cytological evaluation of breast secretions, by G. N Papanicolaou and others. The exfoliative cytology of the mammary gland during pregnancy and lactation by D G Holmquist and G. N Papanicolaou. Cytologic tissue culture studies on cervical epithelium, by C. G. Grand. Exfoliative cytology as applied to the quantitative evaluation of oncolysis induced by viruses, by I. Koprowska. Studies on nucleoprotein patterns in radiosensitivity testing, by S. B Gusberg and others. The sensitization response in the vaginal smear by J B Graham and R. M. Graham.

Note Papers first presented at a conference held and supported jointly by the Section of Biology of the New York Academy of Sciences and the Damon Runyon Memorial Fund for Cancer Research Inc., in May 1955 have been made available in this publication. All are listed by title and author above. Taken together they represent an important body of current knowledge on the cancer cell and on the techniques of studying it. The illustrations include reproductions of numerous microphotographs of cancer cells. Literature references are included in most of the papers.

Moulton, Forest Ray, editor

Approaches to tumor chemotherapy A symposium of papers and discussions on various aspects of tumor chemotherapy, developed from the summer meetings of the Section on Chemistry (C) of the American Association for the Advancement of Science at Gibson Island Maryland, 1945–1946 Washington, D C American Association for the Advancement of Science 1947 442 p illus 26 cm. $7 75 3511

Contents (abridged) I, Historical introduction General review of cancer therapy by W H. Woglom. II, Special methodology: The transparent chamber technique as a tool in experimental tumor therapy by G. H. Algire. Some cellular and surface chemical aspects of tumor chemotherapy by M. J Kopac. A method of producing oncolysis in rats that conferred certain immunity against homologous tumors, by P Aptekman. The chemistry of substances specific for the stimulation of lymphopoiesis and myelopoiesis, by D. L. Turner and F R. Miller. A myeloid metaplasia factor from human urine, by R. W Heinle and others. III, Nutritional factors The role of nutrition in the origin and growth of tumors, by A. Tannenbaum. The influence of diet on the production of hepatic tumors induced by p-dimethylaminoazobenzene, by E. L. Opie. Chemotherapeutic regressions of transplanted and spontaneous cancers in mice, by R. Lewisohn and others. Effect of intravenous injection of yeast and barley extracts and *L. Casei* factor upon spontaneous mammary adenocarcinomas in mice, by K. Sugiura. IV Bacterial products. A review of the treatment of malignant tumors by Coley bacterial toxins, by H. C. Nauts and B L. Coley Some aspects of joint institutional research program on chemotherapy of cancer: current laboratory and clinical experiments with bacterial polysaccharide and with synthetic organic compounds, by M. J Shear and others. V Nitrogen mustards: The relation between chemical constitution and biological action of the nitrogen mustards, by F S. Philips and A. Gilman. Experimental observations on the use of the nitrogen mustards in the treatment of neoplastic disease, by D. A. Karnofsky and others. An evaluation of methyl-bis(β-chloroethyl) amine hydrochloride and tris(β-chloroethyl) amine hydrochloride (nitrogen mustards) in the treatment of lymphomas, leukemia and allied diseases, by D A. Karnofsky and others. Use of methyl-bis(β-chloroethyl) amine hydrochloride and tris(β-chloroethyl) amine hydrochloride ("nitrogen-mustards") in the therapy of Hodgkin's disease, lymphosarcoma, leukemia and certain allied and miscellaneous disorders, by L. S. Goodman and others. Clinical experiences with nitrogen mustard therapy by M. M. Wintrobe and others. VI, Various clinical aspects: Anti-androgenic treatment of prostatic carcinoma in man, by C. Huggins. The treatment of blood dyscrasias, lymphomas, and other malignant diseases with radioactive phosphorus. clinical and experimental results, by E. H. Reinhard and N A. Womack. Effects of urethane upon acute lymphatic leukemia in a dog, by H. B. Parry and J R. M. Innes. Administration of oil-soluble organo-metallic compounds in malignancy by C. F Geschickter and E. E. Reid.

Note Many of the papers in this volume are monographic in style, in the sense that they summarize the extant knowledge of a specific topic and give references to the pertinent literature. Also, most of them contain reports of recent research. The volume is of interest primarily to active workers in cancer research.

Moulton, Forest Ray, editor

A symposium on mammary tumors in mice, by members of the staff of the National Cancer Institute, National Institute of Health. United States Public Health Service. Washington, D C American Association for the Advancement of Science, 1945 223 p. illus. 27 cm (American Association for the Advancement of Science Publication no 22) $3.50 3512

Contents General and historical introduction, by M. B. Shimkin. Cytology of mammary tumors of the mouse, by A. J. Dalton. Morphology and histogenesis of mammary tumors, by T B. Dunn. Histogenesis of the mammary gland of the mouse, by A. J. Dalton. The vascular supply of mammary gland carcinomas, by G. H. Algire and H. W Chalkley Genetics of mammary tumors in mice, by W E. Heston. Hormones and mammary cancer in mice, by M. B. Shimkin. The milk influence in the genesis of mammary tumors, by H. B. Andervont. Diet and some other environmental influences in the genesis and growth of mammary tumors in mice, by H. P Morris. The chemistry of the mammary tumors, by J P Greenstein. Experimental treatment of mammary tumors in mice, by H. M. Dyer Conclusions—including discussion of the possible implications for man, by M. B Shimkin.

Note The purpose of this co-operative work is two-fold—first to present a review of existing knowledge regarding cancer of the breast in mice, and second to stimulate further research into the problem. Thus each section consists essentially of survey of outstanding research carried out in one particular phase of the subject and an evaluation of the results obtained, as based on a review of the literature of the field. In most cases extensive bibliographies are included. There is no index.

Murphy, Douglas Power

Heredity in uterine cancer Cambridge, Mass Harvard University Press 1952 128 p 22 cm. $2.50 3513

Contents (abridged) Section I, The literature Study by Rybeck of familial incidence of uterine cancer Other reports of familial occurrence of cancer and related diseases. Discussion of the literature. Section II, Materials and methods Purpose of investigation. Pilot and main studies. Plan of investigation. Cancer probands. Control probands. Sources of information for locating individuals. Family visiting. Compilation of family record. Coding of histories. Section III, The results The tables. Characteristics of probands. Characteristics of relatives. Section IV Discussion Selection of the families. Methods employed in collecting data. Results. Conclusions. References. Index.

Note A report of a study conducted to find out whether predisposition toward cancer is inherited. Data were collected on the occurrence of cancer among the relatives of 201 women who were

ological, and statistical aspects in Caucasoids, Mongoloids Negroids and Mexicans. Baltimore The Williams & Wilkins Company 1954 363 p. illus. 24 cm. $5.00. 3523

Contents: Introduction. Sources, materials, racial composition, age, sex, methods, comments, and comparisons with other data. All cancers. Carcinoma of the stomach. Carcinoma of the large intestine. Malignant lymphatic diseases. Carcinoma of the lung. Carcinoma of the uterus. Intracranial tumors. Carcinoma of the prostate—of the breast—Of the pancreas—of the urinary bladder—Of the gallbladder—Of the ovary—of the skin. Sarcoma of soft parts. Carcinoma of the mouth—Of the esophagus—Of the kidney—Of the larynx. Bone tumors. Carcinoma of the liver. Miscellaneous tumors. General summary. Concluding comments. References. Index.

Note: A statistical study based on [illegible] necropsies performed [illegible] at the Los Angeles County Hospital, a hospital devoted primarily to caring for the indigent part of the community. Among the series of necropsies were [illegible] cancer cases. These cases were the ones subjected to analysis and study. Included also are data from the literature pertaining to cancer in other persons belonging to the three principal racial groups studied, the Caucasoids, the Mongoloids and Negroids. The purposes of the study are well described in the introductory chapter. However, the principal purpose was to investigate the etiological implications of racial and geographical differences in incidence of cancer and especially in the incidence of its various kinds. Among the author's concluding statements: "In general, the observed racial differences in cancer tend on critical analysis to indicate environmental rather than hereditary factors in etiology. The geographical differences tend to prove to be environmental rather than racial per se. The hereditary differences tend to be explained by cultural rather than genetical factors. A [illegible]-page list of references to the international literature is included.

UNITED STATES ARMED FORCES INSTITUTE OF PATHOLOGY

Atlas of tumor pathology Section 1, fascicle 2 Tumors of the skin. By Herbert Z. Lund. Published by the Armed Forces Institute of Pathology under the auspices of the Subcommittee on Oncology of the Committee on Pathology of the Division of Medical Sciences of the National Academy of Sciences—National Research Council. Washington, D C. American Registry of Pathology 1957 330 p. illus. (part col d) 26 cm. $3.00 3524

Contents (abridged): Introduction. Benign tumors and hyperplasias of the epidermis ([illegible]) Tumors and hyperplasias of or resembling the accessory structures of the skin. Cysts of the skin. Precancerous dermatoses. Carcinoma of the skin. Secondary carcinomas of the skin. Mesodermal tumors of the skin.

—— Section II, fascicle 5 Tumors of the soft tissues. By Arthur Purdy Stout. Published by the Armed Forces Institute of Pathology under the auspices of the Subcommittee on Oncology of the Committee on Pathology of the National Research Council. Washington, D C. Armed Forces Institute of Pathology 1953 135 p. illus. (part col'd) 26 cm. $?.00 3525

Contents (abridged): Benign tumors and tumor-like proliferations. Malignant tumors of the soft tissues. Desmoids and [illegible]. References.

—— Section II, fascicle 6 Tumors of the peripheral nervous system. By Arthur Purdy Stout. Published by the Armed Forces Institute of Pathology under the auspices of the Subcommittee on Oncology of the Committee on Pathology of the National Research Council. Washington, D C. American Registry of Pathology 1949 57 p. illus. 26 cm. $0.60 3526

Contents: Tumors of the peripheral nerves. Tumors of sympathetic ganglia. Tumors of paraganglionic cells. Complex malignant neoplasms. Neoplasms of the [illegible] central nervous system tissues. References.

—— Section III, fascicle 7 Tumors of the cardiovascular system. By Benjamin H. Landing and Sidney Farber Published by the Armed Forces Institute of Pathology under the auspices of the Subcommittee on Oncology of the Committee on Pathology of the Division of Medical Sciences of the National Academy of Sciences—National Research Council. Washington, D C. American Registry of Pathology 1956 138 p. illus 26 cm $1.50. 3527

Contents: Introduction. Tumors of the pericardium. Tumors of the heart. Tumors of the blood vessels. Tumors of the lymphatic vessels.

—— Section III, fascicle 9 Teratomas. By Rupert A. Willis. Published by the Armed Forces Institute of Pathology under the auspices of the Subcommittee on Oncology of the Committee on Pathology of the National Research Council. Washington, D C. American Registry of Pathology 1951 58 p. illus. 26 cm. $0.50 3528

Contents: Nomenclature. Definition. Classification. Incidence. Hypotheses of the origin of teratomas. Growth. Histologic. Highly organized structures. Malignant teratomas. References.

—— Section IV fascicle 11 Tumors of the major salivary glands. By Frank W Foote jr and Edgar L. Frazell. Published by the Armed Forces Institute of Pathology under the auspices of the Subcommittee on Oncology of the Committee on Pathology of the National Research Council. Washington, D C. American Registry of Pathology 1954 149 p. illus. 26 cm. $1.50. 3529

Contents: Introduction. Mixed tumor. Mucoepidermoid tumor. Squamous cell carcinoma. Adenocarcinoma. Capillary cystadenoma lymphomatosum. Oxyphil cell adenoma. Benign lymphoepithelial lesion.

—— Section IV fascicle 14 Tumors of the thyroid gland. By Shields Warren and William A. Meissner Published by the Armed Forces Institute of Pathology under the auspices of the Subcommittee on Oncology of the Committee on Pathology of the National Research Council. Washington, D. C. American Registry of Pathology 1953 97 p. illus. $1 75 3530

Contents (abridged): Introduction. Benign tumors. Malignant tumors.

—— Section IV fascicle 15 Tumors of the parathyroid glands. By Benjamin Castleman.

data method of study Characteristics of vaginal smears in cancer of the cervix. Characteristics of vaginal smears in cancer of the fundus of the uterus. Discussion of the use of the vaginal smear as a diagnostic procedure. Bibliography Plates.

Note Study of the vaginal smear has proved valuable in many ways and, as an aid in the diagnosis of cancer of the cervix and body of the uterus, it has been particularly useful. Although the procedure involved is simple, exact techniques and special knowledge of the minutiae of cellular morphology are required. These matters are set forth in detail by Dr Papanicolaou and Dr Traut, who present descriptions and many illustrations in color of cells which were derived from various kinds of cancer of the uterus and, for comparison, descriptions and illustrations of the cells normally present in the vagina at various stages of the menstrual cycle and during and after menopause.

RANKIN, FRED WHARTON, AND A STEPHENS GRAHAM

Cancer of the colon and rectum its diagnosis and treatment Second edition. Springfield, Ill Charles C Thomas, 1950 427 p illus. 24 cm. $8 50 3518

Contents Part I General considerations Anatomy and physiology Incidence, occurrence and etiology Pathology Symptoms and diagnosis. Differential diagnosis. Part II, Treatment Operability resectability and prognosis. Choice of operation. Radiotherapy of carcinoma of the rectum. Operative mortality and end-results. Preoperative and postoperative treatment. Part III, Operative procedures Historical considerations. Procedures for overcoming obstruction. Procedures for extirpation of lesions of the colon. Procedures for extirpation of lesions of the rectosigmoid, rectum, and anus. Palliative and miscellaneous procedures. Author index. Subject index.

Note A treatise for graduate physicians and surgeons. The importance of early diagnosis is emphasized, and the authors describe the various techniques of diagnosis and differential diagnosis fully. About half of the book is devoted to descriptions of the surgical techniques and related matters of concern to the surgeon. The book is based on the authors' own extensive experience and also on the experience of others as reported in the literature. A wide range of data on such details as frequency of symptoms, accuracy of diagnosis and mortality rates is presented in more than 100 tables. Extensive bibliographies are included. The first edition appeared in 1939 Much important material has been added in this edition.

ROSENBLATT, MILTON B, AND JAMES R. LISA

Cancer of the lung pathology diagnosis and treatment. New York Oxford University Press, 1956 330 p illus 24 cm $15 00 3519

Contents Introductory considerations. Prevalence. Pathology Clinical manifestations. Physical diagnosis. The Roentgen examination. Bronchoscopy by C. L. Jackson. Exfoliative cytology by G. N Papanicolaou and N C. Foot. Accessory diagnostic procedures. Surgical therapy by J M. Chamberlain and C. F Daniels. Bronchial adenoma, by J M. Chamberlain and C. F Daniels. Palliative treatment, by S. Roswit. Subject index. Author index.

Note An authoritative book addressed primarily to general practitioners of medicine, but useful also to specialists. One of the purposes is the "development of a high index of suspicion by the clinician and the radiologist," so that more lung cancers will be detected before they reach the inoperable stage. The book provides in compact and useful form not only the information that will facilitate early diagnosis but also some information on treatment. It is not, however, a complete work on therapy The chapter on surgical theory—to take an example—although written by two eminent specialists in this field and containing explicit descriptions of techniques is only about 30 pages long, and the chapter on palliative treatment is about 35 pages long. The book is adequately illustrated and contains extensive bibliographic lists. The chapters without authors' names in the above contents were written by Drs. Rosenblatt and Lisa.

SCHIFFRIN, *M J*, *editor*

Management of pain in cancer Foreword by Warren H Cole. Chicago The Year Book Publishers, Inc., 1956 245 p 18 cm $4 50 3520

Contents. Systemic analgetics, by M. J Schiffrin and E. G. Gross. Nerve blocks for pain in malignancy by M. S. Sadove and R. C. Balagot. Neurosurgical aspects of pain management, by O. Sugar Humoral and chemical palliation of malignancy by S. G. Taylor III, and M. J Schiffrin. Surgical procedures in control of pain in advanced cancer by H. Schwarz, II. Radiation therapy in the relief of pain in malignant disease, by J W J. Carpender Psychological aspects of pain in terminal malignancies, by V E. Zarling. Index.

Note A small authoritative manual written as a guide to general practitioners of medicine. Its purpose is to inform these physicians who usually have charge of patients during the terminal stages of incurable malignancies. The available techniques for pain relief which are practical in such cases are discussed from the standpoint of informing the physician and guiding him in their choice. Related aspects of malignancies, such as physiological effects, also are discussed briefly and the final chapter is a helpful discussion of the psychological aspects. There are no literature references as the book is intended to be self-contained.

SHARP, GEORGE S, AND OTHERS

Oral cancer and tumors of the jaws, by George S Sharp, Weldon K Bullock, and John W Hazlet. New York The Blakiston Division, *McGraw Hill Book Company, Inc.*, 1956 561 p illus 23 cm $15.00 3521

Contents: Part I, Introductory principles for neoplastic disease: The history of cancer Origin of cancer Classification of oral neoplasms. The biopsy Precancerous pathology Part II, Tumors, benign and malignant, of the oral mucosa and accessory oral structures: Lesions of the lips—tongue—floor of the mouth—gingivae—cheeks—hard and soft palate—nasal cavities and paranasal sinuses. Part III, Neoplasms, benign and malignant, of the jaws. Tumors of the epithelium. Benign neoplasms of connective tissue. Malignant neoplasms of connective tissue. Neoplasms of reticuloendothelial tissue. Lesions of vascular and nerve tissue. Metastatic bone tumors. Part IV Quasi-tumors of the jaws: The exostoses. Fibrous dysplasia. The reparative granulomas. Other diseases of bone simulating tumor Odontogenic hamartomas. Part V Cysts of the jaws: Nonodontic cysts. Odontic cysts. Index.

Note A comprehensive, fully illustrated work written by faculty members of the School of Dentistry and the School of Medicine of the University of Southern California. It is addressed to advanced students in dental colleges and to graduate dentists and physicians. The importance of early recognition of malignant growth is stressed, and, in accord with this emphasis, the book is illustrated with several hundred photographs and roentgenograms. Benign tumors, diseases of bone that simulate tumor cysts, etc., are also described. Incidence, etiology histopathology clinical characteristics, diagnosis, and prognosis are concisely discussed for most of the diseases covered. Literature references are furnished.

SNAPPER, I, AND OTHERS

Multiple myeloma, by I Snapper, Louis B Turner, and Howard L. Moscovitz. New York Grune and Stratton 1953 168 p illus. (*part col d*) 23 cm. $6 50 3522

Contents. The myeloma cell. Incidence and survival. The peripheral blood picture. Clinical manifestations. Roentgenologic changes in the bones. Metabolic abnormalities in multiple myeloma. Solitary myeloma. Multiple plasmacytomas. Extramedullary plasmacytomas. Pathology Differential diagnosis. Treatment of myeloma. Summary Bibliography Index.

Note Ninety-seven cases of multiple myeloma—41 of which were autopsied—studied in the wards of Mount Sinai Hospital in New York City forms the basis for this monograph. The authors have also drawn case histories and related information from the literature to the extent that their bibliography of literature citations runs to 217 references. The authors' style is both concise and precise Their coverage of the disease is more comprehensive than the small number of pages in the volume might be taken to indicate In the summary chapter at the end of the work, they present in very compact form what is known about myeloma, the treatment of which is "still highly unsatisfactory and of which the "nature and pathogenesis remain completely unknown.

STEINER, PAUL E

Cancer Race and geography some etiological environmental, ethnological epidemi-

the National Research Council. Washington, D C. American Registry of Pathology 1952. 177 p. illus. 26 cm. $1.50. 3541

Contents: Tumors of the prostate. Tumors of the testis. Tumors of the testicular appendages—epididymis, spermatic cord and testicular tunics. Tumors of the urethra. Tumors of Cowper's glands. Tumors of the seminal vesicles. Tumors of the penis. Tumors of the scrotum.

—— Section IX, fascicle 33 Tumors of the female sex organs. Part 1 Hydatidiform mole and choriocarcinoma. By Arthur T Hertig and Hazel Mansell. Published by the Armed Forces Institute of Pathology under the auspices of the Subcommittee on Oncology of the Committee on Pathology of the National Research Council. Washington, D C. American Registry of Pathology 1956 63 p. illus. (part col'd) 26 cm. $1.00. 3542

Contents (abridged): Hydatidiform mole and choriocarcinoma of the uterus. Hydatidiform mole and choriocarcinoma, extrauterine. References.

—— Section IX, fascicle 34 Tumors of the breast. By Fred W Stewart. Published by the Armed Forces Institute of Pathology under the auspices of the Subcommittee on Oncology of the Committee on Pathology of the National Research Council. Washington, D C. American Registry of Pathology 1950. 114 p. illus. (part col'd) 26 cm. $1.10 3543

Contents: Introduction. Paget's disease of nipple. Carcinoma of breast. Malignant variant of fibroadenoma cystosarcoma phyllodes. Miscellaneous sarcomas of breast. Lesions simulating tumors. Benign tumors. References.

—— Section X, fascicles 35 and 37 Tumors of the central nervous system. By James W Kernohan and George P Sayre. Published by the Armed Forces Institute of Pathology under the auspices of the Subcommittee on Oncology of the Committee on Pathology of the National Research Council. Washington, D C. American Registry of Pathology 1952 129 p. illus. 26 cm. $0.90 3544

Contents: Introduction. Tumors of nervous tissue. Tumors of mesenchymal tissue. Blastomas. Tumors of developmental defects. Tumors of the pineal body

—— Section X, fascicle 36 Tumors of the pituitary gland and infundibulum. By James W Kernohan and George P Sayre. Published by the Armed Forces Institute of Pathology under the auspices of the Subcommittee on Oncology of the Committee on Pathology of the Division of Medical Sciences of the National Academy of Sciences—National Research Council. Washington, D C. American Registry of Pathology 1956 81 p. illus. (part col'd) 26 cm. $1.00 3545

Contents (abridged): Primary tumors of the pituitary gland. Hyperpituitarism not associated with primary tumors of the pituitary gland. References.

—— Section X, fascicle 38 Tumors of the eye and adnexa. By Algernon B Reese. Published by the Armed Forces Institute of Pathology under the auspices of the Subcommittee on Oncology of the Committee on Pathology of the Division of Medical Sciences of the National Academy of Sciences—National Research Council. Washington D C. American Registry of Pathology 1956 205 p. illus. (part col'd) 26 cm. $2.00 3546

Contents: Epithelial tumors of the eye. Neuroectodermal tumors. Melanomas. Mesodermal tumors. Tumors of the lacrymal gland. Metastatic tumors. Orbit neoplasms and lesions simulating them.

Note: A monumental reference work of oncology based largely on the pathologic material in the Armed Forces Institute of Pathology. It is primarily devoted to illustrations. These include both gross pathology and microscopic, but the latter predominate as would be expected. Great care has been taken with the illustrations, and the reproductions are of excellent quality. A concise text accompanies them, and literature references are included in each fascicle. The work is planned for completion in approximately 40 fascicles, of which those listed above have been published to approximately the close of 1957

Vincent Memorial Hospital

The cytologic diagnosis of cancer By the staff of the Vincent Memorial Laboratory of the Vincent Memorial Hospital, a gynecologic service affiliated with the Massachusetts General Hospital, Boston, Massachusetts. The Department of Gynecology Harvard Medical School. Published under the sponsorship of the American Cancer Society Philadelphia. W B Saunders Company 1950. 229 p. illus. (part col'd) 25 cm. $9.00. 3547

Contents: Normal cells from cervical and vaginal squamous epithelium. Normal cells from columnar epithelium of endocervix and endometrium. Cells not originating from epithelium of female genital tract. Squamous cell carcinoma of the cervix. Adenocarcinoma of the endometrium. Adenocarcinoma of uterus. Other tumors of the female genital tract. Radiation changes in normal and malignant cells of the vaginal secretion. Cells of squamous epithelium of respiratory tract. The columnar epithelium of respiratory tract. Cells of non-epithelial origin in sputum. Squamous cell carcinoma of the lung. Other types of pulmonary carcinoma. Normal cells from gastric washings. Carcinoma of the stomach. Normal cells of the urinary tract. Carcinoma of the genito-urinary tract. Normal cells of pleural and peritoneal fluid. Malignant cells in pleural and peritoneal fluid. Technic. Appendix. Bibliography. Index.

Note: A reference and study guide for physicians, cytologists, and other persons who are concerned with the interpretation of smears taken in the diagnosis of not only genital cancer but cancer of the lung and respiratory tract, cancer of the stomach, etc. A considerable part of the space has been devoted to reproductions of photomicrographs, some of which are reproduced in color. Specific discussions of the microphotographs are preceded in each chapter by background discussion of the histology of the tissue that forms the subject of the particular chapter. Special emphasis is given to the interpretation of cervical smears and to the correct identification of cells that are deviations from normal forms. The book is based on very extensive experience with cytologic diagnosis at the Vincent Memorial Hospital Laboratory

Ward Grant Eben and James W Hendrick

Diagnosis & treatment of tumors of the head and neck (not including the central nervous system) Baltimore The Williams & Wilkins Company 1950. 832 p. illus. 26 cm. $15.00. 3548

Contents: Introduction. The early development of the head and neck. Benign tumors and premalignant lesions of skin of the head

Published by the Armed Forces Institute of Pathology under the auspices of the Subcommittee on Oncology of the Committee on Pathology of the National Research Council Washington, D C. American Registry of Pathology, 1952 74 p illus. (part col'd) $0 65 3531–32

Contents Introduction. Primary hyperparathyroidism. Secondary hyperparathyroidism (secondary hyperplasia) Non-functional enlargement. $0.65

—— Section IV, fascicle 16 Tumors of the carotid body and related structures (chemoreceptor system) By Philip M LeCompte. Published by the Armed Forces Institute of Pathology under the auspices of the Subcommittee on Oncology of the Committee on Pathology of the National Research Council Washington, D C American Registry of Pathology, 1951 40 p illus (part col'd) 26 cm $0 45 3533

Contents Introduction. Tumors of the carotid body Tumors of the aortic bodies. Tumors of the glomus, jugulare and paraganglion tympanicum. Tumors arising in the ganglion nodosum of the vagus. Tumors of the "paraganglion ciliare. References.

—— Section V, fascicle 17 Tumors of the lower respiratory tract. By Averill A. Liebow Published by the Armed Forces Institute of Pathology under the auspices of the Subcommittee on Oncology of the Committee on Pathology of the National Research Council. Washington D C American Registry of Pathology, 1952 189 p illus (part col'd) 26 cm $1.25 3534

Contents Introduction. Primary tumors of the bronchi and lungs. Neoplastic lesions of the lung other than primary tumors. Tumors of the pleura. Tumors of the diaphragm.

—— Section V fascicle 18 Tumors of the mediastinum By Hans George Schlumberger Published by the Armed Forces Institute of Pathology under the auspices of the Subcommittee on Oncology of the Committee on Pathology of the National Research Council. Washington D C American Registry of Pathology 1951 88 p illus (part col'd) 26 cm. $0 75 3535

Contents Introduction. Tumors of nervous systems. Tumors of mesenchymal derivatives. Tumors of displaced tissues. Tumors of hematopoietic tissues. Cysts of the mediastinum. Miscellaneous space-consuming lesions.

—— Section V fascicle 19 Tumors of the thymus gland By Benjamin Castleman Published by the Armed Forces Institute of Pathology under the auspices of the Subcommittee on Oncology of the Committee on Pathology of the National Research Council. Washington D C American Registry of Pathology, 1955 82 p illus (part col d) 26 cm $1 00 3536

Contents Introduction. Thymoma. Tumors resembling thymoma. Other tumors of the thymus gland.

—— Section V, fascicle 20 Tumors of the esophagus. By Arthur Purdy Stout and Raffaele Lattes Published by the Armed Forces Institute of Pathology under the auspices of the Subcommittee on Oncology of the Committee on Pathology of the Division of Medical Sciences of the National Academy of Sciences—National Research Council. Washington, D C. American Registry of Pathology, 1957 105 p. illus (part col d) $1.00. 3537

Contents (abridged) Benign tumors, cysts and malformation. Malignant tumors of the esophagus.

—— Section VI, fascicles 23 and 24 Tumors of the retroperitoneum, mesentery, and peritoneum By Lauren V Ackerman. Published by the Armed Forces Institute of Pathology under the auspices of the Subcommittee on Oncology of the Committee on Pathology of the National Research Council Washington D C American Registry of Pathology, 1954 136 p illus (part col'd) $1 50 3538

Contents (abridged): Tumors of the retroperitoneum. Tumors of the mesentery and omentum. Tumors of the peritoneum.

—— Section VIII fascicle 29 Tumors of the adrenal By Howard T Karsner Published by the Armed Forces Institute of Pathology under the auspices of the Subcommittee on Oncology of the Committee on Pathology of the National Research Council Washington D C American Registry of Pathology, 1950 60 p illus. (part col d) 26 cm $1 00 3539

Contents Introduction. Tumor-like lesions. Cortical tumors. Medullary tumors. Melanoma. Secondary tumors.

—— Section VIII fascicle 30 Tumors of the kidney, renal pelvis and ureter By Balduin Lucké and Hans G Schlumberger Published by the Armed Forces Institute of Pathology under the auspices of the Subcommittee on Oncology of the Committee on Pathology of the Division of Medical Sciences of the National Academy of Sciences—National Research Council Washington D C. American Registry of Pathology 1957 208 p. illus. (part col d) 26 cm $2.25 3540

Content Introduction. Tumors of the kidney Tumors of the renal pelvis. Tumors of the ureter

—— Section VIII, fascicles 31b and 32 Tumors of the male sex organs By Frank J Dixon and Robert A. Moore. Published by the Armed Forces Institute of Pathology under the auspices of the Subcommittee on Oncology of the Committee on Pathology of

which constitutes the main body of the book. In this part prognosis and treatment also are covered, with medical therapy given the most emphasis. However, indications for surgical treatment are fully described, and there is some description of surgical therapy. The third part is relatively brief. However, it does contain material, physiologic, and other basic information of importance to the physician who wants to be well informed on peripheral vascular disorders. The book is adequately illustrated, and literature references are included in the chapters. The author is Head of the Department of Physical Medicine and Rehabilitation of the College of Medicine of the University of Illinois.

ALLEN EDGAR V AND OTHERS

Peripheral vascular diseases. Second edition. By Edgar V Allen, Nelson W Barker Edgar A. Hines, jr., with associates in the Mayo Clinic and Mayo Foundation. 316 illustrations 7 in color Philadelphia W B Saunders Company 1955 825 p. illus. (part col'd) 25 cm. $13.00 3553

Contents (abridged) An approach to the diagnosis of vascular diseases of the extremities. Technic of arteriography by J. C. Ivins and J. M. Janes. Raynaud's phenomenon and allied vasospastic conditions. Scleroderma. Diseases of the vascular system which primarily result from environmental temperature. The scalenus anticus syndrome with and without cervical rib, by J. G. Love. Sudden occlusion of the arteries. The degenerative arteriopathies—arteriosclerosis and atherosclerosis. Coarctation of the aorta. Periarteritis nodosa and temporal arteritis, by R. M. Shick and W F Kvale. Hypertensive ischemic ulcers of the leg. Aneurysms. Tumors of blood and lymph vessels. Purpura, by E. D. Bayrd. Thrombophlebitis and pulmonary embolism. Varicose veins, by T. T. Myers. Chronic venous insufficiency. Lymphedema. Medical treatment. Surgical treatment. Surgical procedures on the sympathetic nervous system for peripheral vascular diseases, by C. S MacCarty. Amputations for peripheral vascular diseases, by J C. Ivins and J M. Janes. Embolectomy, arteriectomy and thromboendarterectomy by J C. Ivins and J. M. Janes. Surgical treatment of coarctation of the aorta, by O T. Clagett. Surgical treatment of aneurysms of the aorta, by J W Kirklin and J. M Waugh. Surgical treatment of peripheral arterial aneurysms, by J. M. Janes and J C. Ivins. Surgical treatment of varicose veins, by T T. Myers. Surgical treatment of lymphedema, by J. M. Janes and J. C. Ivins. Index.

Note: A comprehensive treatment based on much pioneer work and [illegible] wide range of experience in the study of the peripheral vascular diseases at the Mayo Clinic and Mayo Foundation. The field of peripheral vascular diseases is broadly defined to include diseases of all blood vessels distal to the heart and, also, the lymph system. However, [illegible] few topics have been omitted, such as hypertension, vascular diseases of the central nervous system and certain vascular diseases of internal organs. In general, the following aspects of each disease or group of related diseases is covered: history, etiology, pathology, physiological effects, symptoms, complications, examination of the patient, diagnosis, differential diagnosis, and treatment. Extensive bibliographies are included in most of the chapters. The first edition was published in 1946. Some material that appeared in it has been deleted. However, new procedures and new topics have been added in abundance on such conditions and techniques as coarctation of the aorta, hypertensive ischemic ulcers of the leg, aortography and sympathectomy. There are now 27 chapters, and the terminal one on surgical treatment is actually composed of 14 signed subchapters on individual surgical techniques. A high proportion of the 316 figures are reproductions of photographs.

ALTSCHUL, RUDOLF

Selected studies on arteriosclerosis. Springfield Ill. Charles C Thomas, 1950. 182 p. illus. 24 cm. $5.50 3554

Contents: Relationship between human and experimental arteriosclerosis. Experimental cholesterol arteriosclerosis. Cytology of endothelium. Dedifferentiation and metaplasia of endothelium. On the formation of cells in arteriosclerosis. Experimental [illegible] of [illegible] in [illegible] and [illegible] On the [illegible] of experimental arteriosclerosis. [illegible] of intima and upper [illegible] in experimental arteriosclerosis. On various other factors in arteriosclerosis. Systematic [illegible] of cholesterol in tissues and organs. Results from modified experimental approaches. Attempts to influence the intensity of cholesterolemia. Summary and comment. Bibliography. Author index. Subject index.

Note: The author of this book describes its purpose as follows: "Several different aims were pursued in the preceding chapters: to bring out more distinctly some unsolved morphological problems in human and experimental arteriosclerosis to attempt an accurate analysis of cellular pathology in various angiopathies and to correlate them; to report on findings in human and in experimental arteriosclerosis which had hitherto been overlooked, and also to describe results in experimental cholesterol arteriosclerosis which had not previously been obtained, and to modify the technique of experimental arteriosclerosis with the idea of obtaining new results. In it he has correlated certain results of his own experimental investigations with the findings of other workers in the field.

ALTSCHULE, MARK D

Physiology in diseases of the heart and lungs. Revised edition Cambridge, Mass. Harvard University Press, 1954 554 p. 21 cm. (Harvard University monographs in medicine and public health. No. 10. Editorial committee A. Baird Hastings, chairman) $7.50 3555

Contents: Chronic cardiac decompensation. Acute pulmonary edema—cardiac asthma. Angina pectoris—myocardial infarction. Cardiac arrhythmias. Pericarditis. Congenital and acquired cardiac defects. Pulmonary fibrosis. Chronic pulmonary emphysema. Bronchial asthma. Pleural effusion. Pneumothorax. Pneumonia. Index.

Note: A critical, comprehensive review of published physiologic studies which have bearing on the diseases of the heart and lungs in man. It is organized in short sections and is compactly written. Each of the sections is followed by [illegible] comprehensive bibliography. The book is designed for the information of advanced undergraduate students in medical schools. It is used also by medical practitioners and others in need of [illegible] synopsis and literature guide. The first edition was published in 1949. In the second edition, the organization is unchanged—in fact, the chapter titles are identical with those of the first edition. However every chapter has been revised so as to incorporate the findings reported in the literature since the first edition was written. This material has been worked into the text of each chapter and citations of the source articles have been added in correct alphabetical order to the bibliographies in the chapters. An adequate subject index is included, but the much-needed index to names of authors of the source literature is still lacking.

AMERICAN HEART ASSOCIATION

Cerebral vascular diseases. Transactions of a conference held under the auspices of the American Heart Association, Princeton New Jersey January 24–26 1954 Irving S Wright, chairman, E. Hugh Luckey editor New York Published for the American Heart Association by Grune & Stratton, 1955 167 p. 26 cm. $5.50 3556

Contents: The neurologic, economic, and personal significance of cerebral vascular diseases, by I. S. Wright. The embryology of the cerebral circulation, by G. von Bonin. The anatomy of the cerebral circulation and its clinical significance, by H. F. Mossman. Pathology of cerebral vascular diseases by R. D. Adams. Physiology of the cerebral circulation, by S. S. Kety. Brain chemistry by W. M. Sperry. Hypertension and its effect on the cerebral circulation, by I. H. Page. Atherosclerosis and its effect on the cerebral circulation, by D. P. Barr. Neurologic aspects of cerebral vascular diseases and therapeutic approach, by H. H. Merritt. The emotional problems of cerebral vascular diseases, by E. Weiss. Electroencephalographic studies and their significance in cerebral vascular disorders, by R. S. Schwab. Neurosurgical aspects and therapeutic approach to cerebral vascular diseases, by F. C. Berry. Anticoagulants and their place in the treatment of cerebral vascular diseases, by F. McDevitt. Rehabilitation, by H. Rusk. Index.

Note: The papers presented and the discussion at the conference described in the main title are published in this volume. Most of the papers are short and somewhat informal, whereas the transcripts of discussion are comparatively long and are apparently reproduced verbatim. Since the participants in the discussion included some of the most eminent researchers in physiology and medicine in the United States of America, the discussions are well worth reading. Only [illegible] few of the papers include literature references, and there are no illustrations.

and neck. Malignant neoplasms of the skin of the head and neck. Benign tumors and premalignant lesions of the lips. Cancer of the lips. Benign tumors and premalignant lesions of the oral cavity. Malignant tumors of the oral cavity. Cancer of the tongue and floor of the mouth. Tumors of the jaws. *Salivary tissue tumors.* Tumors of the tonsils, pharynx and base of tongue. Tumors of the paranasal sinuses and nasal mucous membrane. Tumors of the eye and adnexa. *Tumors of the ear. Tumors of the larynx. Tumors primary in the* neck. Tumors primary in the lymph tissues of the head and neck. Metastatic tumors of the neck. Tumors of the skull. Rehabilitation. Index.

Note: A full-scale treatment of clinical aspects designed both for general practitioners and specialists. The senior author organized the tumor clinics at the Johns Hopkins Hospital and the University of *Maryland Hospital), and the junior author was associated with him* at both institutions. The book is based mainly on the extensive experience of the authors, but information has been included from the published literature. Also some sections, for instance the one on malignant tumors of the nasal pharynx, ha been written especially for this book by other specialists. The work is lavishly illustrated, and there are extensi reference lists.

Weller, Carl V

Causal factors in cancer of the lung The Beaumont lecture, Wayne County Medical Society, February 7, 1955 Springfield, Ill. Charles C Thomas, 1956 113 p. illus 22 cm. (American lecture series Publication no 277 A monograph in American lectures in chest diseases edited by J Arthur Myers) $3 00 3549

Contents Introduction. General considerations. The first theme Bergkrankheit in the Erzgebirge—Schneeberg and Joachimsthal (Jáchymov) The second theme The search for the causes of increasing pulmonary cancer in the twentieth century The third theme Tobacco on trial—guilt by association. Epicrisis. References. Index.

Note *A critical outline of accumulated knowledge pertaining to* causal factors in cancer of the lung. The historical development of this knowledge is sketched and the current status of such matters as the role of tobacco smoking is appraised. On the latter question the author concludes   I have been resistant to   ready acceptance of the association between cigarette smoking and bronchiogenic carcinoma. I have searched the literature for other reasonable explanations or for recognizable fallacies. I have found none of importance. As of today I must agree with many of the specialists in statistical analysis and the epidemiology of cancer that this association has been established. The author is Chairman of the Department of Pathology of the Medical School of the University of Michigan.

Zimmerman, H M , *and others*

Atlas of tumors of the nervous system By H M Zimmerman, Martin G Netsky Leo M Davidoff With 277 illustrations, 233 in color Philadelphia Lea & Febiger, 1956 191 p illus. (part col d) 27 cm $25 00 3550

Contents (abridged) Introduction Incidence. Terminology of gliomas. Methods of histologic study of neural tumors. Cerebral swelling and edema Treatment of brain tumors by roentgen irradiation. Intracranial tumors Gliomas. Meningiomas. Neurinomas. Pituitary tumors. Congenital tumors. Sarcomas. Choroid plexus tumors. Miscellaneous tumors. Metastatic neoplasms. Granulomas. Spinal tumors. Gliomas. Meningiomas. Perineurial fibroblastoma. Congenital tumors. Metastatic neoplasms. Effects of compression of the spinal cord Tumors of the peripheral nerves. Tumors of sympathetic ganglions. Tumors of paraganglionic cells. Bibliography. Appendix Incidence of intracranial tumors. Incidence of intracranial gliomas. Special staining methods. Synonyms. Index.

Note. The collections of five large hospitals were drawn upon to *make this book, which is an exceptionally comprehensive atlas of* tumors of the nervous system. Most of the space in the volume is devoted to the illustrations. These are reproductions of both drawings and photographs, with the latter predominating. Each illustration is accompanied by   short caption which identifies it and, in cases of microphotographs, gives the degree of magnification and the kind of stain. The illustrations and their legends are supplemented by a few pages of text most of which are to be found in sections that precede the illustrations on specific classes of tumors. The illustrations of pituitary tumors, to cite an example, are introduced by four pages of verbal discussion.

CARDIOVASCULAR SYSTEM

Abrams, Herbert L , and Henry S Kaplan

Angiocardiographic interpretation in congenital heart disease. Springfield, Ill. Charles C Thomas, 1956 233 p. illus. 29 cm. (American lecture series. Publication no 279 A monograph in the Bannerstone Division of American Lectures in Pediatrics. Edited by John A. Anderson) $11 75 3551

Contents Section I, General considerations Introduction. Angiocardiographic technique and equipment. The opaque media and reactions to angiocardiography General principles of angiocardiographic interpretation. *Aortography Section II, Diagnosis of specific* anomalies. The tetralogy of Fallot. Pulmonic stenosis with intact ventricular septum. Congenital tricuspid atresia. Ebstein's anomaly of the tricuspid valve. Truncus arteriosus. Complete transposition of great vessels. The Taussig-Bing complex. The Eisenmenger complex. Cor triloculare. Anomalies of the great veins. Atrial septal defect. Atrioventricularis communis. Ventricular septal defect. *Patent ductus arteriosus. Aortic septal defect.* Coarctation of the aorta. *Anomalies of the aortic arch.* Congenital aortic and subaortic stenosis. Agenesis or atresia of a pulmonary artery Congenital pulmonary artery aneurysm. Congenital pulmonary arteriovenous fistula. Endocardial fibroelastosis. Other rare anomalies. Appendix Table of differential diagnosis. Glossary of abbreviations. Index.

Note. The diagnostic technique which is the subject of this book is based on roentgenography used in conjunction with a contrast material for the visualization of the interior of the heart and great blood vessels. The subject is covered from the viewpoint of graduate medical students and graduate physicians and surgeons entering the specialty of cardiology The book is based on a series of over 350 cases of congenital heart disease most of hich were infants and children under three years of age when studied. Furthermore, the diagnoses in most of the cases were later confirmed by surgery or by pathologic or physiologic studies. A rather wide range of congenital abnormalities is covered. The authors have drawn related material from the literature and most of their chapters include rather extensive bibliographies. Most of the 141 figures in the book are reproductions of angiograms and a clarifying diagram. Each figure consists of the reproduced angiogram on the left-hand column of the page with the explanatory diagram drawn to the same scale reproduced in the right-hand column. The authors are members of the faculty of the School of Medicine of Stanford University

Abramson, David I

Diagnosis and treatment of peripheral vascular disorders. New York Paul B Hoeber Inc Medical Book Department of Harper & Brothers 1956 537 p. illus. (part col d) 26 cm. $13 50 3552

Contents (abridged) Part I, Differential diagnosis of symptoms and signs. Differential diagnosis of pain in the extremities. Procedures for study of arterial circulation in the extremities. Procedures for study of venous circulation in the extremities. Differential diagnosis of physical findings. Part II, Peripheral vascular diseases: Vascular entities primarily affecting the arterial tree. Vascular disorders affecting the venous system. Vascular entities produced by trauma or noxious agents. Rare vascular disorders affecting the extremities. *Disorders of the lymphatic system.* Congenital anomalies. Peripheral vascular entities not affecting the extremities. Technics or therapeutic measures requiring special equipment or skill. Part III, Anatomic, physiologic, pharmacologic, and pathologic considerations of the peripheral circulation. Anatomy and physiology of blood vessels in the extremities. Sympathetic nervous system. Variations in circulation in the extremities under different physiologic and pathologic states. Intravascular blood clotting and its prevention. Pharmacologic action of agents that play a role in peripheral vascular disorders. Appendix. Sources of proprietary drugs, instruments, and surgical or laboratory supplies. Index.

Note An authoritative book addressed to general practitioners of medicine and to specialists in some areas of medicine, such as orthopedics where   knowledge of the signs of peripheral vascular disorders is important. *It is not intended for specialists in peripheral* vascular disorders. Diagnosis and differential diagnosis are emphasized not only in the first part, but also in the longer second part

BURCH GEORGE E., AND TRAVIS WINSOR

A primer of electrocardiography Third edition, thoroughly revised, with 281 illustrations. Philadelphia Lea & Febiger 1953 286 p. illus. 24 cm. $5.00 3562

Contents: Principles of electrocardiography. An analysis of [illegible] components of the electrocardiogram and their clinical significance. Precordial leads. Disorders of the heart beat. Clinical syndromes of the electrocardiogram. Appendix. Index.

Note: Written in the same style as the senior author's *Primer of cardiology*, described above, this book is an introduction to electrocardiography. In its various editions it has been widely used and has been translated into French and Spanish. It is directed primarily to medical college students, but is useful also as a guide or review to graduate practitioners who are not specialists in cardiology. It is written in a direct style that is easy to comprehend, and the verbal text is supplemented by an exceptionally high number of illustrations. The second edition was published in 1949. The addition of a 30-page section on spatial vectorcardiography is the principal change in this third edition, although minor revisions have been made in the text of several chapters, and some new illustrations have been added.

BURCH GEORGE E. AND OTHERS

Spatial vectorcardiography By George E. Burch, J A. Abildskov and James A. Cronvich. With 121 illustrations. Philadelphia Lea & Febiger 1953 173 p. illus. 24 cm. $5.00 3563

Contents: The concept of vectorcardiography. Methods of recording. Spatial vectorcardiography and reference frames. The [illegible] [illegible] [illegible]. Standardizing factors. The relation of vectorcardiography to electrocardiography. Materials and methods. The normal spatial vectorcardiogram. The spatial vectorcardiogram in pregnancy—in left ventricular hypertrophy—in complete left bundle branch block—in right bundle branch block—in anterior myocardial infarction—in posterior myocardial infarction. Summary. Bibliography.

Note: Published in this book is material originally prepared for display among the scientific exhibits at the meeting of the American Medical Association in Chicago in June, 1952. The titles of the chapters are headings that were used in the exhibit, and they indicate the arrangement of the material. Illustrations, of which there are 121, are utilized in telling much of the story. There is also a compactly written but clear text. The authors are all members of the faculty of Tulane University. The School of Medicine of Tulane University has taken an active part in the development and study of vectorcardiography.

BURSTEIN JULIUS AND NATHAN BLOOM

Illustrative electrocardiography Third edition. New York D Appleton-Century Company Inc., 1948 309 p. illus. 24 cm. $7.50 3564

Contents: Fundamentals of electrocardiography. The normal electrocardiogram and disturbances of the pacemaker. Premature contractions. Paroxysmal tachycardia. Flutter and fibrillation. Auriculoventricular block (heart block). Bundle branch block. S-T and T abnormalities—the electrocardiogram in myocardial infarction. Ventricular strain. The electrocardiogram in pericarditis. The electrocardiogram under various influences. The fourth and other precordial leads. The phonocardiogram. Multiple abnormalities. Miscellaneous [illegible]. Radiology of the heart. Index.

Note: A standard work on the subject, known to the medical profession since 1938. The present edition incorporates a new chapter on cardiac radiology written by Philip Bauer and an almost entirely new set of illustrative plates. In all, several hundred cardiogram-reproductions of normal and abnormal heart conditions are included, together with 23 cardiac roentgenograms. The volume is intended as a systematic textbook and atlas for the beginner and a recent survey of the field for the specialist. In order to provide an essentially practical book, theory is omitted, the emphasis being entirely on the clinical interpretation of electrocardiograms and roentgenograms.

BUTTERWORTH, J SCOTT AND OTHERS

Cardiac auscultation including audio-visual principles. By J Scott Butterworth, Maurice R. Chassin and Robert McGrath. New York Grune & Stratton, 1955 111 p. illus 23 cm. $4.50 3565

Contents: Historical aspects of auscultation of the heart. Importance of cardiac auscultation—audio-visual equipment. The physical principles of sound. Origin of heart sounds. Modification of heart sounds. Routine of auscultation of the heart. Variations of heart sounds in health and disease. Definition, classification and timing of murmurs. Disorders of heart rhythm. Clinical entities and their auscultatory findings. References. Index.

Note: A textbook and manual on auscultation of the heart, particularly with an audio-visual instrument, such as the Audio-Visual Heart Sound Recorder manufactured by the Cambridge Instrument Company of New York. The basic principles of cardiac auscultation and normal and abnormal sounds are described clearly from the clinical viewpoint. The book is illustrated largely with "stethograms," which are visual tracings of the sound patterns of the heart. Each of the stethograms is discussed from the clinical viewpoint in a long caption that accompanies it. All of the authors of the book are members of the faculty of the Post-Graduate Medical School of New York University.

CABOT, BLAKE

The motion of the heart the story of cardiovascular research. New York Harper & Brothers 1954 173 p. 21 cm. $2.00 3566

Contents: Toward the unknown. Lifestream. Arterial blockade. Pressure and flow. Peculiar rhythm. The failing heart. Surgical attack. Temples of the future.

Note: A well-written elementary account of progress made to date and of current research related to the basic causes of cardiovascular diseases. It describes also some of the therapy now used in the treatment of cardiovascular disorders. It includes a noteworthy account of heart surgery on "blue babies." It is intended for reading by laymen.

DAVIS HARRY AARON

Shock and allied forms of failure of the circulation. New York Grune & Stratton, 1949 595 p. illus. 24 cm. $12.00 3567

Contents: Historical introduction and classification. The diagnosis of shock and shocklike states. Pathogenesis of traumatic shock and hemorrhage. Physiologic changes in traumatic shock and hemorrhage. Biochemical changes in traumatic shock and hemorrhage. Pathology of traumatic shock and hemorrhage. The effects of anoxia and hypoxia in man and lower animals. Irreversible shock. Circulatory failure associated with intoxication and infections. Medical and obstetrical shock. Circulatory failure associated with diseases of the liver and of the adrenal glands. The nervous system in relation to failure of the circulation. Failure of the circulation due to derangement of the thorax and its contents. Failure of the circulation resulting from burns and from other forms of thermal injury. Failure of the circulation resulting from anesthesia. The circulatory [illegible]. Treatment of shock and allied forms of circulatory failure. Index.

Note: A comprehensive treatise on acute circulatory failure. It appears to have been based on a very extensive literature survey and most of the chapters include long bibliographies. The chapter on treatment is one of the longest in the book. It includes detailed descriptions of procedures for cases of circulatory failure under all of the common clinical and surgical conditions. The technique of cardiac massage is included. The book is addressed to surgeons, obstetricians, general practitioners, and anesthesiologists. It has some interest also for physiologists.

DE TAKATS GEZA

Thromboembolic disease. Springfield, Ill. Charles C Thomas, 1955 55 p. 22 cm. (American lecture series. Publication no. 286 A monograph in American lectures in surgery edited by Michael E. DeBakey) $2.25 3568

Contents: Introduction. Clinical forms of thromboembolic disease. The prevention of thromboembolic disease. Method of treatment. Discussion. Summary. Bibliography.

Note: Essentially this short book is a report addressed to practitioners of medicine of research carried out by the author and his

BARKER, JOSEPH M

The unipolar electrocardiogram, a clinical interpretation By Joseph M Barker, assisted by Joseph J Wallace, advised by Wallace M Yater Foreword by Frank N Wilson New York Appleton-Century-Crofts, Inc., 1952 655 p illus 25 cm $12 50 3557

Contents (abridged) General considerations of electrocardiography and of the electrocardiogram. Fundamental electric phenomena and the electrocardiogram. *The components of* normal electrocardiogram. The standard extremity leads. Electrophysiology—basis for interpretation of the electrocardiogram. The normal myocardium. The potential variations of the extremities. Bundle branch block and other types of intraventricular block. Myocardial infarction. Transient myocardial ischemia and injury Ventricular hypertrophy or ventricular enlargement. The auricular (atrial) complex and introductory considerations of the *cardiac arrhythmias*. The *arrhythmias* disturbances of cardiac rhythm due to impulses arising from homogenetic foci—disturbances of impulse conduction (heart block) —disturbances of cardiac rhythm due to impulses arising from heterogenetic foci. Anomalous atrioventricular conduction. Reading, reporting and coding electrocardiograms. Bibliography Index.

Note A substantial treatise written from the standpoint of practical use of the electrocardiogram in the *diagnosis and study of heart* disease. Basic matters, such as the electrical fundamentals, definitions, and descriptions of electrocardiographic instruments, are well covered in the first six chapters. The remainder of the book consists of chapters based on and consisting chiefly of discussions of particular case histories and the electrocardiograms made in the course of their diagnosis and treatment. However the author has invariably drawn conclusions from the cases of which the following is typical "There is no way to be sure of right ventricular hypertrophy from the extremity leads alone. The precordial electrocardiogram is more reliable in revealing the definitive diagnosis of either condition." There are 456 figures, of which the majority are reproductions of cardiograms discussed in the text. The bibliography is an extensive one.

BARROW, DAVID WOOLFOLK

The clinical management of varicose veins With a foreword by Arthur W Allen. New York Paul B. Hoeber, Inc., Medical Book Department of Harper & Brothers 1948 155 p illus (part col d) 24 cm 3558

Contents Foreword by Arthur W Allen. History and anatomy Physiology and etiology Pathology Symptomatology Examination of the patient. Treatment of varicose veins by injection. Treatment of varicose veins of the long saphenous system. Treatment of varicose veins of the short saphenous system. Treatment of incompetent veins communicating between deep and superficial venous systems. Complications. Thrombophlebitis. After-care of the varicose extremity References. Index.

Note Although relatively short for a medical treatise, this book provides a detailed discussion of diagnosis, therapy and after-care of varicose veins. The author has made a specialty of the subject and has based the book on an intensive critical experience. It is not, however addressed to specialists but to medical students and general practitioners. Certain therapies which are discussed in greatest detail are those which the author and others have found to be the best. Practically no space is given to techniques of historical interest only There are fifty-eight illustrations. The bibliography contains 177 entries. A second edition was published in 1957 169 p., $6.00.

BELLET, SAMUEL

Clinical disorders of the heart beat. With 164 illustrations. Philadelphia Lea & Febiger, 1953 373 p illus 26 cm $8.50 3559

Contents (abridged) Section I, General considerations. Section II, Discussion of individual arrhythmias Sinus irregularities. Auricular flutter and fibrillation. Premature contractions (extrasystoles) Auricular tachycardia. Disturbances in region of A V node. Wolff Parkinson-White syndrome. Ventricular premature contractions. Paroxysmal ventricular tachycardia. Ventricular flutter and fibrillation. Cardiac arrest. Alternation of the heart. Effect of clinical disorders of the heart beat upon the ballistocardiogram. Section III, Arrhythmias in certain clinical states Syncopal attacks. Arrhythmias in infants and children. Congenital cardiac anomalies. Rheumatic fever. Acute infections. Thyroid disease. Pregnancy Anesthesia and surgery Angiocardiography Cardiac catheterization. Cardiac trauma. Electrolyte alterations. Myocardial infarction and coronary disease. Section IV Drugs used in therapy of arrhythmias: Digitalis. Quinidine. Procaine amide (Pronestyl) References. Index.

Note: The segment of cardiology covered by this book has been described by the author in the following terms "Under the term clinical disorders of the heart beat, we include those *disorders* in rhythm in which the origin of the pacemaker is in some portion of the heart other than the normal site of origin in the sinoauricular node, and also the sinus irregularities which are produced by some disturbances within the sinoauricular node. These conditions may be associated with a regular or irregular rhythm, or a combination of the two. The subject as described is covered in detail. The first section supplies background information on such matters as the factors in regulation of cardiovascular function, classification of the arrhythmias, pathologic and etiologic relationships, and general principles of therapy The section devoted to *individual arrhythmias is approximately 200 pages long*, and the section on arrhythmias in clinical states runs to 60 pages. Treatment is discussed in the second section for each of the arrhythmias, and the drugs used are discussed more fully in the fourth section. The author is Director of the Division of Cardiology of the Philadelphia General Hospital and a member of the faculty of the School of Medicine of the University of Pennsylvania.

BROWN, HERBERT RUTHERFORD JR., AND OTHERS

Clinical ballistocardiography, by Herbert R. Brown jr, Vincent deLalla, jr, Marvin A. Epstein and Marvin J Hoffman. New York The Macmillan Company, 1952 188 p. illus. 22 cm. $4 00 3560

Contents Part one, Normal section What is the ballistocardiogram and what is its value? The history of the ballistocardiograph. Types of apparatus used in recording the ballistocardiogram. Physical considerations in the construction of a ballistocardiograph. The normal ballistocardiogram. Cardiac output. Respiratory variation of the ballistocardiogram. Part two, Abnormal section Significance of normal and abnormal patterns. Abnormal respiratory variation of the IJ stroke. Hypertension. Myocardial infarction. Angina pectoris. Congestive failure. Rheumatic heart disease. Miscellaneous disorders. Index.

Note: Ballistocardiograph apparatus has only recently become available as a clinical means for the identification of circulatory and cardiac disorder The monograph was written by four medical doctors who made a special study of the technique and its applications over the period 1946–1952 at the University of Rochester. The authors present all pertinent data in the field as a guide to other doctors interested in the use of ballistocardiograph apparatus. Included are many examples of normal and abnormal ballistocardiograms and the summarized findings of records made in the laboratory of the authors.

BURCH, GEORGE E

A primer of cardiology Second edition, thoroughly revised, with 214 illustrations. Philadelphia Lea & Febiger 1953 339 p. illus. 24 cm $5 50 3561

Contents General anatomic considerations. Approach to the diagnosis of heart disease. The approach to clinical cardiac evaluation. The common types of heart disease. Bedside diagnosis of cardiac irregularities. Appendix. Index.

Note An introduction to cardiology intended for the instruction of students in medical colleges and as orientation for practicing physicians who are not specialists in this field. It emphasizes diagnosis and the management of the common types of heart disease. It is written in a direct and vivid style, of which the following is an example "The murmur is a soft flowing, high-pitched systolic murmur of varying intensity which occurs early in systole, barely extends through systole and tends to disappear on deep inspiration. There are 206 illustrations, most of which are reproductions of well-conceived diagrams. The appendix contains a miscellany of useful material on nomenclature, theoretical transverse diameters of heart silhouettes for various heights and weights, diets used in cardiac disease, etc.

Note: A brief but authoritative presentation of the principal clinical aspects of coronary heart disease. The diseases named in the chapter titles are discussed as to pathology, symptoms, signs, diagnosis, differential diagnosis, complications, prognosis, and treatment. References are given to 71 related books and articles. The book is most suitable as review or "refresher" for general practitioners of medicine.

FISHBERG, ARTHUR M

Hypertension and nephritis. Fifth edition enlarged and thoroughly revised. 49 illustrations. Philadelphia Lea & Febiger 1954 986 p. 24 cm. $12.50. 3575

Contents: The individual processes in formation of urine. Impaired renal function. Anatomic. Tests of renal function. Proteinuria and cylindruria. Edema. Uremia. Arterial hypertension—the measurement of blood pressure, the range of normal blood pressure, and the occurrence of hypertension—pathological anatomy—pathogenesis. Hypertensive encephalopathy.—Hypertensive pathology. The subdivision of Bright's disease. Orthostatic proteinuria. The necrotizing nephroses. Chronic nephrosis. Diabetic glomerulosclerosis. The amyloid kidney. Acute glomerulonephritis—etiology bacteriology pathological anatomy and pathogenesis—clinical picture, diagnosis, prognosis, and treatment. Chronic glomerulonephritis. Chronic pyelonephritis. Focal nephritis—acute interstitial nephritis, and focal glomerular lesions in subacute bacterial endocarditis. Essential hypertension—course and pathological anatomy—etiology and pathogenesis—clinical picture—diagnosis and prognosis—treatment management and diet—pharmacologic treatment and management of individual symptoms—surgical treatment. Hypertension in the Cushing syndrome and pheochromocytoma. Renal and hypertensive disease in pregnancy. Index.

Note: This book has enjoyed the status of standard work for many years. It deals with the clinical aspects of hypertension and nephritis but includes also much background from physiology and experimental physiology. It is written from the clinical viewpoint and is addressed primarily to graduate medical practitioners. It is used also by advanced medical students and internes. It is compactly written, but the directness of the style makes it relatively easy to read. The chapters contain very extensive bibliographies, and the text is referenced to them. The fourth edition was published in 1939. In this edition, the work is some 100 pages longer even though considerable material has been deleted. There are seven new chapters and revised and augmented sections in many others. A selection of literature published since the fourth edition was written has been added to the bibliographies.

FRIEDBERG, CHARLES K.

Diseases of the heart. Second edition. Philadelphia W B Saunders Company 1956. 1 161 p. illus. 27 cm. $18.00. 3576

Contents (abridged): Part I, Graphic methods of cardiac examination. Roentgenologic examination of the heart. Electrocardiography and vectorcardiography. Ballistocardiography, phonocardiography, cardiac catheterization and other graphic methods. Part II Circulatory failure. Cardiac function and cardiac failure. Clinical and pathologic features of chronic (congestive) heart failure. Circulatory and related measurements. The treatment of congestive heart failure. Acute circulatory failure—shock, syncope and sudden death. Part III The cardiac arrhythmias. Disturbances in impulse formation. The ectopic tachycardias. Disturbances in conduction. Part IV Diseases of the coronary arteries and coronary heart disease. Part V Structural abnormalities of the heart. Acute pericarditis. Adhesive pericarditis, chronic constrictive pericarditis. Myocarditis and myocardial disease of obscure origin. Endocarditis and endocardial disease. Mitral valvular disease. Aortic insufficiency (aortic regurgitation). Aortic stenosis. Tricuspid and pulmonic valvular disease. Part VI Etiologic forms of heart disease. Congenital heart disease. Rheumatic fever. Bacterial endocarditis. Syphilis of the heart and aorta. The heart in infections. The heart in hypertension and renal disease. Pulmonary embolism and acute cor pulmonale. Chronic pulmonary heart disease. The heart in hyperthyroidism. The heart and circulation in myxedema. Other endocrine variants and nutritional disturbances. The heart and circulation in anemia. Traumatic heart disease. Cardiac tumors. Part VII Special problems in heart disease. Pregnancy and heart disease. Surgical procedures in the cardiac patient. Insurance and medicolegal problems in cardiac disease. Index.

Note: A comprehensive treatise in which the main emphasis is on pathologic physiology and the clinical manifestations of cardiac disease. The treatment is even more detailed than the above abridged table of contents indicates. For example, three chapters are devoted to the various facets of acute coronary occlusion and myocardial infarction. All chapters are supplemented by lengthy bibliographies and numbered references are made from statements in the text to the schools and as reference book in the office libraries of graduate medical practitioners. Rather extensive additions and revisions were made in preparation this second edition. The first part, for example, on graphic methods of cardiac examination is newly added, and important changes have been made in the discussions of such topics as surgery coronary atherosclerosis, cardiopulmonary disease etc. Literature published since the first edition was written has been added to the bibliographies. The author is member of the faculty of the College of Physicians and Surgeons of Columbia University.

GERTLER, MENARD M AND PAUL D WHITE

Coronary heart disease in young adults a multidisciplinary study With the aid, advice, and editorial assistance of E. F Bland and others. Cambridge Mass. Published for the Commonwealth Fund by Harvard University Press 1954 218 p. illus. 24 cm. $5.00 3577

Contents: Introduction—the problem and the procedure. Clinical appraisal of the coronary group. Family incidence—the role of heredity and race. Anthropometric and morphological appraisal of physique. Athletic activity and occupations. Findings on masculinity. Endocrine findings. Biochemical findings—the interrelations of serum lipids—the role of serum uric acid. Diet—cholesterol ingestion and atherosclerosis. The oxidation-reduction potentials of saliva. Summary and conclusions. Appendices: Terman-Miles masculinity-femininity test. Heredity record. Summary of heredity data. Diet record. Summary of case histories. Follow-up study of coronary and unmatched control groups. Index.

Note: Presented in this important book are the results of an intensive study of coronary heart disease carried out at the Massachusetts General Hospital on group of 100 patients who met the following qualifications (among others): Forty years old or less at the time of the myocardial infarction; satisfactory physical condition; absence of diabetes, syphilis, and other serious infections and of hypertension. The 100 coronary patients were matched as closely as possible with controls who were free of coronary disease. The chapter titles listed above indicate the breadth of the study which was carried out by means of both interviews and diagnostic tests. The findings are presented in detail, and the main features of each case history are presented in summary form in an appendix. References to related literature are included in each of the chapters.

GOLDBERGER, EMANUEL

Heart disease its diagnosis and treatment. Second edition, thoroughly revised with 298 illustrations on 107 figures. Philadelphia Lea & Febiger 1955 781 p illus. 24 cm. $12.50. 3578

Contents (abridged): Section I, The normal heart: Physical examination of the cardiovascular system. X-ray examination of the heart. Electrocardiographic examination. Ballistocardiographic examination. Tests of circulatory efficiency. Section II, The abnormal heart: Symptoms referable to the cardiovascular system. Abnormal findings on fluoroscopic and X-ray examination. Abnormal electrocardiographic findings. Abnormal ballistocardiographic findings. Section III, Cardiac syndromes: Congestive heart failure. The shock syndrome. The anginal syndrome. The cardiac arrhythmias, sinus rhythms, nodal rhythm, A-V block, A-V dissociation, Auricular flutter and auricular fibrillation. Section IV Systematic description of cardiac abnormalities: Congenital heart disease. Auricular septal defects. Ventricular septal defects. Congenital valvular and endocardial lesions, and congenital abnormalities of the veins. Abnormalities of the branchial (aortic) arches. Rheumatic fever. Bacterial endocarditis. Disseminated lupus erythematosus. Rheumatic heart disease. Hypertensive heart disease. Arteriosclerosis. Coronary artery disease. Diseases of the pericardium. Diseases of the aorta, pulmonary artery and other blood vessels. The heart in nutritional, metabolic and other diseases. Tumors of the heart. Cardiac trauma. Section V Special conditions complicating heart disease. Pregnancy and heart disease. Surgery, anesthesia, and heart disease. Employment and heart disease. Index.

Note: A standard work used as textbook in medical colleges and as an office reference book by general practitioners. It ex-

colleagues at the *College of Medicine* of the University of Illinois and St. Luke's Hospital in Chicago. It presents a co-ordination of this research and the published work of other investigators written in the form of a manual of information rather than in the usual style of scientific reports. Among other things, the author shows that "many of the clinical syndromes which are regarded and treated as being due to thromboembolic disease are really due to arterial stenoses, with sudden occlusion due to hemodynamic conditions or vascular changes in the wall. Another conclusion "We have favored the use of anticoagulants for prophylaxis and treatment in all patients, except those in whom such treatment has failed to prevent an infarct, and in whom they were not feasible, Finally long term anticoagulant therapy carried on for months or years, has no place in the treatment of patients whose clotting mechanism is undamaged.

DOCK, WILLIAM, *AND OTHERS*

Ballistocardiography, the application of the direct ballistocardiograph to clinical medicine. By William Dock, Harry Mandelbaum, and Robert A Mandelbaum. With 153 illustrations. St. Louis The C V Mosby Company 1953 293 p illus. 23 cm. $6 50 3569

Contents. Springs and forces. Ballistocardiographs and technics for their use. Diagrams of cardiac structure and functions. The physiological ballistocardiogram. The effect of respiration of the ballistocardiogram. The changing ballistic pattern in disease. Taking and standardizing the ballistocardiogram. Reading and classifying the ballistocardiogram. The ballistocardiogram i "normal" subjects and some factors which modify the pattern. The ballistic pattern resulting from pulmonary diseases, and disorders affecting minute volume flow The ballistocardiogram in patients with acute myocarditis or with heart failure with normal or reduced cardiac output. The ballistocardiogram in patients with disease of the coronary arteries. The ballistic patterns in patients with arterial hypertension. The ffect of smoking on the ballistocardiogram. The ballistic patterns in patients with congenital and acquired valvular lesions, and in pericarditis. The ballistocardiogram in patients with conduction defects and cardiac arrhythmias. The ballistocardiograph in surgery obstetrics, industrial medicine, and insurance examinations. Appendixes: The calculus and the condenser The construction of simple photoelectric and electromagnetic ballistocardiographs. Quantitative aspects of ballistocardiography References. Index.

Note This book is both an introduction to ballistocardiography and an account of the work f the authors and other medical researchers in developing the method and applying it to the study of normal and diseased hearts. The senior author designed simplified apparatus that made it possible to use the technique wherever there was an electrocardiograph that is to say in doctors' offices as well as in hospitals. There is some discussion of ballistocardiographic technique as well as an outline of the basic mechanical principles but most of the book is devoted to the diagnostic interpretation of the ballistic record. Numerous ballistocardiograms are reproduced and are discussed in terms of the heart abnormalities or disorders with which they were associated. A full description of the simple ballistocardiograph developed by the author and his colleagues is included in the appendix. There is bibliography of approximately 370 entries.

DOCK, WILLIAM

Heart sounds, cardiac pulsations and coronary disease Lawrence University of Kansas Press 1956 98 p illus. 22 cm (University of Kansas Porter lectures Series 21) $2 50 3570

Contents The clinical significance of pulsations evoked by the heartbeat. The production of sounds by normal and diseased hearts. Coronary disease—the professor's friend. References. Index.

Note The lectures collected in this book are not only readable but are worth reading. For the most part they describe recent developments in cardiology against the historical background of their development. The final lecture is an expert discussion of relations between coronary disease and diet.

DRESSLER WILLIAM AND HUGO ROESLER

An atlas of electrocardiography Springfield, Ill. Charles C Thomas 1949 503 p illus. 21 cm. $14 00 3571

Contents (abridged) Electrocardiographic patterns (not including disturbances of rhythm) Patterns of disturbance of rhythm. Advances in the electrocardiographic diagnosis f myocardial infarction. Interpretation of the electrocardiogram with the aid of unipolar limb leads. Index.

Note. More than 400 electrocardiograms have been reproduced without retouching in this ork. The book is organized so that the reproductions appear on right-hand pages, and textual interpretation and clinical data appear on the facing left-hand pages. Special attention is given to the interpretations of electrocardiograms with similar patterns, and points that aid in differential diagnosis are mentioned.

EDWARDS, JESSE E, AND OTHERS

An atlas of congenital anomalies of the heart and great vessels By Jesse E. Edwards, Thomas J Dry Robert L Parker Howard B Burchell Earl H. Wood, and Arthur H. Bulbulian Springfield Ill Charles C Thomas, 1954 202 p illus (part col'd) 29 cm $13.50. 3572

Contents Cor biloculare. Cor triloculare. Tricuspid atresia. Ebstein's malformation of the tricuspid valve. Mitral atresia. Cor triatriatum. Endocardial sclerosis. Persistent common atrioventricular canal Atrial septal defect. Anomalous drainage of pulmonary veins. Pulmonary arteriovenous fistula. Ventricular septal defect. Eisenmenger complex. Stenosis of ostium infundibuli. Tetralogy of Fallot. Pulmonary stenosis with intact ventricular septum. Pulmonary atresia with intact ventricular septum. Complete transposition of the great vessels. Corrected transposition of the great vessels. Isolated dextrocardia. Persistent truncus arteriosus. Patent ductus arteriosus. Aorticopulmonary septal defect. Aneurysm of the aortic sinus. Subaortic stenosis. Aortic atresia. Coarctation of the aorta. Arachnodactyly Vascular rings. Anomalies of coronary vessels. Biographic sketches. Bibliography Index.

Note. A successor the Thomas J Dry and others, *Congenital anomalies of the heart and great vessels* Springfield, Ill 1948. It contains all of the material in the original work—which was only 68 pages long—and much more Most of the articles of anomalies described are named in the above Contents. The material included on each one varies. In the cases with the most material, there are photographs in color of models f the abnormal heart, photographs of gross anatomy of dissected specimens, line drawings of anatomical details, reproductions of roentgenograms and of electrocardiograms. I all instances, there is a condensation of the case history and in many instances literature references. The "Biographic sketches" near the end of the volume is section of capsule biographies and portraits of anatomists and others who have made contribution to the knowledge of congenital abnormalities of the heart. At the time the book was written, the authors were all on the staff of the Mayo Clinic and Mayo Foundation, and most of the material came from the files of the Mayo Clinic.

ENGEL, GEORGE LIBMAN

Fainting, physiological and psychological considerations Springfield Ill Charles C Thomas, 1950 141 p illus. 22 cm (American lecture series Publication number 37 edited by Charles D Aring) $3 50 3573

Contents: Introduction. Fall in arterial blood pressure. Cardiac standstill. Cerebral vascular disorders. Disturbances in cerebral metabolism. Hysterical fainting Hyperventilation. Cardiac disease. Fainting during air travel. Sudden death. Incidence and diagnosis of syncope. Differential diagnosis. References. Index.

Note In this book the clinical aspects of fainting, including fatal syncopes, are discussed against the background of the underlying physiology and psychology There is bibliography of 78 references. The book is of interest to a wide range of medical practitioners.

ERNSTENE, ARTHUR CARLTON

Coronary heart disease. Springfield Ill Charles C Thomas, 1948 95 p. 22 cm. $2 50. 3574

Contents: Introduction. Angina pectoris. Acute myocardial infarction. Acute coronary failure. Paroxysmal cardiac dyspnea. Heart block and disturbances of cardiac rhythm. Congestive heart failure. The risk of anesthesia and surgical operation in patients with coronary disease. References. Index.

York McGraw Hill Book Company Inc., 1951 149 p. illus. 22 cm. $4.50 3583

Contents: Part I, The spatial vector method of interpretation. The vectors of the heart. The limb leads as vector measurements. The precordial leads as vector measurements. The method for calculating the spatial vectors from conventional leads. Part II, The clinical application of the spatial vector method. The characteristics of the spatial vectors in the normal subject. The abnormal ECG. Abnormalities of the QRS vectors. Abnormalities of the T vector. The vectors in myocardial infarction. The ventricular gradient. Broader implications of the spatial vector method. Bibliography. Index.

Note: This little volume is not intended to serve as a textbook on electrocardiography, but rather to explain how vector methods may be applied in the clinical interpretation of electrocardiograms. The book is written for the general practitioner and does not require any special training in physics or mathematics. Technical terminology has been avoided, and only those theoretical aspects of the subject which are essential to a clear understanding of the clinical applications are included.

GRAYBIEL, ASHTON AND OTHERS

Electrocardiography in practice, by Ashton Graybiel, Paul D. White, Louise Wheeler, Conger Williams. Third edition with 294 figures. Philadelphia W B Saunders Company 1952 378 p. illus. 28 cm. $10.00 3584

Contents (abridged): Part I, Introduction. Physiologic principles. Principles of operation of the galvanometer. Part II, Methodology. Methodology. Part III, The typical normal electrocardiogram and its variations. Electrical orientation of the heart. Chest and esophageal leads. Limb leads. Electrocardiographic variations due to physiologic factors. Artifacts and technical errors. Part IV, Disorders of rhythm and conduction. Part V, Electrocardiographic alterations due to drugs and chemicals. Part VI, Electrocardiographic patterns. Part VII, Etiologic types: Congenital heart disease. Rheumatic heart disease. Subacute bacterial endocarditis. Cardiovascular syphilis. Diphtheria. Endocrine disorders. Hypertensive heart disease. Cor pulmonale. Coronary heart disease. Part VIII, Electrocardiograms for practice in interpretation. Index.

Note: A useful book for the general medical practitioner. The first three parts are introductory to the subject, however, following these most of the space is given to reproductions of electrocardiograms. Each electrocardiogram is accompanied by a concise description and a fairly detailed interpretation. The range of cases illustrated is sufficiently varied to lend the book some interest for the specialist. The second edition was published in 1946. This third edition represents an extensive revision. Now the first chapter outlines the historical development of electrocardiography, the principles of vector cardiography are explained although the reader is warned that this technique is not yet ready for general clinical use, and many new electrocardiograms have been included. The format of the volume has been improved.

GREGG DONALD EATON

Coronary circulation in health and disease. 73 illustrations Philadelphia Lea & Febiger 1950 227 p. illus. 24 cm. $4.50. 3585

Contents: Introduction—a statement of the problem. General coronary considerations. Experimental approaches to the coronary circulation. Preparations. Cardiac pressures and their determination. Experimental approaches to the coronary circulation. Coronary [illegible] determination. Distribution of coronary blood flow. Phasic flow curves. The determination of coronary blood flow and their evaluation. Metabolism and work. The coronary circulation in heart disease and heart failure. Index.

Note: In this original monograph the author has summarized the results of his own [illegible] years of experimental investigation of coronary circulation and the related work of other scientists. After outlining the nature of the heart disease problem, he proceeds to analyze and discuss experimental findings and techniques. Most of the experiments covered were made on animals, especially the dog, but in the final chapter the author considers human heart disease and especially atherosclerosis in man. Each chapter has an extensive bibliography of [illegible] done throughout the world during the past [illegible] years. The author [illegible] Chief of the Department of Cardio-respiratory Diseases, Army Medical Service Graduate School.

GROSS, HARRY AND ABRAHAM JEZER

Treatment of heart disease: a clinical physiologic approach. Philadelphia W B Saunders Company 1956 549 p. illus. 26 cm $13.00 3586

Contents: Part I, The basic mechanisms of cardiac symptoms and their management. Pathologic physiology of myocardial insufficiency. Digitalis. Quinidine. Arrhythmias. Congestive heart failure. Diet in heart disease. Part II, Hypertensive heart disease and arteriosclerotic heart disease. Hypertension and hypertensive heart disease. Arteriosclerotic heart disease. Part III, Diseases of the heart secondary to inflammation. Rheumatic fever. Subacute bacterial endocarditis. Syphilitic heart disease. Cor pulmonale. Nonspecific myocarditis. Pericarditis. Part IV, Congenital heart disease. Part V, Surgery in the cardiac patient. Anesthesia in heart disease. Surgery in heart disease. Pregnancy in heart disease. Cardiac trauma. Part VI, Diseases of the heart secondary to metabolic disorders. Hyperthyroidism and heart disease. Beriberi heart disease. Part VII, Emotions, adjustments, and rehabilitation in heart disease. Psychosomatic aspects of heart disease. Living with a sick heart. Rehabilitation of the cardiac patient. Appendix: Diets, menus, recipes, and table of sodium and potassium contents. Index.

Note: An authoritative and up-to-date work addressed primarily to graduate general practitioners. Treatment is the main topic; however, the various therapies are correlated with the underlying physiology so as to enable the physician to [illegible] treatment on a sound basis. When several methods of medical treatment are available, the authors indicate which is preferred on the basis of their own experience. A section entitled "Procedures and drugs of unconfirmed efficacy" is included in some chapters in order to inform the physician about all available therapies. Surgical operations on the heart are not described in detail, but there is a short chapter in which care before and after heart operations is outlined. The chapter entitled "Living with a sick heart" is a discussion of problems of living, such as the use of alcohol, sexual activity, travel, and work, on which physicians must advise cardiac patients. Fairly extensive references to the literature are included.

HENRY FORD HOSPITAL

International symposium on cardiovascular surgery: studies in physiology, diagnosis and techniques. Proceedings of the Symposium held at Henry Ford Hospital, Detroit, Michigan, March 1955. Edited by Conrad R. Lam. Philadelphia W B Saunders Company 1955 543 p. illus. (part col'd) 26 cm. $12.75 3587

Contents: Diagnostic techniques. Cardiac catheterization, by R. J. Bing. The electrocardiogram in congenital vascular disease, by E. F. Ziegler. Recent developments in angiocardiography, by J. Lind and others. Pulmonic stenosis: Panel on the diagnosis and treatment of pulmonic stenosis, by W. J. Potts and others. Adjustments between the systemic and pulmonary circulation. Clinicoanatomic correlations, by J. F. Dammann, Jr., and C. Ferencz. Pathologic considerations in adjustments between the systemic and pulmonary circulation, by J. E. Edwards. Left to right shunts in infancy, by H. B. Taussig. "Atypical" patent ductus arteriosus. Evaluation of transposition operations, by W. T. Mustard. Mitral stenosis and mitral insufficiency: Physiologic studies in mitral valvular disease, by R. M. Harvey. Diagnosis of mitral stenosis by electrokymography of the left atrium, by O. M. Harling and others. Panel discussion on late results of mitral commissurotomy, by E. C. Andrus and others. The technique of mitral commissurotomy, by R. P. Glover. The surgical treatment of mitral insufficiency, by D. E. Harken. Method of surgical treatment for valvular insufficiency of the heart, by C. P. Bailey and others. Aortic stenosis and aortic insufficiency: Aortic stenosis—a post mortem cineplastographic study of valve action, by L. K. R. McMillan. Surgical treatment of aortic stenosis, by C. P. Bailey. Experimental bypass of the aortic valve by valvular conduits between apex of the left ventricle and thoracic aorta, by S. J. Sarnoff and R. B. Case. Surgical treatment of aortic insufficiency, by C. A. Hufnagel. Physiologic considerations relating to the [illegible] [illegible] operation with special reference to postoperative anemia, by S. J. Sarnoff and R. B. Case. Septal defects: Panel discussion on interatrial septal defects, by H. B. Shumacker and others. Direct vision intracardiac surgery—by means of controlled cross circulation or continuous arterial reservoir perfusion for correction of ventricular septal defects, atrioventricularis communis, isolated

presses the point of view that physical techniques are still the most useful in diagnosis when the patient is first seen, and that they can be employed to provide a wide range of dependable information about the heart disorders of most patients. However due attention is paid also to instrumental techniques, such as electrocardiography and ballistocardiography. Most of the space is devoted to the individual heart diseases. The discussions of most are concise and cover as a general rule pathology, pathological physiology, signs and symptoms, findings and fluoroscopic X-rays, angiocardiographic, catheterization and electrocardiographic studies, diagnosis, course and prognosis, and treatment. Many of the illustrations are diagrammatic representations of important diagnostic features of fluoroscopic and X-ray pictures and of electrocardiograms. The first edition was published in 1951. Much information not in the first edition has been added in this second edition, and some of the material carried over has been revised. Literature published since the first edition was written has been added to the bibliographies, which are again an important feature.

GOLDBERGER, EMANUEL

Unipolar lead electrocardiography and vectorcardiography, including the standard leads, the aV and V leads, the cardiac arrhythmias and the principles of vectorcardiography. Third edition, thoroughly revised. With 312 illustrations. Philadelphia. Lea & Febiger, 1953. 601 p. illus. 24 cm. $10.00 3579

Contents (abridged) Section I, The principles of electrocardiography: The method of taking augmented unipolar extremity leads and unipolar precordial leads. The relations between unipolar extremity leads and standard leads and the relations between unipolar precordial leads and ordinary precordial leads. The physiological basis of unipolar leads. Section II The normal electrocardiogram. The basic normal unipolar lead patterns. The effect of the position of the heart on the normal electrocardiogram. Section III, Abnormal electrocardiography patterns. Functional changes in the RS-T segment and T wave. The effects of hypertrophy of the heart on the electrocardiogram. Bundle branch block. Myocardial injury. Pulmonary embolism. Section IV Normal and abnormal cardiac rhythms: Sinus rhythms. A-V nodal rhythm. A-V block and A-V dissociation. Premature contractions. Paroxysmal tachycardia. Section V Vectorcardiography. The principles of vector cardiography. The normal vectorcardiogram. The vectorcardiogram in ventricular hypertrophy—In bundle branch block—In myocardial infarction—In pulmonary embolism. The open QRS loop of the vectorcardiogram and the deviation of J. The abnormal T loop of the vectorcardiogram. Appendices. References. Index.

Note. For some years this work has been recognized as the standard treatise on electrocardiography with unipolar leads, that is to say leads arranged so as to record the potential from a single region of the body. It is addressed to medical college students taking graduate-level courses in heart diseases, or who are beginning the practice of cardiology. The author has taken a considerable part in the development of the technique, and the book is based on the literature and on his own work. The second edition was published in 1949. The major change in this third edition is the addition of the section on vector cardiography which is about 120 pages long. Other revisions and augmentations have been made in the text, and the recent literature has been added to the list of references.

GOLDBLATT, HARRY

The renal origin of hypertension. Springfield, Ill. Charles C Thomas. 1948. 126 p. illus. 24 cm. (American lecture series. Paul R. Cannon editor. Publication no. 14) $2.75 3580

Contents (abridged) Production of experimental renal hypertension by various methods. Production of experimental renal hypertension by constriction of main renal artery. Pathologic changes in the organs of animals with persistent hypertension. Pathogenesis (mechanism of development) of experimental renal hypertension. The humoral mechanism of experimental renal hypertension. Renin. Hypertensinogen. Hypertensin. Hypertensinase. The juxtaglomerular apparatus. The treatment of hypertension—medical treatment—surgical treatment. Summary of the similarities and differences between human essential and experimental human hypertension. Bibliography. Index.

Note: The main feature of this short book is the fairly detailed discussion of the author's own experiments on animals in which hypertension was induced by a mechanical restriction of one or both main renal arteries. The results of these experiments are related to the experimental findings of other investigators and to the pertinent literature of the topic.

GOLDRING, WILLIAM, AND HERBERT CHASIS

Hypertension and hypertensive disease. Cambridge, Mass. Harvard University Press, 1944. 253 p. illus. (part col'd) 24 cm. $3.50. 3581

Contents Definition of hypertension. Clinical aspects of hypertensive disease. Systemic hemodynamic alterations in hypertension. Renal functional and renal hemodynamic alterations in hypertension. Function of the separate kidneys in hypertension. Role of a primary renal mechanism in the genesis of hypertension. Evaluation of medical and surgical treatment. The management of hypertensive disease. Blood pressure measurement: direct method. Cardiac output measurement. Peripheral resistance measurement. Methods for determining rate of glomerular filtration, effective renal plasma flow, maximal tubular excretory capacity, and maximal tubular reabsorptive capacity. Composite kidney function test. Functional and hemodynamic measurements in the separate kidneys. Presentation and discussion of renal functional data in hypertensive patients. Index.

Note: The authors present a review of current information and concepts of hypertension and hypertensive disease. They clearly show that hypertension is a symptom and, as such, distinguish it from hypertensive disease. They interpret the hypertensive phenomena in physiological terms, discuss the significance of blood pressure levels and the interpretation of kidney function tests, and point out the fallacies of many of the accepted therapeutic procedures. They have written primarily for the general practitioner and the medical student, but for the specialist they present in appendices full information about the hemodynamic methods used in their study and their pioneer observations on the techniques and interpretation of methods for the measurement of renal blood flow, glomerular filtration rate, and maximal tubular excretory capacity in normal subjects and hypertensive patients.

GOULD, S. E., editor

Pathology of the heart. Springfield, Ill. Charles C Thomas. 1953. 1,023 p. illus. (part col'd) 26 cm. $25.50 3582

Contents: History of the pathology of the heart, by E. R. Krumbhaar. The development of the heart, by B. M. Patten. The structure of the adult heart, by A. Barry and B. M. Patten. Physiology of the heart, by H. D. Green. Congenital malformations of the heart and great vessels, by J. E. Edwards. Degenerative diseases, by W. B. Wartman and W. T. Hill. Vascular lesions of the heart by B. E. Dodd. Rheumatic disease of the heart, by A. H. Baggenstoss. Nonrheumatic inflammatory diseases of the heart, by O. Saphir. Parasitic diseases of the heart, by W. A. Stryker. Injuries of the heart and pericardium by physical violence, by A. R. Moritz. Neoplasms of the pericardium and heart, by O. Saphir. Clinicopathologic correlations, by O. B. Myers. Appendix. Gross examination of the heart. Injection of coronary arteries, weights and measurements of heart, by O. Saphir. Author index. Subject index.

Note An outstanding treatise, essentially comprehensive for the pathology of the heart. Its wide scope is obvious from the titles of the chapters listed above. The principal emphasis is on the clinical aspects. However the chapters in the first part of the volume on embryology, anatomy and physiology are full reviews of these basic topics. In addition to these chapters, most of the specialized chapters contain some preliminary paragraphs on anatomy and pathology. All of the chapters include extensive bibliographies, references to which are included in the texts of the chapters. The illustrations are of high quality although not large. According to the publisher's account, there are 690 in black and white and six plates in color. Inclusion of an index to the authors of cited literature makes the book useful as a literature guide, but its primary uses are as a textbook for medical college students at the graduate level and as a reference volume for graduate pathologists, clinicians and cardiologists.

GRANT, ROBERT P., AND E. HARVEY ESTES JR.

Spatial vector electrocardiography: clinical electrocardiographic interpretation. New

ed school graduates who are beginning the study of electrocardiography. The first section accounts for only approximately one-tenth of the book's length; nevertheless it provides an adequate discussion of the theoretical aspects. The discussions in the second and third sections are exceptionally full, and they are supplemented by reproductions of hundreds of electrocardiograms, each one of which is discussed in a separate paragraph or caption. Each of the three sections is equipped with an extensive bibliography. In this edition the work has been very extensively revised and augmented. There are now 23 chapters instead of 16 as in the first edition, and the total number of pages has been increased by about one-half. The author states that 140 of the illustrations in this edition are new. A change of considerable interest is the introduction of a third chest lead, designated as CF. The author's *Reasoning in electrocardiographic interpretation*, second edition revised, illustrated with 141 engravings, Philadelphia, Lea & Febiger, 1946, 288 p., $4.00 is a companion work.

KATZ, LOUIS N AND JEREMIAH STAMLER

Experimental atherosclerosis. Springfield, Ill. Charles C Thomas 1953 375 p. illus. 22 cm. (American lecture series. Publication no. 124 A monograph in the Bannerstone Division of American Lectures in Metabolism edited by Paul György and others) $10.50. 3593

Contents: Introduction. Human clinico-pathology—background and foundation of experimental atherosclerosis. Atherosclerosis and the plasma lipoprotein colloidal complex (the state of aggregation of cholesterol in plasma). Experimental atherosclerosis. V. Conclusion. Bibliography. Author index. Subject index.

Note: An important monograph based on the results of an extensive program of experimental investigation carried out in the Cardiovascular Department of the Medical Research Institute, Michael Reese Hospital, Chicago, and on a review of the literature. It is concerned only with atherosclerosis and not with the other forms seldom also classified as arteriosclerosis. Its primary thesis is that atherosclerosis in human beings is due to alterations in cholesterol metabolism. The conflict between this theory and the view that atherosclerosis is an inevitable by-product of senescence is reviewed in the first chapter. Included in the second chapter is a wide range of information bearing on relations between diet and atherosclerosis and on other relationships, such as among hypertension and atherosclerosis. Most of the remainder of the book is devoted to an organized review and analysis of results from experimental investigations. There are 713 references in the bibliography.

KERR, ANDREW

Subacute bacterial endocarditis. Springfield, Ill. Charles C Thomas, 1955 343 p. illus. 23 cm. (American lecture series Publication no. 274 A monograph in the Bannerstone Division of American Lectures in Internal Medicine edited by Roscoe L. Pullen) $6.50 3594

Contents: History. Definition and incidence. Clinical picture—portal of entry and mode of onset. Fever, murmur, evidence of bacteremia. Infarction, emboli, or emboli-like manifestations—internal organs. Infarction, emboli, or emboli-like manifestations—cutaneous manifestations, emboli to large arteries, mycotic aneurysms. Special features—cardiac with types of heart disease, special age groups, and other conditions. Other special features. Course of the disease, spontaneous cure, early diagnosis, differential diagnosis. Pathogenesis. Antibiotic therapy—general considerations—administration—course of treatment—special considerations, other therapeutic measures, prognosis. [illegible] sequelae, prophylaxis. Bibliography. Name index. Subject index.

Note: A monograph based on an extensive survey of the literature. It is written from the viewpoint of clinical medicine, with some attention paid to background subjects such as landmarks in the development of the current knowledge. The information available from the literature, plus some of the experience of the Charity Hospital of Louisiana at New Orleans in the decade 1944–1953, is organized under the chapter titles listed above. References are given from statements and data in the text to the citations of the source articles in the bibliography.

LEPESCHKIN EUGENE

Modern electrocardiography Volume 1 The P-Q-R-S-T U complex. *Foreword by* Frank N Wilson. Baltimore The Williams & Wilkins Company 1951 598 p illus. 26 cm. $12.00 3595

Contents: Electrocardiographic artifacts and their prevention. The leads of the electrocardiogram and their laws. Electrical activity of heart muscle as the basis of the ECG. The electrocardiogram of animals. The normal human electrocardiogram and its interpretation. Influence of physiological factors on the electrocardiogram. Influence of physical agents. Chemical, pharmacological and toxicological influences. Vitamins and hormones. Intraventricular conduction disturbances. Ventricular hypertrophy and strain. Myocardial infarction. Coronary insufficiency. Pericarditis. Myocarditis in acute infections and allergic states. Bibliography and author index. Subject index.

Note: The first volume of a comprehensive, well-organized presentation of the information on electrocardiography that has appeared in the periodical literature from the beginning of 1934 to May 1950. Generally speaking, under each heading and subheading, enough information is included on specific points to satisfy the needs of the medical practitioner who is seeking information on diagnosis and techniques. On the other hand, the specialist (or general practitioner) who desires more information on a particular point can find it by means of the numbered references to the particular source articles. The bibliography contains more than 10,000 references to the international literature. The author is at present a member of the faculty of the University of Vermont College of Medicine.

LEVINE, SAMUEL ALBERT AND W PROCTOR HARVEY

Clinical auscultation of the heart. Illustrated. Philadelphia W B Saunders Company 1949 327 p. illus 24 cm. $6.50 3596

Contents: Heart sounds. Cardiac irregularities. Cardiac murmurs. Miscellaneous auscultatory findings. Index.

Note: The diagnostic value of the sounds of the heart as heard in the stethoscope and recorded by the phonocardiograph is the main theme of this thorough book. The authors stress the importance of informed use of the stethoscope and deplore the tendency to neglect its use in present-day diagnostic examination. They discuss heart sounds in detail from the standpoint of general practitioners of medicine and clinicians. Most of the 246 figures in the work illustrate electrocardiograms and phonocardiograms taken simultaneously on the same patient. Correlations between the two kinds of records are discussed. Both authors are associated with the Harvard Medical School.

LEVINE, SAMUEL ALBERT

Clinical heart disease. Fourth edition, illustrated. Philadelphia W B Saunders Company 1951 556 p. illus. 25 cm. $7 75 3597

Contents: Rheumatic fever. The development of rheumatic heart disease—mitral valve disease. Diseases of the aortic and tricuspid valves. Diseases of the pericardium. Angina pectoris and coronary thrombosis. Hypertensive heart disease, arteriosclerosis, "chronic myocarditis," and rare forms of heart disease. Thyroid heart disease. Syphilitic heart disease. Bacterial endocarditis. Congenital heart disease. Functional heart disease. Paroxysmal rapid heart action. Acute cardiovascular emergencies. The significance of bronchial and other factors in the production of dyspnea. The clinical significance of the systolic murmur. The patient with heart disease as a surgical or obstetric risk. Nature and treatment of congestive heart failure. Clinical electrocardiography. Index.

Note: A standard work in which heart disease is presented for the general practitioner of medicine rather than the specialist or student preparing for a specialty. Not so many conditions are covered as in the full-scale treatises, but the presentation is simpler and better suited to the needs of the physician concerned with the ordinary care of a few heart patients. The main emphasis is on diagnosis and prognosis. Medical treatments are discussed for the information of the general practitioner but surgical techniques are not described. The discussion of electrocardiography covers 200 pages, and most of the illustrations in the book are reproductions of electrocardiograms. In the present edition, revisions have been made to incorporate the major advances of recent years, such as surgery in the treatment of congenital heart disease, anti-coagulants in the treatment of coronary thrombosis, and antibiotics in the treatment of bacterial endocarditis.

infundibular pulmonic stenosis and tetralogy of fallot, by C. W Lillehei and others. Cardiac arrest, by F Gerbode. Hypothermia: Panel discussion on advantages and disadvantages of various methods of inducing hypothermia, by W G. Bigelow and others. Aneurysms and occlusive diseases of the aorta: Surgical treatment of thoracic aneurysms, by H. T Bahnson. Aneurysms of the abdominal aorta—analysis of cases treated by excision, by D A. Cooley and others. Surgical treatment of occlusive arterial disease, by C. Rob. Aneurysms and occlusive diseases of the aorta—analysis of 203 cases treated by resection and homograft replacement, by M. E. DeBakey and others. Rapid vessel anastomoses with transient arterial interruption employing suture methods over a removable bivalve prosthesis, by J D Fryfogle and others. An introduction to atherosclerosis (for surgeons) by I. H. Page. Panel discussion on substitutes for arterial segment, by C. A. Hufnagel and others. Index of participants and discussants. Index of subjects.

Not The proceedings of an important international symposium are presented in this volume Thirty-five states of the United States of America and 22 other countries are represented among the contributors to the volume. Both the papers presented and transcripts of the discussion of them are included. Most of the papers describe important advances such as recently developed techniques.

HOLDEN, WILLIAM D

Acute peripheral arterial occlusion. Springfield, Ill. Charles C Thomas, 1952 illus 66 p 22 cm. (American lecture series Publication no 141 A monograph in American lectures in circulation, edited by Irvine H Page and A. C. Corcoran) $2.35 3588

Contents. The etiology of acute arterial occlusion. Hemodynamic changes following an acute arterial occlusion. Clinical manifestations. Management of acute arterial occlusion. Bibliography Index.

Note. A brief but valuable presentation of medical and surgical therapies and related knowledge bearing on acute peripheral arterial occlusion. It is addressed to general physicians and surgeons, and the final chapter consists of very specific suggestions for emergency and restorative treatments of patients stricken with this disorder The author is Professor of Surgery in the School of Medicine of Western Reserve University

HURST, JOHN WILLIS, AND GRATTAN C WOODSON, JR.

Atlas of spatial vector electrocardiography New York McGraw Hill Book Company Inc., 1952 214 p illus. 16 cm. $6 00 3589

Contents. Part one, The spatial vector method The spatial vector method. Part two, Clinical application of vector electrocardiography The normal ventricular electrocardiogram. Right and left ventricular hypertrophy Myocardial infarction. QRS conduction defects. Effects of digitalis. Pericarditis. Pulmonary embolism. Summary Appendix. Bibliography Index.

Note This work is largely a pictorial presentation of techniques of interpreting, by the vector method, standard electrocardiograms. It is designed as a companion work to R. Grant and H. Estes, *Spatial vector electrocardiography* described above. The first chapter of the Atlas is concise outline of the principles and techniques of the spatial vector method. The rest of the book is made up largely of reproductions of electrocardiograms which are accompanied by interpretive diagrams and descriptions. There are 90 figures, and most of them are full page in size.

KAPLAN HENRY S AND SAUL J ROBINSON

Congenital heart disease an illustrated diagnostic approach Drawings by Zena Kavin. New York McGraw Hill Book Company Inc 1954 126 p illus 28 cm $12 50 3590

Contents Section one, Orientation Clinical evaluation history and presenting manifestations. General laboratory procedures. The conventional roentgen examination. Electrocardiographic diagnosis of chamber hypertrophy in congenital heart disease. Special diagnostic procedures. Treatment. Section two, Atlas Part I, Cyanotic congenital defects. Part II, Noncyanotic congenital defects. References. Index.

Note Diagnosis by physical findings, blood count. X-ray examination, electrocardiography angiocardiography cardiac catheterization etc. of congenital heart defects in children is the subject of this book, addressed to general medical practitioners in the diagnosis of congenital heart defects for which surgical therapies have been developed. Many of the techniques discussed cannot be carried out by the general practitioner but he is taught the interpretation of the results. In the first section which the authors describe as an orientation in the salient principles of differential diagnosis there are 45 figures. In the atlas portion of the book there are 101 In many instances the reproduction of a roentgenogram is supplemented by an anatomical drawing which shows more clearly the position of the heart and its associated vessels. These are included as aids in studying heart roentgenograms.

KATZ, LOUIS N , AND ALFRED PICK

Clinical electrocardiography Part I, The arrhythmias, with an atlas of electrocardiograms Illustrated with 415 engravings. Philadelphia Lea & Febiger, 1956 737 p. illus. 27 cm $17 50 3591

Contents Section I, General considerations and the theoretical background of arrhythmias Introduction. The special anatomy and physiological properties of the heart, and their bearing on the electrocardiogram in arrhythmias. Classification and frequency of arrhythmias. The dynamics of arrhythmias. The recognition of arrhythmias. General principles in the therapy of arrhythmias. Section II, Systematic description of arrhythmias: Sinus rhythm. Ectopic impulse formation—Escape, nodal rhythm, fusion beats, reciprocal rhythm—Premature beats—Paroxysmal tachycardia—Auricular flutter and fibrillation, and the nature of flutter and fibrillation in general—Chaotic heart action, ventricular flutter and fibrillation the dying heart. Heart block—Block in general—Auriculo-ventricular (A-V) block—Sino-auricular (S-A) block. Disturbances of rhythm in the preexcitation (WPW) syndrome. Appendices The approach to an unknown arrhythmia. A classified coding system of normal and abnormal rhythms. Index.

Note A successor to the senior author's *Electrocardiography*, second edition, 1946. The change in title is due to reorganization and expansion of the work, rather than a change in its scope and purpose. It is still a relatively comprehensive text directed to advanced undergraduates and graduate students in medical colleges and to graduate physicians who are beginning the practice of electrocardiography The first section is brief, but it includes a six-page bibliography of other works on the theory and general aspects of electrocardiography More than nine-tenths of the volume is devoted to the descriptions of arrhythmias, which are detailed and written from the clinical viewpoint. Each of the chapters on arrhythmias is divided into three sections: narrative discussion, a section of electrocardiograms, and an extensive bibliography The electrocardiograms are accompanied by lucid explanatory legends, which enable them to be studied independently of the text. The senior author is Director of the Cardiovascular Department of the Michael Reese Hospital in Chicago, and the co-author is in charge of the Heart Station of the same hospital Much of the material in the work has come from the records in this station. A second volume devoted to the electrocardiographic contour is scheduled for publication.

KATZ, LOUIS N

Electrocardiography including an atlas of electrocardiograms Second edition thoroughly revised illustrated with 525 engravings Including over 1000 electrocardiograms. Philadelphia Lea & Febiger 1946 883 p. illus. 26 cm. $12 00 3592

Contents (abridged) Section I, Theory of electrocardiography: The origin and distribution of the electrical currents generated by the heart The special anatomy and the physiological principles of the heart, and their bearing on the electrocardiogram. The recording of the electrocardiogram and its place in clinical practice. Section II, Systematic description of electrocardiographic contour: Electrocardiographic terminology and the approach to a record. The normal electrocardiogram. The abnormal electrocardiogram General considerations of coronary insufficiency and the electrocardiogram of coronary disease. The electrocardiogram of chronic coronary disease and in angina pectoris, genesis of coronary contour The electrocardiogram in chronic diseases. Section III, Systematic description of the electrocardiogram in the arrhythmias. Appendix. Index.

Note A comprehensive treatise written by the Director of Cardiovascular Research at the Michael Reese Hospital in Chicago. It is intended primarily for use by advanced medical students and medi-

Charles C Thomas, 1950. 418 p. illus. 24 cm. $9.50. 3603

Contents (abridged) Section I, Thromboembolic phenomena in clinical medicine: Venous thrombosis and pulmonary embolism. Thromboembolic phenomena in cardiovascular diseases. Thromboembolic phenomena in coronary occlusion with myocardial infarction. Section II, Rationale for the use of the anticoagulants: Heparin and experimental thrombosis. Dicumarol and experimental thrombosis. Section [illegible] Technics in the administration of the anticoagulants: The administration of heparin. The administration of dicumarol. Section IV, Miscellaneous observations. Heparinemia, or hyperheparinemia. The effect of anticoagulants on the erythrocyte sedimentation rate. The effect of anticoagulants on the electrocardiogram. Appendices. Method of determining the coagulation time of whole blood. The determination of prothrombin. Two-stage prothrombin determination. Method for the determination of the prothrombin clotting time. The protamine titration. References. Index.

Note: A monograph based partly on an extensive survey of the literature and partly on the author's own clinical experience. It makes available to medical practitioners and to research workers in medicine and allied fields the gist of the more important literature down to approximately the end of 1949. Apparently considerable time elapsed between the writing of the original part of the book and its publication, for the section titled "Recent developments" is 105 pages long and is based mainly on the publications of 1949. The arrangement of the book makes it necessary for the reader to consult both [illegible] chapter and [illegible] supplement to it under "Recent developments" in order to cover [illegible] specific topic.

MARRIOTT HENRY J

Practical electrocardiography Illustrated by Marcie Ethridge Perry Baltimore The Williams & Wilkins Company 1954 171 p. illus. 24 cm. 3604

Contents: Electrodes and leads. Rhythm and rates. The normal complexes and intervals. Axis deviation. Genesis of the precordial pattern—the intrinsicoid deflection. Ventricular hypertrophy and strain. Bundle branch block. The arrhythmias—ventricular arrhythmias. Auricular arrhythmias. A-V nodal arrhythmias. Sino-auricular and auriculo-ventricular block. Myocardial infarction and coronary insufficiency. Miscellaneous conditions. The augmented unipolar limb (aV) leads. Index to illustrative electrocardiograms. General index.

Note: A simplified introduction, designed primarily for the instruction of medical students, but useful also to graduate physicians who, although not specialists in cardiology, feel [illegible] need for understanding the principles and terminology of electrocardiography. A second edition was published in 1957 226 p. $5.00.

MASTER, ARTHUR MORRIS AND OTHERS

Cardiac emergencies and heart failure prevention and treatment. By Arthur M. Master, Marvin Moser and Harry L. Jaffe. Second edition, thoroughly revised. Illustrated. Philadelphia. Lea & Febiger 1955 203 p. illus. 20 cm. $3 75 3605

Contents: Arrythmias. Acute pulmonary edema and congestive heart failure. Angina pectoris, coronary insufficiency and coronary occlusion. Syncope. Rheumatic fever and heart disease. Hypertensive encephalopathy and [illegible] Dissecting aneurysm. Traumatic heart disease. Surgical emergencies in cardiovascular disease—their prevention and treatment. Bibliography. Index.

Note: A small but useful and authoritative manual. It is addressed primarily to graduates and general practitioners of medicine, and its purpose is to provide such readers with the basic and technical information that will enable them to give proper treatment to heart failure and other cardiac emergencies. It emphasizes diagnostic signs and therapeutic treatment, but includes some important information. An unexpected feature in [illegible] book of this kind is an extensive bibliography which in this second edition runs to 144 entries.

MASTER, ARTHUR MORRIS AND OTHERS

Normal blood pressure and hypertension new definitions. By Arthur M Master Charles I Garfield and Max B Walters. With 36 illustrations. Philadelphia Lea & Febiger 1952 144 p. illus. 24 cm. $4.00 3606

Contents: History of principles and methods of clinical sphygmomanometry. History of blood pressure, evolution of normal limits. Factors affecting the blood pressure level. The need for increasing the range and limits of normal blood pressure—new limits of hypertension. Presentation of new limits of normal blood pressure. Interpretation and clinical application of new blood pressure limits. Index.

Note: The currently accepted values of "140–150 mm. mercury as the upper limit of the normal systolic pressure, and 90–95 mm. as the upper limit of the normal diastolic pressure, irrespective of age and sex" are shown in this book to be based on [illegible] selected rather than representative population. New values based on [illegible] statistical study of 74,000 unselected individuals, representative of the average healthy working population, are offered. The authors state that "these new limits have been found to be definitely higher than those heretofore used, and to vary with the age, the sex, and the weight of the subject." The importance of correlating blood pressures with other elements of the clinical picture is stressed. The results of the study are presented in considerable detail in 25 tables, and the findings are related to other data in the literature. Each chapter contains an extensive bibliography.

MENDLOWITZ, MILTON

The digital circulation. New York Grune & Stratton, 1954 182 p illus. (part col d) 26 cm. $6.75 3607

Contents: Anatomy Physiology Pharmacology Pathology Methods. Peripheral vascular disease. Clubbing. Hypertension, hypothyroidism [illegible] and coronary occlusion. Anemia and polycythemia. Miscellaneous conditions. References. Index.

Note: Essentially this book is an organized digest of the information in the literature, including the author's own extensive publications, pertaining to the circulation of the blood in the fingers and the toes. The subject is of interest partly because of the diagnostic and physiologic value of the phenomena of circulation observable at these extremities and partly because of the ease with which measurements and studies can be made at these sites. The chapter headings under which the material is organized are listed above. The pertinent international literature is covered. Statements and data in the text are referenced to the citations of [illegible] articles in the bibliography. The latter contains 636 references. There are 31 tables and 60 figures.

MORAGUES VINCENT AND CHESTER P LYNXWILER

Cardiac anomalies a clinicopathologic correlation. Baltimore The Williams & Wilkins Company 1954 92 p. illus. 29 cm. $6.50 3608

Contents: Malpositions of the heart. Defects of the cardiac septa. Valvular anomalies. Anomalies of septation of truncus arteriosus. Transposition complexes. Anomalies of the aortic arch. Ebstein's malformation of the tricuspid valve.

Note. An atlas of congenital defects of the heart. It is organized in the chapters or sections whose titles are given above. In each of the sections, there is illustrative matter composed of photographs of dissected defective hearts and related material, such as roentgenograms and electrocardiograph tracings. Microphotographs of associated lung and great vessel tissue are sometimes included. The total number of figures including all variables is 157. Each figure is accompanied by [illegible] short legend in which it is described and sometimes briefly discussed. All of the material is from cases in which the diagnosis was verified either at surgery or autopsy.

MOVITT ELI RODIN

Digitalis and other cardiotonic drugs. Second edition, revised and enlarged. New York Oxford University Press, 1949 245 p. illus. (part col'd) 24 cm. $5 75 3609

Contents (abridged) I, Digitalis folium: Historical data. Source and chemical structure. Pharmacology. Clinical applications. II, Digitalis lanata: Source and chemical structure. Pharmacology. Clinical applications. III, Lanatoside C: Chemical structure. Pharmacology. Clinical applications. IV Other cardiotonic glycosides from digitalis plants: Digitalin, Gitalin, Digoxin. Ouabain (strophanthin)

LIPMAN, BERNARD S, AND EDWARD MASSIE

Clinical unipolar electrocardiography Third edition. Chicago The Year Book Publishers, Inc., 1956 397 p illus. 23 cm. $6 50 3598

Contents Introduction. Physiologic principles. Electrical position of the heart. Ventricular enlargement. Bundle branch block. Myocardial infarction. Abnormal electrocardiographic pattern. Congenital heart disease. General comments on interpretation. Spatial vector interpretation Cardiac arrhythmias. Illustrative unipolar electrocardiograms. Ashman and Hull tables. Bibliography Index.

Note. A relatively brief and simple introduction to "V lead" electrocardiography It is designed for use as textbook in undergraduate courses in medical college and is useful also to graduate physicians who are not specialists in cardiology but feel the need for a simple and authoritative view of principles and techniques. The second edition was published in 1951 In this edition the scope and level of treatment have not been changed, but several chapters have been added, and chapters carried over have been revised and augmented, some of them rather extensively A major addition is the 161-page section Illustrative unipolar electrocardiograms" which consists entirely f reproduced electrocardiograms and their accompanying legends.

LUISADA, ALDO A

Heart, a physiologic and clinical study of cardio-vascular diseases With a foreword by Herman L. Blumgart Second edition Baltimore The Williams & Wilkins Company 1954 680 p illus (part col'd) 26 cm. $15 00 3599

Contents History of cardiology Development and structure of the cardiovascular system. The normal function of the heart and vessels. The clinical study of the cardiac patient. The technical study of the cardiac patient. Causes of cardiovascular diseases—mode of origin of cardiovascular disturbances. Classification of cardiovascular diseases. The rheumatic disease. Cardiovascular syphilis. Diseases of the endocardium. The valvular defects of the left heart. The valvular defects of the right heart. Simple shunts between the greater and the lesser circulation. Combined defects f the heart. Complex malformations of the heart. Disturbances of the heart rate and of the heart rhythm. Clinical syndromes due to diffuse myocardial lesions. The heart in metabolic, vitamin and endocrine disturbances. The diseases f the coronary system and myocardial infarction. Diseases of the pericardium. Diseases of the large vessels. Hypertension of the greater circulation and hypertensive heart disease. Hypertension of the lesser circulation and pulmonary heart disease. Hypotension—shock. Diseases of the peripheral arteries Diseases of the veins. Border-line syndromes of cardiology Associated and complex cardiac diseases. Paroxysmal cardiorespiratory attacks. Heart failure. The cardiac patient as an obstetrical and surgical risk Action of drugs useful for the cardiac patient. Social and legal aspects of heart diseases. Prognosis of cardiovascular diseases. Management of the cardiac patient. Medical treatment of common cardiac conditions. Prescriptions. Diets. Summary of treatment in cardiovascular emergencies. Index.

Note A medical-college textbook of wide scope. The subject is diseases of the cardiovascular system rather than of the heart alone. Some aspects of the subject, for example, diagnostic studies of cardiac patients, are covered thoroughly and in detail others, such as medical treatment, are covered briefly Surgical techniques are not included. Extensive literature references, especially to the European and American literature, are an important feature. The first edition was published in 1948 For this second edition, rather extensive revisions have been made in both text and illustrations. Ten chapters were thoroughly rewritten, and others were revised in part. One-hundred-sixty of the figures in the original edition were deleted, and 100 not in that edition have been added. A generous selection of the literature published since the first edition was written has been added to the bibliography

LUISADA, ALDO A

The heart beat graphic methods in the study of the cardiac patient With 311 illustrations New York Paul B Hoeber Inc. Medical Book Department of Harper & Brothers, 1953 527 p. illus. 26 cm. $12 00 3600

Contents (abridged) Part I, Introduction Historical outline. The heart beat. Part II, Normal tracings—technic and interpretation Vibrations of the thoracic and abdominal walls due to cardiovascular action. Vibrations of the body due to cardiovascular action. Venous pulsations. Intrathoracic tracings. Arterial pulsations. Pressure tracings. Radiography of the motions and volume changes of the heart and large vessels. Respiratory tracings. Tracings of electrical phenomena of the heart and vessels. Part III, Physiologic variants of the graphic tracings. Part IV Clinical applications of graphic methods. Appendix, Descriptions of various apparatus Electrocardiographs. Phonocardiographs or stethographs. Ballistocardiographs. Electromanometers. Electrokymographs. Index.

Note The several methods which have been developed to record graphically the various actions of the heart are surveyed in this monograph, together with discussions of their clinical application. All such techniques as phonocardiography phlebography ballistocardiography aortography plethysmography and electrokymography are described. Historical development, technique apparatus, the nature of the graphic record produced, and literature references are discussed for each method. In most instances, special points, such as possible artifacts, are discussed also. The parts on physiological variants of the tracings and clinical applications of the various methods together account for about half of the length of the volume. Literature references are included in all of the 34 chapters.

LUISADA, ALDO A, AND CHI KONG LIU

Cardiac pressures and pulses, a manual of right and left heart catheterization. New York Grune & Stratton, Inc, 1956 116 p. illus 26 cm. $6 50 3601

Contents The cardiac cycle. Technique of catheterization. Normal pressures of the cardiac chambers and large essels. Normal patterns of pressure in the cardiac chambers and large ssels. Abnormal pressure patterns. Artifacts. Formulas used in cardiac catheterization. Bibliography Index.

Note. Several techniques of catheterization of both the right and the left heart are described in detail in this book. The chapter on techniques also contains a description of new and more accurate method f recording. Following this chapter the subject is shifted to the patterns of the pressures and pulses of the heart and associated large vessels. Numerous tracings of patterns obtained by the method of recording proposed by the authors are reproduced, and their clinical significance is made clear Artifacts, such as faulty connections, blood clots, movements of the catheter which may affect the accuracy of the recording are discussed. Mathematical equations and formulas used in calculations pertaining to the results of catheterization are the subject of one chapter The bibliography runs to four pages. The uthors are members of the faculty of the Chicago Medical School, and the senior uthor is Director f its Division of Cardiology

LYON, ERNEST

Virus diseases and the cardiovascular system a survey New York Grune & Stratton 1956 215 p. 22 cm. $5 75 3602

Contents Part I, General remarks on iruses, iral infections and associated cardiovascular involvement. Present concepts of virus diseases. Part II, Exanthematous diseases. Diseases of the eye. Respiratory diseases Liver diseases. Neurotropic virus diseases. Diseases of the muscular system. Fevers of viral origin spread by arthropods. Diseases of the rickettsia but possibly viral etiology Part III, Pathology and clinical features of rickettsial infections, with special reference to the cardiovascular system Addendum. Index.

Note The primary subject of this book is the involvement of the cardiovascular system in the various irus diseases. The general aspects of the subject are covered in Part I, and the cardiovascular defects in specific virus diseases are described in Part II. In discussing the individual diseases, the author not only delineates the cardiovascular aspects, but also includes general account of the disease, particularly in regard to its etiology and general clinical features. References to the literature are given for each disease. The book is of interest to graduate physicians specializing in cardiology specialists in virology and general practitioners.

MARPLE, CHARLES DALLIBA, AND IRVING S WRIGHT

Thromboembolic conditions and their treatment with anticoagulants. Springfield, Ill.

Charles C Thomas, 1952 387 p. illus. (part col'd) 29 cm. $16.50 3614

Contents: The normal auricles. Auricular premature systole. Auricular paroxysmal tachycardia. Experimental production of auricular premature systoles and auricular paroxysmal tachycardia in man. The motion of the auricles in auricular flutter. Electrocardiographic studies of auricular flutter. An electrocardiographic analysis of the structure of the auricular deflections of auricular flutter and tachycardia. Electrocardiographic observations of spontaneous auricular flutter and auricular paroxysmal tachycardia in man. Further clinical observations on auricular flutter and tachycardia. Examples of physiologic diagnosis of auricular tachycardia and flutter. Clinical aspects of auricular fibrillation. The motion of the auricles in auricular fibrillation. The electrical activity of fibrillating auricles. Further considerations on the nature of auricular fibrillation. Ventricular aberration in the auricular arrhythmias. Pharmacologic considerations in the auricular arrhythmias. Treatment of the auricular arrhythmias. The unitary nature of the auricular arrhythmias. Appendix—methods and equipment. Bibliography. Index.

Note: A contribution of major importance. It is based on an extensive series of experimental and clinical observations in which the high-speed cinematograph was applied for the first time to the study of auricular arrhythmias. Studies with this instrument were supplemented by studies with the dual-beam cathode ray oscillograph and the multiple-channel electrocardiograph. The original observations were made on experimental animals, but these were later supplemented by observations on human beings. A much more complete and more accurate picture of the auricular arrhythmias is presented than there was available hitherto. There are 114 illustrations, of which 22 are reproduced in color and a bibliography of 646 references. The book is potentially of interest both to specialists in cardiology and to medical practitioners in other branches of medicine including general practice.

RAAB WILHELM

Hormonal and neurogenic cardiovascular disorders endocrine and neuro-endocrine factors in pathogenesis and treatment. Baltimore The Williams & Wilkins Company 1953 722 p illus. 24 cm. $15.00 3615

Contents: I, Experimental cardiovascular effects of hormones and neurohormones: Adreno-sympathogenic catecholamines (epinephrine and nor-epinephrine). Adrenocortical hormones. Thyroid hormone. Pituitary hormones. Insulin. Gonadal steroids. Parathyroid hormone. Synopsis of experimentally produced functional and morphologic cardiovascular effects of the hormones and neurohormones. II, Cardiovascular features in endocrine syndromes: Adrenals. Thyroid. Pituitary-hypothalamic system. Gonads. Pancreas. Parathyroids. Synopsis of cardiovascular features in endocrine syndromes (tabulated). III, Endocrine factors in cardiovascular syndromes: Hypertension. Arteriosclerosis and related vascular lesions. "Essential" hypertension. "Malignant" hypertension. Primary cardiogenic hypertension. "Essential" hypotension. Postural hypotension. Carotid sinus syndrome. "Vasovagal" and related forms of syncope. Shock. Neurocirculatory asthenia. Regulatory disorders of peripheral circulation. Pulmonary edema. Angina pectoris. Anoxic myocardial necrosis (and myocardial infarction). Cardiac death without morphological substrate. Disturbances of ventricular rhythm. Beriberi heart disease. Idiopathic cardiac hypertrophy ("cardiomegaly"). Athletes' heart. "Hyperexcitatory" heart disease. The heart in growth. Congestive heart failure. Synopsis of neurohormonal and hormonal pathogenic factors in cardiovascular syndromes. General summary. References. Index.

Note: The accumulated knowledge, mostly from research investigations on endocrinology that relates to cardiovascular disorders is presented in this book, which is an organized literature review frequently critical and with references from important statements in the text to the citations of the source articles in the bibliography. The latter contains more than 3,700 references to the European and American literature. The first part is a condensed summary of basic knowledge established by experimental investigations. The second section, 134 pages long, covers those aspects of the subject of particular interest in clinical endocrinology. In the third and longest part, the cardiovascular syndromes are taken up one by one, and the information on their endocrine and neuro-endocrine factors is presented from the clinical viewpoint. Some previously unpublished work from the author's own research is included.

REICH NATHANIEL E.

The uncommon heart diseases. Springfield, Ill. Charles C Thomas, 1954 516 p. illus. 24 cm. $10.50 3616

Contents: Constructed cardiovascular abnormalities. Trauma of the heart. Tumors of the heart. The so-called "idiopathic" [illegible] of the heart. Acute nonspecific myocarditis. Acute nonspecific pericarditis. Chronic constrictive pericarditis. Syphilis of the myocardium and valves. Tuberculous myocarditis. Mycotic infections of the heart. Cardiac diseases of parasitic origin. Cor pulmonale. Nutritional disturbances. The vitamins and heart disease. The effects of metabolic disorders on the cardiovascular system. The heart in blood dyscrasias. The association of neuromuscular diseases and cardiopathies. The effects of drugs, electrolytes, and toxins on the cardiovascular system. Nonarteriosclerotic diseases of the coronary arteries. Miscellaneous diseases of the myocardium. Miscellaneous diseases of the pericardium. Miscellaneous diseases of the venous system. Index.

Note: Designated by the author as a supplement to standard treatises on heart disease, this work is devoted, as indicated by its title, to uncommon and obscure disorders. The chapter titles indicate the wide range of topics covered. Etiology, clinical picture, diagnosis, and treatment are covered for many of the diseases. However when the etiology is unknown or when there is no known treatment, only the anatomy and clinical picture are discussed. Fairly extensive bibliographies are included in the chapters. The book is of interest to graduate practitioners. The author is a member of the faculty of the College of Medicine of the State University of New York.

RINZLER, SEYMOUR H.

Cardiac pain. Springfield Ill. Charles C Thomas, 1951 139 p. illus. 22 cm (American lecture series. Publication no 113 A monograph in American lectures in circulation edited by I H. Page and A. C. Corcoran) $3 75 3617

Contents: History. Nerve pathways of the heart. Mechanism of production of cardiac pain. Medical therapy. Surgical therapy. Summary. References. Index.

Note: A short but well-documented review of the contemporary status of diagnosis and treatment of cardiac pain. The author views the clinical and pathological knowledge as fairly complete, and states: "We are entering a brighter more hopeful period of therapeutics. Both medicine and surgery are making rich contributions to the relief of pain of cardiac origin." The principal studies which have contributed to current therapies are described, and the source articles are cited. The medical and surgical therapies of demonstrated value are critically evaluated. The book is addressed to general practitioners and to specialists in clinical medicine.

RISEMAN JOSEPH EPHRAIM FRANK

P-Q-R-S-T a guide to electrocardiogram interpretation. Third edition New York The Macmillan Company 1952 123 p illus. 15 cm. $4.00 3618

Contents: Introduction. The standard leads. The single apical precordial lead. The four lead ventricular patterns. Unipolar and precordial leads. Physiological considerations. Case histories. Techniques. Glossary. Table of cardiac rates.

Note: A successful, pocket-sized reference book for the medical student or clinical technician who is beginning the study of electrocardiograms. The purpose of the work is to instill confidence in the beginner by showing him how to make accurate diagnoses of heart conditions through correct interpretation of the cardiograph tracings. It is organized so as to facilitate the analysis of unknown tracings at the bedside. Tracings representative of normal and diseased heart conditions are included together with accompanying explanatory text. The second edition was published in 1947. For this third edition, the book was enlarged by 40 pages without, however changing its purpose or organization.

ROBB GEORGE PORTER

An atlas of angiocardiography Prepared for the American Registry of Pathology Armed Forces Institute of Pathology Washington D C. American Registry of Pathology 1951 141 p. illus. 22 cm. $7.50 3619

Contents: Introduction. The technique of angiocardiography. The clinical value of angiocardiography. Angiocardiographic interpretation. The normal angiocardiogram. Lesions of the superior vena cava and

Strophanthus. Historical data. Source and chemical structure. Pharmacology. Clinical applications. VI. Squill. Historical data. Source and chemical structure. Pharmacology. Clinical applications. VII. Other cardiotonic agents of plant origin: Thevetin. Various glycosides of plant origin. VIII. Cardiotonic glycosides of animal origin and a cardiotonic alkaloid. Toad poisons. Erythrophleine. Conclusions. Appendixes. Index of subjects. Index of authors.

Note. A survey for the general medical practitioner of current knowledge regarding the chemical, pharmacological, and clinical behavior of drugs used in the treatment of heart diseases. It is based on a survey of the literature, and each chapter concludes with an extensive bibliography. Important revisions and additions have been made both in the text and in the bibliography and the length of the book has been increased by about 40 pages.

National Research Council. Division of Medical Sciences

Symposium on Atherosclerosis, held under the auspices of the Division of Medical Sciences, National Academy of Sciences—National Research Council, at the request of the Human Factors Division, Air Force Directorate of Research and Development, 22–23 March 1954. Washington, D. C. National Academy of Sciences—National Research Council, 1954. 249 p. illus. 26 cm. (National Academy of Sciences—National Research Council Publication 338) $2.00 3610

Contents. Part I. Anatomical and biochemical aspects of heredity in reference to atherosclerosis, by B. Glass. The blood supply of the vessel wall, by M. C. Winternitz. Observations on vascular structure in relation to human and experimental arteriosclerosis, by O. M. Hass. Functional anatomy of the blood vessel wall—adaptive changes, by G. L. Duff. The lipid and protein content of tissue fluid in normal and hyperlipemic rabbits, by A. Kellner. Experimental studies on arteriosclerosis, by A. I. Lansing. Summary of Part I, by B. Glass. Part II. The reaction of the arterial wall to intramural haemorrhage, by J. C. Paterson. The reaction of arteries to injury by physical agents, with a discussion of factors influencing arterial repair, by C. B. Taylor. The reaction of the artery wall to injury by chemicals or infection, by L. L. Waters. Metabolic factors in vascular disease, by G. M. C. Masson. Regeneration of the elements of the vessel wall, by M. E. DeBakey and others. The reaction of the artery wall to hypertension and to hypervolemia, by L. L. Waters. Summary of Part II, by G. L. Duff. Part III. An evaluation of electron microscopy in the study of blood vessels, by J. Gross. The application of newer techniques to the study of blood vessels, by F. O. Schmitt. Summary of Part III, by F. O. Schmitt. Part IV. Lipids, lipid metabolism, and the atherosclerosis problem—a general introduction, by A. L. Lehninger. Sterol metabolism and its control, by R. G. Gould. Nutrition and atherosclerosis, by G. V. Mann and F. J. Stare. The relationship of the diet to the development of atherosclerosis in man, by A. Keys and J. T. Anderson. Summary of Part IV, by R. G. Gould. Part V. Extracellular lipoproteins, by D. M. Surgenor. Lipoproteins in the arterial wall, by W. H. Batchelor. Physiological aspects of lipid transport, by C. B. Anfinsen, Jr. Plasma lipoproteins in atherosclerosis and related diseases, by H. A. Eder. The role of hormones in atherosclerosis, by L. N. Katz and others. Summary of Part V, by C. B. Anfinsen, Jr. Concluding remarks.

Note. The etiology of atherosclerosis was the principal but not the only subject of this conference, as the titles of the papers show. The papers include results of recent research, accounts of research in progress, and surveys of accumulated knowledge. Transcripts of the discussions at the meeting accompany most of the papers, and literature references are included in most of them.

Neuhof, Harold

Venous thrombosis and pulmonary embolism. New York, Grune & Stratton, 1948. 159 p. illus. 26 cm. (Mt. Sinai Hospital monograph no. 2) $4.50 3611

Contents (abridged). Part I. Venous thrombosis and peripheral pulmonary embolism. Diagnosis of venous thrombosis in the lower extremities. Atypical forms of venous thrombosis. Postoperative pulmonary embolism. Venous thrombosis and pulmonary embolism in childhood. Surgical treatment of venous thrombosis. An evaluation of the present status of anticoagulant therapy. Part II. Massive pulmonary embolism based in part on a study of 83 fatal cases. The mechanism of death in pulmonary embolism. The problem of diagnosis of massive pulmonary embolism. Prophylaxis of pulmonary embolism. Treatment of massive pulmonary embolism—embolectomy. Index.

Note. In this monograph the author has attempted to clarify the large literature of this controversial subject. The first part of the book is the result of studies of patients in the wards at Mt. Sinai Hospital, New York. The second part of the book is the result of studies carried out with Dr. Samuel Klein which led to the development of a surgical treatment by way of the right ventricle. Selected cases are described in detail, and the results of the studies are summarized in a number of tables. The bibliography contains references to 131 books and articles.

New York Academy of Medicine

Disorders of the circulatory system: a symposium presented at the twenty-fourth graduate fortnight of the New York Academy of Medicine, October eighth to nineteenth, 1951. Edited by Robert L. Craig. New York, The Macmillan Company, 1952. 305 p. illus. 23 cm. $5.50 3612

Contents. The role of the connective tissue in diseases of the cardiovascular system, by P. Klemperer. Contraction in the heart muscle fiber, by A. Szent-Györgyi. Lipid metabolism and atherosclerosis, by A. Kellner. Diet and lipotropic agents in atherosclerosis, by J. W. Gofman. Coronary disease—clinical-pathologic correlations and physiology, by H. L. Blumgart. The clinical recognition of coronary heart disease, by R. L. Levy. The importance of cardiac arrhythmias, by L. N. Katz. Pathologic physiology of mitral stenosis and its surgical implications, by L. Dexter. Surgery of acquired valvular disease, by E. H. Wylie. Surgical revision in congenital cardiovascular disease, by G. H. Humphreys II. The electrocardiographic effects of myocardial and pericardial injury, by C. E. Kossmann. Edema and dyspnea of heart failure, by E. A. Stead, Jr. The mechanism and management of circulatory failure, by W. Dock. The treatment of some bacterial infections of the heart and pericardium, by T. H. Hunter. Humoral and vasomotor controls of blood vessels, by I. H. Page. Endocrine factors in hypertension, by G. A. Perera. The medical management of acute and chronic arterial occlusion, by A. W. Duryee. The surgical therapy of acute and chronic arterial occlusion, by J. W. Lord, Jr. Circulatory responses to life situations, by S. Wolf. List of committees. Subjects of past fortnights, 1928–1951.

Note. The papers collected in this book were presented on the occasion named in the book's title, and were part of a course addressed to graduate practitioners. The course included, besides these lectures, panel discussions, hospital clinics, and a scientific exhibit. The lecturers were drawn, for the most part, from the faculties of leading medical schools in the City of New York and elsewhere in the United States. Some of the authors described developments and techniques not previously published and all presented authoritative surveys of their special topics.

Page, Irvine H.

Hypertension: a manual for patients with high blood pressure. Second edition. Springfield, Ill., Charles C Thomas, 1956. 109 p. illus. 10 cm. $3.00 3613

Contents. The purpose of the book. The disease. The examination. The management of hypertension. Research on hypertension. Index.

Note. A successful little book, written by an expert. Its purpose is correctly indicated in the title. It explains hypertensive disease in the common language and provides reliable advice on daily living, including such points as the use of tobacco.

Prinzmetal, Myron, and others

The auricular arrhythmias. By Myron Prinzmetal, Eliot Corday, Isidor C. Brill, Robert W. Oblath, H. E. Kruger, and associate authors Joshua Fields, Walter Flieg, Alfred Goldman, Harold Karpman, S. Rexford Kennamer, John A. Osborne, Alvin L. Sellers, and L. Allen Smith. Springfield, Ill.

from the International Practice. The book is significant, worthy of the attention of any physician interested in electrocardiography. The translation into English was made by the original author and was then edited by Dr. Cutler. The result is a faithful, idiomatic, and readable translation.

STROUD WILLIAM DANIEL, editor

Diagnosis and treatment of cardiovascular disease. Fourth edition. 808 illustrations—five full-page color plates. Philadelphia F A. Davis Company 1952 2 v illus 27 cm. $25.00. 3625

Contents: Volume 1. Some historical comments pertaining to cardiology, by F. A. Willius. The prevention and control of heart disease as a public health problem, by H. M. Marvin. Introduction to diseases of the cardiovascular system, by H. B. Sprague and P. D. White. The normal heart—its output and the circulatory rate, by J. T. King, Jr. Heart sounds, by C. C. Wolferth and A. Margolies. Congenital cardiovascular abnormalities, by R. Ash. Epidemiology of rheumatic fever, by J. R. Paul. Rheumatic fever—evidence of active infection, by T. D. Jones. Rheumatic heart disease, by C. McEwen. Bacterial endocarditis, by W. Dock. Cardiovascular syphilis, by J. E. Moore and W. B. Mlcheik. Treatment of cardiovascular syphilis, by J. H. Stokes and M. F. Falk. The heart in diseases of the endocrine glands, by D. P. Barr. The heart in hyperthyroidism, by H. M. Thomas, Jr. The heart in anemia, by W. B. Porter. The heart in pulmonary disease, by T. M. Durant. Chronic valvular heart disease, by J. R. Vander Veer. Cardiac hypertrophy and dilatation (cardiac failure) by H. Roesler. Congestive heart failure, by A. W. Brown. Digitalis, by A. W. Brown. Effects of digitalis on the electrocardiogram, by T. M. McMillan and S. Bellet. Pathogenesis and treatment of edema, by R. M. Landis. Left ventricular failure and paroxysmal cardiac dyspnea, by A. W. Brown. The cardiac patient as an operative risk, by S. A. Levine. The cardiovascular patient in pregnancy, by B. E. Hamilton. Acute pericarditis, by W. B. Porter. Chronic constrictive pericarditis, by P. D. White. Surgery of the heart and pericardium, by C. S. Beck. Normal blood pressure and its physiologic variations, by E. V. Allen and E. A. Hines. Low arterial pressure, by J. H. Musser. Venous pressure, by K. G. Schaffer. Psychic factors in essential hypertension, by W. H. Kessler. Index. Volume 2. Arterial hypertension, by I. H. Page. Arterial hypertension, by E. J. Stieglitz. The cardiovascular system with relation to the kidneys, by J. M. Hayman, Jr. Capillary circulation, by A. C. De Graff and A. M. Oshlag. The diagnosis of coronary insufficiency, by R. L. Levy. Coronary disease including angina pectoris, by W. D. Stroud and M. W. Stroud. Relief of pain in angina pectoris, by F. C. Grant. Revascularization of the heart by channels other than the coronary arteries, by S. Bellet. Disturbances of the heartbeat, by D. F. Bergmann. Use of quinidine in cardiac irregularities, by W. J. Kerr and J. R. Carson. Cardiac neuroses, by L. A. Conner. Psychosomatic aspects of cardiovascular disease, by E. Weiss. Tumors of the heart, by H. Barber. Shock, by T. E. Freeman. Physical therapy in cardiovascular disease, by C. R. Comstock and W. D. Stroud. The rehabilitation of cardiac patients and their placement in industry, by W. D. Stroud and H. A. Ruth. Form of the electrocardiogram, by F. N. Wilson and F. D. Johnston. The vectorcardiography, by S. Bellet and T. M. McMillan. The ballistocardiogram, by I. Starr. Roentgenology of the heart and great vessels, by H. L. Cryenholder and R. R. Gubner. The heart in diphtheria and other conditions, by J. A. Warner and J. E. Strong. Peripheral vascular disease, by R. Fitz. Thromboangiitis obliterans, by H. Montgomery. Erythermalgia, erythromelalgia of the extremities, by E. V. Allen. Lymphedema of the extremities, by E. V. Allen. Sudden embolism and thrombosis of arteries of the extremities, by E. V. Allen. Thrombophlebitis, by N. W. Barker. Acquired arteriovenous fistula, aneurysm, and aneurysm, by E. A. Hines. Arteriosclerosis obliterans, by I. S. Wright. Raynaud's syndrome and acrocyanosis, by I. S. Wright. Vascular anomalies, by G. de Takats. Varicose veins by G. de Takats. Index.

Note: A comprehensive treatise made up of 64 monographic chapters authored and titled as noted above. Literature references are included in the chapters. One of the most useful changes appearing in the present edition is a new index which does justice to the contents of the two volumes.

SYMPOSIUM ON HYPERTENSION

Hypertension a symposium held at the University of Minnesota on September 18 19 and 20 1950 in honor of Elexious T Bell, Benjamin J Clawson and George E. Fahr Minneapolis University of Minnesota Press 1951 573 p. illus. 24 cm. $7.50 3626

Contents: Anatomical considerations of hypertension, by H. Goldblatt. Experimental studies on hypertension, by A. Grollman. Experimental hypertension in the rabbit, by G. W. Pickering. The renin-angiotonin pressor system, by I. H. Page. The participation of hypertensive factors in experimental renal hypertension, by E. Braun-Menéndez. Blood volume and extracellular fluid volume in experimental hypertension, by E. Braun-Menéndez. The role of the adrenal cortex in the pathogenesis of experimental hypertension, by H. Selye. The mechanism of hypertension due to desoxycorticosterone, by E. Braun-Menéndez. Sympatho-adrenal factors in hypertension, by M. Nickerson. Experimental hypertension, by E. Braun-Menéndez. The pathological anatomy in primary hypertension, by E. T. Bell. Some observations on renal vascular disease in hypertensive patients based on biopsy material obtained at operation, by R. H. Smithwick and B. Castleman. The mechanism of hypertension in chronic glomerulonephritis, by G. E. Fahr. Renal hemodynamics in essential hypertension, by H. Chasis. The heart in essential hypertension, by B. J. Clawson. The adrenal cortex and hypertensive vascular disease, by G. A. Perera. Hereditary factors in essential hypertension in man, by E. Shaw. Pulmonary hypertension, by R. V. Ebert. A summary of experimental evidence relating life stress to the pathogenesis of essential hypertension in man, by S. Wolf and H. G. Wolff. Vascular reactivity and hypertensive disease, by E. A. Hines, Jr. Cerebral attacks in hypertension, by G. W. Pickering. The natural history of hypertensive vascular disease, by G. A. Perera. Blood lipid transport in hypertensive patients and its relation to atherosclerotic complications, by J. W. Gofman. The hemodynamic effects of various types of therapy in hypertensive patients, by R. W. Wilkins. Sympathetic blockade in the therapy of hypertension, by M. Nickerson. The effect of sympathectomy upon the mortality and survival rates of patients with hypertensive cardiovascular disease, by R. H. Smithwick. The management of hypertensive patients: observations on the pertinence of life situations, attitudes, and emotions to variations in the course of essential hypertension and to the occurrence of cerebral symptoms, by H. G. Wolff and S. Wolf. Recent experience with the pharmacologic treatment of hypertension, by R. W. Wilkins. Some effects of the rice-fruit diet in patients with essential hypertension, by C. B. Chapman. Pyrogens in the treatment of malignant hypertension, by I. H. Page and others. Bibliography

Note: A collection of original papers prepared for the occasion mentioned in the book title. Many of the papers describe the results of recent investigations or describe concisely the current status of recent developments in which the author of the paper played a conspicuous part. Excerpts from the discussions of the papers at the meetings are included. Bibliographies for each paper are included at the end of the volume. There is no index.

UNITED STATES. ARMY MEDICAL SERVICE GRADUATE SCHOOL

Symposium on circulation and homeostasis 5-9 October 1953 Army Medical Service Graduate School Walter Reed Army Medical Center Washington, D C. Washington, D C. Government Printing Office, 1954 367 p. illus. 23 cm. (Medical science publication no. 3) $1.25 3627

Contents: Major circulatory problems, cardiac stress, peripheral stress, by M. B. Visscher. Vascular architecture, structure and compartments, by H. D. Green. Laws of physics and flow in blood vessels, by A. C. Burton. Chemical and molecular processes in contractile activity, by W. F. H. M. Mommaerts. Humoral and neural mechanisms of circulatory control, by A. C. Corcoran. Means of evaluating state of performance of heart and of peripheral circulation, by M. B. Visscher. Transfer of water and of other substances across capillary walls, by J. R. Pappenheimer. Circulation and metabolic exchange: renal function in electrolyte and water balance, by A. V. Wolf. Collateral circulation of the lung: bronchial, and beyond, by A. A. Liebow. Coronary circulation of the heart, by R. J. Bing. The peripheral collateral circulation, by C. W. Hughes. Cardiac catheterization technics, instrumentation and measurements, by J. R. Hickam. Red cell and plasma volume, by W. H. Crosby. Blood flow in muscle as measured by the clearance of radioactive substances, by S. S. Kety. Uses and abuses of intravenous catheterization, by J. B. Hickam. The metabolism of the human heart in vivo, by R. J. Bing. Cardiac circulation, by S. R. M. Reynolds. The brain circulation, by M. E. McDowell. Cerebral circulation, by S. S. Kety. Management of cardiac arrest, by J. R. Kay. Use of the intra-aortic balloon catheter compounds, by C. W. Hughes. Cardio-respiratory problems during

tributaries. Congenital heart disease. Acquired heart disease. Disorders of the pericardium. Acquired aortic disease. Intrathoracic tumors. Lesions of arteries. References. Index of cases.

Note In this work, the technique, clinical uses, and other basic aspects of angiocardiography are discussed by the originator of the currently used technique. The preliminary basic material extends in and includes the section on the normal angiocardiogram and occupies nearly half of the book. The remainder of the space is devoted to illustrations and discussions of 40 individual cases in which angiocardiography was used. In each of these case histories, there are reproductions of one or two angiocardiograms.

RUSHMER, ROBERT F

Cardiac diagnosis, a physiologic approach Philadelphia W B Saunders Company, 1955 447 p illus. 26 cm. $11 50 3620

Contents Part I, Function of the normal cardiovascular system Functional anatomy of cardiac contraction. Functional characteristics of the systemic circulation. Circulatory response to arising. Functional characteristics of the pulmonary circulation. Part II, Regulation of the cardiovascular system Principles of peripheral vascular control. Regulation of cardiac output. The factors which determine stroke volume. Part III, Congestive heart failure The cardiac reserve. The etiology of congestive failure. Part IV Methods of cardiac diagnosis The measurement of pressure. The size and configuration of the heart. The estimation of cardiac output. Heart sounds and murmurs. Electrocardiographic interpretation—abnormalities of rate, conduction and rhythm. Electrocardiographic interpretation Changes in configuration of the complexes. Part V Diagnosis of cardiac disease Myocardial ischemia. Myocarditis. Valvular disease. Congenital heart disease. Possible heart disease. Index.

Note This book teaches the diagnosis of cardiac disease from the standpoint of basic physiology Such aspects of the cardiovascular system, as the regulation of the cardiac output and the cardiac reserve, are given much space, while the traditional descriptions of individual diseases are relegated to the final one-third of the book. Many results from experimental physiology are incorporated. The physiologic approach with its emphasis on thorough understanding of basic knowledge reflects the growing importance in cardiology of more accurate diagnoses. The chapters on electrocardiographic interpretation are introductory to this technique and are exceptionally clear The descriptions of individual diseases are fuller than usual and are thoroughly modern in viewpoint. Extensive lists of references to the literature appear throughout the volume. The illustrations include many well-conceived diagrams.

SAMUELS, SAUL SIMON, editor

Diagnosis and treatment of vascular disorders (Angiology) Baltimore The Williams & Wilkins Company, 1956 621 p illus. 26 cm $16 00 3621

Contents The anatomy of the peripheral circulation, by L. N Atlas. *The innervation of the peripheral blood vessels*, by L. N Atlas. Physiology *of sympathetic innervation* of peripheral blood vessels, by H L Abramson. Examination of the patient, by R. H. Goetz. Angiography by F B. Wagner Local cold injuries, by H. B Shumacker jr and R. E. Lempke. Arterial injuries, by F A. Simeone. Senile obliterative arteritis (arteriosclerosis obliterans) by A. M. Boyd and A. H. Ratcliffe. Arteriosclerosis—atherosclerosis in relation to diabetes, by D W Kramer and P K. Perlstein Endarteritis obliterans, by D W Kramer Treatment of gangrene of the extremities, by S. S. Samuels. Thromboangiitis obliterans, by S. S. Samuels. Raynaud's disease and Raynaud's phenomenon, by R. H. Goetz. Erythermalgia, by R. H. Goetz. Arterial aneurysms, by M. G. Fischer Arteriovenous fistulae, by R. H. Goetz. Embolism and thrombosis, by G. H. Yeager Anticoagulant therapy by S. Shapiro. Varicose veins, by E. J Orbach. Glomus tumors, by R. H Goetz. The scalenus anticus *syndrome, by* G H. Yeager Chronic edema of the legs, by S. S. Rose. Periarteritis nodosa, by D W Kramer and P K. Perlstein. Medical legal aspects, by S. S. Samuels. Index.

Note Edited by the editor-in-chief of the journal *Angiology* this volume is an up-to-date treatise and reference book basic to the diagnosis and treatment of vascular disorders. It is the editor's contention that this field deserves recognition as a separate specialty from cardiology In other words, that the old specialty of cardiovascular disorders should be divided. The volume was planned to emphasize the unity *and scope of the new specialty* It contains the monographic chapters whose authors and titles are given above all of which are written at the level of graduate students of medicine and graduate practitioners. There are numerous illustrations. Literature references are supplied for the individual chapters.

SAMUELS, SAUL SIMON

Management of peripheral arterial diseases New York Oxford University Press, 1950 345 p illus 23 cm $7 75 3622

Contents. General considerations. Symptoms of occlusive arterial disease in the extremities. Objective evidence of occlusive disease of the arteries of the extremities. Oscillometry Thrombo-angiitis obliterans. Arteriosclerosis obliterans. Raynaud's disease. Erythromelalgia. Acrocyanosis. Periarteritis nodosa. Essential thrombophlebitis. Embolism. Cervical ribs and scalenus anticus syndrome. Thrombosis of the axillary vein. Frostbite. Ergotism. Glomus tumor Aneurysm of the peripheral vessels. Medico-legal aspects of peripheral arterial disease Index of authors. Subject index.

Note. As in the earlier edition, the author argues for conservative therapy rather than amputations in the treatment of gangrene and other conditions of arterial insufficiency in the extremities. The book is based on an experience extending over a period of 25 years, and the details of many case histories are given. Most of the 111 illustrations are from case records. Short bibliographies are included with the chapters.

SCHROEDER, HENRY A.

Hypertensive diseases, causes and control. 164 illustrations and 3 colored plates. Philadelphia Lea & Febiger, 1953 610 p. illus. (part col'd) 24 cm $10 00 3623

Contents Introduction—general theory of pathogenesis of hypertension. Factors regulating blood pressure Definitions. Historical. Etiological factors—fundamental traits—environmental influences. Etiological factors—emotions, personality and hypertension, by B S. Grosset. Pathogenesis—neurogenic factors. Compounds of nitrogen, by H. M. Perry jr Hormonal factors in hypertension, by D F Davies. The effects of chronic arterial hypertension. Clinical types—neurogenic hypertension. Pheochromocytoma, by D. F Gibbs. Clinical types—nephrogenic hypertension—the endocrine hypertensive syndrome. Other varieties of hypertension. General diagnostic procedures. Treatment of the various factors influencing hypertension. Treatment of hypertension by Hyphex. Directions for research. Appendix. Author index. Subject index.

Note A contribution of major importance to the literature of hypertension. It is based on a long study including both experimental investigations and clinical experience. The author's theory of the pathogenesis of hypertension is presented in the first chapter and the chapters that follow including those contributed by other authorities, support this theory The greater part of the book is devoted to exploring the causative factors and to descriptions of the varieties of hypertension. Diagnosis and treatment as such are not taken up until the 18th chapter is reached, but are then dealt with explicitly and in detail. The chapter "Treatment of hypertension by Hyphex" deals at length with treatment by a combination of 1 hydrazinophthalazine and hexamethonium, a method of treatment in the development of which the author played a major role. Although the book is not a literature survey a wide selection of literature is cited, including the author's own extensive publications.

SODI PALLARES, DEMETRIO

New bases of electrocardiography, by Demetrio Sodi Pallares with the collaboration of Royall M Calder, editor English translation. With 520 illustrations St. Louis The C V Mosby Company, 1956 727 p. illus. 25 cm $18 50 3624

Contents Principles of electricity Electrophysiology The electrical axis of the heart—the Einthoven triangle. Unipolar limb leads. Injured muscle. The precordial leads. The activation process of the human heart. Concerning the electrical and anatomical position of the heart. Vectorcardiography and stereovectorcardiography. The ventricular gradient. The intracavitary potential. Appendix. References. Index.

Note Before publication of the English translation, this book had already achieved considerable success in the original Spanish version The author describes it as summary of the research work done during the last seven years in our Department of Electrocardiography of the Mexican Institute of Cardiology Nevertheless, most topics are discussed fully and explicitly rather than concisely Also, there are many references to the work of investigators not associated with the Institute. As evidence of this, the bibliography contains references to almost 1,000 articles selected

the concept of medical orientation and to include ... discussion of the arrhythmias. The author is a member of the faculty of Harvard Medical School.

WRIGHT IRVING SHERWOOD

Vascular diseases in clinical practice. Second edition. Chicago The Year Book Publishers, Inc., 1952 552 p. illus. 21 cm. (General practice manuals) $8.50. 3632

Contents (abridged) Classification of diseases and abnormalities of blood and lymph vessels of the extremities. Methods of study of the patient. Arteriosclerosis of obliterans-thrombotic type. Thromboangiitis obliterans. Ergotism. Raynaud's syndrome and related syndromes. Essential polyangiitis (periarteritis nodosa; Kussmaul-Maier disease). Cranial arteritis (temporal arteritis) Lupus erythematosus disseminatus. Neurovascular syndromes of the shoulder girdle. Aneurysms. Arteriovenous aneurysms. Syndromes produced by temperature changes (excluding Raynaud's syndrome) Livedo reticularis (cutis marmorata) Erythema pernio. Erythema induratum. Acrocyanosis. Erythromelalgia (erythermalgia) Acute arterial occlusion (arterial embolism—acute arterial thrombosis) Thrombophlebitis. Acute axillary or subclavian venous thrombosis. Dependency edema. Varicose veins. Thrombocytic neuralgia. Tumors of the blood and lymph vessels. Industrial and occupational medicine—in relation to peripheral vascular disease and injury. Amputation—psychologic and physical care. Appendix: Method for determining plasma prothrombin. Index.

Note: This book is addressed to graduate medical practitioners and ... planned for use both as ... guide and reference manual in diagnosis and treatment. The author states that it is intended as ... supplement to existing volumes on heart disease and not as ... full-scale treatise. Study of the whole patient in order to get the correct clinical picture is emphasized, and the author includes ... suggested lines for history taking. The style of presentation is concise. Selected literature references are appended to the chapters. There are 114 figures.

RESPIRATORY SYSTEM

ALTSCHULE, MARK D

Acute pulmonary edema. New York Grune & Stratton, 1954 68 p. 22 cm. $3.50 3633

Contents: Clinical manifestations. Basic physiologic considerations. Pathologic physiology. Treatment. Bibliography. Index.

Note: A brief but valuable monograph on ... clinical condition of ... origin and prognosis. It is devoted primarily to the physiological aspects, even though it begins with ... chapter on clinical manifestations and concludes with one on treatment. The chapter on clinical manifestations contains not only ... clear description of the signs and symptoms of pulmonary edema, but also ... useful discussion of differential diagnosis. Various therapeutic measures are discussed critically and are related whenever possible to the basic physiology. There is ... bibliography of 83 entries, but the references are limited to literature on physiological aspects.

BANYAI, ANDREW L., editor

Nontuberculous diseases of the chest. Sponsored by the American College of Chest Physicians. Editorial Committee Seymour M Farber and others. Springfield, Ill. Charles C Thomas, 1954 1 139 p. illus. 25 cm. $18.75 3634

Contents (abridged) The physiology and pathologic physiology of respiration. Inflammatory bronchial diseases and bronchiolitis. Pulmonary abscess. The pneumonias. Pulmonary mycoses. Pulmonary manifestations of systemic infections and infectious diseases. Tropical and parasitic diseases of the lungs. Tumors. Lung diseases of vascular origin. Bronchial asthma. Emphysema of the lungs. Foreign bodies in the air and food passages. Extrapulmonary diseases caused by physical, chemical and thermal injuries. Atelectasis. Pulmonary fibrosis. Industrial diseases of the lung. Congenital diseases of the lungs. Collagen diseases of the lung. Miscellaneous diseases of the lung. Diseases of the mediastinum. Diseases of the esophagus. Diseases of the pleura. Diseases of the diaphragm. Diseases of the chest wall. Index.

Note: A comprehensive treatise written by 87 specialists, including physicians resident in Argentina, England, India, Mexico and the United States of America. It is organized in more than 30 sections and chapters, of which only the section titles are given above. Authorship of all the chapters is given in the volume. The book's purpose is to provide reliable information to advanced students of medicine and graduate practitioners, including specialists in chest diseases. Except for the first section on the physiology of respiration, all of the space is devoted to specific diseases and to the pulmonary manifestations of systemic diseases. Generally speaking, the material on each disease is organized under subheads, such as etiology, pathology, symptoms, physical signs, clinical course, prognosis, and treatment. Selected literature references are included in each chapter. The book is complementary to *Fundamentals of pulmonary tuberculosis and its complications.*

BARACH ALVAN L.

Physiologic therapy in respiratory diseases. 74 illustrations. Second edition. Philadelphia J B Lippincott Company 1948 408 p. illus. 24 cm. $10.00. 3635

Contents (abridged) Historical background. Acute asthma. Additional studies on asthma and its treatment. Pneumonia. Edema of the lungs. War gas poisoning and lung irritants. Bronchial asthma. Obstructive lesions in the larynx, trachea and bronchi. Pulmonary emphysema. Bronchiectasis. Pulmonary embolism and infarction. Massive collapse of the lung. Postoperative atelectasis. Passive pulmonary congestion and congestive heart failure. Accidental asphyxia and resuscitation. Asphyxia of the newborn. Paralysis of the respiratory musculature. Anesthesia and anoxia. Chronic pulmonary tuberculosis. Aerial transportation of patients with pulmonary and cardiac disease. Blast injuries of the lungs. Syndromes characterized by ischemic anoxia. Bibliography. Methods of physiologic therapy including apparatus for inhalational therapy, the use of pressure and administration of aerosols. Respirators. Oxygen analyzers. An accurate method for obtaining the oxygen and carbon-dioxide concentration of the inspired air in oxygen masks and other oxygen-therapy equipment. Index.

Note: A handbook for physicians, outlining the principles and practices utilized in the treatment of respiratory diseases and disorders. Techniques of inhalation therapy and other therapeutic measures are considered in detail, with emphasis on the pathologic physiology of each condition. The book is ... revision of the author's earlier work, *Principles and practices of inhalational therapy.* Philadelphia, J. B. Lippincott Co., 1944 ... which has been rewritten to include not only the therapeutic use of gases but also other measures which have value in counteracting clinical disorders of breathing. New chapters on methods of physiologic therapy and syndromes characterized by ischemic anoxia have been added. Bibliographies given at the end of each chapter have been revised.

BARACH ALVAN L., AND HYLAN A BICKERMAN editors

Pulmonary emphysema. Baltimore The Williams & Wilkins Company 1956 543 p. illus. 23 cm. $10.00 3636

Contents: Pathogenetic and allied influences in chronic pulmonary emphysema, by A. L. Barach. The application of respiratory physiology to therapeutic procedures in pulmonary emphysema, by A. L. Barach. Restoration of diaphragmatic function and breathing exercises, by A. L. Barach. Senile emphysema, by H. A. Bickerman. Corticotropin and the adrenocorticosteroids in the treatment of pulmonary emphysema, by H. A. Bickerman. Pharmacologic therapy in the management of pulmonary emphysema, by H. A. Bickerman. Methods of aiding bronchial drainage in pulmonary emphysema, by G. J. Beck. Aerosol therapy in the management of bronchopulmonary infection, including use of antibiotics, by E. R. Levine. The mechanics of breathing, by H. G. Dayman. Administration of bronchodilator aerosols and the use of intermittent positive pressure breathing (IPPB) by H. D. Miller and others. Psychologic considerations in management relative to the development of acidosis and to the work of breathing, by J. K. Alexander. The role of infection in chronic hypercapnic pulmonary emphysema, by F. Knight and A. C. White. The diffusing capacity of the lungs in patients with pulmonary emphysema, by R. L. Riley. Respiratory acidosis, by R. M. Cherniack. Cor pulmonale in chronic pulmonary emphysema, by D. W. Richards, Jr., and A. Fishman. Surgical procedures in pulmonary emphysema, by R. A. Deterling. Respiratory function tests, by G. R. Meneely and J. K. Calloway. Comments on preceding chapters, by A. L. Barach. Index.

Note: Primarily this book is ... survey of therapeutic measures in the treatment of pulmonary emphysema, together with closely related topics such as the mechanics of respiration. The two editors and four other contributors are associated with the College of Physicians and Surgeons of Columbia University. The purpose of medical

thoracic operations, by R. D Dripps. Lymphatic circulation, by H. S. Mayerson. Functions of circulation related to internal and external movement of heat, by F N Craig. Normal physiology of respiration by R. L. Riley *Physiology and peculiarities of* pulmonary circulation, by A. F Cournand. Treatment of pulmonary diseases, by C. S. Christianson. Circulatory and respiratory adjustments to altitude, acute and chronic, by O. H. Gauer Experimental studies on hemorrhagic shock, by S. J Sarnoff Circulatory responses to stress transfusions fate and distribution of plasma and red cells, by W H. Crosby Current status and uses of the plasma expanders, by C. P Artz. Current concepts on etiology and mechanisms of atheroma, by J M. Blumberg. Current status of thinking regarding shock, by J M Howard. Circulatory changes during anesthesia and hemorrhage, by H. E. de Wardener Effects of trauma and operative procedures on the circulation by C. P Artz. Circulation and blood volume problems in the seriously wounded casualty by T C. Prentice. Wound ballistics and experimental wound shock, by W A. Ochsner Jr

Note Published in this volume are 27 papers presented at the symposium named in the volume title, together with transcripts of the discussions. The basic purpose of the symposium was to *increase understanding of man's adaptive physiological mechanisms in various environments, particularly when subject to severe trauma* and injury Many of th papers were devoted to the results of recent research.

WHITE, PAUL DUDLEY

Clues in the diagnosis and treatment of heart disease Second edition. Springfield, Ill Charles C Thomas, 1955 186 p illus 23 cm. (American lecture series No 242 A monograph in the Bannerstone division of American lectures in Circulation Edited by Irvine H Page and A. C Corcoran) $5 50 3628

Contents General clues. Past history *Family history Symptoms* breathing difficulties. Pain. Palpitation. Other symptoms. Signs. Heart sounds and murmurs. Blood pressure. Roentgenology Electrocardiography Therapeutic clues. Appendix. Index.

Note An unusual and useful book written by a noted authority on heart disease. It is addressed primarily to general practitioners. Its subject is clues" In other words information from the patient's history signs, symptoms and results of clinical diagnostic techniques that are significant in diagnosis, prognosis and therapy Good techniques of history-taking and physical examination, in order to turn up clues, is a prominent theme. Techniques are critically evaluated, as in the following passage "Once in while, although actually in but a small minority of patients, X-ray study of the heart, great vessels, and lungs affords the clue to the diagnosis. The book complements the larger treatises on the heart disease.

WHITE, PAUL DUDLEY

Heart disease Fourth edition New York The Macmillan Company 1951 1 015 p illus (part col'd) 24 cm. $12 00 3629

Contents (abridged) The evolution of our knowledge of the heart and its diseases. Part I, Cardiovascular examination, symptoms and signs The range of the normal heart. The patient's history and symptoms. Physical examination. Cardiovascular roentgenology The palpation of heart and blood vessels Electrocardiography Part II, The significance, prevalence, causes, and types of heart disease The social and economic aspects of heart disease. Prevalence of heart disease and of its etiologic types. Congenital cardiovascular defects. Rheumatic heart disease acute and chronic. Acute and subacute bacterial (infective) endocarditis. Cardiovascular syphilis. The heart in diphtheria, scarlet fever and tuberculosis and in other bacterial infections, infestations, and virus diseases. Hypertensive heart disease. Pulmonary heart disease. Coronary heart disease. Neurocirculatory asthenia. Part III, Structural cardiovascular abnormalities Myocardial disease. Endocardial and valvular disease. Pericardial disease. Vascular disease. Part IV Disorders of cardiovascular function The circulation of the blood. Myocardial insufficiency Disorders of vascular function. Disorders of cardiac rhythm. Atrial fibrillation and flutter Ventricular fibrillation and flutter Quinidine therapy Bradycardia and heart block—sinoatrial, atrioventricular intraventricular Ventricular escape. Atrioventricular nodal rhythm. Wide QRS wave with short P-R interval. Sudden death. Subject index.

Note A well-known, standard treatise in which the subject is surveyed primarily from the clinical viewpoint. Presentation is concise, but is adequately detailed for ordinary uses. The diseases included are discussed as to incidence, mechanism, etiology pathology symptoms, signs, course of prognosis, complication, treatment, differential diagnosis. In addition, extensive literature references are furnished. *Important and fairly extensive changes have* been made in this edition. A number of parts have been compressed in order to make room for new material, without lengthening the book. In some instances, the accounts of new developments—for instance, ballistocardiography—are very brief but are supplemented by numerous references to the literature. The comprehensiveness of the work is indicated by the length of the index which runs to 52 pages.

WOLF, STEWART, AND OTHERS

Life stress and essential hypertension, a study of circulatory adjustments in man. By Stewart Wolf, Philippe V Cardon, jr., Edward M Shepard, and Harold G Wolff. Baltimore The Williams & Wilkins Company, 1955 253 p illus 24 cm $7 50 3630

Contents: Scope of the problem and methods of study Circulatory adjustments associated with muscular effort. Circulatory adjustments involving rhythm of the heart. Circulatory adjustments involving peripheral vessels. Essential hypertension—natural history and symptomatology The ballistocardiograph. Measurement of hemodynamics in essential hypertension. A survey of 114 patients with essential hypertension followed up to eight years. Treatment of essential hypertension. General summary and formulation. References. Index.

Note Studies of an *extensive* group of patients who were followed over a number of years in a special clinic at Cornell New York Hospital were the basis for this book. *The methods of the* study are fully described, and the results are summarized in considerable detail, with rather full reports of the more significant cases. In the chapter entitled "Treatment of essential hypertension, the authors critically review the various therapies that have been advocated for this disorder and summarize the published *results in the light of their own results in this study* Among the conclusions, Antipressor drugs and surgical operation on various portions of the sympathoadrenal system have not gone far towards solving the problem of therapy in essential hypertension. Perhaps the most promising therapeutic approach is towards the patient as a whole and his general life adjustment. Even here, however, the results of therapy are only suggestive, and it remains to be shown that the pathophysiologic process in essential hypertension can be significantly altered by any currently available measures. A bibliography of 158 references is included.

WOLFF, LOUIS

Electrocardiography fundamentals and clinical application Second edition. Philadelphia W B Saunders Company 1956 342 p illus 26 cm $7 00 3631

Contents (abridged) Part I, The basic principles of electrocardiography Electrical phenomena and muscle contraction electrical properties of the cell membrane. Volume conductors, unipolar and bipolar leads. Deflections which represent depolarization. Vector representation of dipoles. The electrical effects of the simultaneous excitation of two muscle masses in a volume conductor The electrical field around the heart. Primary and secondary T wave changes. The precordial electrocardiogram. Unipolar limb leads. standard limb leads. The Einthoven equilateral triangle hypothesis. The effect of muscle injury on the electrocardiogram. Current of injury Myocardial infarction. Part II, Clinical electrocardiography Instruments. Technique. Nomenclature. The normal electrocardiogram. Bundle branch block. Left ventricular hypertrophy Right ventricular hypertrophy Coronary heart disease myocardial infarction. Persistent S-T segment displacement. Pericarditis pulmonary embolism abnormal electrolyte patterns. Part III, The normal and abnormal cardiac mechanism digitalis and quinidine The cardiac mechanism. Normal and abnormal S-A nodal mechanisms. Ectopic arrhythmias. Atrial flutter and fibrillation. Etiology of paroxysmal rapid heart action. A-V nodal rhythm. Carotid sinus stimulation Index.

Note: An introduction to the interpretation of electrocardiograms It is primarily textbook for study in medical schools, however, it is written in full direct style that makes it an excellent book for self-instruction and review Spatial orientation of the cardiac vector is mentioned from time to time, and in few instances is diagrammed but spatial vectorcardiography is not included. The first edition was published in 1950 Fairly extensive *revisions* were made in preparing this second edition, in order to introduce

emphysema. Pulmonary cysts, bullae and blebs—spontaneous pneumothorax. Mediastinal diseases. Bronchogenic carcinoma. Bronchial adenoma and some other intrathoracic tumors. Intrathoracic metastases. Pulmonary congestion and edema. Pulmonary embolism. Congenital anomalies. T / / A. Inhalation and pathogenesis. Pulmonary tuberculosis—diagnostic procedures and classification. Treatment of tuberculosis—rest and general management—specific antibacterial drugs. Treatment of pulmonary tuberculosis—collapse therapy—pulmonary resection. Medical aspects of thoracic surgery. Diseases of the pleura. Sarcoidosis. Pulmonary and associated changes in the collagen diseases. Coccidioidomycosis, by W. A. Winn. Actinomycosis, nocardiosis and blastomycosis. Histoplasmosis and some other pulmonary mycoses. Parasitic and other tropical pulmonary diseases. Pulmonary diseases of occupational origin. Index.

Note: The authors of this book, both faculty members of the School of Medicine of Stanford University, are respectively specialist in internal medicine and specialist in radiology. Their collaboration has produced a modern textbook of comprehensive scope suitable for the instruction of advanced undergraduate students and of interest to practicing physicians. Techniques of diagnosis and treatment are emphasized. As would be expected, radiologic diagnosis is covered fully and most of the illustrations are reproductions of roentgenograms. A total of 151 pages are devoted to pulmonary tuberculosis of these 84 are devoted to treatment. Bibliographies selected to emphasize recent literature, and papers containing extensive bibliographies are included in most of the chapters.

Jackson, Chevalier, and Chevalier L. Jackson

Bronchoesophagology. Philadelphia, W. B. Saunders Company, 1950. 366 p. illus. (part col'd) 26 cm. $13.00. 3643

Contents: Part I, Bronchology: Notes on the anatomy of the tracheobronchial tree and lungs. Instruments. Foreign bodies in the air and food passages. Direct laryngoscopy. Laryngoscopy for foreign body. Bronchoscopy. Bronchoscopy for foreign body. Tumors of the tracheobronchial tree. Obstructive laryngotracheal diseases. Obstructive conditions of the bronchial tree. Part II, Esophagology: Notes on the anatomy and physiology of the esophagus. Esophagoscopy. Esophagoscopy for foreign body. Diseases and abnormalities of the esophagus. Appendix. Bibliography. Index.

Note: A very compact presentation of current techniques and related basic information. The book is designed for use as a text and also for use as a reference manual of diagnosis and practice. Common problems such as the removal of safety pins are discussed in detail, and the descriptions are supplemented by an abundance of helpful illustrations. Most diseases are covered under the following headings: definition, incidence, etiology, pathology, symptoms, diagnosis, treatment and prognosis. References in the text are keyed to citations in the extensive bibliography.

Kraetzer, Arthur Furman

Procedure in examination of the lungs with especial reference to the diagnosis of tuberculosis. Third edition. Revised and with a preface by Jacob Segal. New York, Oxford University Press, 1947. 150 p. illus. 21 cm. (Oxford medical publications) $3.75. 3644

Contents: The normal sounds. The examination of the chest. Inspection. Palpation. The heart in relation to pulmonary examination. Percussion. Auscultation. Diminished intensity of breath-sounds. Broncho-vesicular and bronchial breath-sounds. Rales. The types of tuberculosis. Appendix. Auscultation. Bronchoscopy. Bronchography. Laboratory tests. X-ray commentary. Sample technique in differential diagnosis. Index.

Note: This book is known as a simple, well-organized textbook. Originally it dealt with the physical examination only, but some material on the use of the X-ray has now been added. In the opinion of the reviser of the present edition, the original text cannot be improved upon as a simple, basic introduction to physical examination of the lungs. Accordingly, he has not changed the original chapters, but instead has added to the appendix short statements on later techniques and other developments which the undergraduate student should learn. Among the additions are short discussions of "the wheeze," tuberculin tests, bronchoscopy and the interpretation of roentgenograms.

Medlar, E. M.

The behavior of pulmonary tuberculous lesions: a pathological study. New York, National Tuberculosis Association, 1955. 244 p. illus. (part col'd) 25 cm. (American review of tuberculosis and pulmonary diseases. Vol. 71 no 3 pt. II) $1.50. 3645

Contents: Statement of the problem. The experimental approach. Necropsy studies of human pulmonary tuberculosis. Preliminary discussion of resected specimens. Behavior of the parenchymal tuberculous lesion. A study of resected minimal tuberculosis. Bronchial lesions in tuberculosis. Tuberculosis and bronchiectasis. Bacteriologic observations. Re-examination of the problem. Postscript. Bibliography.

Note: The author, now Chief Pathologist, Division of Tuberculosis, New York State Department of Health, and formerly Director of the Hegeman Memorial Laboratory, devoted more than 25 years to studies of the pathology of tuberculosis, particularly pulmonary tuberculosis. The results of his researches are published in this work, which is a major contribution to the subject. Of the 134 figures in the volume, all but a few are microphotographs reproduced in color.

Mount Sinai Hospital, New York

Symposium: The management of tuberculosis. Editor: Irving J. Selikoff. Baltimore, Waverly Press Inc., 1956. 330–646 p. illus. 26 cm. (Mt. Sinai Hospital Journal, July/August 1956) 3646

Contents: Introduction, by I. J. Selikoff. The chemotherapy of tuberculosis, by I. J. Selikoff. The management of pulmonary tuberculosis, by I. J. Selikoff and C. R. Rubin. Pulmonary function in tuberculosis—medical and surgical considerations, by M. E. Bader and R. A. Bader. The treatment of tuberculous pleurisy with effusion, by C. R. Rubin and J. L. Werther. The treatment of tuberculosis in childhood, by G. J. Ginandes. Resectional therapy for pulmonary tuberculosis, by A. H. Aufses. Present status of collapse therapy in pulmonary tuberculosis, by G. P. Seley. Tuberculoma of the lung, by P. A. Kirschner. Tuberculous meningitis—general review and experience at the Mount Sinai Hospital, by M. Kushner. Renal tuberculosis, by A. Sporer and G. D. Oppenheimer. The chemotherapy of peripheral tuberculous lymphadenitis, by G. R. Friedman and I. J. Selikoff. Changing therapy in cutaneous tuberculosis, by A. W. Glick. The active management of pulmonary tuberculosis in pregnancy, by I. J. Selikoff and others. Genital tuberculosis in females, by A. M. Davids. Skeletal tuberculosis, by J. P. Katz. Bronchial tuberculosis [illegible] in diagnosis in the absence of florid pulmonary involvement, by S. Kagan and H. D. Janowitz. Management of tuberculosis of the larynx, by L. M. Arnold. Some remarks on diabetes and tuberculosis, by E. H. Jackson and H. Dolger. Relapse and rehabilitation in the era of antituberculosis drugs, by I. E. Hilbrook. Long term observation following isoniazid therapy—two case reports, by I. J. Selikoff.

Note: The symposium published in this volume reflects the changes brought about in recent years in the management of tuberculosis by the discovery of effective chemotherapeutic agents—changes that have brought the treatment of tuberculosis back into the province of general medicine. All of the papers are by members of the staff of the Mount Sinai Hospital in New York City, a large general hospital, and are based on clinical experience in this Hospital with the new chemotherapeutic agents and methods.

Myers, Jay Arthur

Tuberculosis among children and adults. Third edition. An introduction by Allen K. Krause. Springfield, Ill., Charles C Thomas, 1951. 894 p. illus. 24 cm. $13.50. 3647

Contents (abridged): Introduction to first and second editions, by A. K. Krause. Part I, Tuberculosis in infancy: Recent progress in tuberculosis and its practical application in diagnosis, treatment, and prevention. Incubation and immunity. Congenital tuberculosis. Results of exposure to tuberculosis. First infection type of tuberculosis in infants. Other forms of tuberculosis in infancy. Tuberculous meningitis, by C. A. Stewart. Part II, Tuberculosis in childhood: Diagnosis and treatment of first infection type of tuberculous lesions in the chest in childhood. Prognosis and prevention of first infection type tuberculosis in childhood. Other tuberculous lesions

management followed at the *Presbyterian Hospital in New York*—which is associated with this medical college—is fully described, while other medical and surgical therapies are described by authors associated with other medical colleges and hospitals. All of the chapters are written at the level of practice In other words, the book is not text for undergraduate students. Literature references are included in the chapters. The terminal chapter in which the present status of management of pulmonary emphysema is expertly summarized is valuable feature.

CHADWICK, HENRY DEXTER, AND ALTON S POPE

The modern attack on tuberculosis. Revised edition Cambridge, Mass. Harvard University Press, 1946 142 p. illus. 21 cm. $1 00 3637

Contents Tuberculosis yesterday and today Epidemiological aspects of the disease. Diagnostic procedures. The sanatorium as a means of control and treatment. Case finding in the community A community campaign of eradication. Bibliography Index.

Note A useful, concise handbook of proved techniques in combating tuberculosis. It is written from the public health viewpoint and provides, among other things, information on the organization of mass X-ray examinations and follow-up systems.

THE CHEST AND THE HEART Section I, The chest, edited by J Arthur Myers Section II, The heart, edited by C A McKinlay Springfield Ill. Charles C Thomas 1948 2 v illus (part col d) $25 50 3638

Contents (abridged) Section I, The chest Part I, Development, anatomy physiology and examination of the chest. Part II, The pleura, diaphragm, mediastinum, bronchi and chest injuries. Part III, Tumors of the chest. Part IV Non-tuberculous infections of the respiratory tract and allergy Part V Non-tuberculous pulmonary conditions, bronchoscopy and pulmonary surgery Part VI, Pulmonary mycoses. Part VII, Air contaminants. Part VIII, Tuberculosis. Section II, The heart Part I, The anatomy physiology and examination of the heart. Part II, Congenital heart disease, cor pulmonale and diseases of the great vessels. Part III, The heart in pregnancy functional cardiovascular disturbances and cardiac arrhythmias and the heart in thyroid disease. Part IV Infectious heart disease. Part V Hypertension and degenerative heart disease. Part VI, Prevention and treatment of heart disease. Appendix The pathogenesis of tuberculosis. Index.

Note Fifty-nine of this country's medical authorities have collaborated to prepare this comprehensive work on the diseases of the chest and the heart. Intended especially for the guidance of practicing physicians and for the use of students in this special field, each chapter provides concise review of modern knowledge regarding methods of examination, diagnosis, and treatment of the diseases and conditions discussed. Surgical techniques are also described and, where necessary detailed studies of embryology anatomy and physiology are included. Although some historical material is provided, the greater part of the book is based on the experience of the authors. Chapter bibliographies are included.

COMROE JULIUS H., JR , AND OTHERS

The lung clinical physiology and pulmonary function tests. (Based on the 1954 Beaumont lecture) By Julius H Comroe, Jr., Robert E Forster II, Arthur B Dubois William A. Briscoe, Elizabeth Carlsen. Chicago The Year Book Publishers Inc. 1955 219 p. illus. 24 cm $5.50 3639

Contents Part I, Introduction to pulmonary physiology Lung volumes. Pulmonary ventilation. The pulmonary circulation and ventilation/blood flow ratios Diffusion. Arterial oxygen, carbon dioxide and pH. Mechanics of breathing. Part II, Clinical applications of pulmonary function tests. Part III (Appendix) Useful data, equations, and calculations. Alveolar ventilation and pulmonary blood flow Alveolar-capillary diffusion. Mechanics of breathing. Selected references. Index.

Note Written by physiologists, this book is an exposition of pulmonary physiology for advanced students of medicine and medical graduates who are not specialists on the lung. The illustrations, of which there are 56 in the volume are a primary medium of the exposition. Most of them are reproductions of graphic diagrams, well conceived to convey such concepts as non-uniform ventilation uniform blood flow and lung compliance. The illustrations are complemented by compact but readable text. In the main body of the work there is no difficult mathematics, in fact, few figures outside the tables of data. Equations and typical calculations are, however explained in the appendix. The selected bibliography is classified in a way that enhances its usefulness for the intended audience.

DRINKER, CECIL KENT

Pulmonary edema and inflammation an analysis of processes involved in the formation and removal of pulmonary transudates and exudates. Cambridge, Mass. Harvard University Press, 1945 106 p illus. 22 cm. (Harvard University monographs in medicine and public health) $2.50 3640

Contents. The relation of lung structure to edema and inflammation. Physiological factors in pulmonary edema and inflammation. Breathing movements and pulmonary edema. Preventive and therapeutic measures in asphyxiating pulmonary disease. Artificial respiration

Note. The first four chapters, which comprise the major portion of this monograph, originated as series of lectures presented at the Bowman Gray School of Medicine in Winston-Salem, North Carolina. Based on the author's clinical experience and experimental work, they discuss the various anatomical and physiological factors which account for the formation of excessive fluid in the lungs, and methods which have been adopted for relieving this condition. The final chapter is a cogent examination of theories and methods of artificial respiration. In it the author stresses the importance of Hering-Breuer reflex mechanism, and also reviews briefly some of the mechanical respirators in use.

HAYES, EDWARD WILLIAM

Tuberculosis as it comes and goes, with chapters by Laurence de Rycke. Second edition Springfield, Ill Charles C Thomas, 1947 220 p illus. 23 cm $4.50 3641

Contents (abridged) History The tubercle bacillus. Theories of infection. Control of infection. Classification. Diagnosis. Treatment. Diet. Climate. Heliotherapy Mechanical therapy The use of drugs in treatment. Complications. Pulmonary hemorrhage. Pregnancy and tuberculosis. Prognosis. Rehabilitation. Suggestions to patients, by L. de Rycke. Suggestions to visitors, by L. de Rycke. Bibliography Index.

Note The purpose of this little volume is to provide the tubercular patient with general knowledge of the cause and nature of tuberculosis so that he may co-operate fully with the physician during his course of treatment. Physicians and tuberculosis workers will also find the volume a source of reliable information regarding the disease. The author writes from his experience both as physician specializing in tuberculosis and as former tubercular patient. In this edition, two new chapters have been added, which emphasize the need for the development of a favorable and then peaceful mental attitude.

HINSHAW, H CORWIN, AND L HENRY GARLAND

Diseases of the chest. 634 illustrations on 277 figures Philadelphia W B Saunders Company, 1956 727 p illus 27 cm. $15 00. 3642

Contents Diagnostic procedures—clinical history and evaluation of complaints—physical examination and bronchoscopy—laboratory studies—radiologic examination of the thorax. Segmental anatomy of the tracheobronchial tree and lungs Measurement of pulmonary function by R. H. L. Wilson. The bacterial pneumonias. Pneumonias of viral and rickettsial etiology—summary of nonlobar pneumonias. Pulmonary inflammation and fibrosis due to ... in pneumonia. Pulmonary abscess. Inflammatory, physical, chemical and obscure causes. Pulmonary abscess. Inflammatory and suppurative diseases of the bronchi. Postoperative pulmonary atelectasis. Foreign bodies in the larynx and tracheobronchial tree by W E. Heck. Thoracic injuries. Diseases of the diaphragm. Bronchial asthma and related conditions. Pulmonary

the specific diagnostic laboratory procedures used by the authors and their co-workers in the Department of Inhalational Therapy of Boston City Hospital are specifically described.

SINGER, JACOB JESSE
Differential diagnosis of chest diseases with 171 illustrations Philadelphia Lea & Febiger 1949 344 p. illus. 24 cm. $7.50. 3653

Contents (abridged) Diagnostic methods: Laboratory methods. Mechanical aids. Roentgenology. Thoracic cage. Deformities, fractures and inflammations of the thoracic cage. Tumors of the chest wall. Diseases of the pleura. Mediastinum. Diaphragm. Tracheobronchial tree and lungs: Anatomy and miscellaneous diseases. Bronchiectasis. Bronchopneumonia. Lobar pneumonia. Lipoid pneumonia. Virus (atypical) pneumonia. Pulmonary abscess. Pneumoconiosis. Pulmonary mycosis. Hodgkin's disease. Tuberculosis. Benign tumors of the lung. Cancer of the lung (carcinoma). Sarcoidosis. Index.

Note: A concise work designed primarily for the guidance of general practitioners of medicine. The main theme is accurate differential diagnosis based on information obtained from all applicable techniques. Roentgenology is included, but its value is not overemphasized. Generally speaking, each disease is discussed under the following heads: etiology, pathology, clinical symptoms, physical signs, Roentgen-ray findings, laboratory findings, and differential diagnosis. The presentation is concise, but a bibliography of selected books and periodicals is given for each disease.

SWEANY, HENRY CLARIS
Age morphology of primary tubercles. Springfield, Ill. Charles C Thomas 1941 265 p. illus. 24 cm. $6.00 3654

Contents: The relationship of morphology to age in primary tubercles. In patients whose the contact began and ended before seven years of age. In cases having an accurate history of contact at any time during life. Age characteristics of primary tubercles [illegible] calcified lesions, with special reference to those in the spleen. Practical application of the age-morphology principle. A group of [illegible]. The application of "morphology" criteria in determining the time of infection in a group of [illegible] cases. The use of the age-morphology system in placing the time of infection in groups of [illegible] and hospital attendants. Certain [illegible] in [illegible] tubercles. The age criteria of primary tubercles revealed by [illegible] study. General summary. Bibliography. Index.

Note: The author reviews the results of a close and meticulous study of "primary" tuberculous deposits lasting many years. The pathological material came from the Chicago Municipal Tuberculosis Sanitarium. It was thoroughly studied in the attached research laboratory and the data carefully correlated to the tuberculous history of the case. The author has taken a large view of the development processes and episodes of tuberculosis and has been able to present the evolution of the disease on a definite time scale. He finds remarkable agreement in the age characteristics of a large series (several hundred cases) of three or more groups and confidently describes the steady march of tubercle through all its phases. Radiologists, clinicians, and pathologists alike can appreciate and apply this work's clinical value. [illegible] reproductions of X-ray films and of microscopic sections are included.

UNGER, LEON
Bronchial asthma. Introduction by Morris Fishbein. Springfield, Ill. Charles C Thomas, 1945 724 p illus. (part col'd) 25 cm. $10.50. 3655

Contents (abridged) Part I. Clinical section: The language of allergy. The history of bronchial asthma. Etiology of bronchial asthma. Exciting factors. Pathology of bronchial asthma. Symptomatology of bronchial asthma. The diagnosis of bronchial asthma. Prevention of asthma in children of allergic parents. Specific treatment of bronchial asthma. Results of treatment of bronchial asthma. The military aspects of bronchial asthma and other allergic conditions. Part II. Laboratory section: Preparation of extracts. Technic of estimation of [illegible] of pollen and mold counts. Technic of [illegible]. Index. Part III. Appendices: Sources of allergens. Information and special instructions for patients. Instructions to avoid house dust. Instructions for making [illegible]. Elimination diets and food charts. Instructions for physical exercises for asthma. Oral hyposensitization to foods. Index.

Note: A comprehensive treatment in which etiology, diagnosis, and treatment are emphasized. The clinical section accounts for the bulk of the text. It introduces the reader to the terminology and history of the disease before entering upon the fundamental discussion of its etiology, exciting factors, pathology, symptomatology, diagnosis, and treatment. Particular stress is placed on the importance of specific diagnosis, including skin tests, and specific treatment. Every chapter is summarized and accompanied by bibliographical references. Most extensive are the bibliographies referring to nonspecific treatment of allergies, pathology of bronchial asthma, and inhalants. A special feature is a chapter on the military aspects of allergies, which includes a report on allergic factors in various countries. There are about 120 illustrations, numerous bibliographies, and much useful supplementary information such as the tabulation of sources of allergies.

VORWALD, ARTHUR J editor
Pneumoconiosis Beryllium bauxite fumes, compensation. Leroy U Gardner memorial volume. (Sixth Saranac symposium) Edited by Arthur J Vorwald with the collaboration of Manfred Bowditch, Thomas M. Durkan, and Theodore C. Waters. New York Paul B Hoeber Inc., Medical Book Department of Harper & Brothers 1950 659 p. illus. (part col'd) 24 cm. $7.50 3656

Contents: Part I. The beryllium problem: history, industrial aspects: History of the beryllium problem, by T. L. Shipman. Beryllium alloys, by A. J. Jackson. The manufacture of fluorescent lamps, by R. C. Boyer. Present and future uses of beryllium, by C. B. Sawyer. A common denominator, by C. K. Williams. Part II. The beryllium problem: the acute disease: Acute beryllium poisoning, by H. E. VanOrdstrand. Acute pneumonitis in beryllium workers with case histories, by J. DeNardi. Part III. The beryllium problem: the chronic or delayed disease: Clinical and epidemiological aspects, by H. L. Hardy. Roentgenologic aspects, by S. A. Wilson. Physiologic aspects, by G. W. Wright. Pathologic aspects, by A. J. Vorwald. Differential diagnosis, by J. C. Aub. The chronic disease in neon tube workers, by G. A. Snyder. Postmortem observations in cases in which the patients had been exposed to beryllium, by H. S. Martland. Part IV. The beryllium problem, toxicity studies in connection with atomic energy production: Introduction, by J. W. Howland. Biochemical studies of workers exposed to beryllium, by J. L. Kitchen and E. J. Katz. Pathology of acute experimental beryllium poisoning; changes resulting in animals killed from the intravenous administration of beryllium sulfate, by J. K. Scott. Preliminary data on rat feeding with beryllium, by E. A. Maynard and others. Certain aspects of the acute toxicity of beryllium injected intravenously, by H. C. Hodge and others. Preliminary studies in the toxicology of beryllium, the effect of intratracheal injection of beryllium in experimental animals, by C. W. LaBelle and M. R. Cucci. Initial studies of the toxicity of inhaled beryllium sulfate dust and beryllium metal fume, by G. F. Sprague and others. A review of analytical methods for beryllium, by W. F. Neuman. An analysis of dust and fume hazards in a beryllium plant, by E. Laskin and others. Summary of the beryllium problem in connection with atomic energy production, by J. W. Howland. Part V. The beryllium problem: experimental aspects: Animal methods, by A. J. Vorwald. Chemical methods, by T. M. Durkan. Spectroscopic methods, by A. Peresky. A further program, by W. Machle. Conclusion of seminar on the beryllium problem, by R. L. Vedova. Part VI. Shaver's disease: Clinical aspects of Shaver's disease, by A. R. Riddell. Chemical aspects of Shaver's disease, by C. M. Jephcott. Summary, by T. F. Hatch. Part VII. Compensation for occupational disease: Introduction, by T. C. Waters. The industrial medical practitioner's point of view, by L. C. McGee. Viewpoint of workmen's compensation administration as to occupational disease, by M. Durkan. The insurance viewpoint, by H. D. Sayer. The management viewpoint, by A. Fletcher. Medical adviser's point of view, by D. O'Hara. Synthesis of viewpoints, by T. C. Waters. Participants in the sixth Saranac symposium. General bibliography on beryllium. Index.

Note: In the 1940's two disease entities, one caused by the inhalation of dust containing beryllium and the other by fumes arising from bauxite furnaces, were first noted among industrial employees. This book, which contains the papers and discussion at a symposium in which representatives of medicine, chemistry, law, insurance, and labor participated, offers a comprehensive and authoritative exposition of present knowledge concerning the two pneumoconioses and of the medico-legal problems they raised. The bibliography records 414 items of pertinent literature concerning beryllium which appeared to 1950 and notes where they are abstracted.

in childhood. Chronic nontuberculous basal pulmonary diseases in childhood, by C. A. Stewart. Part III, Tuberculosis among young adults and other considerations First infection type of tuberculosis among young adults. Diagnosis of reinfection type of pulmonary tuberculosis among young adults. Treatment, prognosis and prevention of reinfection type of pulmonary tuberculosis among young adults. Dangers to children from tuberculosis among elderly persons. Part IV Recent progress in tuberculosis control: The diagnosis. Mass surveys and the detection of tuberculosis. Children and tuberculosis control. Control of tuberculosis among students. Tuberculosis and war Treatment of pulmonary tuberculosis by mechanical therapy by R. C. Matson and W B. Conklin. Cavernostomy in the treatment of pulmonary tuberculosis, by J D Steele. Extrapleural thoracoplasty in the treatment of pulmonary tuberculosis, by J R. Head. Resection in the treatment of pulmonary tuberculosis, by O. T Clagett. Effectiveness of tuberculosis control measures. Index.

Note. A standard treatise in which both clinical and public health aspects are covered. The author has been one of the most active American workers in the advancement of the control of tuberculosis, and he has incorporated in this book the gist of not only his own writings but of those of other authorities in the United States of America and abroad. The book is addressed to graduate medical practitioners and public health personnel rather than to undergraduate students. The second edition was published in 1938. Much material reflecting the great advances in the control of tuberculosis and its decline as a major disease among children and young adults has been added in this edition. The additions include the whole fourth part.

NATIONAL TUBERCULOSIS ASSOCIATION

Diagnostic standards and classification of tuberculosis 1955 edition. New York National Tuberculosis Association, 1955 79 p. illus. 23 cm Single copies gratis 3648

Contents Pathogenetic development of pulmonary tuberculosis. Clinical course of tuberculosis correlated with pathological concepts. Diagnosis of pulmonary tuberculosis. Classification of pulmonary tuberculosis. Diagnosis and classification of nonpulmonary tuberculosis. The tuberculin test. Laboratory procedures—demonstration of tubercle bacilli. Bacteriology as it relates to chemotherapy The isolation and identification of pathogenic fungi. Roentgenologic diagnosis. Screening classifications for mass chest-roentgenologic surveys.

Note A widely accepted authority on terminology classification, and laboratory diagnostic tests pertaining to pulmonary tuberculosis. In its preceding editions, it has been concerned primarily with pulmonary tuberculosis, and that is still the principal subject. However its scope has been expanded in this edition by the inclusion of a chapter on diagnosis and classification of non-pulmonary tuberculosis and another chapter on the isolation and identification of pathogenic fungi, particularly those that produce diseases that resemble tuberculosis.

PULLEN, ROSCOE L., editor

Pulmonary diseases 195 illustrations, 4 plates 1 in color Philadelphia Lea & Febiger 1955 669 p. illus. (part col'd) 24 cm. $15 00 3649

Contents: The physiologic basis of pulmonary disease, by F C. Macey Interacting mechanisms in the respiratory and circulatory systems, by R. F Rushmer An introductory consideration of respiratory infections, by R. L. Pullen. Bronchitis, by R. L. Pullen Bronchial obstruction, by C. L. Jackson and C. M. Norris. Bronchiectasis, by R. F Francis. Bronchial asthma, by V J Derbes. Benign tumors of the lung, by A. Lambert. Bronchiogenic carcinoma, by J. S. LaDue. Pulmonary infections—pneumonias, by C. S. Keefer and W L. Hewitt. Tuberculosis, by R. J Davies. Pulmonary mycoses, by J H. Seabury Animal parasitic infections of the lungs, by W A. Sodeman. Structural alterations of the lungs, by J L. Wilson and J K. Bradford. The pleura, by T M. Durant. The mediastinum, by T H. Burford and L. H. Bosher The diaphragm, by T H. Burford and J H. Mayer Injuries of the thorax and its contents, by T H. Burford. Index.

Note. Pulmonary diseases are presented from the clinical point of view in this volume. Reviews included for background of the basic physiology and anatomy are provided in the early chapters. Most of the chapters deal, as their titles indicate, with specific diseases. The average length of these chapters is nearly 40 pages, and the account given in each of the diseases or group of diseases covered is exceptionally full for a cyclopedic volume of this nature. Such aspects as incidence pathology etiology clinical manifestations, diagnosis, differential diagnosis, treatment (both medical and surgical where both are applicable) and prognosis are covered. In addition, there are extensive references to the literature. The book is of interest to graduate practitioners of medicine including surgeons, internes, and general practitioners.

REIMANN, HOBART A

Pneumonia. Springfield, Ill Charles C Thomas, 1954 236 p. illus 22 cm. (American lecture series. Publication no 160 A monograph in the Bannerstone division of American lectures in chest diseases edited by J Arthur Myers) $5 75 3650

Contents Pneumonia in general. Specific forms of pneumonia. Pneumonias as separate entities according to pneumococcus type. Complications. Prevention. Management of pneumonia. Other bacterial pneumonias. The viral pneumonias. Pneumonias of probable viral origin. Pneumonias caused by fungi. Diseases accompanied by specific pneumonias. Pneumonias in other systemic diseases. Pneumonias in protozoal infections. Pneumonia in metazoal diseases. Pneumonias caused by mixed infection secondary to acute and chronic diseases, shock, senility mechanical causes, etc. Special forms of secondary pneumonia. Pneumonias not caused by infection. Index.

Note A survey of the accumulated knowledge of the pneumonias, written by an eminent authority on the subject. It is based in part on his *The pneumonias* 1938 but contains much information developed since that work was written. Literature references are included.

RICH, ARNOLD RICE

The pathogenesis of tuberculosis. Second edition. Springfield, Ill Charles C Thomas, 1952 1,028 p. illus. 26 cm. $15 00 3651

Contents (abridged) The relation of the chemical constituents of the tubercle bacillus to pathogenesis. The different types of tubercle bacilli. The nature and effects of virulence. Native resistance—species and racial resistance—individual resistance—the influence of heredity—the influence of sex and age. The mechanism of native resistance. Hypersensitivity Desensitization. Acquired resistance. The mechanism of acquired resistance. Factors that influence resistance. The influence of the number of bacilli. The factors responsible for the characteristics of tuberculous lesions and symptoms. Exogenous or endogenous reinfection—is an arrested primary infection protective or deleterious? Application of the principles of pathogenesis, as illustrated by tuberculous lesions of the lungs, meninges and serous cavities. The decline in the mortality from tuberculosis, and the outlook for the future. Bibliography Author index. Subject index.

Note. A comprehensive presentation of the valid knowledge of tuberculosis with particular attention given to the mechanisms of infection, resistance to infection, and the arrest of infections. Essentially it is an expert critical survey of the literature, and references are carefully made from statements in the text to the bibliography The scope and much of the content of the work are unchanged in this edition. Nevertheless, the revision has been carefully done in order to include all of the significant results published in the literature since the writing of the first edition. The author is a member of the faculty of Johns Hopkins University School of Medicine and Pathologist in-Chief of the Johns Hopkins Hospital.

SEGAL, MAURICE S., AND M J DULFANO

Chronic pulmonary emphysema physiopathology and treatment. New York Grune & Stratton 1953 180 p illus. 22 cm. $5.50. 3652

Contents Introduction and classification. The development of chronic pulmonary emphysema. Pulmonary function tests in chronic pulmonary emphysema. Clinical concepts. The carbon dioxide intoxication syndrome. Symptomatic treatment. Therapeutic aerosols and the management of infection. The use of ACTH and cortisone. Oxygen therapy Mechanical respiration. Pneumoperitoneum therapy Breathing exercises. Appendix. Bibliography Index.

Note The various conditions classified as emphysema, both pulmonary and nonpulmonary are briefly described in the first chapter of this book. The whole of the remainder of the volume is devoted to chronic pulmonary emphysema. This condition is thoroughly covered in all the aspects of interest to the clinician. Clinical manifestations, tests of pulmonary function, psychosomatic aspects, and complications are described in detail About one-third of the volume is devoted to the chapters on treatment. In

conditions affecting the esophagus. Paralytic dysphagia. Functional disorders of swallowing. Part III, Gastroscopy: Anatomy, physiology and gastroscopic appearance of normal stomach. Technic. Indications, contraindications and complications. Gastritis. Gastric ulcer. Benign tumors. Carcinoma. Other malignant tumors involving the stomach. Specific infectious diseases. Miscellaneous conditions affecting the stomach. Part IV, Peritoneoscopy: History, technic and indications. Evaluation of the method and analysis of results. Endoscopic photography. Index.

Note: The fitting of endoscopic techniques into the whole picture of diagnosis and treatment is an outstanding feature of this authoritative work. The chapter on bronchogenic carcinoma—to take an example—is organized under the following subheadings: definition, occurrence, etiology, pathology, symptomatology, diagnosis, differential diagnosis, bronchoscopy, bronchoscopic determination of operability, exploratory thoracotomy, cytologic study, treatment, prognosis, and literature references. Endoscopic techniques are correlated with other diagnostic techniques, especially radiography. Discussions of case histories are included in most of the chapters. There are 131 illustrations in color and 137 in black and white. The author is Endoscopist of the Massachusetts General Hospital and a member of the faculty of Harvard Medical School.

Bockus, Henry L., and others

Gastro-enterology. Philadelphia, W. B. Saunders Company, 1943–46. 3 v. illus. (part col'd) 25 cm. Set of 3 v. and index vol., $45.00. 3663

Contents (abridged): Volume I, Esophagus and stomach: Examination. Esophagus and diaphragm. Affections of the stomach. Volume II, Small and large intestines and peritoneum, mesentery and omentum. Volume III, Diagnosis and treatment of disorders of the liver, gallbladder, biliary tract and pancreas—intestinal parasites and secondary gastro-intestinal disorders. The liver. Affections of the gallbladder and bile ducts. Affections of the pancreas. Gastro-intestinal parasites. Secondary affections of the gastro-intestinal tract and metabolism. General index.

Note: A treatise of primary importance and authority. It is primarily medical and does not include actual surgery. However, it discusses the surgical aspects of gastrointestinal diseases, giving indications for operative treatment and suggestions for operative procedures. Diagnosis is fully covered. Constitutional and other disorders affecting the function of the gastrointestinal tract are given extensive attention. A number of chapters were contributed by the author's colleagues at the University of Pennsylvania Graduate School of Medicine. The vast scope of the work is indicated by the fact that the General index runs to 197 pages of small type.

Boyce, Frederick F

Regional enteritis: diagnostic and therapeutic considerations. Philadelphia, J. B. Lippincott Company, 1955. 84 p. illus. 19 cm. $2.35 3664

Contents: Introduction. Present incidence. Etiologic considerations. Pathologic process. Anatomic distribution. Clinical and diagnostic considerations. Therapy. Recurrence. Regional enteritis in childhood. Summary. Bibliography. Bibliographic index. Subject index.

Note: A brief and useful summary of the accumulated knowledge on regional enteritis, also known as regional ileitis. It covers the history of the discovery of this disease, discusses various hypotheses as to its etiology, but gives most attention to diagnosis and therapy. A number of case histories are described. It was based on wide literature survey and includes a bibliography of 71 citations of literature published 1932–1953.

Cantor, Alfred Joseph

Ambulatory proctology. With a foreword by Beaumont S. Cornell. Second edition, revised. With 382 illustrations. New York, Paul B. Hoeber Inc., Medical Book Department of Harper & Brothers, 1952. 563 p. illus. 24 cm. $10.00 3665

Contents: Clinical anatomy. Diagnosis. Anesthesia, analgesia, hemostasis, sutures. Preoperative and postoperative management. Sclerosing and occlusive therapy. Surgery by electric current or thermal cutting unit. Pediatric proctology. Pruritus ani. Cryptitis and papillitis. Anorectal fistula. Perianal and perirectal abscesses and infections. Anal ulcer. Hemorrhoids. Prolapse and procidentia. Diarrhea—diagnostic methods and general therapy. Enterocolitis and colitis. Thrombosis colitis. Bacillary dysentery. Tuberculosis. Lymphogranuloma venereum. Venereal diseases. Intestinal parasites. Constipation. Melanosis coli. Diverticulosis and diverticulitis. Benign tumors. Multiple adenoma. Malignant neoplasms. Pilonidal dimple, sinus, cyst, and abscess. Coccygodynia. Rectal stricture and anal stenosis. Anal incontinence. Foreign bodies and rectal trauma. Index.

Note: By "ambulatory proctology" the author designates the diagnosis and treatment of diseases of the anus, rectum, and sigmoid bowel by techniques which do not confine the patient to bed. The text is divided about equally between conditions which can be treated by surgical methods in the doctor's office and conditions which can be treated medically. Also there is considerable material on conditions which can be diagnosed in the office, but require hospitalization for treatment. The book is addressed particularly to general practitioners of medicine. Two new chapters and other important additions have been made in this edition. Also recent literature has been added to the bibliographies and there are many new illustrations.

Cantor, Meyer O

Intestinal intubation. Springfield, Ill., Charles C Thomas, 1949. 333 p. illus. 24 cm. $7.50 3666

Contents: Introduction. The history of the invention and development of the gastro-intestinal tubes. Normal anatomy of the gastro-intestinal tract as related to intubation. Intestinal physiology as related to intestinal intubation. Distention in the gastro-intestinal tract. Intestinal decompression tubes in use today. Technic of intestinal intubation. Role of mercury in intestinal decompression tubes. Disorders of the small bowel requiring intubation. Intestinal intubation in lesions of the colon. Errors and safeguards in the use of intestinal decompression tubes. Nursing care of patient with intestinal intubation. Types of suction and methods of use. Responsibility of the surgeon in the use of intestinal intubation. The role of the roentgenologist in patients to be intubated. Intubation in infancy and childhood. Effect of intestinal gases upon balloons of intestinal decompression tubes, by E. R. Phelps and others. Effect of hydrogen sulphide gas upon the balloons of intestinal decompression tubes. References. Bibliography. Author index. Subject index.

Note: A comprehensive presentation of a major technique in the treatment of intestinal obstruction, written by the inventor of the Cantor tube. Most of the space is devoted to matters pertaining to the use of gastro-intestinal tubes, but the history and other background aspects are also fully covered. There are 147 illustrations and extensive bibliographies. The book is of interest to internists as well as to surgeons, roentgenologists, and specialists in gastroenterology.

Cheney, Garnett

Medical management of gastrointestinal disorders. Chicago, The Year Book Publishers Inc., 1950. 478 p. illus. 21 cm. $7.00 3667

Contents (abridged): Part I, The patient approach: Examination of the patient. Clinical laboratory procedures. Endoscopic and biopsy examinations. X-ray examination. Part II, Symptom diagnosis and treatment: Sore mouth and tongue. Loss of appetite. Dysphagia and substernal distress. Indigestion, belching of gas and heartburn. Nausea and vomiting. Hematemesis. Management of the peptic ulcer problem. Severe abdominal pain and colic. Management of liver disease. Management of gallbladder and bile duct disease. Lower abdominal distress and symptoms. Abdominal distention. Abdominal tumors. Constipation—mild and severe. The acute diarrheas. Loss of weight and undernutrition. The local x-ray problem. Index.

Note: Gastrointestinal disorders are discussed in this book from the viewpoint of general practitioners of medicine rather than specialists. Diagnosis and differential diagnosis are fully discussed. Somewhat less space is given to treatment, but the currently used medical treatments are adequately described. Considerable point is made of correlating a carefully taken history with the results of physical examination and laboratory tests, as well as with roentgenographic studies in appropriate cases. Indications for surgical therapy are described but surgical techniques are not covered.

Coller, Frederick A., and others

Indications for and results of splenectomy. By Frederick A. Coller, Alexander Blain III, and Gould Andrews. Springfield, Ill., Charles

The book is illustrated with 196 photographs and diagrams and five colored plates.

WASSON, WILLIAM WALTER

The auxiliary heart Springfield, Ill. Charles C Thomas, 1954 184 p illus (part col'd) 26 cm $10 50 3657

Contents. Anatomy of the lungs. Physiology of the lungs. Physiodynamics of the lungs. *Evaluation* of the Roentgen film. Diseases of the chest influencing the auxiliary heart. Diaphragmatic syndrome. Historical sketch, by M. W Stein. Addendum. *Additional bibliography Author index. Subject index.*

Note A book about the auxiliary heart f the lesser circulation in other words, the chest. It is based on a lifelong study by the author and on the literature. A wide range f information is presented very compactly with copious footnotes and literature references. A majority of the ?? figures are reproductions of roentgenograms. The book is of interest primarily to clinicians and surgeons and secondarily to physiologists.

WILLIS, HENRY STUART, AND MARTIN MARC CUMMINGS

Diagnostic and experimental methods in tuberculosis Second edition Springfield, Ill. Charles C Thomas, 1952 373 p illus. 24 cm $10 00 3658

Contents Part I, Laboratory diagnosis: Description of the secretions, excretions and constituents of the body in tuberculosis. The tubercle bacillus. Demonstration of the tubercle bacillus by staining methods. Demonstration of the tubercle bacillus by methods of concentration and cultivation. Culture media. Demonstration of the tubercle bacillus by inoculation of animals. The non-pathogenic acid-fast bacteria. Part II, Related clinical and laboratory methods. Protective vaccination. Antibacterial agents—methods of determining sensitivity The preparation and application of tuberculin. Serological diagnosis. *Part III, Some methods of value in the study of tuberculosis experimentally produced.* Inoculation of animals with the tubercle bacillus. Induced tuberculosis in animals. Methods of studying induced tuberculosis in animals. Histological technique. Bibliography Author index. Subject index.

Note About one-third of this work is devoted to descriptions of laboratory techniques which are useful in the diagnosis of tuberculosis, and the remaining two-thirds is devoted to related clinical and experimental methods. It is addressed to upperclass students in medical schools, to graduates in clinical medicine, to public health workers, and to beginners in medical research. Techniques are described in adequate detail for most purposes, and formulas are included for culture media, etc. Moreover the text is cross-referenced to the bibliography of 501 literature citations for the benefit f those workers who need fuller information on specific points. The first edition was published in 1928. The work was almost wholly rewritten for this edition in order to incorporate the great advances in this field in the past two decades.

GASTROENTEROLOGY

BACON, HARRY E , AND OTHERS

Proctology By Harry E Bacon Stuart T Ross and Porfirio Mayo Recio With 228 illustrations and 5 plates in full color Philadelphia J B Lippincott Company 1956 441 p illus. (part col'd) 24 cm $11 00 3659

Contents Anatomy and physiology History Examination Anesthesia. Preoperative and postoperative treatment Proctologic nursing Cryptitis and papillitis. Fissure in ano or anal ulcer Fistula. Proctocolitis or colitis. Diverticulosis and diverticulitis. Tuberculosis of anus, rectum and colon. Gonorrhea and syphilis of the anorectum. Granulomas of the anorectum and the colon Pruritus ani. Hemorrhoids. Inflammatory stricture of the rectum. Colostomy transverse colostomy cecostomy appendicostomy Benign tumors. Malignant tumors of the anus, rectum and colon. Tumors, cysts and sinuses of the sacrococcygeal area. Volvulus f the sigmoid colon. Malformations of the anus, the rectum and the colon. Stenosis of the anal canal. Incontinence Wounds, injuries and rupture of the rectum. Foreign bodies in the rectum. Intestinal parasites. Index.

Note A successor to the senior author's *Essentials of proctology*, 1941. It is directed to general practitioners of medicine and surgery rather than to specialists in proctology The discussion of anatomy and physiology in the first chapter is very brief. The second chapter deals briefly and practically with not the history of proctology but the taking of the history of the individual patient's illness or complaint by the physician. Techniques of diagnosis, anesthesia, treatment before and after operation, etc., are described succinctly but adequately Beginning with the seventh chapter, the book is devoted to specific diseases and disorders. The individual diseases are discussed in regard to incidence, etiology symptoms, diagnosis, differential diagnosis, complications and treatments. Both medical and physical therapies are covered, and the descriptions of surgical procedures are detailed and fully supplemented by illustrations.

BARBORKA, CLIFFORD J , AND E CLINTON TEXTER, JR

Peptic ulcer, diagnosis and treatment. With 33 illustrations Boston Little, Brown and Company, 1955 290 p. illus. 22 cm. $7 00 3660

Contents Introduction. Anatomy and physiology Etiology Pathogenesis. Symptomatology Diagnosis. Medical treatment. Dietary management. Anticholinergic drugs. Other therapeutic adjuncts. Prevention of recurrences and complications. Complications and their management. Surgical treatment. Gastric ulcer and the ulcer-cancer problem. Appendix. Index.

Note. A relatively short handbook directed primarily to general practitioners of medicine. Both of the authors are specialists in gastroenterology and have had extensive experience in the treatment of peptic ulcer I spite of its brevity the book is an adequate presentation of the information needed by the average medical practitioner in the diagnosis and treatment of this disorder Nonsurgical therapies, including dietary management and the anticholinergic drugs are discussed at some length. A brief review is included of current research on additional chemical agents in the treatment of peptic ulcer Literature references are included in all chapters, and there are 33 illustrations.

BARGEN, JACOB ARNOLD

Chronic ulcerative colitis (thrombo-ulcerative colitis) Springfield, Ill Charles C Thomas, 1951 62 p. illus. 22 cm (American lecture series Publication no 101 A monograph in American lectures on abdominal viscera, edited by Lester R Dragstedt.) $2 25 3661

Contents Introduction. Pathologic changes. Diagnosis. Complications. Treatment. Summary and conclusions. References

Note In this monograph on single intestinal disease, each phase of the disease from diagnosis through final treatment is carefully explained in terms f the author's general and clinical experience. The chapter on treatment includes medical and surgical therapies and includes three illustrations of skin-grafted ileostomy constructed according to Dragstedt's technique The author is member of the Mayo Clinic staff

BENEDICT EDWARD BENSON

Endoscopy as related to diseases of the bronchus esophagus stomach and peritoneal cavity Baltimore The Williams & Wilkins Company 1951 373 p illus. (part col'd) 24 cm. $10 00. 3662

Content (abridged) History of endoscopy *Part I*, Bronchoscopy Anatomy and physiology of the tracheobronchial tree Technic. Indications, contraindications and complications Bronchial obstruction Specific infectious diseases. Foreign bodies in the tracheobronchial tree. Bronchogenic carcinoma. *Metastatic malignant disease* of the bronchus. Tumors of the trachea. *Part II* Esophagoscopy Anatomy and physiology of the esophagus. Technic. Indications, contraindications and complications. Esophagitis. Hiatus hernia. Esophageal ulcer Benign stricture Lye stricture. Web Achalasia (cardiospasm). Diverticulum. Varices. Benign tumor Carcinoma Foreign bodies in the esophagus. Extrinsic pressure. Trauma. Bronchoesophageal and tracheoesophageal fistula. Specific infectious diseases. Miscellaneous

colonic motor patterns in man, by C. F Code and others. The action of autonomic drugs upon the human colon, by F Kern, Jr. and others. The roentgenological aspects of the normal and abnormal colon, by [illegible]. Panel discussion. Part II, Etiology of colonic disorders: Childhood experiences and colonic disorder, by [illegible]. Functional colitis and constipation, by [illegible]. Congenital and acquired colonic [illegible], by [illegible]. Life stress and chronic ulcerative colitis, by W. J Grace. Physiological and psychological factors in the production of constipation, by T. P Almy. Discussion of the papers. Panel discussion. Pharmacology of the abnormal colon: Introductory remarks on pharmacology of the abnormal colon, by M. Cattell. Pharmacology of stimulant laxatives, by J. Travell. Some factors in the design of laxative studies, by J. C. Reed and R. Harris. Quantitative comparison of colloidal laxatives, by M. L. Tainter and O. H. Buchanan. Clinical comparison of bulk and stimulant laxatives, by L. J. Cass and W. S. Frederik. Antispasmodic therapy for the hypermotive colon, by A. P Ingegno. Antibacterial and steroid therapy in ulcerative colitis, by R. J. Gray and K. W. [illegible]. Panel discussion. Part IV Therapeutic management of colonic disorders: The natural history of ulcerative colitis, by B. V White. The medical management of chronic idiopathic ulcerative colitis, by T. E. Machella. The treatment of chronic constipation, by F. J. Ingelfinger. Changes in the colonic function and use of laxatives in the aged, by [illegible] and L. J. [illegible]. The problem of constipation in the institutionalized patient, by R. C. Batterman. Psychologic aspects of constipation and diarrhea, by R. [illegible]. Panel discussion.

Note: Papers prepared for a conference held by the Section of Biology of the New York Academy of Sciences in May 1953 are published in this volume. They are listed above by author and title.

NESSELROD JERROLD PRESMAN

Proctology in general practice. Philadelphia W B Saunders Company 1950. 276 p. illus. (part col'd) 24 cm. $6.50. 3674

Contents: Anatomy and physiology. Diagnostic procedures. Anal infection. Hemorrhoidal disease. Anal fissure. Anal [illegible] and anal fistula. Complications of [illegible] inflammatory disease. Preoperative management. Postoperative care. Prolapse of the rectum. Anorectal malformations. Clinical proctoscopy. Neoplastic disease. Anal pruritus. Miscellaneous subjects. Index.

Note: A compact treatise in which the main emphasis is on diagnosis and on the surgical management of diseases that do not require abdominal surgery. There are 64 figures including two in color. A second edition was published in 1957 296 p. $7.00.

PORTIS SIDNEY A. editor

Diseases of the digestive system. Third edition, thoroughly revised. With 269 engravings and 5 color plates. Philadelphia Lea & Febiger 1953 1 119 p. illus. (part col'd) 26 cm. $20.00 3675

Contents (abridged): The anatomy of the gastrointestinal tract, by C. F De Garis. The physiology of the stomach, by H. Necheles. Physiology of the liver bile and gallbladder by A. C. Ivy. The physiology of the small and the large intestine, by J. P Quigley. Neurological aspects of gastrointestinal disease, by A. D. [illegible] and S. Cobb. Allergy of the gastrointestinal tract, by G. [illegible]. Dietetic concepts of gastrointestinal disease, by K. [illegible]. The relation of the teeth to gastrointestinal disease, by E. H. Hatton. Diseases of the esophagus, by P P Vinson. Gastritis, by R. Schindler. Peptic ulcer, by W L. Palmer. Cancer of the stomach, by S. M. Jordan and R. S. [illegible], jr. Benign tumors, by [illegible]. Syphilis of the stomach, by G. B. Eusterman. Treatment of diseases of the gallbladder and extrahepatic bile ducts, by J. E. Berk. Diseases of the liver by S. A. Portis. Diseases of the pancreas, by [illegible]. Diseases of the small intestine, by F. J. Ingelfinger. The problem of the vermiform appendix, by O. H. Wangensteen. Nonspecific or indeterminate ulcerative colitis, by M. Paulson. Bacillary dysentery, by J. Felsen. Protozoan infections of the intestine, by [illegible]. The metazoan parasites of the gastrointestinal tract, by E. C. Faust. Intestinal tuberculosis, by [illegible]. Effect of sulfonamides and antibiotics on the intestinal flora, by [illegible]. Diverticulosis and diverticulitis, by [illegible]. Gastrointestinal manifestations of arthritis, gout and diabetes, by [illegible]. Gastrointestinal manifestations of endocrine disorders, by [illegible] and W. E. [illegible]. The relation between the gastrointestinal and cardiovascular systems, by P. D. White. Pellagra, with special reference to the role of the digestive tract, by V. P. Sydenstricker. Index.

Note: There are 54 chapters, written by 57 authors, in this third edition of a standard textbook and reference work. The titles and names of the authors of some of them are given above. The chapters vary considerably in organization and length, but all are written from the clinical viewpoint, and most are based on extensive experience of the author's as well as on the literature. An unusual feature is the inclusion of short but valuable chapters on such specific topics as needle biopsy of the liver. Compared to the second edition, this third edition exhibits some reorganization and extensive revision and augmentation. There is somewhat more emphasis on the psychosomatic aspects of gastroenterology.

RETTGER, LEO FREDERICK, AND OTHERS

Lactobacillus acidophilus & its therapeutic application by Leo F Rettger Maurice N Levy Louis Weinstein and James E. Weiss. New Haven Yale University Press, 1935 203 p. illus. 21 cm $2 50 3676

Contents: *Lactobacillus bifidus* and its relation to *Lactobacillus acidophilus*. Oral and dental types of lactobacilli and their relation to Lactobacillus acidophilus. Influence of storage temperature, metals and metallic salts on the viability of acidophilus milk. Lactose feeding and acidophilus "implantation" experiments with albino rats and with normal human subjects. Acidophilus therapy and some of the factors governing its successful application. Therapeutic application of acidophilus milk in hospitalized cases. Therapeutic application of acidophilus milk in simple constipation. The therapeutic application of acidophilus milk in constipation accompanied by biliary symptoms. The therapeutic application of acidophilus milk in so-called "mucous colitis" or "irritable colon" and in idiopathic ulcerative colitis. Bacteriological and clinical follow-up work on successfully treated cases of simple constipation and of constipation accompanied by biliary symptoms. Theory of "implantation." General discussion and summary. Appendix: Brief description of media and methods. Bibliography

Note: This volume constitutes a series of reports on investigations conducted by the authors, four years preceding publication of the book. A number of the chapters include clinical studies.

SANDWEISS DAVID JACOB, editor

Peptic ulcer clinical aspects, diagnosis, management. Editorial committee A. H. Aaron and others. Philadelphia W B Saunders Company 1951 790 p. illus. 26 cm. o.p 3677

Contents (abridged): Section I, Anatomy and physiology of the upper gastro-intestinal tract: Embryology of the upper alimentary tract, by C. F De Garis. Physiology of the upper gastro-intestinal tract as it relates to peptic ulcer by J. E. Thomas and M. H. F Friedman. Regulation of gastric functions by cortical and subcortical centers, by R. F Rehfuss[illegible]. The mucous barrier in the stomach, by F Hollander. Gastric motility and gastric evacuation, with special reference to peptic ulcer by J P Quigley. The mechanism of pain in peptic ulcer, by G. W Pickering. Section II, Pathogenesis and etiology of peptic ulcer: A critical analysis of the various experimental (experimentally produced) ulcers (peptic) and their relationship to human ulcer by F C. Mann. The pathology of ulcerations in the upper alimentary tract of infants, by P Gruenwald. Heredity and peptic ulcer by [illegible]. Allergic factors, by A. F R. Andresen. Psychosomatic aspects of peptic ulcer by [illegible]. A critical analysis of current theories of the pathogenesis of peptic ulcer by M. I. Grossman. Section III, Diagnosis and differential diagnosis of uncomplicated gastroduodenal ulcer: Symptomatic and physical diagnosis of uncomplicated gastric and duodenal ulcer, by H. L. Bockus. Roentgenologic diagnosis of gastric ulcer, by [illegible]. Roentgenologic diagnosis of duodenal ulcer by [illegible]. Gastroscopic diagnosis of gastric ulcer by R. Schindler. Gastric analysis procedures and other laboratory aids, by T. E. Machella. Differential diagnosis between benign and malignant gastric ulcer, by W L. Palmer. Section IV Medical treatment of uncomplicated gastroduodenal ulcer: Physiologic principles underlying treatment, by D. J. Sandweiss. Medical treatment, by G. B. Eusterman and M. K. [illegible]. Dietary management of peptic ulcer by C. J. [illegible]. Drugs commonly used, and the mechanism of their action, by J. E. Berk. Continuous intragastric drip therapy for peptic ulcer, by A. Winkelstein. Radiation therapy in peptic ulcer by W E. Ricketts and W L. Palmer. The status of hormones in peptic ulcer therapy by D. J. Sandweiss. The role of psychotherapy by [illegible]. Section [illegible] Surgical treatment of gastroduodenal ulcer: History of the surgical treatment of gastroduodenal ulcer by [illegible] and [illegible] Marshall. Indications for operation, by C. M

C Thomas, 1950 100 p. illus 22 cm (American lecture series Publication no 86 A monograph in American lectures in surgery, edited by Michael E DeBakey and R. Glen Spurling) $2 50 3668

Contents (abridged) Clinical material used in study Essential thrombocytopenic purpura. The hemolytic anemias. Hereditary spherocytic anemia. Idiopathic acquired hemolytic anemia. Banti's syndrome. Cruveilhier Baumgarten disease. Splenic neutropenia and panhematopenia. Hypoplastic anemia. Hypersplenism with congestive splenomegaly and atypical reticuloendothelial hyperplasia. Felty's syndrome Disseminated lupus erythematosis with splenomegaly and leukopenia. Gaucher's disease. Cysts of the spleen. Splenomegaly of miscellaneous or unknown etiology Infectious mononucleosis with spontaneous splenic rupture. Technique of splenectomy Anesthesia. Accessory spleens. Pathologic features of the spleen Summary Bibliography

Note A study based on 132 splenectomies performed by the authors during the period 1934–1949 The cases are classified under the headings given above and the experience in each group is summarized. In addition, the authors present the current concepts of normal physiology of the spleen, the rationale for splenectomy the various disorders of the spleen etc. There are 16 illustrations and a selected bibliography

FRADKIN, WILLIAM ZEV

The diagnosis and treatment of diarrheal diseases New York Grune & Stratton, Inc., 1947 254 p illus. 23 cm $6 00 3669

Contents (abridged) General considerations: The diarrhea problem. Anatomic and physiologic considerations. Bacteriology and pathology Etiologic classification of diarrheal diseases. Diagnostic procedures. Complications of diarrheal diseases. General treatment and prevention of diarrheal diseases. Specific diarrheal diseases *Diarrhea caused by Protozoa. Diarrhea caused by bacteria. Diarrhea* caused by regional enteritis. Diarrhea caused by idiopathic or nonspecific chronic ulcerative colitis. Diarrhea caused by mechanical factors. Allergic diarrhea. Psychogenic diarrhea. Vitamin deficiency diarrheas. Diarrhea caused by intestinal worms. Glandular diarrheas. Diarrhea caused by metal poisoning, chemicals and deep X-ray therapy Diarrheas of infants and children. Index.

Note The author brings together here all of the important information availabl on diarrhea in its various forms, including the laboratory and clinical aspects, diagnostic problems, and the therapeutics involved. Photographs, photomicrographs, roentgenograms, and drawings supplement the text. Chapter bibliographies are provided for readers requiring further amplification. The work is written for the medical practitioners and students.

GRACE, WILLIAM JOSEPH, AND OTHERS

The human colon, an experimental study based on direct observation of four fistulous subjects. By William J Grace, Stewart Wolf and Harold G Wolff Foreword by Alan Gregg With 112 illustrations, 31 in full color New York Paul B Hoeber, Inc., Medical Book Department of Harper & Brothers, 1951 239 p illus (part col'd) 24 cm $7 50 3670

Contents Methods of study The role of the colon in bodily economy and common colonic disorders. Personalities and reactions of the four fistulous subjects. *Life situations, emotions, and colonic function. The effects* of common pharmacologic and physical agents on the colon. Variations in the concentration of lysozyme in colonic secretions and in feces. *Effect of vagotomy on colonic function.* Ulcerative colitis. General discussion. Résumé. Index.

Note. Access to four human subjects with "large segments of colon eventuated and permanently exposed on the abdominal wall" provided the opportunity for this study by four faculty members of Cornell University Medical College and New York Hospital in New York City The book *is primarily* contribution to psychosomatic medicine, for the authors' chief interest was in the effects of such experiences as anger satisfaction, fear and pain upon the colon. However as the chapter titles indicate, they also made studies of the effects of drugs and physical agents and of vagotomy The book is of primary interest to specialists in psychosomatic medicine gastroenterology and physiology

GRANET, EMIL

Manual of proctology Chicago The Year Book Publishers, Inc., 1954 346 p. illus. 21 cm $7 50 3671

Contents Anatomy Anorectal symptoms, examination, and diagnosis. Anesthesia. General therapy Pediatric proctology Pyogenic infections of the anorectum. Anal fissure. Hemorrhoids. Benign tumors. Malignant tumors. Ulcerative colitis. Specific infections of the anorectum. Pruritus ani. Proctalgias and anorectal dyscrasias. Prolapse. Diverticula of the colon. Pilonidal disease. Marchery Index.

Note: A useful, well-written manual addressed to general practitioners of medicine and designed as a guide in the diagnosis of anorectal disorders, and in their medical management, including the preoperative and postoperative management of patients whose conditions require surgery Diseases, such as hemorrhoids, which may be managed entirely by the general physician are discussed at length, and operative techniques are described. On the other hand, major operations are not described in detail. However, the management of patients with colostomies is discussed in some detail. The volume is *adequately* illustrated, and literature references are included.

LICHTMAN, S S

Diseases of the liver, gallbladder and bile ducts Third edition, thoroughly revised, with 220 illustrations and 3 color plates. Philadelphia Lea & Febiger, 1953 2 v illus. (part col'd) 24 cm. $22 00 per set. 3672

Contents Volume I. Part I, Diseases of the liver The structure of the liver Physiology of the liver The pathogenesis and pathology of jaundice. The symptoms and signs of liver disease Liver function tests and procedures—interpretation and results. Acute and subacute inflammatory diseases of the liver Acute, subacute and subchronic forms of infectious hepatitis. Acute and subacute liver necrosis. Volume II. Cirrhosis of the liver Hemolytic jaundice. New growths of the liver Echinococcus disease of the liver Liver abscess. The liver in hyperthyroidism. The liver in pregnancy Metabolic hepatomegalies. The liver in heart disease. Diseases of the blood vessels of the liver Specific infections of the liver. Hepatic disease and the hematopoietic apparatus. Differential diagnosis—general considerations. The treatment of liver disease. Part II, Diseases of the gallbladder and biliary passages Anatomic features. Physiology of the extrahepatic biliary tract. Diseases of the gallbladder Diseases of the extrahepatic bile ducts. Diagnostic procedures in extrahepatic biliary tract disease. The treatment of biliary tract disease. Index.

Note. A comprehensive work used both as a textbook in medical colleges and as a reference book for graduate general practitioners of medicine and specialists in gastroenterology For each disease attention is paid to etiological factors, pathogenesis, pathologic features, clinical features, treatment and prognosis. The general chapters in Volume I include one on the physiology of the liver which runs to 143 pages and one on liver function tests which is 110 pages long There is extensive citation of the literature. A number of the chapters have bibliographies containing several hundred citations. The second edition was published in 1949 and consisted of a single volume of 1 135 pages. Additional information and references to literature published since the second edition was written appear in many of the chapters of this third edition. The number of illustrations has been increased by 73 and the number of pages by 180, to a total of 1315 pages plus index.

MINER, ROY WALDO, editor

The colon its normal and abnormal physiology and therapeutics. Organizing chairman, M L Tainter conference chairman, Thomas P Almy consulting editor M L. Tainter New York New York Academy of Sciences, 1954 293–540 p. illus 22 cm (New York Academy of Sciences. Annals Vol 58, art. 4) $4.50 3673

Contents. Introduction to the colon—its normal and abnormal physiology and therapeutics, by T P Almy Part I, Physiology and pharmacology of the colon: Normal physiology of the colon of animals, by J P Quigley Autonomic and pharmacologic control of colonic activity by G. B. Karlin. Normal and some abnormal

SPELLBERG, MITCHELL A.

Diseases of the liver New York. Grune & Stratton, 1954 646 p. illus. (part col'd) 28 cm. $16.50 3682

Contents: Clinical laboratory tests as indices of hepatic function. The morphological approach to the diagnosis of liver disease. The differential diagnosis of jaundice. Neoplasms and cysts of the liver. The response of the liver to chemical agents (toxic hepatitis). The effect of infectious agents on the liver. [illegible] in liver disease. Anatomy of the liver and its vascular supply—diseases of the liver resulting from disturbances in the portal system. Cirrhosis. The role of the endocrine glands in diseases of the liver. Hepatorenal relationship. The liver in various diseases. Diseases of the liver associated with inborn errors of metabolism. Bibliography. Index.

Note: A distinguished treatise written from the viewpoint of clinical medicine. It covers both diseases of the liver and the effects upon the liver of diseases and disorders of other parts of the body. Diagnosis is emphasized, and much space is given to such diagnostic aids as clinical laboratory tests. Pathology, anatomy and diagnosis are covered not in separate chapters but in the chapters and sections on specific diseases. There are 93 figures. It is based extensively on the literature, including the author's own publications, and the bibliography includes approximately 2,500 references.

SPIESMAN, MANUEL GEORGE

Essentials of clinical proctology Foreword by Anthony Bassler New York Grune & Stratton, 1946 238 p. illus. (part col'd) 22 cm. 3683

Contents (abridged): Embryology and applied anatomy of the anorectum. Congenital malformations of the anorectum. Examination and instrumentation. Stool analysis. Preoperative and postoperative care. Treatment of complications. Anesthesia for anorectal operations. The rectum, the pecten band, pectenosis and pectenotomy. Hemorrhoids. Fissures of the anus, rectum, and sigmoid. Management of the anus, rectum, and rectosigmoid. Venereal diseases of the anorectum. Tuberculosis of the anus, rectum and colon. Constipation. Differential diagnosis of common anorectal conditions. Polyposis and diets in proctologic work.

Note: A very concise, practical manual that is suitable chiefly for general practitioners of medicine. There are 39 chapters in all, and the typical chapter defines and describes a specific disease, then discusses [illegible] incidence, etiology, pathology, symptoms, diagnosis, and treatment, including simple surgical procedures. A third edition was published in [illegible]

STERLING, JULIAN A.

The biliary tract with special reference to the common bile duct. Baltimore The Williams & Wilkins Company 1955 424 p. illus. (part col'd) 24 cm. $10.00. 3684

Contents: Introduction. Anatomy. Physiology. Pathology. Lesions of the pancreas. Clinical manifestations of bile duct disease. Laboratory observations. Radiology. Medical management. Anesthesia for biliary tract surgery by L. E. Frederick. Cholecystectomy. Surgical procedures concerning the common bile duct (including tumors). Surgical procedures for tumors of the biliary tract. Other procedures concerning the bile ducts. Postoperative period. Index.

Note: A concisely written, very comprehensive monograph on the basic anatomy, physiology and pathology as well as the clinical aspects of the biliary tract. Diseases of the pancreas and bile tree are thoroughly described, with some emphasis on diagnosis. Surgical techniques are discussed in the light of the author's extensive experience and the individual operations are described step by step. Selected bibliographies of considerable length are included in most of the chapters. There are 94 figures.

THOMAS, JACOB EARL

The external secretion of the pancreas. Springfield, Ill. Charles C Thomas, 1950 149 p. illus 22 cm. (American lecture series Robert F Pitts editor Publication no. 45) $3.50 3685

Contents: Morphology. Experimental methods. Pancreatic juice. The functions of the external secretion. Stimuli for the pancreas. Secretin and pancreozymin. The functional innervation of the pancreas. The mechanism of pancreatic secretion. Author index. Subject index.

Note: A condensed monograph in which is outlined the current knowledge of pancreatic secretion and the pancreatic juice. It is designed not only to inform general practitioners on matters of value in their practice but also to give them an insight into the basic physiologic knowledge and the experimental techniques by which it has been gained. Each chapter is illustrated with clear line illustrations and is followed by a list of references selected for historical significance, usefulness and availability. Some unpublished works have also been cited.

THOREK, PHILIP

Diseases of the esophagus. 102 Illustrations Drawings by Carl T Linden. Philadelphia J B Lippincott Company 1952 140 p illus. 26 cm. $10.00. 3686

Contents: Anatomy. Physiology. Examination and diagnosis. General surgical considerations. Congenital defects. Diverticula. Achalasia (cardiospasm). Esophageal hiatus hernia (diaphragmatic hernia). Esophageal varices (portal hypertension). Malignant tumors. Benign tumors. Miscellaneous lesions. Bibliography. Index.

Note: A guide to the diagnosis and treatment of diseases and deformities of the esophagus. Surgical procedures are emphasized, but the discussions of anatomy, physiology, methods of diagnosis, and variations in treatment are addressed primarily to the general practitioner. Excellent annotated drawings and an extensive bibliography are included.

TWISS, JOHN RUSSELL, AND ELLIOT OPPENHEIM

Practical management of disorders of the liver pancreas and biliary tract. With 136 illustrations and 7 plates 3 in color Philadelphia Lea & Febiger 1955 653 p. illus. (part col'd) 24 cm. $15.00 3687

Contents (abridged): Section I. General considerations: History and physical examination. Section II. Disorders of the gallbladder and extrahepatic biliary tract: Normal and pathologic physiology of the bile. Diagnostic procedures. Disorders affecting the filling and emptying mechanism of the gall bladder. Disorders in the concentrating function of the gallbladder. Biliary tract calculi. Tumors and strictures of the biliary tract. The typhoid carrier state. Section III. Disorders of the liver: Anatomy and physiology. Diagnostic procedures. Hepatitis—acute, subacute, and chronic. Cirrhosis of the liver. Liver cysts, tumors, infections and abscesses. Jaundice—pathogenesis, classification, and differential diagnosis. Metabolic diseases of the liver. Parasitic diseases of the liver, by F. J. Brady and W. H. Wright. Section IV. Disorders of the pancreas, by W. T. Berger: Diagnostic procedures. Acute diseases of the pancreas. Chronic diseases of the pancreas. Benign tumors of the pancreas. The malignant diseases of the pancreas. Section [illegible] Appendix—technical procedures: Cholecystography. Cholangiography—surgical. Needle biopsy of the liver by A. A. [illegible]. Serum enzyme tests. Intravenous cholangiography. Oral cholangiography. Index.

Note: An important book based in part on the literature and in part on the experience over a number of years of the staff of the Combined Medical and Surgical Biliary Tract Clinic of the former Post-graduate Hospital and the clinic of similar scope of present New York University Hospital. It is written from a practical clinical viewpoint. However, each of the major sections begins with a discussion of some length of the anatomy and physiology of the organs under discussion. Individual diseases are discussed under the customary sub-headings of incidence, pathology, etiology, diagnosis, etc. Medical treatments are described in full detail, but surgical treatments are not. In the case of the latter, the descriptions are generalized, although indications for surgery are clearly delineated. Throughout the volume the style is concise, and a wide range of information is presented. Each chapter contains a selected bibliography of some length.

WANGENSTEEN, OWEN H.

Intestinal obstructions physiological, pathological and clinical considerations with emphasis on therapy including description of

Jones. Criteria of an adequate and acceptable gastric resection for ulcer by O H. Wangensteen The rationale and technic of vagotomy by L. R. Dragstedt. Immediate preoperative and postoperative care of the ulcer patient—partial resection, subtotal gastrectomy gastroenterostomy by L. K. Ferguson. Immediate preoperative and postoperative care—vagotomy simple and combined, by G. Crile, Jr Present status of vagotomy by S. M. Jordan. Section VII, Peptic ulcer other than gastroduodenal ulcer: Esophageal ulcer by E. B Benedict. Gastroscopic diagnosis of gastrojejunal ulcers, by J F Renshaw Gastro-ileal ulcer by L. A. Smith and W Walters. Gastrojejunocolic fistula, by F H Lahey and C. E. Sedgwick. Peptic ulcer in Meckel's diverticulum, by J A. Bargen. Section VIII, Complications of gastroduodenal ulcer Gastro-intestinal hemorrhage, by L. Schiff and N Shapiro. Gastric retention by S. A. Wilkinson and E. W Hellerson. Electrolyte disturbances in peptic ulcer by J B. Kinsner Acute perforation of ulcer by R. Colp and L. J Druckerman. Index.

Note An authoritative work sponsored by the American Gastroenterological Association. It contains altogether 64 papers written by 77 eminent authorities, the majority of whom are members of faculties of medical colleges in the United States of America. The typical paper is a concise survey of the current status of the aspect of the field named in its title. Each paper is supplemented by a substantial list of references. The book is of interest to specialists in the field and also to general practitioners of medicine.

SCHIFF, LEON, editor

Diseases of the liver With a foreword by Cecil J Watson Philadelphia J B Lippincott Company, 1956 738 p illus (part col'd) 26 cm $18 00 3678

Contents Anatomic considerations, by A. M. Rappaport. Physiology of the liver by J L. Bollman. Biochemical considerations of the liver by D Seligson. Experimental hepatic injury by W S. Hartroft. Liver function tests, by N F Maclagan. Needle biopsy of the liver by L. Schiff and E. A. Gall. Jaundice, by L. Schiff Portal hypertension by R. R. Linton. Hepatic coma, by C. S. Davidson Pathology of hepatitis, by H. Sborov. Viral hepatitis, by J R. Neefe Toxic hepatitis, by G. Klatskin. Hepatitis associated with systemic infections, by G. Klatskin. Portal cirrhosis (Laennec's cirrhosis) by A. J Patek, Jr. Post necrotic cirrhosis, by A. J Patek, Jr Biliary cirrhosis, by H. G. Kunkel. Hemochromatosis, by T L. Althausen and V M. Sborov Hepato-lenticular degeneration by W B Matthews. The liver in circulatory failure, by S. Sherlock. Syphilis of the liver by F M. Hanger Tumors of the liver by E. A. Gall. Hepatic abscess, by M. E. De Bakey and O. Creech, Jr Liver diseases in infancy and childhood, by W W Zuelzer Parasitic diseases of the liver by E. Koppisch. Amyloidosis of the liver by M. H. Stauffer and D C. Dahlin Diseases of the gallbladder and extrahepatic bile ducts, by R. M. Zollinger and others. Index.

Note Essentially a reference book, this work contains the chapters whose authors and titles are given above A wide range of information on diseases of the liver together with background anatomy physiology etc is covered from the clinical viewpoint. Although composed of individual chapters that are essentially independent monographs, each with its own bibliography the book was planned as a whole, and the chapters were written specially for it. There is little repetition of information and the fully detailed subject index does justice to the contents of all of the chapters. There is, however no comprehensive index of the literature cited. Physicians and surgeons teaching in medical colleges of the United States of America predominate in the lists of contributors, but there are two contributors from England. There are 244 figures.

SCHINDLER, RUDOLF

Gastritis New York Grune & Stratton 1947 462 p illus. 23 cm. $10 00 3679

Contents Introduction History of gastritis. Definitions. Pathologic part Methods and material used. Classification of gastritis. The normal histology of the stomach. Histopathology Gross pathology Clinical part Acute simple exogenous gastritis. Acute corrosive gastritis. Acute hematogenous gastritis. Acute phlegmonous gastritis. The clinical picture of chronic idiopathic gastritis Gastritis of the postoperative stomach. Concomitant diseases and sequelae. Gastritis in military medicine. Summary of 55 selected cases. Bibliography Plates and illustrations. Indexes.

Note In this monograph the author who is Clinical Professor of Internal Medicine at the College of Medical Evangelists, Los Angeles, and a specialist in gastroenterology has reviewed and cited the pertinent literature, but has based his conclusions on his own experience which includes the examination of more than 3,500 cases of uncomplicated gastritis. He describes the histology and gross pathology of the stomach in various stages of inflammation and discusses symptoms, diagnosis, and methods of treatment not involving surgery As a further aid to practitioners and students he includes photomicrographs of normal and diseased stomach sections. The 17-page selected bibliography is keyed to the textual material.

SCHINDLER, RUDOLF

Gastroscopy, the endoscopic study of gastric pathology Second edition Chicago The University of Chicago Press, 1950. 433 24 p. illus (part col'd) 25 cm. (The University of Chicago Committee on Publications in Biology and Medicine) $20 00 3680

Contents. History of gastroscopy. Anatomy of the pharynx, the esophagus, and the stomach. Technic of gastroscopy Orientation in the stomach. The gastroscopic picture of the normal stomach. The relationship between gastroscopy and X-ray examination. Disturbances in motility and secretion. Disturbances of circulation. Chronic gastroduodenal ulcer Gastritis. Gastric allergy Specific granulomata. Benign tumors. Malignant tumors. The postoperative stomach. *Alterations of the shape of the stomach. Foreign bodies.* Bibliography Index of names. General index.

Note The standard work on the gastroscope and the techniques which have been developed on the use of this instrument. The subject is treated comprehensively with an outline of the historical development, descriptions of the instrument and its optical principles, a full discussion of techniques including the use of other techniques, such as radiography in differential diagnosis. Related aspects such as the operability of carcinoma at various stages of development are covered also. The first edition in the English language was published in 1937 and it was the successor to the German edition published in 1923 For this edition, the 1937 edition was extensively rewritten, and many new or revised illustrations were added. The changes reflect the acceptance of gastroscopy as standard diagnostic technique. The total number of colored illustrations is 120, reproduced on 10 plates. There are now 166 black-and-white figures. The revised bibliography contains 1,015 citations. The author is Clinical Professor of Medicine at the College of Medical Evangelists.

SMITH, LUCIAN A , AND ANDREW B RIVERS

Peptic ulcer pain patterns, diagnosis and medical treatment. Foreword by George B. Eusterman New York Appleton-Century Crofts Inc., 1953 576 p illus. 25 cm. $12.50 3681

Contents History The anatomy of abdominal pain. Pathologic anatomy Physiology Etiology Clinical history and physical examination. Laboratory aids in the diagnosis of peptic ulcer Symptoms and diagnosis of esophageal ulcer *Symptoms and diagnosis of* gastric ulcer Symptoms and diagnosis of duodenal ulcer Ulcer associated with Meckel diverticulum. Postoperative peptic ulcer and other postoperative complications. Symptoms and diagnosis of gastrojejunal and gastroileal ulcer Hemorrhage—systemic manifestations and differential diagnosis. Obstruction—systemic manifestations and differential diagnosis. Acute free perforation of peptic ulcer—systemic manifestations and differential diagnosis. Subphrenic abscess. The endoscopic evaluation of ulcerating lesions in the stomach, by H. W Schmidt. Roentgenologic diagnosis, by C. A Good. Approach to the medical treatment of peptic ulcer. Treatment of gastric ulcer Treatment of uncomplicated duodenal ulcer Approach to treatment of intractable pain. Treatment of perforation of duodenal ulcer Treatment of pyloric obstruction. Treatment of hemorrhage. Appendix. Index.

Note. A thorough work on the diagnosis and nonsurgical treatment of peptic ulcer Much space is given to symptomatology The significance of sites of pain in relation to the site of the ulcer both simple and complicated cases is discussed at length and the discussions are supplemented by illustrations. Other aspects of diagnosis and differential diagnosis are discussed fully Causative factors in relation to treatment is another aspect given much attention. The techniques of surgical treatment are not covered, but it is made clear when surgical measures are indicated. Diet for gastric and duodenal ulcer and for obstruction gastric lesions are described explicitly in the appendix. Literature references are included in all chapters, and there are 208 figures. When the book was written all authors but one were associated with the Mayo Foundation and Mayo Clinic.

SPELLBERG MITCHELL A.

Diseases of the liver New York Grune & Stratton, 1954 646 p. illus. (part col'd) 28 cm. $16.50 3682

Contents Clinical laboratory tests as indices of hepatic function. The morphological approach to the diagnosis of liver diseases. The differential diagnosis of jaundice. Neoplasms and cysts of the liver. The response of the liver to chemical toxins (toxic hepatitis). The effect of infectious agents on the liver. Role of diet in liver disease. Anatomy of the liver and its vascular supply—Diseases of the liver resulting from disturbances in the portal venous. Cirrhosis. The role of the endocrine glands in diseases of the liver. Hepatorenal relationship. The liver in various diseases. Diseases of the liver associated with inborn errors of metabolism. Bibliography Index.

Note A distinguished treatise written from the viewpoint of clinical medicine. It covers both diseases of the liver and the effects upon the liver of diseases and disorders of other parts of the body. Diagnosis is emphasized, and much space is given to such diagnostic aids as clinical laboratory tests. Pathology, anatomy and diagnosis are covered not in separate chapters but in the chapters and sections on specific diseases. There are 93 figures. It is based extensively on the literature, including the author's own publications, and the bibliography contains approximately 2,400 references.

SPIESMAN MANUEL GEORGE

Essentials of clinical proctology Foreword by Anthony Bassler New York Grune & Stratton, 1946 238 p. illus. (part col'd) 22 cm. 3683

Contents (abridged) Embryology and applied anatomy of the anorectum. Congenital malformations of the anorectum. Examination and instrumentation. Stool analysis. Preoperative and postoperative care. Treatment of complications. Anesthesia for anorectal operations. The perineum, the pectinate band, pectenosis and pectenotomy. Hemorrhoids. Fissure of the anus, rectum, and sigmoid. Malignancies of the anus, rectum, and rectosigmoid. Venereal diseases of the anorectum. Tuberculosis of the anus, rectum and colon. Constipation. Differential diagnosis of common anorectal conditions. Ethics and fees in proctologic work.

Note A very concise, practical manual that is suitable chiefly for general practitioners of medicine. There are 39 chapters in all, and the typical chapter defines and describes a specific disease, then discusses briefly incidence, etiology, pathology, symptoms, diagnosis, and treatment, including simple surgical procedures. A third edition was published in 1957 316 p. $5.75.

STERLING JULIAN A.

The biliary tract with special reference to the common bile duct. Baltimore The Williams & Wilkins Company 1955 424 p. illus. (part col'd) 24 cm. $10.00. 3684

Contents Introduction. Anatomy Physiology Pathology Lesions of the pancreas. Clinical manifestations of bile duct disease. Laboratory observations. Radiology. Medical management. Anesthesia for biliary tract surgery by L. E. Fredericks. Choledochotomy Surgical procedures concerning the common bile duct (excluding tumors). Surgical procedures for tumors of the biliary tract. Other procedures concerning the bile ducts. Postoperative course. Index.

Note A concisely written, very comprehensive monograph on the basic anatomy, physiology and pathology as well as the clinical aspects of the biliary tract. Diseases of the pancreas and bile ducts are thoroughly described, with great emphasis on diagnosis. Surgical techniques are discussed in the light of the author's extensive experience and the individual operations are described step by step. Selected bibliographies of considerable length are included in most of the chapters. There are 94 figures.

THOMAS, JACOB EARL

The external secretion of the pancreas. Springfield, Ill. Charles C Thomas 1950 149 p. illus. 22 cm. (American lecture series Robert F Pitts editor Publication no. 45) $3.50 3685

Contents Morphology Experimental methods. Pancreatic juice. The functions of the external secretion. Stimuli for the pancreas. Secretin and pancreozymin. The functional innervation of the pancreas. The mechanism of pancreatic secretion. Author index. Subject index.

Note A condensed monograph in which is outlined the current knowledge of pancreatic secretion and the pancreatic juice. It is designed not only to inform general practitioners on matters of value in their practice but also to give them an insight into the basic physiologic knowledge and the experimental techniques by which it has been gained. Each chapter is illustrated with clear line illustrations and is followed by a list of references selected for historical significance, usefulness and availability. Some unpublished works have also been cited.

THOREK, PHILIP

Diseases of the esophagus. 102 illustrations Drawings by Carl T Linden. Philadelphia J B Lippincott Company 1952 140 p. illus. 26 cm. $10.00 3686

Contents Anatomy Physiology Examination and diagnosis. General surgical considerations. Congenital defects. Diverticula. Achalasia (cardiospasm). Esophageal hiatus hernia (Esophagogastric hernia). Esophageal varices (portal hypertension). Malignant tumors. Benign lesions. Miscellaneous lesions. Bibliography Index.

Note A guide to the diagnosis and treatment of diseases and deformities of the esophagus. Surgical procedures are emphasized but the discussions of anatomy, physiology, methods of diagnosis, and variations in treatment are addressed primarily to the general practitioner. Excellent anatomical drawings and an extensive bibliography are included.

TWISS JOHN RUSSELL, AND ELLIOT OPPENHEIM

Practical management of disorders of the liver pancreas and biliary tract. With 136 illustrations and 7 plates 3 in color Philadelphia Lea & Febiger 1955 653 p. illus. (part col'd) 24 cm. $15.00 3687

Contents (abridged) Section I, General considerations: History and physical examination. Section II, Disorders of the gallbladder and extrahepatic biliary tract. Normal and pathologic physiology of the bile. Diagnostic procedures. Disorders affecting the filling and emptying mechanisms of the gall bladder. Disorders in the concentrating function of the gallbladder. Biliary tract calculi. Tumors and strictures of the biliary tract. The typhoid carrier state. Section III, Disorders of the liver Anatomy and physiology Diagnostic procedures. Hepatitis—acute, subacute, and chronic. Cirrhosis of the liver. Liver cysts, tumors, abscesses and diseases. Jaundice—pathogenesis, classification, and differential diagnosis. Metabolic diseases of the liver. Parasitic diseases of the liver, by F. J. Brady and W. H. Wright. Section IV Disorders of the pancreas, by W. F. Barker. Diagnostic procedures. Acute diseases of the pancreas. Chronic diseases of the pancreas. Benign tumors of the pancreas. The malignant diseases of the pancreas. Section Appendix—technical procedures: Cholecystography Cholangiography—surgical. Needle biopsy of the liver, by A. S. Hardy. Serum enzyme tests. Intravenous cholangiography. Oral cholangiography. Index.

Note An important book based in part on the literature and in part on the experience over a number of years of the staff of the Combined Medical and Surgical Biliary Tract Clinic of the former Post-graduate Hospital and the clinic of similar name of present New York University Hospital. It is written from a practical clinical viewpoint. However each of the major sections begins with a discussion of some length of the anatomy and physiology of the organ under discussion. Individual diseases are discussed under the customary sub-headings of incidence, pathology, etiology, diagnosis, etc. Medical treatments are described in full detail, but surgical treatments are not. In the case of the latter, the descriptions are generalized, although indications for surgery are clearly delineated. Throughout the volume the style is concise, and wide range of information is presented. Each chapter contains a selected bibliography of some length.

WANGENSTEEN OWEN H.

Intestinal obstructions physiological, pathological and clinical considerations with emphasis on therapy including description of

Jones. Criteria of an adequate and acceptable gastric resection for ulcer by O. H. Wangensteen. The rationale and technic of vagotomy by L. R. Dragstedt. Immediate preoperative and postoperative care of the ulcer patient—partial resection, subtotal gastrectomy gastroenterostomy by L. K. Ferguson. Immediate preoperative and postoperative care—vagotomy simple and combined, by G. Crile, Jr Present status of vagotomy by S. M. Jordan. Section VII, Peptic ulcer other than gastroduodenal ulcer: Esophageal ulcer by E. B Benedict. Gastroscopic diagnosis of gastrojejunal ulcers, by J F Renshaw Gastro-ileal ulcer by L. A. Smith and W Walters. Gastrojejunocolic fistula, by F H. Lahey and C. E. Sedgwick. Peptic ulcer in Meckel's diverticulum by J A. Bargen. Section VIII Complications of gastroduodenal ulcer Gastro-intestinal hemorrhage, by L. Schiff and N Shapiro Gastric retention, by S. A. Wilkinson and E. W Hefferman. Electrolyte disturbances in peptic ulcer by J B Kirsner Acute perforation of ulcer by R. Colp and L. J Druckerman. Index.

Note An authoritative work sponsored by the American Gastroenterological Association. It contains altogether 64 papers written by 77 eminent authorities, the majority of whom are members of faculties of medical colleges in the United States of America. The typical paper is concise survey of the current status of the aspect of the field named in its title. Each paper is supplemented by a substantial list of references. The book is of interest to specialists in the field and also to general practitioners of medicine.

SCHIFF, LEON, editor

Diseases of the liver With a foreword by Cecil J Watson Philadelphia J B Lippincott Company, 1956 738 p illus (part col'd) 26 cm $18 00 3678

Contents Anatomic considerations, by A M. Rappaport. Physiology of the liver by J L. Bollman. Biochemical considerations f the liver by D Seligson. Experimental hepatic injury by W S. Hartroft. Liver function tests, by N F Maclagan. Needle biopsy of the liver by L. Schiff and E. A. Gall. Jaundice, by L. Schiff Portal hypertension by R. R. Linton. Hepatic coma, by C. S. Davidson. Pathology of hepatitis, by H. Smetana. Viral hepatitis, by J R. Neefe. Toxic hepatitis, by G Klatskin. Hepatitis associated with systemic infections, by G. Klatskin Portal cirrhosis (Laennec's cirrhosis) by A. J Patek, Jr Post necrotic cirrhosis, by A. J Patek, Jr Biliary cirrhosis, by H. G. Kunkel. Hemochromatosis, by T L. Althausen and V M Sborov Hepato-lenticular degeneration by W B Matthews. The liver in circulatory failure, by S. Sherlock. Syphilis of the liver by F M. Hanger Tumors f the liver by E. A. Gall. Hepatic abscess, by M. E. De Bakey and O. Creech Jr Liver diseases in infancy and childhood, by W W Zuelzer Parasitic diseases of the liver by E. Koppisch. Amyloidosis f the liver by M. H. Stauffer and D C. Dahlin. Diseases of the gallbladder and extrahepatic bile ducts, by R. M. Zollinger and others. Index.

Note Essentially reference book, this work contains the chapters whose authors and titles are given above. A wide range of information on diseases of the liver together with background anatomy physiology etc., is covered from the clinical viewpoint. Although composed of individual chapters that are essentially independent monographs, each with its own bibliography the book was planned as whole, and the chapters were written specially for it There is little repetition of information, and the fully detailed subject index does justice to the contents of all of the chapters. There is, however no comprehensive index f the literature cited. Physicians and surgeons teaching in medical colleges of the United States f America predominate in the lists of contributors, but there are two contributors from England. There are 244 figures.

SCHINDLER RUDOLF

Gastritis New York Grune & Stratton, 1947 462 p illus 23 cm $10 00 3679

Contents Introduction History f gastritis. Definitions Pathologic part Methods and material used. Classification of gastritis. The normal histology of the stomach. Histopathology Gross pathology Clinical part Acute simple exogenous gastritis. Acute corrosive gastritis. Acute hematogenous gastritis. Acute phlegmonous gastritis. The clinical picture of chronic idiopathic gastritis. Gastritis of the postoperative stomach. Concomitant diseases and sequelae. Gastritis in military medicine. Summary of 55 selected cases. Bibliography Plates and illustrations. Indexes.

Note. In this monograph the author who is Clinical Professor of Internal Medicine at the College f Medical Evangelists, Los Angeles, and specialist in gastroenterology has reviewed and cited the pertinent literature but has based his conclusions on his own experience which includes the examination of more than 2,500 cases of uncomplicated gastritis. He describes the histology and gross pathology of the stomach in various stages of inflammation and discusses symptoms, diagnosis, and methods of treatment not involving surgery As a further aid to practitioners and students he includes photomicrographs of normal and diseased stomach sections. The 17-page selected bibliography is keyed to the textual material.

SCHINDLER, RUDOLF

Gastroscopy, the endoscopic study of gastric pathology Second edition. Chicago The University of Chicago Press, 1950 433, 24 p. illus (part col'd) 25 cm. (The University of Chicago Committee on Publications in Biology and Medicine) $20 00 3680

Contents History of gastroscopy Anatomy of the pharynx, the esophagus, and the stomach. Technic of gastroscopy Orientation in the stomach. The gastroscopic picture of the normal stomach. The relationship between gastroscopy and X-ray examination. Disturbances in motility and secretion. Disturbances of circulation. Chronic gastroduodenal ulcer Gastritis. Gastric allergy Specific granulomata. Benign tumors. Malignant tumors. The postoperative stomach. Alterations of the shape of the stomach. Foreign bodies. Bibliography. Index of names. General index.

Note The standard work on the gastroscope and the techniques which have been developed on the use of this instrument. The subject is treated comprehensively with an outline of the historical development, descriptions of the instrument and its optical principles, a full discussion of techniques including the use of other techniques, such as radiography in differential diagnosis. Related aspects such as the operability of carcinoma at various stages of development are covered also. The first edition in the English language was published in 1937 and it was the successor to the German edition published in 1923 For this edition, the 1937 edition was extensively rewritten and many new or revised illustrations were added. The changes reflect the acceptance of gastroscopy as a standard diagnostic technique. The total number of colored illustrations is 170 reproduced on 10 plates. There are now 366 black-and-white figures. The revised bibliography contains 1,015 citations. The author is Clinical Professor f Medicine at the College of Medical Evangelists.

SMITH, LUCIAN A, AND ANDREW B RIVERS

Peptic ulcer, pain patterns, diagnosis and medical treatment. Foreword by George B Eusterman New York Appleton-Century Crofts Inc, 1953 576 p illus. 25 cm. $12.50. 3681

Contents History The anatomy of abdominal pain. Pathologic anatomy Physiology Etiology Clinical history and physical examination. Laboratory aids in the diagnosis of peptic ulcer. Symptoms and diagnosis of esophageal ulcer Symptoms and diagnosis of gastric ulcer Symptoms and diagnosis of duodenal ulcer. Ulcer associated with Meckel's diverticulum. Postoperative peptic ulcer and other postoperative complications. Symptoms and diagnosis of gastrojejunal and gastroileal ulcer Hemorrhage—systemic manifestations and differential diagnosis. Obstruction—systemic manifestations and differential diagnosis. Acute free perforation of peptic ulcer—systemic manifestations and differential diagnosis. Subphrenic abscess. The endoscopic evaluation of ulcerating lesions in the stomach, by H. W Schmidt. Roentgenologic diagnosis, by C. A. Good. Approach to the medical treatment of peptic ulcer. Treatment of gastric ulcer Treatment of uncomplicated duodenal ulcer. Approach to treatment of intractable pain. Treatment of perforation of duodenal ulcer Treatment of pyloric obstruction. Treatment of hemorrhage. Appendix. Index.

Note A thorough work on the diagnosis and nonsurgical treatment of peptic ulcer Much space is given to symptomatology The significance of sites of pain in relation to the site of the ulcer in both simple and complicated cases is discussed at length and the discussions are supplemented by illustrations. Other aspects of diagnosis and differential diagnosis are discussed fully Consideration of factors in relation to treatment is another aspect given much attention. The techniques of surgical treatment are not covered, but it is made clear when surgical measures are indicated. Diet for gastric and duodenal ulcer and for obstructive gastric lesions are described explicitly in the appendix. Literature references are included in all chapters, and there are 208 figures. When the book was written, all authors but one were associated with the Mayo Foundation and Mayo Clinic.

operative procedures. Third edition. Springfield, Ill Charles C Thomas, 1955 838 p illus. 26 cm. $15 50 3688

Contents (abridged) Part I, Intestinal obstructions—physiological, pathological and clinical considerations with emphasis on therapy including description of operative procedures Effects of distension. Part II, General diagnostic considerations in the recognition of bowel obstruction. Part III, General therapeutic considerations in the management of bowel obstructions Guiding principles in the treatment of acute abdominal lesions. Adjuvant (indirect) measures in the treatment of bowel obstruction. Decompression by application of suction to duodenal tubes in obstruction. Operation in bowel obstructions. The closed aseptic resection. Postoperative treatment. Part IV The special obstructions Congenital atresia and stenosis of the intestine. Imperforate anus. Intestinal obstruction due to tumors and strictures of the bowel wall. Obturation obstruction. Congenital megacolon. Intestinal obstruction due to compression of the bowel. Intestinal obstruction due to adhesions and bands. Intestinal obstruction due to hernia. Volvulus. Intussusception. Inhibition ileus (paralytic) (adynamic obstruction) Spastic ileus (dynamic obstruction) Intestinal obstruction due to vascular causes, mesenteric thrombosis and embolism. Index of authors. Index of subjects.

Note An outstanding treatise written by one of America leading authorities on the management of intestinal obstruction. Diagnosis and therapy are emphasized, but physiology and pathology also are adequately covered. Results are incorporated from animal experimentation as well as from extensive experience with human patients. In its previous editions the book was a strong advocate of suction therapy In the present edition, much space is still devoted to the use of suction, but its proper role is carefully defined. On the matter of choice of therapy the author states. "Operation still is, and probably will continue to be, the chief mainstay of therapy in most forms of bowel obstruction. It is, however apparent that some cases need not be operated upon, particularly patients with partial simple obstruction of the small intestine. The classes of cases which demand urgent operation are (1) Instances of strangulating obstruction, and (2) acute obstruction of the colon with great distension. Both suction and surgical techniques are thoroughly discussed and specifically described. The first edition was published in 1937 and the second edition in 1942 Revision and augmentations made in preparing this third edition were very extensive and to use a phrase of the author's, the result is "a more mature book. The author is Professor of Surgery in the Medical School of the University of Minnesota, and much of the new information incorporated has resulted from a detailed study by Dr Grafton A. Smith and a team of fellows and internists f the University of Minnesota Hospitals of the experience with bowel obstruction cases. Literature published since the second edition was written has been added to the extensive chapter bibliographies. There are now 200 figures.

ENDOCRINOLOGY

ALBRIGHT, FULLER, AND EDWARD C REIFENSTEIN, JR.

The parathyroid glands and metabolic bone disease selected studies Baltimore The Williams & Wilkins Company 1948 393 p illus 23 cm $8 00 3689

Contents. The parathyroid glands—normal and pathologic physiology Clinical hypoparathyroidism. Clinical hyperparathyroidism. Mode of action of vitamin D and dihydrotachysterol. Metabolic bone disease—general considerations. Metabolic bone disease—osteoporosis. Metabolic bone disease—osteomalacia. Polyostotic fibrous dysplasia (osteitis fibrosa disseminata) Paget disease (osteitis deformans) Appendix Bibliography Author index. Subject index.

Note As yardstick for their selection of the studies summarized in this book, the authors hav used the experience which they accumulated during their 24 years' association with the Massachusetts General Hospital. The importance of the book lies mainly in its treatment of the subject from the viewpoint of differential diagnosis and its exhaustive documentation and discussion of the underlying hypotheses. Roentgenograms, photomicrographs, charts and diagrams, along with tables and case histories, form a substantial part of the evidence. There are 21 pages of bibliography and 34 pages of subject index. Information pertaining to test techniques is contained in the appendix.

AMERICAN DIABETES ASSOCIATION

Diabetes guide book for the physician. Second edition. New York American Diabetes Association, Inc., 1956 95 p. 16 cm. $1 00 3690

Contents (abridged): Part I, The clinical problem. Part II, Dietary regulation. Part III, Insulin. Part IV Complications. Part V Diabetes in children. Appendix.

Note. An authoritative manual designed as an aid to general practitioners of medicine in treating diabetic patients. It states very succinctly the essentials of diagnosis, objectives in treatment, management of diet, management of complications, etc. More space is given to dietary management and to diet than to any other topic. Nine standard diets designated as ADA diets are included, and there is much supplementary information on diets, all of it designed to aid the physician in working out diets for individual diabetic patients. The book was developed by committee of the American Diabetes Association, with the co-operation of the American Dietetic Association and the Diabetes Section of the United States Public Health Service.

AMERICAN MEDICAL ASSOCIATION COUNCIL ON PHARMACY AND CHEMISTRY

Glandular physiology and therapy Fifth edition, completely revised and rewritten. Philadelphia J B Lippincott, 1954 611 p. illus (part col'd) 26 cm. $10 00 3691

Contents. Integration of endocrinology by H. Selye and P J. Rosch. The adenohypophysis, by G. Sayers and R. W Brown. Hypophysis—posterior lobe, by C. W Lloyd and J Lobotsky The adrenal cortex, by E. H. Venning, and others. Adrenal medulla, by J R. Cook and R. W Schneider The ovary by J. W Jailer and E. T Engle. Physiology of menstruation and ovulation, by D Phelps. Pregnancy and lactation, by J E. Markee. The testes, by E. P McCullagh and C. A. Schaffenburg. The thyroid, by L. N Rosenberg and others. The parathyroid glands, by E. C Reifenstein, Jr and R. P Howard. The pancreas, by R. W Schneider The thymus, by A. Segaloff. Abnormalities of body weight, by W Q Wolfson. Endocrine management of neoplastic diseases, by L. T Nathanson. Abnormalities of sexual behavior, by R. B. Greenblatt. Therapeutic uses of cortisone and corticotropin (ACTH) in nonendocrine conditions, by F C. Bartter Behavior and intelligence, by W C. Young. Common misconceptions in endocrine therapy by J E. Howard. Diagnostic aids, by F H. Forsham. The chemistry of hormones, by R. R. Greenblatt. Modes of administration of hormones, by R. A. Shipley Index.

Note. A treatise of wide scope and indisputable authority A first edition was published in 1924 and the fourth edition in 1942. It contains the monographic chapters whose authors and titles are given above in place of the more numerous and shorter articles f the fourth edition. It is still directed to graduate physicians, particularly general practitioners of medicine and practitioners of specialties other than endocrinology The chapters vary in length and organization, but most of them cover anatomy physiology and treatment as well as other appropriate topics. All are based on extensive literature surveys and include long bibliographies.

BEARDWOOD, JOSEPH T , JR., AND HERBERT T KELLY

Simplified diabetic management. Sixth edition Philadelphia J B Lippincott Company 1954 194 p illus. (part col'd) 20 cm. $3.25 3692

Contents History and general consideration of diabetes. Dietary principles of treatment. Unit method charts. Adaptations of the unit system. Calculated recipes and commercially prepared foods. Treatment of juvenile diabetics and suggested menus. Treatment by insulin. Hypoglycemic reaction (insulin shock) Diabetic acidosis (coma) Complications of diabetes. Surgery in diabetes. Pregnancy in diabetes. Diabetic hygiene. Laboratory tests. Composition of foods—common household units. Index.

Note. A useful manual of elementary information. It is addressed primarily to diabetic patients and is designed to guide them in managing their diet and insulin administration, and to inform them generally about their disease. It is used also by practicing physicians as convenient source of data on food values in terms of common household units and other elementary information to be passed along to the patient. The authors are members of the

SPELLBERG, MITCHELL A.

Diseases of the liver New York Grune & Stratton, 1954 646 p. illus. (part col d) 28 cm. $16.50. 3682

Contents: Clinical laboratory tests as measures of hepatic function. The morphological approach to the diagnosis of liver disease. The differential diagnosis of jaundice. Neoplasms and cysts of the liver. The response of the liver to chemical toxins (toxic hepatitis). The effect of infectious agents on the liver. Role of diet in liver disease. Anatomy of the liver and its vascular supply—diseases of the liver resulting from disturbances in the major vessels. Cirrhosis. The role of the endocrine glands in diseases of the liver; hepato-renal relationship. The liver in various diseases. Diseases of the liver associated with inborn errors of metabolism. Bibliography. Index.

Note A distinguished treatise written from the standpoint of clinical medicine. It covers both diseases of the liver and the effects upon the liver of diseases and disorders of other parts of the body. Diagnosis is emphasized, and much space is given to such diagnostic aids as clinical laboratory tests. Pathology, anatomy and diagnosis are covered not in separate chapters but in the chapters and sections on specific diseases. There are 93 figures. It is based extensively on the literature, including the author's own publications, and the bibliography contains approximately 2,400 references.

SPIESMAN MANUEL GEORGE

Essentials of clinical proctology Foreword by Anthony Bassler New York Grune & Stratton 1946 238 p. illus. (part col d) 22 cm. 3683

Contents (abridged) Embryology and applied anatomy of the anorectum. Congenital malformations of the anorectum. Examination and instrumentation. Stool analysis. Preoperative and postoperative care. Treatment of complications. Anesthesia for anorectal operations. The rectum, the pectin band, pectenosis and pectenotomy. Hemorrhoids. Prolapse of the anus, rectum, and sigmoid. Malignancies of the anus, rectum, and rectosigmoid. Venereal diseases of the anorectum. Tuberculosis of the anus, rectum and colon. Constipation. Differential diagnosis of common anorectal conditions. Fistulas and abscesses in proctologic tract.

Note A very concise, practical manual that is suitable chiefly for general practitioners of medicine. There are 39 chapters in all, and the typical chapter defines and describes a specific disease, then discusses briefly incidence, etiology, pathology, symptoms, diagnosis, and treatment, including simple surgical procedures. A third edition was published in 1957 316 p. $8.75.

STERLING JULIAN A.

The biliary tract with special reference to the common bile duct. Baltimore The Williams & Wilkins Company 1955 424 p. illus. (part col d) 24 cm. $10.00 3684

Contents Introduction Anatomy Physiology Pathology Lesions of the pancreas Clinical manifestations of bile duct disease. Laboratory observations. Radiology. Medical management. Anesthesia for biliary tract surgery by L. S. Frederickson. Cholecystectomy. Surgical procedures concerning the common bile duct (excluding tumors). Surgical procedures for tumors of the biliary tract. Other procedures concerning the bile ducts. Postoperative status. Index.

Note A concisely written, very comprehensive monograph on the basic anatomy, physiology and pathology as well as the clinical aspects, of the biliary tract. Diseases of the pancreas and bile ducts are thoroughly described, with some emphasis on diagnosis. Surgical techniques are discussed in the light of the author's extensive experience, and the individual operations are described step by step. Selected bibliographies of considerable length are included in most of the chapters. There are 94 figures.

THOMAS JACOB EARL

The external secretion of the pancreas. Springfield Ill. Charles C Thomas, 1950. 149 p. illus. 22 cm. (American lecture series Robert F Pitts, editor Publication no 45) $3.50. 3685

Contents: Morphology. Experimental methods. Pancreatic juice. The functions of the external secretion. Stimuli for the pancreas. Secretin and pancreozymin. The functional innervation of the pancreas. The mechanism of pancreatic secretion. Author index. Subject index.

Note A condensed monograph in which is outlined the current knowledge of *pancreatic secretion and the pancreatic juice*. It is designed not only to inform general practitioners on matters of value in their practice but also to give them an insight into the basic physiologic knowledge and the experimental techniques by which it has been gained. Each chapter is illustrated with clear line illustrations and is followed by a list of references selected for historical significance, usefulness and availability. Some unpublished works have also been cited.

THOREK, PHILIP

Diseases of the esophagus. 102 illustrations. Drawings by Carl T Linden. Philadelphia J B Lippincott Company *1952* 140 p. illus. 26 cm. $10.00 3686

Contents: Anatomy Physiology Examination and diagnosis. General surgical considerations. Congenital defects. Diverticula. Achalasia *(cardiospasm)*. *Esophageal hiatus hernia (diaphragmatic hernia)* Esophageal varices (portal hypertension) Malignant tumors. Benign lesions. Miscellaneous lesions. Bibliography. Index.

Note: A guide to the diagnosis and treatment of diseases and deformities of the esophagus. Surgical procedures are emphasized; but the discussions of anatomy, physiology, methods of diagnosis, and variations in treatment are addressed primarily to the general practitioner. Excellent anatomical drawings and an extensive bibliography are included.

TWISS JOHN RUSSELL, AND ELLIOT OPPENHEIM

Practical management of disorders of the liver pancreas and biliary tract. With 136 illustrations and 7 plates 3 in color Philadelphia Lea & Febiger 1955 653 p illus. (part col d) 24 cm. $15.00 3687

Contents (abridged) Section I, General considerations: History and physical examination. Section II, Disorders of the gallbladder and extrahepatic biliary tract: Normal and pathologic physiology of the bile. Diagnostic procedures. Disorders affecting the filling and emptying mechanism of the gall bladder. Disorders in the concentrating function of the gallbladder. Biliary tract calculi. Tumors and strictures of the biliary tract. The typhoid carrier state. Section III, Disorders of the liver: Anatomy and physiology. Diagnostic procedures. Hepatitis—acute, subacute, and chronic. Cirrhosis of the liver. Liver cysts, tumors, strictures and abscesses. Jaundice—pathogenesis, classification, and differential diagnosis. Metabolic diseases of the liver. Parasitic diseases of the liver, by F. J. Brady and W. H. Wright. Section IV, Disorders of the pancreas, by W. V. Berger: Diagnostic procedures. Acute diseases of the pancreas. Chronic diseases of the pancreas. Benign tumors of the pancreas. The malignant diseases of the pancreas. Section, Appendix—technical procedures: Cholangiography. Cholangiography—operative. Needle biopsy of the liver by A. R. Hauck. Serum enzyme tests. Intravenous cholangiography. Oral cholangiography. Index.

Note An important book based in part on the literature and in part on the experience over a number of years of the staff of the Combined Medical and Surgical Biliary Tract Clinic of the former Post-graduate Hospital and the clinic of similar name of present New York University Hospital. It is written from a practical clinical viewpoint. However each of the major sections begins with a discussion of some length of the anatomy and physiology of the organs under discussion. Individual diseases are discussed under the customary sub-headings of incidence, pathology, etiology, diagnosis, etc. Medical treatments are described in full detail, but surgical treatments are not. In the case of the latter, the descriptions are generalized, although indications for surgery are clearly delineated. Throughout the volume the style is concise and wide range of information is presented. Each chapter contains a selected bibliography of some length.

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Intestinal obstructions physiological, pathological and clinical considerations with emphasis on therapy including description of

operative procedures Third edition Springfield, Ill. Charles C Thomas, 1955 838 p illus 26 cm. $15 50 3688

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Note As yardstick for their selection of the studies summarized in this book the authors have used the experience which they accumulated during their 24 years' association with the Massachusetts General Hospital. The importance of the book lies mainly in its treatment of the subject from the viewpoint of differential diagnosis and its exhaustive documentation and discussion of the underlying hypotheses. Roentgenograms, photomicrographs, charts and diagrams, along with tables and case histories, form a substantial part of the evidence. There are 21 pages of bibliography and 54 pages of subject index. Information pertaining to test technique is contained in the appendix.

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Diabetes guide book for the physician Second edition. New York American Diabetes Association, Inc., 1956 95 p. 16 cm. $1 00 3690

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BEARDWOOD, JOSEPH T, JR. AND HERBERT T KELLY

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Content History and general consideration of diabetes. Dietary principles of treatment. Unit method charts. Adaptations of the unit system. Calculated recipes and commercially prepared foods. Treatment Treatment of juvenile diabetics and suggested menus. Treatment by insulin. Hypoglycemic reaction (insulin shock) Diabetic acidosis (coma) Complications of diabetes. Surgery in diabetes. Pregnancy in diabetes. Diabetic hygiene. Laboratory tests. Composition of foods—common household units. Index.

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JACKSON HENRY, JR. AND FREDERIC PARKER, JR.

Hodgkin's disease and allied disorders. New York. Oxford University Press, 1947 177 p. illus. 29 cm. (Oxford medical publications) $7.25. 3705

Contents: Hodgkin's disease. Reticulum-cell sarcoma. Lymphocytoma and lymphoblastoma. Lymphosarcoma. Giant-follicle lymphoma. Plasmocytoma. Endothelioma. Index.

Note: The brief monograph covers a group of pathologic conditions usually—and in the authors' opinion wrongly—denoted as "lymphomas." To avoid confusion, no general term has been used for the various diseases discussed in separate chapters, despite their obvious relationship. A new term, "Hodgkin's paragranuloma," was introduced to designate a condition which often precedes "Hodgkin's granuloma." The importance of differentiating between these two and the third type, "Hodgkin's sarcoma," is especially emphasized. Two-thirds of the book deals with *Hodgkin's disease*, the rest being devoted to brief discussion of the "allied diseases," as listed in the table of contents. Illustrative cases, selected bibliographical references, and a few microphotographs or X-ray pictures are given for each type of disease under consideration. In spite of the existence of an extensive literature on the subject, this new attempt to bring more light into the clinical picture, pathology and prognosis of the discussed conditions may be considered a valuable contribution.

JOSIAH MACY JR. FOUNDATION

Adrenal cortex. Transactions of the Fifth Conference, November 4 5 and 6 1953 Princeton, N J Edited by Elaine P Ralli. New York Sponsored by the Josiah Macy Jr Foundation, 1954 187 p. illus. 24 cm. $3.75. 3706

Contents: The salt and water factor of the adrenal cortex, by [illegible]. Group interchange. References. The metabolism of labeled steroids, by R. I. Dorfman. Group interchange. References. ACTH—a single substance or a mixture of hormones, by F. G. Young. Group interchange. References. Cumulative index.

Note: In this conference—as in other conferences sponsored by the Josiah Macy Jr. Foundation—there were no formal papers. Instead, the scientists whose names are given in the above contents began the discussions by reporting informally on their recent work. In the course of their reports, other participants in the conference asked questions and mentioned related work or results. These discussions are considerably more extensive than the reports upon which they were focused, and the transcripts of these constitute most of the volume. Participants in the conference represented various scientific disciplines, including medicine, physiology and biochemistry. Literature references cited in the usual pattern are included, and there is a full detailed subject index. The first conference on the adrenal cortex was held in 1949 and the others followed at yearly intervals. The 1953 conference was the final one on this subject.

JOSLIN ELLIOTT P

Diabetic manual for the doctor and patient. Ninth edition. Philadelphia Lea & Febiger 1953 315 p. illus. 21 cm. $3.00. 3707

Contents (abridged): The story of diabetes and insulin. Questions and answers for diabetic patients. Diabetic arithmetic. Hygiene for the diabetic. The diet of diabetic individuals. The treatment of diabetes. Acid intoxication—acidosis—diabetic coma. Care of the teeth. Gangrene—infections of the skin. Constipation and diarrhea. Surgery in diabetes. Expectation of life—prognosis. The prevention of diabetes. The marriage of diabetics. Dogs, diabetics and their friends. Diabetic children. Tuberculosis. Neuritis (neuropathy). Complications in the eyes. Selected laboratory tests useful in diabetic treatment. Foods and their composition. What can you do to help yourself and other diabetics and to conquer the disease. Index.

Note: One of the standard guides for diabetic patients. Living with diabetes is covered in detail from the viewpoint of affected individuals. Obesity, diet, exercise, administration of insulin, and tests of other kinds are discussed very specifically. The book is written in a [illegible] style, and the author does not hesitate to use asterisks to emphasize important points.

MEANS, J H

Lectures on the thyroid. Cambridge, Mass. Harvard University Press, 1954 113 p. illus. 22 cm. $3.00 3708

Contents. The integrated action of the endocrine system. The thyroid hormone—certain aspects of its elaboration in the body, the significance of its structure, and of its action on end organs. The use of hormones, drugs, and radiations in the management of thyroid diseases. Clues to the etiology of Graves's disease. The need for iodine. References. Index.

Note. Fifteen lectures by the founder and former head of the Thyroid Clinic of the Massachusetts General Hospital have been collected in this small book. They were delivered on various occasions from June, 1949 to April, 1953, and all of them have been previously published in journals. However the author revised four of them for publication in the book; hence, in these cases, the texts are not identical with those in the journals. All of them are written in a light style that is pleasant to read. Nevertheless, they present a considerable mass of information on hormones in general and the thyroid in particular. General practitioners of medicine and specialists in fields other than endocrinology who feel the need for more knowledge of the thyroid and associated hormones will find the book rewarding reading.

NEW YORK DIABETES ASSOCIATION

Newer concepts of the causes and treatment of diabetes mellitus proceedings of the symposium on diabetes sponsored by the New York Diabetes Association and held at Memorial Hospital and the New York Academy of Sciences, New York City October 8 1953 New York The National Vitamin Foundation Inc., 1954 181 p. illus. 23 cm. $2.50. 3709

Contents: The hereditary obese-hyperglycemic syndrome in the mouse, by J. Mayer. Lipogenesis in experimental diabetes, by S. Gurin. The endocrine regulation of carbohydrate metabolism, by C. N. H. Long. Some hormone interrelationships in experimental diabetes, by B. A. Houssay. The action of insulin, by W. C. Stadie. The hyperglycemic glycogenolytic factor of pancreas, by G. A. Wrenshall. Control of the complications of diabetes, by H. O. Mosenthal. Disturbances in the metabolism of vitamin B12 in diabetes and their significance, by B. F. Chow. Indications for the use of various insulins, by F. B. Peck. The management of diabetes during pregnancy, by D. Barnes. The effects of life situations and emotions upon the management of diabetes, by L. E. Hinkle, Jr. The management of surgical infections in diabetes with special reference to staphylococcus-streptococcus, by W. R. McCarty. The nutritional management of diabetes, by H. Pollack.

Note: The papers published in this volume are devoted largely to describing research still going on or concluded not long before the symposium was held in 1953. They afford insights into the nature of the problems being studied and some of the results. The papers are accompanied by transcripts of the discussions at the meeting and most of them include literature references. Applications to medical practice are discussed in some papers, in others they are only implied.

RIFKIN HAROLD, AND OTHERS

Diabetic glomerulosclerosis the specific renal disease of diabetes mellitus. By Harold Rifkin, Louis Leiter and James Berkman. Springfield, Ill. Charles C Thomas 1952 102 p. illus. 22 cm. (*American lecture series. Publication number 130. A monograph in American lectures in metabolism edited by Paul György and others*) $3.50 3710

Contents. *The clinical syndrome.* Pathology. Pathogenesis. Analysis of clinical data. Laboratory aids in diagnosis. Differential diagnosis. Treatment. Bibliography. Index.

Note. A short monograph based partly on studies made by the authors at Montefiore Hospital, New York City, and partly on the published studies of other clinicians. It covers a complication of diabetes mellitus on which relatively little has been published. The

selected though rather extensive bibliography of the international literature. In comparison to the preceding edition published in 1947 this edition exhibits considerable *rewriting and augmentation*. The chapter on porphyrin metabolism *is new* Several chapters have been thoroughly rewritten and expanded others have been condensed. The bibliographies have been completely overhauled.

ESCAMILLA, ROBERTO F

Laboratory aids in endocrine diagnosis. Springfield Ill Charles C Thomas, 1954 131 p illus (part col'd) 22 cm. (American lecture series *Publication no 212* A monograph in the Bannerstone division of American lectures in endocrinology, edited by Willard O Thompson) $4 75 3699

Contents Introduction. Information concerning endocrine diseases from the usual routine laboratory tests. Special tests of blood. Special tests of urine (excluding hormone assays) Basic metabolic rate, radioactive-iodine uptake, gastric analysis, electrocardiogram, blood pressure tests. Roentgen ray examinations. Urine hormone tests. Vaginal smear-cervical mucus. Endometrial biopsy Semen examination. Testes biopsy Endocrine disease index.

Note In this book, clinical laboratory tests in use in the University of California Hospital Medical School are described, primarily from the standpoint of their usefulness in the clinical diagnosis of endocrine diseases. Methods are described in specific detail, but the book is not addressed to laboratory technicians. Its value lies primarily in its critical discussions of the individual tests as to their difficulty reliability and factors to be considered in interpreting results. The author emphasizes the fact that laboratory tests should not be given too much weight in diagnosis in endocrinology

FARQUHARSON, RAY FLETCHER

Simmonds' disease extreme insufficiency of the adenohypophysis Springfield, Ill. Charles C Thomas, 1950 93 p. illus 22 cm (American lecture series Publication no. 34 A monograph in American lectures in endocrinology edited by Willard O Thompson) $2 00 3700

Contents. Initial recognition. Pathogenesis and pathology The clinical picture. Summary and conclusion. Bibliography Index.

Note A presentation of "the pathological and clinical picture of the syndrome of extreme insufficiency of the adenohypophysis. It is based on reports of cases in the published literature which contain adequate descriptions of the clinical and pathological features including the findings in autopsies.

GARGILL, SAMUEL L, AND MARK FALCON LESSES

Diseases of the thyroid gland New York Oxford University Press, 1955 [498] p illus. 24 cm $12 00 3701

Contents Part I, Anatomy biochemistry and physiology of the thyroid. Part II, The interrelations of the thyroid with the other endocrine glands. Part III, Antithyroid goitrogens. Part IV The metabolism *of iodine and its relation* to the structure and function of the thyroid. Part Classification *of* diseases of the thyroid methods of examination of patients with thyroid disease. Part VI, Non-toxic goiter Part VII, Toxic goiter Part III, Myxedema, juvenile hypothyroidism, and cretinism. Part IX, Thyroiditis. Part X, Benign and malignant neoplasms of the thyroid. Index.

Note: Although reprinted from larger work *The Oxford loose-leaf medicine*, this book is full-length monograph based on the literature and on the author's extensive clinical experience in the Endocrine Clinic of the Beth Israel Hospital in Boston. Approximately one-third of the volume is devoted to the basic anatomy and physiology The remainder *of the space is devoted* to descriptions of specific diseases. These are covered from the clinical standpoint and are described as to distribution, incidence etiology pathology symptoms and signs, clinical course diagnosis, and treatment. Medical and radiation therapies are *fully* described, but the details of surgical techniques are not included. Each of the parts includes a bibliography

GORDAN, GILBERT S, AND H. LISSER

Endocrinology in clinical practice. Chicago Year Book Publishers, 1953 407 p. illus (part col'd) 23 cm. $10 50 *3702*

Contents (abridged) General principles, by H. Lisser and others. The thyroid gland, by H. Lisser and others. The parathyroid glands, calcium metabolism, and metabolic bone diseases, by G. S. Gordan and others. *The pituitary gland, by H. Lisser and others.* The adrenals, by P H. Forsham and others. Carbohydrate metabolism, by H. T Moffitt and others. Obesity and leanness, by R. F Escamilla. The gonads, by H. Lisser and others. Infertility by E. *W Page and D R. Smith.* Endocrine therapy in neoplastic diseases, by G. S. Gordan Appendix Useful endocrine preparations, trade names and doses, by G. S. Gordan and others. Index.

Note. This book is based in considerable part on a series of *lectures presented in 1952 in postgraduate course under the* auspices of the University of California School of Medicine. Although many of the 30 contributors are specialists in endocrinology, it is specifically addressed to general practitioners. *Diagnosis and medical therapy are emphasized. Selected literature references are* included.

GREENBLATT, ROBERT BENJAMIN

Office endocrinology Fourth edition. With a foreword by G Lombard Kelly Springfield, Ill. Charles C Thomas, 1952 561 p. illus (part col'd) 24 cm. $10 50 3703

Contents (abridged) Section one General endocrinology: Part I, The pituitary Part II, The thyroid and parathyroids. *Part III,* The adrenals. Part IV Miscellaneous—endocrine headaches. Acne. Obesity and leanness. Section II, Female endocrinology: *Part I,* Disorders of menstruation. Part II, *Sterility* and allied disorders. Part III, Disorders in the sexual sphere. Part IV Miscellaneous—Nausea and vomiting of endocrine origin. *Disorders of micturition* due to endocrine imbalance. Section III, *Hormonology: Chemistry of steroid* hormones. Estrogens. Androgens. Adrenal cortical hormones. Pellet implantation Section IV *Diagnostic procedures:* The vaginal smear. The correlation of basal temperature and ovarian activity Laboratory procedures. Tests for pregnancy and their practical application. Section V Male endocrinology: *Hypogonadism. Male sterility* and impotence. Testicular *biopsy* by W O Nelson. Estrogen therapy in the male. Index.

Note A standard treatment which is primarily designed for office use by physicians who are not specialists in endocrinology but who do require in their regular practice knowledge of the common manifestations of endocrinological malfunction. *Each of the 65* chapters is a concise discussion of specific disorder or of diagnostic or therapeutic technique. *Diagnostic* techniques and therapies which are available to the general physician, who must work with limited laboratory facilities, are described explicitly Literature references are included, some of which are to articles on more specialized techniques. In the present edition approximately one-third of the chapters are new and other chapters which have been carried over have been extensively *rewritten.* There are many new illustrations, and the literature references have been extended.

HAUGAARD NIELS AND JULIAN E MARSH

The action of insulin. Springfield Ill. Charles C Thomas 1953 *113 p. illus. 22 cm.* (American lecture series Publication 194 A monograph in the American lecture series in endocrinology Edited by W O *Thompson)* $3 75 *3704*

Contents Introduction, by W Stadie. Essentials of intermediary metabolism. The chemistry of insulin. The physiology of insulin action. Experimental diabetes. Diabetic metabolism. The relationship of anterior pituitary and adrenal cortical factors to the action of insulin. *Some clinical aspects* of the action of insulin. The mechanism of action of insulin. Index.

Note The results of an extensive series of studies carried out to throw light on the action of insulin in the biochemistry of the body are synthesized and presented in the monograph. A considerable part of the research was done by the authors and their associates at the School of Medicine of the University of Pennsylvania. However the published results of other workers have been incorporated also. The book is of interest to biochemists, specialists in the treatment of diabetes and medical researchers, among others. Literature references are included in the chapters.

are described in passing. Specifically the problem posed was: "How does the thyroid safeguard hormone manufacture despite great difficulties in obtaining adequate amounts of the necessary raw material, iodine?" The techniques used and the results obtained are fully described. In addition, there is a brief discussion of physiological problems still unsolved. The chapters include selected bibliographies.

WARREN SHIELDS AND PHILIP M. LECOMPTE

The pathology of diabetes mellitus. Third edition, thoroughly revised. 112 illustrations and 3 colored plates. Philadelphia Lea & Febiger 1952 336 p. illus. (part col'd) 24 cm. $7.50. 3716

Contents (abridged) Diabetes mellitus and the pancreas. Lesions of the pancreas in nondiabetic individuals. Pathological evidences of abnormal carbohydrate metabolism. Pathological evidences of abnormal fat metabolism. The pathology of acidosis and coma. Diabetes and infection. Vascular disease in diabetes. Gangrene. The heart. The kidney. The eye. The nervous system. The pituitary. The adrenal glands. Other endocrine glands. The pathology of diabetes in children. Hemochromatosis. The pathology of insulin-resistant cases. Hyperinsulinism and the pathological effects of insulin. Infants of diabetic mothers. Cancer and diabetes. Experimental diabetes. The etiology and pathogenesis of diabetes. A unifying concept of the pathology of diabetes. Appendices. Index.

Note: The current knowledge of the pathology of diabetes mellitus is presented very compactly in this work. The historical development of the insular hypothesis of the etiology of the disease is outlined in the seven pages of the first chapter, but the outline is supplemented by 70 literature citations. This combination of brief text keyed to a large number of literature citations is typical. There is considerable emphasis on the experimental and clinical evidence which underlies the current knowledge. Controversial issues and aspects which require further investigation are discussed. The second edition was published in 1944 and ran to 244 pages. Much material was added, and the discussions of numerous topics were revised in preparing this edition. Recent literature was added to the bibliographies.

WERNER, SIDNEY C editor

The thyroid a fundamental and clinical text. With sixty contributors. New York Paul B Hoeber Inc. Medical Book Department of Harper & Brothers, 1955 789 p. illus. 24 cm. $20.00. 3717

Contents (abridged) Part I, The normal thyroid: Section I, Physiology of the thyroid. Section II, Thyrotropic secretion of the anterior pituitary; effects of stimuli and of stress. Section III, Biochemistry of the thyroid hormones, comparative and microscopic anatomy of the thyroid. Part II, Laboratory methods. Section I, Basal metabolism, serum precipitable iodine, serum cholesterol. Section II, Radioiodine, miscellaneous tests. Part III, Diseases of the thyroid. Section I, Embryologic development, surgical anatomy, physical examination; pathology. Section II, Nontoxic goiter and thyroid cancer. Section III, Hyperthyroidism. Section IV, Hypothyroidism. Section V, Thyroiditis. Index.

Note: An authoritative, comprehensive work. It is organized in three parts, ten sections, and 43 chapters, of which only the section titles are given in the above contents. The authorship of each chapter is given in the book. The contributors are all eminent surgeons, pharmacologists, internists, biochemists, etc. Although the greater part of the space is devoted to diseases of the thyroid, there is due emphasis on the basic physiology and biochemistry. Treatment is covered fully with information included on surgical, radiation, and medical therapies. Literature references are included in all chapters, and in some they are very extensive.

WILLIAMS ROBERT H. editor

Textbook of endocrinology. Second edition. Illustrated. Philadelphia W B Saunders Company 1955 776 p. illus. (part col'd) 24 cm. $13.00. 3718

Contents: General principles of the physiology of the endocrines, by R. H. Williams. The pituitary, by R. H. Williams. The thyroid, by R. H. Williams. The adrenals, by P. H. Forsham and G. W. Thorn. The testes, by J. E. Howard and W. W. Scott. The ovaries, by G. V. Smith. The pancreas, by P. H. Forsham and G. W. Thorn. Diseases of the parathyroid glands, by E. C. Reifenstein, Jr. The influence of the endocrine glands upon growth and development, by L. Wilkins. Neuroendocrinology, by H. R. Friedgood. Obesity, by W. H. Daughaday. Laboratory diagnostic and assay procedures, by R. H. Williams and others. Diagnosis and treatment of endocrinopathies: hormone preparations, by R. H. Williams. Index.

Note: A standard textbook used in undergraduate courses in medical schools. Each of the chapters is, in effect, a condensed monograph of the specific facet of endocrinology which is named in its title. Background information in anatomy, physiology and chemistry is included, but the emphasis is on the clinical aspects, particularly diagnosis, treatment and prognosis. Some of the authors have included very specific information, such as dosages and sample diets. These features and others, including extensive literature lists, make the book useful in the office libraries of graduate practitioners. The first edition was published in 1950. In this second edition, the terminal chapter is new; several other chapters have been completely rewritten, and still others have been revised in part. Literature published since the first edition was written has been added to the bibliographies.

YEAR BOOK OF ENDOCRINOLOGY

The Year Book of endocrinology (1955–1956 Year Book series) Edited by Gilbert S. Gordan. Chicago The Year Book Publishers, Inc., 1956 367 p. illus. 20 cm $6.00 3719

Contents: Introduction. The pituitary gland. The thyroid gland. The parathyroid glands, calcium metabolism and metabolic bone diseases. The adrenal glands. The reproductive system. Carbohydrate metabolism. Endocrine treatment of neoplastic diseases. Index. Index to authors.

Note: As is true of other volumes of this publisher's useful Year Book series, this one is an organized assembly of abstracts of recent periodical literature. In the volume at hand, the literature published during the calendar year 1955 is covered. The abstracts are long enough for informative reading without reference to the source articles. However, a reference to the original article is given in every case. Each section of the book is opened with a concise review written by the editor of the salient points covered in the section. Also, there are additional editorial comments inserted at the ends of some abstracts. In these, the editor elucidates, criticizes or relates the subject matter of the abstract to other work. In this issue there are 61 illustrations.

OPHTHALMOLOGY

ADLER, FRANCIS HEED

Gifford's textbook of ophthalmology. Fourth edition. Illustrated with 281 figures and 26 color plates. Philadelphia W B Saunders Company 1953 488 p. (part col'd) 24 cm. 3720

Contents: External examination of the eyes and adnexa. Examination of the eye by ophthalmoscopy. Examination of the eye by other objective methods. Functional examination of the eye. The orbit. The eyelids. The lacrimal apparatus. The conjunctiva. The cornea. The sclera. Iris, ciliary body, pupil. The choroid and vitreous body. The lens. Glaucoma. The retina. The optic nerve. Ocular disorders due to diseases of the central nervous system. Ocular manifestations of general disease. Orientation of surgical operations on the eye and adnexa. Therapeutic agents used in ophthalmology. Index.

Note: A standard work for the instruction of medical-college students and the guidance of physicians who are not specialists in ophthalmology. Emphasis is placed on the etiology, diagnosis, and treatment of the more common diseases, injuries, and disorders of the eye. Surgical techniques are not described, but there is a chapter on indications for surgery. Medical management is covered, even to the point of including formulas for some medicines. A sixth edition was published in 1957. 499 p., $8.00.

AMERICAN OPHTHALMOLOGICAL SOCIETY

Transactions of the American Ophthalmological Society ninetieth annual meeting,

authors stress the importance of early diagnosis and also of further study of the condition. Under treatment they offer no specific therapy but point out the necessity of a high level of control of the patient's diabetes so as to delay and possibly prevent degenerative vascular changes.

ROOT, HOWARD F, AND PRISCILLA WHITE
Diabetes mellitus, handbook for physicians. New York Landsberger Medical Books, Inc. distributed solely by The Blakiston Division of the McGraw Hill Book Company, Inc., 1956 346 p illus. 21 cm. $7 00 3711

Content Nature of diabetes. Treatment with diet. Insulin. Use of insulin in treatment. Hypoglycemia due to the administration of insulin. Insulin resistance. Oral treatment of diabetes with sulfonamides. Diabetic acidosis and coma. Tuberculosis and diabetes. Urinary tract infections. Treatment of skin complications. Diabetic neuropathy Treatment of eye disorders. Management of cardiovascular disease. Diabetic nephropathy Management of diabetes with surgical complications. Diabetes and pregnancy Management of juvenile diabetes. Children born to diabetic mothers, their prenatal, perinatal and subsequent course. The examination of the urine and blood. Determinations of pregnanediol, 17 keto and 17 hydroxysteroids, and assays for chorionic gonadotrophin. Index.

Note. Written by an eminent authority on diabetes and by a specialist in pediatrics, both of whom are staff members of the Joslin Clinic, Boston this book is directed to general practitioners of medicine. It is a practical and reliable guide to the management of diabetic patients. Aspects of this management which usually are the responsibility of general practitioners, such as dietary management are fully covered. Special problems such as the management of diabetic children also are discussed in some detail. There are no illustrations other than graphs and tables, and no references to literature.

SINDONI, ANTHONY M, JR.
The diabetic's handbook how to work with your doctor treatment by diet and insulin. Introduction by Rufus S Reeves, with a foreword by Charles C Wolferth. New York The Ronald Press Company, 1948 194 p 21 cm. $3 00 3712

Contents (abridged) Section I, Questions the diabetic asks, and the physician's answers. Section II, Causes and symptoms of diabetes. Section III, Complications of diabetes. Section IV Insulin. Section V Foods. Section VI, Laboratory tests, specific care, and general hygiene. The future for the diabetic. Index.

Note Several authorities have combined to make this useful handbook for diabetic patients and members of their families. Basic practical information for the diabetic is supplied in Section I in question-and-answer form. Medical aspects of the disease and its complications, simply described, include discussions by authorities of eye conditions, skin conditions, and mouth disorders respectively The administration and effect of insulin and details of some simple urine tests are presented in nontechnical language. Approximately one-third of the book is devoted to a discussion of foods and recipes.

SOFFER, LOUIS J
Diseases of the adrenals. Second edition, thoroughly revised with 45 illustrations and 3 colored plates. Philadelphia Lea & Febiger 1948 320 p. illus. (part col'd) 24 cm. $6 50 3713

Contents The anatomy morphological structure, and embryology of the adrenals. Chemical and mechanical techniques important in the diagnosis of adrenal cortical disease. Physiology of the adrenals. Addison's disease. The treatment of Addison's disease. Adrenogenital syndrome. Blood electrolyte and hormonal studies. Sympathogoniomas, neuroblastomas, and ganglioneuromas of the adrenal. Pheochromocytoma and paraganglioma of the adrenal. Bibliography Index.

Note: A monograph which aims to put into the hands of clinicians and endocrinologists the most recent knowledge regarding the physiology and diseases of the adrenals. The discussions of symptoms, diagnosis, and treatment are based on the literature of the subject and on the author's experience in the field. Each topic is illustrated with detailed case histories. This edition has been revised to include later findings relating primarily to the identification of adrenal cortex steroids excreted in the urine the effects of these secretions on other tissues, and the effects of the secretion of the adrenal medulla on other endocrine glands through its action on the anterior lobe of the hypophysis. Extensive bibliographies are given at the end of each chapter.

SOFFER, LOUIS J, AND OTHERS
Diseases of the endocrine glands By Louis J Soffer, with J Lester Gabrilove, and the section on the gonads by Arthur R. Sohval. Second edition, thoroughly revised. 102 illustrations and 3 colored plates. Philadelphia. Lea & Febiger, 1956 1,032 p. illus. (part col'd) 24 cm $16 50 3714

Content (abridged) Section I, The hypophysis: The embryology anatomy and histology The physiologic functions. Diseases. Section II, The adrenals: The anatomy morphologic structure, and embryology Physiology Addison's disease. The treatment of Addison's disease. Adrenocortical hyperfunction. Sympathogoniomas, neuroblastomas and ganglioneuromas. Pheochromocytoma and paraganglioma. Section III, The gonads. The testis. Physiology of the testis. Diseases of the testis. The ovary Physiology of the ovary Diseases of the ovary The virilizing syndrome. Section IV The thyroid Embryology gross and microscopic anatomy and the physiology of the thyroid gland. The value of laboratory aids in the diagnosis of thyroid disease. Inflammatory diseases of the thyroid gland. Hypothyroidism. Tumors of the thyroid gland. Section V The thymus, and parathyroids: The thymus. Anatomy physiology and diseases of the parathyroids. Appendix. Index.

Note A comprehensive work in which common as well as rare diseases are covered from the viewpoint of the clinician. Discussions of embryology and anatomy are covered in each of the sections, but the treatment of these aspects is relatively brief. On the other hand, diseases are described in some detail. Throughout the book, important statements in the text are key-numbered to the chapter bibliographies, which in many instances run to several hundred entries. The book is used both as a graduate text in medical colleges and a reference manual by graduate physicians. The first edition was published in 1951 In preparing this second edition, the former section of hypoglycemia has been deleted, hence, the decrease of about 100 pages in the length of the volume. All of the sections retained have been revised and augmented by the addition of information from the literature published since the first edition was written.

STANBURY, JOHN B, AND OTHERS
Endemic goiter the adaptation of man to iodine deficiency By John B Stanbury, Gordon L. Brownell Douglas S Riggs, Hector Perinetti Juan Itoiz Enrique B Del Castillo Cambridge, Mass. Harvard University Press 1954 209 p. illus. 22 cm. (Harvard University monographs in medicine and public health. No 12 Editorial Committee A Baird Hastings, chairman) $4.00 3715

Contents Part I, Introductory: The Mendoza endemic. Methods. Pathways of iodine metabolism. Part II, Functional interrelations: The uptake and excretion of iodine in the Mendoza patients. The effects of supplementary iodide on the retention of iodine. The effects of desiccated thyroid. Additional observations. Part III, Dynamics of iodine metabolism Theoretical aspects of iodine metabolism. The metabolism of iodine in the Mendoza patient. The effects of methimazole and thyrotropin. The effect of large doses of iodide on the metabolism of iodine. Recapitulation and suggested studies. Appendices. Index.

Note Presented in this work are the results of an investigation participated in by the Departments of Medicine and of Pharmacology of the Harvard Medical School, the Department of Medicine of the Massachusetts General Hospital, the Departments of Medicine, Biochemistry and Surgery of the University of Cuyo, and the Central Hospital of Mendoza, Argentina, and conducted in the province of Mendoza in Argentina, a region in which goiter is endemic, due to a deficiency of iodine in the local water and soil. The studies were focused on the physiological rather than the therapeutic problems, although in the book therapeutic measures

Note: The standard work on slit lamp microscopy of the living eye. It combines clinical guide, textbook and atlas, and describes practically every known condition of the eye which may be studied by slit lamp microscopy. Detailed directions for actual handling of the biomicroscope and for interpretation of what is seen are given. In the finding and describing of various clinical entities, the practical clinical applications of this method of examination are stressed. The illustrations are a special feature. There are more than 500 in the first volume and over 1,200 in the second volume. The colored illustrations, of which there are several hundred, have been carefully printed in eight colors so as to faithfully reproduce the colors of the paintings.

CALLAHAN ALSTON

Surgery of the eye—injuries. Springfield, Ill. Charles C Thomas, 1950. 217 p. illus. (part col'd) 29 cm. $12.50. 3726

Contents: Injuries of the cornea, conjunctiva and sclera. Injuries of the iris and ciliary body. Injuries of the lens. Intraocular foreign bodies. Traumatic separation of the retina. Removal of the eye. Lacerations of the eyelids. Injuries of the lacrimal system. Retraction of the upper lid after removal of the eye. Wiring of the canthus. Pedicle flaps. Tube pedicles. Free skin grafts. Major reconstruction of the lids. Traumatic ptosis. Reconstruction of the socket. Fractures of the orbit. Reconstruction of bony orbit. Ophthalmoscopic and ocular prostheses. Appendix. Preparation. Index.

Note: A book of techniques selected on the basis of the author's experience in [illegible] United States Army ophthalmic center and at the [illegible] Eye Hospital, Birmingham, Alabama. According to the author various methods were tried on similar cases at the ophthalmic center, and therefore an unusual opportunity for comparative evaluation was presented. Generally speaking, in each of the book's chapters, there are general discussions and then descriptions of specific surgical techniques. The word descriptions are supplemented by many illustrations, the majority of which were made from photographs of actual cases. Altogether, there are [illegible] figures and [illegible] plates reproduced in color. As the title indicates, the book is limited to the repair of injuries.

COGAN DAVID G.

Neurology of the ocular muscles. Second edition. Springfield, Ill. Charles C Thomas 1956. 296 p. illus. (part col d) 24 cm. $8.50 3727

Contents: Gross anatomy and actions of the extraocular muscles. [illegible] of the extraocular muscles. Characteristics of the extraocular muscles. Nerves to the extraocular muscles. Supranuclear connections of the ocular motor system. Pupil. Nystagmus. References. Index.

Note: [illegible] short, clearly-written book whose purpose is to aid the beginning practitioner in ophthalmology in the making of accurate diagnoses of the causes of disturbances of the ocular motor system by relating the clinical signs and symptoms to the underlying neurophysiology and neuroanatomy. Correlation of the clinical pattern with the physiology and anatomy of the neural centers and tracts that control the eye is covered thoroughly. [illegible] that suits the book for use in postgraduate courses in medical schools and as [illegible] work for the library of ophthalmologists. The first edition was published in [illegible] and contained 214 pages and [illegible] figures. In the second edition, there are [illegible] pages and [illegible] figures. Largely by the addition of literature published since the first edition was written, the bibliography has been extended from [illegible] references to 1,141. The author [illegible] Professor of Ophthalmology at Harvard Medical School and Director of the [illegible] Laboratory of Ophthalmology.

COWAN ALFRED

Refraction of the eye. Third edition. thoroughly revised, with 187 illustrations and 3 colored plates. Philadelphia Lea & Febiger 1948 287 p illus. (part col d) 24 cm. $5.50 3728

Contents: Introductory. Reflection at plane surfaces. Refraction at plane surfaces. Reflection at spherical surfaces. Refraction by spheric surface. Lenses. Thick lenses. Cylindric lenses. Ophthalmic [illegible]. [illegible] of prisms and lenses. The normal static eye. [illegible] eye. Apertures of the system. [illegible] tions of the eye. Accommodation. Visual acuity. Ametropia. The eye and lens. Accessory effects of the correcting lens. Methods for the determination of the refraction of the eye. The management and optical treatment of anisotropia. Contact glasses. Telescopic spectacles. Bibliography. Index.

Note: An acknowledged contribution to ophthalmic optics. In [illegible] general alignment of the optical system of the eye are analyzed against [illegible] background of physical optics. The corrective measures which can be embodied in spectacle lenses are presented from the same viewpoint. The book is designed for medical students who are preparing for this specialty and also for practitioners already at work in the field. The treatment is practical but [illegible] presented. Much more space is given to the physical aspects than to ophthalmoscopic practices, but the latter phase is adequately covered also. In the present edition there are 187 figures and an eight-page bibliography which includes references to literature published from about 1830 to 1946.

CUSHMAN BEULAH

Strabismus diagnosis and treatment. Philadelphia Lea & Febiger 1956 203 p. illus. 25 cm. $6.00. 3729

Contents: Part I, Diagnosis: Classification and [illegible]. Anatomy of the individual muscles. Dysfunction [illegible]. Part II, Treatment. Monocular and binocular functions. Surgery. Case histories.

Note: The objective methods of Drs. Alexander Duane and James W White, which place emphasis on careful analysis of the muscle imbalance in strabismus and correction of it by surgery, were the basis for this outstanding book. Written at the post-graduate level, it presents the Duane-White approach in full practical detail, particularly in regard to diagnosis. Although there is some discussion of nonsurgical treatments as well as surgical, only the latter are described in detail. Sixty-two case histories are described in a special section of the book. Selected literature references are included in the chapters. The author is a practicing ophthalmologist and member of the faculty of Northwestern University Medical School.

ELWYN HERMAN

Diseases of the retina. Second edition, revised and augmented. With 243 illustrations of which 20 are in color New York The Blakiston Division, McGraw Hill Book Company, Inc., 1953 713 p. illus. (part col d) 23 cm. $12.00. 3730

Contents (abridged): Part I, Diseases of retina resulting from disturbances in circulation. Arteriosclerosis. Occlusion of central artery and its branches. Obstruction of central vein. Spastic contraction of retinal arteries. Angiospastic retinitis in kidney diseases. Fundus changes in diabetes. Retinal changes in diseases of the blood. Part II, Diseases of retina resulting from vascular malformations. Coats' disease. [illegible] disease. Angioid streaks of retina ([illegible] disease). Retrolental fibroplasia. Part III, Degenerative diseases of retina on a hereditary basis. Hyaline bodies of [illegible]. Dominant degeneration of macula lutea ([illegible]). Retinitis pigmentosa. Niemann-Pick disease. Gyrate atrophy of choroid and retina. Congenital night blindness without fundus changes. Tuberous sclerosis ([illegible] disease). Part IV, Inflammatory diseases of retina. Retinal changes in septicemia—subacute bacterial endocarditis. Tuberculosis. Retinal periphlebitis. Syphilis of retina. Part [illegible] Tumors of retina. Part VI, Diseases of retina leading to retinal detachment. Part VII, Developmental anomalies of retina. Part VIII, Radiation injuries of retina. Index.

Note: A large number of conditions and diseases, both common and rare, are described in the book. Diseases and pathological conditions of the retina associated with systemic disorders, especially those of the vascular system and the central nervous system, as well as diseases which are primarily of the eye and the retina, are considered. Diagnosis, especially what the author terms "the clinical picture," is emphasized, but prognosis, treatment and related subjects are also covered. The discussion of each topic is always followed by a general list of references to the pertinent literature. The first edition was published in 1946. Several new chapters have been added in this edition, including chapters on retrolental fibroplasia and on retinal periphlebitis. Several chapters carried over have been completely rewritten, and lesser changes have been made in many others. A selection of literature published since 1945 has been added to the bibliographies, and the number of illustrations has been much increased.

Glacier Park Montana, 1954 New York Published for the American Ophthalmological Society by Columbia University Press, 1955 952 p. illus (part col'd) 24 cm $18 00 3721

Contents (abridged) Congenital alacrima in familial autonomic dysfunction, by J H. Dunnington. Moore's lightning streaks—a discussion of their innocuousness, by C. Berens and others. Scleral changes induced by diathermy in the treatment of retinal detachment, by K. C. Swan and L. Christensen. Harada's disease treated with cortisone—report of a typical case, by F C. Cordes. Perimetry with ultra violet (black-light) radiation and luminescent monochromatic blue test objects—a method for the early detection of conduction disturbance in the retina and optic nerve, by D O. Harrington and W F Hoyt. A rare form of hereditary epithelial dystrophy of the cornea—a genetic, clinical, and pathologic study by F W Stocker and L. B. Holt. Uses and abuses of adrenal steroids and corticotropin, by M. J Hogan and others. Seborrheic blepharitis, by P Thygeson and D G. Vaughan, Jr Medullated corneal nerves and plexiform neuroma associated with pheochromocytoma, by A. E. Braley Infection in ophthalmic surgery by M. H. Post, Jr and W A. Moor. Occult meningiomas, by H. L. Birge and B. B Whitcomb. The fluid exchange in the successfully cyclodialyzed eye, by P C. Kronfeld. Angle-closure glaucoma—subacute types, by P A. Chandler and R. R. Trotter Epipapillary tissues, by A. J Bedell and A. Jokl. The role of developmental anomalies in vertical muscle defects, by W H. Fink. Malignant melanoma of the iris—a case report, by G. V Simpson. Proteins and hyaluronic acid of beef vitreous humor by R. Brunish and others. External and gonioscopic visibility of the ring of Schwalbe and the trabecular zone—an interpretation of the posterior corneal embryotoxon and the so-called congenital hyaline membranes on the posterior corneal surface, by H. M. Burian and others. The pathologic physiology of intermittent exotropia, by H. W Grant. Hemifacial spasm, by J N Greear Jr New instruments and apparatus Light clip-on plastic prisms for the temporary correction of heterophoria and heterotropia, by C. Berens. Instrument designed [illegible] test diplopia fields, by W H. Fink. Index.

—— Ninety first annual meeting, White Sulphur Springs West Virginia, 1955 New York Published for the American Ophthalmological Society by Columbia University Press, 1956 522 p illus. 24 cm. $18 00 3722

Contents (abridged) The importance of ophthalmoscopic photographs in forensic medicine—Kodachromes, by A. J Bedell. Atrophy of the stroma of the iris, endothelial dystrophy corneal edema, and glaucoma, by P A. Chandler Some semiautomatic and automatic trephines, including an electric trephine with automatically retracting blade, by F H. Verhoeff Permanent bilateral blindness following the use of hexamethonium chloride by G. M Bruce Absence of the medial rectus and its successful treatment by vertical tendon transplants, by H. F Hill. Results of combination operation for cataract with glaucoma, by W L. Hughes. Periorbital fibrous dysplasia, by R. O. Rychener and F Murphey Use of carbonic anhydrase inhibitor acetazoleamide (Diamox) for endothelial corneal dystrophy and diseased corneal grafts, by F W Stocker A safe section for cataract extraction, by W S. Atkinson. A comparative study of gonioscopic methods, by R. N Shaffer and R. L. Tour Glial tumors of the retina in relation to tuberous sclerosis, by J. M. McLean. Myopia caused by prematurity by H. L. Birge. Some causes of enucleation after cataract extraction, by B. F Payne and others. Hereditary congenital ophthalmoplegia, by W J Holmes. Paredrine hydrobromide—intraocular pressure evaluations, by F L. P Koch and others. Tonography in the clinical management of glaucoma, by H. G Scheie and others. Aqueous pathways in some cases of glaucoma, by G. Dvorak-Theobald and H. Q Kirk. Corneoscleral lesions in periarteritis nodosa and Wegener's granulomatosis, by D G. Cogan. New instruments and apparatus Fluorescent materials for orthoptic training, by L. H. Quinn Thoma. Intracranial arterial aneurysms—a study of 119 cases, with special reference to the ocular findings, by J W Henderson. Tonometry and the cornea, by J W Jervey Jr Reactions of the iris to injury by A. C. Snell, Jr Index.

Note. The main feature of each of these annual *Transactions* is the section of papers. The authors and titles of papers included in the 1954 and 1955 volumes are listed above. For the most part, the papers represent advances in ophthalmology or describe interesting cases. Some are extensive reviews of a specific topic. An example is Roper's "Suturing in cataract surgery" which combines historical review with critical evaluation of the technique under discussion, is 163 pages long, and includes a bibliography of 548 references. The papers are accompanied by illustrations, literature references and transcripts of discussion.

ATKINSON, WALTER S

Anesthesia in ophthalmology Springfield, Ill. Charles C Thomas, 1955 101 p. illus. 22 cm. (American lecture series. Publication no 251 A monograph in American lectures in ophthalmology, edited by Donald J Lyle) $3 25 3723

Contents. Preanesthetic preparations. Sedatives. Analgesics. Nausea and vomiting. Summary of preanesthetic preparation. Topical anesthesia. Infiltration and block anesthesia. Hyaluronidase. Instruments. Anatomy Intradermal wheal. Akinesia of the orbicularis. New block of facial nerve. Alcohol injection for facial tic. Retrobulbar or cone injection. Subconjunctival injection. Cases. Field block for anesthesia of the lids. Anesthesia for operations on the lacrimal sac. Anesthetic emergencies. General anesthesia. Pentothal sodium—intravenously—rectally Bibliography Index.

Note. A useful, relatively brief presentation of basic information and generally accepted techniques of anesthesia in ophthalmology. It is directed to ophthalmologists rather than to anesthesiologists and deals primarily with local anesthesia. There are 44 illustrations and a bibliography of 57 literature references. The author is Associate Clinical Professor of Ophthalmology in the Post-Graduate Medical School of New York University

BERENS, CONRAD, AND JOSHUA ZUCKERMAN

Diagnostic examination of the eye, step-by step procedure. 410 illustrations including 48 in full color on 13 plates. Philadelphia. J B Lippincott Company, 1946 711 p. illus. (part col'd) 24 cm. $15 00 3724

Contents (abridged) Part I, Examination during first visit: General survey of patient and special survey or examination of eye. Palpation. Visual acuity Motor function. Biomicroscopy with the standard slit lamp. Ophthalmoscopy Transillumination. Retinoscopy and refraction. Tonometry Part II, Examination during second or final visit Postcycloplegic test (completion of refraction). Color vision. Fusion sense and depth perception. Perimetry and campimetry Part III, Supplementary part of examination: Supplementary information. Supplementary examinations and methods used in the examination of the outer eye. Supplementary instruments. Index.

Note. The purpose of this text is to assist medical students, ophthalmologists, and general practitioners to develop a systematic and thorough method of eye examination. Little space is thus devoted to discussions of embryology anatomy and treatment, but examination procedures and methods of recording, correlating, and interpreting the information obtained are presented in great detail. The entire text is well organized, and the brief sections and paragraphs arranged in outline form facilitate its use for rapid reference. Equipment, methods of examination, charts, and pathological conditions are fully illustrated. Each chapter concludes with a selective bibliography

BERLINER, MILTON LIONEL

Biomicroscopy of the eye slit lamp microscopy of the living eye New York Paul B. Hoeber Inc. Medical Department of Harper & Brothers 1943–49 2 v illus. (part col'd) 26 cm $50 00 3725

Contents (abridged) Volume I. Development of biomicroscopy Biomicroscope. Technic of biomicroscopy Normal conjunctiva. Inflammatory lesions of the conjunctiva. Inflammatory and traumatic lesions of the conjunctiva. Tumors of the conjunctiva. Margins of the eyelids. Episcleritis and scleritis. Normal cornea, biomicroscopic appearance. Developmental anomalies of the cornea. Senile degenerations, dystrophies, and pigmentation of the cornea. Biomicroscopy of corneal changes. Inflammatory lesions of the cornea. Traumatic injuries to the cornea. The anterior chamber Gonioscopy by H. S. Sugar Bibliography Index. Volume II. The iris. Congenital anomalies of the iris. Inflammation of the iris. Special types of iritis. Traumatic lesions, cysts, and tumors of the iris. The normal lens, biomicroscopic appearance. Developmental lens changes. Presenile and senile cataract. Complicated cataract. Injuries to the lens. Radiation cataract. Secondary cataract. The capsule. The vitreous. Biomicroscopy of vitreous opacities. Bibliography Index.

Ophthalmology

Early operative extraction of congenital cataract. The incision. The postoperative treatment of the iris. Conservation of surfaces. Extracapsular extraction. Intracapsular extraction. Complications of cataract surgery. The results of advanced surgery of cataract; the adjustment of the patient to aphakia; summary and conclusions. Bibliography. Index.

Note: During his lifetime, the author of this book achieved international eminence as an authority on the techniques of cataract surgery. His book *Surgery of cataract*, 1950, was a landmark in the literature on this technique, and this complementary work presents the advances made in surgical techniques, treatment of complications, etc., from 1939 through 1953. It is based on the literature, including the author's own publications, but is a critical presentation. Some references are made from it to the earlier book, but it may be used independently by experienced surgeons. Most of the illustrations show steps in operative techniques. Great care has obviously been taken in the preparation and reproduction of the colored illustrations. The book is a publication of primary importance, and it has been handsomely produced.

KIRBY DANIEL B

Surgery of cataract. 339 illustrations, including 52 subjects on 21 color plates. Philadelphia J B Lippincott Company 1950 695 p. illus. (part col'd) 26 cm. $30.00. 3738

Contents (abridged): Part one, The development of cataract surgery: The early history of cataract surgery. The development of cataract extraction. The theme and the organization of the book. Basic sciences applied to cataract surgery, by L. S. Stone. Preoperative examination of the eye and prognosis for restoration of vision. Standards for judging the prognosis or the arrest of cataract. The nonsurgical treatment of cataract. Classification of cataract. Part two, Preparation for cataract surgery. Part three, Present-day cataract surgery: The removal of soft cataract. Extracapsular extraction of cataract. Intracapsular extraction of cataract. The removal of luxated and subluxated lenses. The prevention of complications during and after cataract extraction—also their handling should they arise. Traumatic cataract. After-cataract. Part four, The correction of aphakia. The use of glasses in aphakia. Part five, Results obtained in cataract surgery. Index.

Note: A comprehensive treatment in which the historical background, the pertinent anatomy and embryology, and many other related topics are covered, in addition to the surgical techniques. Operative methods are not restricted to those which the author uses but include also procedures of other ophthalmologic surgeons. The book is intended for use as a text in graduate courses offered to medical college graduates and as a reference book for graduate surgeons who are beginning to operate in this specialty.

KRIMSKY EMANUEL

Children's eye problems. New York Grune & Stratton, Inc., 1956 175 p. illus. 26 cm. $6.00 3739

Contents: Introduction. Examining the child. Eye disorders mainly of local origin. Other eye disorders. Eye disorders of systemic origin. Problems in management. Index.

Note: A useful book directed to ophthalmologists, pediatricians, and general practitioners. The special problems of examining children's eyes are discussed, and a practical screening method designed to detect eye disorders in very young children is fully explained. Techniques of diagnosis and management which do not depend upon co-operation on the part of the child are described. Common eye disorders in children are fully discussed, and rare ones are at least mentioned. The importance of taking into account psychologic, environmental, and hereditary factors is pointed out. Literature references are given throughout the book.

KRIMSKY EMANUEL

The management of binocular imbalance. 200 illustrations. Philadelphia Lea & Febiger 1948. 464 p. illus. 26 cm. $12.50 3740

Contents: The corneal light reflex. Ocular function. The positions of gaze. Ocular movements. The physiology of the extraocular muscles. The phoria tendency. Prisms. The Maddox rod. Binocular image alignment. Binocular accommodation. Horizontal binocular imbalance. Vertical imbalance. Neurological considerations. Squint problems in children. Miscellaneous considerations. Prisms in the treatment of binocular imbalance. The stereoscope. The surgical management of binocular imbalance. Authors index. Subject index.

Note: A practical treatise written for the professional ophthalmologist and designed to clarify his understanding of the nature of binocular cooperation, to assist him in making practical measurements, evaluating his findings, and deciding on suitable treatment with lenses, medical or psychological methods, or surgery. The author has developed extensively in his practice and research the use of the corneal light reflex as a means of interpreting binocular imbalance, and to a large extent the volume is a demonstration of the practical value of his method. The 200 illustrations include numerous photographs of eyes exhibiting various types of imbalance. There is a generous number of citations of related literature.

LANCASTER, WALTER B

Refraction correlated with optics and physiological optics and motility limited to heterophoria. Springfield Ill. Charles C Thomas, 1952 310 p. illus. 24 cm. $7 75 3741

Contents (abridged): Part I, Optics and physiological optics: Light—combination of lenses. Shadows—reflection by plane surfaces—image formation by mirrors—magnification. Refraction of light. Refraction by curved surfaces. Cylindrical lenses. Prismatic effects of lenses. The eye as an optical instrument. Accommodation. Skiascopy. Part II, Errors of refraction and motility: Myopia. Hypermetropia. Astigmatism. Measurement of ametropia. Subjective methods. Presbyopia. Ocular motility an essential part of subjective techniques. Vergence. Classification of phorias as a basis for treatment. Eyestrain. Appendix. Index.

Note: In this book, the author has related refraction and motility to the daily work of the graduate ophthalmologist. The book is intended as a supplement to standard treatises and therefore devotes little space to aspects that are in the author's opinion adequately treated in other works. The treatment of basic optics is selective and is related as directly as possible to the eye and to spectacle lenses. His discussions of such ophthalmological conditions as presbyopia are couched in the terminology of ophthalmologic office practice.

LYLE DONALD J

Neuro-ophthalmology Second edition Springfield Ill. Charles C Thomas, 1954 591 p. illus. 26 cm. $17.50 3742

Contents: The visual system—the retina—the optic nerve—structure of the visual cortex and association tracts and areas. The autonomic system. Structures of the midbrain and brain stem concerned with ocular motility. Motor nerves of the eyes. The sensory nerve of the eye, orbit and eyelids (trigeminal nerve). The motor nerve to the eyelids and brow (facial nerve). The auditory nerves (acoustic and vestibular). The autonomic nervous system. The arterial vascular system of brain and eye. The venous vascular system of brain, eye and orbit. The cerebrospinal fluid system of the brain. Meningitis and brain abscess. Encephalitis. The demyelinating disorders. Syphilis of the central nervous system. Clinical diagnosis of increased intracranial pressure. Eye manifestations of head injuries. Tumors of the orbit. Tumors of the optic nerve. Intracranial tumors. Syndromes which include eye symptoms. Appendix: Histology. Index.

Note: In this book—one of the early texts to reflect the increasing interest of ophthalmology in neurology—material from various branches of neurology is brought together for the instruction of students of ophthalmology and practicing ophthalmologists. Both in such chapters as those on the structures of the midbrain and brain stem and on the cerebrospinal fluid system, and those on specific [illegible] disorders, there is emphasis on the neurological aspects. Interrelations between such systems as the auditory nerves and the eye are made clear. The neurological aspects of eye diseases and the ocular aspects of systemic diseases, such as encephalitis, are both described. The first edition was published in 1945. A large amount of new material has been added in this second edition. More than half of the text is new, and 141 of the 333 figures are newly added. A selection of literature published since the first edition was written has been added to the bibliography.

MEDICAL CLINICS OF NORTH AMERICA

Symposium on the eye, ear nose and throat for the general practitioner Philadelphia W B Saunders Company 1956 1573–1876 p. illus. 23 cm. Sold only by a year of six consecutive numbers. $18 per year 3743

Contents: The eyes: Foreword, by F. H. Adler. Functional examination of the eye, by H. S. Weaver, Jr. First aid in eye in-

EPSTEIN, GEORGE J

Strabismus, a clinical handbook. New York McGraw-Hill Book Company, Inc., 1948 214 p. illus. 23 cm. $6 00 3731

Contents. Anatomy and physiology of the extraocular muscles. Physiology of binocular vision. Normal muscle balance. Concomitant strabismus. Paralytic strabismus. Strabismus surgery Index.

Note Although strabismus or cross-eyedness is primarily the concern of the ophthalmologist, this very practical manual is written for the guidance of the pediatrician and general practitioner It reviews and outlines present-day clinical methods of examination, diagnosis, and treatment, and discusses the more important theories regarding the causes and pathology of various forms of strabismus. Also included are a description of the anatomy and physiology of normal binocular vision and a brief outline of the fundamental surgical techniques which are applied in the correction of this deformity

GIFFORD, SANFORD ROBINSON

A hand book of ocular therapeutics. Fourth edition thoroughly revised with 66 illustrations Revised by Derrick Vail. Philadelphia Lea & Febiger, 1947 336 p. illus. 24 cm. $5 00 3732

Contents Equipment. Anesthetics, narcotics and hypnotics. Drugs and organ extracts used in ophthalmology Specific and non-specific protein therapy Physical therapy Diseases of the lids. Diseases of the conjunctiva. Diseases of the cornea. Diseases of the uveal tract. Diseases of the crystalline lens. Glaucoma. Diseases of the retina. Diseases of the optic nerves and central visual pathways. Diseases of the lacrimal apparatus. Diseases of the orbit. Injuries of the globe. Appendix. Conditions, the treatment of which is on an experimental or unsatisfactory basis. Index.

Note In this revision of a standard work, the intention of the original author to provide a practical and concise guide for the diagnosis and treatment of ocular diseases has been retained. New therapeutic agents and antibiotics which have been developed since the previous edition are fully discussed, and the chapters on physical therapy protein therapy and diseases of the retina have undergone considerable revision. As in the earlier edition, only minor surgical procedures are discussed, and brief selected bibliographies are given in each chapter The chapter on disorders of the muscular apparatus has now been omitted.

HARRINGTON, DAVID O

The visual fields a textbook and atlas of clinical perimetry With two hundred thirty four illustrations and nine color plates St. Louis The C V Mosby Company, 1956 327 p illus. (part col d) 25 cm. $16 00 3733

Contents. Part I, The examination of the visual field. Perimetry without special instruments. The instruments of perimetry and their use. Special perimetric techniques. The anatomy of the visual pathway The normal visual field. Part II, The interpretation of defects in the visual fields The abnormal visual field. Opacities of the media (cornea, lens, and vitreous) and their effect on the visual fields. Diseases of the choroid. Diseases of the retina. Glaucoma. The toxic amblyopias. The optic nerve. The chiasm. The postchiasmal visual pathway Disturbances of psychogenic origin. Bibliography Index.

Note. The quantitative examination of visual acuity in all portions of the visual field and the interpretation of the results are the subjects of this outstanding book, which is addressed to advanced students of ophthalmology and graduate practitioners. In the first part the instruments and techniques of perimetry are described and the anatomy of the visual pathways is covered rather briefly The second part, which accounts for two-thirds of the length of the volume, is devoted entirely to perimetry in relation to abnormal conditions and disease. Loss of visual acuity in specific areas of the visual field is correlated with the underlying causes. Scotomata are included among the defects that are discussed. A majority of the 234 figures in the book are representations of perimetric charts with isopters drawn to represent the results of tests in specific cases of abnormality and disease. The book contains some previously unpublished material but, as would be expected, the greater part of it is based on the literature, including the author's own publications.

HOGAN, MICHAEL JOHN

Ocular *toxoplasmosis.* New York Published for the American Ophthalmological Society by Columbia University Press, 1951. 86 p illus. 24 cm. $2 75 3734

Contents. Introduction. Toxoplasma. Clinical manifestations. Clinical ocular manifestations. Histopathology Diagnosis of toxoplasmosis. Serologic diagnosis. Differential diagnosis. Treatment of toxoplasmosis. Relationship between toxoplasmosis and uveitis. Case reports. Ocular findings in experimental toxoplasmosis. Therapeutic effect of drugs and antibiotics against toxoplasma. Discussion. Summary References.

Note A monograph based on both the literature and on original studies carried out by the author. One of its features is a tabulated list of ocular findings in 76 cases of proved or probably congenital toxoplasmosis, which have been reported in the literature. Detailed case reports are included for six cases. Among the author's conclusions is that a positive diagnosis of toxoplasmosis may be made on the basis of clinical findings plus isolation of toxoplasma from body fluids or observation of the parasite in suspected tissues. The monograph contains much information on diagnostic techniques.

HUGHES, WILLIAM F , JR.

Office management of ocular diseases. Chicago The Year Book Publishers, Inc., 1953 452 p. illus. *24 cm. $9 00* *3735*

Contents Vision. Refraction. Lids. Lacrimal apparatus. Orbit. Disorders of ocular motility Conjunctiva. Cornea. Sclera. Glaucoma. Intraocular inflammation. Lens and vitreous. Conditions of the ocular fundus. Neuro-ophthalmology Ocular injuries. Radiation treatment. Ophthalmic formulary Index.

Note. As the title is meant to indicate, this book is devoted to ophthalmological matters within the scope of a physician's office practice In other words, those diagnostic and therapeutic techniques which do not require hospitalization of the patient. Diagnosis and treatment are the primary subjects with only a minimum of space devoted to anatomy physiology and optics. To save space, much information pertaining to diagnosis has been condensed in tables. Methods of treatment have for the most part been limited to those which the author has used in his own practice. Selected literature references are included. The formulary gives formulas for antiseptics, astringents, fungicides, anticoagulants, local anesthetics, etc. The author is Head of the Department of Ophthalmology of the College of Medicine of the University of Illinois.

JOSIAH MACY, JR. FOUNDATION

Glaucoma. *Transactions* of the first conference, December 5, 6, and 7 *1955 Princeton* N J Edited by Frank W Newell. New York Josiah Macy jr Foundation 1956. *251 p illus. 23 cm. $4.50* 3736

Contents (abridged) Group interchange. References. Central control of intraocular pressure, by L. J K. von Sallmann. Group interchange. References. Physiologic and pharmacologic factors influencing the resistance to aqueous outflow by E. H. Kirby. Group interchange. References. Index.

Note The conference whose proceedings are published in this volume was organized similarly to conferences sponsored in other fields by the Josiah Macy Jr. Foundation. The participants are selected to represent several disciplines, although ophthalmology predominates. The proceedings were informal and most of the volume consists of recordings of the discussions among the conference participants. These afford an insight into some of the current research bearing on glaucoma.

KIRBY, DANIEL B

Advanced surgery of cataract. *138 figures and 96 illustrations (22 plates) in full color* Philadelphia J B Lippincott *Company* 1955 *271* p. illus (part col d) *26* cm $27.00 3737

Contents. Advances in surgery of cataract as found in the current literature. Classification of lens changes. Prognosis for restoration of vision. Preparation of the patient for cataract surgery The Perfected instrumentation and the healing of ocular tissues.

PROGRESS IN OPHTHALMOLOGY AND OTOLARYNGOLOGY: a quadrennial review Volume I. Part One—*Ophthalmology*, edited by Meyer Wiener and A. Edward Maumenee. Part Two—Otolaryngology edited by Percy E. Ireland and Joseph A. Sullivan. New York Grune & Stratton, 1952 666 p. illus. 24 cm. $15.00. 3748

Contents (abridged) I. Basic science in ophthalmology: Anatomy and embryology, by J. J. Pendergast. Biochemistry, pharmacology and toxicology of the eye, by W. M. Grant. Congenital anomalies, by A. M. Yudkin. Electrophysiology of vision, by S. H. Bartley. II. Diagnosis and treatment of diseases of the eye: The lids and lacrimal apparatus, by A. Callahan. Conjunctiva, by J. G. Bellows. Cornea and corneal lenses, by M. W. [illegible]. Retrolental fibroplasia in premature infants, by W. C. Owens and E. U. Owens. Orbital lesions, by J. W. [illegible]. Recent advances in the treatment of glaucoma with autonomic drugs, by G. B. Koelle. Tumors, by J. E. McGavic. Progress in neuro-ophthalmology, by M. Flax. ACTH and cortisone therapy in ophthalmology, by J. McLean. Antibiotics in ocular infection, by A. E. Braley. III. Surgery of the eye. Recent advances in surgery of the eye, by B. Y. Alvis and E. E. Alvis. The use of fibrin coagulum in ocular surgery, by A. L. Brown. Enucleation and the newer implants, by N. L. Cutler. IV Related subjects in ophthalmology: Industrial ophthalmology since World War II, by H. S. Kuhn. Education and rehabilitation of the blind, by M. E. Frampton. [illegible] The ear: Otitis media with effusion, by G. D. Hoople. Recent advances in the use of labyrinthine tests, by W. J. McNally and E. A. Stuart. Theories of hearing, by M. H. Lurie. Progress in the surgical treatment of otosclerosis, by J. A. Sullivan and J. K. B. Smith. Surgery of Meniere's disease, by F. D. Lathrop. Recent advances in the surgical treatment of facial paralysis and Bell's palsy, by J. A. Sullivan. The problem of noise in industry, by H. P. House. Therapeutic and toxic effects of streptomycin and other antibiotics on the ear, by A. Glorig. II. Nose, sinuses and nasopharynx. Nasal cilia and nasal medications, by G. E. Tremble. Treatment of acute frontal sinusitis, by R. L. Goodale. The modern conceptions of headache, by L. R. Boies. X-ray findings in malignancy of sinuses, nose and nasopharynx, by A. S. MacMillan and A. S. MacMillan, Jr. III. Larynx, tracheo-bronchial tree and esophagus: Treatment of carcinoma of the larynx, by L. H. Clerf. Recent advances in surgical treatment of lesions of the esophagus, by P. E. Ireland and D. P. Bryce. IV. Allergy. Outline on allergy as related to otolaryngology, by F. K. [illegible]. The basis for use of cortisone and ACTH in treatment of otolaryngologic conditions, by H. L. Williams. Index.

Note: A complementary volume to M. Wiener, *Ophthalmology in the war years*, Chicago, 1946–48. It covers the developments reported in the literature from July 1944, through 1951. Each of the 43 chapters is [illegible] concise literature digest accompanied by [illegible] bibliography. The purpose of the work is to aid general practitioners of medicine and other medical men in keeping abreast of developments.

SCOBEE, RICHARD GORDON

The oculorotary muscles. Second edition. St. Louis The C. V. Mosby Company 1952 512 p. illus. 25 cm. $7.00. 3749

Contents (abridged) Section I. The background of ocular deviations. Anatomy. Principles, antagonists, yoke muscles. Physiology and mechanics of the extraocular muscles. Neurophysiology of the oculomotor mechanism. Section II. Latent deviations. The position of rest. Orthophoria. Heterophoria. Esophoria. Exophoria. Hyperphoria. Cyclophoria. Section III. Manifest deviations. Heterotropia. Concomitant heterotropia. Noncomitant heterotropia. Section IV. Making the diagnosis. The history. Visual acuity. The cover test. Measuring the deviation. Ductions. Versions—primary and secondary deviations. Vergences. Diplopia fields. The diagnosis of hypertropia. Section V. Treatment of the deviation. The nonsurgical treatment of heterotropia. The surgical treatment of heterotropia. Reasons for failure in muscle surgery. Appendix. Specific testing techniques for the Maddox rod. Index.

Note: A discussion for postgraduate students and beginning practitioners in ophthalmology of the diagnosis and treatment of ocular muscle dysfunction. Diagnostic techniques are presented in great detail. Therapy is presented from the standpoint of the "orthoptic principle" which holds that [illegible] muscle is best treated as functionally by weakening an antagonistic muscle. There are 113 figures. The bibliography is limited to short lists of references to recent literature.

SCOBEE, RICHARD GORDON

Rehabilitation of a child's eyes. Second edition. Revised by Herbert M. Katzin. St. Louis The C. V. Mosby Company, 1955 133 p. illus. 22 cm. $2.55 3750

Contents. Part I. Orientation. The effect of crossed eyes on the personality. General information. The teamwork of the two eyes. How the eyes focus. Why eyes cross. The bad effects of crossed eyes. Part II. Rehabilitation of squint: Glasses in the treatment of crossed eyes. Treatment of amblyopia ex anopsia, the lazy eye. Eye exercises. Operations in the treatment of crossed eyes. The treatment of crossed eyes after an operation. Glossary.

Note: A sympathetic and authoritative discussion of crossed eyes or squint. It is addressed primarily to the parents of children who are affected with the condition. It deals with causes, effects, and treatments. No particular therapy is emphasized. Instead the author describes all therapies that might be considered by expert ophthalmologists in considering [illegible] cases of squint. Although the book is intended for laymen, physicians such as general practitioners who are not specialists in eye diseases sometimes include it in their office libraries because of the usefulness of its nontechnical explanations when dealing with parents. The first edition was published in 1948. The second edition, revised by the Director of the Eye Bank Laboratory of Manhattan Eye, Ear, and Throat Hospital in New York City places somewhat more emphasis on orthoptic training.

SOMMERS IGNATIUS GEORGE

Histology and histopathology of the eye and its adnexa. New York Grune & Stratton, 1949 784 p. illus. 22 cm. $12.00. 3751

Contents (abridged) Part one. Normal histology of the eye. Embryology of the eye. Senescence of the eye. Part two. General pathology in relation to the eye. Part three. Histopathology of the eye: Pathology of the cornea. Pathology of the sclera. Pathology of the uvea. Pathology of the retina. Pathology of the optic nerve. Pathology of the lens. Pathology of the vitreous body. Pathology of the conjunctiva. Pathology of the eyelids. Pathology of the lacrimal organs. Pathology of the orbit. Ocular developmental abnormalities. Glaucoma. Myopia. Injuries. Surgery and its complications. Index.

Note: The first two parts of this book on normal histology and on general pathology occupy only 129 pages, whereas 633 pages are devoted to the third part. In the chapters of this part disorders of the various elements of the eye are fully discussed, chiefly in terms of the histology. The organization of the chapters is unconventional. First, there [illegible] detailed discussion, then [illegible] concise summary of the pertinent literature identified only by authors' names and, finally [illegible] formal bibliography of the international literature. There are only 89 figures, but these are of good quality. According to the author, the book is an elaboration of lectures that he gave over [illegible] period of years to undergraduate medical students. The bibliographies taken together constitute [illegible] fairly comprehensive list of the world literature from 1920 to 1947 but unfortunately the authors' names have not been indexed.

SPAETH EDMUND BENJAMIN

Principles and practice of ophthalmic surgery Fourth edition, thoroughly revised with 649 illustrations, containing 1251 figures and 8 colored plates. Philadelphia Lea & Febiger 1948. 1,044 p. illus. (part col'd) 24 cm. $15.00. 3752

Contents (abridged) General pathology of the orbit. Surgery of the lacrimal apparatus. Enucleation and allied operations. Complete symblepharon. The physiology of strabismus. The anesthetic of reconstructive ophthalmological plastic surgery. Surgical conditions of the lids. Anatomical factors connected with surgical procedures on the eyeball. Surgical conditions of the conjunctiva. Surgery of the sclera and the cornea. Surgery of the iris and the anterior chamber. Etiology and differential diagnosis of cataract. The techniques of the cataract operations. The surgery of glaucoma in specific instances. The surgical treatment of retinal separation. Transplant of the globe and lids. Roentgen-ray and radium therapy. Author index. General index.

Note: A standard textbook for advanced students and [illegible] reference book for practicing surgeons. It is comprehensive in scope and covers all of the operations with which the author has had experience, as well as [illegible] selection of other procedures which are widely

juries, by J S. McGavic. Inflammatory conditions of the lids and conjunctiva that can be handled by the general practitioner by W E. Fry Arteriosclerosis of the intraocular blood vessels, by G. G. Gibson. Ocult diabetes, by H. W Forster jr. Strabismus in children, by F R. McDonald. What the general physician should know about corneal disease, by I. H. Leopold. What the general physician should know about diseases of the uveal tract, by I. H. Leopold. What the general practitioner should know about ocular surgery by H. G. Scheie. Ear nose and throat Foreword, by H. P Schenck, consulting editor Allergy of the nose and paranasal sinuses, by H. P Harkins. Hoarseness, by F J Putney Nontumorous lesions of the mouth, by L. E. Silcox. The unsolved problem of the tonsils and adenoids, by M. S. Ersner and S. S. Lerner Poliomyelitis in relation to tonsillectomy by B J Ronis. Hearing loss, by F Harbert. Tinnitus, by J Winston. Vertigo by B. H. Shuster Modern medication in otolaryngology by F A. Harden. Index to Volumes 38 39 and 40 (1954 1955 and 1956)

Note. Medical Clinics of North America is published six times a year Each issue appears in hard cover and has the features of an independent book, except for the continuous volume paging. Each issue is devoted to a symposium on a topic of current importance. The issue described here is the one for November 1956, and it contains the symposium named in the title. The volume consists of the papers whose authors and titles are listed above. The authors are specialists, but they have addressed themselves in this instance to general practitioners. Literature references are appended to the papers. During the year 1956 other symposia published in the series included "Medical problems of the age," "Medical aspects of cancer and "Hematologic disorders.

Pascal, Joseph I., and Harold G Noyes

The optometrist's handbook of eye diseases With 155 illustrations and 3 color plates St. Louis The C V Mosby Company, 1954 300 p illus (part col'd) 26 cm $9 50 3744

Contents. Basic principles of general and ocular pathology Examination techniques. Diseases of the eyelids. Diseases of the conjunctiva. Diseases f cornea and sclera. Diseases of iris and ciliary body Diseases of choroid and uveal tract. Diseases of the retina. Diseases f the optic nerve. Diseases of crystalline lens and vitreous humor Diseases of orbit and lacrimal apparatus. Glaucoma. Syphilis and the eye. Paralysis and spasm of the ocular muscles. Hemianopsia and the amblyopias. Night blindness and day blindness. Endocrines, vitamins, and allergies. Heredity and genetics as they affect the eyes. Refractive changes resulting from disease. Headaches f ocular origin. Nystagmus and color blindness. Hopes and helps for the blind and near blind. Eye syndromes and their significance. Eye injuries and first aid. Questions and problems on ocular pathology Appendices. Index.

Note. In the United States of America many optometrists, whose profession is the measuring of defects in vision and the prescription and fitting of eye glasses, are persons without degrees in medicine. However in the practice of their profession they have an unusual opportunity to recognize eye diseases and to advise patients who need medical treatment of the eyes to consult an ophthalmologist. This book, directed to advanced students of optometry and practicing optometrists, provides the information on eye diseases that will facilitate their detection. It covers a wide range f diseases, but discusses most of them briefly In general, the discussion of specific disease covers the basic anatomy and signs and symptoms. Some tangential material is included, for example, discussions f heredity and a long chapter on help for the blind, by not only optical devices, but also such aids as "talking books

Pascal Joseph I

Studies in visual optics St. Louis The C. V Mosby Company 1952 800 p. illus. 22 cm $9 50 3745

Contents (abridged) Lenses—physical and optical properties. Transposition of lenses. Toric lenses. The radian method in ophthalmic calculations A physiological approach to refractive errors. Ophthalmic calculations by the dam formula. Observations on fusal and orthoptic exercises. A non-geometric exposition of the theory of retinoscopy Principles and application of cylinder retinoscopy Specialized techniques in the practice of retinoscopy The concept of reduced vergence, reduced power and reduced distance. Axes and angles of the eye. The cardinal points and planes. Some observations on myopia. Calculating stereoscopic vergence The stereoscope as an aid in the correction of ametropia. The mechanism and measurement of accommodation. The mechanism and measurement of convergence. Binocular duction tests and their significance. A new approach to cross cylinder tests. Cross cylinder methods vs. line chart methods. True and spectacle correction of ametropia. Lens correction vs. lens correction in hyperopia. Specialized training of the visual functions. Refraction by prisms. Refraction by spherical surfaces. Refraction by thin lenses. Thick lenses and lens combinations. Lens form relative to lens power Optical oddities of contact lenses. Optical and visual effects of tilted lenses. A graphic study of the ocular muscles. Diplopia fields as charted from lenses ... Appendix. Index.

Note: Altogether there are 46 chapters in this book which is not a systematic treatise but a collection of writings on various topics. The wide range of topics is obvious from the selected titles given above. The author states, "I have chosen a number of topics which I felt needed clarification, and/or new interpretation and/or considerable amplification. Some of the chapters, for instance that on the dam formula, offer useful short cuts, others such as the one on "Optical oddities of contact lenses" attempt to clear up points that are poorly understood or misunderstood by ophthalmologists. The book is of interest primarily to graduate ophthalmologists and optometrists.

Paton, R Townley

Keratoplasty New York The Blakiston Division McGraw Hill Book Company, Inc., 1955 280 p illus (part col'd) 27 cm. $28.50. 3746

Contents. General survey History of corneal grafting. Anatomy of the cornea. Physiology of the cornea. Case selection. Donor material. Preoperative preparation. Operative technique. Postoperative care. Radiation therapy Cortisone therapy Histology of the healing cornea. Statistical summary Appendix. Visual aids. Index.

Note. A full-scale monograph on transplantation of the cornea. The author is one f the world's leading specialists in this operation and is co-founder of the Eye-Bank for Sight Restoration, Inc. More of the space is devoted to the surgical techniques and to preoperative and postoperative therapy However all other aspects of the subject are also discussed, including the history of corneal grafting, basic anatomy and physiology legal aspects of obtaining eyes, legislation needed in this connection, the activities of the Eye-Bank for Sight Restoration, Inc., descriptions of eye-banks in other countries, and references to the literature. The surgical techniques are described in detail and, furthermore, are illustrated in an extensive series of clearly drawn and well-reproduced illustrations. The appendix contains a series of tables in which are presented in detail the results of corneal grafts in various eye diseases.

Perera, Charles A

May's manual of the diseases of the eye for students and general practitioners. Twenty first edition revised and edited by Charles A. Perera. With 378 illustrations including 32 plates with 93 colored figures. Baltimore Williams & Wilkins Company 1953 512 p illus. (part col d) 20 cm. 3747

Contents External examination of the eye and its adnexa. Subjective or functional examination of the eye. Objective examination of the eye conducted in the dark room oblique illumination, the ophthalmoscope, transillumination and the corneal microscope with slit-lamp. Affections of the eyelids. Diseases of the lacrimal apparatus—orbit—conjunctiva—cornea—sclera—iris—ciliary body uveitis. Diseases of the choroid. Perforating wounds of the globe foreign bodies in the globe and orbit compensation for eye injuries. Intraocular tumors. Glaucoma. Diseases of the vitreous—lens—retina—optic nerve Amblyopia disturbances of vision without apparent changes visual standards for operating motor vehicles. General optical principles. Optical consideration of the eye. Errors of refraction Disturbances of motility of the eye. Ocular therapeutics, general rules for eye operations. The ocular manifestations of general diseases. Appendix. Index.

Note. A concise manual for medical students and general practitioners of medicine rather than specialists. It has been a standard work since the appearance of the first edition in 1900 and has been translated into many languages. The first edition by Charles H. May was published in 1900 and the 20th edition, the 21st, was revised and edited by Dr Charles A. Perera, member f the faculty of the College of Physicians and Surgeons of Columbia University and published in 1949 The 22nd edition was published in 1957 518 p., $4.00.

Contents: Physiology and pathologic physiology of the lacrimal system. Nasolacrimal [illegible]. Disorders of the canaliculus. Congenital atresia of the nasolacrimal duct. Etiology of dacryocystitis. Clinical manifestations and diagnosis of dacryocystitis. Conservative treatment of dacryocystitis. External operations of the lacrimal sac. Intranasal dacryocystorhinostomy. Tumors of the lacrimal sac. Disorders of the lacrimal gland. Tumors of the lacrimal gland. Index.

Note: A thorough, monographic study written from the clinical viewpoint, of the system that keeps the eyes moist and secretes the tears. The normal and pathologic physiology and the developmental anatomy are reviewed in the first two chapters. The remainder of the volume is devoted to disorders and their therapy. Surgical treatments are especially well covered. The book is based both on the literature and on the experience of the author, who is Professor of Medicine in the Post-graduate School of Medicine in the University of Texas.

WIENER, MEYER, AND HAROLD G SCHEIE

Surgery of the eye. Third revised edition. New York Grune & Stratton, 1952 449 p. illus. 26 cm. $15.00. 3759

Contents: Basic technics in ophthalmic surgery. Anesthesia. Preoperative and postoperative care. Cataract surgery. Glaucoma surgery. Retinal detachment. Intraocular foreign bodies. Operations on the cornea. Removal of eye. Operations on the conjunctiva. Operations on the lids and socket. Ptosis. Operations on the muscles of the eye. Operations on the tear apparatus. Index.

Note: A medical college textbook and reference manual for graduate surgeons. The techniques described have been critically selected by the authors on the basis of their experience and judgment. Although no attempt was made to present all known techniques, those which are covered are described explicitly and in full detail. The descriptions are supplemented by nearly 430 drawings of high quality. The second edition was published in 1949. For the third edition many changes were made in both the text and illustrations. Several chapters were completely rewritten, and sections describing new operative procedures have been added to others. Many new illustrations were added. There is no bibliography.

WOODS ALAN CHURCHILL

Allergy and immunity in ophthalmology Baltimore The Johns Hopkins Press, 1933 176 p. 23 cm. (The Wilmer Ophthalmological Institute, The Johns Hopkins Hospital and University Monograph no. 1) $2.25 3760

Contents: General considerations of anaphylaxis, allergy and immunity. Experimental studies on general ocular immunology. Relationship of allergy to focal reactions in the eye. Allergic conjunctivitis. Antigenic properties and reactions of lens protein and uveal pigment. Syphilis. Tuberculosis. Therapeutic procedures. Index.

Note: This monograph presents the knowledge and theories of allergy and immunity in ophthalmology current since 1933. The author has assembled all the most important work and has attempted to evaluate it impartially in the face of many conflicting and opposing views found in the literature. Although this monograph has been prepared chiefly for the ophthalmologist, the material will be of value to other workers in allergy and immunity in view of the importance of the allergic inflammatory reactions of the eye in the study of the general problem of allergy and immunity.

WOODS ALAN CHURCHILL

Endogenous uveitis. With illustrations by Annette Smith Burgess. Baltimore The Williams & Wilkins Company 1956 303 p. illus. (part col'd) 27 cm. $12.50. 3761

Contents: Nomenclature—classification—pathogenesis. The clinical picture and pathology of granulomatous and nongranulomatous uveitis. Etiologic diagnosis of uveitis. The treatment of uveitis. Bibliography. Index.

Note: In this work endogenous uveitis designates "nonpurulent inflammations of the uveal tract which are related to [illegible] systemic disturbances, either an infection or an acute sterile endogenous [illegible]. The author shows further that this disorder may be divided into two pathogenetically distinct entities which he chooses to call granulomatous and nongranulomatous. The subject is covered in [illegible] thorough manner although the book is directed more to medical-college students than it is to graduate practitioners of ophthalmology. The organization of the material is indicated by the chapter titles listed above. The chapter on the clinical picture and pathology is more than 80 pages long, and that on treatment is 70 pages long. In the latter [illegible] wide range of therapeutic measures is covered. The treatments are described in full detail, and the experience [illegible] each is summarized. There are forty-two plates in color and 81 monochrome figures in the text. The bibliography contains 303 references to the international literature.

ZUCKERMAN, JOSHUA

Perimetry With 156 illustrations. Philadelphia J B Lippincott Company 1954 391 p. illus. (part col d) 24 cm. $10.00 3762

Contents (abridged): Part I, Fundamentals in perimetry: The vocabulary and the language of perimetry. Fundamental concepts. Part II, Perimetric studies. Equipment. Anatomy and physiology. Procedure for the examination of the fields of vision. Lesions of the choroid and the retina and their field defects. Glaucoma and its field defects. Lesions of the optic nerve—optic chiasm—optic tract—external geniculate body—optic radiations—occipital visual cortex. Part III, Summary and supplementary data. Descriptive review of perimetry. Tabular review of perimetry. Defects which may be encountered in mapping the field of vision. The visual fields in some general or systemic diseases. Disturbances of vision or of the field of vision without external evidence of disease. Mathematical aids in perimetry. Bibliography. Index.

Note: A textbook designed for the instruction of undergraduate students in medical colleges who are making their first acquaintance with perimetry. It has several features designed to facilitate learning on the part of the beginning student. These include long chapters in Part I on the technical vocabulary and the fundamental concepts of the field and two reviews of the subject, including one in tabular form at the end of the volume. The principal part of the book deals explicitly and in detail with procedures and with the interpretation of their results in terms of clinical significance.

OTORHINOLARYNGOLOGY

ASH J E. AND MURIEL RAUM

An atlas of otolaryngic pathology. Published under the joint sponsorship of the American Academy of Ophthalmology and Otolaryngology The American Registry of Pathology The Armed Forces Institute of Pathology Washington, D C. American Registry of Pathology 1956. 572 p. illus. (part col d) 28 cm. $20.00 3763

Contents: General pathology: Acute inflammation. Granulomatous inflammation. Pigmentation and degeneration. Necrosis and vascular lesions. Deficiency in blood diseases. Lipid histiocytoses and miscellaneous diseases of bone. The effects of ionizing radiation. Tumors. Dermatoses. Tumors of the skin. Fungus diseases. Tropical diseases. Upper respiratory tract: Histology of the nose and paranasal sinuses. Rhinitis and sinusitis. Sinusitis. Nasal polyps. Specific inflammatory diseases of the nose. Tumors of the nose and sinuses. Pharynx. Tumors specific to pharynx. Malignant tumors of the nose, sinuses and pharynx. Tumors arising in bone. Tonsils. Lower respiratory tract: Larynx. Tumors of the larynx. Trachea, bronchi and lungs. Esophagus. Mediastinum and thymus. Neck: Cysts, lymph nodes and tumors of neck. Thyroid and parathyroid gland and carotid body. Salivary glands. Ear: External ear. Middle ear. Otitis media. Mastoid and mastoiditis. Temporal bone. Otosclerosis. Deafness and Ménière's disease.

Note: A reference book based on the wealth of material in the files of the Armed Forces Institute of Pathology. It is organized into the five parts and 36 chapters whose titles are given above. Most of the chapters consist of brief but useful text and a large number of illustrations. The illustrations depict both gross and microscopic pathology with the latter predominating. The part, which contains the general pathology which the specialist needs for background, accounts for approximately one-fifth of its length. All of the rest of the space is devoted to the specialized pathology of the respiratory tract, the neck, and the ear. The amount and variety of illustrations greatly [illegible] considerably exceeds that available in any other American book on this subject.

used. There has been no basic or organizational change in the work in the present edition, but amplification of material in various sections where recent developments demanded change has resulted in a lengthening of the work by about 100 pages. The number of illustrations has been essentially increased.

TAIT, EDWIN FORBES

Textbook of refraction Illustrated Philadelphia W B Saunders Company, 1951 418 p illus 25 cm $8 00 3753

Contents (abridged) Ocular reflexes. Accommodation stimulus-response mechanism. Emmetropia and ametropia. Hyperopia. Myopia. Astigmia. Presbyopia and aphakia. Isometropia and anisometropia. Aniseikonia. Amblyopia. Reading difficulties—alexia and dyslexia. Illumination and photophobia. Preliminary considerations in binocular coordination. Vergence stimulus-response mechanisms. Binocular fusion. Ocular dominance. Retinal correspondence. Ocular muscle anomalies. Orthophoria and heterophoria. Binocular anomalies at the near point. Heterotropia. Keratometry Skiametry Static skiametry Cycloplegics, mydriatics, and miotics. Subjective methods of refraction in normal and subnormal vision. Orthoptics. Accommodation tests. Stereopsis. A system of refraction with interpretation and correlation of data. Index.

Note. The author's critical selection of the material included and his authoritative comments on difficult points in diagnosis and correction are special features of this book. Disorders of refraction and neuromuscular abnormalities are covered comprehensively but controversial concepts and techniques not yet thoroughly established are omitted from the text, though papers on some of them are included in the literature lists. The book is addressed to medical college students who have acquired the basic knowledge of the anatomy and physiology of the eye and of physiological optics. History-taking and diagnostic procedures are compactly outlined in the final chapter. The author is Associate Professor of Ophthalmology in Temple University

THOMAS, CHARLES I

The cornea. Springfield, Ill. Charles C Thomas 1956 1,318 p illus. 23 cm $30 00. 3754

Contents Anatomy of the cornea. Embryology of the cornea. Physiology of the cornea. Pathologic physiology of the cornea. Methods of examination of the cornea. Congenital anomalies. Dystrophies of the cornea. Pigment deposits in the cornea. Inflammations and ulcers. Trachoma. Corneal mycosis. Epidemic keratoconjunctivitis. Corneal manifestations in generalized diseases—contagious diseases—diseases of the skin. Corneal lesions resulting from generalized metabolic disturbances. Corneal diseases of allergic origin. Tumors. Pterygium. Injuries of the cornea. General treatment. Radiation treatment. Historical development of corneal surgery with special reference to keratoplasty Keratoplasty Special problems in keratoplasty technic. Technic of lamellar keratoplasty Technic of total penetrating keratoplasty Technic of partial penetrating keratoplasty Partial penetrating keratoplasty Keratoplasty results. Miscellaneous procedures in corneal surgery References. Index.

Note A comprehensive work on the cornea in health and disease. The early chapters provide the essential background knowledge on anatomy embryology and physiology These chapters together account for only 140 pages. The rest of the volume is devoted to detailed discussions of pathology disease, injuries and techniques of treatment, both medical and surgical. There are 400 figures, many of which contain several illustrations. Included among these are a considerable number of illustrations of surgical techniques. The index to authors includes the names of all authors referred to in the text. The subject index is an exceptionally detailed one. The book is of interest to graduate ophthalmologists and to students preparing for this specialty

TOWER PAUL

Differential diagnosis of common diseases of the eye ground. New York Grune & Stratton 1953 243 p. illus. 27 cm. $11 00 3755

Content Introduction The normal fundus. Congenital anomalies Diseases of the retina. Diseases of the choroid. Diseases of the macula. Glaucoma. Diseases of the optic nerve. Myopia. Index.

Note. Differential diagnosis with the ophthalmoscope is presented in considerable detail in this book. Diseases of the fundus are the primary subject. However considerable attention is given to normal appearance of the eyeground and to variations not associated with disease. Another noteworthy feature is the inclusion of manifestations of systemic diseases, such as vascular disease, which may be observed in ophthalmoscopic examinations. Signs of diagnostic value are fully described in the text. The verbal text is supplemented by reproductions of 129 photographs of the fundus in various normal and diseased states. Statements in the text are carefully referenced to literature citations in the chapter bibliographies. An unusual feature is the inclusion near the end of each chapter of a "Literature discussion" containing abstracts of several of the more important articles bearing on the subject of the chapter.

TOWN, ARNO E

Ophthalmology 208 illustrations, and 4 colored plates. Philadelphia Lea & Febiger, 1951 511 p. illus (part col'd) 24 cm. $10.00. 3756

Contents. The objective examination of the eye. Physiology of vision, by I. H. Wagman. Correction of optical defects of the eye, by D. Naidoff. The extraocular muscles. The orbit. The lacrimal apparatus. The eyelids. The conjunctiva. The cornea, by I. H. Leopold. The sclera. The vitreous. The uvea, by W. F. Duggan. The crystalline lens. The retina. The optic nerve. Glaucoma, by I. H. Leopold. Neuro-ophthalmology by J. Waldman. Ocular changes in general diseases, by A. W. Howland. Symptomatic diagnosis. Ocular therapeutics. Standing orders for traumatic cases in industrial dispensaries: eye accidents and injuries. Surgery of the eye.

Note. In this concise work, the emphasis has been placed upon eye conditions which may come to the attention of the general practitioner in everyday practice and on the eye as a guide to diagnosis and prognosis of systemic infections elsewhere in the body. Over 200 illustrations direct attention to particular malfunctions and methods of diagnosis and treatment. Selected references are inserted at the ends of sections within chapters to aid those desiring more extensive information on the particular subject. The author is Professor of Ophthalmology in Jefferson Medical College, and his contributors are also teachers in the same or closely allied fields.

TRONCOSO, MANUEL URIBE

Internal diseases of the eye and atlas of ophthalmoscopy Second edition 285 illustrations including 94 full page color plates. Philadelphia F A. Davis Company 1950. 684 p. illus (part col d) *26 cm $22 00.* 3757

Contents (abridged) Part I, Ophthalmoscopy Methods and technic of ophthalmoscopic examination. Part II, Structural features of the internal eye. The normal fundus. The physiology and pathology of the circulation in the retinal vessels. Part III, The visual field. Field testing (campimetry) General pathology of the visual field. Part IV Anomalies of development. Part V Diseases of the optic nerve. Part VI, Atrophy of the optic nerve. Pressure atrophy. Glaucomatous and nutritional atrophies. Acute poisoning of the retina and optic nerve. Tumors of the optic nerve. Part VII, Vascular diseases of the retina. Part VIII, Diseases of the retina. Retinal lesions in diseases of the blood. Congenital systemic maladies. Exposure and tumors. Part IX, Diseases of macular region, area centralis and allied conditions. Part X, Retinitis in infectious diseases. Part XI, Pigmentary retinosis and allied diseases. Part XII, Retinal detachment, parasites and tumors. Part XIII, Diseases of the choroid. Part XIV Pathological changes in the vitreous body Part XV Injuries of the choroid, retina and optic nerve. Index.

Note. A standard textbook in which the author has treated the subject by emphasizing the pathological changes in physiopathology first, then deducing the symptoms from the lesions The purpose of the method is to show the student the importance of correlating pathology and symptomatology Descriptions of diseases are briefer than in many texts, but they are adequate. The color plates are a feature of particular value. The first edition was published in 1942 In the second edition the work has been enlarged by some 130 pages and now includes new sections on a considerable number of diseases and conditions which were not covered in the first edition. The number of illustrations has been increased somewhat.

VEIRS EVERETT R

The lacrimal system clinical application. New York Grune & Stratton, 1955 159 p. illus 26 cm. $7 50 3758

Contents (abridged) General physiology. Applied physiology. Functional tests. Spontaneous manifestations. Induced reactions. Evaluation of abnormal reactions. Differentiation of peripheral and central lesions. References. Index.

Note: A brief but well-written monograph on the non-acoustic part of the inner ear, that is to say the utricle, the saccule, and the three semicircular canals. The primary emphasis [illegible] on the clinical aspects, but the basic physiology is given only slightly less emphasis, and there [illegible] also some discussion of neurological aspects. Another useful feature is the critical discussions of the various theories and hypotheses that have been advanced to explain labyrinthine function. The chapter on functional tests runs to more than 100 pages and is organized under the subheadings noted in the above contents. Each of the chapters is provided with extensive lists of literature references. Formerly [illegible] member of the teaching staff in the Polyclinic at the University of Vienna, the author is now Clinical Professor in Otolaryngology in the School of Medicine of Tufts University

HELLER, MORRIS F

Functional otology the practice of audiology With Bernard M. Anderman and Ellis E. Singer New York Springer Publishing Company Inc., 1955 225 p. illus. 22 cm. $5.50 3769

Contents. Office testing room. Audiology centers. Equipment. The patient's history. Pure tone audiometry. Recruitment. Deafness of nonorganic origin. Tuning forks and [illegible]. Tinnitus. Infants and children. Speech audiometry. Hearing aids. Voice and speech production. Speech deviations in conductive deafness. Speech deviations in perceptive deafness. Auditory rehabilitation. Bibliography. Index.

Note: The author of this book is Chief of the Audiology Clinic of Mount Sinai Hospital in New York. The book is written from the viewpoint of practice in large audiology centers. The organization, equipment and staffing of such centers are discussed concisely in the first three chapters. Those that follow are devoted to the testing of hearing and other aspects of the treatment of patients [illegible] hearing disorders. These chapters contain much material that is applicable in any practice involving audiology whether the patient [illegible] in [illegible] large, organized center, or in private practice. A variety of tests is described. Many examples of audiograms are reproduced, and their interpretation is discussed.

HOLLENDER, ABRAHAM RISEL

Office treatment of the nose, throat & ear Third edition. Chicago The Year Book Publishers, Inc., 1950 620 p. illus. 21 cm. (The general practice manuals) $7.50 3770

Contents (abridged) Section one, Part I, General survey. Evaluation of office treatment of nose, throat and ear diseases. Immunization. Endocrine therapy. Nutritional management. Pharmacotherapy. Physical therapeutic procedures. Office surgery. Radiotherapy. Psychosomatic approach to otolaryngology. Section II, Part II, Diseases of the nose. Part III, Diseases of the paranasal sinuses. Part IV, Diseases of the mouth and pharynx. Part [illegible] Diseases of the larynx. Part VI, Diseases of the ear. Part VII, Neurologic disorders. Index.

Note: A widely used manual of the techniques of otolaryngology which can be carried out in practitioners' offices as distinguished from those which must be carried out in fully equipped hospitals. The style of presentation is compact, and [illegible] rather wide range of conditions is covered. As the author points out, [illegible] office treatment now comprises the larger part of the management of ear, nose and throat diseases. [illegible] Most of the therapies included are physical, such as the use of diathermy, but there is [illegible] chapter on minor surgical operations. The second edition was published in 1946. This volume is not only longer by some 70 pages, but substantial sections of text that were included in the second edition have been deleted or extensively rewritten.

HOLLENDER, ABRAHAM RISEL, editor

The pharynx basic aspects and clinical problems. Chicago The Year Book Publishers, Inc., 1953 560 p. illus. 24 cm. $15.00. 3771

Contents (abridged) Section I, Basic aspects: Anatomy of the mouth and pharynx, by E. M. Shabah. Pathology of the pharynx, by F. B. Lamb. Bacteriology of the pharynx in health and disease, by J. L. Goldman and J. Freeman. Roentgenographic examination of the pharynx, by H. K. Taylor. Section II, Clinical problems. A. The nasopharynx (epipharynx). Inflammatory diseases of the nasopharynx. Irradiation therapy of the nasopharynx: technic, results, cautions, by G. E. Fisher. B. The mouth and pharynx (oropharynx). Oral and pharyngeal manifestations of diseases of the blood, by H. J. Hara. Acute sore throat. Chronic sore throat. Surgical elimination of the tonsils and adenoids, by E. Almour. Tonsil tags and lingual tonsils: how to deal with them. Abscesses of the pharynx, by J. W. Bell. C. The oral salivary glands, and neck. The palatal uvular structure, function and significance, by E. M. Pullen and G. E. Richardson. Infections of the neck, by B. J. Schoenl. Pharyngeal diverticulum: characteristics and management, by P. H. Holinger. D. Tuberculosis, syphilis, neoplasms. Tuberculosis and syphilis of the pharynx: incidence and clinical significance. Neoplasms of the mouth and oropharynx—nasopharynx, by J. G. Schoelman. E. Miscellaneous considerations. The tonsil problem in rheumatic fever and other systemic diseases, by D. A. Nathan. Relationship of tonsillectomy and poliomyelitis, by E. E. Howard. Psychosomatic aspects of oral and pharyngeal diseases, by M. H. HeGroder. Index.

Note: There are 36 chapters written by 21 authors in this comprehensive treatise on the pharynx, [illegible] which is addressed to graduate practitioners. A selection of chapter titles with the names of authors is given above. In cases [illegible] where no author is given, the editor of the volume is also the author. The pertinent fundamentals of anatomy, physiology and bacteriology are discussed, as well as diseases and medical and surgical therapies. The primary emphasis is on the clinical and therapeutic aspects. There are approximately 200 illustrations. Fairly extensive lists of literature references are included.

LEDERER FRANCIS LOEFFLER, AND ABRAHAM R. HOLLENDER

Basic otolaryngology Fourth edition. Illustrations, 11 in color Philadelphia F A. Davis Company 1956 442 p. illus. (part col d) 23 cm. $6.75 3772

Contents (abridged) Section 1, General considerations. Section 2, The nose. Section 3, The paranasal sinuses. Section 4, The mouth. Section 5, The pharynx. Section 6, The larynx, trachea, bronchi, and esophagus. Section 7 The ear. Index.

Note. A concise, introductory textbook used in the instruction of undergraduate medical students. Earlier editions were entitled *Textbook of the ear nose and throat.* Many charts and tables are used to present briefly but in [illegible] form that is convenient to use, the high points of diagnosis and other matters. The illustrations, both those in monochrome and those in color, are of good quality

LEDERER, FRANCIS LOEFFLER

Diseases of the ear nose and throat. Principles and practice of otorhinolaryngology Clinical technics and procedures. Sixth edition. With 979 illustrations 20 in color Philadelphia F A. Davis Company 1952 1 430 p. illus. (part col d) 27 cm. $20.00. 3773

Contents (abridged) Section I. The ear. Anatomy of the ear. Examination and functional tests of the ear. Diseases of the external ear. Diseases of the tympanic membrane and middle ear. Chronic suppurative middle ear disease. Neoplasms of the middle and inner ear. Diseases of the mastoid region. Labyrinthitis. Diseases of the internal ear. Temporal bone fractures. Section II, The nose and paranasal sinuses. Diseases of the external nose. Chronic forms of rhinitis. Diseases of the nasal septum. Sinus disease. Naso-orbital infections. Section III, The mouth and pharynx: Infections and infectious diseases of the mouth. Diseases of the tongue. Acute diseases of the pharynx. Chronic pharyngitis. Neoplasms and paralyses of the pharynx. Section IV The larynx, trachea, bronchi and esophagus. Diseases of the larynx. Obstructive conditions of the larynx. Chronic forms of laryngeal disease. Tumors of the larynx. Surgery of the larynx and trachea. The trachea and bronchi. The esophagus. Section [illegible] General and correlated considerations: Progress in otolaryngology. Diagnostic and therapeutic facilities. Neuralgias of the head and neck. Allergy. Disorders of speech and voice. Ophthalmological aspects. Roentgenography of the head. Oncologic relations to otolaryngology. Index.

Note A comprehensive work suited to the needs of specialists and graduate medical college students preparing for specialization in otorhinolaryngology. Background information such as anatomy and physiology are covered very concisely. Almost all of the space [illegible] given to descriptions of diseases and to related matters, such as

BALLENGER, HOWARD CHARLES, AND JOHN J BALLENGER

A manual of otology, rhinology and laryngology Fourth edition, enlarged and thoroughly revised, with 136 illustrations and 3 color plates Philadelphia Lea & Febiger, 1954 365 p illus (part col'd) 24 cm $6 00 3764

Contents (abridged) Part I, The nose and accessory sinuses Acute inflammatory diseases of the nasal cavity and sinuses. The treatment of sinus infections. The complications of sinus disease. Hyperplastic rhinitis. Allergy: hay fever Headaches and neuralgias of the face and head. The nasal septum. Part II, The pharynx and fauces Clinical anatomy of the pharynx and tonsils. Diseases of the pharynx and fauces. Diseases of the tonsils. Diseases of the adenoid and lingual tonsil. *Deep neck infections. Part III,* Diseases of the larynx Acute inflammatory diseases of the larynx. Chronic diseases of the larynx. Paralysis and neuroses of the larynx. Tuberculosis and syphilis of the larynx, throat and nose. Part IV The ear The functional tests of hearing. Diseases of the auricle and external auditory canal. Diseases of the tympanic membrane and eustachian tube. Secretory (catarrhal) and adhesive diseases of the tympanic cavity Acute suppurative otitis media. Acute diseases of the mastoid. Chronic diseases of the middle ear and mastoid. Facial paralysis. Non-inflammatory diseases of the labyrinth and eighth nerve. *Physiology* functional tests and inflammatory diseases of the labyrinth. Physical therapy in otolaryngology Index.

Note A standard work which is used as a textbook in undergraduate medical colleges and as an office reference book for graduate physicians who are not specialists in the field. It deals with common disorders of the nose, throat, and ear from the clinical viewpoint. The discussions of the individual entities vary but generally speaking, it is brief and limited to etiology pathology symptomatology and treatment. The third edition was published in 1947 In preparing this fourth edition, some sections were rewritten and a few new sections added. However the general plan and scope of the book remain the same.

BALLENGER, WILLIAM LINCOLN, AND HOWARD CHARLES BALLENGER

Diseases of the nose, throat and ear Ninth edition, thoroughly revised assisted by John Jacob Ballenger With 597 illustrations and 16 plates Philadelphia Lea & Febiger, 1947 993 p illus (part col d) 24 cm 3765

Contents (abridged) Part I, The nose and accessory sinuses The surgical correction of facial deformities. The surgical correction of obstructive lesions of the septum. Allergy Headache—neuralgia of the face and head. *Etiology of inflammatory diseases of the nose,* throat and sinuses The general and local treatment of sinus infections. The surgical treatment of sinusitis. Part II The pharynx and fauces Surgical anatomy of the pharynx and tonsil The tonsils as foci of infection *Deep neck infections.* Functional neuroses of the pharynx. Part III, Diseases of the larynx Anatomy—laryngoscopy Acute inflammatory diseases of the larynx. Paralysis and neuroses of the larynx. *Defects of speech.* Surgical treatment of cancer of the larynx. Malignant neoplasms of the trachea, pharynx and nose. Part IV The ear The clinical anatomy and physiology of the ear *Malformations and neoplasms of the ear* Diseases of the auricle and external canal. Injuries and diseases of the tympanic membrane. Diseases of the eustachian tubes. Acute suppurative otitis media. Diseases of the mastoid process. Facial paralysis. Surgery of brain abscess. Deaf-mutism. *Inflammatory* diseases of the labyrinth. Surgery of the labyrinth. Part V Bronchology esophagology and gastroscopy Index.

Note A standard text written primarily for medical students, but of such practical nature that it is also of value to the general practitioner The presentation is comprehensive and concise and covers the anatomy physiology etiology diagnosis, and treatment of the diseases under discussion. A three-page bibliography on gastroscopy is included. The tenth edition was published in 1957 968 p., $17.50.

BOIES, LAWRENCE R

Fundamentals of otolaryngology a text book of ear nose and throat diseases By Lawrence R. Boies and associates Charles E Connor, Anderson C. Hilding, Jerome A. Hilger John J Hochfilzer, Conrad J Holmberg, Kenneth A. Phelps Robert E. Priest, George M Tangen. Second edition. Philadelphia W B Saunders Company, 1954 487 p 400 illus. on 197 figures. 24 cm. $7.00. 3766

Contents. Introduction to modern otolaryngology Part I, The ear Applied anatomy and physiology of the ear. Examination of the ear. Hearing loss. Diseases of the external ear and external auditory canal. Acute middle ear disease. Chronic middle ear disease. Complications of suppurative otitis media. Tinnitus. Vertigo. Aids to hearing—audiology Part II, The nose Applied anatomy and physiology of the nose. Examination of the nose. The common cold. Nasal allergy Chronic nasal obstruction. Acute and chronic sinus disease. Complications of sinusitis. Headache and neuralgia of nasal origin. Epistaxis. Atrophic rhinitis. Injuries to the nose. Part III, The throat: Applied anatomy and physiology of the throat. Examination of the throat. Diseases of the nasopharynx. Acute and chronic sore throat. Tonsils and adenoids. Hoarseness. Laryngeal obstruction. Dysphagia. Foreign bodies in the air and food passages. Bronchoscopy and bronchography in pulmonary disease. Tumors of the nose and throat. Modern medication in otolaryngology *Addendum: The possibilities of treatable disorders in otolaryngology—allergy* autonomic dysfunction, and endocrine imbalance. Index.

Note. A practical work used as a textbook in undergraduate courses in medical schools and as an office manual for general practitioners of medicine. *It is limited to diagnosis,* treatment and *related aspects that especially concern the practicing physician.* The first edition was published in 1949 In this second edition, the general plan and purpose of the book are unchanged. However revisions and additions have been made in many of the chapters. *The length of the book has been increased by 43 pages and a selection of the literature published since the last edition was written has been added to the bibliography There are 197* figures.

EGGSTON, ANDREW ANDERSON, AND DOROTHY WOLFF

Histopathology of the ear, nose, and throat. Baltimore The Williams & Wilkins Company 1947 1 080 p illus. (part col d) 26 cm. 3767 $18.00

Contents (abridged) The ear The temporal bone. The external ear The drum membrane. The middle ear. The mastoid. The petrous apex. Pneumatization. The anatomy of Eustachian tube. The eighth nerve. Histology of the ear *Physiology* Physiology of external ear, drum and hearing. Pathology Pathology of the external ear. Histopathology of the drum membrane. Inflammation of the middle ear Inflammation of the mastoid. Inflammation of the petrous Histopathology of the inner ear Chronic inflammatory changes in the temporal bone. Neoplasms of the ear The nose: Histology of the nose and accessory sinuses. Physiology of the nose and accessory sinuses. Pathology of the nose. *Intracranial complications.* Chronic specific infections of the nose and accessory sinuses. The pharynx and larynx Oral and pharyngeal pathology as manifestations of constitutional diseases. *Pathology* of the nasopharynx and larynx Lumps, swellings, or tumefactions of the neck. Cysts and tumors of the pharynx and larynx. Clinical pathology in its relationship to otorhinolaryngology Appendix Index.

Note A comprehensive treatment which is of interest to advanced medical students and interns who are preparing to specialize in either general pathology or otorhinolaryngology and is also useful as a reference book to specialists already practicing in the latter field. Not only is the immediate subject fully covered, but considerable attention is paid also to basic knowledge from the fields of embryology and anatomy There are 505 figures, many of which are reproductions of microphotographs and 28 plates, partly in color Extensive bibliographies are included with most of the chapters.

FISCHER JOSEPH J

The labyrinth physiology and functional tests. New York Grune & Stratton, 1956. 206 p. illus. 23 cm $6.50 3768

pharynx, larynx and neck. Tracheotomy. The trachea and bronchi. The esophagus. Allergy. Miscellaneous. Index. Index to authors.

Note: Edited and organized similarly to the other manuals in the publisher's Year Book series, this annual publication consists largely of abstracts of articles selected from the world's medical literature. The typical abstract is several hundred pages in length and in many instances is supplemented by a short editorial note sharing the author's conclusions or relating them to other work. Illustrations appearing in the original articles are sometimes reprinted, and in the issue at hand there are 121 figures. Each annual issue covers the literature of approximately one year. The issue described here contains abstracts of articles selected from journals received by the editor between October 1954, and September 1955.

DERMATOLOGY

AMERICAN ACADEMY OF DERMATOLOGY AND SYPHILOLOGY

Atlas of dermal pathology. Prepared by the Registry Committee on Dermal Pathology of the American Academy of Dermatology and Syphilology. Hamilton Montgomery, chairman. Illustrations selected by Arthur C. Allen. Fourth edition. Washington, D. C. American Registry of Pathology 1948. 155 p. illus. 25 cm. $5.00 3780

Note: Although designed for use in conjunction with a set of slides on dermal pathology, this work is also useful independently of the slides. It contains reproductions of 100 illustrations of pathological specimens selected from the files of the Armed Forces Institute of Pathology. All are microphotographs. The pictures are accompanied by descriptive legends of considerable length, some being as long as one page. Literature references are included in many of these legends.

ANDREWS, GEORGE CLINTON

Diseases of the skin: for practitioners and students. Fourth edition. With 777 illustrations. Philadelphia W. B. Saunders Company 1954 877 p. illus. 26 cm. $13.00 3781

Contents: General anatomy and pathology. Symptomatology and general diagnosis. Roentgen ray physics applied to dermatology. Roentgen ray therapy. Radium therapy. Surgical diathermy. Dermatoses due to physical causes. Pruritus and cutaneous neuroses. Contact dermatitis—eczema—atopic dermatitis. Erythema and urticaria. Seborrheic dermatitis and psoriasis. Parapsoriasis, pityriasis, pityriasis rubra pilaris. Lichen planus. Acne. [illegible]. Miscellaneous [illegible] infections. Diseases due to fungi. Tuberculosis cutis. Leprosy and other diseases due to bacilli. Syphilis, yaws and pinta. Diseases due to animal parasites. Some virus and rickettsial diseases. Pemphigus and dermatitis herpetiformis. Deficiency diseases. Collagen diseases—collagenoses. Miscellaneous erythemas and eruptions. Diseases of subcutaneous fat. Endocrine diseases, hyperhidrosis, atrophies. Cutaneous manifestations by products of metabolism. Some diseases of congenital origin. Dermal tumors. Epidermal tumors. Pigmented nevi and melanomas. Leukemias, lymphomas and mycosis fungoides. Diseases of the skin appendages. Diseases of the mucous membranes. Diseases of the cutaneous blood vessels. Disturbances of pigmentation. Tropical diseases of the skin. Index.

Note: A standard treatise on skin diseases written from the clinical viewpoint. It is used both as a textbook for undergraduate medical students and as a reference or office book for general practitioners of medicine who treat skin diseases or at least wish to differentiate them from other conditions with dermatological manifestations. Diseases are classified according to etiology and the commoner dermatoses are emphasized. The book is very fully illustrated, and the majority of the illustrations are reproduced from photographs of case histories. The first edition was published in 1930 and the third edition in 1946. This fourth edition represents an extensive revision with important changes in most chapters. The style is now more concise. Many diseases not described in previous editions have been added, and the chapters on [illegible] have been much revised and augmented. Although comparatively the number of illustrations has been reduced, many new illustrations have been added. A selection of literature published since the third edition was written has been added to the bibliographies.

BAER, RUDOLF L., editor

Atopic dermatitis. Philadelphia New York University Press distributed by J. B. Lippincott Company 1955 112 p. illus. 19 cm. $2.50 3782

Contents: The development of the concept of atopic dermatitis, by R. L. Baer. Atopic dermatitis—its clinical and histologic picture, by M. B. Sulzberger. Certain stigmata associated with atopic dermatitis, by R. R. Kierland. Atopic dermatitis—a discussion of certain theories concerning its pathogenesis, by A. Rostenberg, Jr. The management of atopic dermatitis, by T. H. Sternberg and V. C. Newcomer. Index.

Note: A small but valuable book on a common skin disease which is still far from completely understood. The six contributors are all eminent authorities on dermatology. Each one has written a compact and up-to-date survey of the facet of the problem assigned to him by the editor and in most cases has incorporated results from the literature as well as from his own experience. The terminal paper is a concise, critical survey of drugs and other measures in the treatment of atopic dermatitis. The book is useful to graduate general practitioners as a guide to the treatment of patients and to specialists as a critical survey of current knowledge with reference to the significant literature.

BLANK, HARVEY AND GEOFFREY RAKE

Viral and rickettsial diseases of the skin, eye and mucous membranes of man. With a foreword by Donald M. Pillsbury. 36 full color illustrations as 6 plates. 63 black and white illustrations. Full color insert "Reactions to smallpox vaccination." Boston Little Brown and Company 1955 285 p. illus. (part col'd) 24 cm. $8.50 3783

Contents: Introduction: the nature of viruses and rickettsiae. Diagnosis of viral and rickettsial infections. Herpes simplex. Chickenpox and herpes zoster. Smallpox, cowpox and vaccinia. Exanthematous diseases. The common cold. Herpangina. Warts. Molluscum contagiosum. Viral diseases contracted from animals. Epidemic keratoconjunctivitis. Chlamydozoaceae. Rickettsial diseases. Author index. Subject index.

Note: A comprehensive manual of the viral and rickettsial diseases that affect primarily the skin, conjunctiva and mucosae of the external orifices of the body. Also described are manifestations in the same regions of viral and rickettsial diseases of other parts of the body. The descriptions of the individual diseases vary considerably but clinical features, pathology, infectivity and treatment are always discussed as fully as the particular disease warrants. When there is no treatment, the authors so state in terms such as the following: "There is no specific treatment. fever may be controlled by use of salicylates." The illustrations, which are of high quality, are a principal feature. Selected but extensive references to the literature are given. The book is directed primarily to graduate practitioners of medicine, including general practitioners of medicine, including general practitioners, ophthalmologists and dermatologists.

EPSTEIN, ERVIN

Skin surgery. 242 illustrations on 101 figures. Philadelphia Lea & Febiger 1956 228 p. illus. 24 cm. $7.50 3784

Contents: Why dermatologic surgery? by M. B. Sulzberger and V. H. Witten. Part I, Cold steel surgery: General principles of skin surgery, by E. Epstein and R. S. Pollack. Scalpel surgery, by C. S. Lincoln and R. C. [illegible]. Indications and methods of skin grafting, by A. E. Smith and M. [illegible]. Oral-plastic surgery, by B. G. Sarnat. The surgical treatment of advanced visible cancer, by R. S. Pollack. The biopsy, by M. R. Caro. Part II, Electrosurgery: Endotherapy and electrocoagulation, by J. Ayres, Jr. and S. Ayres, III. Cautery excision, by E. Epstein. Electrodesiccation and curettage, by N. N. Epstein. Epilation, by C. S. Lincoln, Jr. Part III, Special techniques: The chemosurgical method for the microscopically controlled excision of cutaneous cancer, by F. E. Mohs. Dermabrasion, by C. R. Rein and G. [illegible]. Cryosurgery, by H. V. Allington and R. R. Allington. Therapeutic tattooing, by E. Epstein. Surgery of the nails, by E. Epstein. Index.

Note: A variety of techniques is described in this book, which is directed to graduate physicians including specialists in dermatol-

roentgenography which are of interest to the specialist. Specific diseases are fully discussed, and the textual discussion is supplemented by a variety of illustrations of good quality. The length of the work and its scope have been very substantially increased in the present edition, in order to maintain its purpose as an encyclopedic treatment. Literature references are not included.

MORRISON, WILLIAM WALLACE

Diseases of the ear nose and throat. Second edition Foreword by Arthur W Proetz. New York Appleton-Century Crofts, Inc., 1955 756 p. illus. 25 cm $10 00 3774

Content (abridged) Part I, General considerations. History of the patient. Equipment for the physical examination of the ear nose and throat—anesthesia. The use of chemotherapy the antibiotics, hormone and autonomic therapy in otolaryngology Part II, The diseases of the ear: Anatomy of the ear Physiology of the ear Diseases of the external ear the external auditory canal and the tympanic membrane. Acute inflammation of the tympanic cavity and mastoid cells. Chronic suppurative otitis media and chronic mastoiditis. Complications of otitic suppuration Endaural surgery of the temporal bone. Part III, Diseases of the external nose and the nasal cavities Diseases of the external nose and nasal vestibule. Diseases of the nasal septum. Diseases of the nasal cavities. Part IV The allergic diseases of the respiratory tract. Part V Diseases of the paranasal sinuses. Acute sinusitis. Headache, the neuralgias and cephalalgias of the head and neck. Part VI, Diseases of the throat Diseases of the pharynx. Diseases of the lymphatic structures of the pharynx. Part VII, Diseases of the larynx. Part VIII, Diseases of the trachea, bronchi, esophagus and mediastinum Diseases of the trachea and bronchi. Diseases of the esophagus. Foreign bodies in the larynx, trachea, bronchi and esophagus. Formulary—prescriptions for medications to be used by patients. Symptom index. Subject index.

Note Primarily a textbook for use in courses in medical colleges, this book is also a good office reference book for general medical practitioners. Common diseases are discussed simply practically and in adequate detail but rare ones are dealt with briefly Typical information about a disease covers the following points. definition, etiology pathology symptoms, physical signs and diagnosis, differential diagnosis, course and outcome, and treatment both medical and surgical. However only simple surgical techniques are fully described. There are 359 figures, all reproduced from drawings by the author The first edition was published in 1948. In this second edition the principal changes are in the lists of references included at the ends of chapters. A selection of recent literature has been added to some of these.

PALMER, EDDY D

The esophagus and its diseases. Illustrations by Phyllis Anderson New York Paul B Hoeber Inc, Medical Book Department of Harper & Brothers 1952 553 p. illus (part col'd) 24 cm $15 00 3775

Contents. Anatomy Clinical physiology Congenital atresias and fistulas. Diverticulosis. Diaphragmatic hernias. Achalasia and cardiospasm. Other mechanical disturbances. Foreign bodies. Ruptures and perforations. Esophagitides. The esophagus in acute infectious diseases. Tuberculosis. Syphilis. Mycoses. Animal parasites. Esophagitis due to corrosive agents. Ulcers. Strictures and webs. Benign epithelial tumors. Carcinoma. Benign nonepithelial tumors and cysts. Sarcomas. Varices and hemorrhage. Allergy drug damage the endocrinopathies. Diffuse collagen diseases. Deficiency diseases Extrinsic disease Index.

Note The disorders of the esophagus are covered comprehensively in this work The chapter titles indicate the wide scope. Diseases and their treatment are discussed fully and many illustrative cases are described. The text is based on a survey of the international literature including the author's own writings There are 95 illustrations. The author is Chief of the Gastrointestinal Section of Walter Reed Hospital of the United States Army Medical Center

PARKINSON, ROY HARVEY

Tonsil and allied problems New York The Macmillan Company 1951 432 p. illus. 26 cm $12 00 3776

Contents. The ancient tonsil and tonsil lore. Muscles of the pharynx and eustachian tube. Potential spaces around the tonsil. Nasopharynx, adenoid, lingual tonsil, and other allied lymphatic structures. Carotid arterial system. Veins draining the tonsil region. Nerve supply of tonsil and allied structures. Lymphatic drainage of the tonsil. Histology of the tonsil and allied structures. Embryology and postnatal cycles of the tonsil. Physiology of the tonsil. Acute inflammatory diseases of the tonsil. Chronic inflammatory diseases of the tonsils. Tumors involving the tonsil and adenoid region. Miscellaneous conditions involving the tonsils. Indications and contraindications for tonsillectomy Technique of tonsillectomy Complications following tonsillectomy Index.

Note A comprehensive study of a small part of the body that is responsible, according to one authority for one-third of all operations performed on the urban population of the United States of America. Currently employed surgical techniques are fully described, but there is no special emphasis on this phase of the subject. Equal emphasis is given to diagnosis, and the discussions of the circulatory system, nerve supply histology etc., are as full as the subject requires. There are 150 figures and a bibliography of 53 references.

VAN ALYEA, OLIVER EDMOND

Nasal sinuses an anatomic and clinical consideration Second edition. Baltimore The Williams & Wilkins Company, 1951 327 p. illus (part col'd) 23 cm. $9 00 3777

Contents. Histopathology Nasal physiology Acute nasal infection. Maxillary sinus. Frontal sinus. Ethmoid sinus. Sphenoid sinus. Sinus disease in children. Allergy Tumors. Complications. Relation of sinuses to other conditions. General therapeutic measures. Subject index. Author index.

Note A detailed treatise of interest to advanced medical students, general practitioners, and specialists in rhinology It is based both on the author's own studies and clinical observations and on the pertinent literature. In the present edition it has been fully revised. The chapter on allergy is new Tumors are discussed at greater length and the discussion of therapeutic matters and measures has been revised to include the antibiotics and other important advances. Each of the chapters is now accompanied by revised selected references. There are 141 figures.

WILLIAMS, HENRY L

Ménière s disease. Springfield Ill. Charles C Thomas, 1952 349 p illus. 22 cm. (American lecture series Publication no 129 A monograph in The Bannerstone Division of American lectures in otolaryngology, audiology and broncho-esophagology edited by Norton Canfield) $7 00 3778

Contents. Ménière's description and some misconceptions. Anatomy and physiology of the labyrinth. Histopathology and physiopathology Etiology vertiginous crisis and loss of hearing. Diagnosis and differential diagnosis. Fundamental identity of allergy and autonomic dysfunction. Medical treatment. Surgical treatment. Recapitulation and conclusions. Index.

Note. A comprehensive, critical monograph on the ear disease named after Prosper Ménière. In the first chapter the author compares Ménière's original papers with the misconceptions that have grown up about the syndrome. In the succeeding chapters he covers the basic anatomy physiology and pathology then goes on to present a critical survey of contemporary diagnosis and treatment, based partly on the literature and partly on his own experience. Substantial bibliographies are included in the chapters.

YEAR BOOK OF THE EYE, EAR NOSE AND THROAT (1955–1956 Year Book series) The eye edited by Derrick Vail The ear, nose and throat, edited by John R. Lindsay Chicago Year Book Publishers, Inc. 1956. 471 p illus. 20 cm $6 50 3779

Contents. The eye The orbit and adnexa. The conjunctiva and cornea. The uvea. Refraction and motility The lens and cataract. The retina. Glaucoma. Surgery The Neurology and visual fields. The retina. Glaucoma. Surgery The ... any Miscellaneous. The ear Vestibular function and vertigo. Tubal function and inflammatory ... Hearing and hearing tests. Fenestration and stapes mobilization. Ménière's disease. Otosclerosis. ... cellaneous. The nose and throat The nose and sinuses. The mouth. The salivary glands. The hypopharynx and nasopharynx.

750 illustrations and 18 colored illustrations on 11 plates. Philadelphia Lea & Febiger, 1954 1,503 p. illus. 26 cm. $22.00 3790

Contents (abridged) Introduction. Diseases of the skin. Class I, Hyperemias and inflammations. Class II, Cutaneous vascular disease. Class III, Hypertrophies. Class IV Atrophies. Class V, Pigmentary affections. Class VI, Diseases of metabolism. Class VII, Neoplasms. Class VIII, Chronic specific inflammations. Class IX, Neuroses. Class X, Parasitic affections. Diseases due to plant parasites. Diseases due to animal parasites. Class XI, Diseases of the appendages. Diseases of the sweat glands. Diseases of the sebaceous glands. Diseases of the hair and hair follicles. Diseases of the nails. Diseases of the mucous membranes in proximity to the skin. Index.

Note A long-established text and reference book, the first edition of which was published in 1913 and the seventh edition in 1948. Its coverage of diseases is encyclopedic and includes rare as well as common diseases. However, the treatment of individual diseases is uneven. In some instances, it is obvious that the reader is expected to turn to ... cited paper or text for an adequately full discussion. Hundreds of references to the international literature are included, but references to older literature predominate. Comparing the eighth edition to the seventh, much information has been added and some older material has been deleted, but the book has not been given the thorough revision from beginning to end that is needed.

PECK, SAMUEL MORTIMOR AND GEORGE KLEIN

Therapy of dermatologic disorders Including a guide to diagnosis and a dermatologic pharmacopeia. Philadelphia Lea & Febiger 1951 383 p. illus. 24 cm. $6.50. 3791

Contents (abridged) Part I, Guide to diagnosis. Part II, Classification and treatment of the various skin disorders. The broad principles underlying dermatologic therapy. Physical therapy in dermatology. Diagnosis and treatment of venereal diseases, by W. Leifer. Part III, Dermatologic pharmacopeia. Removal of medical stains. Index.

Note A compact reference book for the office libraries of medical practitioners. It covers the most common skin diseases in regard to their etiology clinical characteristics, and treatment. Much of the specific data on diagnosis is organized in ... 10-page table entitled "Differential diagnosis of the most common skin diseases." The pharmacopeia section contains an alphabetically arranged list of drugs and of selected proprietary compounds which are useful in dermatologic therapy. In each instance, the drug is described in chemical and physical terms, and its usages and dosage are stated. According to the authors, the contents of the book have been selected on the basis of their own experience. The first-named author is ... member of the faculty of the College of Physicians and Surgeons of Columbia University the second-named, ... member of the faculty of New York Medical College.

PILLSBURY DONALD M AND OTHERS

Dermatology By Donald M Pillsbury Walter B Shelley and Albert M Kligman. Philadelphia W B Saunders Company 1956 1,331 p. 1,117 illus. on 564 figures. 26 cm. $20.00. 3792

Contents Section ... Applied basic principles in diseases of the skin General considerations. The epidermis. Pigment formation. Keratinization. The permeability of skin. Nails. Hair. The glands of the skin. The corium and the subcutaneous tissue. The blood vessels and nerves of the skin. Basic pathologic patterns. Fundamentals of cutaneous mycology. Fundamental cutaneous bacteriology. Section II, Basic principles and clinical applications of allergy and hypersensitivity. Introduction—definition and classification of allergic diseases. Serum sickness—anaphylaxis, atopy. Allergy of infection. Drug allergy. Contact dermatitis of the allergic type. Section III, Principles of diagnosis. The medical history in dermatologic patients. Clinical examination and regional diagnosis. Diagnosis—types of skin lesions. Distribution patterns as an aid to diagnosis. Section IV Dermatologic therapy. Topical and systemic therapy. Ionizing radiation therapy. Surgical dentistry and ultraviolet light therapy. Section ... Cutaneous medicine. Dermatitis and eczema. Bacterial infections of the skin. Systemic bacterial infections. Spirochetal infections. Fungal infections. Viral and rickettsial infections. Papulosquamous eruptions. Diseases of the blood vessels. Chronic vesiculobullous eruptions. Acne, acneiform eruptions and rosacea. Diseases of the eccrine sweat glands. Diseases of the apocrine glands. Disturbances in pigmentation. Drug eruptions. Disturbances in keratinization. Diseases of the corium and subcutaneous fat. Lupus erythematosus, scleroderma, dermatomyositis, and sarcoidosis. Metabolic and nutritional diseases. Diseases of the hair. Disorders of the nails. Dermatologic parasitology. The lymphomas. Tumors of the skin. Hereditary cutaneous disorders. Psychocutaneous medicine. Reactions to physical agents. Industrial dermatoses. Index.

Note An outstanding work designed for use as ... textbook in medical colleges and as ... reference book by graduate physicians, especially general practitioners. Although it is not cyclopedic, ... wide range of information is presented, the chief emphasis being very rare diseases. The first 10 chapters present basic information on normal human skin. The 42 chapters that follow are all devoted to skin disorders. Both diseases of the skin and the skin manifestations of systemic diseases are covered, but the emphasis is decidedly on the first-mentioned group. Only the most useful methods of diagnosis and treatment are included, and these are discussed in ... straightforward style. There are 564 figures, many of ... hich contain more than one illustration. Most are reproductions of photographs or radiographs, and are well reproduced. The authors are all faculty members of the Department of Dermatology of the School of Medicine of the University of Pennsylvania.

SCHMIDT FREDERICK REHM

Clinical selections in dermatology and mycology With contributions by thirty six specialists from various lands. Springfield Ill Charles C Thomas, 1956 505 p. illus. 23 cm. $10.50 3793

Contents Treponema as an etiologic factor in disease by W F Duggan. Treponema and skin disease. The "collagen diseases," by J. Almeida. Psychosomatic dermatology with specific reference to pruritus and its treatment, by F E Cormia. Eczematous dermatitis, by V Pardo-Castello. Neurodermatitis—circumscribed, disseminated, and acute exudative, by H. L. Arnold, Jr. Comparative pathogenesis of the deep mycoses—the influence of the port of entry by J W Wilson. Latin American contributions to medical mycology with special reference to paracoccidioidomycosis, by L. Mendonça. Coccidioidomycosis (Posada's disease) by P Negroni. Sporotrichosis, by E. Bonilla-Diaz. Chromoblastomycosis, by A. Trejos. Rhinosporidiosis, by D. O. Harbil. Neotropical blastomycoid granulomatosis (South American blastomycosis) Keloidal blastomycosis, by A. Trejos. North American blastomycosis, cryptococcosis, chromoporotrichosis, and geotrichosis. Mucocutaneous candidiasis (moniliasis) Concerning the superficial mycoses. Tuberculosis of the skin, by O. Rizzi. Leprosy—symptomatology diagnosis, and treatment, by A. Romero. Leprosy—bacteriology immunology pathologic anatomy and prophylaxis, by J. M. M. Fernandez. A syndromic synthesis. Miscellaneous bacterial diseases with cutaneous manifestations. Treatment of syphilis, by M. A. Marcial. Yaws (frambesia tropica) by T A. Furtado. Pinta, by F Marquez and C. R. Ross. Viral diseases of interest to the dermatologist, by O. Canizares. The anergic ... lesions, by E. R. Peterson and H. M. Lewis. Rhinoscleroma, by E. Reyes. American mucocutaneous leishmaniasis, by A. Pena-Chavarria. The cutaneous manifestations of onchocerciasis, Chagas' disease, and toxoplasmosis. The pigmentary dermatoses, by L. E. Pardal. Epithelial and melanin ... of melanoma, by M. I. Quiroga. Pigmented nevus and melanoma, by S. W Becker. Familial benign chronic pemphigus, by H. Hailey. Scleroderma-dermatomyositis, by J. M. Borda. Cutaneous manifestations of diseases of lipid metabolism, by S. J. Zakon and H. F Weisberg. Sunlight and skin diseases in the tropics, by H. Carrión-Pablo. Hot climate ... disease or sign? by F Sequest ... and H. Khalily. The deficiency (nutritional) dermatoses. The exanthematic rickettsial fevers. Bartonellosis. Skin diseases caused by arthropods. The cutaneous helminthiases. Odds and ends of dermatology. Books especially consulted by the editor. Index.

Note The titles of all the 53 chapters in this book are given above, and the names of the authors are given for the chapters not written by Dr. Frederick R. Schmidt. The authors of the contributed chapters include physicians practicing in various nations of the Americas, both North and South. In addition, there is one contributor from Hawaii and one from Austria. Dermatologic diseases common to the region extending from the northern border of Mexico to the northern border of Argentina are emphasized. In the typical paper, the clinical picture of ... specific disease is explicitly described, and diagnosis and treatment are discussed. Treatment with simple and readily available remedies is emphasized. Literature references are included in most papers. The volume is directed to general practitioners of medicine and is well indexed for reference use.

ogy The majority are simple procedures which can be carried out in the physician's office however some radical procedures, for instance, removal of an advanced intra-oral cancer are described. Some procedures are alternative therapies for conditions that may be treated by nonsurgical methods. In such instances, the authors point out the advantages of the surgical method. The illustrations include series of step-by-step diagrams of techniques and before-and-after photographs of the results of surgery Literature references are included.

FRAZIER, CHESTER N, AND IRVIN H. BLANK

A formulary for external therapy of the skin Springfield, Ill Charles C Thomas, 1954 118 p illus 22 cm. (American lecture series. Publication no 201 A monograph in the Bannerstone division of American lectures in dermatology, edited by Arthur C. Curtis) $3 25 3785

Content Evolution of the formulary Objectives of external therapy Some principles of treatment. Cleaning the skin. Ointment vehicles. Emollients and protectives. Antipruritics. Anti-infectives. Anti-eczematous and antiseborrheic agents. Antiperspirants. Formulary Index.

Note. A modern formulary developed at the Massachusetts General Hospital in Boston and official for use in its clinical services. Most of the space in the volume is devoted to discussions of the principles of action of the ingredients of dermatologic preparations. However formulas are presented, and their form is such that they can be followed by anyone ho is skilled in the compounding of pharmaceutical preparations. Well selected literature references are included.

LERNER, MARGUERITE RUSH, AND AARON BUNSEN LERNER

Dermatologic medications. Chicago The Year Book Publishers, Inc., 1954 183 p 18 cm $3 50 3786

Contents (abridged) Therapeutic agents. Antihistamines and agents to combat sensitivity and acute tissue reactions. Antipruritic lotions, liniments, ointments. Cleansers and baths. Depigmenting agent. Fungicidal and fungistatic agents. Gelatin for finger-nails. Heavy metal antagonists. Insecticides and insect repellents. Ion exchange resins. Ointment bases and lubricating agents. Protective agents against water oils, organic sol ents and sunlight. Rosacea preparations. Seborrheic dermatitis preparations. Vitamins. Wart removers, keratolytics and caustics. Treatment regimens. Acne vulgaris. Eczematous dermatitis. Chronic atopic dermatitis. Psoriasis. Lupus erythematosus. Punch biopsy procedure. References. Index.

Note A useful little manual of drugs, ointments, protective agents, etc., and of regimens for the treatment of specific skin diseases. It is divided into two parts as show in the above contents. The first part on therapeutic agents accounts for most f the book's length. It describes instances of short, formalized discussions of individual medicines, some of which are trademarked products. For each medicine, there is statement on its chemical nature and sometimes a structural diagram of the molecule. This is followed by notes on its use or uses, mode of action, method f application and other useful information such as cautions and contraindications. The much shorter section on treatment regimens outlines the medication, dosages, diets, etc., recommended for the treatment of specific skin disorders such as psoriasis. The authors are associated ith the Department of Dermatology of the Uni er sity of Oregon Medical School

LEVER, WALTER F

Histopathology of the skin. Second edition 281 illustrations with 8 in color Philadelphia J B Lippincott Company, 1954 518 p. illus. (part col d) 24 cm. $12 00 3787

Contents Introduction. Embryology of the skin. Histology of the skin. Laboratory methods. Morphology of the mesodermal cells. Congenital diseases (genodermatoses) Noninfectious vesicular and bullous diseases. Noninfectious inflammatory diseases. Eruptions due to drugs. Degenerative diseases. Bacterial diseases. Spirochetal diseases. Fungus diseases. Diseases caused by viruses. Metabolic diseases. Systemic diseases of unknown cause. Epidermal tumors. Mesodermal tumors. Pigmented nevi and malignant melanoma. Lymphoma and myelosis. Glossary Index.

Note. A book of primary interest to dermatologists and of some interest to pathologists as well. The background embryology normal histology and laboratory technology are briefly covered in the first three chapters. All of the other chapters are devoted to the pathology of diseases of the skin. Both gross and microscopic clinical features are described, but the emphasis is on the latter, and most of the illustrations are reproductions of photographs of microscopic pathology The book was developed in courses given by the author in Harvard Medical School to graduate students of dermatology A first edition was published in 1949 In preparing this second edition, important changes were made in text, illustrations, and bibliography The material on several diseases included in the first edition has been rewritten because of advances in the knowledge of them, and discussions of several additional diseases have been added. As was true of the first edition, the illustrations are of high quality and are well reproduced.

LEWIS, GEORGE MORRIS

Practical dermatology for medical students and general practitioners. Philadelphia. W B Saunders Company, 1952 328 p. illus. 25 cm. $7.50 3788

Contents. Diagnostic methods. Acne and the seborrheic dermatoses. Pruritus (symptomatic and essential psychogenic factor tions) The eczematous dermatoses. Urticaria, "toxic erythema, and drug eruptions. The so-called collagen diseases. The chronic vesiculo-bullous disorders. The maculo-papulo-squamous diseases. The pyodermas. Fungus infections. Tuberculosis and allied disorders. Syphilis. Virus and other infections. Diseases due to animal parasites. Hyperpigmentation; depigmentation; atrophy Congenital (small) anomalies. Disorders of the mucous membranes. Diseases of the nails and hair Diseases due to physical agents. The skin and other organs. Benign tumors. Metabolic disorders. Premalignant and malignant tumors, including lymphoblastoma. Dermatologic therapy. Dermatologic formulary Bibliography. Index.

Note: Ninety-nine plates, each made up of from one to six reproductions of original photographs, are special feature of the concise guide. The textual descriptions cover symptoms, etiology diagnosis, and treatment, with occasional variations in form. Lists of tests, terms, and a formulary of common medicines, plus a bibliography of general texts and special monographs, round out the usefulness of the book in the general practitioner's library

OBERMAYER, MAXIMILIAN E

Psychocutaneous medicine. Springfield, Ill. Charles C Thomas, 1955 487 p. illus. 22 cm. (American lecture series Publication no. 239 A monograph in the Bannerstone Division of American Lectures in Dermatology, edited by Arthur C. Curtis) $9 75 3789

Contents. Historical considerations. Constitutional factors. Dynamic considerations of the psyche. Theories of mechanisms and methods of study Classification. True dermatoneuroses. Dermatoses in which emotional factors usually constitute an important element. Miscellaneous dermatoses with psychic elements. Known or supposed infections in which psychogenic factors exist. Psychoses and disorders of the skin. Diagnostic approach Treatment. Bibliography Index.

Note A well-organized, critical survey of the literature in English and the recent literature in German bearing on the psychosomatic aspects f diseases of the skin. The author's own extensive publications in the field are included among the literature abstracted. The chapter on theories of mechanisms and methods of study is one of the longest in the book. In it the author classifies the research approaches to psychocutaneous medicine into five categories as follows. psychologic, neurophysiologic, biochemical, allergic, speculative combination of methods, and critically evaluates each approach. In the chapters on dermatoses, the individual disorders are described from the dermatologic and psychiatric viewpoints. Diagnosis and treatment are covered with relati brevity The bibliography contains about 800 references.

ORMSBY, OLIVER S, AND HAMILTON MONTGOMERY

Diseases of the skin. Eighth edition, thoroughly revised. With 666 figures containing

information on anatomy physiology and general care of the normal and diseased skin is outlined in the first three chapters which occupy the first 44 pages. All the rest of the book is devoted to diseases with the material on each disease organized under the subheads "Clinical picture," "Etiology" and "Treatment." Treatment is covered very specifically and in adequate detail. Formulas for ointments, lotions, etc., are included. Selected literature references are included in many of the chapters. There are 233 figures. The book is useful as a text for advanced students of medicine and as an office reference book for general physicians. The author is a member of the faculty of the Harvard Medical School.

TALBOTT JOHN H. AND R. MOLERES FERRANDIS

Collagen diseases including systemic lupus erythematosus polyarteritis dermatomyositis, systemic scleroderma thrombotic thrombocytopenic purpura. New York Grune & Stratton, 1956. 232 p. illus. (part col'd) [illegible] cm. $6.50 3800

Note: Described in this monograph is a group of diseases of connective tissue, all of which were thought to be rare not long ago, but which are now found, when sought, that they are [illegible]. The diseases discussed are named in the book title. All are covered separately from the clinical viewpoint, and such aspects as incidence, etiology and pathogenesis, pathology, clinical findings, laboratory findings, diagnosis, and treatment are discussed concisely. The bibliography contains 143 citations of the international literature. The illustrations include 4 plates reproduced in color.

TOBIAS NORMAN

Essentials of dermatology. Fifth edition. 211 figures 11 subjects in color. Philadelphia J B Lippincott Company 1956 651 p. illus. (part col'd) 21 cm. $8.00. 3801

Contents: Basic survey. The erythema group. The eczema group. Drug eruptions. Psoriasis. The [illegible] bullous diseases. The pyodermas. Diseases due to vegetable parasites. Diseases due to animal parasites. Diseases due to filtrable viruses. Dermatoses due to psychosomatic and nerve disorders. Lichen planus. Diseases due to physical agents. The deep [illegible] dermatoses. Tuberculosis of the skin. Syphilis. Benign tumors of the skin. Malignant growths of the skin. The [illegible] dermatoses. The atrophies of the skin. Keratoses and allied diseases. The peripheral vascular diseases of the skin. Pigmentations. The cutaneous lymphoblastomas. Dermatitis exfoliativa. Diseases of the hair and scalp—Of the sebaceous glands—Of the sweat glands—Of the nails—Of the mucous membranes. Congenital disorders. Dermatologic therapeutics. Eruptions of the hands. Reference library for dermatologists. Index.

Note: [illegible] standard, concise reference volume intended primarily for advanced students of medicine and graduate general practitioners. Most of the space is devoted to descriptions of specific diseases, arranged in groups, as the chapter titles show. The individual diseases are discussed as to etiology, pathology, diagnosis and treatment. Histology is not covered. Most of the illustrations picture the gross pathology of specific diseases. The fourth edition was published in [illegible]. The descriptions of many rare diseases were deleted in preparing this fifth edition; nevertheless, much material was added to result in an increase of 33 pages. Also, there are more illustrations both in color and in black-and-white.

URBACH ERICH

Skin diseases, nutrition and metabolism with the collaboration of Edward B LeWinn. New York Grune & Stratton, 1946. 634 p. illus. 23 cm. $10.00 3802

Contents: Part [illegible]. The influence of nutrition on the physiology of the skin. Metabolism and biochemistry of the skin. Influence of diet on metabolism of the skin. Part II. Nutritional causes of dermatoses. Skin diseases due to malnutrition. Food allergy as cause of skin diseases. Skin diseases due to secondary infections and laboratory [illegible]. Part III. Influence of diseases of the gastrointestinal tract, liver, and pancreas on the skin. Dermatoses due to diseases and dysfunction of the gastrointestinal tract. Dermatoses due to diseases of the liver and pancreas. Part IV. Nutritional therapy of skin diseases. Dermatitis (eczema). Urticaria and related conditions. Psoriasis. Skin diseases due to vitamin deficiency? [illegible]. Diseases of sebaceous and sudoriferous glands. Diseases of the cutaneous blood and lymph vessels. Purpura. Lichen planus. Light dermatoses. Pemphigus and associated diseases. Pyogenic infections of the skin. Cutaneous tuberculosis. Lipoid diseases of the skin. Wounds, ulcers, burns. Pigmentary diseases of the skin. Diseases of the nails. Part [illegible]. Nutritional tables. Index of authors. Index of subjects.

Note: A comprehensive presentation that is of value not only to general practitioners but to specialists in dermatology and allergy as well. It is based on the author's own experience and on an extensive review of the literature. There are 1,312 footnote references to pertinent literature and 66 illustrations. Most of the tables in the appendix are [illegible] in the planning of special diets.

WIENER, KURT

Systemic associations and treatment of skin diseases. With 90 text illustrations. St. Louis The C. V. Mosby Company 1955 556 p. illus. 26 cm. $13.50. 3803

Contents (abridged): Part I. Systemic associations of skin diseases: Systemic lupus erythematosus. Scleroderma. Dermatomyositis (polymyositis). Erythema multiforme exudativum (Hebra). Erythema nodosum. [illegible]. Eczema. Erythroderma exfoliativum (dermatitis exfoliativa). Urticaria. Pruritus. Psoriasis. [illegible] and [illegible] complication. Lichen planus. Pemphigus vulgaris. Dermatitis herpetiformis (Duhring's disease). Herpes zoster, simplex. Diseases of the [illegible]. Hair disorders. Vitiligo. Part II. Systemic treatment of skin diseases: ACTH (adrenocorticotropic hormone), cortisone, hydrocortisone. Hormones and organ extracts. Antibiotics. Sulfonamides. Antihistaminic agents. Metals. BAL (British anti-lewisite, dimercaprol). Quinine group. Vitamins—[illegible]. [illegible]. Diets. Spinal [illegible] therapy [illegible]. [illegible] therapy of skin diseases, [illegible] methods. Index.

Note: A complementary volume to the author's Skin manifestations of internal disorders, St. Louis, 1947. It deals with those diseases which are primarily dermatologic and have marked systemic effects. Both books are of interest to dermatologists and practitioners of internal medicine. In the first part of Systemic associations, individual diseases are described. Although the organization of the chapters varies, incidence, clinical picture, systemic reactions and treatment are discussed for most of the diseases. In the second part, the approach is from the standpoint of systemic treatment by drugs, vitamins, diet, etc. Both parts are based on the international literature and, in this book, there are more than 2,720 literature references. This feature makes the book as much a reference work as it is a manual of diagnosis and therapy. The author is a specialist in dermatology on the staff of Mt. Sinai Hospital and other hospitals in Milwaukee.

YEAR BOOK OF DERMATOLOGY AND SYPHILOLOGY (1955–1956 Year Book series) Edited by Rudolf L. Baer and Victor H. Witten. Chicago Year Book Publishers, Inc., 1956 480 p. illus. 20 cm. $6.50. 3804

Contents: Selected aspects of dermatologic therapy with superficial X-rays and grenz rays. Treatment and prevention. Endocrine therapy. Physical therapy. Other therapy. [illegible] dermatitis, atopic dermatitis and urticaria, allergy. Drug eruptions. Miscellaneous dermatoses. Cancers, precancerous, other tumors. Fungous infections. Other infections, infestations. Venereal diseases and their treatment (exclusive of gonorrhea). Investigative studies. Miscellaneous topics. Index. Index to authors.

Note: This annual publication is edited and organized similarly to the other volumes in the publisher's Year Book series. The chapters are composed of abstracts of articles selected from the world's medical literature. The typical abstract is several hundred words in length and in some instances is supplemented by an editorial note evaluating the author's results or relating them to other work. A reference to the original publication is given in all instances. Illustrative matter from the original publication is frequently reproduced. In this issue, the first article is not composed of abstracts but is a special article written by the editors of the volume. Each annual publication covers the literature of approximately one year, the issue described here being devoted to abstracts of articles in journals received by the editor from December, 1954, through November, 1955.

SHELLEY, WALTER B, AND JOHN T CRISSEY

Classics in clinical dermatology, with biographical sketches Introduction by John H. Stokes. Springfield, Ill Charles C Thomas, 1953 467 p illus 24 cm $10 50 3794

Contents (abridged) Part I, Early workers. Part II, The middle period. Part III A golden age. Part IV More recent observations. Index.

Note An anthology of landmark contributions to dermatology It begins with a selection from R. Willan's *On cutaneous diseases*, London, 1808 and concludes with the reprint of a paper "Tropical anhidrosis, by Stuart D Allen and John P O'Brien from the *Medical journal of Australia*, 1944 All of the selections are in English. Those originally published in other languages have been translated. They are accompanied by biographical sketches of the authors and some portraits.

STRATTON, ERNEST K, AND OTHERS

Atlas of regional dermatology, by Ernest K. Stratton Harry L Arnold, jr, Maurice J Costello, Lewis A Koplik, and Paul Fasal. Springfield, Ill Charles C Thomas, 1953 274 p illus (part col'd) 29 cm $15 00 3795

Content Diseases of the scalp Diseases involving the face and neck (including the ears and eyelids) Diseases of the mouth (including the lips and tongue) Diseases involving the trunk (including the axilla and buttocks) Diseases affecting the arms, forearms, wrists and hands. Diseases of the nails. Diseases affecting the inner thighs, penis, vulva, pubic and perineal areas. Diseases affecting the thighs, legs, feet Leprosy by H. L. Arnold, jr Skin manifestations of the acute infectious diseases, by M. J Costello and L. A. Koplik. Color reproductions of certain dermatoses, by P Fasal. Index.

Note Published in this volume are almost 600 black-and-white reproductions of photographs and 17 reproductions in color The illustrations show examples of micropathology and gross pathology with the latter predominating. They are organized under the headings given in the above contents and are accompanied by legends which describe the disease pictured. Some of the legends are short and serve merely to identify the disease, but most of them are about 20 lines long and provide compact information on etiology symptoms, diagnosis and treatment. The book is intended for graduate medical practitioners and is a valuable aid in rapid diagnosis.

SULZBERGER, MARION B, AND FRANZ HERRMANN

The clinical significance of disturbances in the delivery of sweat. Springfield Ill Charles C Thomas 1954 212 p illus 22 cm (American lecture series No 178 A monograph in the Bannerstone Division of American Lectures in Dermatology edited by Arthur C Curtis) $6 75 3796

Content Part I, In eathyth approaches Quantitative assays of "sensible sweating. Quantitative assays of insensible cutaneous perspiration. Part II, Pathogenesis and characteristics of disturbances in the delivery of sweat Hyperhidrosis Hypohidrosis or anhidrosis Dyshidrosis (disturbances in sweating which are not characterized by either purely excessive or purely diminished sweating) Part III, Therapy of the most common disturbances Therapy of hyperhidrosis. Therapy of anhidrosis (and hypohidrosis) Therapy of dyshidrosis. Summary and inferences. Bibliography Index.

Note A compact, monographic summary of the authors' experiments and observations in the Department of Dermatology and Syphilology of the New York University Post-graduate Medical School and of the related work of other researchers The first part describes both the methods of measuring sweat delivery and the results obtained by the authors with these methods on a number of subjects. The results are summarized under such headings as 'Quantity and regional distribution of thermal sweat on body surface and "Sex differences in the quantity of thermal sweat. Part II which presents the clinical aspects is the largest part. It describes a wide variety of disturbances and includes case histories. In the third part, the therapies, including some of the proprietary preparations that have been used or proposed are discussed. However the authors conclude that present therapies for control of disturbances of the sweat are unsatisfactory and suggest further basic study The bibliography lists 242 references. Three papers published in 1953 are listed, but the systematic coverage of the literature appears to have ended with that published in 1952.

SULZBERGER, MARION B, AND JACK WOLF

Dermatology essentials of diagnosis and treatment. Chicago The Year Book Publishers, Inc, 1952 592 p illus. 22 cm. $10.00 3797

Contents General dermatologic management. Eczematous dermatoses. Urticaria—giant hives. Atopic dermatitis. Dermatoses due to fungi. Acne vulgaris and other acneform dermatoses. Pyodermas. Sulfonamides—calciferol—cortisone-ACTH. Psoriasis and seborrheic dermatitis. Bullous and vesicular dermatoses. Zoonoses (diseases due to animal parasites) Common tumors of the skin. Miscellaneous dermatoses. Drug eruptions. Miscellaneous skin disorders. Early syphilis. Other forms of syphilis. Index.

Note A revision of the author's well-known *Dermatologic therapy in general practice*, of which the third edition appeared in 1948. Although it bears a new title, the purpose of the work is unchanged, and its content has been changed only to the extent necessary to bring it abreast of new developments. Most of the revised material pertains to the newer antibiotics, ACTH-cortisone etc. Chapter viii, for instance, has been completely rewritten. Although "sulfonamides still appears in its title, the authors state in its text that except in the rarest of exceptional circumstances, the topical application of sulfonamides no longer has a place in dermatologic therapy The book remains an introduction for medical college students and a reference book for general practitioners of medicine.

SUTTON, RICHARD L, JR.

Diseases of the skin Eleventh edition. With 1972 illustrations. St. Louis The C. V Mosby Company, 1956 1 479 p. illus. 27 cm. $29 50 3798

Contents Anatomy Embryology Physiology Symptomatology and pathology Etiology Diagnosis. Treatment. Dermatoses due to physical agents. Dermatoses due to chemical agents. Dermatoses due to viruses. Dermatoses due to rickettsiae. Dermatoses due to bacteria. Dermatoses due to fungi. Dermatoses due to animals. Dermatoses due to metabolic disorder Dermatoses due to senile disorder Dermatoses due to pigmentary disorder Dermatoses of neurologic and psychiatric origin. Dermatoses of undetermined cause. Malformations and neoplasms of the skin and adjoining mucosa. Diseases affecting especially the cutaneous appendages. Diseases affecting the mucosa adjoining the skin. Index.

Note The first edition of this work, written by the father of the author of the present edition was published in 1916. In its many editions the work has been recognized for four decades as standard and authoritative. Its style is concise, and its scope is cyclopedic. Generally speaking, it provides for every disease included, discussions of symptoms, etiology treatment, descriptions of selected cases and literature references In most instances, there is also one or more illustrations from photographs.

SWARTZ JACOB HYAMS

Dermatology in general practice Foreword by C Guy Lane. Baltimore The Williams & Wilkins Company 1953 581 p illus. 24 cm. $11 00 3799

Contents. General considerations. Care of the normal skin Care of the abnormal skin. Diseases of the hair and scalp Skin diseases of the face. Skin diseases of the trunk Skin diseases involving the extremities. Mycotic infections. Exanthemata Syphilis. Miscellaneous Index.

Note A successor to J H. Swartz and M G Reilly *Diagnosis and treatment of skin diseases*, New York, 1935. It is a concise presentation, written from the viewpoint of the general practitioner of medicine who is not a specialist in dermatology but nevertheless treats many cases requiring dermatologic knowledge The book

W. R. Johnson. The significance of localized vasoconstrictions in multiple sclerosis, by R. M. Brickner. Part Anatomic and chemical aspects of the myelin sheath. The ultrastructure of the nerve myelin sheath, by F O. Schmitt. The chemistry of myelination and demyelination, by W M. Sperry and H. Waelsch. Part vi, Pathologic aspects of the demyelinating diseases. Pathology of multiple sclerosis, by H. M. Zimmerman and M. Netsky. Diffuse sclerosis and other cerebral demyelinating processes, by C. Davison. The pathology and pathogenesis of encephalomyelitis associated with vaccination and the exanthems, by K. H. Finley. The naturally occurring demyelinating diseases of animals, by L. S. King and M. C. Meehan. Part vii, Symptoms and signs, clinical course and diagnosis of multiple sclerosis: Retrobulbar neuritis in multiple sclerosis, by F J. Lambdin. Sheathing of the retinal veins in multiple sclerosis, by C. W Rucker. The ocular findings in multiple sclerosis, by M. Bender and L. Rangell. The syndrome of the median longitudinal fasciculus, by M. B. Bender and E. A. Weinstein. The electro-encephalogram in multiple sclerosis, by H. Jasper and others. The cerebrospinal fluid in multiple sclerosis, by D. A. Freedman and H. H. Merritt. Cerebrospinal fluid examination in diagnosis of multiple sclerosis, with emphasis on the quantitative gold reaction, by T J. C. von Storch and others. The mental changes associated with multiple sclerosis, by F J. Braceland and M. E. Giffin. Some psychodynamic factors in multiple sclerosis, by R. R. Grinker and others. The results of psychometric and personality tests in multiple sclerosis, by M. Harrower. The course of multiple sclerosis as determined by autopsy proven cases, by S. Carter and others. Multiple sclerosis—prognosis for ambulatory and nonambulatory patients, by J. A. Lazarte. On the diagnosis of multiple sclerosis, by F. Kennedy. The effect of injuries and illness on the course of multiple sclerosis, by M. Kurtzke. The effect of pregnancy on multiple sclerosis and its management, by A. J. R. Tillman. Part viii, Current treatment of multiple sclerosis: The treatment of multiple sclerosis, by T J. Putnam. The problems of rehabilitation in multiple sclerosis, by H. A. Rusk. A survey of the maladjustment problems in multiple sclerosis and the possibilities of psychotherapy, by O. R. Langworthy. Cumulative bibliography. Index. List of members.

Note. A collection of original papers prepared for the meeting mentioned in the book's title. A very wide range of information is included. Many of the chapters are accompanied by excerpts of the discussions at the meeting and by lists of references.

BENDER, MORRIS B

Disorders in perception with particular reference to the phenomena of extinction and displacement. Springfield, Ill. Charles C Thomas, 1952 109 p. illus. 22 cm. (American lecture series. Publication number 120. A monograph in American lectures in neurology) $3.00. 3809

Contents. Introduction. Modes of stimulation and the phenomenon of extinction. Sensory phenomena obtained on simultaneous stimulation in the normal. Extinction phenomenon in disease. Special studies in extinction. Extinction and the phenomenon of sensory displacement. Theories on extinction. Summary. Bibliography. Index.

Note. The results of series of studies made by the author and his collaborators between 1943 and 1950 at the United States Naval Hospital in San Diego, California, and at the Laboratory of Psychophysiology of New York University-Bellevue Medical Center. Among the author's findings are (1) double simultaneous stimulation may reveal sensory changes not revealed by single stimulation, (2) spinal cord lesions as well as cerebral disorders may produce extinction of perception, ( ) there is well-defined spatial pattern among the areas which yield extinction, dominance, or displacement, and (4) extinction of sensation is never an isolated disorder.

BONICA, JOHN J

The management of pain with special emphasis on the use of analgesic block in diagnosis prognosis, and therapy 785 illustrations on 444 figures. Philadelphia. Lea & Febiger 1954 1,533 p. illus. 26 cm. $20.00 3810

Contents. Part i, Fundamental considerations. The anatomical bases of pain. Neurophysiological basis of pain. The physiopathological basis of pain (types and mechanisms of pain). The psychologic basis of pain, by H. S. Ripley. The mental and physical effects of pain. Part ii, Methods used in management of pain. Section i, Analgesic blocks: History and general principles of the management of pain with analgesic block. Fundamental considerations. Technic of nerve blocking—blocking the cranial nerves—blocking the somatic spinal nerves—the autonomic nervous system—subarachnoid block—peridural block—local block—the intravenous administration of local anesthetic agents in the management of pain. Section ii, Other methods used as adjuvants to analgesic blocking in management of pain. The use of opiates and other analgesics in the management of pain. Psychotherapeutic methods in the management of pain, by H. S. Ripley. Physical therapeutic methods in the management of pain, by C. Williams. Orthopedic methods in the management of pain, by W G. Peterson. Roentgen therapy in the management of pain, by F Rigos. Neurosurgical methods in the management of pain, by J. T. Rehme. Part iii, Pain syndromes. Section i, General principles of management. Examination of the patient. Regional pains and summary of etiology, differential diagnosis and examination. Section ii, Pain of neurogenic origin—the neuralgias. General considerations of neuritis and neuralgia. Neuralgias of the face, head, and neck. Cervicobrachial neuralgia. Thoracic neuralgia. Lumbar and lumbosacral neuralgia. Section iii, Pain of neurogenic origin—causalgia and other reflex dystrophies, pain after amputation, and central pain. Causalgia and other reflex dystrophies. Pain after amputation. Central pain. Section iv, Pain consequent to peripheral vascular diseases. General considerations of peripheral vascular disease. Diseases of the peripheral arteries—veins. Section Pain of somatic origin (pain due to disorders of the muscles, joints, bones, and skin). General considerations of musculoskeletal pain. Musculoskeletal pain of various bodily regions. Pain due to lesions of the skin (including postoperative pain). Section vi, Pain of visceral origin and allied disorders: Headache and other visceral disorders of the head and neck. Visceral pain and other visceral disorders of the chest. Abdominal visceral pain. Section vii, Pain associated with cancer and other neoplastic diseases. General considerations of cancer pain. Management of cancer pain in the head, neck and upper extremity. Management of cancer pain in the trunk and lower extremities. Index.

Note. A very comprehensive work directed to practitioners of medicine. It has special emphasis as noted in the subtitle, but is not limited to analgesic block or for that matter to anesthesia. Surgical methods are included also, and for such pain syndromes as major (primary) trigeminal neuralgia, it is made clear that surgery is the only known method of cure. Full discussions of pain mechanisms and etiology are included. The illustrations include many helpful diagrams of sites of pain and areas affected by specific nerve blocks. Selected and fairly extensive lists of literature references are included in the chapters.

BOWER, ALBERT G editor

Diagnosis and treatment of the acute phase of poliomyelitis and its complications. Baltimore The Williams & Wilkins Company 1954 257 p. illus. 24 cm. $6.50. 3811

Contents. A modern concept of the treatment of acute poliomyelitis with particular reference to cases with respiratory insufficiency, by A. G. Bower. Diagnosis and differential diagnosis of poliomyelitis, by W F Frank. Medical management of the patient with acute poliomyelitis—general considerations, by E. G. Kneel. The role of the otolaryngologist in the treatment of poliomyelitis, by E R. Cohen. Pulmonary complications of acute poliomyelitis with respiratory insufficiency from an X-ray standpoint, by G. Jacobson and others. Observations on prevention and treatment of pulmonary complications of the tracheotomized respirator patient, by R. Dunton. The detection and care of the patient with respiratory difficulty, by E. Austin. Special nursing procedures for respiratory poliomyelitis patients, by E. Austin and E. Kosk. Physical medicine in the treatment of acute poliomyelitis, by E. Austin. The role of the obstetrician in the management of poliomyelitis, by P Hara. Mechanical apparatus, by C. W Dail. Transfer of respirator patients to other locations, by C. W Dail and E. Austin. Biochemistry and electrolyte changes in poliomyelitis, by J. E. Cleveland. Orthopedic treatment, including bracing, by C. L. Lowman. Experience and experience of the poliomyelitis team of the Washoe County Medical Society Reno, Nevada, W A. O'Brien III, and associates. Index.

Note. An authoritative and practical manual addressed to graduate practitioners. It is based largely on the experience gained in the handling of approximately 17,000 cases of acute anterior poliomyelitis at the Los Angeles County Hospital. The various aspects of the care and treatment of this disease treated in the chapter titles given above are treated compactly and explicitly. Special problems, such as the transfer of patients in respirators from the hospital to another location or for care, are discussed. The terminal paper is an exception. It deals specifically with the organization of medical team in small city to give poliomyelitis patients the best possible care, and with the experience of this team in providing this care.

NEUROLOGY

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

Psychopharmacology A symposium organized by the Section on Medical Sciences of the A A A S and the American Psychiatric Association and presented at the Berkeley meeting December 30, 1954 Edited by Nathan S Kline. Foreword by Winfred Overholser Washington, D C American Association for the Advancement of Science, 1956 165 p illus. 23 cm $3 50 3805

Contents Clinical observations with chlorpromazine, by L. H. Margolis and others. Clinical application of chlorpromazine, by V Kinross-Wright. Clinical applications of chlorpromazine in psychiatry by A. A. Sainz. Considerations on the cerebral action of reserpine, by A. A. Sainz. Psychiatric use of reserpine and chlorpromazine—results of double-blind studies, by L. E. Hollister and others. Clinical applications of reserpine, by N S. Kline. Clinical trial of reserpine in psychotic and psychoneurotic illnesses, by A. E. Bennett. Pharmacology of chlorpromazine, reserpine, and related drugs, by F H. Meyers. Studies on mescaline IV—Antagonism between mescaline and chlorpromazine, by H. C. B Denber and S. Merlis. Mechanism of action of lysergic acid diethylamide, serotonin, and related drugs, by M. E. Jarvik. Index.

Note Published in this volume are the papers and discussions of the first major conference held to share experience and views on the new drugs, particularly chlorpromazine and reserpine, for the treatment of mental illness. Most of the participants in the symposium were staff members of hospitals that treat mental diseases or members of the faculties of medical colleges in the United States of America, and most of the papers are based on actual experience in treating patients with these drugs. Although largely of historical interest now the volume is of interest for the portrayal it gives of experts' reaction to new and apparently revolutionary drugs.

AMERICAN PSYCHIATRIC ASSOCIATION

An evaluation of the newer psychopharmacologic agents and their role in current psychiatric practice Papers presented at a Regional Research Conference held under the joint auspices of the American Psychiatric Association, Galesburg State Research Hospital, and the University of Illinois College of Medicine, Galesburg Illinois, September 16 and 17 1955 Washington D C American Psychiatric Association 1956 129 p illus 23 cm. (American Psychiatric Association Psychiatric Research Reports 4 April 1956 Edited by members of the Committee on Research Jacques S Gottlieb chairman) $2 00 3806

Content Symposium The neurophysiology and neuropharmacology of the new drugs. The experimental electroencephalographic approach to psychopharmacology by F Rinaldi. The effects of hallucinogenic and tranquilizing drugs on the serotonin evoked uterine contractions, by E Costa. Discussion of papers on basic observations of new psychopharmacological agents, by H. E. Himwich. Discussion of symposium, P Bailey moderator Symposium, The relative place of drugs in the various psychiatric syndromes Improved behavior patterns in the hospitalized mentally ill with reserpine and methyl-phenidylacetate, by J T Ferguson. The effects of reserpine and methyl-phenidylacetate (Ritalin) in mental defectives, spastics, and epileptics, by C. H Carter Comparative effects of amobarbital, reserpine and chlorpromazine on moderately disturbed psychotic patients with long histories of hospitalization, by L. H. Rudy and others. Physiologic and neurologic responses to chlorpromazine—their clinical significance and their management, by F J Ayd, Jr Use of reserpine in chronic non-disturbed psychotics, by J Boudwin and N S. Kline Symposium, The significance and management of the complications resulting from new drugs. The major complications of treatment of psychotic states with chlorpromazine and reserpine and their management, by D. Goldman. Clinical trial of a new phenothiazine compound, NP-207, by V Kinross-Wright. Symposium, The role of drug therapies in current and future psychiatric practice In experimental investigation of factors influencing drug action, by J Masserman. Round-table discussion F Gerty moderator.

Note: The papers published in this volume represent a considerable range of experience with the recently introduced psychopharmacologic drugs such as reserpine and chlorpromazine. The discussions, which are reported fully rather than in excerpt, add considerably t the value of the volume. Literature references are included for most of the papers.

AMERICAN PSYCHIATRIC ASSOCIATION

Proceedings of the Round Table on Lysergic Acid Diethylamide and Mescaline in Experimental Psychiatry, held at the annual meeting of the American Psychiatric Association, Atlantic City, New Jersey, May 12, 1955 Edited by Louis Cholden. New York. Grune & Stratton, 1956 85 p 22 cm. $3.00. 3807

Contents Pharmacology of LSD-25 by E. Rothlin and A. Cerletti. Studies in routes of administration and counteracting drugs, by P H. Hoch. Biochemical reflections on the psychosis problem, by M. Rinkel. The effect of Frenquel on EEG changes produced by LSD and mescaline, by H. E. Himwich. The clinical uses of LSD by R. A. Sandison. The LSD psychosis as a transaction between the psychiatrist and patient, by C. Savage. Studies with niacin and LSD by A. Hoffer. Mescaline and the other world, by A. Huxley Some observations on normal volunteers and patients, by H. A. Abramson. Brain effects of LSD in animals, by E. Evarts. Preliminary studies on the metabolism of LSD, by E. S. Boyd. Summary and discussion, by H. Fabing. Index.

Note A collection of the papers presented and the discussion that took place at the round table mentioned in the book's title. The papers are short and somewhat informal. The papers and discussions together add up t an exchange of experience among psychiatrists who have used lysergic acid diethylamide (LSD) and mescaline in the experimental investigation of psychotic states. Several other psychopharmacologic drugs are also mentioned.

ASSOCIATION FOR RESEARCH IN NERVOUS AND MENTAL DISEASES

Multiple sclerosis and the demyelinating diseases. Proceedings of the association, December 10 and 11, 1948 New York. With 153 illustrations and 124 tables. Baltimore The Williams & Wilkins Company, 1950. 675 p. illus 23 cm (Association for Research in Nervous and Mental Diseases. Research publications. Volume XXVIII. Editorial board Henry W Woltman and others) $12.00. 3808

Contents Part Multiple sclerosis—historical retrospect, by W Thamm Part II, Ecology of multiple sclerosis The geographic distribution of multiple sclerosis and its estimated prevalence in the United States, by C. C. Limburg. Multiple sclerosis in rural community by A. R. MacLean. The social significance of multiple sclerosis, by L. C. Kolb. Part III, Etiology of the demyelinating diseases Critique of theories concerning the etiology of multiple sclerosis, by H. H. Reese Demyelination resulting from endogenous toxins, by A. B. Baker Demyelinating diseases of animals, by J. R. M. Innes. Experimental production of encephalomyelitis in rhesus plus, by E. C. Alvord, Jr and L. D. Stevenson. Experimental studies on acute disseminated encephalomyelitis in rhesus monkeys by E. A. Kabat and others. The effect of starvation on the myelin sheaths of the peripheral nerves of rats, by R. L. Swank and O A. Bessey Emotional stress in relation to attacks of multiple sclerosis, by R. M. Brickner and D J Simons. The familial occurrence of multiple sclerosis and its implications, by R. P Mackay Blood and plasma transfusions in multiple sclerosis, by L. Alexander and others. Part IV Blood flow in multiple sclerosis Cerebral blood flow in multiple sclerosis, by W M. Tucker and others. The significance of peripheral vascular changes in multiple sclerosis, by G. O. Gey and

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Note. [illegible]

DAVIDOFF LEO MAX, AND CORNELIUS G. DYKE

The normal encephalogram. Third edition, thoroughly revised by Leo M. Davidoff 190 illustrations on 156 figures. Philadelphia. Lea & Febiger 1951 240 p. illus. 24 cm. $6.00. 3818

Contents. [illegible]

Note. [illegible]

DAVIDOFF LEO MAX, AND EMANUEL H. FEIRING

Practical neurology New York Landsberger Medical Books Inc. distributed solely by The Blakiston Division of the Mc Graw Hill Book Company Inc., 1955 442 p. 21 cm. $7.00 3819

Contents. [illegible]

Note. [illegible]

DAVIS LOYAL

The principles of neurological surgery Fourth edition thoroughly revised, with 186 engravings, containing 334 illustrations and 5 plates, 4 in color Philadelphia Lea & Febiger 1953 544 p. illus. (part col d) $8.50. 3820

Contents. [illegible]

Note. [illegible]

DENNY BROWN DEREK

Handbook of neurological examination and case recording. Cambridge Mass. Harvard University Press 1946. 112 p. illus. 18 cm. $2.00. 3821

Contents (abridged). [illegible]

Note. [illegible]

DERBES VINCENT J., AND ANDREW KERR

Cough syncope. Springfield, Ill. Charles C Thomas, 1955 152 p. 22 cm. (American lecture series. Publication no. 231 A monograph in the Bannerstone division of American lectures in internal medicine edited by Roscoe L. Pullen) $4 75 3822

Contents. [illegible]

Note. [illegible]

COHN, ROBERT

Clinical electroencephalography New York McGraw Hill Book Company, Inc. 1949 639 p illus 23 cm $16 00 3812

Contents. General considerations. Within the range of normal variation. Intracranial space-taking lesions. Cerebral vascular lesions. Arterial hypertension. Encephalopathies. Head injury—recent—old. Epilepsy—petit mal—grand mal and epileptic equivalents. Migraine. Headaches. Normal sleep and disorders of sleep (narcolepsy) Alcoholism. Some important clinical-electric correlations. Disorders of behavior Recommended reference reading. Index.

Note Essentially this work is an atlas of 273 electroencephalograms in which the illustrative matter is preceded by some 20 pages of background information on brain wave phenomena and the electroencephalograph. The electroencephalograms are classified under the headings given in the above table of contents, and each one is accompanied by a specific discussion of the case, the diagnosis, and the features of the EEG. The author is Electroencephalographer and Director of Neurological Research in the U S. Naval Hospital, Bethesda, Maryland, and the book is based on recordings made over a 3-year period at this hospital.

CONGRESS OF NEUROLOGICAL SURGEONS

Clinical neurosurgery, proceedings of the Congress of Neurological Surgeons. Baltimore The Williams & Wilkins Company, 1955 2 v 24 cm o p. 3813

Contents Volume I Changing views on the integration of the brain by G. Jefferson. Trigeminal neuromas with some remarks on the malignant invasion of the Gasserian ganglion, by G. Jefferson. Further concerning compression of the optic pathways by intracranial aneurysms, by G. Jefferson. Panel discussion: The anatomy and physiology of the frontal lobe, by R. Heath and others. Panel discussion Psychosurgery—indications and sequelae, by A. E. Walker and others. Panel discussion The use of fluids and electrolytes in the management of the neurosurgical patient, by H. S. Mayerson and others. Index. Volume II Intracranial astrocytomas, by K. G. McKenzie. Acoustic neuroma, by K. G. McKenzie and E. Alexander jr Surgical treatment of spasmodic torticollis, by K. G McKenzie. Ménière' syndrome, by K. G. McKenzie. Trigeminal tractotomy by K. G. McKenzie. Symposium on cervical trauma, by E. Wheatt and others. Symposium on medico-legal aspects of head injury by W F Caveness and others. List of members. Index.

Note The first of these volumes contains papers and discussions held at the Congress of Neurological Surgeons in New Orleans, Louisiana, in 1953 and the second volume contains similar matter from the congress of the same body held at New York in 1954 Each of the volumes is organized on a similar pattern. Each honors an eminent neurosurgeon and contains several papers by him. These papers are followed by panel discussions participated in by neurologists in attendance at the congresses. The first congress (and the first volume of this set) was held in honor of the British neurosurgeon, Sir Jeffrey Jefferson, and the second honored Professor K. G. Kennedy of the University of Toronto. The other contributors are citizens of the United States of America, most of them being eminent neurologists, neurological surgeons or orthopedic surgeons. According to a note in the preface of the second volume, an error in recording destroyed the record of the panel discussion on cervical trauma hence, that particular discussion is not included. The contents of the two volumes are of potential interest to practicing neurologists and to research workers in neurology

COOPER, IRVING S

The neurosurgical alleviation of Parkinsonism Springfield Ill. Charles C Thomas, 1956 104 p illus 28 cm $8 50 3814

Contents The problem. A review of surgical approaches to the treatment of Parkinsonism. The globus pallidus. Surgical occlusion of the anterior choroidal artery Case reports of anterior choroidal artery occlusion. Chemopallidectomy Case reports of chemopallidectomy Summary Index.

Note. An authoritative survey of the contemporary status of surgical therapy for the alleviation of Parkinson's disease or Parkinsonism. It contains an 11-page chapter on the history of surgical approaches to the treatment of this disease, but it is devoted primarily to techniques developed by the author and his colleagues in the Department of Neurosurgery of St. Barnabas Hospital. Numerous case histories are described together with follow-up studies. Both the techniques of surgical occlusion of the anterior choroidal artery and "chemopallidectomy"—the injection of small amounts of procaine absolute alcohol into selected subcortical areas—are described and fully illustrated. Particularly valuable are the exact diagrams of anatomical landmarks and drawings showing the author's pallidotomy guide in use.

COURVILLE, CYRIL BRIAN

Effects of alcohol on the nervous system of man Los Angeles San Lucas Press, 1955. 102 p illus. 26 cm $4 50 3815

Contents Historical introduction. Alcohol as a medical problem. Mode of action of alcohol on nervous tissues. Cellular changes in the brain in acute alcoholic intoxication and delirium tremens. Hemorrhagic encephalopathy (Encephalitis hemorrhagica superior of Wernicke) Peripheral neuropathy Alcoholic atrophy of the cerebral cortex. Pathology of the chronic alcoholic psychoses (Korsakoff's psychosis, alcoholic pellagra chronic alcoholic deterioration) Postalcoholic commissural and central necrosis (Marchiafava-Bignami disease) Alcoholic cerebellar degeneration. Regressive changes in the spinal cord incident to chronic alcoholism (interfunicular degeneration posterolateral sclerosis) Alcohol and other lesions of the nervous system. An epitome. Bibliography Index.

Note. A series of 123 cases autopsied in the course of 18 months constitute the basis of this monograph on the pathological effects of alcohol on the nervous system. The author has also drawn cases and facts from the published literature as indicated by his nine-page bibliography The cases are not discussed individually and often it is not clear whether the author' conclusions are based on his own cases or on those reported by others. The 25 figures include illustrations of both gross and microscopic pathology The author is Director of the Ramon Cajal Laboratory of Los Angeles County Hospital.

COURVILLE, CYRIL BRIAN

Pathology of the central nervous system a study based upon a survey of lesions found in a series of forty thousand autopsies. Third edition. Los Angeles San Lucas Press, 1950. 473 p. illus. 26 cm. $9 75 3816

Contents Introduction—a survey of histologic alterations occurring in the nervous elements. Congenital malformations and anomalies of the central nervous system. Diseases of the intracranial and intraspinal blood vessels. Infectious diseases of the central nervous system and its envelopes. Effects of trauma on the central nervous system. Intoxications and deficiency diseases. Diseases of unknown etiology, degenerative diseases, abiotrophies. Tumors of the intracranial and intraspinal spaces. Appendices. Index.

Note A medical college textbook based on an extensive series of autopsies. The author has not attempted to describe all pathological conditions of the central nervous system, but the range of diseases covered is a wide one. Common diseases of the brain and spinal cord are all described, with special emphasis on the clinical aspects. Although not lavishly illustrated, the present edition contains more than 200 figures, a considerable number of which are reproductions of photographs of pathological specimens. The second edition was published in 1945 Although the third edition does not represent so extensive a revision as did the second edition, useful material has been added on many topics, and some sections have been rewritten in order to simplify them. Literature references are included.

DAVIDOFF, LEO MAX, AND BERNARD S EPSTEIN

The abnormal pneumoencephalogram. Second edition thoroughly revised with 696 illustrations on 291 figures. Philadelphia Lea & Febiger 1955 518 p. illus. 26 cm. $15 00 3817

Contents Part I, Tumors of the brain. Section I, Neoplasms Introduction. Pathology of brain tumors. Frontal lobe tumors. Temporal lobe tumors. Parietal lobe tumors. Occipital lobe tumors. Parasagittal tumors. Meningiomas of the olfactory groove, tuberculum sellae sphenoid wings and sylvian fissure Tumors of the optic nerves and chiasm. Pituitary adenomas. Craniopharyngiomas. Tumors of the third ventricle Tumors of the anterior portion of the third ventricle. Tumors of the basal ganglia and thalamus. Pineal tumors. Tumors of the corpus callosum. Lateral ventricle tumors. Tumors of the peduncles and pons. Tumors of the posterior cranial fossa. Metastatic tumors.

published in 1941 and was based on only 80 cases. For the present edition the authors drew on their experience in more than 1,000 cases, and on the advances made by other workers in this active field, including especially the methods and findings of the Columbia-Greystone Project, whose report edited by Mettler is described below.

FRIEDMAN ARNOLD P

Modern headache therapy St. Louis The C. V Mosby Company 1951 164 p. illus. 23 cm. $7.50. 3829

Contents: Diagnosis. Treatment. Mechanisms of pain. Headaches associated with intracranial disorders. *Headaches associated with* extracranial disorders. Headache due to systemic disorders. Migraine headache. Psychogenic headache. Posttraumatic headache. Index.

Note: A practical, clearly written summary of the current knowledge bearing on the causes, diagnosis, and treatment of chronic headache. It is addressed to general medical practitioners, and it is so organized that it can be used independently of the literature or as a guide to the important books and articles. The author is Physician-in-Charge of the Headache Clinic of Montefiore Hospital, New York City.

FULTON JOHN FARQUHAR

Frontal lobotomy and affective behavior a neurophysiological analysis. New York W W Norton & Company Inc. 1951 159 p. illus. (part col d) 21 cm. $5.00. 3830

Contents: Historical background—the psychobiological approach. The new functional anatomy of the cerebral cortex. Recent behavioral studies in animals. Lobotomy in man. References. Index

—— Functional localization in relation to frontal lobotomy By John F Fulton. Being the William Withering Memorial Lectures delivered at the Birmingham Medical School 1948. New York Oxford University Press, 1949 140 p. illus. 21 cm. $3.00. 3831

Contents: Introductory appreciation of William Withering. The frontal lobes—the precentral motor cortex. The frontal areas and the orbital surface—chimpanzee. The frontal areas and the orbital surface—man. The cerebellum reconsidered. Index.

Note. The second of these books, as well as the first, is based on a series of lectures. The occasion for the second book was the Thomas William Salmon Memorial Lectures of the New York Academy of Medicine in 1950. The two books complement one another. The earlier one is a skillful summary of the knowledge of the effects of frontal lobotomy to about the beginning of 1948. The second book in effect brings the account down to late 1950. The author is a leading investigator in this field, and he has included also the results of the investigations and experiences of other workers in the field. Substantial reference lists to the published literature are included in both books. There are 53 figures in the earlier book and 29 in the later one.

GIBBS, FREDERIC ANDREWS AND ERNA L. GIBBS

Atlas of electroencephalography Reading, Mass. Addison Wesley Publishing Company Inc., 1950–52 2 v illus. 27 cm. Vol. I $35.00 vol. II, $35.00 3832

Contents (abridged): Volume I, Methodology and controls, normal adults. History. The shape of the problem. Physics and chemistry. Physiology. Methodology. General characteristics of the electroencephalogram. Changes with age, awake. Changes with age, asleep. Other modifying factors. Appendices. Practical aspects of laboratory organization and operation. Minimal requirements of the American Medical Association for acceptable direct-recording electroencephalographs. Specifications for electroencephalographic apparatus recommended by the American Electroencephalographic Society. Instructions for making and applying external electrodes. Bibliography. Index. Volume II, Epilepsy. Perspectives. Neurophysiology. Pathogenesis. Clinical correlates of paroxysmal cerebral dysrhythmia. Diagnostic considerations and methods of classification. Infantile spasms. Petit mal variant. Petit mal. Myoclonic seizures. Grand mal. Psychomotor epilepsy. Jacksonian seizures and focal convulsions—foci in cortical areas other than the anterior temporal. Thalamic and hypothalamic epilepsy. Minimal seizure activity and rare patterns. Methods of activating seizure discharges. Medication. Neurosurgery. Bibliography. Index.

Note: The large-scale reproductions of electroencephalograms are the main feature of this work. Each of the plates is approximately 30 cm. by 20 cm., and there are 210 plates in Volume I and 398 in Volume II. Each plate is accompanied by an interpretative caption. In addition to the captions, each of the volumes contains several background chapters. The work is addressed to electroencephalographers, both those who are already engaged in the recording and interpretation of electroencephalograms and those who are preparing for work in this specialty. The first edition of Volume I was published in 1941. The set described here consists of the second edition of Volume I and the first edition of Volume II.

GRAHAM, JOHN R.

Treatment of migraine. Boston Little Brown and Company 1956 149 p illus. 19 cm. $4.00 3833

Contents: Introduction. Diagnosis. Concept of the dynamics of migraine. Therapy of the acute attack. Prevention. Surgical Relief. Migraine status. References. Index.

Note: The title not withstanding, this book is a compact survey of the entire migraine problem. Therapy is covered in some detail with emphasis on ergot therapy. Also surveyed is the still very incomplete knowledge of the etiology and dynamics of migraine. Many condensed case histories are included as illustrations of various aspects of diagnosis and management. The book is primarily of value to general practitioners of medicine. However such features as the bibliography, which is a guide to the significant modern literature on migraine, make it of value also to specialists, particularly neurologists, who wish an authoritative and up-to-date review of the subject that can be read quickly

GRANICH, LOUIS

Aphasia a guide to retraining. Appendix in collaboration with Sergeant George W Pangle. New York Grune & Stratton, 1947 108 p. 22 cm. $3.00. 3834

Contents: Aphasic defects and related specific issues: The typical speech disabilities. Receptive aphasia. Alexia and related disorders affecting reading. Agraphia and related disorders affecting writing. Arithmetic. The clinical examination. General principles in retraining. Techniques. General defects in brain injury. Appendix. References.

Note. A brief outline of techniques were employed in U. S. Army hospitals for the retraining and rehabilitation of individuals who have suffered impairment of the power to use or understand speech as a result of brain injury. The description of various types of defects and the discussion of basic retraining principles are supplemented by a detailed account of the retraining of eight selected cases.

GREEN JOHN R., AND HARRY F STEELMAN editors

Epileptic seizures A correlative study of historical, diagnostic, therapeutic, educational and employment aspects of epilepsy Based on proceedings of joint meetings of The Seventh Western Institute on Epilepsy the Western Society of Electroencephalography and the American Academy of General Practice (Arizona chapter) on November 10 11 12 1955 in Phoenix, Arizona. Baltimore The Williams & Wilkins Company 1956 165 p. illus. 23 cm. $5.00. 3835

Contents: Part I, Diagnosis of epileptic seizures: The clinical diagnosis of epileptic seizures, by W Penfield. Electroencephalographic diagnosis, by R. R. Aird. Cranial roentgenography—its role in the study of clinical epilepsy by J. J Riordan. Part II, Treatment of epileptic seizures: Medical treatment in epilepsy by M. H. Thomas. Psychomotor epilepsy and the role of emotions in the convulsive disorders—a review and [illegible] suggestion for treatment, by

DOSHAY, LEWIS J, editor

Parkinsonism and its treatment. Philadelphia J B Lippincott Company, 1954 152 p illus. (part col'd) 19 cm $3 00 3823

Contents Introduction, by H. H. Merritt. Anatomy by H. W Magoun. Etiology by D Denny-Brown. Pathology by A. Wolf. Symptomatology by L. J Doshay Drug therapy by L. J Doshay and A. Zier Physical therapy by W B Snow Psychotherapy by S. Brock. Surgical therapy by E. B. Schlesinger. Index.

Note A useful survey for general practitioners of medicine. It presents compactly and clearly the current knowledge on the causes, symptoms, and treatment of the symptom complex known as Parkinsonism. The unsatisfactory state of the basic knowledge is made clear but the physician-reader is given the best available guidance in diagnosis and therapy Medical therapy is especially well covered with exact descriptions of the available drugs, dosages, side reactions to be expected, etc. Selected literature references are included in most of the chapters.

DUBLIN, WILLIAM BROOKS

Fundamentals of neuropathology Springfield, Ill Charles C Thomas, 1954 685 p. illus (part col'd) 26 cm. $18 50 3824

Contents Methods. Elements of the nervous system normal and pathologic. Congenital abnormalities. Inflammations. Injuries. Tumors. Metabolic disturbances. Disorders of obscure nature. References. Index.

Note A textbook for use in medical colleges, in which the methods, concepts and terminology of general pathology are extended to the study of the pathology of the nervous system. The principal topic is pathology However there is some discussion of related physiology with considerable attention to correlation of symptoms and the lesions that cause them. The illustrations illustrate both gross pathology and micropathology and are of excellent quality The 323 figures in the book represent a somewhat higher number of illustrations since, in many instances, several illustrations are combined in one figure. The bibliography includes works referred to in the text and a selection of landmark and recent publications. The author is a member of the faculty of the School of Medicine of the University of Colorado and also Chief of the Laboratory Service of the Veterans Administration Hospital in Denver Colorado.

ECHLIN, FRANCIS ASBURY

Head injuries and their management. Philadelphia J B Lippincott Company, 1956 127 p illus 19 cm. $3 00 3825

Contents The mechanisms of head and brain injury Nonsurgical cases of head injury Surgical cases of head injury—intracranial hematomas. Surgical lesions of the scalp skull and brain. Other surgical complications following head injury Special aids in diagnosis. Some nonsurgical complications following head injury Rehabilitation. Bibliography Index.

Note. A small, very compact manual directed to resident doctors in hospitals and to general practitioners of medicine. It covers the diagnosis of head and brain injuries, and both non-surgical and surgical techniques of treatment. There is some emphasis on emergency measures, but the discussion is not limited to them. Diagnostic techniques requiring instruments, such as angiography and electroencephalography are described in outline form only A nine-page bibliography is included. The author is Professor of Clinical Neurosurgery on the staff of New York University Postgraduate Medical School.

FABER HAROLD K

The pathogenesis of poliomyelitis. Springfield Ill Charles C Thomas 1955 157 p illus 23 cm (American lecture series Publication no 257 A monograph in American lectures in pediatrics edited by John A. Anderson) $5 00 3826

Contents. Properties of the virus. Epidemiology—studies of initial exposure. Pathology Anatomical considerations. Primary invasion—portals of entry Excretion and reinvasion. Viremia. Invasion of the central nervous system. Centrifugal spread of virus in peripheral nerves. Pathogenesis of the clinical manifestations. Natural and artificially induced defenses—immunization. Recapitulation. Bibliography Index.

Note. As Director of the Poliomyelitis Research Department of Pediatrics of Stanford University School of Medicine, the author of this book and his associates in this department conducted for many years experimental investigations on the pathogenesis of poliomyelitis. The results of that work, together with the related work of other investigators, are analyzed and integrated in this monograph. The principal question was whether poliomyelitis is primarily a systemic or neural disease, and the experiments were designed to find an answer to this and related questions. The experimental results are presented and analyzed in this book and correlated with the work of other investigators. Finally the author draws certain conclusions in the chapter entitled Recapitulation. Among these conclusions are, "The initial invasion of the body tissues ordinarily occurs into the peripheral nerves of the mouth and pharynx, and "The primary site of viral multiplication and lesions is the peripheral ganglia. There is a bibliography of 214 references to the literature published through 1953. The book was going to press as the Francis report on the 1954 field trial of the Salk vaccine was issued. There is a footnote on the report, but no other references to literature published in 1954.

FORD, FRANK RODOLPH

Diseases of the nervous system in infancy, childhood and adolescence. Third edition. Springfield, Ill Charles C Thomas, 1952 1 181 p illus. 26 cm. $18 50 3827

Contents. The examination of the nervous system. Clinical aspects of the anatomy and physiology of the nervous system. Prenatal and developmental defects of the nervous system. Heredofamilial and degenerative diseases of the nervous system. Infections and parasitic invasions of the nervous system. Toxic and metabolic disorders involving the nervous system. Vascular lesions and circulatory disorders of the nervous system. Neoplasms and related conditions involving the nervous system. Injuries of the nervous system by physical agents. The epilepsies and paroxysmal disorders of the nervous system. Diseases of the autonomic system. Diseases of the muscles. Disorders of growth and development including dwarfism, sexual infantilism, sexual precocity gigantism, obesity and emaciation. Index.

Note. A comprehensive treatise in which all neurological diseases that occur in childhood are covered. It is addressed primarily to graduate neurologists and pediatricians and is organized for reference use as well as study Generally speaking, the discussion of each disease covers the following points, definition, pathological analysis, clinical features, diagnosis, prognosis, treatment, and literature references. Epidemiology is also covered for infectious diseases, such as epidemic encephalitis. The second edition was published in 1945 The work was widely revised and considerably expanded for the present edition. There are now 195 figures, some of which contain more than one illustration.

FREEMAN, WALTER, AND JAMES W WATTS

Psychosurgery in the treatment of mental disorders and intractable pain Second edition. Springfield, Ill. Charles C Thomas, 1950 598 p illus (part col d) 26 cm. $12.50 3828

Contents (abridged) Introduction. Part I, The frontal lobes. Part II, Surgical aspects of prefrontal lobotomy Operative technic—precision method. Preoperative and postoperative management. Choice of type of operation. Complications and sequels. Part III, Clinical observations Observations on the operating table. Postoperative observations. The patient comes home. Occupational adjustment. Reconditioning. Creative capacity Part IV, ... tional and spiritual adjustment, morale. Special studies Motor functions after lobotomy The pathology of prefrontal lobotomy Personality changes after psychosurgery ... ciated physical and psychosomatic disorders. Pain. Part ... Prefrontal lobotomy and mental disorder: The schizophrenic reaction type. ... fective reaction types. Obsessive-compulsive and ... Prefrontal lobotomy—tension states. Results of prefrontal lobotomy The functions of the frontal lobes. Indications and contraindications. Bibliography Index.

Note: An important treatise in this field. The authors performed in September 1936, the first prefrontal lobotomy in the United States of America and have had jointly an extensive experience in psychosurgery. There is some emphasis on these aspects ... of primary interest to neurologists and psychiatrists, but the techniques of operations are also clearly described. A special feature is the inclusion of the complete case histories of patients observed over a period of years following brain operations. The first edition ...

Contents: The cerebral circulation. General considerations. Diagnosis of intracranial aneurysms. Intact intracranial aneurysms. Ruptured intracranial aneurysms. Arterio-venous aneurysms. General remarks concerning intracranial vascular surgery. Bibliography. Author index. Subject index.

Note: The author, Professor of Neurological Surgery at the University of Buffalo School of Medicine, wrote this book with the aim to give the physician, and particularly the surgeon, a large collection of data on intracranial aneurysms. The information presented has been gathered in a wide search of the literature. Forty-eight case reports and numerous illustrations, many of these presenting excellent X-ray photographs, are incorporated in the text. The bibliography at the end of the volume is international in scope and gives full citations of 700 papers.

HAYMAKER, WEBB

Bing's local diagnosis in neurological diseases. Translated, revised, and enlarged from the fourteenth German edition. With 225 illustrations, including 9 in color. St. Louis, The C. V. Mosby Company, 1956. 478 p. illus. (part col'd) 26 cm. $16.75 3841

Contents: Tracts, cell groups and blood supply of the spinal cord. Spinal cord functions. The localization of spinal lesions in the transverse plane. Anatomical and functional aspects of spinal segments. Segmental localization of spinal lesions. Localization of lesions of the cervical and uppermost thoracic segments. The localization of lesions of lower segments of the spinal cord. X-ray localization of spinal tumors, by B. S. Epstein. The structure of the brain stem. General rules for the localization of lesions in the brain stem. The localization of lesions involving cranial nerves III through XII. The localization of lesions involving the facial nerve—acoustic nerve—trigeminal nerve—extraocular nerves. Disorders of cerebellar angle. The arterial supply of the brain stem and cerebellum, and syndromes of arterial occlusion. The cerebral cortex and its motor pathways. The localization of motor and sensory disturbances of cerebral origin. The localization of frontal lobe disorders. The localization of disturbances of gaze and pupillary reflexes. The localization of aphasia, apraxia and agnosia. The localization of extrapyramidal motor disorders. The localization of lesions of the thalamus. Anatomical and functional considerations, by P. I. Yakovlev. The clinical features of lesions of the hypothalamus, pituitary gland and upper midbrain. Arteries of the cerebrum and syndromes of their occlusion. Localization of aneurysms of cerebral arteries. Intracranial masses—Location, type, and X-ray localization of intracranial lesions, especially tumors, by B. S. Epstein. The use of electroencephalography in neurological diagnosis, by R. G. Barry. References. Index.

Note: The basis of this work is Robert Bing's *Kompendium der topischen Gehirn- und Rückenmarksdiagnostik*. However, it is more than a translation. The translator, who is Chief of the Neuropathology Section of the United States Armed Forces Institute of Pathology, has revised the original text somewhat, and has added sections based on American work. In addition, there are three signed chapters written by American specialists especially for this version in English. The result is an exceptionally thorough and detailed guide to neurological diagnosis on the basis of symptoms, signs, and related clinical features. It is compactly written, and the style is straightforward and precise. The bibliography is an extensive one of the international literature. This version in English supersedes the original translation into English, also by Haymaker, which was published in 1940.

HAYMAKER, WEBB, AND BARNES WOODHALL

Peripheral nerve injuries: principles of diagnosis. Second edition. 272 illustrations. Philadelphia, W. B. Saunders Company, 1953. 333 p. illus. 24 cm. $7.00. 3842

Contents: Section I. An analysis of the segmental and the peripheral nerve supply of skin, muscles and skeleton. General principles of the composition of segmental nerves, plexuses and peripheral nerves. The innervation of skin and muscles by spinal segments. The distribution of the peripheral nerves. Innervation of the skeleton, and the disorders of bones and joints resulting from nerve injuries. Section II. Examination of the peripheral nervous system. Manifestations of peripheral nerve injuries. An analysis of the movements tested in neurological examination. Section III. Classification, causes and symptomatology of peripheral nerve injuries. The various degrees of peripheral nerve injury and their clinical significance. Tests employed in the diagnosis or prognosis of nerve injuries. Section IV. Injuries of plexuses and peripheral nerves. Injuries of the cervical plexus. Injuries of the brachial plexus. Injuries of the peripheral nerves derived from the lumbar plexus. Injuries of the sacral plexus and its constituent nerves. Bibliography. Index.

Note: A practical manual written to assist army medical officers in the diagnosis of injuries sustained by military personnel to the nerves serving the neck, shoulders, pelvic girdle, and limbs. It is useful also in civilian medical practice in the diagnosis and treatment of persons injured in accidents. The manifestations and nature of the injuries are described and detailed instructions are given for carrying out examinations of patients. The book is well illustrated with drawings and photographs, the latter of which were obtained from the collection maintained by the Army Institute of Pathology. The first edition was published in 1945. In this second edition, the third section is new and revisions have been made in other sections and chapters. References to literature published since the first edition was written have been added to the bibliography. The number of illustrations has been substantially increased.

HORRAX, GILBERT

Neurosurgery: an historical sketch. Springfield, Ill., Charles C Thomas, 1952. 135 p. illus. 22 cm. (American lecture series. Publication no. 117. A monograph in American lectures in surgery, edited by Michael E. De Bakey and R. Glen Spurling. Neurosurgical Division, Barnes Woodhall, editor) $3.75 3843

Contents: Introduction. Prehistoric and Egyptian eras. The Greek or Hippocratic and Galenic period (500 B.C. to circa 500 A.D.). The medieval period (circa 500 to 1500 A.D.). The Renaissance (circa 1500 to 1700 A.D.). The pre-Listerian period (circa 1700 to 1846 A.D.). The pre-Horsley period (1846 to 1880 A.D.). The era of neurosurgery as a surgical specialty (circa 1890 A.D. and to the present day). Conclusion. Bibliography.

Note: This outline history can fairly be designated as a neurosurgeon's history of neurosurgery. The space is almost evenly divided between accounts of techniques and outstanding developments up to 1890 and the highlights of developments since that year. There are 40 figures divided among portraits of great neurosurgeons, pictures of surgical instruments, views of operating theaters, and diagrams of operative techniques. There are 141 references in the bibliography.

INGRAHAM, FRANC D., AND DONALD D. MATSON

Neurosurgery of infancy and childhood. Springfield, Ill., Charles C Thomas, 1954. 456 p. illus. 26 cm. $15.00. 3844

Contents: Part I. Congenital anomalies of the central nervous system and its coverings. Spina bifida and cranium bifidum. Dermal sinus. Congenital dermal sinus tracts. Craniosynostosis. Congenital defects of the scalp and skull. Platybasia. Part II. Hydrocephalus. Part III. Trauma. Closed head injuries. Fractures of the skull. Cranioplasty. Extradural hematoma. Subdural hematoma. Injuries to the spinal cord. Injuries to the peripheral nervous system. Part IV. Intracranial tumors. General considerations. Posterior fossa tumors. Gliomas of the cerebral hemispheres. Craniopharyngiomas. Tumors of the choroid plexus. Tumors of the skull and meninges. Tumors of the orbit. Part V. Intraspinal tumors. Part VI. Infection. Osteomyelitis. Brain abscess. Subdural effusion complicating meningitis. Part VII. Cardiovascular disorders. Angiography. Congenital malformations. Sturge-Weber syndrome. Part VIII. Epilepsy. Part IX. Lead encephalopathy. Part X. Pediatric neurosurgical anesthesia. Bibliography. Index.

Note: A book based on 20 years' experience of the neurosurgical service of The Children's Medical Center in Boston. It deals primarily with neurological disorders that are amenable to surgical therapy. Diagnosis, surgical treatment, and prognosis, and postoperative care of patients are the primary topics. The illustrations, of which there are 331, are a special feature and most of them have not been published elsewhere. Both of the authors are on the staff of The Children's Medical Center and are also members of the faculty of Harvard Medical School.

A. S. Rose. *Psychologic problems in epilepsy* by J L. Otto. The surgical treatment of focal epilepsy by H. F Steelman. Follow-up observation on the treatment of focal epilepsy by cortical excision, by W Penfield. Part III, *Educational problems of the epileptic patient* Community services *for the epileptic*, by E. E. Smith. Educational problems of epileptic children, by L. D. Gamong. A suggested approach to the problems of the brain-injured child with seizures, by L. D Schwartz. Social and *educational* problems of *crippled children*, by L. R. Larson. *Cerebral* palsy and seizures, by R. D Wetzel. Educational problems of college-age persons with seizures, by W Abraham. Part IV Employment and rehabilitation aspects *Trends in rehabilitation*, by R. R. *Nochta*. Exploring the work potential of the unemployed epileptic, by F Risch. Appendium. Hippocrates comes to symposium on epilepsy by W Penfield. Markham fellowships in epilepsy *Index*.

Note The typical paper in this book is a brief essay authored by a specialist, addressed to readers inside the author's specialty and including a selected bibliography of professional literature. The book as a whole is a broad account of the modern view of epilepsy It *is of interest to general practitioners of medicine*, educators and social workers concerned with the rehabilitation of epileptics.

GREENBLATT, MILTON, AND OTHERS, editor

Studies in *lobotomy* Milton Greenblatt, *Robert Arnot, and Harry C* Solomon, editors *New York* Grune & Stratton, Inc., 1950 495 p illus. 24 cm. $10 00 3836

Contents. Part I, Clinical considerations Introduction by H. C. Solomon. Psychosurgery—a review of recent literature, by M. Greenblatt *Evolution of psychosurgery technic, by D Falzman. Technic* and complications of the standard prefrontal lobotomy by J L. Poppen. Postoperative behavior by A. S. Rose. Nursing procedures and problems, by R. Bradford. *One to four year follow-up* of 205 cases of bilateral prefrontal lobotomy by R. Arnot and others. The lobotomized patient during the *first year* at home (social problems in 35 cases) by M. Bruffman. *Sexual* behavior after lobotomy by *J Levine and H. Albert. Problems in rehabilitation* of patients after lobotomy by R. W Hyde and others. The results of unilateral and bimedial lobotomy a pilot study by J S. Bockoven and M. Greenblatt. Illustrative cases of lobotomy *by M. Greenblatt* and J S Bockoven. *Part II, Special studies. Anatomical study* of lobotomy by P Yakovlev and others. Cerebrospinal fluid changes after bilateral prefrontal lobotomy by W J Borkowski and H. Musnick. Relation of the *frontal lobe to autonomic nervous system in man* by M. Rinkel and others. The effect *of* lobotomy and *of* electrical stimulation of the orbital surface of frontal lobes upon respiration and blood pressure in man by W P Chapman and others. Lobotomy and urinary bladder *by M. Rinkel and others. Skin temperature changes* after unilateral and *bilateral* prefrontal lobotomy by D Falzman and others. Measurement of motor withdrawal reaction in patients following frontal lobotomy by W P Chapman and others. Lobotomy for the relief *of intractable* pain, by J B. Dynes. Electroencephalographic and clinical effect *of* prefrontal lobotomy with consideration *of* postlobotomy convulsive seizures, by S. Levin and others. *Psychometric changes following* lobotomy by C. R. *Atwell*. Application of a sociometric technic to the study of lobotomized patients, by J S. Bockoven and R. W Hyde. Occupational therapy for lobotomy cases, by R. W Hyde and *A. C. Wood. Part III* Summary by M. Greenblatt and H. C Solomon. Index.

Note This book is a collection of special studies based on the experiences with lobotomy at the Boston Psychopathic Hospital *since the use of this procedure was initiated at this hospital* in 1945 All of the studies bear directly or indirectly on the results of lobotomy in specific cases. The techniques used in analyzing results are *carefully* described. Excerpts from numerous case histories are included. In the summary at the end of the book the over-all experience with 500 patients is discussed under the following subheadings immediate post-operative changes, autonomic nervous system, response to pain electroencephalogram studies, *psychological* studies, changes in work behavior clinical investigations, *indications, and* specific indications for lobotomy Literature references are supplied *for most of the chapters*.

GRINKER, ROY RICHARD, AND PAUL C BUCY

Neurology Fourth edition. Springfield Ill Charles C Thomas 1951 1 138 p illus. 26 cm $12 50 3837

Contents. Technic of neurological examination. The spinal roots and nerves. Tumors of the peripheral nervous system and spinal cord. The vegetative nervous *system. The brain stem* and the cranial nerves. The motor system. The cerebrum. Intracranial tumors. The cerebrospinal vascular system. *Inflammatory and infectious diseases* of the nervous system. Degenerative diseases. Developmental defects. Syphilis of the nervous system. Trauma of the central nervous system. *The epilepsies.* Exogenous toxins and noxious agents affecting the nervous system. The myopathies. *Headaches. Bibliography* Index.

Note. A widely used medical college textbook in which the *subject* is covered from the standpoint *of* clinical medicine. The third edition appeared in 1943 This is the first edition *with* its co-author Much reorganization and revision is evident in the text, illustrations, and bibliography The book is sufficiently comprehensive and documented to make it useful to graduate physicians who are not specialists in neurology but find themselves in need of a survey and reference book.

GURDJIAN, ELISHA STEPHENS, AND JOHN E WEBSTER

Operative neurosurgery, with emphasis on procedures in trauma. Baltimore The Williams & Wilkins Company, 1952 422 p. illus. 26 cm. $10 00 3838

Contents Head Craniotomy—historical. Preliminary considerations. Supratentorial and *vascular* lesions. Posterior fossa and cranial nerves. *Head injury Spine Historical notes on surgery of the spinal* cord. Certain points about the vertebral column and cricoid articulations. The spinal cord, Neurosurgical procedures. Autonomic nervous system Historical considerations. Anatomy and physiology Surgical management. *Neurosurgical* procedures. Peripheral nervous system Historical considerations. Anatomy physiology and pathology *Principles* in surgical technique. *Diagnosis of peripheral* nerve lesions. *Rehabilitation*, Neurosurgical procedures. Index.

Note. Throughout most of this volume, there is a plate of illustrations on a *right-hand page* while on the *facing left-hand page* there *is a description* and discussion of the techniques *illustrated*. *Altogether there are 129 plates*, and most of these contain several drawings. Only techniques which have won general acceptance are represented. Extensive bibliographies of papers and other literature pertaining not only to the techniques *illustrated but to others* are included. The book is suitable for use as a medical college text and also as a reference volume for surgeons who are not specialists in neurosurgery but occasionally perform neurological operations, especially in the *repair of wounds*.

HALSTEAD, WARD CAMPBELL

Brain and intelligence a quantitative study of the frontal lobes. Chicago The University of Chicago Press 1947 206 p. illus. 23 cm (The University of Chicago. Committee on Publications in Biology and Medicine) $7.00 3839

Content (abridged) Part I, The structure of biological intelligence Psychometric intelligence. Clinical intelligence. Neurological conceptions of intelligence *Present studies*. Quantitative results. *The central integrative field factor* C. The A factor. The power factor P The directional factor D. The nuclear structure of the ego. Part II, Localization of function in the brain. *Representation of* the basic factors in the brain. *Impairment* index and the frontal lobes. Impairment index and closed-head (brain) injuries. Localization of function and the problem of equivalence. *Appendixes. Abstracts of* medical histories of cerebral lobectomies. Diagrams of brain lesions *of cerebral lobectomies*. Quantitative indicators. References and bibliography Author index. Subject index.

Note The results of 12 years in evaluation of the effects of *brain lesions on intelligence.* Biological intelligence was resolved into four factors which are fully described. Using these as a base, approximately 230 brain-injured persons were examined with a battery of 27 neuropsychological tests. The results are fully reported and interpreted. Among the conclusions drawn by the author is one that the frontal lobes are the brain areas most essential to biological intelligence. The work *is written on a professional level* and is of interest to neurologists, biologists, and psychologists.

HAMBY, WALLACE BERNARD

Intracranial *aneurysms. Springfield* Ill. Charles C Thomas *1952 564 p illus.* 25 cm. $14.25 3840

lesions. Surgery of pain, by E. A. Kahn. Surgical closure of scalp defects, by J. M. Converse. Craniocerebral trauma, by R. C. Schneider. Trauma to the spine and spinal cord, by R. C. Schneider. Developmental anomalies of the craniovertebral border, by C. F. List. Congenital anomalies of the brain, spinal cord and their membranes, by E. A. Kahn. Author index. Subject index.

Note: A collaborative work based largely on laboratory work and clinical experience of the Neurosurgical Clinic and the Laboratory of Neuropathology of the Medical School of the University of Michigan. The clinical value of correlating neuroanatomy and neurosurgery [illegible] theme that runs through most of the chapters. A wide range of case experience is incorporated in the discussion, and [illegible] number of case histories is included. The book is directed primarily to young neurosurgeons, hence, the basic technique of neurosurgery are not described in detail. On the other hand, numerous special points gleaned from experience are included such as the following: "One must be cautioned that one may encounter [illegible] among the [illegible] and the medial side of the temporal lobe. If the patient continues to do poorly [illegible] search for [illegible] should be made in these areas." Highly extensive bibliographies are included in most of the chapters. There are 213 figures, including many pictures of gross pathology and neuropathology.

LASSEK, A. M.

The pyramidal tract: its status in medicine. Springfield, Ill. Charles C Thomas, 1954. 166 p. 23 cm. (American lecture series. Publication no. 233. A monograph in the Bannerstone division of American lectures in anatomy; edited by Otto F. Kampmeier) $4.75. 3850

Contents: Introduction. Events leading to the discovery of the pyramidal decussation—460 [illegible]–1710 A.D. Gross observations (1710–1870). Normal histological studies. Studies in secondary degeneration (pathology). Investigations in retrograde degeneration. Results of electrical stimulation. Signs and symptoms. Surgical operations involving pyramidal tract. Results of animal experimentation. A consideration of the afferent system. The status of the pyramidal tract in medicine. Conclusions. Chronological outline of basic pyramidal tract investigations to date. Chronological outline of [illegible] experiments on pyramidal tract. Bibliography. Index.

Note: A survey of accumulated knowledge. As shown in the above Contents, there are two historical chapters at the beginning of the book and two chronological outlines at the end. The chapters in between, in which the knowledge is classified under subtopics, also have [illegible] chronological pattern. At the same time, the presentation is [illegible] critical one. Especially in the chapter entitled "Conclusions" does the author point out gaps in the knowledge in such statements as "Little [illegible] known regarding the [illegible] and [illegible] of pyramidal tract impulses, but the afferent system has been implicated." The book [illegible] primarily of interest to neurologists.

LAUGHLIN, HENRY P.

The neuroses in clinical practice. Philadelphia, W. B. Saunders Company, 1956. 802 p. 25 cm. $12.50. 3851

Contents: The nature and origins of anxiety. The anxiety reactions—the acute anxiety attack or anxiety panic, the anxiety-tension state, and anxiety neurosis. Intrapsychic mechanisms of defense. The phobic reactions—fear and its avoidance—the phobias. The flimsy cause of emotional illness. The conversion reactions—somatic conversion or conversion hysteria, and physiologic conversion. The dissociative reactions. Depression. The fatigue reactions—emotional fatigue, the fatigue state, and neurasthenia. Overconcern with health—hypochondriasis, somatic and/or physiologic preoccupation. The obsessive-compulsive reactions—the obsessive character defenses, the obsessive personality and the obsessive type of character neurosis—the obsessive-compulsive neurosis. The neuroses following trauma. Appendix: A brief outline classification of emotional and mental illness. A glossary of psychiatric concepts and terms. Index.

Note: In this book the kinds of neuroses which are named in the chapter titles are all discussed according to [illegible] uniform pattern. The pattern may be illustrated by listing the subheadings under which the material in the chapter on fatigue reactions is organized: "Introduction," "History," "Diagnosis," "Incidence," "Symptoms and clinical features," "Psychodynamic considerations," "Additional aspects," "Neurasthenia," "Treatment," and "Summary." These topics are discussed for readers who have had some introduction to the terminology and concepts of clinical psychiatry. However the book is an introduction to the study of the neuroses. Over 200 condensed case histories are included. Each of the chapters includes an extensive list of references to the related literature. The glossary at the end of the volume is [illegible] comprehensive one of which various versions have been published elsewhere.

LENNOX, WILLIAM GORDON

Science and seizures: new light on epilepsy and migraine. With 10 illustrations. Second edition. New York, Harper & Brothers, 1946. 258 p. illus. 19 cm. $2.50. 3852

Contents: Part I. Convulsive seizures: Orienting facts. Various types of seizures. Numerical facts. The portion of the brain affected. Borderland conditions. The threat to life and intellect. The causes of seizures. The restraining dam. Seizures in childhood. Making [illegible] diagnosis. Radio to the rescue. The prevention of epilepsy. The problem of heredity and marriage. Treatment—preliminary problems—the psychological-social front—the physical front—the pharmacological front. Treatment during seizures. Care away from home. A campaign against epilepsy. Part II. Headache seizures. Orienting facts. The symptoms of migraine. The mechanism which causes symptoms. The causes of migraine. Putting the puzzle together. Prevention of migraine. Examinations and treatment. The hope of new knowledge. Appendix. *Index of names. Index of subjects.*

Note: Although now out of date in part, this book is still [illegible] ful exposition of the modern, informed view of epilepsy. It is addressed to educated general readers and [illegible] written primarily from the social viewpoint. However considerable space is given to clinical aspects, including diagnosis and treatment. Migraine is included as [illegible] related disorder, but less than 50 pages of the volume are devoted to it.

LEWIS, NOLAN D. C., AND OTHERS

Studies in topectomy. Edited by Nolan D. C. *Lewis, Carney Landis,* and H. E. King. New York, Grune & Stratton, 1956. 248 p. illus. 23 cm. $6.75. 3853

Contents: Editorial introduction, by N. D. C. Lewis and others. Surgical procedure, by J. L. Pool and others. *Physiological effects* by G. H. Glaser and others. Vestibular function, by H. E. King. Anesthesia, by H. E. King. Psychometric studies, by D. E. Sears. Complex mental functions, by R. D. North and J. Zubin. Activity—a time-sampling study, by E. F. Kinder and others. Psychophysiology, by H. E. King and J. Clausen. Psychosurgery and social behavior, by W. B. Pomeroy. Psychiatric effects, by P. H. Hoch and others. Independent psychiatric evaluation, by A. M. Stanley and others. Social service, by H. Crutcher and others. Index.

Note: A monograph composed of studies made by the New York State Association in Brain Research, [illegible] group whose purpose it is "to explore the potentialities of psychosurgical methods as [illegible] therapy for mental disorder, and to *investigate the role of the frontal* lobes of the brain in human behavior." The studies, [illegible] authors and titles are listed above, are critical examinations of experience. They are essentially independent, and no attempt was made to integrate the findings of the several investigators or to propose [illegible] unifying theory. The book is of interest primarily to neurosurgeons and other professional students who are concerned at the research level with the physiological and psychological effects of psychosurgery. It is complementary to F. A. Mettler, editor, *Psychosurgical problems,* 1952.

MAYO CLINIC

Clinical examinations in neurology. By members of the Sections of Neurology and Section of Physiology, Mayo Clinic and Mayo Foundation for Medical *Education* and Research, Graduate School, University of Minnesota, Rochester, Minnesota. James A. Bastron and others. Philadelphia, W. B. Saunders *Company,* 1956. 370 p. illus. (part col'd) 25 cm. $7.50. 3854

Contents: The neurologic history. Introduction to use of various forms for recording history and results of clinical examination.

INTERNATIONAL POLIOMYELITIS CONFERENCE

Poliomyelitis papers and discussions presented at the third International Poliomyelitis Conference. Compiled and edited for the International Poliomyelitis Congress Philadelphia J B Lippincott Company, 1955 567 p illus. 26 cm. $7.50 3845

Contents (abridged) Social aspects of poliomyelitis Social aspects of poliomyelitis—Italy by S. Cramarossa. Social aspects of poliomyelitis—Scandinavia, by S. M. Clemmesen. Social aspects of poliomyelitis—United States, by C. S. Kessler. Acute medical care in poliomyelitis Differential diagnosis f poliomyelitis in the acute stage, by A. J Rhodes. Systemic treatment of the acute stage, by W R. Russell. Basic physiology of respiration by J L. Whittenberger Treatment of respiratory difficulty in poliomyelitis, by H. L. Hodes. Infection and immunity in poliomyelitis Epidemiology and pathogenesis of poliomyelitis—present status of the problem, by P Lépine. Distribution of antibodies to poliomyelitis virus in the general population, by J H. S. Gear Influence of passive immunization on the incidence of poliomyelitis, by H. Moesch. Effect of passive immunity on infection with the poliomyelitis viruses, by W McD Hammon and others. Studies with noninfectious poliomyelitis virus vaccines, by J E. Salk. Avirulent viruses for immunization against poliomyelitis, by A. B. Sabin. Developments in tissue culture: Developments in tissue culture by J F Enders. Orthopedics. A discussion of the orthopedic rehabilitation of the poliomyelitis patient in the United States, by P C. Colonna. Recent methods of orthopedic surgery in the treatment of poliomyelitis and results, by C. Marino-Zuco. Physical medicine and rehabilitation. Selection of methods in physical medicine for poliomyelitis, by A. Barrière-Borchard. Muscle re-education and functional activity in poliomyelitis, by H. J Flax. Practical rehabilitation in convalescent poliomyelitis, by E. Mead. Trends in poliomyelitis. Poliomyelitis as a world problem, by A. M. M. Payne. Microbiology and immunization—a summary by T M. Rivers. Clinical aspects of poliomyelitis, by G. Fanconi. Orthopedics and physical medicine—a summary, by R. Zanoli. Social aspects of poliomyelitis, by R. Debré. Future prospects, by J R. Paul. Neurologic problems and relapses in poliomyelitis, by J Moreira da Fonseca. Scientific exhibits. Index.

Note Published in this volume are the full proceedings of the third International Poliomyelitis Conference held in Rome in 1954 The titles and authors of the scientific papers presented are listed above. In addition to these, the volume contains such information as list of officers and members of the International Poliomyelitis Congress, a list of sponsors and participants in the Conference, descriptions of the scientific exhibits, and an address by His Holiness Pope Pius XII. Many of the scientific papers include illustrations and bibliography Transcripts of discussions are also included.

JOSIAH MACY, JR. FOUNDATION

Neuropharmacology Transactions of the first conference, May 26 27 and 28, 1954, Princeton N J Edited by Harold A. Abramson. New York Sponsored by the Josiah Macy, jr Foundation, 1955 210 p illus. 24 cm $4.25 3846

Contents. Considerations of the effects of pharmacological agents on the over-all circulation and metabolism of the brain, by S. S Kety Group interchange. References. Functional organization of the brain, by E. A. Scharrer Group interchange. References. Studies of electrical activity of the brain in relation to anesthesia, by M. A. B Brazier Group interchange. References. Ascending reticular system and anesthesia, by H. W Magoun Group interchange. References. Observations on new CNS convulsants, by C. C. Pfeiffer Group interchange. References. Appendix—autobiographical sketches of participants. Index.

—— Neuropharmacology Transactions of the second conference, May 25 26 and 27 1955, Princeton N J Edited by Harold A. Abramson. New York Sponsored by the Josiah Macy, jr Foundation, 1956 328 p. illus. 24 cm. $4 25 3847

Contents. Lysergic acid diethylamide (LSD) and related compounds, by A. Cerletti. Group interchange. References. Effect of drugs on the behavior of animals and on psychoses of man, by S. L. Sherwood Group interchange. References. Research in schizophrenia, by H. Osmond Group interchange. References. Experimentally induced psychoses in man, by M. Rinkel. Group interchange. References. Tolerance to LSD-25 and a theory of psychoses, by H. A. Abramson Group interchange. References. Appendix. Index.

Note. Instead of formal papers, these volumes contain transcripts of discussions participated in by the 25 members and guests present at each conference. The pattern is the same as in the transactions of other conferences held under the sponsorship of the Josiah Macy Jr Foundation. Several of the conference participants report informally on research in which they are engaged, and these reports are discussed informally Often the discussants mention related research and experience. The transcripts of discussion occupy most of the volumes. The informality notwithstanding, literature references are included, and each volume contains detailed subject index.

JUDOVICH, BERNARD, AND WILLIAM BATES

Pain syndromes diagnosis and treatment. Fourth edition. 184 illustrations. Philadelphia F A Davis Company, 1954 440 p. illus 24 cm $7 50 3848

Contents. Segmental pain and tenderness (segmental neuralgia). Posture in relation to abdominal pain and tenderness and ptosis of the abdominal organs. Treatment. The dermatomes. Brachial plexus pain. Herniated cervical disk. Scalenus anticus syndrome. Reflex dystrophy—shoulder-hand syndrome (Steinbrocker's syndrome). Interscapular pain. Trigger points. Pain and tenderness of the chest wall. Abdominal pain. Persistence of lower quadrant abdominal pain following appendectomy Abdominal scars and adhesions. Investigative aspects of low back pain and lower quadrant abdominal pain. Sciatic nerve pain. The pitcher plant distillate and the ammonium salts for relief f pain. Herpes zoster (shingles) Occipital neuralgia. Vascular tension headache and atypical facial neuralgia. Trigeminal neuralgia. Control of pain in malignancy Vascular pain. Intravenous procaine. Technic of infiltration. Paravertebral infiltration of the sympathetic ganglia. Pain: neurosurgical management. Bibliography Index.

Note. This monograph is based on extensive experience and experimentation by the authors, and its particular viewpoint is best expressed in their words. the interpretation of pain can be greatly facilitated by eliciting hyperalgesic or tender skin areas which accompany the pain. The presence of tenderness, and its distribution, whether local or segmental, has been of great aid in diagnosis and therapy E en the absence of tenderness with pain is of significance the combination of segmental pain and tenderness usually appears to be due to factors which irritate roots, ganglia, or trunks of the spinal sensory nerve, and not due to painful impulses originating in diseased viscera. In other words, pain and segmental tenderness of skin in most instances appears to be of somatic origin, rather than of visceral origin. Writing from this viewpoint the authors cover etiology diagnosis and treatment of the pain syndromes which are named in the chapter titles in the above contents. Their book is widely recognized as significant contribution to the interpretation of pain. The first edition was published in 1944 and the third edition in 1949. In this fourth edition, there are several newly added chapters also new and revised sections in chapters carried over from the preceding edition.

KAHN EDGAR A , AND OTHERS

Correlative neurosurgery Springfield, Ill Charles C Thomas, 1955 413 p. illus. 29 cm. $19.50 3849

Contents. Expanding lesions of the brain, by E. A. Kahn. Roentgenologic examination of the skull, by J. F Holt. Electroencephalographic localization of intracranial tumors, by B. K. Bagchi. The use of radioactive isotopes in the diagnosis and localization of brain tumors, by R. G. Farris and others. Gliomas of the cerebral hemispheres, by E. A. Kahn. The meningiomas of the brain, by R. C. Bassett. Metastatic tumors of the brain, by R. C. Bassett. Brain abscess, by E. A. Kahn. Surgery of the primary vascular lesions of the brain and spinal cord, by R. C. Bassett. Prefrontal lobotomy by D. O. Freeman. Aphasia, agnosia, apraxia—their importance in localization of intracranial disease, by R. N. DeJong. Endocrinology and metabolism in neurosurgical practice, by J. M. Bauer. Tumors of the sellar region, by E. A. Kahn. Tumors of the third ventricle, by E. A. Kahn. Tumors of the posterior fossa, by E. A. Kahn. Tumors of the cerebellopontine angle, by R. C. Bassett. Tumors of the spinal cord, by R. C.

Note A companion work to Mettler, Fred A., editor. *Problems of the human brain, selective partial ablation of the frontal cortex,* described there. It is [illegible] study of the effects of several psychosurgical procedures other than lobotomy and topectomy. Eighteen patients were operated on as follows: In 12 cases bilateral ligation of the superior cerebral veins was carried out. In 3 cases bilateral surgical thalamotomy was performed. In 2 cases thermocoagulation of the cerebral cortex in the rostral portion of each frontal lobe was done, while in the 1 remaining case topectomy procedure was carried out. Together the two books present the results of [illegible] exposition of the techniques of operational research analysis to the study of [illegible] complex problem in therapy.

MINER, ROY WALDO editor

Reserpine in the treatment of neuropsychiatric, neurological and related clinical problems. Conference co-chairmen Frederick F Yonkman, Frank L. Mohr and Jack L. Graeme. Consulting editor Frederick F Yonkman. New York Published by the Academy 1955 280 p. illus. 22 cm. (New York Academy of Sciences. Annals. Vol. 61 art. 1) $3.50. 3860

Contents: Introduction, by H. Koprowski. Significance of selected central mechanisms for the analysis of the action of reserpine, by R. J. Bein. Neuropharmacological aspects of reserpine, by J. A. Schneider and others. A comparison of effects of reserpine and some barbiturates on the electrical activity of cortical and subcortical structures of the brain of rabbits, by F. Rinaldi and H. E. Himwich. The effects of reserpine on emotional behavior of normal and brain-operated monkeys, by L. Weiskrantz and W. A. Wilson. A comparison of cortical and subcortical brain waves in normal, barbiturate, reserpine, and chlorpromazine sleep, by R. R. Monroe and others. The use of reserpine in ambulatory and hospitalized mental psychotics, by [illegible] Sainz. Preliminary observations on the effects of parenteral reserpine on cerebral blood flow, oxygen and glucose metabolism, and electroencephalograms of patients with essential hypertension, by J. H. Hafkenschiel and others. Use of reserpine in [illegible] neuropsychiatric hospital, by N. S. Kline and A. M. Stanley. Treatment of chronic schizophrenic reactions with reserpine, by L. E. Hollister and others. Treatment of reserpine induced depression with [illegible] new stimulant—phenidylate, by J. T. Ferguson. The use of reserpine in shock-reversible patients and shock-resistant patients, by D. C. Tasher and M. W. Chermak. The control of deviant behavior in chronically disturbed psychotic patients by the oral administration of reserpine, by B. C. Campden-Main and Z. Wegierko. Clinical evaluation of reserpine in [illegible] state hospital, by W. L. Kirkpatrick and F. Sanders. Clinical and psychological observations on psychiatric patients treated with reserpine—a preliminary report, by J. L. McKeown and L. Kotchegal. The acute effects of reserpine and of amytal on central sympathetic reactivity, by R. A. Schneider. Clinical effectiveness of reserpine, by F. J. Flach. Clinical use of reserpine in psychiatry—comparison with chlorpromazine, by M. Kinross and W. A. Stoll. Chlorpromazine and reserpine in the treatment of psychoses, by A. Kinross-Wright. A preliminary report on the tranquilizing effect of reserpine, by R. R. Lentell and A. Y. Mericas. The use of reserpine in excitable and hyperkinetic infants, by M. W. Talbot, jr. The use of reserpine in office psychiatry—preliminary report, by F. R. Drake and F. G. Ebaugh. The use of reserpine in juvenile psychiatric practice, by S. K. Stark. The use of reserpine in certain neurological disorders—epilepsy, convulsive states, tremors, and head injuries, by [illegible] S. Lenihan. Preliminary report upon the effect of reserpine on epilepsy and behavior problems in children, by F. T. Zimmerman and B. B. Burgemeister. A new approach to the emergency treatment of sickness caused by narcotic withdrawal, by E. F. Carey. The tranquilizing efficacy of reserpine in dermatological therapy, by C. R. Rein and J. J. Goodman. Preoperative, operative, and postoperative sedation with reserpine, by C. R. Hayden and others. Reserpine [illegible] new adjunct in the management of resistant headache patterns—a preliminary report, by R. M. [illegible] and F. K. Hansel. The use of reserpine as an adjunct in the management of patients with chronic bronchial asthma and chronic pulmonary emphysema—preliminary studies, by M. S. Segal and E. O. Attinger. The treatment of headache with reserpine, by A. P. Friedman.

Note The papers presented at [illegible] conference held by the Section of Biology of the New York Academy of Sciences in February 1955 are made available in this publication. They are listed above by title and author. Most of them are based on clinical experience with reserpine. However, [illegible] few report the results of research on animals. Literature references are included.

MINER, ROY WALDO editor

The status of multiple sclerosis. Conference chairman, Pearce Bailey; organizing chairman and consulting editor Harold R. Wainerdi. New York New York Academy of Sciences, 1954 541–720 p. illus. 22 cm. (New York Academy of Sciences. Annals. Vol. 58, art 5) $4.50. 3861

Contents: Introduction, by O. R. Buckley. Part I, Biological and pathological methods. *One etiology in demyelinating diseases?* by S. S. Kety. Genetically controlled demyelination in the mammalian central nervous system, by F. J. Harman. The dynamics of early brain disease, with particular reference to multiple sclerosis, by B. Campbell. Return of spinal cord function in mammals after transecting lesions, by L. W. Freeman. Dermal and serological reactions to nervous tissue extracts in multiple sclerosis, by R. E. Staufer and R. R. Waksman. Electromyographic patterns in multiple sclerosis, by J. Moldaver. Circulatory disturbances and management of multiple sclerosis, by I. M. Scheinker. Part II, Biochemical methods. Paper chromatography of the amino acids of cerebrospinal fluid, by E. S. Walker and others. Protein fractions in serum and cerebrospinal fluids in multiple sclerosis, by R. W. York and others. Further studies on the gamma globulin content of cerebrospinal fluid in multiple sclerosis and other neurological diseases, by M. D. Yahr and others. Part III, Clinical methods. A study of the short- and long-term effects of adrenal steroids on the clinical patterns of multiple sclerosis, by H. H. Merritt and others. Effects of muscle adenylic acid in multiple sclerosis, by A. Shapera. Ophthalmological aspects of multiple sclerosis, by C. R. Franklin. Mannerisms [illegible] guide to therapy in multiple sclerosis, by R. A. Abramson and E. Tager. Metabolic characteristics of multiple sclerosis—chemical observations on the blood and urine of [illegible] large series of patients and metabolic balance in two patients, by H. H. Jones and others. The diagnosis of multiple sclerosis, by G. A. Schumacher. Predictability of remissions and relapses in multiple sclerosis, by L. Alexander and W. P. Parker. Epidemiologic factors in the etiology and prognosis of multiple sclerosis, by L. T. Kurland and K. B. Westlund. Specific factors in physical rehabilitation for multiple sclerosis, by G. G. Deaver. Observations on pharmacological agents recently suggested for multiple sclerosis, by M. Marks. Psychological factors in multiple sclerosis, by M. Harrower.

Note Published in this volume are the papers which are listed by author and title above. The conference of which the collection is [illegible] result was sponsored by the New York Academy of Sciences and the National Multiple Sclerosis Society and was held in April, 1953.

MOENCH, LOUIS GARDNER

Headache. Second edition. Chicago The Year Book Publishers Inc., 1951 217 p. illus. 21 cm. (The general practice manuals) $4.50. 3862

Contents: Pathologic anatomy and physiology of headache. Headaches from intracranial pathology; spinal puncture and ventriculography. Cranial nerve neuralgias. Headache of ocular origin. Headache of nasal origin. Headache from pathology in the neck and scalp. Headache from systemic disorders. Histamine headaches. Migraine. Headache of emotional origin. Index.

Note A useful and authoritative manual intended for the assistance of general medical practitioners. Each chapter is [illegible] summary of the current knowledge on incidence, physiology, diagnosis, and treatment of [illegible] type of headache, and is supplemented by literature references. In this edition the revisions are not major and consist chiefly of references to new treatments reported in the literature since 1947.

MOORE, SHERWOOD

Hyperostosis cranii; Stewart-Morel syndrome; metabolic craniopathy; Morgagni's syndrome; Stewart-Morel-Moore Syndrome (Ritvo); Le syndrome de Morgagni-Morel. Springfield, Ill. Charles C Thomas 1955 226 p. illus. 26 cm. $10.50 3863

Contents: The roentgen dimensions of the normal skull. Types and forms of hyperostosis cranii. The roentgen diagnosis of hyperostosis cranii. The roentgen dimensions of the hyperostotic skull. The incidence of hyperostosis cranii and its syndrome. The

General observations and order of procedure. The cranial nerves (except II, III, IV and VI) *Neuro-ophthalmology (including cranial nerves II, III, IV and VI)* *Motor function—Part I, Central integration of motor function—Part II, Specific study of muscle.* Reflexes. The sensory examination. Mental function. Language and motor speech. *Autonomic function. Clinical* examinations in selected problems of pain. *Electro-encephalography* Electromyography and electric stimulation of peripheral nerves and muscle. Biochemical and pharmacologic aids in neurologic diagnosis. Examinations of cerebrospinal fluid by lumbar and cisternal puncture. Index.

Note. The methods of clinical examination of neurological patients *which have been developed at the Mayo Clinic* are described in detail in this manual. The importance of careful observation of the patient and of co-operation between physician and patient, especially in history-taking, are stressed. Considerable space is devoted to the various distinct parts of th comprehensive neurological examination, for example, more than 50 pages to the study of the conditions and reactions of the muscles. Instrumental diagnostic procedures, such as electromyography are explained in regard to principle and interpretation of the results. *Forms used at the Mayo Clinic in neurologic examinations* are reproduced in the volume and separate samples are supplied folded in a pocket *inside the back cover.*

MEDUNA, LADISLAS JOSEPH

Carbon dioxide therapy, a neurophysiological treatment of nervous disorders Springfield, Ill Charles C Thomas, 1950 236 p illus 24 cm $7 50 3855

Contents. Central actions of carbon dioxide. The effect of carbon dioxide upon the function of isolated nerve. The effect of carbon dioxide upon the function of the brain. Technique and administration of the carbon dioxide treatment. Material and statistical data. Argumentation. A neurophysiological theory of psychoneuroses. Bibliography Index.

Note. A pioneer monograph on the use of carbon dioxide anesthesia in the treatment of psychiatric patients. It is based largely on the author's own researches and applications of the technique. Reports of 100 cases of psychoneurosis and psychosomatic disorders other than obsessive-compulsive neurosis are included. The final chapter is a development of the author's theory that the phenomena of psychiatric conditions can be understood and expressed in certain physiological and biological terms, and therefore it is unnecessary to resort to symbolical explanations.

MERRITT, HIRAM HOUSTON, AND OTHERS

Fundamentals of clinical neurology by H. Houston Merritt, Fred A. Mettler and Tracy Jackson Putnam. New York McGraw Hill Book Company, Inc 1947 289 p illus 26 cm $6 00 3856

Content Part I, Examination of the nervous system. Introduction. History and general physical examination. Generalities concerning the neurologic examination and instruments used. The cranial nerves. The motor system. The sensory system. Speech and other higher cerebral functions. The comatose patient. Part II, The anatomic diagnosis. Peripheral nerve, dorsal root ganglion, and ventral column cells. The spinal cord. The infratentorial brain stem. The cerebellum. Thalamus and corpus striatum. The cerebral cortex. The cerebrospinal fluid. Index.

Note This book outlines practical methods of examination and briefly describes the anatomy and physiology of the nervous system. The symptoms peculiar to various types of nerve injury and disease are discussed, but no attempt is made to cover methods of treatment. It is designed as text for students and manual for general medical practitioners. The authors are members of the *faculty of the College of Physicians and Surgeons of Columbia* University

MERRITT HIRAM HOUSTON

A textbook of neurology With 181 illustrations and 128 tables Philadelphia Lea & Febiger 1955 746 p illus 24 cm. $12 50 3857

Contents Infections Vascular lesions Tumors. Trauma. Developmental defects Degenerative and heredodegenerative diseases. Diseases due to toxins. Metabolic disease. *Demyelinating diseases.* Diseases and functional disturbances of unknown etiology Index.

Note. Designed for the instruction of advanced students in medical colleges and for reading and reference by graduate physicians, this book covers neurology essentially from the standpoint of internal medicine. As the chapter titles listed above show, all of the space is devoted to diseases and disorders, including trauma and developmental defects. The psychiatric aspects of neurology are not covered. Many data on such matters as average survival periods for various types of tumor and incidence of specific diseases are presented in tables. *Literature references are supplied to* individual diseases or groups of closely related diseases. The author is Professor of Neurology in the College of Physicians and Surgeons of Columbia University and Director of the Service of Neurology in the Neurological Institute of Presbyterian Hospital.

METTLER, FRED ALBERT, editor

Problems of the human brain. Selective partial ablation of the frontal cortex, a correlative study of its effects on human psychotic subjects. By The Columbia Greystone Associates New York Paul B Hoeber, Inc, Medical Book *Department of Harper &* Brothers 1949 517 p illus. 26 cm. $10.00. 3858

Contents. Section I, Introduction Nature of the project, by F. A. *Mettler and M. A. Curry Prognostic expectations of the patient* under ordinary institutional care by H. A. Cotton, Jr and E. Frankel. *Institutional management and social implications,* by M. A. Curry and H. A. Cotton, Jr Surgical procedure by J. L. Pool and others. Cytoarchitecture, by F A. Mettler Section II, *Medical survey* General medical condition and laboratory findings, by R. G. Heath and others. Laboratory findings, by C. M. Sepet and others Audiometric findings, by P J Gambill. Vestibular function, by L. A. Sheppard and others. Visual apparatus. Visual fields and acuity, color vision, autokinesis, by R. G. Heath and others. Gastrointestinal motility by D G. Melvin. Electroencephalography by J. F Zegrelli. Section III, *Psychological investigation* Design of the psychological investigation, by J Zubin. Intellectual function, by H. E. King. Learning and retention, by A. K. Stauffer *Ability to abstract,* by W R. King. Word association experiments, by R. R. Rubin. Time judgement, by J Clausen. *Critical flicker frequency* by K. M. Young. Affectivity by M. Garrison, Jr Rorschach test, by J. Zubin Other tests, by R. M. Beechley and others. Test results one year after operation, by C. Landis, and others. Psychologic changes following topectomy by C. Landis. Section IV Psychiatry—neurology—pathology Psychiatry by R. G. Heath and others. Neurology by J L. Pool and others. Pathology by A. Wolf and D. Cowen. Section *Summary Anatomy and physiology* by F A. Mettler. Psychology by C. Landis. Psychiatry by R. G. Heath. Bibliography Index.

Note. The findings of co-operative investigation set up "to discover whether technically improved and less drastic neurosurgical approaches to the therapy of the mentally ill could yield results as satisfactory as, or better than, those obtained by lobotomy" are presented in this work. The study was scientifically planned and involved the use of a control group. Topectomy was the operation particularly studied however the study was broad one, and much information on other aspects of surgical therapy in mental disorders is included in this report.

METTLER, FREDERICK ALBERT, editor

Psychosurgical problems. By the Columbia Greystone Associates Second Group. New York McGraw Hill Book Company Inc., 1952 357 p. 24 cm. o.p. 3859

Contents. Nature of the project, by F A. Mettler and M. A. Curry Hospital management and social evaluation, by M. A. Curry and others. *Surgical procedures,* by J L. Pool and others. General medical condition, including hematological and physiologic findings, by G. H Glaser and others. Neurology by W Carmen and R. B. Merritt. Olfaction, by R. M. Wenzel. Vestibular function and autokinesis, by N S. Kline. The design of the psychologic investigation, by J Zubin. Psychometric studies, by D. E. Sheer and M. Shattuck. Complex mental functions—memory learning, mental set, and perceptual tasks, by R. D North and others. Attitude evaluation, by M. Garrison, Jr and T D. Olin. Time-sampling study of behavior by E. F Kinder and D Williamson. Psychophysiology by H. E. King and J Clausen. Discussion of psychologic investigations, by C. Landis and J Zubin. Report of the psychiatric discipline, by P H. Hoch and others. Conclusions, by F A. Mettler and C. Landis. The original Columbia-Greystone patients two years after operation, by J J. Weber Bibliography Index.

length. The illustrations include many photographs of gross pathology and a considerable number of reproductions of electroencephalograms. The work is rounded out by inclusion of chapters on experimental epilepsy and on diagnosis and medical treatment. The book is a successor to *Epilepsy and cerebral localization*, written by the author and T. C. Erickson and published in 1941. The bibliography is a selected one; nevertheless, it is 16 pages long.

PENFIELD, WILDER, AND KRISTIAN KRISTIANSEN

Epileptic seizure patterns. A study of the localizing value of initial phenomena in focal cortical seizures. Springfield, Ill. Charles C Thomas, 1951 104 p. illus. 22 cm. $3 75 3869

Contents: Introduction and case classification. Historical note. Material. Seizure patterns: Initial somatosensory—initial motor phenomena—initial sensory phenomena—initial autonomic motor and sensory phenomena—Psychical [illegible] phenomena. Summary. Clinical application. References. Case index. Subject index.

Note: In this short monograph the authors discuss the value of seizure patterns in determining the region of the brain in which epileptic discharge occurs. The work is based on a series of 239 cases of focal epilepsy studied and operated on by them and their colleagues. The cases were studied thoroughly by preoperative electroencephalography, operative electrocorticography, craniotomy under local anesthesia, electrical stimulation of the cortex, local cortical excision and postoperative observation. Location of the discharge in the cortex was established in 222 of the cases. The book complements their *Epilepsy and cerebral localization*, Springfield, 1941.

POSER, CHARLES M

The relationship between syringomyelia and neoplasm. Springfield, Ill. Charles C Thomas, 1956 98 p. illus. 22 cm. (A monograph in American lectures in neurology edited by Charles D Aring. Publication no. 262) $3.50. 3870

Contents: Definition of terms. Pathogenesis of syringomyelia. Incidence. Review of published and personal cases. Summary and conclusions. Alphabetical list of cases analyzed. Bibliography. Index.

Note: A detailed study of 214 cases in which syringomyelia was found at autopsy to be associated with a neoplasm of the central nervous system. Two of the cases are from the files of the Columbia University Neurological Institute. The others were found by searching the international literature. Published reports of other cases not analyzed in this study are briefly described, and literature references are given. The author offers the theory that syringomyelia is caused by faulty differentiation during embryological development. "Syringomyelia" is defined in an effort to standardize the nomenclature.

PRATHER GEORGE C AND FRANK H. MAYFIELD editors

Injuries of the spinal cord. Springfield, Ill. Charles C Thomas, 1953 396 p. illus. 22 cm. $8.75 3871

Contents: Historical note, by W. G. Kuhn, Jr. Neurosurgical aspects, by F. H. Mayfield. Urological aspects, by G. C. Prather. Problems of nutrition, by A. M. Kleinman. Associated injuries and complications, by W. C. Ward. Treatment of decubitus ulcers, by D. E. Barker. The general rehabilitation program, by W. G. Kuhn, Jr. Orthopedic principles as applied to the rehabilitation program, by R. M. Hart. Psychological considerations, by D. A. Thom and C. F. Von Salzen. Index.

Note: All of the contributors to this volume were engaged during World War II in the care of military patients with spinal cord injuries. Their experience and the experience of other physicians and surgeons in both civilian and military practice have been incorporated in the book. All aspects of the treatment of patients with spinal cord injuries are covered, including rehabilitation. Such aspects as the clinical picture, treatment and complications are discussed in detail with specific reference to military practice and experience. References to literature are given. The book is a major addition to the literature of the subject and is of interest in the practice of medicine and surgery in civilian life as well as in the military.

PROGRESS IN NEUROLOGY AND PSYCHIATRY an annual review Volume VI. Edited by E. A. Spiegel New York Grune & Stratton, 1951 562 p. 22 cm $12 00 3872

Contents: I. Basic sciences: Neuro-anatomy by A. T. Rasmussen. General neurophysiology by R. Gesell and others. Regional physiology of the central nervous system, by E. C. Hoff and W. Riese. Neuropathology by A. Ferraro and L. Roizin. Pharmacology of the central nervous system, by A. S. Marrazzi and E. R. Hart. II. Neurology: Clinical neurology by J. C. Yaskin and C. Rupp. Otoneurology by H. R. Forman. Neuro-ophthalmology—the oculomotor system, by H.-L. Teuber and M. B. Bender. Epilepsy by F. M. Forster. The autonomic nervous system, by A. Kuntz. Neuroendocrine relationships, by R. Levine and M. S. Goldstein. Electroencephalography by M. A. B. Brazier. Cerebrospinal fluid, by M. Spiegel-Adolf. Radiology of the skull and central nervous system, by B. R. Young and R. L. Scanlan. III. Neurosurgery: Peripheral nerve surgery by B. Woodhall. Surgery of the spinal cord and column, by M. Scott. Cerebral trauma and surgical infection of the central nervous system, by H. T. Wycis. Brain tumors, by L. M. Davidoff and E. H. Feiring. The surgical treatment of pain and motor disturbances, by A. E. Walker and C. E. Harrison. Psychosurgery (surgical aspects) by J. W. Watts and F. E. Rosenblath. IV. Psychiatry: Clinical psychiatry by A. Simon and K. M. Bowman. Mental hygiene, by E. K. Bennett and J. C. Hirschberg. Forensic psychiatry by W. Overholser. Child psychiatry by S. Dubo and R. D. Rabinovitch. The neuroses, by J. H. Masserman and others. Psychosomatic medicine, by E. Weiss and others. Psychoanalysis, by R. L. Frank and others. Alcoholism, by R. B. Allen and C. T. Prout. Projective methods, by L. Bellak and D. Brower. Shock therapy by P. H. Wilcox and L. Adler. Psychosurgery (psychiatric aspects), by W. Freeman. Group psychotherapy by S. R. Slavson and E. Hallowitz. Psychiatric nursing and occupational therapy by A. E. Bennett and B. Engle. Rehabilitation, by M. Marks and E. F. Hoerner. Index.

—— Volume VII. Edited by E. A. Spiegel. New York Grune & Stratton 1952 604 p. 24 cm. $12.00 3873

Contents: I. Basic sciences: Neuro-anatomy by E. C. Crosby and R. T. Woodburne. General neurophysiology by H. Grundfest. Regional physiology of the central nervous system, by W. Riese and E. C. Hoff. Neuropathology by A. Ferraro and L. Roizin. Pharmacology of the nervous system, by A. S. Marrazzi and E. R. Hart. II. Neurology: Clinical neurology by J. C. Yaskin and C. Rupp. Otoneurology by H. R. Forman and J. R. Lindsay. Neuro-syphilis, by B. Dattner and M. A. Green. Pediatric neurology by H. W. Baird. Epilepsy by F. M. Forster and R. G. Berry. The autonomic nervous system, by A. Kuntz and C. A. Richins. Neuro-endocrine relationships, by R. Levine and M. S. Goldstein. Electroencephalography by M. A. B. Brazier. Cerebrospinal fluid, by M. Spiegel-Adolf. Radiology of the skull and central nervous system, by B. R. Young and R. L. Scanlan. III. Neurosurgery: Peripheral nerve surgery by B. Woodhall. Surgery of the spinal cord and column, by M. Scott. Cerebral trauma and traumatic infection of the central nervous system, by H. T. Wycis. Brain tumors, by L. M. Davidoff and E. H. Feiring. The motor system, by A. E. Walker and J. D. McQueen. Psychosurgery by W. Freeman and J. W. Watts. IV. Psychiatry: Clinical psychiatry by A. Simon. Genetics in neurology and psychiatry by T. Sjögren & B. Hallgren. Mental hygiene, by H. Fried. Forensic psychiatry by W. Overholser. Criminal psychopathology, by S. B. Maughs. Child psychiatry by R. D. Rabinovitch and S. Dubo. The neuroses, by J. H. Masserman and others. Psychosomatic medicine, by E. Weiss and others. Psychoanalysis, by R. L. Frank and others. Projective methods, by L. Bellak and D. Brower. Group psychotherapy by S. R. Slavson and others. Shock therapy by P. H. Wilcox and L. Adler. Psychiatric nursing and occupational therapy by A. E. Bennett and B. Engle. Rehabilitation, by M. Marks and L. R. Greene. Index.

—— Volume VIII. Edited by E. A. Spiegel. New York Grune & Stratton, 1953 591 p. 23 cm. $12.00 3874

Contents: I. Basic sciences: Neuro-anatomy by E. C. Crosby and R. T. Woodburne. General neurophysiology (biochemical aspects) by H. E. Himwich. Regional physiology of the central nervous system, by E. C. Hoff and W. Riese. Neuropathology by

clinical diagnosis of hyperostosis cranii and its syndrome. The symptoms found in hyperostosis cranii and in controls. Acromegaly hyperostosis cranii, contrasting conditions and the thyroid gland. The etiology of hyperostosis cranii and its syndrome. The pathology of hyperostosis cranii and its syndrome. Pathogenesis and morphogenesis of hyperostosis cranii. The treatment of hyperostosis cranii and its syndrome. Prognosis. Idiopathic hyperostosis of the skull in young individuals—a control study. Hypoplasia of the diploe. The social and economic aspect of hyperostosis cranii and its syndrome. Statistical critique skull dimensions in hyperostotics. Paleopathology. Conclusions. History and literature. Appendixes. Bibliography. Name index. Subject index.

Note. A "roentgen, clinical, and statistical study" based on an investigation that included a review of the skull roentgenograms of 10,064 consecutive patients admitted to the Edward Mallinckrodt Institute of Radiology, an analysis and tabulation of the hospital records of 1,807 patients, including 522 hyperostotics, and of 1,267 controls; the roentgen examination and measurement of 1,478 adult skeletons, and an extensive study of the literature. The author concludes among other things that hyperostosis is not a part of the aging process, nor is it of normal physiological origin. He advances the theory that it and its syndrome are the manifestation of endogenous intoxication traceable to aberrance in some unknown phase of the function of reproduction. There are 106 figures and a bibliography of 315 references to the international literature.

MURPHY, JAMES PETER

Cerebrovascular disease. Chicago The Year Book Publishers, Inc., 1954 408 p. illus. 24 cm. $12 00 3864

Contents. Embryology of the intracranial vessels. Anatomy of the arteries of the brain. The veins and dural venous sinuses. Nerve supply of the intracranial vessels. Physiology of the intracranial circulation. The acute cerebrovascular accident—examination. Cerebral vasospasm. Cerebral thrombosis, infarction. Cerebral embolism. Cerebral hemorrhage. Subarachnoid hemorrhage. Intracranial aneurysm. Vascular tumors arteriovenous malformations of the brain. Intracranial venous disease venous sinus disease. Hypertensive brain disease. Cerebral arteriosclerosis. Inflammatory and collagenous diseases. Blood dyscrasias, vitamin deficiencies poisons. Headache. General management of the patient. Diagnostic technics. Therapeutic technics. Index.

Note. A well-rounded presentation of basic and technical information. It is addressed to general practitioners of medicine, specialists in geriatrics, and other medical graduates who are not specialists in neurology. Approximately the first 100 pages are devoted to the basic anatomy and physiology. The sixth chapter deals with techniques of examination and diagnosis in cases of acute cerebral vascular accident. Most of the remainder of the book is concerned with specific individual disorders and diseases. Each of these is covered from the clinical viewpoint, with attention paid to etiology pathology signs and symptoms, diagnosis, differential diagnosis, treatment and prognosis. A few topics are treated somewhat superficially but well-selected literature references are included for the guidance of those readers who need more detailed information. The author is a specialist in neurological surgery associated with the George Washington University School of Medicine.

NIELSEN, JOHANNES MAAGAARD

A textbook of clinical neurology Third edition revised and reset. With 212 illustrations. New York Paul B Hoeber, Inc. Medical Book Department of Harper & Brothers 1951 709 p illus. 28 cm $10 00 3865

Contents. Diseases of the spinal nerves. Structures between the nerves and the spinal nerves. Diseases of the spinal cord. Diseases of the cranial nerves. Syndromes of the brain stem. Syndromes of the cerebellum. Syndromes of the thalamus. Diseases of the corpus striatum and subthalamic region. The vegetative nervous system. Clinical cerebral localization. Inflammations and intoxications. Intracranial and spinal tumors. The epilepsies. Migraine and headaches in general. Multiple sclerosis. Trauma to the brain and spinal cord. Diseases manifesting themselves in the muscles or myoneural junctions. Degenerative diseases of the nervous system and the leuko-encephalitides. Idiocy, imbecility and other congenital defects. Diseases of bone affecting the nervous system. Vitamins and avitaminoses. Electroencephalography. Intracranial angiography. The psychoneuroses. Addiction. Landmarks in clinical neurology. Index.

Note. Clinical aspects are given primary emphasis in this established text for medical college students. The background anatomy and physiology are outlined concisely and most of the space is devoted to descriptions of diseases, diagnosis, and therapies. Although written for students, the conciseness of the writing, the specific descriptions of diseases, and the literature references make a useful survey and reference book for medical graduates who are not specialists in neurology. In comparison to the preceding edition, chapters have been added on intracranial angiography and the psychoneuroses, and several other chapters and sections, notably those on epilepsy, poliomyelitis, and syphilis, have been rewritten.

PALUMBO, LOUIS T

Management of disorders of the autonomic nervous system Chicago The Year Book Publishers, Inc., 1955 186 p. illus. 21 cm. $5 00 3866

Contents. Clinical gross anatomy. Clinical physiology. Clinical pharmacology. Clinical tests and changes following surgery. The extremities. The cardiopulmonary system. Hypertension. The gastrointestinal tract. The genitourinary tract. The head and neck. References. Index.

Note: In this book, recent advances in the understanding of the anatomy and physiology of the autonomic nervous system are related to medical therapy and neurosurgery. The field is covered with relative brevity and in a style that is designed for easy reading by qualified readers. The author's approach is best made apparent by quotation of the following typical passages: (1) "Favorable advances have been made in the field of autonomic surgery for cardiopulmonary diseases and conditions." (2) "The medical and surgical management of essential, neurogenic and/or malignant hypertension remains in a state of flux." A special feature of the book is the inclusion of a number of photographs illustrating sweating patterns after various operations on the autonomic nervous system. The bibliography is chiefly a selection of material from United States of America and British medical journals. The author is Chief of the Surgical Service of the Veterans Administration Hospital in Des Moines, Iowa.

PARKER, HARRY LEE

Clinical studies in neurology Springfield, Ill Charles C Thomas, 1956 364 p. 24 cm. $6 50 3867

Note. A collection of bedside lectures and demonstrations originally given before a group of undergraduate and postgraduate medical students. In an informal style that encourages reading, about 65 specific cases are discussed as to history, clinical picture, diagnosis, treatment, and prognosis. There are no illustrations and no literature references. The author is Professor of Neurology on the staff of the Mayo Foundation and the University of Minnesota and a member of the consulting staff of the Section of Neurology of the Mayo Clinic.

PENFIELD, WILDER, AND HERBERT JASPER

Epilepsy and the functional anatomy of the human brain 8 color plates and 314 black and white illustrations. Boston Little, Brown and Company, 1954 896 p. illus. (part col d) 24 cm. $16 00 3868

Contents. Historical introduction. Introductory definitions and classifications. Functional localization in the cerebral cortex. Subcortical interrelationships. Electrophysiology and experimental epilepsy. Clinical observations on epileptic mechanisms. Epileptogenic lesions. Somatic motor seizures. Sensory seizures—auras. Autonomic seizures. Psychical seizures. Centrencephalic or highest level seizures. Automatism, amnesia, and mental disturbance. Other seizures. Chapters on diagnosis and medical treatment, by F McNaughton. Electrocorticography. Electroencephalography. Cranial roentgenography. Surgical therapy. Summary of clinical analysis and seizure patterns. Bibliography. Case index. Index.

Note. This monograph is both an important review of experience in the treatment of focal epilepsy by cortical excision and their contribution to the knowledge of the functional anatomy of the brain from the Montreal Neurological Institute under the directorship of Dr Penfield. Epilepsy is the primary subject. However, while operating on the brain in the course of its treatment, the authors explored areas of the cortex of their patients under local anesthesia and by so doing not only delineated the regions that required excision but also extended the knowledge of the functional purposes of various cortical areas. The protocols of numerous cases are included, and many of these are discussed at

had had cerebral lobotomy and 13 who had had transorbital lobotomy. The nature of these various operations is described in the second chapter of the book written by Dr. Walter Freeman, whose patients were among those studied and who collaborated in the writing of the book. The findings of the various tests are carefully analyzed, and the personality effects of the different operations mentioned are carefully described. Some notable studies of the effects of psychosurgery upon personality made previously to this one are summarized in the first chapter, and there is a list of references to the literature containing 179 items.

SCHEINKER, I. MARK
Medical neuropathology. With a foreword by Marion A. Blankenhorn. Springfield, Ill. Charles C Thomas, 1951. 372 p. illus. (part col'd) 23 cm. $10.50. 3879

Contents: Cerebral manifestations in cardiac disease. Cerebral manifestations in vascular disease. Cerebral reactions to chemotherapy and to cutaneous [illegible]. Polyneuritis and neuritis. Cerebral manifestations in blood dyscrasias. Cerebral manifestations of lung disease. Cerebral manifestations in arterial hypertension. Cerebral manifestations in liver disease. Bibliography. Index.

Note: The neurological manifestations of diseases of systems other than the nervous system are explored in this book, which is addressed primarily to general practitioners and general surgeons, but of interest also to neurologists. As noted above, there is also a chapter on pathologic reactions of the brain to various chemotherapeutic and [illegible]. A wide range of case material and nearly 200 illustrations of gross and microscopic pathology are incorporated. The bibliography includes along with literature in English many citations of the literature in German.

SCHEINKER, I. MARK
Neuropathology in its clinicopathologic aspects with a foreword by Tracy J. Putnam. Springfield, Ill. Charles C Thomas, 1946. 306 p. illus. (part col'd) 23 cm. $7.50. 3880

Contents: Diseases of vascular origin. Encephalitis. Demyelinating processes. Inflammatory diseases. [illegible]. Syringomyelia. Cerebellar disorders. Progressive degenerative diseases. Presenile and involutional senile degeneration. Bibliography. Index.

Note. A concise but valuable presentation of the pathology of the common diseases of the central nervous system. Much attention is paid in the discussions of the various diseases to the relations between the blood supply and structural changes in nervous tissue, and to the importance of observing and studying the sequence of changes in diseased tissue. There are 208 figures, most of which are reproductions of microphotographs prepared especially for this work at the laboratory of neuropathology of the Cincinnati General Hospital.

SCHEINKER, I. MARK
Neurosurgical pathology. Springfield, Ill. Charles C Thomas, 1948. 370 p. illus. (part col'd) 24 cm. $8.75 3881

Contents: Cerebral swelling. Central nervous system injuries. Tumors of the nervous system—intracranial tumors. Cerebral abscess. Hydrocephalus. Bibliography. Index.

Note: Pathologic reactions of brain tissue in the vicinity of tumors and the abscess. Important changes that occur throughout the central nervous system following injury to the brain or spinal cord are the subject of this book, which is addressed to neurosurgeons and to medical graduates preparing for this specialty. The chapter on injuries is 117 pages long, that on tumors is 20 pages longer, while those on cerebral abscess and hydrocephalus are brief. A wide range of case material is incorporated, and there are 218 illustrations of gross and microscopic pathology.

SKLETZ, EMIL
Surgery of peripheral nerves. Art editor Tom Jones. Springfield, Ill. Charles C Thomas, 1951. 135 p. illus. 29 cm. $11.50. 3882

Contents: Principles and techniques of nerve surgery. The hand. The median nerve. Incisions of the hand and wrist for exposure of median and ulnar nerves. The ulnar nerve. The median and ulnar nerves combined. The radial nerve. The axillary nerve. The musculocutaneous nerve. The scapular nerves. The anterior thoracic (pectoral) nerves. The long thoracic nerve. The brachial plexus. The femoral nerve. The sciatic nerve. The foot. The peroneal nerve. The tibial nerve. Injuries to the cranial nerves. Index.

Note. A detailed, fully illustrated presentation of surgical techniques that were largely developed by the author while in the surgical service of the United States Surgeon General's Office. According to statements in the introduction, he personally observed and followed the progress of 1,017 peripheral nerve injuries while he was in service at Wakeman Hospital Center. More than half of the space is devoted to illustrations—reproductions of both drawings and photographs. A considerable number of the illustrations are paired in order to show examples of correct and incorrect incisions.

SPENCER, WILLIAM A. editor
Treatment of acute poliomyelitis. Second edition. From the Departments of Pediatrics, Physiology and Physical Medicine, Baylor University College of Medicine, Southwestern Poliomyelitis Respiratory Center, Jefferson Davis Hospital. In cooperation with the National Foundation for Infantile Paralysis, Inc. Springfield, Ill. Charles C Thomas 1954. 134 p. illus. 26 cm. $3.75 3883

Note. An informative guide based on the extensive experience and research of the Southwestern Poliomyelitis Respiratory Center. It presents material originally prepared for use in teaching. It is organized in a number of short parts, many of which are only a page in length. These parts are designed for rapid comprehension rather than for straightforward reading. Much of the information is arranged in tabular form, and several typographical devices are used to emphasize the more important statements. Directions for the operation of respirators are included. The book is useful to such personnel as nurses and resident physicians in hospitals.

SPURLING, R. GLEN
Lesions of the cervical intervertebral disc. Springfield, Ill. Charles C Thomas 1956. 134 p. illus. 24 cm. $4.75 3884

Contents: Historical note. Anatomic considerations. Pathogenesis and pathologic process. Clinical picture and diagnosis. Roentgenologic diagnosis. Management. Analysis of cases—results of therapy. References. Index.

Note: A complementary work to the author's Lesions of the lumbar intervertebral disc, described below. The present work is based both on the author's experience and an intensive study of the literature. A well-rounded view of the subject, including the history and nomenclature, and with the major emphasis on diagnosis and management. A total of 187 cases are described. The bibliography is five pages long.

SPURLING, R. GLEN
Lesions of the lumbar intervertebral disc. With special reference to rupture of the annulus fibrosus with herniation of the nucleus pulposus. Springfield, Ill. Charles C Thomas, 1953. 148 p. illus. 24 cm. (American lecture series. No. 177. A monograph in the Bannerstone division of American lectures in surgery, edited by Michael E. DeBakey and R. Glen Spurling. Neurosurgical division editor Barnes Woodhall) $4.75 3885

Contents: Historical note. Embryologic and anatomic considerations. Pathogenesis and pathologic process. Clinical picture and diagnosis; neurologic diagnosis. Therapy. Results of therapy. References. Index.

Note: The subject matter of this book has been described by the author as follows: "The lesion to which most of the discussion in the following pages is devoted has two components: (1) a relatively small tear in the posterior annulus fibrosus, and (2) the resulting herniation of the nucleus pulposus through it into the spinal canal. The subject is covered in a compact manner from

A. Ferraro and L. Roizin. Pharmacology of the nervous system by A. S. Marrazzi and others. II, Neurology Clinical neurology by J. C. Yaskin and C. Rupp. Otoneurology by H. B. Perlman and J. R. Lindsay Neuro-ophthalmology by M. B. Bender and P. S. Bergman. Epilepsy by F. M. Forster and R. G. Berry. The autonomic nervous system, by C. A. Richins and A. Kuntz. Pediatric neurology by H. W. Baird. III. Neuro-endocrine relationships, by R. Levine and M. S. Goldstein. Electroencephalography by M. A. B. Brazier. Clinical electromyography by E. Kugelberg. Cerebrospinal fluid, by M. Spiegel-Adolf. Radiology of the skull and central nervous system by B. R. Young and R. L. Scanlan. III, Neurosurgery Peripheral nerve surgery by B. Woodhall. Surgery of the spinal cord and column, by M. Scott. Cerebral trauma and traumatic infection of the central nervous system, by H. T. Wycis. Brain tumors, by A. Uihlein and others. The surgical treatment of pain and motor disorders, by A. E. Walker and W. A. Warner. Psychosurgery by W. Freeman. IV Psychiatry Clinical psychiatry by A. Simon. Mental hygiene, by H. Freed. Forensic psychiatry by W. Overholser. Criminal psychopathology by S. B. Maughs. Child psychiatry by S. Dubo and R. D. Rabinovitch. The neuroses, by J. H. Masserman and others. Alcoholism, by E. B. Allen and C. T. Prout. Psychosomatic medicine by E. Weiss and others. Psychoanalysis, by R. L. Frank and others. Projective methods, by L. Bellak and D. Brower. Group psychotherapy by S. R. Slavson and others. Physiodynamic therapy (shock therapy) by P. H. Wilcox. Psychiatric nursing and occupational therapy by A. E. Bennett and B. Engle. Rehabilitation, by M. Marks and L. B. Greene. Index.

—— Volume IX. Edited by E. A. Spiegel. New York Grune & Stratton 1954 632 p 23 cm $12.00 3875

Contents I Basic sciences Neuro-anatomy by E. C. Crosby and R. T. Woodburne. General neurophysiology (bioelectrical aspects) by P. O. Therman. Regional physiology of the central nervous system, by W. Riese and E. C. Hoff. Neuropathology by A. Ferraro and L. Roizin. Pharmacology of the central nervous system, by A. S. Marrazzi and others. II, Neurology Clinical neurology by J. C. Yaskin and C. Rupp. Otoneurology by H. B. Perlman and J. R. Lindsay. Epilepsy by R. G. Berry and F. M. Forster. Pediatric neurology by H. W. Baird. III. The autonomic nervous system by C. A. Richins and A. Kuntz. Neuro-endocrine relationships, by M. S. Goldenstein and R. Levine. Electroencephalography by M. A. B. Brazier. Cerebrospinal fluid, by M. Spiegel-Adolf. Radiology of the skull and central nervous system, by B. R. Young and others. III, Neurosurgery Peripheral nerve surgery by B. Woodhall. Surgery of the spinal cord and column, by M. Scott. Cerebral trauma and traumatic infection of the central nervous system, by H. T. Wycis. Brain tumors, by A. Uihlein and others. Vascular system, by A. E. Walker and W. H. Feeth. Psychosurgery by W. Freeman. Psychology by D. B. Lindsley. Clinical psychiatry by A. J. Cole and others. Mental hygiene by H. Freed. Forensic psychiatry by W. Overholser. Criminal psychopathology by S. B. Maughs. Child psychiatry by S. Dubo and R. D. Rabinovitch. The neuroses, by J. H. Masserman and others. Alcoholism by E. B. Allen and C. T. Prout. Psychosomatic medicine, by E. Weiss and others. Psychoanalysis, by R. L. Frank and M. Kanzer. Clinical psychology by L. Bellak and D. Brower. Group psychotherapy by S. R. Slavson and others. Physiodynamic therapy (shock therapy) by P. H. Wilcox and K. W. Wilcox. Psychiatric nursing and occupational therapy by A. E. Bennett and B. Engle. Rehabilitation, by M. Marks and L. B. Greene.

—— Volume X. Edited by E. A. Spiegel. New York Grune & Stratton 1955 645 p 23 cm $12.00 3876

Content Basic sciences Neuro-anatomy by E. C. Crosby and R. T. Woodburne. General neurophysiology (biochemistry) by H. E. Himwich. Regional physiology of the central nervous system, by J. M. Sprague and others. Neuropathology by L. Roizin. Pharmacology of the nervous system by A. S. Marrazzi and others. II, Neurology Clinical neurology by J. C. Yaskin and others. Neuro-ophthalmology (nystagmus) by M. B. Bender and P. S. Bergman. Otoneurology by H. B. Perlman and J. R. Lindsay. Epilepsy by R. G. Berry. Pediatric neurology by H. W. Baird. III. The autonomic nervous system, by C. A. Richins and A. Kuntz. Neuroendocrine relationships, by M. S. Goldstein and R. Levine. Electroencephalography by M. A. B. Brazier. Cerebrospinal fluid, by M. Spiegel-Adolf. Radiology of the skull and central nervous system, by B. R. Young and R. B. Funch. III Neurosurgery Peripheral nerve surgery by E. Seletz. Surgery of the spinal cord and column, by M. Scott. Cerebral trauma and traumatic infection of the central nervous system, by H. T. Wycis. Brain tumors, by A. Uihlein and others. The surgical treatment of pain and motor disorders, by A. E. Walker and G. F. Poggio. Psychosurgery by W. Freeman. IV Psychiatry Psychology, by R. S. Lazarus. Clinical psychiatry by E. V. Semrad and others. Mental hygiene, by H. Freed. Forensic psychiatry by W. Overholser. Criminal psychopathology by S. B. Maughs. Child psychiatry by S. Dubo and R. D. Rabinovitch. The neuroses, by J. H. Masserman and A. Pasamanick. Alcoholism, by E. B. Allen and C. T. Prout. Psychosomatic medicine, by E. Weiss and others. Psychoanalysis, by R. L. Frank and M. Kanzer. Projective methods, by L. Small and L. Bellak. Group psychotherapy by J. W. Klapman and R. J. Corsini. Physiodynamic therapy (shock and drug therapies) by P. H. Wilcox and others. Psychiatric nursing and occupational therapy by A. E. Bennett and B. Engle. Rehabilitation, by M. Marks and L. B. Greene.

—— Volume XI. Edited by E. A. Spiegel. New York Grune & Stratton, 1956 606 p. 23 cm $12.00 3877

Content I, Neurology Clinical neurology by C. Rupp and others. Otoneurology by J. R. Lindsay and H. B. Perlman. Epilepsy by R. G. Berry. Pediatric neurology by H. W. Baird. II. The autonomic nervous system, by C. A. Richins and A. Kuntz. Neuroendocrine relationships, by C. Fortier. Electroencephalography by M. A. B. Brazier. Cerebrospinal fluid, by M. Spiegel-Adolf. Radiology of the skull and central nervous system, by B. R. Young and R. B. Funch. II, Neurosurgery Peripheral nerve surgery by E. Seletz. Surgery of the spinal cord and column, by M. Scott. Cerebral trauma and traumatic infections of the central nervous system, by H. T. Wycis. Brain tumors, by A. Uihlein and others. The vascular system, by A. E. Walker and D. S. Rasmussen-Taxdal. Psychosurgery by W. Freeman. III, Psychiatry Psychology by R. S. Lazarus and R. W. Baker. Clinical psychiatry by E. V. Semrad and others. Forensic psychiatry by W. Overholser. Criminal psychopathology by S. B. Maughs. Child psychiatry by S. Dubo and R. D. Rabinovitch. The neuroses, by J. H. Masserman and others. Alcoholism, by E. B. Allen and C. T. Prout. Psychosomatic medicine, by B. K. Fischer. Psychoanalysis, by H. Freed. Projective methods, by L. Small. Group psychotherapy by J. W. Klapman and R. J. Corsini. Shock therapy by P. H. Wilcox and K. W. Wilcox. Drug therapy by W. H. Funderburk and others. Psychiatric nursing and occupational therapy by A. E. Bennett and B. Engle. Rehabilitation, by M. Marks and L. B. Greene. IV Basic sciences. Neuroanatomy by E. C. Crosby and E. W. Lauer. General neurophysiology (bioelectric aspects) by J. W. Woodbury. Regional physiology of the central nervous system, by A. R. Graham and G. R. Stavraky. Neuropathology by L. Roizin. Pharmacology of the nervous system, by A. S. Marrazzi and others. Index.

Note A successful annual publication in which current progress in neurology and psychiatry as reported in the international literature is reviewed. Some areas of these fields are covered annually, others, biennially. Reviewers cover the literature of a single year or a two-year period according to whether they are writing a review of a topic which is covered annually or biennially. Each chapter is accompanied by an extensive bibliography of the literature digested. The series is addressed to graduate practitioners, and its primary purpose is to enable such readers to keep abreast of the current literature and to select for fuller reading those articles of particular interest. The majority of the section titles and chapter titles are repeated from one volume to the next, but the actual content of each chapter is different in each issue. From time to time new chapters appear in accordance with new developments; for example, the 1956 volume contains a review of recent progress in neuropharmacology. The series began publication in 1946 and all volumes except the first are still in print.

ROBINSON, MARY FRANCES AND WALTER FREEMAN

Psychosurgery and the self New York Grune & Stratton, 1954 118 p. 22 cm $3.00. 3878

Content Previous psychological studies and present problem. Psychosurgery by W. Freeman. Glimpses of postlobotomy personalities. Subjects—experimental and control. General experiments. Special studies. Conclusions and theoretical remarks. Appendixes. References. Index.

Note The results of psychological studies of the personalities of a small group of patients who had undergone psychosurgery are presented in this monograph. The main group studied consisted of 51 persons upon whom standard prefrontal lobotomy had been performed. A group of 17 persons who had recovered from mental illness without surgery were used as controls. The same tests were given to nine patients who had had radical lobotomy for the

had had standard lobotomy and 11 who had had trans-orbital lobotomy. The nature of these various operations is described in the second chapter of the book written by Dr. Walter Freeman, whose patients were among those studied and who collaborated in the writing of the book. The findings of the [illegible] tests are carefully analyzed, and the personality effects of the different operations considered are carefully described. Some notable studies of the effects of psychosurgery upon personality made previously to this one are summarized in the last chapter, and there is [illegible] list of references to the literature containing 179 items.

SCHEINKER, I. MARK

Medical neuropathology With a foreword by Marion A. Blankenhorn. Springfield, Ill. Charles C Thomas, 1951 372 p. illus. (part col d) 23 cm. $10.50. 3879

Contents: Cerebral manifestations in cardiac diseases. Cerebral manifestations in vascular diseases. Cerebral reactions to chemotherapy and to exogenous intoxicants. Polyneuritis and neuritis. Cerebral manifestations in blood dyscrasias. Cerebral manifestations of lung diseases. Cerebral manifestations in arterial hypertension. Cerebral manifestations in liver diseases. Bibliography. Index.

Note: The neurological manifestations of diseases of systems other than the nervous system are explored in this book, which is addressed primarily to general practitioners and general surgeons, but is of interest also to neurologists. As noted above, there is also chapter on pathologic reactions of the brain to various chemotherapeutic and intoxicants. A wide range of case material and nearly 300 illustrations of gross and microscopic pathology are incorporated. The bibliography includes along with literature in English many citations of the literature in German.

SCHEINKER, I. MARK

Neuropathology in its clinicopathologic aspects with a foreword by Tracy J Putnam. Springfield, Ill. Charles C Thomas, 1946. 306 p. illus. (part col d) 23 cm. $7.50 3880

Contents: Diseases of vascular origin. Neurosyphilis. Demyelinating processes. Inflammatory diseases. Myopathies of motor neuron diseases. Syringomyelia. Cerebellar disorders. Progressive degenerative diseases. Postnatal and involutional senile degeneration. Bibliography. Index.

Note: A concise but valuable presentation of the pathology of the common diseases of the central nervous system. Much attention is paid to the discussion of the various diseases in the relations between the blood supply and structural changes in nervous tissue, and to the importance of observing and studying the sequence of changes in diseased tissue. There are 208 figures, many of which are reproductions of microphotographs prepared especially for the work at the laboratory of neuropathology of the Cincinnati General Hospital.

SCHEINKER, I. MARK

Neurosurgical pathology Springfield Ill. Charles C Thomas 1948. 370 p. illus. (part col d) 24 cm. $8.75 3881

Contents: Cerebral swelling. Central nervous system injuries. Tumors of the nervous system—intracranial tumors. Cerebral abscess. Hydrocephalus. Bibliography. Index.

Note: Pathologic reactions of brain tissue in the vicinity of tumors and the diffuse, widespread changes that occur throughout the central nervous system following injury to the brain or spinal cord are the subject of this book, which is addressed to neurosurgeons and to medical graduates preparing for this specialty. The chapter on injuries is [illegible] pages long, that on tumors is 20 pages longer, while those on cerebral abscess and hydrocephalus are brief. A wide range of case material [illegible] incorporated, and there are 110 illustrations of gross and microscopic pathology.

SELETZ, EMIL

Surgery of peripheral nerves. Art editor Tom Jones. Springfield, Ill. Charles C Thomas, 1951 155 p. illus. 29 cm. $11.50. 3882

Contents: Principles and techniques of nerve surgery. The hand. The median nerve. Incisions in the hand and wrist for exposure of median and ulnar nerves. The ulnar nerve. The median and ulnar nerve combined. The radial nerve. The axillary nerve. The musculocutaneous nerve. The scapular nerve. The anterior thoracic (pectoral) nerves. The long thoracic nerve. The brachial plexus. The femoral nerve. The sciatic nerve. The foot. The peroneal nerve. The tibial nerve. Injuries to the cranial nerves. Index.

Note: A detailed, fully illustrated presentation of surgical techniques that [illegible] are largely developed by the author while in the surgical service of the United States Surgeon General's Office. According to [illegible] statement in the introduction, he personally observed and followed the progress of 3,033 peripheral nerve injuries while he was in service at Walter Reed Hospital Center. More than half of the space is devoted to illustrations—reproductions of both drawings and photographs. A considerable number of the illustrations are paired in order to show examples of correct and incorrect incisions.

SPENCER WILLIAM A. editor

Treatment of acute poliomyelitis. Second edition. From the Departments of Pediatrics Physiology and Physical Medicine Baylor University College of Medicine. Southwestern Poliomyelitis Respiratory Center Jefferson Davis Hospital. In cooperation with the National Foundation for Infantile Paralysis, Inc. Springfield Ill Charles C Thomas 1954 134 p. illus. 26 cm $3 75 3883

Note: An authoritative guide based on the current experience and research of the Southwestern Poliomyelitis Respiratory Center. It presents material originally prepared for use in teaching. It is organized in [illegible] number of short parts, many of which are only page in length. These parts are designed for rapid comprehension rather than for straightforward reading. Much of the information is arranged in tabular form, and several typographical devices are used to emphasize the more important statements. Directions for the operation of respirators are included. The book is useful to such personnel as nurses and resident physicians in hospitals.

SPURLING R GLEN

Lesions of the cervical intervertebral disc. Springfield, Ill. Charles C Thomas, 1956 134 p. illus. 24 cm. $4.75 3884

Contents: Historical note. Anatomic considerations. Pathogenesis and pathologic process. Clinical picture and diagnosis. Roentgenologic diagnosis. Management. Analysis of cases—results of therapy. References. Index.

Note: A complementary work to the author's *Lesions of the lumbar intervertebral disk*, described below. The present work is based both on the author's experience and on literature study of the literature. A well-rounded view of the subject, including the history and nomenclature, and with the major emphasis on diagnosis and management. A total of 197 cases are described. The bibliography is five pages long.

SPURLING R. GLEN

Lesions of the *lumbar intervertebral disc.* With special reference to *rupture of the annulus fibrosus with herniation of the nucleus pulposus.* Springfield, Ill. Charles C Thomas *1953* 148 p. *illus.* 24 cm. (American lecture series. No. 177 A monograph in the Bannerstone division of American lectures in surgery edited by Michael E. DeBakey and R. Glen Spurling. Neurosurgical *division* editor Barnes Woodhall) $4 75 3885

Contents: Historical note. Embryologic and anatomic considerations. Pathogenesis and pathologic process. Clinical picture and diagnosis: neurologic diagnosis. Therapy. Results of therapy. References. Index.

Note: The subject matter of this book has been described by the author as follows: "The lesion in which most of the discussion in the following pages is devoted has two components: (1) relatively small tear in the posterior annulus fibrosus, and (2) the resulting herniation of the nucleus pulposus through it into the spinal canal. The subject is covered in [illegible] compact manner from

A. Ferraro and L. Roizin. Pharmacology of the nervous system, by A. S. Marrazzi and others. II, Neurology Clinical neurology by J C. Yaskin and C. Rupp Otoneurology by H. B Perlman and J R. Lindsay Neuro-ophthalmology by M B. Bender and P S. Bergman. Epilepsy by F M. Forster and R. G. Berry The autonomic nervous system, by C. A. Richins and A. Kuntz. Pediatric neurology by H. W Baird, III. Neuro-endocrine relationships, by R. Levine and M. S. Goldstein. Electroencephalography by M. A. B. Brazier Clinical electromyography by E. Kugelberg. Cerebrospinal fluid, by M. Spiegel-Adolf Radiology of the skull and central nervous system, by B R. Young and R. L. Scanlan. III, Neurosurgery Peripheral nerve surgery by B Woodhall. Surgery of the spinal cord and column, by M. Scott. Cerebral trauma and traumatic infection of the central nervous system, by H. T Wycis. Brain tumors, by A. Uihlein and others. The surgical treatment of pain and motor disorders, by A. E. Walker and W A. Warner Psychosurgery by W Freeman. IV Psychiatry Clinical psychiatry by A. Simon. Mental hygiene, by H. Freed. Forensic psychiatry by W Overholser Criminal psychopathology by S. B Maughs. Child psychiatry by S. Dubo and R. D Rabinovitch The neuroses, by J H. Masserman and others. Alcoholism, by E. B Allen and C. T Prout. Psychosomatic medicine by E. Weiss and others. Psychoanalysis, by R. L. Frank and others. Projective methods, by L. Bellak and D Brower Group psychotherapy by S. R. Slavson and others. Physiodynamic therapy (shock therapy) by P H. Wilcox. Psychiatric nursing and occupational therapy by A. E. Bennett and B Engle Rehabilitation by M. Marks and L. B Greene. Index.

—— Volume IX. Edited by E A. Spiegel New York Grune & Stratton 1954 632 p 23 cm. $12 00 3875

Contents I, Basic sciences. Neuro-anatomy by E. C. Crosby and R. T Woodburne. General neurophysiology (bioelectrical aspects) by P G. Therman. Regional physiology of the central nervous system, by W Riese and E. C. Hoff Neuropathology by A. Ferraro and L. Roizin Pharmacology of the central nervous system, by A. S. Marrazzi and others. II, Neurology: Clinical neurology by J C. Yaskin and C. Rupp. Otoneurology by H. B. Perlman and J R. Lindsay Epilepsy by R. G. Berry and F M. Forster Pediatric neurology by H. W Baird III. The autonomic nervous system by C. A. Richins and A. Kuntz. Neuro-endocrine relationships, by M. S. Goldenstein and R. Levine Electroencephalography by M A. B. Brazier Cerebrospinal fluid, by M. Spiegel-Adolf Radiology of the skull and central nervous system, by B R. Young and others. III, Neurosurgery Peripheral nerv surgery by B Woodhall. Surgery f the spinal cord and column, by M. Scott. Cerebral trauma and traumatic infection of the central nervous system, by H. T Wycis. Brain tumors, by A. Uihlein and others. Vascular system, by A. E. Walker and W H Faeth. Psychosurgery by W Freeman. Psychology by D B Lindsley Clinical psychiatry by A. J Cain and others. Mental hygiene, by H. Freed. Forensic psychiatry by W Overholser Criminal psychopathology by S. B Maughs. Child psychiatry by S. Dubo and R. D Rabinovitch. The neuroses, by J H. Masserman and others. Alcoholism, by E. B Allen and C. T Prout. Psychosomatic medicine, by E. Weiss and others. Psychoanalysis, by R. L. Frank and M. Kanzer Clinical psychology by L Bellak and D Brower Group psychotherapy by S. R. Slavson and others. Physiodynamic therapy (shock therapy) by P H. Wilcox and K. W Wilcox. Psychiatric nursing and occupational therapy by A. E. Bennett and B Engle. Rehabilitation, by M Marks and L. B. Greene.

—— Volume X. Edited by E A Spiegel. New York Grune & Stratton 1955 645 p 23 cm. $12 00 3876

Contents I Basic sciences Neuro-anatomy by E C. Crosby and R. T Woodburne. General neurophysiology (biochemistry) by H. E. Himwich Regional physiology of the central nervous system, by J M. Sprague and others. Neuropathology by L. Roizin Pharmacology of the nervous system, by A. S Marrazzi and others II, Neurology Clinical neurology by J C Yaskin and others. Neuro-ophthalmology (nystagmus) by M B Bender and P S. Bergman. Otoneurology by H. B Perlman and J R. Lindsay Epilepsy by R. G. Berry Pediatric neurology by H W Baird, III. The autonomic nervous system, by C. A. Richins and A. Kuntz. Neuroendocrine relationships, by M S Goldstein and R. Levine. Electroencephalography by M. A. B Brazier Cerebrospinal fluid, by M Spiegel-Adolf Radiology of the skull and central nervous system, by B R Young and R. B Funch III, Neurosurgery Peripheral nerve surgery by E Seletz Surgery of the spinal cord and column, by M Scott. Cerebral trauma and traumatic infection of the central nervous system, by H T Wycis. Brain tumors, by A. Uihlein and others. The surgical treatment of pain and motor disorders, by A. E. Walker and G. F Poch. Psychosurgery by W Freeman. IV Psychiatry Psychology, by R. S. Lazarus. Clinical psychiatry by E. V Semrad and others. Mental hygiene, by H. Freed. Forensic psychiatry by W Overholser Criminal psychopathology by S. B Maughs. Child psychiatry by S. Dubo and R. D Rabinovitch. The neuroses, by J H. Masserman and A. Pauncz. Alcoholism, by E. B. Allen and C. T Prout. Psychosomatic medicine, by E. Weiss and others. Psychoanalysis, by R. L. Frank and M. Kanzer Projective methods, by L. Small and L. Bellak. Group psychotherapy by J. W Klapman and R. J Corsini. Physiodynamic therapy (shock and drug therapies) by P H. Wilcox and others. Psychiatric nursing and occupational therapy by A. E. Bennett and B. Engle. Rehabilitation, by M. Marks and L. B. Greene.

—— Volume XI Edited by E A. Spiegel. New York Grune & Stratton, 1956. 606 p. 23 cm $12 00 3877

Contents. I, Neurology Clinical neurology by C. Rupp and others. Otoneurology by J R. Lindsay and H. B. Perlman. Epilepsy by R. G. Berry Pediatric neurology by H. W Baird, III. The autonomic nervous system, by C. A. Richins and A. Kuntz. Neuroendocrine relationships, by C. Fortier Electroencephalography by M. A. B. Brazier. Cerebrospinal fluid, by M. Spiegel-Adolf Radiology of the skull and central nervous system, by B. R Young and R. B Funch. II Neurosurgery Peripheral nerve surgery by E. Seletz. Surgery of the spinal cord and column, by M. Scott. Cerebral trauma and traumatic infections of the central nervous system, by H. T Wycis. Brain tumors, by A. Uihlein and others. The vascular system, by A. E. Walker and D. S. Rasmussen-Taxdal. Psychosurgery by W Freeman, III, Psychiatry Psychology by R. S. Lazarus and R. W Baker. Clinical psychiatry by E. V Semrad and others. Forensic psychiatry by W Overholser. Criminal psychopathology by S. B Maughs. Child psychiatry by S. Dubo and R. D Rabinovitch The neuroses, by J H Masserman and others. Alcoholism, by E. B Allen and C T Prout. Psychosomatic medicine, by H. K. Fischer Psychoanalysis, by H. Freed. Projective methods, by L. Small. Group psychotherapy by J W Klapman and R. J. Corsini Shock therapy by P H. Wilcox and K. W Wilcox. Drug therapy by W H. Funderburk and others. Psychiatric nursing and occupational therapy by A. E. Bennett and B. Engle Rehabilitation, by M. Marks and L. B. Greene. IV Basic sciences: Neuroanatomy, by E. C. Crosby and E. W Lauer General neurophysiology (bioelectric aspects) by J W Woodbury Regional physiology of the central nervous system by A. R. Graham and G. W Stavraky Neuropathology by L. Roizin. Pharmacology of the nervous system, by A. S. Marrazzi and others. Index.

Note A successful annual publication in which current progress in neurology and psychiatry as reported in the international literature is reviewed. Some areas of these fields are reviewed annually others, biennially Reviewers cover the literature of a year or two-year period according to whether they are rating a review of topic which is covered annually or biennially Each chapter is accompanied by an extensive bibliography of the literature digested. The series is addressed to graduate practitioners, and its primary purpose is to enable such readers to keep abreast of the current literature and to select for fuller reading those articles of particular interest. The majority of the section titles and chapter titles are repeated from one volume to the next, but the actual content of each chapter is different in each issue. From time to time new chapters appear in accordance with new developments, for example, the 1956 volume contains a review of recent progress in neuropharmacology The series began publication in 1944 and all volumes except the first are still in print.

ROBINSON, MARY FRANCES, AND WALTER FREEMAN

Psychosurgery and the self New York Grune & Stratton, 1954 118 p. 22 cm. $3 00. 3878

Content Previous psychological studies and present problem Psychosurgery by W Freeman. Glimpses of prefrontal personalities. Subjects—experimental and control. General experiments. Special studies. Conclusions and theoretical remarks Appendices. References. Index.

Note The results of psychological studies of the personalities of a small group of patients who had undergone psychosurgery are presented in this monograph. The main group studied consisted of 51 persons upon whom standard prefrontal lobotomy had been performed. A group of 17 persons who had recovered from mental illness without surgery were used as controls. The same tests were given to nine patients who had had radical lobotomy but who

had had normal lobotomy and 13 he had had transorbital lobotomy. The nature of these various operations is described in the second chapter of the book written by Dr. Walter Freeman, [illegible] patients were among those studied and who collaborated in the writing of the book. The findings of the various tests are carefully analyzed, and the personality effects of the different operations mentioned are carefully described. Some notable studies of the effects of psychosurgery upon personality made previously to this one are summarized in the first chapter, and there is a list of references to the literature containing 179 items.

SCHEINKER, I. MARK

Medical neuropathology With a foreword by Marion A. Blankenhorn. Springfield Ill. Charles C Thomas, 1951 372 p. illus. (part col'd) 23 cm. $10.50. 3879

Contents: Cerebral manifestations in cardiac disease. Cerebral manifestations in vascular diseases. Cerebral reactions to chemotherapy and to exogenous intoxicants. Polyneuritis and neuritis. Cerebral manifestations in blood dyscrasias. Cerebral manifestations of lung disease. Cerebral manifestations in arterial hypertension. Cerebral manifestations in liver diseases. Bibliography. Index.

Note: The neurological manifestations of diseases of systems other than the nervous system are explored in this book, which is addressed primarily to general practitioners and general surgeons, but is of interest also to neurologists. As noted above, there is also a chapter on pathologic reactions of the brain to various chemotherapeutic and intoxicants. A wide range of case material and nearly 200 illustrations of gross and micropathology are incorporated. The bibliography includes along with literature in English many citations of the literature in German.

SCHEINKER, I. MARK

Neuropathology in its clinicopathologic aspects with a foreword by Tracy J Putnam. Springfield, Ill. Charles C Thomas, 1946 306 p. illus. (part col d) 23 cm. $7.50 3880

Contents: Diseases of vascular origin. Neurosyphilis. Demyelinating processes. Inflammatory diseases. Myopathies or motor neuron disease. Syringomyelia. Cerebellar disorders. Progressive degenerative diseases. Presenile and involutional senile degeneration. Bibliography. Index.

Note: A concise but valuable presentation of the pathology of the common diseases of the central nervous system. Much attention is paid to the discussion of the various diseases to the relations between the blood supply and structural changes in nervous tissue, and to the importance of observing and studying the sequence of changes in diseased tissue. There are 224 figures, many of which are reproductions of microphotographs prepared especially for this work at the laboratory of neuropathology at the Cincinnati General Hospital.

SCHEINKER, I. MARK

Neurosurgical pathology Springfield, Ill. Charles C Thomas, 1948 370 p. illus. (part col d) 24 cm. $8 75 3881

Contents: Cerebral swelling. Central nervous system injuries. Tumors of the nervous system—intracranial tumors. Cerebral abscess. Hydrocephalus. Bibliography. Index.

Note: Pathologic reactions of brain tissue in the vicinity of tumors and the diffuse, widespread changes that occur throughout the central nervous system following injury to the brain or spinal cord are the subject of this book, which is addressed to neurosurgeons and to medical graduates preparing for this specialty. The chapter on injuries [illegible] pages long, that on tumors is 70 pages long; [illegible] those on cerebral abscess and hydrocephalus are brief. A wide range of case material [illegible] incorporated, and there are 218 illustrations of gross and micropathology.

SELETZ EMIL

Surgery of peripheral nerves. Art editor Tom Jones. Springfield, Ill. Charles C Thomas, 1951 185 p. illus. 29 cm. $11.50. 3882

Contents: Principles and techniques of nerve surgery. The hand. The median nerve. Incisions in the hand and wrist for exposure of median and ulnar nerves. The ulnar nerve. The median and ulnar nerve combined. The radial nerve. The axillary nerve. The musculocutaneous nerve. The scapular nerves. The anterior thoracic (pectoral) nerves. The long thoracic nerve. The brachial plexus. The femoral nerve. The sciatic nerve. The foot. The peroneal nerve. The tibial nerve. Injuries to the cranial nerves. Index.

Note: A detailed, fully illustrated presentation of surgical techniques that were largely developed by the author while in the surgical service of the United States Surgeon General's Office. According to statement in the introduction, he personally observed and followed the progress of 2,037 peripheral nerve injuries while he was in service at Walter Reed Hospital Center. More than half of the space is devoted to illustrations—reproductions of both drawings and photographs. A considerable number of the illustrations are paired in order to show examples of correct and incorrect incisions.

SPENCER, WILLIAM A. editor

Treatment of acute poliomyelitis. Second edition. From the Departments of Pediatrics Physiology and Physical Medicine Baylor University College of Medicine. Southwestern Poliomyelitis Respiratory Center Jefferson Davis Hospital. In cooperation with the National Foundation for Infantile Paralysis Inc. Springfield, Ill. Charles C Thomas, 1954 134 p. illus. 26 cm. $3 75 3883

Note: An authoritative guide based on the extensive experience and research of the Southwestern Poliomyelitis Respiratory Center. It presents material originally prepared for use in teaching. It is organized in a number of short parts, many of which are only a page in length. These parts are designed for rapid comprehension rather than for straightforward reading. Much of the information is arranged in tabular form, and several typographical devices are used to emphasize the more important statements. Directions for the operation of respirators are included. The book is useful to such personnel as nurses and resident physicians in hospitals.

SPURLING R. GLEN

Lesions of the cervical intervertebral disc. Springfield, Ill. Charles C Thomas, 1956. 134 p. illus. 24 cm. $4 75 3884

Contents: Historical note. Anatomic considerations. Pathogenesis and pathologic process. Clinical picture and diagnosis. Roentgenologic diagnosis. Management. Analysis of cases—results of therapy. References. Index.

Note: A complementary work to the author's *Lesions of the lumbar intervertebral disk,* described below. The present work is based both on the author's experience and an intensive study of the literature. A well-rounded view of the subject, including the history and nomenclature, and with the major emphasis on diagnosis and management. A total of 107 cases are described. The bibliography is five pages long.

SPURLING R. GLEN

Lesions of the lumbar intervertebral disc. With special reference to rupture of the annulus fibrosus with herniation of the nucleus pulposus. Springfield, Ill. Charles C Thomas 1953 148 p illus. 24 cm. (American lecture series. No 177 A monograph in the Bannerstone division of American lectures in surgery edited by Michael E. DeBakey and R. Glen Spurling. Neurosurgical division editor Barnes Woodhall) $4 75 3885

Contents: Historical note. Embryologic and anatomic considerations. Pathogenesis and pathologic process. Clinical picture and diagnosis. Roentgenologic diagnosis. Therapy. Results of therapy. References. Index.

Note. The subject matter of this book has been described by the author as follows: "The lesion to which most of the discussion in the following pages is devoted has two components. (1) [illegible] relatively small tear in the posterior annulus fibrosus; and (2) the resulting herniation of the nucleus pulposus through [illegible] into the spinal canal. The subject is covered in [illegible] compact manner from

the viewpoint of graduate medical practitioners. More space is devoted to basic matters and to diagnosis than to therapy. Diagnosis and differential diagnosis are discussed fully and from a practical viewpoint. Conservative therapy is recommended. Surgical techniques are described generally rather than in detail. The author is Clinical Professor of Surgery (Neurosurgery) in the School of Medicine of the University of Louisville.

TARLOV, ISADORE MAX

Plasma clot suture of peripheral nerves and nerve roots—rationale and technique Springfield, Ill Charles C Thomas, 1950 116 p illus. 24 cm. $6 25 3886

Contents The need for an improved nerve suture technique. The basis for selecting the most suitable type of plasma for nerve suture. Preparation of nerve stumps for suture. Necessity for using a mold to suture nerves with clot. Tantalum wire tension sutures combined with plasma clot. Suture of the nerve stumps by plasma clot. Suture of nerve grafts. Suture of the cauda equina nerve roots. The place of plasma clot suture in repertory of the neurosurgeon. Bibliography Index.

Note. Plasma clot suture techniques are explicitly described in this work. The illustrations include pictures of the latex mold and other instruments. The bibliography includes 94 references. The author, pioneer worker in the development of plasma clot sutures, is Associate Professor of Neurosurgery in the New York Medical College.

TARLOV, ISADORE MAX

Sacral nerve root cysts, another cause of the sciatic or cauda equina syndrome Springfield Ill Charles C Thomas 1953 134 p illus 24 cm $6 50 3887

Contents Historical. Structure of nerve roots. Structure of the filum terminale. Relation of meninges to nerve roots and filum terminale. Location and gross appearance of sacral perineurial cysts. Histology of perineurial cysts. Pathogenesis of perineurial cysts. Clinical significance. Diagnosis. Operative management and results. Conclusions. References. Index.

Note The interest of clinical medicine in sacral nerve-root cysts, discovered by the author of this book in 1938, lies in their causing of symptoms identical with the symptoms produced by herniated intervertebral discs. It is pointed out that the cysts are not rare, but are not often discovered because of the difficulties of diagnosis. Much of the book is devoted to the basic morphology including histology but the seventh, eighth, ninth and 10th chapters cover aspects of direct interest in clinical medicine. The 11th chapter summarizes, largely from the standpoint of clinical medicine, the information presented in more detail in earlier chapters. The bibliography provides references to 34 publications.

TARSY, JAMES M

Pain syndromes and their treatment with special reference to shoulder arm pain. Springfield Ill Charles C Thomas 1953 592 p illus 24 cm $12 00 3888

Contents (abridged) Part I, General considerations and methods of examination Anatomic considerations. Neuropathologic concepts. Sensory patterns in pain syndromes. Classification and possible causes in pain syndromes. Examination of the neck—shoulder—thorax Part II, Pain syndromes in cervical lesions Cervical peripheral syndrome. Scalenus anticus syndrome Cervical radicular syndrome. Cervical disk-compression syndrome. Part III, Pain syndromes in thoracic lesions Costoclavicular compression. Postural mechanisms in should-arm pain. Pectoral syndromes. Parietal syndromes. Part IV Pain syndromes in shoulder lesions Practical anatomy and mechanics of the shoulder Chronic muscular lesions Glenohumeral arthritis. Subacromial bursitis Supraspinatus and other tendon lesions. Bicipital syndromes. Acromioclavicular lesions. Part V Pain syndromes in peripheral lesions Part VI Treatment General measures—local analgesia. Therapeutic nerve block. Bibliography Auxiliary bibliography Index.

Note The pain syndromes which are the subject of this monograph often present special difficulties in diagnosis and treatment. Furthermore they do not fall squarely within the domain of any one medical specialty but are likely to be treated by general practitioner, urologist, or specialist in orthopedics. They are thoroughly covered in this book with particular emphasis on such aspects as basic anatomy pathologic lesions, and sensory patterns. Against this background of basic material, techniques of examination, diagnosis and differential diagnosis are described in detail. The section devoted to treatment is more than 130 pages long and covers both local analgesia and therapeutic nerve block. The author is chief of the Arthritis Clinic of University (New York Postgraduate) Hospital of New York University-Bellevue Medical Center.

VER BRUGGHEN, ADRIEN

Neurosurgery in general practice. Springfield, Ill Charles C Thomas, 1952 665 p. illus 26 cm $14 00 3889

Contents Head injuries. Injury of the cranial bones. Extradural haemorrhage. Chronic subdural haematoma. Head injuries in children. Spinal cord injuries. Peripheral nerve injuries. Herniated nucleus pulposus. Scalenus anterior syndrome and cervical rib. Trigeminal neuralgia. Intractable pain. Diseases of the spinal cord. Spinal cord tumors. Increased intracranial pressure. Cerebral tumours. Cerebellar tumours in children. Pituitary tumours. Suppurative diseases of the central nervous system. Cerebral vascular diseases. Coma. The sympathetic nervous system. Congenital anomalies Miscellaneous entities. Spinal puncture. X-ray diagnosis. Neurological examination. Bibliography Index.

Note. A practical book on the injuries and diseases of the nervous system which are likely to be encountered in general practice. In addition, a few rare conditions, for instance massive extrusion of lumbar intervertebral discs, are included because of the importance of early diagnosis. The book is frankly for the general practitioner and is not intended either for the medical college student or for neurosurgeons. It is written in clear style and includes a considerable number of illustrated case histories. There is particular emphasis on the symptoms, signs, and diagnostic features of the various common neurological disorders.

WALKER, ARTHUR EARL, editor

A history of neurological surgery Editorial committee Robert E Green, Herbert C. Johnson, and W Eugene Stern. Baltimore The Williams & Wilkins Company, 1951 583 p illus 26 cm $12 00 3890

Contents (abridged) Prologue, by D. C. O'Connor and A. E. Walker Diagnostic procedures, by A. E. Walker. Techniques of cranial surgery by R. E. Green and W. E. Stern. Techniques of intracranial surgery by R. E. Green and W. E. Stern. Surgery of the posterior fossa, by R. E. Green. Surgery of the third ventricle, by A. F. Thomson. Surgery of the hypophysis, by H. C. Johnson. Surgery of the craniocerebral infections, by W. E. Stern. Surgery of craniocerebral trauma, by A. E. Walker. Surgery of cerebral vascular anomalies, by H. C. Johnson. Psychosurgery by R. G. Fisher. Surgery of epilepsy and motor disorders, by C. Marshall. Surgery for pain, by J. V. Crawford and A. E. Walker. Surgery of the congenital anomalies, by R. G. Fisher. Surgery of the spinal cord and vertebral column by J. W. Markham. Surgery of the peripheral nerves, by K. M. Browne. Surgery of the autonomic nervous system, by W. J. Atkinson. Bibliography Index.

Note. An informal but rather comprehensive account of a major surgical specialty. The authors were at the time of writing members of the Division of Neurological Surgery of the Johns Hopkins University and the material was first presented as seminars at that university. The various chapters are based mainly on the published literature, and a number of the authors have devoted a good deal of their space to the antique and curious. However, the historical accuracy of the work was assured by submitting the manuscript to authorities on medical history before publication. Included but not indicated in the contents above are short biographical sketches of 14 persons who made major contributions to the development of neurological surgery. The bibliography of nearly 2 400 references is a valuable feature. There are 152 figures, most of which illustrate surgical techniques of historical interest.

WARTENBERG ROBERT

Diagnostic tests in neurology a selection for office use Chicago The Year Book Publishers Inc 1953 228 p illus. 21 cm. $4.50. 3891

Contents (abridged) Introduction. Section I, Cranial nerves. Section II, Peripheral nerves. Section III Pyramidal system. Section IV Extrapyramidal system. Section Cerebellar system.

Section vi, Sensory system. Section vii, Vasomotor-trophic system. Index.

Note: A small and useful manual of diagnostic tests which may be carried out without the use of mechanical or laboratory equipment; in short, those office and bedside tests within the resources of all general practitioners of medicine. Over 100 individual tests, classified under the headings given above, are described explicitly and in clear style. A fair number of them are illustrated in the 47 figures. The book contains, in addition, much common-sense advice on the conduction of neurological examinations.

WECHSLER, ISRAEL SPANIER

A textbook of clinical neurology with an introduction to the history of neurology. Seventh edition. Illustrated. Philadelphia, W. B. Saunders Company, 1952. 801 p. illus. 24 cm. $9.50. 3892

Contents (abridged): i, Methods of examination. Neurological examination and the interpretation of signs and symptoms. Psychological diagnosis, by D. Wechsler. ii, The spinal cord. Acute anterior poliomyelitis (infantile spinal paralysis). Family periodic paralysis. Compression of the spinal cord. Injuries to the spine and spinal cord. Vascular disorders of the spinal cord. Muscular atrophies (the myopathies). iii, The peripheral nerves. Neuritis and neuropathy. Diseases of the spinal nerves and plexuses. Tumors of nerves; neuromas. Diseases of the cranial nerves. Neuralgias. iv, The brain. General symptomatology and focal or regional diagnosis of diseases of the brain. Aphasia. Circulatory disturbances of the brain. Meningitis. Encephalitis. Chorea (Sydenham's chorea, St. Vitus dance). Syphilis of the nervous system. Tumors of the brain. Injuries of the brain. Disorders of motility and diseases of the basal ganglia. The epilepsies and the convulsive or paroxysmal states. The migraines or paroxysmal headaches (hemicrania). Affections of the autonomic nervous system. ... Neuroses. Classification of the neuroses. Clinical manifestations of the neuroses. Treatment of the neuroses. Trauma and the nervous system. Index.

Note: A widely used textbook and reference manual of the neurological conditions which are of clinical interest. Historical material is collected in one chapter and case reports are lacking. Most of the space is devoted to concise discussions of symptoms, diagnosis, treatment, and other relevant aspects of a wide variety of neurological syndromes. This seventh edition is an extensive revision with many changes in text, illustrations, and bibliographies.

WEIL, ARTHUR

Textbook of neuropathology. Second edition, revised and enlarged. New York, Grune & Stratton, 1945. 356 p. illus. 23 cm. $5.50 3893

Contents: Introduction. Changes through autolysis and fixation. Diseases of the neuron. The glia and its pathology. Pathology of the myelin sheath and the axis-cylinder. Amaurotic idiocy. Arteriosclerosis. Inflammations. Infections. Intoxications. Injuries. Degenerative diseases. Tumors. Congenital malformations. Appendix. Bibliography. Index.

Note: A compact, thoroughly illustrated review of the present knowledge of diseased nervous tissue, intended as a textbook for use in medical schools and as a reference book for the practitioner and laboratory worker. The author pays tribute to the German medical men who made a specialty of this branch of neurology before its importance was acknowledged in the United States of America, and his bibliography contains citations of many German articles. Changes in this edition include the adding of 27 illustrations and new material on the neurological manifestations of vitamin deficiencies.

WEPMAN, JOSEPH M

Recovery from aphasia. With a foreword by Wendell Johnson. New York, The Ronald Press Company, 1951. 276 p. illus. 24 cm. $5.50 3894

Contents (abridged): Part i, Nature of aphasia. Introduction to aphasia therapy. Etiology of aphasia. Nonlanguage characteristics of aphasics. Classification and nomenclature of aphasia symptoms. Part ii, Research findings during World War ii. Part iii, Aphasia therapy and therapists. Theory and working principles. The professional aphasia therapist. Associated therapies and therapists. Direct therapy in receptive aphasia. Direct therapy in expressive aphasia. Bibliography. Index of names. Index of subjects.

Note: Currently in the United States of America the aphasia therapist may be a person who has a background in teaching, speech pathology, psychotherapy, or some other field. Medical practitioners and nurses also play active parts in the treatment of aphasics. This book is a survey of the field for persons who are engaged in aphasia therapy or who are interested in entering the profession. The author has assumed some acquaintance with the fundamentals of education and psychology but not necessarily any previous acquaintance with aphasia. The aspects of the subject which are of interest to practical therapists are discussed fully and in a clear, explicit style. There is due emphasis on the necessity of viewing the aphasia patient as a person with family and other social relationships which are important factors in his recovery. The author is a member of the faculty of the Medical School of the University of Chicago.

WHITE, JAMES C. AND WILLIAM H. SWEET

Pain: its mechanisms and neurosurgical control. With assistance in the psychiatric sections of Chapters iv and x from Stanley Cobb and Frances J. Bonner. Springfield, Ill., Charles C Thomas, 1955. 736 p. illus. 27 cm. $17.50 3895

Contents: Introduction. Part i, Fundamental aspects: End organs, afferent tracts, and central stations concerned with the transmission and appreciation of pain. Mechanisms of pain conduction and perception—pain transmission by peripheral and visceral nerves. Psychiatric considerations. Part ii, Surgical techniques: Diagnostic and therapeutic nerve block. Peripheral neurectomy. Posterior rhizotomy—section of the spinal and cranial sensory roots, other cranial neurectomies, and medullary tractotomy of the descending trigeminal tract. Interruption of pain pathways in spinal cord, medulla, and mesencephalon—surgical technique—operative results and complications. Cerebral operations for relief of pain. Sympathectomy for visceral and causalgic pain. Part iii, Treatment of specific painful conditions: Neuralgias of the peripheral nerves; painful neuromata, amputation stumps, phantom limbs, causalgia, and post-traumatic dystrophy—painful surgical scars, intercostal neuralgia, meralgia paresthetica, gangrene of digits, and degenerative arthritis of the hip. Facial and cephalic neuralgias—trigeminal neuralgia (tic douloureux, trifacial neuralgia)—geniculate, glossopharyngeal, and vagal neuralgias. Cephalic pain, transmission pathways, ... Pain of spinal origin. Pain from the involvement of somatic nerves in the neck, thorax, abdomen, pelvis, and extremities. Pain in diseases of the thoracic ... Pain in abdominal visceral disease. Bibliography. Author index. Subject index.

Note: An elaborate and detailed treatise based primarily on the author's extensive experience, but including also techniques and cases from the literature. The anatomy and physiology are covered in some detail in the first part, and the importance of a thorough knowledge of them is re-emphasized in later parts of the book. However, neurosurgical techniques for the relief of pain are the primary subjects. These are described explicitly and in full detail. In practically all instances, the descriptions of specific operations include discussions of experience in a considerable number of cases in which the therapy was successful and of others in which it failed. So much case experience is included that the authors resorted to tables for presentation of the results of many cases. There are 114 figures and a 35-page bibliography.

WOLF, STEWART AND HAROLD G. WOLFF

Headaches: their nature and treatment. Illustrated. Boston, Little, Brown and Company, 1953. 177 p. illus. 19 cm. $2.75 3896

Contents: Pain and headache mechanisms. Headaches from brain tumor, injury, infections, intoxications, and high blood pressure. The migraine type of vascular headache. Patients with migraine. Understanding and treatment of migraine. Headache from tightness of muscles about the head and neck. Headaches from the nose and surrounding structures: so-called "sinus" headache. Patients in whom headache is but one of several complaints. Summary. Index.

Note: Written by two eminent neurologists, this book is addressed to lay readers. It describes the main types of headaches with particular reference to mechanisms, in so far as these are known, and to methods of treatment. There is some emphasis on the psychosomatic aspects of headache. The book is a useful one for physicians to recommend to their headache patients as a source of reliable and helpful information.

WOLFF, HAROLD G

Headache and other head pain New York Oxford University Press, 1948 642 p illus 24 cm. $12 00 3897

Contents (abridged) Foreword, by D P Barr Pain-sensitive structures within the cranial cavity Headache associated with changes in intracranial pressure. Headache and brain tumor Headache from distention of cerebral and pial arteries. The cerebral circulation and the headache of subarachnoid hemorrhage. The extracranial blood vessels as pain-sensitive structures. Inflammation of cranial arteries as a source of headache and other pain. Headache in the migraine syndrome. The relation of life situations, personality features, and reactions to the migraine syndrome. Vascular accidents with migraine headache. Headache associated with arterial hypertension. 'Cephalalgias, and 'atypical neuralgias' of the face and head. The teeth as sources of headache and other pain. The nasal, paranasal, and aural structures as sources of headache and other pain. The eyes as source of headache and other pains. Muscles of the head and neck as sources of headache and other pain. Chronic post-traumatic headache. Typical or major neuralgias ('tic douloureux') postinfectious neuralgias, neuritides, and intractable pain. The action of analgesics. Index.

Note A comprehensive summary and report of a series of planned investigations extending over about 15 years into the various disorders commonly classified as headache. The purpose of the research was to remove, if possible, headache from the category of symptoms and to build up a more accurate and comprehensive picture than has been given in previous studies of headache in relation to nervous phenomena or migraine. The studies were carried out by the author and numerous associates at Cornell University Medical College and New York Hospital. In preparing the book, the findings reported in previously published literature have also been incorporated in the appropriate chapters. The relevant literature is cited in chapter bibliographies. The book concludes with a useful summary chapter on the clinical differentiation of the various kinds of headache pain. A second printing, with added material, was made in 1950.

WOOD, ERNEST H, JR.

An atlas of myelography Prepared for the Registry of Radiologic Pathology American Registry of Pathology National Research Council from material in the files of the Neurological Institute of New York, by Ernest H Wood jr Washington, D C American Registry of Pathology, 1948 111 p illus 25 cm $5 00 3898

Contents Introduction. The technique of myelography The normal myelogram. Some technical errors of myelography Spinal cord tumors. Lesions of the intrathecal spaces. Extradural lesions of the vertebral canal. The differential diagnosis of myelography Index.

Note In this volume, concise discussion of the technique of myelography applied to the determination of the point of origin of pathologic processes in relation to the membranous investments of the spinal cord is followed by an extensive atlas of reproductions of myelograms. The myelograms included all pertain to cases in which the diagnosis was confirmed by inspection of the lesion at the operating table, pathologic examination of the specimen, or both. Each myelogram or set is accompanied by a history of the case.

YEAR BOOK OF NEUROLOGY PSYCHIATRY AND NEUROSURGERY (1955–1956 Year Book series) Neurology edited by Roland P Mackay Psychiatry edited by S Bernard Wortis. Neurosurgery edited by Percival Bailey and Oscar Sugar Chicago Year Book Publishers Inc 1956 576 p illus 20 cm $7 00 3899

Contents Neurology Introduction. Anatomy Physiology Pathology Infectious diseases. Vascular disturbances Degenerative diseases. Metabolic disorders. Trauma. Convulsive disorders. Exogenous toxins. The neuropathies. Diagnostic and therapeutic methods. Psychiatry Introduction. General topics. Psychodynamic studies. Psychosocial medicine (social psychiatric subjects) Psychophysiologic studies. Electroencephalographic studies. Experimental psychiatry Child psychiatry Organic disorders, acute and chronic. Paroxysmal convulsive disorders. Schizophrenia and affective disorders. Miscellaneous clinical syndromes. Mental deficiency Psychosomatic disorders and psychoneuroses. War and military neuropsychiatry Medicolegal psychiatry Therapy Neurosurgery Introduction. Hemorrhage. Tumors. Lobotomy The hypophysis. Epilepsy Trigeminal neuralgia. The sympathetic. Herniated disks. Stereotaxy Radioactivity Anesthesia. Dyskinesia. Vascular lesions. Angiography. Hemispherectomy Infections. Injuries. Hydrocephalus. Miscellaneous. Index. Index to authors.

Note. This annual publication is edited and organized similarly to the other annuals in the publishers' Year Book series. The chapters consist of abstracts of articles selected from the world's medical periodicals. The typical abstract is several hundred words in length and is sometimes supplemented by an editorial note evaluating its contents or pointing out relations to other published work. In some instances an illustration is reprinted also. A reference to the original publication is always given. The medical literature of approximately one year is covered in each issue, and the issue described here contains abstracts of articles in journals received by the editors between November, 1954 and October, 1955

PSYCHIATRY

ALDRICH, C KNIGHT

Psychiatry for the family physician. New York The Blakiston Division McGraw Hill Book Company, Inc., 1955 276 p illus. 23 cm. $5 75 3900

Contents. Part I, The emotions and illness. Meaning of illness—dependency—grief. Emotional illness—fixation and regression. Emotional homeostasis. Part II, Emotional development. Heredity and pregnancy Infancy Chronic dependency The training period. Chronic hostility and hostile dependency Power politics within the family Prolongation of family rivalries. The school child. Intellectual deficits. Adolescence. Delinquency Neurotic reactions. Psychotic reactions. Problems of marriage Menopause, retirement, and old age. Part III, Diagnosis and treatment. Diagnostic process. Physician role in treatment. Appendix. Bibliography Index.

Note. A useful book designed as a first textbook in psychiatry for advanced students of medicine and as a source of basic information and guidance to graduate general practitioners of medicine. The subject is not psychiatry in the technical sense of the term, but human behavior and its motivation. The basic knowledge on human behavior is related to the genesis and therapy of behavior and personality disorders of the kinds with which the average physician must deal in his practice. Most of the topics named in the chapter titles are discussed in detail from the family doctor's viewpoint. The book is well organized, and is written in a mildly technical style that is easy to read.

ALEXANDER, FRANZ, AND HELEN ROSS, editors

Dynamic psychiatry Chicago The University of Chicago Press 1952 578 p. 23 cm. (The University of Chicago Committee on Publications in Biology and Medicine) $10 00 3901

Contents Part I, Concepts of dynamic psychiatry Development of the fundamental concepts of psychoanalysis, by F Alexander. Dreams and rational behavior by T M. French. History of motivational psychological concepts, by E. Weiss. Personality development, by T Benedek. Part II, Clinical psychiatry Neuroses, behavior disorders, and perversions, by F Alexander and L. B. Shapiro. Acute neurotic reactions, by L. J Saul and J W Lyons. Emotional disorders of childhood, by M. W Gerard. Contributions of psychoanalysis to the study of organic cerebral disorders, by H. W Brosin. Psychodynamic approach to the study of psychoses, by J. C. Whitehorn. Contributions of psychoanalysis to the study of the psychoses, by H. W Brosin. Principles of psychiatric treatment, by M. Levine. Part III, Influence of psychoanalysis on allied fields. The psychosomatic approach in medicine by F Alexander and T S. Szasz. Some relationships between social anthropology and psychiatry by M. Mead. Clinical psychology by D. Shakow Animal psychology in its relation to psychiatry by D M. Levy A review of the influence of psychoanalysis on current thought, by H. W Brosin.

Note. By "dynamic psychiatry" the editors and authors of the book designate contemporary psychiatry the scope of which has been enlarged by the impact of the theories and techniques of psychoanalysis. The editors state, "The advent of dynamic psychiatry is liquidating the isolated existence of psychoanalysis. As a

theory psychoanalysis is being reunited with medicine, where it originated as a method of psychiatry. As a body of theory it is becoming recognized as a basic science, both in psychiatry and in the social sciences. The various chapters are original papers. The authors include staff members of the Institute for Psychoanalysis, Chicago, and prominent teachers in American medical schools. The work is a survey of educational value for psychiatrists and others with professional interest in the field. Literature references are included.

ALTSCHULE, MARK D

Bodily physiology in mental and emotional disorders. New York Grune & Stratton, 1953 228 p. 22 cm. $6.25 3902

Contents: Circulation. Cutaneous functions: perspiration; temperature regulation; lymphatic activity. Respiration. Blood gas, bicarbonate, and hydrogen ion, concentrations. Gastro-intestinal function. Hepatic function. Renal function. [illegible] function. Hematologic changes. Carbohydrate, protein, and fat metabolism. Mineral metabolism. Vitamins, enzyme systems, and trace elements. Water balance: posterior pituitary function. Anterior-pituitary-adrenocortical function—gonadal function; prostatic function. Metabolic rate; iodine metabolism; thyroid function; respiratory quotient. Sensory functions. Neuromuscular functions. Autonomic system. General comment. Index.

Note: A critical survey of the physiologic content (and lack of it) of a vast body of psychiatric literature. The author's viewpoint is indicated by the following quotation printed on the fly-leaf of the book and which is taken from George Nesse Hill, *Essay on the prevention and cure of insanity*, 1814: "The reader is particularly intreated to observe, that the two following axioms contain the principles which form the basis of the essay. *First*, That insanity is always a symptomatic disease. Secondly, That there is no purely mental disease." The available scientific data are presented under the headings given above, with references to the literature from which they have been derived. Many of the chapters contain comments by the author of which the following is a sample: "Knowledge of the physiology of mental and emotional disturbances in mental or emotional disorders is markedly deficient. Despite this, many clinical psychiatric papers published in this country comment on organic matters or are based on inferences to them. The specific mechanisms responsible for [illegible] impotence, lack of libido, insomnia, lack of libido, dysmenorrhea, and homosexuality are not known, but speculations are discussed extensively in these writings."

AMERICAN PSYCHOPATHOLOGICAL ASSOCIATION

Current problems in psychiatric diagnosis the proceedings of the forty first annual meeting of *the American Psychopathological Association* held in Philadelphia, Pennsylvania, June, 1951 Edited by Paul H. Hoch and Joseph Zubin. New York Grune & Stratton, 1953 291 p. 22 cm. $5.50 3903

Contents: Part I, Perspectives in diagnosis and etiology. Some historical determinants of contemporary diagnostic and etiological thinking in psychiatry, by I. Stainbrook. An evaluation of contemporary research methods in the field of mental disorders, by J. Ruesch. The fallacy of the concept—psychosis, by O. Diethelm. A theory of diagnosis, by D. E. Cameron. Discussion, by P. H. Hoch. Part II, Progress in relation to diagnosis and etiology. A theoretical and practical analysis of the diagnostic process, by W. A. Hunt and others. Progress in the psychosomatic—biologic and anatomic developments, by T. A. C. Rennie. Diagnostic and etiological concepts in the [illegible], by C. P. Oberndorf. The use of [illegible] index of capacity for social adjustment in psychiatric disorders, by H. E. Chor. Discussion [illegible] by H. H. W. Miles.—Discussion II, by J. Zubin. Part III, Presidential address. The responsibility of psychiatry, by L. H. Smith. Part IV, Cultural and social factors in the diagnosis and etiology of mental disorders. Vocabulary and the law, by F. V. Rockwell. Diagnosis and etiology of psychopathic personalities as perceived in our time, by N. F. Gottmacher. The relation of culture to mental disorder, by A. Leighton. Experimental factors essential to the development of schizophrenia, by L. F. Woolley. Discussion I, by O. Kluckhohn—Discussion II, by E. V. Sullivan. Part [illegible] Current trends in diagnosis and etiology. Psychiatric disorders in children—diagnosis and etiology in our time, by N. W. Ackerman. Etiological aspects of psychosomatic conditions, by A. Schick. Time and rhythm in psy-

chosomatic relationships, by W. T. Liberson. Trends and advances in the study of mental deficiency, by G. A. Jervis. Discussion, by H. H. W. Miles. Appendix. Index.

Note: A variety of hypotheses, research and experience bearing on diagnosis and related topics are represented in this collection of papers and discussion by eminent psychiatrists. Literature references are included in most of the papers.

AMERICAN PSYCHOPATHOLOGICAL ASSOCIATION

Depression, the proceedings of the forty second annual meeting of the American Psychopathological Association, held in New York City June, 1952 Edited by Paul H. Hoch and Joseph Zubin. New York Grune & Stratton, 1954 277 p. 23 cm. $5.50 3904

Contents: Genetic principles in manic-depressive psychosis, by F. J. Kallmann. Clinical diagnosis of manic-depressive psychosis, by N. D. C. Lewis and Z. A. Piotrowski. A cross-cultural evaluation of depressive reactions, by E. Stainbrook. The organized adaptive aspect of the depression-elation response, by R. L. Frank. Discussion of Chapters 1–4, by O. Diethelm. Interrelations of hormone equilibria during depression, by M. Reiss. The biochemistry of depression, by W. M. Sperry. Infantile depression and the general adaptation syndrome, by R. A. Spitz. Children's reaction to the death of a parent, by E. Keiser. Discussion of Chapters 5–8, by W. Goldfarb. Presidential address—Biometric methods in psychopathology, by J. Zubin. Reactive depression in later life, by E. Stern. Hedonic control, action-self and the depressive spell, by S. Rado. Discussion of Chapters 10–11, by D. H. Funkenstein. Some problems in electric convulsive therapy of depressions, by L. B. Kalinowsky. The hospital treatment of involutional psychoses, by D. M. Hamilton and W. W. Mann. The influence of physical treatment methods in mental disease upon the defensive operations of the ego, by L. Alexander. The treatment of various types of depression in a general hospital, by E. Davidoff and E. Reed, jr. Acute depressive reactions to surgical treatment for cancer, by C. E. Orbach and A. M. Sutherland. Discussion of Chapters 13–14, by P. H. Hoch. Appendix. Index.

Note: Except for the common subject, the papers in this volume are independent of one another. Nevertheless, taken together, they provide a broad view of study and therapy of the depressed states of depression. Literature references are included.

AMERICAN PSYCHOPATHOLOGICAL ASSOCIATION

Relation of psychological tests to psychiatry. The proceedings of the fortieth annual meeting of *the American Psychopathological* Association, held in New York City June, 1950 Edited by Paul H. Hoch and Joseph Zubin New York Grune & Stratton 1952 301 p. illus. 22 cm. $5.50. 3905

Contents (abridged): Part I. Historical bases for psychological tests. What is tested by psychological tests? by R. W. White. Development of clinical tests in psychopathology, by L. E. Bellak. Theoretical bases of psychometric tests, by L. F. Shaffer. Part II, Diagnostic use of psychological tests. An experimental criterion for the prognostication of the status of schizophrenics after a three-year interval based on Rorschach data, by Z. A. Piotrowski and N. D. C. Lewis. The diagnostic use of psychological tests from the psychiatrist's standpoint, by O. Diethelm and C. A. Knehr. Personality and intelligence—integration of projective and psychometric technics, by R. S. Tomkins. Part III, Presidential address. The philosophy of scientific cooperation, by W. B. Terhune. Part IV. Influence of emotional factors on psychological test procedures: The relationship of abstract thinking to the autonomic nervous system in schizophrenia, by A. Mandler and D. H. Funkenstein. The prediction of success in clinical psychology, by E. L. Kelly. The conditional reflex function as an aid in the study of the psychiatric patient, by W. H. Gantt. Some theoretical and practical aspects of the diagnosis of early and latent schizophrenia by means of psychological testing, by M. R. Harrower and J. S. A. Miller. Part [illegible] Influence of the psyche on psychological test performance: Rorschach studies in combat flying personnel, by L. Alexander and A. F. Ax. The use of serial testing to supervise electroshock treatment, by R. C. Glueck, jr., and others. Illness—the evaluation of an infant's fantasy with special reference to testing methods, by F. Dunbar. The influence of psy-

chopathological emotions on psychological test performance, by L. Welch and T A. C. Rennie. Index.

Note A collection of original papers written for delivery on the occasion mentioned in the book's title. *Together* they represent a wide range of experience with the use of tests in psychiatry and a wide range of information about the usefulness and reliability of such tests. The book is of interest not only to psychiatrists but also to psychologists concerned with the development of tests. Each part of the book except the *third is accompanied* by one or two discussion papers which are not listed in the above *table of contents.*

ASSOCIATION FOR RESEARCH IN NERVOUS AND MENTAL DISEASE

Military neuropsychiatry, proceedings of the Association, December 15 and 16, 1944, New York, editorial board Franklin G Ebaugh, Harry C Solomon, and Thomas E Bamford, jr with 34 illustrations and 48 tables. Baltimore The Williams & Wilkins Company, 1946 366 p (Research publications Vol. 25) $6 00 3906

Contents Changing *concepts* of psychoneurosis in *relation to* military psychiatry by J C. Whitehorn. Neurotic reactions in psychopaths (hysteromalingering) by N Q Brill and M. J Farrell. A dynamic study of war neuroses in men returned to the United States, by R. R. *Grinker* Psychiatric contrasts in the two world wars, by E. A. Strecker and K. E. Appel. *The development* of psychiatry in the British army by J R. Rees. Research aspects at the AAF School of Aviation Medicine in nervous and mental diseases, by E. G Reinartz. Emotional problems of demobilization, by G. B Chisholm. The problem of the discharged neuropsychiatric patient, by W C. *Menninger The* mental hygiene unit: a practical approach to the utilization of the mild psychoneurotic in the armed forces, by L. L. Robbins. An experimental unit for the retraining of psychoneurotic soldiers, by F F Sconchia, jr Psychiatric reaction to amputation, by G. C. Randall, J. R. Ewalt, and H. Blair Anxiety in aerial combat, by D G. Wright. A note on the teleology of combat incurred neuroses, by J W Appel. Concerning combat exhaustion, by L. J Thompson. Neuropsychiatry in an overseas evacuation hospital, by R. T Collins. The importance of the emotional outlet in psychotherapy by H. L Harris. Psychopathology and group *therapy* by H. P Rome. Methods of *recovery in combat* fatigue and the influence of therapy by G. N Raines and others. Psychotherapy in naval convalescent hospital, by M. M. Pearson and E. A. Cohen. The therapeutic role of drugs in the process of repression, *dissociation and synthesis*, by L. S. Kubie and S. Margolin. The electro-encephalogram in war wounds of the brain; with particular reference to post-traumatic epilepsy by E. Rosemann and B Woodhall. Cranio-cerebral injuries of personnel involved in aircraft accidents, by G. M Hass. The response of muscle to electrical stimuli during degeneration denervation, and regeneration, by L. J Pollock and others. Psychiatric procedure in the Rehabilitation Center Second Service Command, by H. B Snow Convalescent reconditioning program for neuropsychiatric casualties in the U S. Army by W E. Barton. Neuropsychiatric problems of the Veterans Administration by J H. Baird. Mental illness and the expanded federal-state vocational rehabilitation program, by D A. Clark and V H. Vogel. Psychiatric rehabilitation in industry by L. E. Himler Personality and psychosomatic disturbances in patients on medical and surgical wards survey of 450 admissions, by B. Mittelmann and others. The development *of group psychotherapy in military* setting, by D. A. Shaskan. The psychiatric treatment program at Welch Convalescent Hospital by J M. Cotton. Neuropsychiatric rehabilitation problems of discharged veterans in rural communities of the South, by M. K. Greenhill and H. Lowenbach. Modification of the Rorschach method for large scale investigations, by M. R. Harrower Erickson. Index.

Note. The papers in this collection are addressed to professional psychiatrists and physicians. *Bibliographic* references and transcriptions of the *discussions that followed their readings* have been added to many of them.

BECK, SAMUEL J

The six schizophrenias reaction patterns in children and adults. New York American Orthopsychiatric Association Inc., 1954 238 p. 25 cm. (American Orthopsychiatric Association Research monographs no 6 George E. Gardner, *editor*) $5 00 3907

Contents Clinical introduction, by R. R. Grinker. The initial steps. The individual schizophrenic. The correlation outline. The Q-technique in these researches. The six schizophrenias. Schizophrenia in development. Q-technique and the Rorschach test, by W. Stephenson. Some nondiscriminating traits. Concerning environmental uniformities. Samplings from the histories. Implications concerning schizophrenia. Appendices: The statistics. Index.

Note. A monograph based on the results of coordinated psychologic, sociologic, and psychiatric study of schizophrenia carried out in Michael Reese Hospital in Chicago. The study was concerned with (1) recognition of the *disorder;* (2) *differentiation* of its sub-forms (3) estimation of the degree of schizophrenic involvement; (4) prediction of course, with special reference to children (5) relation between some environmental forces and the *dynamics of the overt symptoms,* (6) *inferences* regarding treatment (7) demonstration of a methodology with testing out of the theory on which it rests (8) indications for fresh research now inherent in the hypotheses set up by the six schizophrenias; (9) theory relative to the psychologic events that issue as the behavior disorders labeled schizophrenia." The presentation is a technical one, and the book is addressed to *graduate psychiatrists* and clinical psychologists.

BELLAK, LEOPOLD

Dementia praecox, the past decade's work and present status a review and evaluation. Foreword by Winfred Overholser New York Grune & Stratton, 1947 456 p. illus. 23 cm. $10 00 3908

Contents (abridged) Vital statistics. Etiology pathogenesis, and pathology Diagnosis and symptomatology Physiological studies. Psychological studies. Insulin treatment. Metrazol treatment. Electric shock treatment. Miscellaneous studies on various and combined shock treatments. *Miscellaneous* forms of somatic therapy. Psychotherapy Prognosis. Prevention. Dementia praecox in childhood. Appendix Possible etiological factors of dementia praecox. Index.

Note. An interpretative summary of the pertinent literature published in the decade 1936–1946. The author states that it was based on abstracts of 3,200 papers which were published originally in a variety of languages. The accounts of developments are presented as running text, and specific statements are identified with the sources of the information only by mention of the authors' names, less precise method than the usual schemes of identification by number or by combination of author's name and year of publication. The original titles of articles published in foreign languages are not given in the original language but are all translated into English. In spite of these defects, however the book is a useful guide to the literature. The author's own critical comments add considerable value.

BELLAK, LEOPOLD

Manic-depressive psychosis and allied conditions. With Blaise Pasquarelli, Ernest Parkes Sonya Sorel Bellak and the collaboration of Sydell Braverman. Foreword by Winfred Overholser New York Grune & Stratton 1952 306 p illus. 24 cm. $9 75 3909

Contents Introduction. Part I. Manic-depressive psychosis: Definition and description. Vital statistics. Etiology Physiopathologic studies. Psychopathologic studies. Diagnosis and symptomatology Manic-depressive psychosis in childhood. *Treatment.* Complications and sequelae. Prognosis. *Prevention.* Part II. Allied conditions: Psychotic reactions to pregnancy Involutional psychoses. Reactive depressions. Depressions of old age. Suicide. Bibliography Index.

Note. A digest of the world literature. The various chapters consist essentially of abstracts which are keyed to the classified bibliography by mention of authors names. The coverage is comprehensive and the presentation is noncritical. The index is adequately detailed for subject approach, but it does not include the names of authors of cited papers.

BENDER LAURETTA

Child psychiatric techniques diagnostic and therapeutic approach to normal and abnormal development through patterned, expressive, and group behavior Springfield Ill.

Charles C Thomas, 1952 335 p. illus. (part col'd) 26 cm. $8.50 3910

Contents: Techniques in child psychiatry—a survey. Form as principle in the play of children. Form principles in the sidewalk drawings and games of children. Genesis and maturation in visual motor gestalten. Deviations in visual motor gestalten in children. Dreams of art and its relation to the psychology and psychopathology of childhood. Abstract art as an expression of human problems. The drawing of man by children with chronic encephalitis. The art of high grade mental defective children depicting their struggle with emotional disorganization and their [illegible] perceptual experiences. Boats in the art and fantasy of children. Animals in the art and fantasy of children. Group activities on children's ward as methods of psychotherapy. The use of graphic art in psychotherapy. Clay modeling as a projective technique in child psychiatry. Puppet shows as a psychotherapeutic method. Creative dance. Special school room situations and activities for the problem child. The therapy of child. The art of children and the problems of modern art. Bibliography. Name index. Subject index.

Note: A book based largely on observations over a period of 15 years at the children's ward of the Psychiatric Division of Bellevue Hospital in New York City. It does not represent the efforts of a single author as the title page appears to indicate but is composed of papers written by Paul Schilder, Lauretta Bender, and others. The use of art in both diagnosis and therapy is stressed. Many of the papers have been published elsewhere, but in most instances they have been rewritten or extensively revised for this book. There are 35 figures, and practically all of them are reproductions of children's art work.

BENNETT, A. E., AND OTHERS

The practice of psychiatry in general hospitals. By A. E. Bennett, Eugene A. Hargrove, Bernice Engle with contributing authors. Berkeley University of California Press, 1956 178 p. 24 cm. $4 00 3911

Contents: Foreword, by D [illegible]. Introduction, by K. M. Bowman. Setting the psychiatric unit. Training personnel. Physician's training. Nursing education, by M. Kalkman. Administration, by A. E. Nally and A. W. Doyle. Architecture, by A. O. Gustafson. The problem of psychiatric referral. Medicolegal aspects of psychiatric treatment. The psychiatrist's viewpoint, by D. M. Kelley. The legal viewpoint, by T. [illegible]. Voluntary health insurance and nervous and mental diseases. The day hospital, by D. E. Cameron. Special treatments: Drug therapy. Alcoholism. Geriatrics. Group psychotherapy, by D. A. [illegible]. Results, recommendations, and suggestions for the future. Index.

Note: The underlying theme of this book is essentially that the apparent separateness between psychiatry and general medicine should give way to integration complete enough so that the care of psychiatric patients will be recognized as a responsibility of general hospitals and of physicians practicing in them. The book deals specifically and in some detail with the problems of organizing and operating psychiatric units in general hospitals. It is addressed to the medical profession in general and to hospital administrators and medical staffs in particular. It is based in part on experiences of the authors in organizing psychiatric departments in three hospitals and in part on a survey conducted by sending questionnaires to hospitals in the United States of America and Canada. Selected literature references are included in all of the chapters.

BERGLER, EDMUND

The battle of the conscience a psychiatric study of the inner working of the conscience. Westport, Conn. Associated Booksellers, 1948 296 p. illus. 22 cm. $3 75 3912

Contents (abridged): Origin of the pre-stages of conscience. Normal and neurotic feeling of guilt. A great poet's opinion of the development of the conscience. A few typical examples of neurotic guilt, including suicide. Tender love—the classical normal antidote for feeling of guilt. Other normal antidotes: work, sublimation, [illegible]. [illegible] and types of inner guilt. [illegible] and the unconscious background. Torturing dreams and [illegible] caused by inner guilt. The neurotic who unconsciously bargains for the electric chair: the criminal. "Let your conscience be your guide"—especially in the atomic age.

Note: In this book an internationally known psychiatrist discusses the "inner conscience," the influences which mold it, and its effect upon behavior. The working of the conscience in normal personalities, neurotic personalities, and [illegible] personalities is explained with many quotations from histories. The treatment is semi-technical. The book is of interest not only to professional psychiatrists but to students and to laymen who have had some previous introduction to the field. There is a fair number of bibliographical footnotes but no index.

BERGLER, EDMUND

The superego unconscious conscience—the key to the theory and therapy of neurosis. New York Grune & Stratton 1952 367 p. 23 cm. $6.75 3913

Contents: The superego's power and its subterfuges. Impersonal biology and two hearts in frustration. Constant "reformulation" of the oral-anal-phallic material in the "language" of later stages. The life blood of neurosis—psychic masochism. The slightly paradoxical moral code of the unconscious ego and the mechanism of taking the blame for the lesser crime. Differences between external and internal justice. The unconscious process of reaching normal and neurotic guilt. The pseudo-moral connotation of neurotic symptoms. Dreams and inner conscience. First thoughts on awakening and our daily moods. Are parents or inner conscience to blame for the neuroses of children? The tragicomedy of it all: superego triumphant—man dangling from the shoestring of two allies. Index.

Note: A complementary volume to the author's *The Battle of the conscience*, Washington, D. C., 1948. It contains further original studies on that hidden element of the personality which Freud named the "superego."

CAMPBELL, JOHN D

Manic-depressive disease clinical and psychiatric significance. Philadelphia J B Lippincott Company 1953 403 p. 24 cm. $6 75 3914

Contents: Definition and scope of manic-depressive disease. Cyclothymic personality. Autonomic disturbances in manic-depressive disease. Emotional disturbances in manic-depressive disease. Mental symptoms in manic-depressive disease. Mixed and manic phases of manic-depressive psychosis. Etiology and manic-depressive disease. Manic-depressive psychosis in children and adolescents. Cyclothymic personality in children and adolescents. Differential diagnosis of manic-depressive disease. Social maladjustments in manic-depressive psychosis. Homicide and suicide in manic-depressive psychosis. *Treatment of cyclothymic personality and mild manic-depressive psychoses.* Physical therapies in manic-depressive psychoses. Index.

Note: An important treatise in which is presented a modern view of manic-depressive disease. It is based both on the literature and on the author's study of a large group of patients. The significance of physiologic disturbances in the autonomic nervous system is stressed. The author tabulates [illegible] autonomic disturbances found by him in examination of [illegible] manic-depressive patients and states: "The true essence of the manic-depressive process is said to be in the emotional sphere, the autonomic disturbances being simply the outward physiologic manifestations of an underlying emotional disorder. There is considerable evidence to indicate that the autonomic and emotional disturbances are parallel or concomitant phenomena, neither being the cause of the other." The [illegible] available therapies ranging from preventive measures to lobotomy are discussed in detail. The book is directed primarily to general practitioners of medicine, although it contains material of interest to any physician, including specialists in psychiatry, who is interested in this disease.

COBB, STANLEY

Foundations of neuropsychiatry Fifth revised and enlarged edition of the work formerly known as *A preface to nervous disease* Baltimore The Williams & Wilkins Company 1952 287 p. illus. 23 cm. $3.00

Contents: Some general problems of anatomy and physiology. Autonomic nervous system. Segmental and suprasegmental aspects of the cerebrospinal nervous system. Motor integration and locomotion. Functional localization in the *cerebral cortex*. Consciousness and the "mind-body" problem. Cerebral circulation. Cerebrospinal fluid. General neuropathology. The peripheral nerves and muscle. Special neuropathology. Epilepsy. Some psychological concepts important in medicine. Some psychopathological reactions. Index.

Note: A standard work designed for advanced students and general practitioners of medicine. Though relatively brief, it defines basic terminology, describes the anatomy and physiology of the

nervous system, and correlates them with the chief nervous disorders. In this edition the work has been much revised, particularly in such parts as the chapter on functional localization in the cerebral cortex. The sixth edition was published in 1958, 305 p., $5.00.

DIETHELM, OSKAR

Treatment in psychiatry Third edition. Springfield, Ill Charles C Thomas, 1955 545 p 24 cm. $9 50 3916

Contents Fundamental considerations. Study of personality. Treatment in general. Suggestion and hypnosis. Psychoanalytic procedure. Various psychotherapeutic procedures. Dynamic psychotherapy Therapeutic action of various physical and chemical agents. Excitements. Depressions. Schizophrenic reactions. Paranoid and paranoic reactions. Delirious and toxic reactions. Psychiatric disorders with cerebral damage. Epilepsy Psychoneuroses. Stuttering, tics, occupational neuroses, compensation reactions, psychopathic personalities. Sexual difficulties. Alcoholism—drug addiction. Problems in general practice. Teaching of psychiatric treatment. Evaluation of current progress and trends. Index.

Note. Recognized as a standard work since the publication of the first edition in 1936, this book provides a broad eclectic introduction to principles and techniques of psychiatric treatment. It is widely used as a textbook for the instruction of medical graduates who are preparing for the specialty of psychiatry and as a source of information and orientation for general practitioners of medicine The first edition was published in 1936 and the second edition in 1950. Revisions and augmentations were made in several of the chapters in preparing this second edition, and the chapter on the author's own psychotherapeutic approach has been retitled Dynamic psychotherapy

GOLDFARB, WILLIAM, AND MARILYN M DORSEN

Annotated bibliography of childhood schizophrenia and related disorders, as reported in the English language through 1954 A contribution of the Henry Ittleson Center for Child Research, made possible by a grant from the Ittleson Family Foundation New York Basic Books Inc., 1956 170 p 18 cm. $2 50 3917

Note. Five hundred eighty-four papers bearing on schizophrenia in children under 12 years of age are listed and briefly abstracted in this publication. As indicated in the title, only English language publications are covered. The compilers state that they selected articles which were specifically concerned with the problem of childhood schizophrenia and other severe and related behavior difficulties. The arrangement is alphabetical by name of author or in the case of multiple authorship, name of senior author There are no indexes to aid in finding articles when only the name of a junior author is remembered, or in finding articles by year of publication, or by topic.

GREENBERG, HAROLD A AND OTHERS

Child psychiatry in the community a primer for teachers nurses and others who care for children In collaboration with Julian H Pathman Helen A Sutton and Marjorie M Browne New York G P Putnam s Sons 1950 296 p illus 21 cm $3 50 3918

Contents Part I The child The child-guidance movement in the United States. Personality development The psychogenesis of behavior problems Symptoms—diagnosis. Prognosis. Treatment in child-guidance clinic Collaborative therapy Part II, The clinic team The psychiatrist. The psychologist. The social worker Part III, The clinic and the community The psychiatrist's role as consultant in children's institution. Emotional problems in hospital-school for crippled children Child guidance and the nurse. Child guidance and the teacher Juvenile delinquency A look to the future. Appendix. Glossary Selected readings. Index.

Note. The methods and experiences of the Institute for Juvenile Research in Chicago were the basis for the greater part of the content of this introductory authoritative work. However a broad view of child psychiatry from the community aspect is presented. Current diagnostic and therapeutic techniques that are typical in work in community clinics and similar organizations are described rather fully although nontechnically

GRINKER, ROY RICHARD, AND JOHN P SPIEGEL

Men under stress. New York McGraw Hill Book Company, Inc., 1945 484 p. 24 cm $5 00 3919

Contents (abridged) Part I The men. Part II, The environment of combat. Part III, The reactions to combat—morale. The neurotic reactions to severe combat stress. Psychodynamics. Treatment and results. Part IV The reactions after combat. The syndrome of "operational fatigue" (war neuroses) in returnees. Passive-dependent states. Psychosomatic states. Guilt and depression. Aggressive and hostile reactions. Psychotic-like states. Treatment, psychotherapy—narcosynthesis—adjunctive, and results. Part V Civilian applications. References. Index.

Note A nontechnical but not superficial account of the emotional and nervous disorders produced in air crew members by the strain of combat flying and of the methods by which they were treated. The authors observations and deductions are based on the clinical examination and treatment of thousands of cases of war neuroses which developed among members of the United States Army Air Forces. With considerable emphasis on the use of narcosynthesis, some 65 case histories, including some [illegible], and varying from simple operational fatigue to the most severe mental and nervous disorders, are briefly outlined. Each history sketches the man s problem, the treatment used, and the results obtained. The authors are outstanding psychiatrists, and the book is of interest to both military and civilian practitioners of the medical specialty and to social workers and laymen.

GRINKER, ROY RICHARD, editor

Mid-century psychiatry, an overview Springfield, Ill. Charles C Thomas, 1953 183 p. illus 23 cm $5.50 3920

Contents. Introduction, by R. R. Grinker Cortex and mind, by P Bailey Neurophysiology in relation to behavior, by R. W Gerard. Homeostasis, brain local adjustment and the concept of health and disease, by G. L. Engel. On the organization of psychic energy—instincts, drives and affects, by T Benedek. Some aspects of mid-century psychiatry—experimental psychology by D. Shakow The biology of wishes and worries, by H. S. Liddell. Observational psychiatry—the early development of independent and oppositional behavior by D M. Levy Psychoanalysis in mid-century by H. R. Kaufman. Structural and functional approaches to the analysis of behavior by T M French. The influence of social science in psychiatry by C. S. Johnson. The therapeutic applications of psychoanalysis, by F Alexander Critique of symposium, by J. P Spiegel. Closure, by R. R. Grinker

Note. Papers presented as part of the dedicatory exercises of the Institute for Psychosomatic and Psychiatric Research of the Michael Reese Hospital in Chicago are printed in this volume. The authors and titles are listed in the above Contents. In the "Critique of symposium, Dr John P Spiegel concludes, among other things Both the weakness and strength of this symposium lie in the clarity with which it reveals the need for a methodological solution to the problem of the integration of the disciplines contributory to the science of human behavior The various points from which the various papers are written bear out this need, but if read individually are useful summaries of their specific topics

HALL, J K, editor

One hundred years of American psychiatry New York Columbia University Press, 1944. 649 p. illus 26 cm. $7 50 3921

Contents. The beginnings from colonial days to the foundation of the American Psychiatric Association, by R. H. Shryock. Psychiatry in Europe at the middle of the nineteenth century by H. E. Sigerist. The founding and the founders of the Association, by W Overholser The history of American hospitals, by S. W Hamilton. A century of psychiatric research in America, by J C. Whitehorn. American psychiatric literature during the past one hundred years, by H Alden Bunker. The history of mental psychiatric therapies, by W Malamud The history of mental hygiene, by A. Deutsch. I, Military psychiatry the Civil War 1861 1865, by A. Deutsch. II, Military psychiatry World War I 1917 1918, by E. A. Strecker III, Military psychiatry World War

n, 1844-1944, by A. Deutsch. A century of psychology in its relationship to American psychiatry, by T. V. Moore. American psychiatry as a specialty, by H. A. Bunker. Legal aspects of psychiatry, by G. Zilboorg. The influence of psychiatry on anthropology in America during the past one hundred years, by C. Kluckhohn. Index.

Note: Thirteen specialists here present the development of psychiatry as a medical specialty and the evolution of the insane asylum into the modern mental hospital. It is intended to be a historical synthesis of a century of American psychiatric endeavor. Bibliographical footnotes, charts, tables, and diagrams supplement the text. There is also a voluminous index.

Hinsie, Leland E., and Jacob Shatzky

Psychiatric dictionary with encyclopedic treatment of modern terms. Second edition. New York, Oxford University Press 1953 781 p. 24 cm. $15.00. 3922

—— Part two (supplement) New York Oxford University Press, 1953 563-781 p. 24 cm. $7.00. 3923

Note: A standard, comprehensive reference work. The original volume contains obsolete and obsolescent words and phrases as well as those in contemporary use. There are about 7,500 entries in it, including entries for personal names of eminent contributors to psychiatry. In the Supplement which includes some old terms but devoted largely to terms which came into use after the original volume was compiled, there are about 900 additional terms. In both the original volume and the Supplement, some terms from allied fields such as clinical neurology, [illegible], [illegible], mental deficiency and occupational therapy are included in addition to terms peculiar to psychiatry. The emphasis is, of course, on the latter group. Some definitions are brief, but a large number of them are long enough to [illegible] an extensive essay on the concept designated by the term. Definitions are couched in the technical terminology of psychiatry. Etymology and pronunciation are given for all terms. The first edition of the original volume was published in 1940. The second edition, published in 1953, contains the text of the first edition and the Supplement in one volume.

Hoskins, Roy Graham

The biology of schizophrenia. New York W. W. Norton & Company Inc., 1946. 191 p. 21 cm. $3.50. 3924

Contents: Section I. The history of man in relation to schizophrenia. Section II. The pattern of schizophrenia. Section III. Psychosomatic aspects of schizophrenia. Section IV. A biological concept of schizophrenia. Bibliography. Index.

Note: An expanded version of the three Salmon Memorial Lectures presented at the New York Academy of Medicine in 1945. It is based primarily upon the results of 18 years' research at the Worcester State Hospital, research which has been primarily biological in nature. Psychosis is surveyed primarily as a manifestation of evolution. The author begins with basic evolutionary units, the emergence of life, through more complex animal forms, to heredity [illegible], environment, the combination of ego and social in man, [illegible]. This is followed by a description of schizophrenic [illegible] as observed at the hospital. The author suggests that in earlier stages of evolution death rather than schizophrenia would have occurred. He then discusses glands, carbohydrate metabolism, [illegible], hormones, etc., in schizophrenia. He concludes there are changes at the level of cellular activity which indicate biological inadequacy [illegible] originating in the hypothalamus and that psychiatric treatment is largely palliative.

Kanner, Leo

Child psychiatry. With prefaces by John C. Whitehorn, Adolf Meyer and Edwards A. Park. Second edition. Springfield, Ill. Charles C Thomas, 1948 752 p. 26 cm. 3925

Contents (abridged): Part I. History of child psychiatry. Outline of the history of child psychiatry. Child psychiatry and pediatrics. Part II. Basic orientation. Age. Physical condition. Intelligence. Emotions. Family. The material environment. Part III. Clinical considerations. Initial contact. The case history. Orientation [illegible]. Treatment methods. Psychotherapy. Situational therapy. Psychiatric social work. Prevention. Part IV. Phenomenology. First section. Personality problems arising from physical ailments. Fits. Anomalies, diseases, and injuries of the brain. The epilepsies. The endocrinopathies. Second section. Psychosomatic problems. The central nervous system. The circulatory system. The respiratory system. The digestive system. The muscular system. The urinary system. Third section. Problems of behavior. Problems of eating behavior. Problems of sleeping behavior. Problems of speech and language. Problems of scholastic performance. Problems of sexual behavior. Anxiety attacks. Hysteria. Delinquency. Schizophrenia. Suicide. Author index. Subject index.

Note: The first edition of this work established it as an important contribution to the literature of its subject. It is based on extensive experience and study of large numbers of children at the Harriet Lane Home and the Henry Phipps Psychiatric Institute of Johns Hopkins University and on the experience of private practitioners and community child care agencies such as schools, welfare groups, courts, custodial and correctional institutions, and hospitals. It covers the field thoroughly both in regard to general principles and to details of specific conditions and situations. In the second edition the whole content has been so thoroughly rewritten and augmented that it can rightfully be called a new work on the general plan of the old one. The author's main thesis that all relevant facts must be considered in treating children's psychiatric problems has not changed. A third edition was published in 1957 [illegible] p., $12.50.

Leighton, Isabel, editor

The people in your life: psychiatry and personal relations, by ten leading authorities. New York Alfred A. Knopf 1951 278 p. 21 cm. $3.50. 3926

Contents: Man—woman, by E. Fromm. Husband—wife, by L. S. Kubie. Parent—child, by F. H. Allen. Age—youth, by F. J. Braceland. Race majority—race minority, by M. Mead. Student—teacher, by C. Kluckhohn. Friend—friend, by J. A. P. Millet. Employer—employee, by L. H. Bartemeier. Patient—practitioner, by G. R. Ross. Citizen—community, by G. S. Stevenson.

Note: The ten lectures here collected were first delivered as a course in psychiatry sponsored by Town Hall of New York. Conversational in tone and keyed to the background and understanding of the average layman, they serve as a sound introduction to anyone who seeks from psychiatry a better comprehension of himself and of the society of which he is a part. Included in the text and contributing to its worth are questions and answers transcribed from the discussion which followed each lecture when it was presented. Lacks index.

Levine, Maurice

Psychotherapy in medical practice. New York The Macmillan Company 1942 320 p. 22 cm. $4.50 3927

Contents: Common misconceptions. Methods of psychotherapy. Methods for the general practitioner. Advanced methods for the general practitioner. Methods for the specialist. Suicide risks. The study of psychogenic factors. The choice of cases. Sex and marriage. Basic attitudes toward children. The problem of parents and children. Summary and warning. Suggestions for further reading. Index.

Note: This is written especially for general practitioners, specialists in fields other than psychiatry, medical students, nurses, social workers, and others who guide individuals with personal and emotional problems. It explains in nontechnical language the methods of psychotherapy that may be used by nonpsychiatrists, and distinguishes those that should be reserved for psychiatrists only.

Lewis, Nolan Don Carpenter, and Bernard L. Pacella, editors

Modern trends in child psychiatry. Editorial assistant, Gertrud M. Kurth. New York International Universities Press, 1945 341 p. illus. 23 cm. $6.00. 3928

Contents: Anxiety in infants and its disorganizing effects, by M. A. Ribble. Maternal overprotection, by D. M. Levy. Primary conduct disturbances: their diagnosis and treatment, by J. H. W. Van Ophuijsen. Ego psychology applied to behavior problems, by M. S. Mahler. Psychosomatic approach in childhood disorders, by

H. Bruch. A new tool in psychotherapy with adolescents, by C. B. Zachry. Personality diagnosis in childhood, by B. Klopfer. The electroencephalogram in behavior disorders, by B. L. Pacella. Male sex delinquency and community responsibilities, by L. J. Doshay. Psychoses in children, by C. Bradley. Organic brain conditions producing behavior disturbances, a clinical survey of encephalitis, burn encephalopathy and the traumatic states, by L. Bender. Fantasy and reality in the art expression of behavior problem children, by M. Naumburg. Play analysis in research and therapy, by J. L. Despert. Combined psychotherapy with children and parents, by F. H. Allen. Child analysis, by M. S. Mahler. Group therapy with children, by S. R. Slavson. Psychiatric social case work with children, by L. M. Hambrecht.

Note. A collection of lectures on child psychiatry and child guidance that were given at the New York State Psychiatric Institute and Hospital in 1943 and 1944. The purpose of the collection is to make available a summary by leading authorities of recent thought, investigations, and achievements in child psychiatry. Most of the articles are accompanied by bibliographical references.

Liebman, Samuel, editor

Management of emotional problems in medical practice. *Philadelphia* J B Lippincott Company, 1956 152 p 23 cm $5 00 3929

Contents: Psychiatric emergencies, by K. M. Bowman. The use and abuse of sedatives and stimulants, by F. J. Gerty. The management of the anxious patient, by L. L. Robbins. The depressed patient, by F. G. Ebaugh. The management of emotional reactions in the male involutional period, by O. Billig. The management of the multiple complainer, by G. C. Ham. The management of over-eating, overdrinking and oversmoking, by L. H. Bartemeier. On avoiding the production of iatrogenic disease, by W. C. Alvarez. The utilization of community resources in medical practice, by M. H. Hollender. Index.

Note. The papers in this volume are directed to general practitioners of medicine and are a useful combination of fundamental psychiatric knowledge and sage advice. They were first presented as lectures at the North Shore Health Resort, Winnetka, Illinois. The lecture series was entitled, "Psychiatric problems in medical practice," but as the titles listed above show, the volume title is more apt, since the kinds of problems covered are those that occur often in general medical practice and are managed by the nonspecialist practitioner. The book is short and readable.

Lowrey, Lawson G

Psychiatry for social workers. Second edition New York Columbia University Press 1950 385 p 22 cm. $4 50 3930

Contents: Introduction. The data of psychiatry. Specific etiological factors. Clinical combinations of symptoms. Psychoses of organic origin. Psychoses of toxic origin. Psychodynamics and functional disorders. Cyclothymic (manic depressive) reactions. Schizophrenia (dementia praecox). Paranoia and paranoid conditions. The convulsive disorders. Mental deficiency. The neuroses (psychoneuroses). Psychopathic personality. Behavior and its disorders. Mental disorders in the young. Reactive behavior disorders. Problems of rejectees and veterans. The social worker and treatment. Selected reading list. Index.

Note. A concise, well-written summary of psychiatry and abnormal psychology. It describes the major psychological disorders and summarizes what is known about their causation, pathology, prognosis, and treatment. Psychoanalytic concepts and techniques are not discussed in detail. Instead the book presents the clinical knowledge that will be useful to the social worker in her contacts with disordered personalities. The first edition was published in 1946. All of the original chapters were revised to some degree in preparing this edition, and some were very extensively rewritten. One chapter, that entitled "The social worker and treatment," was added, and the selected reading list was revised.

McCarthy, Daniel J., and Kenneth M Corrin

Medical treatment of mental disease: the toxic and organic basis of psychiatry. With sections by seven contributors. Philadelphia J B Lippincott Company, 1954 653 p illus 24 cm $12 00 3931

Contents: Part I, General considerations. The physical basis of psychiatry. Causes of mental disorders. Occurrence of mental disorders. Examination of the patient. Terminology. Part II, Mental disorders—A, mental disorders of known etiology and pathology: Mental disorders due to infection of brain tissue. Mental disorders due to exogenous toxins. Mental disorders due to endogenous toxins (disorders essentially producing delirium). Mental and nervous disorders due to endocrine imbalance. Mental disorders due to nutritional and vitamin deficiencies. Mental disorders due to the anemias. Mental disorders due to intracranial space-taking lesions. Mental disorders due to brain (head) injury. Mental disorders due to intracranial vascular disease. Mental disorders due to senility. B, Mental disorders of unknown etiology but known symptomatology and pathology: The degenerative diseases. C, Mental disorders of unknown etiology, mechanism or pathology but with constant and uniform symptomatology: The adolescent psychoses. The manias (prolonged excitement). The depressions. Paranoid conditions and paranoia. Part III, Disorders not psychotic in character: The mental deficiencies. Convulsive states (epilepsy). Psychopathic personalities. Autonomic visceral (psychophysiologic) disorders—(nervous tension states). Part IV, Basic treatment methods. General treatment measures. Psychotherapeutic measures. The drastic therapies. Part V, Medicolegal aspects of psychiatry. Index.

Note. The special viewpoint of this book is indicated by its title. Although the psychological aspects of mental disease and psychiatric treatment are not excluded, the major emphasis is on medical treatment and on the kind of elementary psychiatric guidance that general practitioners of medicine have traditionally given their patients. The authors state: "The concepts and treatment of mental disease are dealt with as a matter of disordered chemical, physiologic and pathologic processes affecting brain function. We recognize that emotional factors are important, constituting a part of the illness, but we believe that they represent effects of disease, not causes." Although useful background material is presented in the first part, the second and third parts, which together account for 422 of the total number of pages, are the heart of the book. In these parts, mental disorders are described in medical terminology for the benefit of physicians who are not specialists in psychiatry. The descriptions cover the clinical picture, etiology, and treatment. The fourth section fills out the picture on treatment by supplying descriptions and discussions of applicable therapies. Psychoanalysis is not included, because the authors feel that it is beyond the scope of the general medical practitioner. However, references to the principal books on psychoanalysis are furnished.

Masserman, Jules Hyman

The practice of dynamic psychiatry. Philadelphia W B Saunders Company, 1955. 790 p 24 cm $12 00 3932

Contents. Part I, The clinical investigation of human behavior: Principles of the psychiatric examination. The psychiatric examination of neurotic dysfunctions. The techniques of securing a psychiatric history. Current behavioral or "mental status" examination. Special aspects of the psychiatric examination. An introduction to psychodiagnostic testing (with the collaboration of J. H. Pathman and D. R. Stieper). Review of the rationale and techniques of the psychiatric examination. Part II, Dynamic evaluation of clinical syndromes: General considerations of psychiatric diagnosis. The neuroses. Personality pattern disturbances. Thebe obsessive-compulsive reactions. Psychophysiologic dysfunctions. Mental deficiency. Psychotic disorders. Part III, Case studies and communications. Hospital records and medical consultations. Psychiatric reports to nonmedical personnel. Psychiatric liaison with jurists, attorneys and laymen. Part IV, Clinical dynamics of ... The concepts of emotions and feeling. The concept and self. The concepts of ... and ... dynamics of self and universe. Current concepts of ... "libidinal" behavior. Part V, The practice of dynamic psychotherapy. Psychotherapy—its historical development. The evolution of psychoanalytic therapy. Current schools of analytic dynamic psychotherapy. Review of current concepts in psychoanalytic therapy. Biodynamics and psychoanalysis—their therapeutic integration. Therapeutic relevance of experimental biodynamics. Reorientation in psychotherapy—the ur-defenses of man. Clinical therapeutic principles. The functions of the psychiatrist. The initial interview. Preliminary therapeutic techniques. The strategy of therapy. The tactics of therapy. Drug narcosis in diagnosis and psychotherapy. Modern hypnosis. Familial and related group therapies. Military psychiatry. Biodynamics and familial group therapies. Military psychiatry. Index of personal names. Appendices. Bibliography. Index of personal names. Index of subjects.

Note. A companion work to the author's *Principles of dynamic psychiatry*, 1946. In the earlier work, the author attempted an integration of the various physiologic and psychologic concepts of behavior into a comprehensive system which he terms biodynamics. In the present work the integrative approach is applied to clinical psychiatry. In short, this work is a treatise on psychotherapy written from an eclectic viewpoint. It presents a broad

and at the same time detailed [illegible] of contemporary psychiatric theory and practice. More than 100 pages are devoted to the principles and techniques of history-taking and diagnosis, and about 100 pages to the making of hospital records, reports to referring physicians, nonmedical personnel, courts of domestic relations, etc. The fifth part, entitled "The practice of dynamic psychotherapy" [illegible] the heart of the book and accounts for almost half of its length. One hundred fifteen case reports are included. References are made to *Principles of dynamic psychiatry*; however, the two books can be used independently.

MASSERMAN JULES HYMEN

Principles of dynamic psychiatry including an integrative approach to abnormal and clinical psychology With a glossary of psychiatric terms. Philadelphia W B Saunders Company 1946. 322 p. illus. 24 cm. $7.00. 3933

Contents (abridged) Development of behavior theory. Psychologic concepts of behavior. Psychoanalytic concepts of behavior. The dynamics of adaptation. Neurotigenic dynamisms. Psychotic dynamisms. Biodynamics of normal and abnormal behavior. Biodynamic [illegible] of current theories of behavior. Biodynamic formulations of behavior. The principle of [illegible]. Principle of conflict. [illegible] of conflict and modes of therapy. Biodynamic processes of language and of "verbal" therapy. A critique of the biodynamic theory of behavior. Appendices: Illustrative psychoanalysis of [illegible] personality. Psychoanalytic formulations of the psychoses. Some principles of group [illegible]. Bibliography. Glossary. Index.

Note This work is based on material developed by the author and his colleagues in teaching psychiatry at the Northwestern University School of Medicine. It [illegible] designed for use as [illegible] textbook in introductory courses in medical school, and in other courses offered to students who are preparing for professional work in the field. The author has emphasized the [illegible] of the [illegible] of behavior and of the interrelationships of these [illegible] of the living organism. The [illegible], experimental, [illegible], case histories, and the explanatory material is directly related to clinical applications. The bibliography of 1,200 titles is exceptionally long for an introductory work. The glossary, although limited to specialized terms, contains more than 1,000 definitions.

MENNINGER, KARL AUGUSTUS

A guide to psychiatric books with some suggested reading lists. Second revised edition. New York Grune & Stratton, 1956 157 p. 22 cm. (The Menninger Clinic monograph series, No. 7) $4 75 3934

Contents Basic and related disciplines. General psychiatry. Specialized psychiatry. Psychiatric therapies. Preventive psychiatry and mental hygiene. Psychiatric book lists and bibliographies. Reading lists. Index.

Note Approximately 3,000 books are listed in the second edition of this standard bibliography. For each is given the name of the author, short title, place of publication, publisher and the year of publication. There are no annotations, and the stars [illegible] used in the first edition to designate specially recommended titles have been deleted. Also deleted was the "Supplementary list of [illegible] books." However, [illegible] of reading lists for physicians, general practitioners, and clergymen has been added. The index covers names of authors only. In comparison to the first edition published in 1950, many more books are listed and the organization of the list has been changed somewhat.

MENNINGER, KARL AUGUSTUS

A manual for psychiatric case study New York Grune & Stratton 1952 355 p 23 cm. (The Menninger Clinic monograph series. No. 8) $6 75 3935

Contents Part I. The collection and organization of case material. The approach to the psychiatric patient. The collection and recording of historical data. The collection and recording of examinational data. The analysis of the collected data. Part II. Treatment records. The prescription of [illegible] therapeutic program. The record of treatment, developments, and complications. The nature and purpose of case summaries. The [illegible] of [illegible] patient to the referring physician. Part III. Case reports. The writing of psychiatric reports and papers. Illustrative case records. Appendix: New American Psychiatric Association nomenclature. Standard Veterans Administration nomenclature (1951). List of personality types. Adjunctive therapy guidelines. Model commitment law. References and reading list. Index.

Note A practical work on orderly procedures in studying psychiatric patients. It deals with methods of history taking; recording of physical, neurological, laboratory and psychological data; the prescribing of therapy and the recording of therapeutic progress and complications. Special problems such as the recording of especially confidential data are discussed in [illegible] helpful manner. A long series of illustrated case histories is included. The book is aimed at medical graduates who are beginners in the specialty of psychiatry or [illegible] are preparing for this specialty.

MEYER, ADOLF

The commonsense psychiatry of Dr Adolf Meyer fifty-two selected papers edited, with biographical narrative by Alfred Lief New York McGraw Hill Book Company Inc., 1948 677 p illus. 24 cm. (McGraw Hill series in health science Amos Christie consulting editor) $9.50 3936

Contents (abridged) Introduction. The contribution of psychiatry to the understanding of life problems. Preparation in Europe. The American setting. Action in Kankakee. Action in Worcester. Action in New York. Dynamic psychiatry established. Reaching to the public. Action in Baltimore. Training the doctors. Social aspects. A science of man. Reference notes. Glossary of medical and philosophical terms. Index.

Note A representative collection of the published work of [illegible] psychiatrist who contributed greatly to the improvement of psychiatric training and the treatment of mental patients in the United States of America. Dr Meyer's own [illegible] are interspersed with appropriate biographical narrative, supplied by the editor. The papers range from interpretations of purely psychiatric problems, through such topics as eugenics, teaching, [illegible] problems, and the role of psychiatry in relation to science. The author's pragmatic approach to the human being as [illegible] psycho-biological [illegible] is the dominant theme. The book is of interest not only to persons in this medical specialty, but also to general readers [illegible] are interested in psychiatry. The glossary is intended to aid the latter group.

MODERN ATTITUDES IN PSYCHIATRY The march of medicine, 1945 New York Columbia University Press, 1946 154 p. 21 cm. (The New York Academy of Medicine. Lectures to the laity No x) $2 00. 3937

Contents Foreword, by C. P. Rhoads. Introduction, by E. G. Zabriskie. Psychiatry in the history of medicine (The Lindsley R. Williams memorial lecture) by I. Galdston. The development of modern psychiatry by J. H. Wall. The patient as [illegible] person: the social aspects of illness, by O. C. Robinson. Present trends in psychiatry and the future outlook, by F. Alexander. Psychiatry and the war by W. C. Menninger. Psychotherapy in everyday practice (The George E. [illegible] memorial lecture) by E. Weiss. Index.

Note A series of lectures planned to present [illegible] survey of the status of psychiatry and psychotherapy at the close of World War [illegible]. They are addressed primarily to persons outside the medical profession and therefore are free of technical terminology.

NIELSEN JOHANNES MAAGAARD AND GEORGE N THOMPSON

The engrammes of psychiatry Springfield, Ill. Charles C Thomas, 1947 509 p. illus. 23 cm. $6 75 3938

Contents (abridged) Consciousness. [illegible] tion. The instincts. The emotions. The will. Personality. Perception—association—recall (hallucinations, illusions, delusions). Intelligence, judgment, [illegible]. Cerebral function with relation to [illegible]. Some defense mechanisms of the mind. Psychoneuroses. Addiction and habituation. Psychopathic personality. Schizophrenia. Manic-depressive psychosis (cyclothymic reaction types). Involutional disorders (psychoses). Paranoia. Syphilitic psychoses. Mental symptoms due to general [illegible] disorders. Congenital mental deficiency. Geriatric psychiatry. Psychosomatic medicine. Treat-

ment in psychiatry Technique of psychiatric examination. References. Index.

Note Directed primarily toward psychiatrists, anatomists, and physiologists, *this work is a study* of the physiological aspects of abnormal behavior The authors are unwilling to accept much of the superstructure of current psychiatric theory because it is to them not demonstrable by scientific observation or proof accordingly the thesis of the book is insistence upon the anatomy and physiology of the brain as the source of behavior The first 10 chapters explain the correlation of specific brain areas and functions with the major psychological activities, and in the second half of the book the results of abnormal brain physiology are traced in the common psychiatric disturbances, illustrated by numerous case histories. The authors' wide experience and thorough study are evident in treatment and presentation, and there is a substantial list of references in the appendix.

Noyes, Arthur P

Modern clinical psychiatry Fourth edition Philadelphia W B Saunders Company 1953 621 p 24 cm. $7 00 3939

Contents (abridged) Development of dynamic psychiatry Personality development and structure. Mental mechanisms and their functions. The causes and nature of mental disorders. Symptoms of mental disorder Examination of the patient. Disorders caused by or associated with impairment of brain tissue function—intracranial infection Brain syndromes due to drug or poison intoxication. Alcoholism and alcoholic psychoses. Mental disorders due to or associated with head trauma. Brain syndromes associated with circulatory disturbances. Acute brain syndromes associated with metabolic disturbances. Brain syndromes associated with cerebral arteriosclerosis with convulsive disorders (epilepsy) Senile psychoses. Chronic brain syndrome associated with disturbance of metabolism, growth or nutrition—with intracranial neoplasm—with diseases of unknown or uncertain cause Mental deficiency Disorders of psychogenic origin. Psychotic disorders—involutional psychotic reactions—affective reactions. Psychotic depressive reaction—schizophrenic reactions—Paranoid reactions. Psychophysiologic autonomic and visceral disorders. Psychoneurotic disorders. Sociopathic personality disturbances. Drug addiction. Child psychiatry Shock and other physical therapies. Psychotherapy Pharmacological therapy Index.

Note A standard text, the first edition of which was published in 1934 and the third edition in 1948 It is used as an introduction to the subject for advanced medical school students and medical school graduates who are preparing for the specialty of psychiatry and as book of orientation and reference for general practitioners of medicine. It provides an eclectic view of modern psychiatry with emphasis on problems most likely to arise in general practice. Much emphasis is placed on the underlying causes of mental disease and on descriptions of specific disorders. Diagnostic techniques and *therapy are discussed adequately in view of the book' purposes.* Important changes were made in preparing this fourth edition The classification of mental disorders was revised to bring it into accord with the standard nomenclature adopted by the American Psychiatric Association More emphasis was placed on the roles of psychological influences and motivations and mental disease, and revisions were made to cover important developments such as psychosurgery and pharmacological therapy A selection of the literature published from approximately 1948 through 1953 has been added to the bibliography

Overholser Winfred and Winifred V Richmond

Handbook of psychiatry Philadelphia J B Lippincott Company 1947 252 p 24 cm. $4 00 3940

Content What this book is about The cause of mental disorders. The mental hospital and modern methods of treatment. Mental defect and the problems that grow out of it. Psychoses associated with organic conditions. Alcohol and its role in the psychoses. Psychoses associated with drugs and other toxic agents. Psychoses of middle life and old age The functional psychoses—the manic-depressive psychosis—dementia-praecox schizophrenia. The paranoias. The psychoneuroses The psychopathic personality Mental aberrations and war Crime and mental disorder Psychiatric conditions in children. Psychiatry and the layman. Index.

Note. This work is not reference manual, as the title might imply but clearly written description of the scope of psychiatry and of the mental disorders with which psychiatry deals. It is addressed to laymen and to such groups as nurses and social workers, but the subject is not "written down. The discussions have professional tone and fair amount of technical terminology is introduced. Good lists of additional reading are appended to the chapters for the benefit of those readers who wish to pursue specific topic further

Pearson, Gerald Hamilton Jeffrey

Emotional disorders of children, a case book of child psychiatry New York W W Norton & Company, Inc., 1949 368 p. 22 cm. $5 95 3941

Contents. Introduction. The methods of studying a psychiatric problem in a child. The diagnosis and classification of psychiatric problems in children. Anxiety states. Anxiety hysteria. Conversion hysteria. The interrelationships of organic and psychic illnesses. The obsessional neurosis. The child who is intellectually retarded The sexual perversions. Psychoses in children. Character neuroses in children. *General considerations of the treatment of psychic disorders* in children. Index.

Note A treatise organized around an extensive series of case histories. The histories are used not only to demonstrate the types of neuroses and psychoses to which children are subject but also to show how children's emotional disorders may be diagnosed and managed according to the principles and methods of psychoanalysis. The author has assumed that his readers will have some understanding of basic concepts and terminology of normal and abnormal psychology The presentation is not highly technical, but the book is more suitable for psychologists and physicians than for general readers and parents.

Perry, John Weir

The self in psychotic process, its symbolization in schizophrenia. Foreword by C. G. Jung Berkeley University of California Press 1953 184 p illus (part col'd) 24 cm. $5 00 *3942*

Contents. Part I Introduction. Case history Initial delusions. Development of the problem. The resolution Nature of the material. Amplification of the symbol. Psychological concepts. Interpretation of the process. Conclusions. Part II *Introduction.* The symbolism of the quadrated circle. The quadrated circle in the East. The *quadrated* circle in the West. Symbolism of opposites. Symbolism of rebirth. The psychology of the symbolism. Appendix Detailed account of the patient's history and material. Notes. Bibliography Index.

Note A study of the self as an entity of highly irrational character which, when activated, is found already delineated and symbolically represented in the unconscious" in short, the self according to the teachings of C. G. Jung. In the first part, the drawings produced by patient suffering from acute catatonic schizophrenia, the remarks she made in explanation of them to the therapist, and pertinent elements from a case history are recorded and analyzed. The second part is both description and psychological *analysis* of such symbols from mythology as the quadrated circle, the Chinese T'ai-chi, and symbols of rebirth after death. The importance of an acquaintance with these symbols to therapists treating such cases as the one described is stressed. The book is both study of an unusual case and plea for wider attention on the part of psychotherapists to the ideas of Dr Jung.

Ruesch, Jurgen and Gregory Bateson

Communication the social matrix of psychiatry New York W W Norton & Company Inc 1951 314 p *illus* 22 *cm.* $6 00 3943

Contents. Values, communication, and culture Communication and human relations Communication and mental illness. Communication and American values. American perspectives. Communication and the system of checks and balances. Information and codification. Conventions of communication. *Psychiatric thinking.* The convergence of science and psychiatry Individual, group, and culture. *References.* Index.

Note In this book authored by psychiatrist and by an authority on cultural anthropology the society which presses upon every individual person and the means (communication) by which the impress is made are studied from the standpoint of their effect upon psychiatric theory and techniques. The authors state, "What in the past, theories of personality are concerned with one single individual, modern psychiatrists have come to the realization that it is necessary to see the individual in the matrix of social

studies. The author also pays attention to the effects of society upon psychiatrists and especially upon contemporary psychiatric thinking. The book is addressed primarily to psychiatrists and secondarily to sociologists.

SACKLER, ARTHUR M AND OTHERS editors

The great physiodynamic therapies in psychiatry an historical re-appraisal. Editors Arthur M. Sackler Raymond R. Sackler Mortimer D Sackler Felix Marti Ibañez. With personal contributions by Ugo Cerletti and others. New York Paul B Hoeber Inc., Medical Book Department of Harper & Brothers, 1956 190 p. illus. 26 cm. $5 75 3944

Contents: The philosophy of organicism in psychiatry by F Marti-Ibañez and others. The classical Sakel shock treatment—a reappraisal, by M. J. Sakel. The convulsive treatment—a reappraisal, by L. J. Meduna. Electroshock therapy by U Cerletti. Histamine therapy, by H. C. Hinsie. How I succeeded in performing the prefrontal leukotomy by E. Moniz. The carbon dioxide treatment—a review, by L. J. Meduna. Contemporary physiodynamic therapeutic trends in psychiatry by A. M. Sackler and others. Bibliographical notes. Index.

Note: In this interesting volume, the discoverers or "chief proponents" of the Sakel shock treatment, electric shock therapy, histamine therapy and the other therapies mentioned in the chapter titles, tell how they came to discover or to advocate the therapy associated with their names, then they assess its importance in the light of the subsequent clinical experience and developments of psychiatric knowledge. Following the chapters on the great therapies is a paper on contemporary trends and developments, including the relatively new pharmacodynamic agents, written by the editors of the volume. All of the articles were first published in journals, but have been corrected and revised.

SADLER, WILLIAM S

Practice of psychiatry St. Louis The C. V Mosby Company 1953 1 183 p. 25 cm. $10.00. 3945

Contents (abridged) Part i, General psychiatric considerations. Part ii, The patient. Part iii, The neuroses. Part iv, The psychoses. Part v, Personality disorders. What is personality? Normal and abnormal personalities. Adjustment and maladjustment. Childhood psychology. The adolescent personality. The adult personality. Family relationships. Sex problems. The psychopathic personality. Alcohol problems. Crime and delinquency. Part vi, Psychosomatic diseases. Psychosomatic medicine. The cardiovascular system. The gastrointestinal system. The nervous system. Skin disorders and sundry ailments. Part vii, General psychotherapeutics. The general management of mental and nervous disorders. Psychiatry in general practice. Suggestion and hypnotism. Ventilation—catharsis. Therapeutic study program. Socialization—group therapy. Occupational therapy. Medicinal treatment. Shock treatment. Psychosurgery. Appendix. Schools of psychiatry. Bibliography. Glossary. Index.

Note: This work supersedes the author's *Modern psychiatry*, 1945. It presents a broad, eclectic view of psychiatry without being bound to any particular school of thought. There is considerable emphasis on diagnosis and treatment. The book is directed to graduate physicians and is of special value to those who are not specialists in psychiatry but wish to be informed about it. The bibliography is limited to books. About 900 terms are defined in the glossary.

SAUL, LEON JOSEPH

Bases of human behavior a biologic approach to psychiatry Philadelphia J B Lippincott Company 1951 150 p. 24 cm. $4.00 3946

Contents: Part i, The power of the emotional forces—psychodynamics as a basic science. The place, the scope and the goals of dynamic psychiatry. Part ii, Motivation and its effects: Emotional forces can alter the physiology. Emotional forces can affect the physiology to produce symptoms. Emotional forces can affect the physiology to produce tissue damage. Emotional forces can affect perception, thinking, feeling and behavior. Scheme of operation of emotional forces. Part iii, Elements of psychodynamics: The organism as a unit. The structure of the mind. Development of the mind. Basic biologic forces in the mind. Appendix: The nature of neurotic reactions. Index.

Note: Primarily an introduction to psychiatry this work can be viewed also as an introduction to the study of behavior of all personality. The author views it as a book on dynamic psychiatry or "psychodynamics," and he defines the latter term as "the science of motivations of biologic organisms. The study of the living organism, the roots of behavior in basic physiological processes, and the interactions of psychologic and physiological reactions are emphasized. Only the main ideas of the field are discussed, and the book is written in style that makes it available to a wide circle of readers both within and without the professions of psychology and psychiatry.

SHELDON WILLIAM HERBERT

Varieties of delinquent youth an introduction to constitutional psychiatry with the collaboration of Emil M Hartl and Eugene McDermott. New York Harper and Brothers 1949 899 p. illus. 23 cm $8 00. 3947

Contents (abridged) Part i, Orientation for biological humanics. Orientation. Glossary i—definitions basic to the constitutional approach. The psychiatric variables, outline for an operational psychiatry. Part ii, Two hundred biographies. Glossary ii—glossary for the Hayden abridgement for biography. The biographies. Part iii, *Psychiatry of delinquency.* Biological delinquency. The social psychiatry of delinquency. Epilogue. Index.

Note: An elaborate technical presentation of a thesis which says essentially that a person's behavior is closely related to his bodily structure or somatic type. "Constitutional psychiatry" is thus diametrically opposed to the Freudian concept of the mind and its effects upon behavior and personality patterns. It leads to a view that delinquency is a result of the weakness of the human stock—stock which is currently declining in quality according to the author. The text is illustrated with 200 case histories, each one of which is accompanied by three photographs which show the body type of the subject. The work is based on a 10-year study of delinquent youths at the Hayden Goodwill Inn, a Boston social agency. The author is director of the College of Physicians and Surgeons, Columbia University.

SHIRLEY HALE FOREMAN

Psychiatry for the pediatrician. Cambridge, Mass Harvard University Press, 1948. 442 p. 24 cm. $4.50 3948

Contents: Basic concepts in child guidance. Development and habit training. Physical factors and problems. Intellectual factors and problems. Emotional factors and problems. Sexual factors and problems. Environmental factors and problems. Investigation of behavior problems. Treatment of behavior problems. Mental health in a changing world. Glossary. Index.

Note: This book discusses the common psychiatric problems of children that are likely to come to the attention of pediatricians and general practitioners, and outlines corrective techniques. It originated in lectures given to medical students at the Stanford University Medical School, and is intended for advanced students and practicing physicians, especially the latter. A considerable part of the material is based on a study of the first 1,000 cases seen in the pediatric clinic operated by Stanford University and known as the Stanford *Pediatric-Psychiatric Unit.* The author has made a special effort to keep his presentation simple and free of issues that are still the subject of controversy among psychiatrists. Brief bibliographies are appended to the chapters.

STRECKER, EDWARD ADAM AND OTHERS

Practical clinical psychiatry By Edward A. Strecker Franklin G Ebaugh and Jack R. Ewalt. Section on Psychopathologic problems of childhood by Leo Kanner. Seventh edition. New York. McGraw Hill Book Company Inc. 1951 506 p. illus. 24 cm. $7.00. 3949

Contents: Personality development and function. Methods of psychiatric examination. The organic reaction type. Toxic psychoses. The affective reaction types. The schizophrenic reaction types. The constitutional psychopathic inferior. Reactions of developmental and

constitutional defects. Paranoid reaction types and paranoia. Traumatic reactions. Psychoneuroses. Psychosomatic medicine. Support psychotherapy. Pathologic drinking. Psychopathologic problems of childhood. Index.

Note. A standard, widely used medical college textbook. It presents a broad, fairly detailed view of the subject in a relatively small space. Case histories are used freely in the presentation and the areas of contact among psychiatry, internal medicine and other specialties are indicated. The book is useful also to general medical practitioners as an authoritative source of information about contemporary clinical psychiatry. The sixth edition was published in 1947. In this edition the major changes are a revised statement of classification in the second chapter and the addition of the chapter on support psychotherapy. Less extensive changes have been made in other chapters and recent literature has been added to the bibliographies. An eighth edition was published in 1957. 457 p., $8.00.

SULLIVAN, HARRY STACK

Conceptions of modern psychiatry the first William Alanson White memorial lectures With a foreword by the author and a critical appraisal of the theory by Patrick Mullahy Second edition New York W W Norton & Company Inc, 1953 298 p 21 cm. $5 00 3950

Content Basic conceptions. The human organism and its necessary environment. Developmental syndromes. Explanatory conceptions. Therapeutic conceptions. A theory of interpersonal relations and the evolution of personality by P Mullahy. Index.

—— The interpersonal theory of psychiatry Edited by Helen Swick Perry and Mary Ladd Gawel With an introduction by Mabel Blake Cohen New York W W Norton & Company Inc 1953 393 p 21 cm $6 00 3951

Content Part I Introductory concepts. The meaning of the developmental approach. Definitions. Postulates. Part II The developmental epochs. Infancy—beginnings—the concept of dynamism—interpersonal situations. The infant as a person. Learning—the organization of experience. Beginnings of the self-system. The transition from infancy to childhood—the acquisition of speech as learning. Childhood. Malevolence, hatred, and isolating techniques. From childhood into the juvenile era. The juvenile era. Preadolescence. Early adolescence. Late adolescence. Part III, Patterns of inadequate or inappropriate interpersonal relations. The earlier manifestations of mental disorder—matters schizoid and schizophrenic. Sleep, dreams, and myths. The later manifestations of mental disorder—matters paranoid and paranoiac. Part IV Towards a psychiatry of peoples. Index.

—— The psychiatric interview Edited by Helen Swick Perry and Mary Ladd Gawel With an introduction by Otto Allen Will New York W W Norton & Company, Inc. 1954 246 p 21 cm $6 00 3952

Contents Basic concepts in the psychiatric interview. The structuring of the interview situation. Some general technical considerations in interviewing. The early stages of the interview. The detailed inquiry—the theoretical setting. The interview as a process. The developmental history as a frame of reference in the detailed inquiry. Diagnostic signs and patterns of mental disorder, mild and severe. The termination of the interview. Problems of communication in the interview. Conclusion. Index.

—— Clinical studies in psychiatry Edited by Helen Swick Perry, Mary Ladd Gawel and Martha Gibbon With a foreword by Dexter M Bullard New York W W Norton & Company Inc 1956 386 p 21 cm $6 00 3953

Contents Part I, Dynamisms of living and their relevance in mental disorder. The interpersonal theory of mental disorder. Sublimation, obsessionalism, and the early referential processes. Selective inattention. Hypochondria, algolagnia, and the personal development. The dynamisms of emotion. Envy and jealousy. Precipitating factors in the major mental disorders. The paranoid dynamism. Dissociative processes. The schizophrenic dynamism—a tripartite view. Part II, Therapeutic approaches to patterns of difficulty—the clinical entities. Clinical entities as a frame of reference in therapy. Hysteria. Obsessionalism. The manic-depressive psychosis. Schizophrenia, paranoid states, and related conditions. Therapy with schizophrenic patients. Index.

Note: Harry Stack Sullivan, who died in 1949, achieved recognition during his lifetime as one of the outstanding American contributors to psychiatry. Among his other contributions he developed the idea that psychiatry must take into account the complex of interpersonal relations in which personalities develop. All of the books had their origin as lectures given under the auspices of the William Alanson White Psychiatric Foundation. *Conceptions of modern psychiatry* was first published by the Foundation in response to many requests for Sullivan's 1939 lectures. It was reprinted several times during Sullivan's lifetime by the Foundation, but the edition listed here is the first regularly published one. The other books were prepared after Sullivan's death from notes and recordings of his lectures. This edition of *Conceptions of modern psychiatry* contains a helpful 56-page interpretation of Sullivan's theories written by Patrick Mullahy. In *The psychiatric interview*, the interview is presented as a special type of interpersonal situation and is discussed from both theoretical and practical viewpoints. The author's later views on personality are presented formally in *The interpersonal theory of society* and the clinical studies on which the interpersonal theory was based are included in *Clinical studies in psychiatry*. There are substantial differences in the author's style from the earlier books to the later ones, it being more technical and formal in *Conceptions of modern psychiatry* and *The interpersonal theory of psychiatry* than in *Clinical studies in psychiatry*. However all of the books are addressed to medical graduates and others with some previous introduction to psychiatry.

TULANE UNIVERSITY DEPARTMENT OF PSYCHIATRY AND NEUROLOGY

Studies in schizophrenia a multidisciplinary approach to mind brain relationships Reported by Robert G Heath and others Cambridge Mass Published for the Commonwealth Fund by Harvard University Press 1954 619 p illus. 24 cm $8.50 3954

Content (abridged) Definition of the septal region, by R. G. Heath. Section I, Theoretical concepts. The theoretical frame and for a multidisciplinary approach to human behavior, by R. G. Heath. Section II, Animal studies. *Ablation studies*. Metabolic changes following destructive lesions in the forebrain in cats, by R. G. Heath and others. Behavioral changes following destructive lesions in the subcortical structures of the forebrain in cats, by R. G. Heath. Acute experiments with animals: Inhibition and facilitation of motor activity from forebrain stimulation in cats, by R. Hodes and others. Chronic experiments with animals: Connections between the cortex and the septal region in rhesus monkeys, by C. D. Hendley and others. Effects of stimulation with electrodes chronically implanted in rhesus monkeys, by R. G. Heath and R. Hodes. Cortical and subcortical electrical activity in sleep, by R. Hodes and others. Section III, *Human studies*. Surgical techniques. Implantation of subcortical electrodes in man by the open method, by F. G. Bengochea and others. Implantation of subcortical electrodes in man by a stereotaxic method, by R. Hodes and others. Physiological data. Electroencephalograms and subcorticograms before stimulation, by R. Hodes and others. Subcortical stimulation techniques (including stimulation data sheets) by H. C. Becker and S. M. Peacock, Jr. Physiological responses to subcortical stimulation, by S. M. Peacock, Jr. Electroencephalograms and subcorticograms following stimulation of subcortical structures, by R. Hodes. Biochemical data. Biochemical studies on the patient group, by R. G. Heath and others. Psychological data. Psychological observations before and after stimulation, by H. E. King and others. Clinical data. Psychiatric observations on the patient group, by R. R. Monroe and R. G. Heath. The medical and neurological status of the patient group, by S. W. Epstein and others. Section IV, Case reports. Individual summaries of clinical and laboratory data, by R. G. Heath and others. Section V, Discussions. Section VI, Addenda. Index.

Note This work is concerned with the psychological and physiological investigation of the forebrain, with particular attention to surgery. It is composed primarily of reports of studies conducted by the Department of Psychiatry and Neurology at Tulane University and related case reports. Forty specialists, representing psychiatry, psychology, biochemistry, neurology and neurosurgery participated.

in the Tulane project, and fifteen others contributed comments on the papers. Certain of the chapters have useful summaries, and most of them provide brief lists of published literature. The work is not a manual of clinical procedures; rather it presents problems (and thoughts on them) met in active research.

ULETT, GEORGE A. AND D WELLS GOODRICH

A synopsis of contemporary psychiatry St. Louis The C. V Mosby Company 1956 243 p. 20 cm. $5.25 3955

Contents: Introduction. History of psychiatric thought. History taking and diagnostic procedures: Examination of the patient. The initial psychiatric interview The complete case study General physical and neurological examination. The problem of examining the patient for aphasia, apraxia, and agnosia. Electroencephalographic examination. Psychological examination. Psychodynamic concepts of personality development. Clinical syndromes The problem of classification. Standard nomenclature, disorders of the psychobiologic unit as prepared by the Committee on Nomenclature and Statistics of the American Psychiatric Association. Disorders caused by or associated with impairment of brain tissue function. Disorders of psychogenic origin (or without clearly defined physical cause or structural change in the brain) Mental deficiency Child psychiatry Therapeutic measures The psychiatric treatment team Intensive psychotherapy Group therapy The convulsive therapies Insulin therapy Psychosurgery Drug therapies Hydrotherapy Management of suicidal patients. Management of chronic disorder Management of psychiatric problems in the military setting Forensic psychiatry The psychiatrist and mental health. Index.

Note A very compact reference book useful to medical graduates in preparing for examinations and to nurses, general practitioners of medicine, etc. for concise information on psychiatric topics, including not only descriptions of such things as the Rorschach test, but also condensed information on treatment of psychiatric disorders. The chapter titles are listed above. Lists of suggested readings are included in each one.

WITMER, HELEN LELAND

Psychiatric clinics for children, with special reference to state programs. Cambridge, Mass. Harvard University Press, 1940. 437 p. 23 cm. $2.50. 3956

Contents The background theoretical and historical. The birth of clinical child psychiatry psychiatric theory and social attitudes and limitations. Evolution of psychiatric clinics for children. A survey of state-financed clinics. Sources and plan of the study. Clinics conducted by state hospitals for mental diseases. Case studies of two state hospital clinics. Clinics conducted by psychopathic hospitals. Clinics conducted by central departments of state governments. Principles for future programs. Organization on the basis of function. Prevention of psychoses and crime as clinic objectives. Psychiatric service for the feeble-minded and neurologically disabled. Modern child guidance as a means of promoting mental health. Planning effective psychiatric service for small communities. Index.

Note This study and evaluation of programs which offer child guidance clinic service on a state-wide basis included a review and reconsideration of the philosophy, the practice, the objectives, and the achievements of clinical child psychiatry. Part I describes the background of clinical child psychiatry in the United States of America and the cultural setting in which it operates. Part II discusses clinics financed by state governments, tells how they are conducted, and describes and evaluates typical policies. Part III suggests that many of the present difficulties of such clinics are traceable to lack of well-defined objectives, and examines the alternative possibilities in the light of modern psychiatric theory and practice. Some parts of the book are now out of date, but the discussions of philosophy, objectives, etc. are still valuable.

WITMER HELEN LELAND editor

Psychiatric interviews with children. Cambridge Mass. Harvard University Press, 1946 443 p illus. 26 cm. $5 00. 3957

Note The 10 case records reproduced in this book were selected as representative of the principles by which recognized therapists have effectively dealt with difficulties that are typically present in child guidance work. They show in detail what went on between therapist and patient and are preceded by the individual therapist's own analysis of the main factors operative in the cases and the methods and objectives of treatment. In addition to the therapists' comments, Dr. Witmer gives a description of the general content of psychotherapy in child guidance clinics and shows how the principles have been applied in these cases. The contributing therapists were Frederick H. Allen, Phyllis Blanchard, Lydia N. G. Dawes, Hyman S. Lippman, Martha W MacDonald, H. B. Mayle, Beata Rank, and Robert A. Young.

PSYCHOANALYSIS MEDICAL HYPNOSIS AND PSYCHOTHERAPY

ALEXANDER, FRANZ

Fundamentals of psychoanalysis. New York W W Norton & Company Inc., 1948 312 p. 22 cm. $5 00 3958

Contents. The position of psychoanalysis in medicine. The nature of psychological understanding. The basic principles of psychodynamics. The concept of sexuality. The functions of the ego and its failures. Sociological considerations. The psychology of dreaming. Unconscious factors in wit and aesthetic appeal. Psychopathology The principles of psychoanalytic therapy Index.

Note A relatively concise presentation of current psychoanalytical concepts. It has been developed from lectures given by the author in an introductory course at the Chicago Institute of Psychoanalysis, and it is so presented as to be clear not only to students but to lay readers as well.

ALEXANDER FRANZ

Psychoanalysis and psychotherapy devel opments in theory technique, and training. New York W W Norton & Company Inc. 1956 299 p. 22 cm. $5.50. 3959

Contents Psychoanalysis in Western culture. Development of the theory of psychoanalytic treatment. Some earlier modifications of technique Later developments in theory and technique. Two forms of regression and their therapeutic implications. Technical problems concerning the corrective revision of pathogenic conflicts. Some controversial issues. Psychoanalysis and psychotherapy Teaching of psychoanalysis. Opinions of contemporary teachers in psychiatry Discussion of prevailing practices and views. Summary and future outlook. Bibliography Index.

Note In this book the Director of the Chicago Institute for Psychoanalysis restates his views on relationships between psychoanalysis and psychotherapy, or to be more precise the relationships between classical psychoanalysis and psychoanalytical-oriented psychotherapy. Also included are apt discussions of developments in psychotherapeutic techniques that fit into this movement. The chapter on the teaching of psychoanalysis deals specifically with problems and needs in the training of psychoanalysts, and the residency training of psychiatrists. The chapter entitled, "Opinions of contemporary teachers in psychiatry" quotes the opinions of 30 eminent psychiatrists regarding the teaching of psychoanalysis to psychiatrists. The book is a landmark in the movement toward wider application of psychoanalysis and psychotherapeutic techniques directed toward the reaching of a larger number of patients. The bibliography cites 84 books and articles bearing on the problems discussed in the book.

ALEXANDER, FRANZ AND OTHERS

Psychoanalytic therapy principles and application by Franz Alexander and others. New York The Ronald Press Company 1946 353 p. 22 cm $5.50 3960

Contents: Part I, Principles of psychoanalytic therapy: The scope of psychotherapy. The development of psychoanalytic therapy. The principle of flexibility. The principle of corrective emotional experience. The transference phenomenon. Indications for therapy. Planning psychotherapy. The dynamics of the therapeutic process. Part II, Application of psychoanalytic therapy: Efficacy of brief contact. Emotional readjustment in supportive therapy. Control of the transference relationship. Analysis of character disturbance. Alleviation of rigid standards. Corrective emotional experience through rapport. Variations in goal and technique. The use of brief psychotherapy in war neuroses. Conclusions and outlook. Selected reading list. Index

Note The introductory chapters of this work constitute a concise account of the evolution of psychotherapy through the years, leading to the development of Freud's "transference neurosis. This latter principle, considerably expanded and refined in recent years, is shown throughout the remainder of the book to be the dominant feature of modern therapy Stress is laid on the importance of flexibility in all procedural aspects of treatment, and some 20 case histories are included in moderate detail to illustrate the principles set forth. Though not difficult reading, the book is directed toward a more specialized public than the layman and should be of greatest value and interest to students and professional workers in the various psychiatric areas.

ALEXANDER, FRANZ, AND HELEN ROSS, editors

20 years of psychoanalysis, a symposium in celebration of the twentieth anniversary of the Chicago Institute for Psychoanalysis New York W W Norton & Company, Inc., 1953 308 p 21 cm $5 00 3961

Contents Part I, Twenty years of psychoanalysis A review of two decades, by F Alexander. The place of psychoanalysis in medicine, by A. Gregg. The impact of psychoanalysis on training in psychiatry by M. Levine. Present trends in psychoanalytic training, by M Grotjahn. Psychoanalysis as a basic science, by L. S. Kubie. Psychoanalysis and the biological sciences, by I. A. Mirsky Psychoanalysis and social science, by T Parsons. Part II, Training and research at the Chicago Institute for psychoanalysis. Psychoanalytic training, by G J Mohr Psychoanalytic therapy by A. M. Johnson. Psychoanalytic psychology by G. Piers. Psychosomatic research, by T S. Szasz. Publications, 1932 1952 Faculty 1952

Note The twentieth anniversary of the Chicago Institute for Psychoanalysis was the occasion for a review of developments in psychoanalysis during two decades, of the impress of psychoanalysis on other sciences, and of the activities of the Chicago Institute of Psychoanalysis in training and research during the period 1932 1952 The authors and titles of the papers in which this survey was embodied are given above. Five of the papers are accompanied by discussions. The list of Publications 1932–1952 includes all the publications, individual and collective, of members of the staff of the Chicago Institute for Psychoanalysis during the period of their association with the Institute.

BACH, GEORGE R

Intensive group psychotherapy New York The Ronald Press Company, 1954 446 p 22 cm. $6 00 3962

Contents Part I, Clinical techniques Introductory orientation to group psychotherapy Diagnosis and selection of therapy group members. Preparation and introduction of new patients. Management of early resistance Combining individual and group sessions. Media for vehicles and themes of group communication. Spontaneous discussions—facts relating to personal history Spontaneous activities—advising and socializing. Clinically instigated projective communications—dreams and drawings. Impromptu role playing. Group awareness—reaction and self-regulation. Observations of therapeutic growth processes. Overt aspects of the therapist's role. Part II, Therapeutic effects Analysis of contact operations. Ego growth and individual self-differentiation. Developmental phases in the therapeutic growth process. Resistance against group pressure. Part III Factors of group dynamics in the therapeutic processes Models and concepts of group life. Application of group dynamic principles. Clinical significance of group tension. Group tensions raised by leaders and by isolates. Subgrouping and majority consensus. Bibliography Index of names Index of subjects.

Note This book is based on extensive experience in both individual psychotherapy and group psychotherapy and is addressed to practicing psychologists. During his postgraduate study the author was associated with the late Kurt Lewin, and the book reflects the influence of Lewin and his school in the integration of psychoanalytic theory and group dynamics. The techniques used by the author with two groups in attempting to reach deep levels of psychotherapy are discussed in terms of this orientation. Methods and effects on patients are described in detail with due attention to the role of the therapist. The functions of subgroups are discussed in one chapter Literature references are given.

BENDER, LAURETTA

Child psychiatric techniques diagnostic and therapeutic approach to normal and abnormal development through patterned, expressive, and group behavior Springfield, Ill., Charles C Thomas, 1952 335 p. illus. (part col'd) 26 cm $8 50 3963

Contents Techniques in child psychiatry—a survey Form as a principle in the play of children. Form principles in the abstract drawings and games of children. Genesis and maturation in visual motor gestalten. Deviations in visual motor gestalten in children. Theories of art and its relation to the psychology and psychopathology of childhood. Abstract art as an expression of human problems. The drawing of a man by children with chronic encephalitis. The art of high grade mental defective children depicting their struggle with emotional disorganization and their primitive perceptual experiences. Boats in the art and fantasy of children. Animals in the art and fantasy of children. Group activities on a children's ward as methods of psychotherapy The use of plastic art in psychotherapy Clay modeling as a projective technique in child psychiatry Puppet shows as a psychotherapeutic method. Creative dance. Special school room attitudes and activities for the problem child. The therapy of a child. The art of children and the problems of modern art. Bibliography Name index. Subject index.

—— Aggression, hostility and anxiety in children Springfield, Ill Charles C Thomas, 1953 184 p illus. 26 cm. $5 50 3964

Contents Studies on aggression in children. Children's attitude toward death. Children preoccupied with suicide. Children with homicidal aggression. Firesetting in children. Genesis of hostility in children. Anxiety in disturbed children. Bibliography Subject index. Name index.

—— A dynamic psychopathology of childhood. Springfield Ill. Charles C Thomas, 1954 275 p illus. 26 cm. $7.50 3965

Contents. The psychology of the development of language and the symbol. Hallucinations in children. Imaginary companions. Internalization of fantasy objects in the development of children. Impulsions, compulsions and obsessions. Sexual expression of identification conflicts. Children's reaction to death in the family Psychoanalytic remarks on Alice in Wonderland and Lewis Carroll. Comic books and the ideology of children. Children's reactions to art. Bibliography Index.

—— Psychopathology of children with organic brain disorders. Springfield, Ill. Charles C Thomas 1956 151 p illus. 26 cm. $5 50 3966

Contents The psychological implications of motor development. The psychology of children with organic disturbances of the cerebellum. Psychiatric problems in the organic brain disorders of children. Personality problems of the child with head injury. The psychological Body image problems of the brain-damaged child. The psychological problems and their management in the brain-damaged child—a summary Bibliography Author index. Subject index.

Note. These four books comprise the series "Bellevue Studies of Child Psychiatry" so named because it is based largely on the clinical experience of the Psychiatric Division of Bellevue Hospital Dr Bender is Senior Psychiatrist in charge of the Children's Service of the Psychiatric Division of Bellevue Hospital. The authors are Dr Bender Paul Schilder and other psychiatrists now or formerly associated with the Psychiatric Division of this hospital. The chapters in the books are essentially independent studies except for their common origin and common subject. Most of them appeared first in professional journals. However they have not been merely reprinted, but have been revised and sometimes augmented. In some instances, a chapter consists of an edited synthesis of several papers. The series is a combination of clinical reports and illuminated thought.

BENEDEK, THERESE

Insight and personality adjustment, a study of the psychological effects of war Revised printing New York The Ronald Press Company 1948 305 p 22 cm. $4 50. 3967

Contents Part I, The individual The development to love. Marriage. Psychodynamics of separation. Part II, The soldier Adjustment in the service—the double orientation. Development after

ences of army life. The emotional situation at returning. Failures of adaptation after returning. Part III, The family in war: Mothers and sons. Fathers and sons. Siblings and the veterans. Soldiers and wives—during separation. Veterans and wives—marital readjustment after war-time separation. Mourning for the soldier. The disabled veteran. Parenthood in war. Fathers and children. Part IV Men, women—the changing sexual mores: Adolescents in war-time. The background of the woman of today. Women in the armed forces. The struggle between the sexes. Index.

Note: A book with World War [illegible] in its background. It is written mainly as [illegible] guide for social workers, psychologists, vocational guidance counselors, teachers, and physicians, [illegible] professional duties include those of helping others, particularly soldiers and recently returned veterans, to achieve harmonious emotional balance. The work, however, is so simply and clearly written that it can be readily understood and used to advantage by the average individual concerned with his own mental health. The author is associated with the Institute of Psychoanalysis of Chicago.

BRENMAN MARGARET AND MERTON M GILL

Hypnotherapy a survey of the literature. With appended case reports and an experimental study New York International Universities Press, 1947 276 p. 24 cm. (The Menninger Foundation monograph series. No. 5) $4.50. 3968

Contents Introduction The historical development of hypnotherapy Methods of inducing and terminating hypnosis. Susceptibility to hypnosis. Therapeutic applications. The theory of hypnosis. Summary and statement of problems. Four case studies. An experimental [illegible] Bibliography to Hypnotherapy—a survey of literature. Bibliography to Four case studies. Bibliography to An experimental [illegible] Index

Note The first part of this work is [illegible] survey and digest of the international literature pertaining to the use of hypnotic techniques in psychotherapy It was published separately in 1944 by the Josiah Macy Jr., Foundation and distributed to psychiatrists and psychologists in the United States armed forces. The four case studies illustrate the use of hypnosis in four various types of mental disorders. These cases have been published separately in periodicals. The third part contains [illegible] hitherto unpublished report of an investigation conducted by the senior author into the effects of the "[illegible] system" created in hypnosis upon behavior in the normal state. The experiments described were conducted and the report was prepared as [illegible] thesis in partial fulfillment of the requirements for [illegible] Ph D degree at the University of Kansas.

BRENNER, CHARLES

An elementary textbook of psychoanalysis. New York International Universities Press, Inc. 1955 219 p. 22 cm. $4 00 3969

Contents Two fundamental hypotheses. The drives. The psychic apparatus Parapraxes and wit. Dreams Psychopathology References. Index

Note A well-written, brief account of modern psychoanalytic theory It had its origin in courses given by the author to psychiatric residents in [illegible] large hospital and to graduate students at Yale University Medical School, and is directed to such readers as psychologists social workers, and physicians rather than laymen In addition to explaining the fundamental concepts of contemporary psychoanalysis, [illegible] outlines their development, particularly in the writings of Freud, and provides [illegible] guide to the basic books in English

BROWER, DANIEL AND LAWRENCE E ABT editors

Progress in clinical psychology Volume II. New York Grune & Stratton, 1956. 364 p. 23 cm. $7 75 3970

Contents Part [illegible] Introduction. The development of clinical psychology [illegible] Interactional approach, by L. E. Abt. Part II, Assessment and appraisal processes Introduction. Rorschach method in review, by Z. A. Piotrowski. Thematic apperception and fantasy tests, by F Wyatt, and J B Veroff. Validity of sentence completion tests and human figure drawings, by H. Zimmer Part III, Psychotherapeutic and counseling processes *Introduction. Psychoanalytic* techniques, by K. Eissler. Client-centered therapy by J. Seeman. Current trends in group psychotherapy by G. R. Bach. Reading and other subject disabilities, by A. J Harris. Diagnosis and treatment of speech disorders, by O. W Gens. Play therapy and related techniques, by A. G. Woltmann. Music therapy by E. Podolsky The use of art in therapy by R. E. Hartley and E. L. Gondor. Bibliotherapy, by D. Brower. Progress in psychodrama, by J L. Moreno and L. Yablonsky Hypnosis and clinical psychology by J. M. Schneck. Current trends in research on dreams, by C. S. Hall. Part IV Special applications of clinical psychology: Introduction. Clinical psychology in correctional institutions, by R. J. Corsini. Progress in rehabilitation of the physically handicapped, by M. A. Seidenfeld. Administrative aspects of clinical psychology in state institutions, by M. G. Kott. Part [illegible] Approaches to clinical psychology: Introduction. Neuropsychology of higher processes Cerebral damage and visual perception, by W S. Battersby Statistics in clinical research, by L. S. Kogan. Research in counseling and psychotherapeutic processes, by I. M. Mensh. Index.

Note. The second volume of [illegible] continuing series in [illegible] hich new volumes [illegible] appear at intervals of "every second or third year. The purpose is to record progress in the field of clinical psychology and the method is to publish review articles written by experts on various areas of the field. The articles contained in the second volume are listed by title and author above. Each article includes an extensive list of references to the literature. Volume one of the series was published in two parts in 1952 and [illegible] still in print.

BYCHOWSKI, GUSTAV AND J LOUISE DESPERT editors

Specialized techniques in psychotherapy New York Basic Books, Inc., 1952 371 p. illus. 22 cm. $5.00 3971

Contents (abridged) Narcodiagnosis and narcotherapy by P H. Hoch and P Polatin. Hypnoanalysis as [illegible] psychotherapeutic technique, by R. M. Lindner. The use of the telepathy hypothesis in psychotherapy by J Ehrenwald. Free painting as an auxiliary technique in psychoanalysis, by M. M. Stern. Group therapy as [illegible] specialized psychotherapeutic technique, by H. Spotnitz. Simultaneous treatment of both parents and their child, by B. Mittelmann. Adaptation of the psychoanalytic technique for the treatment of young children with atypical development, by B. Rank. Treatment in child schizophrenia—presentation of [illegible] case, by J L. Despert. Notes on the development of treatment of schizophrenics by psychoanalytic psychotherapy by F Fromm-Reichmann. Psychotherapy with the crippled and disabled, by G. Bychowski. Dynamic therapy for the stutterer by I. P Glauber. Psychotherapeutics of alcoholism, by R. Fox. Some aspects of treatment of sex offenders, by D. Abrahamsen. Psychotherapeutic techniques in psychosomatic medicine, by M Sperling. Differential psychotherapy of borderline states, by V W Eisenstein. The emergency psychotherapy of depression, by L. Bellak. Rorschach perceptanalytic measurement of personality changes during and after intensive psychoanalytically oriented psychotherapy by Z. Piotrowski and M. Schreiber Index.

Note A collection of original papers written by prominent psychiatrists, psychoanalysts and psychologists associated with such organizations as the New York State Psychiatric Institute, New York University-Bellevue Medical Center and the College of Physicians and Surgeons of Columbia University Most of the papers are concise descriptions of recently developed techniques or of the applications of psychoanalytic techniques to the treatment of special groups such as sex offenders. Literature references are included with each paper The viewpoint is Freudian.

COLBY KENNETH MARK

A primer for psychotherapists. New York The Ronald Press Company 1951 167 p. 21 cm. $3.25 3972

Contents Psychotherapy—its aim and its basic theory The patient. The therapist. Time and space conditions for the interview Behavior during the interview Beginning the therapy The middle course of therapy Ending the therapy Schizophrenics. Index of subjects. Index of names.

Note. A small book presenting in simple and readable form the elementary principles of psychotherapy Although especially intended for beginners in the field of psychotherapy its contents should prove of interest and value to all those with professional duties in this field—interns in psychiatric hospitals and clinics, practicing psychiatrists, clinical psychologists, and psychiatric social workers. Information is provided on such matters as office arrangement, how to begin and end the interview how to determine whether the patient is suitable for psychotherapy and behavior during the interview. Much of the text is illustrated by actual quota-

tions from the records of the author's own practice. Except for the last chapter on schizophrenias, the book is directed to the treatment of neuroses.

DOLLARD, JOHN, AND OTHERS

Steps in psychotherapy study of a case of sex fear conflict. By John Dollard, Frank Auld, Jr, Alice Marsden White. Dael Wolfle, editor New York The Macmillan Company, *1953* 222 p 21 cm $4 50 3973

Contents (abridged) Brief psychotherapy—its aims and strategy The interactive episode—a tentative way of dividing psychotherapy into natural units for scientific description. Notes on the supervision of psychotherapy The case of Mrs. B—the patient's defensive story—therapy focused on relationship to husband—the patient struggles with sex fear conflict. *Strategy—interactive episodes in* the case of Mrs. B Tactics—examples of therapeutic techniques in this case. The psychological tests given to Mrs. B. The test reports. Bibliography Glossary Index.

Note Although much of this important book is devoted to the history of a single case, *it is an exposition of the technique of* psychotherapy applicable to selected cases of neurosis which can be carried to completion in about 6 to 30 hours of contact between patient and the therapist. The essentials of the method, which is based on modern learning theory are outlined briefly then the record *of* a specific case carried out by an experienced therapist under the supervision of psychiatrist with more training in psychoanalysis than the therapist *is presented in detail with* transcripts of the 17 interviews bet een therapist and patient and with the supervisor's running comments on the therapist's conduct of the case. One interview is presented verbatim the others are somewhat condensed. After her second interview the patient in this *case was given a battery of personality tests by a* clinical psychologist. Transcripts of the completed tests and two analyses by clinical psychologists of the results are included. The tests are discussed from the standpoint of their usefulness in psychotherapy The book is of interest to clinical psychologists and *psychiatrists as an explicit exposition of the author's technique of* brief psychotherapy and to lay readers as a detailed account of a particular case of psychoanalysis.

DORCUS ROY M, editor

Hypnosis and its therapeutic applications New York The Blakiston Division Mc Graw Hill Book Company, Inc., *1956* 23 cm. $7 50 3974

Contents Theories of hypnosis, by F A. Pattie, Methods of induction susceptibility of subjects, and criteria of hypnosis, by F A. Pattie, Control of memory and perceptive functions by hypnosis, by F J Kirkner Physiological effects of hypnotic stimulation by T R. Sarbin The influence of hypnosis on learning and habit modifying, by R. M Dorcus. The genuineness of some hypnotic phenomena, by F A. Pattie. The use of hypnosis as diagnostic tool, by R. M Dorcus Symptom control by direct suggestion including the control of pain, by M. V Kline. *Hypnosis in supportive therapy* by G. W Shaffer *Hypnoanalysis*—methods and techniques, by H. Lindner Hypnosis in general hospital service, by F J Kirkner Hypnosis in dentistry *by G F Kuehner Index.*

Note A graduate-level textbook developed in courses given by the authors in the Division of Postgraduate Medical Education of *the University* of California at Los Angeles. The over-all approach to hypnosis *is* an eclectic one, and the papers deal separately with various theoretical experimental and therapeutic aspects as well as ith the use of hypnosis to alleviate pain in dentistry *Essentially* the chapters are independent lectures or papers. Each is paged separately and has its own bibliography This feature *facilitates* the use of the book for reference by practicing psychologists and psychoanalysts.

FEDERN, PAUL

Ego psychology and the psychoses Edited with an introduction by Edoardo Weiss New York Basic Books Inc 1952 375 p 24 cm. $6 00 3975

Contents. Introduction. Part I, On ego psychology Some variations in ego feeling. Narcissism in the structure of the ego. Ego feeling in dreams. The awakening of the ego in dreams. A dream *under general anesthesia.* Part II, On the treatment of psychoses. Psychoanalysis of psychoses. Principles of psychotherapy in latent schizophrenia. Mental hygiene of the ego in schizophrenia. *Sexual* certainty Ego psychological aspect of schizophrenia. The ego in schizophrenia. Depersonalization. Ego response to pain. Manic-depressive psychosis. Part III, Narcissism The ego as subject and object in narcissism. On the distinction between healthy and pathological narcissism. *Writings of Paul Federn.* Index.

Note The author of the papers in this book was among the earliest followers of Sigmund Freud, and in 1924 when Freud retired he succeeded to Freud's practice in Vienna. He came to the United States of America in 1938 and practiced and taught here until his death in May 1950. Some of the papers were written in English and are here printed for the first time. Notable in the group is a series of three lectures on schizophrenia originally delivered in June, 1949 at Winter's Veterans Hospital in Topeka, Kansas.

FISHER, VIVIAN EZRA

The meaning and practice of psychotherapy New York The Macmillan Company, 1950 411 *p* 22 cm $5 00 *3976*

Contents Part I A general orientation: Concerning approach *and procedure. Part II, Some psychotic and closely related disorders* Early schizophrenic reactions. Manic-depressive reactions. Early paranoid trends. Involutional-melancholic reactions. Psychopathic reactions. Hypochondriacal reactions. Part III, Psychoneurotic reactions Neurasthenic neurosis. Neurotic anxiety reactions. Some anxiety-equivalent reactions. Anxiety hysteria. *Simple phobias.* Obsessive-compulsive reactions. Conversion hysteria. Mental regression. Reactive depression. Part IV Some maladjustive psychosocial tendencies and reactions: Suicidal tendencies. Compulsive drinking. Symptomatic feelings of inferiority Homosexual tendencies. *Psychical impotence.* Sexual frigidity *Marital discord.* Selected readings. Glossary Index.

Note. The special value of this book lies in its detailed account of psychotherapeutic procedures. The author has drawn from his 20 years of practice cases hich are typical of the various classes of psychotic and psychoneurotic disorders *and has shown* how he treated them and what the outcome of the treatment was. The *cases* are a fair cross-section of what psychotherapist encounters in practice, and they include even such everyday problems as marital discord. Although the author's viewpoint is essentially Freudian, his *therapeutic methods are also tempered* by common sense. The book is potentially of interest not only to psychoanalysts and to medical *graduates preparing for this specialty,* but also to general practitioners who encounter neurotic patients in their general practice.

FROMM REICHMANN *FRIEDA*

Principles of *intensive* psychotherapy Chicago University of Chicago Press 1950, *146* p. 21 cm. (*The University of Chicago* Committee on Publications in *Biology* and Medicine) *$3 75* *3977*

Contents Part I, The psychiatrist—personal and professional requirements. Insight into the emotional aspects of the doctor-patient relationship. The psychiatrist's part in the doctor-patient relationship. The psychiatrist's attitude *toward cultural and ethical values* in its relatedness to the goals of *psychotherapy* Considerations of the psychiatrist in the establishment of the treatment situation. Part II, The psychotherapeutic process—the patient *and the* therapist. The initial interview Introductory remarks on the psychiatrist. The initial interview. Physical therapeutic procedure. *Associations,* marginal thoughts, physical sensations, and their usage in psychotherapy *Interpretation* and its application How to begin and how to terminate psychotherapeutic interview Termination of treatment. *Part III, Adjuncts to intensive* psychotherapy The attitude of the psychiatrist toward intercurrent *events in the lives of the patient* and of the therapist. Contacts with relatives. Reference list. Index.

Note A standard ork on the psychotherapy of severe cases. A principal theme is the importance of the *interpersonal relationship* between psychiatrist and patient. After exploring the phase of psychotherapy *in the first part,* the author then turns to more specific aspects of interviewing and finally she discusses the importance of the psychiatrist attitude towards such disturbing events in the life of the patient as the death of close relatives, divorce, and severe illness. Also, she discusses *briefly the effects of such events* on the psychotherapeutic process, hen they occur. *The book is addressed* not to the patient but to the psychiatrist, *The book is addressed* primarily to practicing psychiatrists.

Fromm-Reichmann, Frieda, and J. L. Moreno editors

Progress in psychotherapy 1956 New York Grune & Stratton, 1956 352 p. 23 cm. $8.50. 3978

Contents (abridged) Part I, Introduction. Notes on the history and philosophy of psychotherapy by F. Fromm-Reichmann. Part II, Principles of psychotherapy. Philosophy of the third psychiatric revolution, with special emphasis on group psychotherapy and psychodrama, by J. L. Moreno. Some unsolved problems of psychoanalytic psychotherapy by L. S. Kubie. Part III, Schools of psychotherapy. Adlerian psychotherapy by R. Dreikurs. Jung's psychologic concepts, by J. Wheelwright. Existential analysis and psychotherapy by L. Binswanger. The whole patient in therapy (Horney) by A. R. Martin. Client-centered therapy—a current view, by C. R. Rogers. Current practices in hypnotherapy by L. R. Wolberg. Psychoanalysis and group psychotherapy by I. Ziferstein and M. Grotjahn. Processes and treatment methods for psychotic children, by O. Shugart. Part IV. Present psychotherapeutic developments in European and South American countries. Part V. Summary. Psychotherapy, present and future, by J. L. Moreno. Author index. Subject index.

Note: Papers presented at the first organized meeting of the Section on Psychotherapy of the American Psychiatric Association in May 1956, were the nucleus of this volume. In addition to these papers, the volume contains contributed papers on the current status of psychotherapy in various European and South American countries and [illegible] contributed paper summarizing the volume and surveying the present and future of psychotherapy written by J. L. Moreno. Altogether, there are 31 papers and discussions of four of them. A selection of the papers is listed by title and author in the abr. contents.

French, Thomas M

The integration of behavior Chicago University of Chicago Press, 1952–54 2 v illus. 21 cm. Vol. 1 $5.00 vol. 2 $6.50. 3979

Contents (abridged) Volume I. Basic postulates. Section I, Our problem and our method. Section II, Systematic analysis of common-sense assumptions. Patterns of motivation. Analysis of the goal-seeking mechanism. Quantitative analysis of the integrative function. Dreams, hopes, wishes, and the unifying effect of an integrative field. Hypotheses and facts. Section III, Integration and disintegration of purposive behavior. Dreams and rational behavior. Case report. Interpretations. A clinical analysis of purposive behavior. Freud's theory of personality structure. Section IV. Effects of frustration. Reactions to obstacles. The nature and effects of frustration. Mitigation of frustration effects. The need for activity and stimulation. Theories about the drives and about play. Experimental studies of frustration. Section V. Present and past. Present and past. Report of further therapeutic sessions. Interpretive comments. Two dream sequences compared. Changing patterns of hopes and fears. The learning process in psychoanalytic therapy. Section VI, The unifying influence of sleep. Section VII, Reconstruction of the integrative process. Appendix. Bibliography. Author index. Subject index. Volume II, The integrative process in dreams. Section I, Cognitive structure. The pattern of dream organization. Reconstructing dream cognitive structure. Section II, Pattern of dream organization. Our case report continued. Checks on our reconstructions. Section III, Historical background of the water symbolism. Systematic interpretation of symbols. Historical analysis of [illegible] dream. Interpretation of the [illegible] [illegible] fantasy. Section IV. Other recurring patterns. Section V. Physiological pattern and interpersonal field. Hand and tool. Cognitive aspects of social integration. Functional significance of [illegible] symbols. Complementary substitution mechanisms. Section VI, The span of the interpersonal field. Dreams and rational behavior. Activating drama and reintegration of pattern. Consequences of inadequate integrative capacity. Expansion and shrinkage of goal in social behavior. Internal drama disintegrating reorganization of an interpersonal field. The present and the pattern of dream organization. Section VII, Pattern of the water dreams. Section VIII, Attempts at internal mastery. Section IX, Survey of relations between dream patterns. A survey of interrelations between physiological patterns. Recapitulation and preview. Appendix. Bibliography. Author index. Subject index. Index of dreams.

Note: A detailed analysis of the thoughts and acts of one person during two years of analytic treatment. The volumes are the first two of its projected volumes on the subject of human behavior the objects of which are to analyze human behavior into elementary reaction patterns and then to show how these elementary reaction patterns are combined and co-ordinated. The author assumes as working hypotheses that rational behavior, neuroses, and dreams have much in common, and that in irrational behavior are found fragments of the integrative mechanism which account for rational behavior. In the first volume the author starts with the commonsense notions of motivation and insight, constructs a picture of the integrative apparatus and how it works, then checks this picture against the clinical data of the case history. In the second volume the author studies intensively the integrative process in dreams and shows that dreams have logical structures and that the integrative patterns in different dreams of the same person are related to one another and to the structure of the dreamer's personality. A third volume is scheduled for publication in 1957.

Harrower, Molly

Appraising personality the use of psychological tests in the practice of medicine. New York W W Norton & Company Inc., 1952 197 p. illus. 24 cm $1.89 3980

Contents: Part one. What does the clinical psychologist do? Tools which the clinical psychologist uses. Some unnecessary misunderstandings. Part two. The creation of miniature psychological worlds (Rorschach inkblot test). Contrasting psychological worlds (Rorschach inkblot test). There's more to it than the I.Q. (Wechsler-Bellevue intelligence scale). Projection via the pencil point (figure drawings and most unpleasant concept test). What's in a face (Szondi test). Psychological barometers (Szondi test). The self in sentences (Miale-Holsopple sentence completion test). Part three. Which twin has epilepsy? Are psychogenic factors involved? Can this girl be helped by psychotherapy? Schizophrenia or the adolescent struggle? Fate and personality. Concluding remarks. Suggested reading. Index.

Note: An interesting, somewhat informal presentation of the methods of clinical psychology and of their uses in medicine. It describes the scope of clinical psychology and its techniques, especially the standard tests such as the Rorschach. The explanations are cast in the form of conversations between psychologist and physician. In the third part, several case histories are included as concrete illustrations of co-operation between physicians and clinical psychologists in the treatment of patients. The author is an eminent psychologist. The book is directed primarily to graduate practitioners of medicine.

Heron, William T

Clinical applications of suggestion and hypnosis. Second edition. Springfield, Ill. Charles C Thomas, 1953 137 p. 20 cm. $3 75 3981

Contents: Introduction. Suggestion and suggestibility. The professional use of hypnosis. How to approach your patient. Degrees of the hypnotic state. Methods of induction. Posthypnotic suggestions. Precautions in the use of hypnosis. Group hypnosis. Case histories. Bibliography. Index.

Note: A practical manual directed to members of such professions as medicine, dentistry, and psychology. It provides a relatively brief but nevertheless useful introduction to the uses of suggestion and hypnosis in these professions. The chapter on suggestion and suggestibility deals mainly with the use of suggestion when the patient is in the state of complete wakefulness. The principles of controlling by suggestion are then applied to the induction of the hypnotic state. Methods of induction which the author has found practical and effective are explicitly described. The case histories included all illustrate the use of hypnosis in dentistry but the discussions of related information and descriptions of technique apply as well to uses in other professions, particularly clinical medicine and psychotherapy. The bibliography is selected and annotated.

Hill, Lewis B

Psychotherapeutic intervention in schizophrenia. Chicago University of Chicago Press 1955 216 p. 23 cm. (The University of Chicago Committee on Publications in Biology and Medicine Emmet B Bay and others) $5.00. 3982

Contents. On becoming a psychotherapist. What is schizophrenia? Acute schizophrenia—the experience and the treatment. On being a person prone to schizophrenic episodes. On infancy—the period of becoming a person. The mothers of schizophrenics. On the infancy of the potential schizophrenic. Psychotherapy—the patient's contribution—the therapist's contribution.

Note. The author, a member of the faculty of the Johns Hopkins School of Medicine, has based this book on his many years of experience in the practice of psychotherapy. The volume is addressed to readers who are familiar with the picture of schizophrenia and are in contact with schizophrenic patients, such as medical graduates who are preparing for the specialty of psychiatry. The book contains many penetrating observations on schizophrenia such as the following: "Rather than predicate theoretical brain disorder which permits random, meaningless associations, I would guess that schizophrenic processes of association are blocked according to their explicit interdictions against the occurrence of specific categories of thought. . . . I have come to feel that schizophrenics, like everyone else, try to make sense, try to express their sense of the nature of things."

HINCKLEY, ROBERT GEORGE, AND LYDIA HERMANN

Group treatment in psychotherapy: a report of experience. Minneapolis: University of Minnesota Press, 1951. 136 p. 24 cm. $3.00 3983

Contents. The origins and aims of this study. The functions of the group. The function of the therapist. The role of the patient. Dynamics of group movement. Functional mechanics in the group. Highlights from a group. Appendix—case load. Index.

Note. A study of group therapy in practice. It is based on extensive experience in the Students' Mental Hygiene Clinic of the University of Minnesota. The presentation is designed to illustrate practical techniques in group therapy and to indicate both the limitations and potentialities of this type of treatment. The text includes numerous transcripts of the conversations of groups undergoing therapy. The authors conclude that ". . . well planned and utilized group therapy is a very valuable method and tool. It differs from individual treatment, but discreetly and skillfully employed it can be well used for many patients as the complete mode of treatment."

HORNEY, KAREN

New ways in psychoanalysis. New York: W. W. Norton & Company, Inc., 1939. 313 p. 22 cm. $3.95 3984

Contents. Introduction. Fundamentals of psychoanalysis. Some general premises of Freud's thinking. Libido theory. Oedipus complex. Concept of narcissism. Feminine psychology. Death instinct. Emphasis on childhood. Concept of transference. Culture and neuroses. The "ego" and the "id." Anxiety. Concept of the "super-ego." Neurotic guilt feelings. Masochistic phenomena. Psychoanalytic therapy. Index.

Note. This book represents the outcome of the author's dissatisfaction with therapeutic results obtained by accepted psychoanalytical therapy, her doubts as to the validity of some of Freud's concepts, and consequent elimination of the debatable elements and the development of her own theories. Psychoanalysis, she believes, should outgrow the limitations set by its being an instinctivistic and a genetic psychology and should center its attention on actual character structure. The book is directed to specialists in this field, but also to all other persons seriously interested in applying psychoanalysis to education, social work, and anthropology.

HORNEY, KAREN

Self analysis. New York: W. W. Norton & Company, Inc., 1942. 309 p. 22 cm. $3.95 3985

Contents. Introduction. Feasibility and desirability of self analysis. The driving forces in neuroses. Stages of psychoanalytic understanding. The patient's share in the psychoanalytic process. The analyst's share in the psychoanalytic process. Occasional self analysis. Systematic self-analysis: preliminaries. Systematic self analysis of a morbid dependency. Spirit and rules of systematic self-analysis. Dealing with resistances. Limitations of self-analysis. Index.

Note. Professional analytical help cannot reach everyone whom it is capable of benefiting; for that reason the question of the extent to which the individual can psychoanalyze himself becomes important. The author discusses the various aspects of the potentialities, as well as the limitations, of self-analysis.

HUNT, WILLIAM A.

The clinical psychologist. Springfield, Ill.: Charles C Thomas, 1956. 206 p. 21 cm. $5.50. 3986

Contents. Part I, What is a clinical psychologist? Part II, How the clinical psychologist came to be. Part III, The problems and future of clinical psychology. References.

Note. Written by a psychologist, he is Chairman of the Department of Psychology of Northwestern University, this book is an expert examination of the development of clinical psychology and of its relationships to medicine, particularly to psychiatry. It is a readable book that throws much light on the current status of clinical psychology in the United States of America and at the same time offers sound suggestions for the resolving of tensions between clinical psychologists who usually have no medical training and psychiatrists with medical training. Its contents were originally delivered as the Thomas William Salmon lectures for 1954 at Northwestern University.

INGHAM, HARRINGTON V., AND LEONORE R. LOVE

The process of psychotherapy. New York: McGraw Hill Book Company, Inc., 1954. 270 p. 23 cm. $5.50 3987

Contents. The place of psychotherapy in our society. The psychotherapist. The dynamic aspects of psychotherapy. The rational part of the relationship—rapport. The irrational part of the relationship—transference. The therapist's use of the relationship. The patient's emotional response. The therapist's procedure in insight development. The patient's procedures in insight development. Optional methods in psychotherapy. Planning therapy—evaluation of the patient—organization of treatment. Adjuncts to psychotherapy. Illustration of principles. Index.

Note. A straightforward presentation of the methods of psychotherapy in the treatment of adults on an individual basis. There is little attempt to explain theory, even for purposes of background. Instead, the space is devoted to the relationship between psychotherapist and patient, to the ways in which the therapist uses this relationship to aid the patient, and to other aspects of psychotherapy of interest to patients and potential patients. Two cases are presented in detail, with authors' comments explaining the changing attitudes of the patients and the strategy of the therapists as these are illustrated in the case transcripts. The book is written in a readable style that contains few technical terms. It is suitable for beginning students and educated lay readers.

KLAPMAN, JACOB W.

Group psychotherapy: theory and practice. New York: Grune & Stratton, 1946. 344 p. illus. 23 cm. $4.50 3988

Contents. Part I, Historical and anthropological considerations. Historical. Mental, moral, and cultural origins. Part II, Dynamics. Group transferences and formations—dynamics of therapy. Interrelationship of group and individual psychotherapy. Re-education. Part III, Therapy. Methods of administration. Affective re-education—psychodrama. Affective re-education in the outpatient clinic. Group psychotherapy with "problem children" and their mothers. Group psychotherapy in private psychiatric practice. Affective re-education in the mental hospital. Methods of affective re-education. Orientation re-educational psychotherapy. Ancillaries in group psychotherapy. Bibliography. Index.

Note. An attempt at a summation of current usages in group psychotherapy. It also indicates some guiding, although admittedly tentative, principles for those who contemplate the use of group psychotherapy as a re-educational process—psychiatrists and physicians especially. The therapy of a number of representative groups is depicted. The author draws upon experiences during and after World War II when group psychotherapy was widely, because of the large numbers of military psychiatric casualties, recognized generally as an effective type of psychotherapy.

KROUT, MAURICE H., editor

Psychology, psychiatry and the public interest. Minneapolis: University of Minnesota Press, 1956. 217 p. 22 cm. $4.00. 3989

Contents. Psychology and psychiatry—an introduction to a modern social problem. Psychotherapy and the American public, by M.

land. The roots of psychology and psychiatry, by A. Ellis. Psychology and psychiatry—a problem of identity, by H. Kelger. The psychiatrists' position on the role of psychology in society. The relation of medicine and psychology—a statement by organized psychiatry. The role of the clinical psychologist as presently conceived by the Veterans' Administration Program. A psychiatrist's observations on the education of clinical psychology, by F. E. [illegible]. The relations of psychiatry and psychology to man, by A. [illegible]. The relation... by P. E. Kasten. The psychologists' position on their role in collaborative situations. The psychologist's orientation in the clinical field, by P. W. Hoffman. A basic problem of psychology and psychiatry, by W. [illegible]. The functions of psychology in medical situations, by G. K. Yacorzynski. The psychologist and the psychiatrist in a psychological clinic, by R. M. Collier. Psychology and psychiatry in educational contexts, by F. McKinney. The psychologists' position on their role in independent practice. Can psychologists and psychiatrists share their responsibility to the public? by M. H. Krout. Is there need for psychology in psychotherapy? by L. K. Schwartz. A physician-patient or therapist-client relationship? by C. R. Rogers. Psychotherapeutics, psychological and medical, by H. Rome. Who shall practice psychotherapy? by R. M. Lindner. The work and training of the psychological therapist, by R. May. Evolving standards for practicing psychologists, by A. Ellis. Bibliography. Notes on contributors. Index.

Note: Currently there is considerable controversy in the United States of America as to whether the practice of psychotherapy should be the prerogative of physicians trained in medicine and specializing in psychiatry or whether graduate psychologists who lack training in medicine should also be permitted to practice it. This collection of papers is an attempt to present all sides of the issue. The papers grouped in the first section deal with aspects of the interrelationships of psychologists and psychiatrists working together. The second part consists of the text of a resolution on relations of medicine and psychology approved by the Board of Trustees of the American Medical Association, the Council of the American Psychiatric Association, and the Executive Council of the American Psychoanalytic Association; a letter stating the policy of the U. S. Veterans' Administration; and six papers written by psychiatrists. All of the other papers were written by psychologists.

LAW STANLEY GUY

Therapy through interview New York McGraw Hill Book Company Inc., 1948 313 p. 21 cm. (McGraw Hill series in health science Amos Christie, consulting editor) $5.50 3990

Contents (abridged) The personality of the doctor. Medicine versus psychiatry. The therapeutic situation. Supplementary reading. Index.

Note. This book is intended to aid the general practitioner in the technique of psychiatric interviewing for the treatment of borderline neurotic patients encountered during his general practice work. While psychological and physiological background material is contained throughout the text major emphasis is given to the techniques of the interview. The dialogue method of interview is stressed, and the procedures used are illustrated by a series of composite case histories describing the typical features of common cases of psychoneuroses.

LEWIN BERTRAM DAVID

The psychoanalysis of elation. New York W W Norton & Company Inc. *1950. 200* p. 21 cm. $3.50 3991

Contents Introduction—a psychoanalytic approach to elation. Literary survey of depression and elation. Denial, other defense mechanisms, and the analytic process of cure. Mania and sleep. Addenda to the theory of oral erotism. The oral triad in the elations. Elation and the sense of reality. Bibliography. Index.

Note A study of elation or "pathological happiness." It is written in the terminology of psychoanalysis and is addressed primarily to specialists in that field. The bibliography is comprehensive.

LORAND SÁNDOR

Technique of psychoanalytic therapy New York International Universities Press Inc. 1946 251 p. 22 cm. $4 50 3992

Contents Introduction. Interpretation. Anxieties and phobias. Sexual difficulties in the male. Sexual difficulties in the female. Compulsion neurosis. Character neurosis. Neurotic depression. Dream analysis. Problems of counter transference. Termination. Bibliography. Index.

Note: Based upon an advanced seminar in the technique of psychoanalysis given at the New York Psychoanalytic Institute over a period of years, this book discusses technical procedures and special technical problems of psychoanalytic therapy. The author, who acknowledges his indebtedness to Freud and his associates, draws upon his own experiences as a clinical analyst to illustrate the methods of technique. The bibliography is 11 pages in length.

LORAND SÁNDOR editor

Psychoanalysis today New York International University Press, 1944 404 p. illus. 23 cm. (Medical war books) $6.00 3993

Contents: Preface, by S. Lorand. Foreword, by S. E. Jelliffe. Freud's influence on medicine, by S. Ferenczi. Psychoanalysis and internal medicine, by S. E. Jelliffe. Psychosomatic medicine, by F. Dunbar. Therapeutic approach to psychosomatic problems, by O. S. English. Child analysis, by M. Kris. The early development of conscience in the child, by M. Klein. Child-parent relationship, by C. P. Oberndorf. Prevention of mental disease in childhood, by T. H. Ames. Juvenile delinquency, by I. T. Broadwin. Psychoanalytic social work, by M. E. Kenworthy. Mental hygiene, by J. [illegible]. Development of the ego-psychology, by F. Alexander. Dream mechanisms and interpretations, by Monroe A. Meyer. Sexuality and its role in the neuroses, by A. A. Brill. Hysterias and phobias, by A. Kardiner. Obsessional neuroses, by B. D. Lewin. Character formation, by S. Lorand. Pathological character formation, by E. Glover. War neurosis, by E. Simmel. Neuroses and psychoses, by P. Schilder. Manic-depressive psychoses, by G. Zilboorg. Schizophrenias, by L. E. Hinsie. Organic psychoses, by J. H. W. Van Ophuijsen. The technique of psychoanalytic therapy, by S. Lorand. Psychotherapy and psychoanalysis, by H. A. Bunker. The psychology of religion, by E. Jones. Psychoanalysis and sociology, by H. Hartmann. Problems of crime, by P. Schilder. Approaches to art, by E. Kris. Psychoanalysis and literature, by F. Wittels. Psychoanalysis and anthropology, by G. Róheim.

Note A collection of papers by well known authorities.

MAY ROLLO

The meaning of anxiety New York The Ronald Press Company *1950. 376* p. *22* cm. $5.00. 3994

Contents (abridged) Part I. Modern interpretations of anxiety. Philosophical forerunners to modern theories of anxiety. Anxiety interpreted biologically. Anxiety interpreted psychologically. Anxiety interpreted culturally. Summary and synthesis of theories of anxiety. Part II. Clinical analysis of anxiety. Case studies demonstrating anxiety. Appendix: Anxiety check-lists. Bibliography. Index of names. Index of subjects.

Note. A comprehensive study in which the author examines the various theories of anxiety and finally presents conclusions based partly on a synthesis of this material and partly on his own observations. The first part in which the theories are stated and discussed runs to 214 pages. The remainder of the book is devoted to the analysis of typical cases and to the author's conclusions. The book is written in a lucid style which makes it available to anyone with an elementary knowledge of psychological terms. However the level of treatment and subject content make it of interest to professional clinical psychologists to whom it is actually addressed.

MEEHL PAUL E.

Clinical versus statistical prediction a theoretical analysis and a review of the *evidence*. Minneapolis University of Minnesota Press, 1954 149 p illus. 22 cm. $3.00. 3995

Contents: The problem. Some preliminary distinctions. The rationality of inference from class membership. The special powers of the clinician. The theoretical argument of T. R. Sarbin. The problem of the logical reconstruction of clinical activity. Remarks on clinical intuition. *Empirical* comparisons of clinical and actuarial prediction. General remarks on quantification of clinical material. A final word—unavoidability of statistics. References. Index.

Note: The conflict between advocates of the clinical and the statistical methods of predicting human behavior is a major one in the field of clinical psychology, and it crops up also in other behavioral sciences. It is examined in detail in this book. The factual material bearing on it is reviewed and analyzed. The author states

his own thesis as follows "There is no convincing reason to assume that explicitly formalized mathematical rules and the clinician's creativity are equally suited for any given kind of task, or that their comparative effectiveness is the same for different tasks. Current clinical practice should be much more critically examined with this in mind than it has been. His remarks on the problem of logical reconstruction of clinical activity and on clinical intuition merit reading by anyone concerned with the problem. In the chapter Empirical comparisons of clinical and actuarial prediction, he critically examines the previously published studies bearing on the clinical-actuarial issue.

MOWRER, O HOBART

Psychotherapy, theory and research By O Hobart Mowrer and twenty-one contributors New York The Ronald Press Company, 1953 700 p illus. 24 cm. $10 00 3996

Contents Introduction—psychotherapy as service and research. Part I, Theory concepts, and applications Historical and philosophical presuppositions for understanding therapy by R. May Some directions and end points in therapy by C. R. Rogers. Neurosis and psychotherapy as interpersonal process—a synopsis, by O. H. Mowrer The collaboration of client and counselor by W G. Perry jr and S. G. Estes. Some observations on psychotherapy and the learning process, by E. J Shoben, jr Neurosis, psychotherapy and two-factor learning theory by O. H. Mowrer The structural problem in schizophrenia—therapeutic implications, by M. Wexler. Psychotherapy and its public health implication, by J M. Robbitt. Part II, Research methods and results Research perspectives in client-centered therapy by J Seeman and N J Raskin. A method of measuring tension in written documents, by J Dollard and O H. Mowrer Further studies utilizing the discomfort-relief quotient, by O H. Mowrer and others. Quantitative studies on the role of therapists feelings toward their patients, by F E. Fiedler. "Q technique"—description, history and critique, by O. H. Mowrer. Correlations between persons as a research tool, by L. J Cronbach. Intraindividual repetitive measurements (P technique) in understanding psychotherapeutic change, by L. Luborsky A statistical method for studying personality integration by L. L. McQuitty Changes in verbal behavior during psychotherapy by O. H. Mowrer Tension changes during psychotherapy with special reference to resistance, by O H. Mowrer and others. Physiological changes during psychotherapy by L. I. O'Kelly Bibliography Index of names. Index of subjects.

Note. Written largely by clinical psychologists experienced in psychotherapy this volume represents a serious effort to present a substantial body of contemporary thought of clinical psychologists on theory and technique of psychotherapy as well as to present results of recent and current research. It contains the chapters and papers whose titles and authors are listed above. All of the papers but two are original ones written especially for this volume. The bibliography is an extensive one that includes references to work on psychotherapy written from the psychoanalytic viewpoint as well as from the viewpoint of clinical psychology

OBERNDORF, C P

A history of psychoanalysis in America. New York Grune & Stratton, 1953 280 p 21 cm $5 75 3997

Contents Early nineteenth century precursors of Freud's thinking. Anticipations of Freud" thinking by novelists and others in New England. Psychoanalytic theory crystallizes and reaches America. A personal account of psychiatry in medicine at the turn of the century Psychoanalytic psychiatry takes root at Manhattan State Hospital Clinical practice and organization of psychoanalysis expand, 1910–1920. The impact of psychoanalysis on medical education and the public, 1910–1920. Recollections of psychoanalysts in Vienna, 1921 1922 Status of psychoanalysis at the beginning of the third decade Stormy years in psychoanalysis under New York leadership, 1920–1930 Formal instruction in psychoanalysis develops, 1930–1940. Post World War II deviations in psychoanalytic conceptions. Comments on current tendencies. Appendix. Index.

Note An account in detail written by a psychiatrist who took an active part in the psychoanalytic movement in the United States of America. It combines both readability and reference value. American precursors of psychoanalysis early reactions to Freud" with legs, organizations, publications, and personalities are all covered. The appendix includes a chronological outline of psychoanalysis in America, brief biographical notes on leading contributors to psychiatry both European and American, and information on associations, societies and congresses.

PENNINGTON, L A, AND IRWIN A. BERG, editors

An introduction to clinical psychology Second edition. New York The Ronald Press Company, 1954 709 p. illus. 23 cm. $7.00. 3998

Contents Part I, Introduction The meaning of clinical psychology by R. B. Cattell. Theoretical frames of reference in clinical psychology by E. J Shoben, jr What is normal behavior? by O. H. Mowrer Part II, Clinical methods: The clinical interview and the case record, by I. A. Berg. Intelligence testing and clinical practice, by A. M. Garner Interest and personality measurement, by R. F Berdie. Projective methods, by H. D. Sargent. Part III, The problem approach in the clinic Problems of childhood and adolescence, by B. R. McCandless. Mental and educational retardation by W L. Wilkins. Psychosexual and marital problems, by A. Ellis. Psychosomatic medicine and the psychologist, by G. Saslow. The physically handicapped, by S. S. Maradi Speech disorders, by C. Van Riper. The psychoneuroses, by G. R. Pascal. The psychoses, by R. M. Dorcus. Psychopathic and criminal behavior, by L. A. Pennington. Psychological trends and problems in later maturity, by R. G. Kuhlen. Part IV Treatment approaches: Psychotherapy—an overview by J C. Watkins. Direct approaches to treatment, by F McKinney Client-centered therapy by W U Snyder. Psychoanalytically oriented therapy by J H. Pathman. Group psychotherapy by H. S. Colley Therapeutic techniques with children, by S. W Dillon. Rehabilitative approaches, by L. A. Pennington. Part V, The clinician and research: Research in clinical psychology, by L. S. Kogan. Index of names. Index of subjects.

Note. A textbook and collection of readings for college students who are preparing for the profession of clinical psychology One of the authors is a physician specializing in psychiatry All of the other contributors and the editors are psychologists. The chapters were written especially for the book, that is to say they are not reprints from other publications. The first edition was published in 1948. Ten new chapters have been added in this second edition, and the chapters carried over from the first edition have been revised. A selection of literature published since the first edition was written has been added to the lists of references.

PHILLIPS, E LAKIN

Psychotherapy, a modern theory and practice. Englewood Cliffs, N J Prentice-Hall, Inc., 1956 334 p illus. 22 cm. (Prentice-Hall psychology series, Paul Meehl, editor) $5.50. 3999

Contents Interference theory—examples of therapy The idiographic-nomothetic controversy Is the concept of the unconscious necessary? The conflict paradigm—psychopathology and psychotherapy Psychotherapy—general considerations. Psychotherapy—special topics. Psychotherapy as communicative act. Summary. Special studies. The interaction paradigm in psychotherapy—a study Three protocols. Index.

Note In this book, a new theory of behavior is proposed, and its applications in psychotherapy are discussed and illustrated in condensed case histories, and more fully in three case protocols included in the terminal chapter Two chapters are devoted to examining the basic ideas on which present-day psychotherapy is based. The new theory is described by the author in these words: "Very briefly considered, interference theory constitutes the viewpoint that behavior—pathological or otherwise—is a result of the own assertions made by the individual about himself or about his relationship with others. The person chooses now one kind of behavior now another depending on what kind of behavior seems likely to bring (from the environment) confirmation of his assertions. Certain behavior possibilities 'interfere' with each other. the whole process with which we are concerned goes on in the open. Depth views, which regard the mental life of people as having a kind of deep-going reservoir from which dialectical forces spring, are entirely anathema to the present viewpoint.

THE PSYCHOANALYTIC STUDY OF THE CHILD. Volume VIII. Managing editors Ruth S. Eissler, and others. New York International Universities Press, Inc., 1953 412 p. 23 cm. $10 00 4000

Contents. Problems of early development: Some remarks on infant observation, by A. Freud. The study of variations of early

Medicine

Psychoanalysis

[illegible] Contents of previous volumes.

—— Volume IX. Managing editors Ruth S. Eissler and others. New York International Universities Press, Inc., 1954 369 p. 23 cm. $10.00 4001

Contents: [illegible]

—— Volume X. Managing editors Ruth S. Eissler and others. New York International Universities Press, Inc., 1955 394 p. 23 cm. $10.00 4002

Contents: [illegible]

—— Volume XI. Managing editors Ruth E Eissler and others. New York International Universities Press, Inc., 1956 470 p 23 cm. $10.00 4003

Contents: [illegible]

Note: [illegible]

PUMPIAN MINDLIN E., editor

Psychoanalysis as science the Hixon Lectures on the scientific status of psychoanalysis. New York Basic Books 1952 74 p. 24 cm. $4.25 4004

Contents: [illegible]

Note: A collection of lectures which were delivered first at the California Institute of Technology [illegible]

RADO SANDOR, AND GEORGE E. DANIELS, editors

Changing concepts of psychoanalytic medicine. Proceedings of the Decennial Celebration of the Columbia University Psychoanalytic Clinic, March 19 and 20 1955 New York Grune & Stratton, 1956 248 p. illus. 22 cm. $6.75 4005

Contents: History of the Columbia Psychoanalytic Clinic, [illegible]

Ackerman. A family study unit, by L M. Marcus. Clinical papers The adaptational technique of psychoanalytic therapy by L. Ovesey and J Jameson. Psychopathology of hunger and appetite, by H. Bruch. Psychodynamic patterns in the sexual offender mechanisms of conscience formation, by B C. Glueck Jr Research in schizophrenia. Multidisciplinary research in psychiatry by R. G. Heath and B K. Leach. Schizotypal organization—preliminary report on a clinical study of schizophrenia, by S. Rado and others. Index.

Note Most of the papers in this volume pertain to the history and work of the Psychoanalytic Clinic, unit of the College of *Physicians and Surgeons* of Columbia University The clinic is primarily a graduate school of psychoanalytic medicine. All but six of the contributors to the volume are members of its faculty One of the exceptions is the paper *by Heath and Leach* which describes a research program of the Department of Psychiatry and Neurology of Tulane University School of Medicine.

RADO, SANDOR

Psychoanalysis of behavior, collected papers New York Grune & Stratton, 1956 387 p illus 24 cm. $7 75 4006

Contents (abridged) Contributions to classical psychodynamics. Quest for a basic conceptual scheme. Development of adaptational psychodynamics. Index.

Note Twenty-eight of the author's papers first published in German, English and American periodicals and books from 1933 to 1956 are reprinted in this volume. Four of the papers have been somewhat revised the texts of the others are unchanged except for translation into English of those originally published in German. The papers are grouped under the four headings listed above.

RICHARDS, THOMAS WILLIAM

Modern clinical psychology New York McGraw Hill Book Company, Inc., 1946 331 p 23 cm (McGraw Hill publications in psychology J F Dashiell, consulting editor) $5 00 4007

Contents Introduction to clinical psychology as a specialty Orientation to clinical psychology Methods of psychological appraisal. Approach to the patient. *Physical examination. Appraisal* of capacity—methods of study Appraisal of capacity—inadequacies of capacity Appraisal of motivation—methods of study Appraisal of motivation—inadequacies of motivation. Appraisal of control—general considerations and clinical methods of study Appraisal of control—anxiety and its solutions. Appraisal of control—the series of inadequate solutions from the socially oriented to the personally elaborated. Precipitation and predisposition. Readjustment. Appendix. Bibliography *List of visual aids. Index.*

Note A compact introduction to this branch of psychology It is designed especially for third-year undergraduate college students who are preparing to specialize in psychology or in some other profession where a knowledge of clinical psychology will be useful The major portion of the text consists of *descriptions of methods* which are used in the appraisal of the intellectual capacities, motivation, and control of maladjusted persons. For an introductory book the bibliography is extensive.

ROGERS, CARL R

Client-centered therapy its current practice implications and theory With chapters contributed by Elaine Dorfman Thomas Gordon Nicholas Hobbs Boston Houghton Mifflin Company 1951 560 p 22 cm. $5 00 4008

Contents Part I, A current view of client-centered therapy The developing character *of* client-centered therapy *The attitude* and orientation of the counselor The therapeutic relationship as experienced by the client. *The process of therapy Three questions* raised by other viewpoints—transference, diagnosis, applicability Part II, The application of client-centered therapy *Play therapy* by E. Dorfman. Group-centered psychotherapy by N Hobbs. Group-centered leadership and administration, by T Gordon. Student centered teaching. The training of counselors and therapists. Part III, Implications for psychological theory A theory of personality and behavior References. Index.

Note. The author's *Counseling and psychotherapy*, 1942 described below was *the first statement* in book form of a then new approach to psychotherapy which has since been refined and broadened in its applications. *Client-centered therapy* presents an up-to-date exposition reflecting these developments and incorporating more than a decade of experience with it. The book is basic one for this school of psychotherapy The author is Professor of Psychology and Executive Secretary of the Counseling Center of the University of Chicago.

ROGERS, CARL R

The clinical treatment of the problem child. Boston Houghton Mifflin Company, 1939 393 p 22 cm. $4 50 4009

Contents (abridged) Part I, Ways of understanding the child. A point of view Methods of diagnosis. The component-factor method of diagnosis. Part II, Change of environment as treatment: The foster home as a *means of treatment. Institutional* placement as treatment for behavior problems. The advisability of removing child from home. Part III, Treatment through modifying the environment Family attitudes as a focus of treatment. The school's part in changing behavior The intelligent use of clubs, groups, and camps. *Part IV Dealing with the individual: Treatment interview* techniques education persuasion, release. Treatment interviews: deeper therapies. Making treatment effective. Appendix. Index.

Note. A well-written book based on wide clinical experience in the treatment of disturbed children. Its viewpoint is eclectic and practical. The emphasis is on *how* problem children are treated and the effects of the treatment. Numerous case histories are discussed. Professional workers with children including psychologists, pediatricians, and social workers rather than laymen are the intended audience.

ROGERS, CARL R

Counseling and psychotherapy, newer concepts in practice. Boston Houghton Mifflin Company, 1942 450 p. 22 cm. $5 00. 4010

Contents, Part I, An *overview* The place of counseling. Old and new viewpoints in counseling and psychotherapy Part II, Initial problems faced by the counselor: When is counseling indicated? *The creation of* counseling relationship. The directive versus the non-directive approach. Part III, The process of counseling: Releasing expression. The achievement of *insight. The closing phase.* Some practical questions. Part IV The case of Herbert Bryan. Recent trends in therapy—a selected bibliography Index.

Note A pioneer work when it was first published, this book is still valuable to any student of clinical psychology It was the first full-scale statement of "non-directive" therapy now better known as "client-centered therapy It provided also a view of broad area of psychologic counseling and psychotherapy that was not based on psychoanalysis.

ROGERS, CARL R., AND ROSALIND F DYMOND, editors

Psychotherapy and personality change. Coordinated research studies in the client centered approach. Chicago University of Chicago Press 1954 447 p. 24 cm. $7.50. 4011

Contents I, Introduction Developing program of research in psychotherapy by *T Gordon* and others. *Design*, procedures, and subjects for the first block, by D L. Grummon. II, *Findings*: Changes in the relation between *self-concepts* and ideal concepts consequent upon client-centered counseling, by J. M. Butler and G. V Haigh. Adjustment changes over therapy *from self-sorts*, by R. F Dymond. A comparative study of the changes in the concepts of the self the ordinary person, and the ideal in eight cases by E. C. Rudikoff *Counselor judgments of therapeutic process* and outcome, by J Seeman. *Adjustment* changes over therapy from thematic apperception by R. F Dymond. *Changes* over client-centered therapy evaluated on psychoanalytically based thematic apperception test scales, by D L. Grummon and *E. S. John.* Changes in *self-awareness during* client-centered therapy by M. J. Vargas. The effect of psychotherapy upon certain attitudes toward others, by T Gordon and D *S. Cartwright. Ethnocentrism as* limiting factor in verbal therapy by R. E. Tougas. Changes in the maturity of behavior as related to therapy by C. R. Rogers. Personality changes as function of time in persons motivated for

therapy, by D. L. Grummon. III. Case studies: The case of Mrs. Oak—a research analysis, by C. R. Rogers. The case of Mr. Bebb—the analysis of a failure case, by C. R. Rogers. IV. Conclusion—An overview of the research and some questions for the future, by C. R. Rogers. Index.

Note: The Counseling Center of the University of Chicago instituted a large-scale coordinated research program in psychotherapy. The results of its first four years are presented and analyzed in this book. The plan of the program, its design and procedures are described in the introductory chapters. Briefly, the program was planned to discover the changes in patients before and after therapy and to determine which changes were due to the therapy. The research was well designed and carefully controlled. Results bear out the value of psychotherapy to individual patients, and the book as a whole demonstrates that psychotherapeutic results are capable of scientific evaluation. Approximately 150 pages are devoted to the detailed analysis of two cases, one that was successful and one in which the psychotherapy failed.

ROSEN, JOHN N.

Direct analysis: selected papers. New York, Grune & Stratton, 1953. 184 p. 23 cm. $4.25 4012

Contents: Direct analysis—general principles. A method of resolving acute catatonic excitement. The treatment of schizophrenic psychosis by direct analytic therapy. The perverse mother. The several faces of schizophrenia. The prognostic outlook with direct analysis. [illegible] of [illegible] techniques. [illegible] Some observations on [illegible] conceptions of [illegible]. Index.

Note: The papers in this book describe an analytic technique developed by the author primarily for the treatment of psychotic patients and illustrate its application in specific cases. The essence of the technique is that a direct method of deep interpretation is employed without the usual preparation of the patient. The theoretical basis is the dream psychology of Freud. Some of the papers were previously published in journals, but others were written for the book.

SCHEIDLINGER, SAUL

Psychoanalysis and group behavior: a study of Freudian group psychology. New York, W. W. Norton & Company, Inc., 1952. 245 p. 22 cm. $4.50. 4013

Contents: Part I. The Freudian concepts of group behavior. The social tendencies of man—a historical background. The Freudian theory of the crowd and social tendencies. Basic group phenomena. The role of the leader. Intra- and inter-group conflicts. Part II. Implications and applications. The Freudian concepts of group behavior—a reappraisal. Some implications of Freudian group psychology. The Freudian concepts and other fields of group study. Psychoanalysis and educational practice. The relationship of psychoanalysis to group psychotherapy. Bibliography. Index.

Note: The author believes that the emotional factors in group behavior have not been given sufficient importance by the psychologists. The purpose of his book, written for social psychologists, group workers, and teachers, is to examine the contributions of the orthodox Freudians to our understanding of group psychology. The author does not favor the point of view of one school over others. He has merely assembled and clarified the concepts of the Freudians in the field. In his examination of psychoanalytic concepts methods of therapy and research have not been discussed. There are thirteen pages of bibliography including books, pamphlets, and periodical literature with full author and title notations.

SCHILDER, PAUL

Psychoanalysis, man, and society. Arranged by Lauretta Bender. New York, W. W. Norton & Company, Inc., 1951. 382 p. 22 cm. $5.50 4014

Contents: Psychoanalysis and philosophy. Personality in the light of psychoanalysis. The somato-psyche in psychiatry and social psychology. The relation between social and personal disorganization. The analysis of ideologies as a psychotherapeutic method. Social [illegible] and [illegible]. Psychological considerations in [illegible]. Psychoanalysis of alcoholism. A study in crime and [illegible] in [illegible]. [illegible] in [illegible]. Studies in [illegible]—a summary. The problem of crime. The cure of criminals and the prevention of crime. The sociological implications of neuroses. Introductory remarks on groups. Social organization and psychotherapy. Psychoanalysis of economics. Cultural patterns and psychotherapy. Remarks on the psychology of war. Bibliography. Index.

Note: Collected in this volume are a number of papers in which the late author applied the concepts and techniques of psychoanalysis to the analysis of a variety of sociological problems, including crime, alcoholism, and economic problems. Most of the papers were originally published in professional journals of psychiatry and sociology.

SCHILDER, PAUL

Psychotherapy. Enlarged and revised edition arranged by Lauretta Bender. New York, W. W. Norton & Company, Inc., 1951. 396 p. 22 cm. $5.00. 4015

Contents: Some general principles. The psychology of organic symptomatology. The symptomatology of mental suffering. Somatic health as an experience. Psychic health as an experience. Technical tools of psychotherapy. The relation between physician and patient. The psychotherapeutic systems. Group psychotherapy. The treatment of specific types of neuroses and psychopathies. Psychoanalysis and psychotherapy of the psychoses and the psychology of shock treatment. Bibliography. Index.

Note: A basic text in psychoanalytically oriented psychotherapy. It draws from all schools of psychiatric thought in an effort to construct a foundation for effective and practical psychotherapy. The late author's techniques are described in specific detail. The first edition was published in 1938. In this edition, the author's wife, an eminent psychiatrist in her own right, has revised and extended the book largely by inserting at appropriate points excerpts from Dr. Schilder's papers published after the first edition was written.

SCHNECK, JEROME M., editor

Hypnosis in modern medicine. Springfield, Ill., Charles C Thomas, 1953. 323 p. 24 cm. $7.50. 4016

Contents: History of medical hypnosis, by G. Rosen. Hypnosis in internal medicine, by B. B. Raginsky. Hypnosis in surgery, by H. Rosen. Hypnosis in anesthesiology, by A. Owen-Flood. Hypnosis in dermatology, by M. McDowell. Hypnosis in obstetrics and gynecology, by W. S. Kroger. Hypnosis in psychiatry, by J. M. Schneck. Hypnosis in child psychiatry, by G. Ambrose. Hypnosis in dentistry, by J. H. Wasserman. Physiologic aspects of hypnosis, by R. E. Gorton. Instruction in hypnosis, by W. T. Heron. Index.

Note: The chapters of this volume were contributed by specialists in various sectors of medicine who have used hypnosis in their specialties. The contributor of the chapter on hypnosis in obstetrics and gynecology, for example, Dr. William S. Kroger, is a specialist in obstetrics and gynecology. Each of the chapters is an essentially independent monograph with its own bibliography. The book is suitable for use as a medical college textbook. It is also potentially of interest to graduate practitioners who wish to explore the possibility of using hypnosis in their practices. The editor, who holds the position of Clinical Associate in Psychiatry in the College of Medicine of the State University of New York, is an eminent authority on medical hypnosis.

SILVERBERG, WILLIAM V.

Childhood experience and personal destiny: a psychoanalytic theory of neurosis. New York, Springer Publishing Company, Inc., 1952. 289 p. 22 cm. $4.50 4017

Contents: Introduction—the need for a theory of personality. Toward a theory of personality and neurosis. The nature of early experience. The first experiential area—problems of security and dependence. The second experiential area—problems of discipline. The third experiential area—problems of reality and passivity. Psychotherapeutic aims. Bibliography. Index.

Note: A new theory of neurosis based upon the theories of Freud but going beyond them in broadening the range of childhood experiences which may cause psychic trauma. The categories of experience which the author believes affect mental health are named in the sub-titles of the third, fourth and fifth chapters above. The author stresses the importance of the experiences of the first six years of life. The book is written in the technical terminology of Freudian psychoanalysis.

Slavson, Samuel Richard

Analytic group psychotherapy with children, adolescents, and adults New York Columbia University Press, 1950 275 p illus. 23 cm. $3 75 4018

Contents Historic backgrounds and current practices. Transference and substitution in *group psychotherapy* Catharsis, regression, and anxiety Direct and derivative insight. Ego strengthening, catharsis displacement, sublimation, and reality testing. Some specific dynamics in analytic group therapy Functions of the group therapist. Play group psychotherapy with pre-school children. Activity-interview psychotherapy with children in latency Analytic group psychotherapy with girls in puberty Analytic group psychotherapy with adolescent girls. Analytic group psychotherapy with adults. Analytic group psychotherapy in an institution. Selection and grouping of patients. The use of groups in the treatment of psychotics. Glossary Index.

Note Three types of group psychotherapy are described and illustrated in this work group play psychotherapy for pre-school age children, activity-interview group psychotherapy for certain older children, and interview group psychotherapy for adolescents and adults. A generous portion of the volume is given over to records of actual sessions at the Jewish Board of Guardians, a child guidance agency in New York City *Short extracts from records are selected to illustrate or heighten the meaning of theoretic statements.* Full records of six sessions are included with condensed interpretations and brief discussions of dynamics as related to the therapeutic process. The book is a companion work to the author's *An introduction to group therapy* New York, 1943.

Slavson, Samuel Richard, editor

The fields of group psychotherapy New York International Universities Press, Inc., 1956 338 p 24 cm. $6 00 4019

Content Syndrome versus symptom in group psychotherapy by S. R. Slavson. Mental hospitals, by T P Rees and M. M. Glatt. Psychosomatic disorders, by A. Stein. Addicts, by J J Thorpe. Alcoholics, by M. Brunner-Orne and M. T Orne. Stutterers, by M. W Brody and S. I. Harrison. Allergies, by H. Miller and D Baruch. Geriatrics, by M E. Linden. Mothers, by H. E. Durkin. Unmarried mothers, by S. R. Slavson and R. MacLennan. Delinquents, by I. Schulman. Child guidance, by L. Rosenthal. Family services, by S. Scheidlinger and H. Freeman. Sex and marriage problems, by L. Levine. Private practice, by W C. Hulse. Community mental health, by S. R. Slavson. Industry by M. A. Klemes and V Kallejian. Training, by S. B. Hadden. Research, by B. Kotkov Index.

Note A complementary work to the editor's *The practice of group therapy* 1947 Although it is composed of contributed monographic chapters—whose authors and titles are given above—it presents broad and integrated view of group psychotherapy at the present time. Most of the chapters are based on extensive experience with group therapy as well as on the literature. In comparison with earlier works on the subject, the book reflects both an extension of group therapy and evolution in techniques.

Symonds, Percival M

Dynamics of psychotherapy the psychology *of personality change* Volume I Principles New York Grune & Stratton, 1956 211 p 23 cm $5 50 4020

Content Introduction. Process of psychotherapy Indications for counseling. Indications for psychotherapy Contraindications for psychotherapy Nature and definition of psychoneurosis. *Dynamics* of psychoneurosis. Neurotic trends and the neurotic symptom. Predisposing and precipitating factors in psychoneurosis. Goals of psychotherapy Spontaneous recovery from psychoneurosis. Some theoretical issues. Bibliography Index.

Note. The first volume published of a projected three-volume text book on psychotherapy It deals with principles and other basic aspects. The viewpoint is an eclectic one, for the author holds that there is merit in all of the major approaches to psychotherapy and that the practicing psychotherapist, and his patients will benefit most from an integration of them. It is addressed to advanced college students and to graduate practitioners of psychotherapy including both psychiatrists and clinical psychologists. However certain features, including its lack of emphasis on medical aspects, give it more appeal to clinical psychologists and students preparing for this field than to graduate physicians. A useful annotated bibliography is included. Volume II, subtitled *Process*, was published in 1957 $4.50.

United States Veterans Administration

Group psychotherapy, studies in methodology *of research* and therapy Report of a group psychotherapy research project of the U S Veterans Administration. By Florence B Powdermaker and Jerome D Frank, in collaboration with Joseph Abrahams and others. Cambridge, Mass Published for the Commonwealth Fund by Harvard University Press, 1953 615 p 25 cm. $6.50 4021

Contents Part I, Group therapy with clinic patients. Introduction. Studying the processes of therapy General description of the research *With clinic patients. Group composition. Early meetings.* Group functioning in later stages. Dealing with patients in the group setting. Resolving tension through rallying topics. Hostility toward the doctor Antagonism between group members. Forms of resistance and their resolution. Introduction of new members. Replacement of a doctor *Relations between individual and group* therapy Doctors' characteristics *in relation* to therapy Part II, Group therapy with hospitalized schizophrenic patients. General description of the research with schizophrenic patients. Statistical summaries. Composing groups of schizophrenic patients. Problems of the early meetings. Rivalry resulting from patient-to-doctor relationships. Dealing with prolonged silences in schizophrenic groups. Dealing with hostility and sexuality The large group. Appendices. List of references. Index.

Note. The research project mentioned in the title of this volume was well organized and well financed. The professional staff included 17 psychiatrists, four clinical psychologists and three psychiatric social workers. As the part titles indicate, group therapy was tried on psychiatric outpatients, most of whom were neurotic and on schizophrenic patients confined in the hospital. The book is a rather full report of the techniques used and of the experience including the problems that developed. *Extensive running accounts* of group meetings are included. Many of the chapters conclude with section entitled *Summary* and implications for therapy The volume is of interest to graduate clinical psychologists and psychiatrists.

Wallen, Richard W

Clinical psychology the study of persons New York McGraw Hill Book Company Inc., 1956 388 p. illus 23 cm. (McGraw Hill series in psychology Clifford T Morgan, consulting editor) $6 00 4022

Contents The study of persons. Prediction in clinical psychology. Clinical sensitivity and hypothesis making. The first meeting—expectations and orientation. Interviewing—observational data—the report. The medical assessment of the person, by R. M. Whitman. The Rorschach method. The thematic apperception test. A variety of supplementary methods. The *clinical use of psychometric tests.* Individual *psychotherapy*—initial steps and aims. Psychotherapeutic methods. Index.

Note An introductory presentation of the techniques of practical clinical psychology It is directed to college students, both advanced undergraduate and graduate, who have completed basic courses in psychological testing, the psychology of personality etc. It includes expert and full discussions of such facets of clinical practice as the first meeting between the therapist and clients. The discussions of standard clinical tests include such statements as the following. "The Rorschach is not very satisfactory but it does kind of job which our traditional psychometric tests do not do. And clinicians find that in their work it is job that ought to be done. Selected literature references are included. *The author is Associate Professor of Psychology on the faculty of Western Reserve University*

Watson, Robert Irving

The clinical method in psychology New York Harper & Brothers, 1951 779 p. 22 cm $5 00 4023

Contents (abridged) Part I, Introduction. The clinical method. Observation *Part II, Diagnostic appraisal* The function of diagnosis. Observation and rating in clinical diagnosis. The diagnostic interview Tests as diagnostic instruments. Procedures in diagnostic testing. The Wechsler Bellevue intelligence scale. *Revised Stanford-Binet* tests of intel-

lignes. Performance tests of intelligence. The Vineland social maturity scale. Diagnostic testing of infants and preschool children. Tests of memory and conceptual thinking. The projective approach to personality evaluation. The Rosenzweig picture-frustration study. The thematic apperception test. Part III, Psychotherapy: The psychotherapeutic values to be found in diagnostic materials. The common factors in psychotherapy. Some systematic approaches to psychotherapy. Psychotherapy with children. Group psychotherapy. Indirect methods of treatment. Name index. Subject index.

Note: This text on the application of psychological principles and techniques to the problems of the individual is designed primarily for advanced college students. The treatment of diagnosis is more detailed and written on a higher level than that of psychotherapy where the author has been intentionally descriptive rather than critical. Projective techniques other than those listed in the contents are treated only sketchily, and case studies are used only when needed to complete understanding of basic methods. However, the extensive, up-to-date bibliographies included with each chapter refer to much additional material.

WHITAKER, CARL A. AND THOMAS P MALONE

The roots of psychotherapy New York The Blakiston Division, McGraw Hill Book Company 1953 236 p. illus. 24 cm. $4.50. 4024

Contents: Foundation. Science as a creative method. Research in psychotherapy. The biological basis of psychotherapy. Adaptation. Cultural repair. The community and psychotherapy. Implicit and explicit psychotherapy. Dynamic psychiatry and psychotherapy. Process. The patient as a person. The process of psychotherapy. Anxiety and psychotherapy. The therapist as a person. Patient vectors in the therapist. Restatement of the problem of psychotherapy. Technique. Some techniques in brief psychotherapy. Glossary. Bibliography.

Note: A study of the essential nature of psychotherapy. The authors believe that there is an underlying process common to all types of psychotherapy and they attempt to identify and describe it. In the eight chapters under Foundation, the concepts of human behavior, including mental illness, are related to general biology, especially to growth and adaptation. In the chapters under Process, the phases and dynamics of the relation between patient and therapist in psychotherapy are delineated. The chapter on technique describes some of the methods of the authors, who are, respectively, Chairman of the Department of Psychiatry and Assistant Professor of Psychiatry and Director of Research, Department of Psychiatry, in the School of Medicine of Emory University.

WITMER, HELEN LELAND editor

Teaching psychotherapeutic medicine an experimental course for general physicians, given by Walter Bauer Douglas D Bond, Henry W Brosin, Donald W Hastings, M. Ralph Kaufman, John M Murray Thomas A. C. Rennie John Romano and Harold G. Wolff Introductory chapter by Geddes Smith. Cambridge, Mass. Harvard University Press, 1947 484 p. 24 cm. $4.00 4025

Contents: Introductory: the course, by G. Smith. General orientation, by T. A. C. Rennie and W. Bauer. Clinical problems. The patient-physician relationship, by M. R. Kaufman. Normal personality development, by J. M. Murray. Clinical problems. Psychotherapy, by J. Romano. The meaning of [illegible] psychoneurosis, by M. R. Kaufman. Clinical problems. III, Diagnosis of psychoneuroses, by J. Romano. Summary of the first week, by T. A. C. Rennie. Anxiety, by J. Romano. Clinical problems. IV, General principles of psychotherapy, by J. W. Murray and H. W. Brosin. Special therapies, by D. W. Hastings. Common psychopathology, by H. W. Brosin. Common psychopathology, by D. D. Bond. Clinical problems. [illegible] Care of veterans, by D. W. Hastings. Life situations, emotions, and disease, by H. G. Wolff. Case presentation. Case presentation, II. Case presentation, III. List of suggested readings. Index.

Note: An edited account, derived from automatic recordings, of the lectures and discussions which took place during the experimental two-weeks course in psychotherapeutic medicine given at the University of Minnesota in April, 1946. The course was organized to familiarize general medical practitioners with this branch of contemporary medicine, and the present volume is intended not as a textbook in the subject but simply as the record of an experiment in postgraduate medical education.

WOLBERG LEWIS ROBERT

Hypnoanalysis foreword by A. Kardiner New York Grune & Stratton, 1945 342 p. 22 cm. $4.50 4026

Contents: Part I, The hypnoanalysis of [illegible]. Part II, The theory and practice of hypnoanalysis: Psychoanalysis and hypnosis. Hypnoanalytic procedures. The recall of buried memories. Hypnosis and the transference. Hypnosis and resistance. Hypnosis and interpretation. Index.

Note: An introduction to the methods and techniques of using the hypnotic state in psychoanalysis and as a form of therapeutic treatment. The first part of the book is a detailed case history with discussions by the author of the treatment of the patient over a period of months. The second part is devoted to an exposition of the principles and techniques of hypnoanalysis.

WOLBERG LEWIS ROBERT

Medical hypnosis. New York Grune & Stratton 1948 2 v. 22 cm. Vol. I $5.50 vol. II, $6.50. 4027

Contents (abridged): Volume I, The principles of hypnotherapy. Part I, Historical, phenomenologic and theoretic aspects of hypnosis. Part II, The technic of hypnosis: Introduction to hypnotic technic. The first hypnotic session. The second hypnotic session. Subsequent hypnotic sessions. Self hypnosis and group hypnosis. Part III, Applications of hypnotherapy: The principles of psychotherapy. Hypnosis in anxiety neurosis. Hypnosis in compulsion neurosis. Hypnosis in traumatic neurosis. Hypnosis in psychosomatic conditions. Hypnosis in character disorders. Hypnosis in alcoholism. Hypnosis in miscellaneous conditions. Dangers, limitations and failures of hypnosis. Index. Volume II, The practice of hypnotherapy. Part I, Hypnosis in symptom removal. Technics in symptom removal. Limitations of symptom removal. Illustrative case. Part II, Hypnosis in psychobiologic therapy. Technics of hypnosis in psychobiologic therapy. Hypnosis in guidance. Hypnosis in persuasion. Hypnosis in re-education. Hypnosis in reconditioning. Illustrative case. Part III, Hypnosis in psychoanalytic therapy: Hypnoanalytic procedures. Re-education through psychoanalytic insight. Illustrative case. The future of hypnosis. Index.

Note: An authoritative presentation of the nature, techniques, and application of hypnosis in psychotherapy. The exposition is exceptionally detailed. In the first volume, induction techniques are described concisely and are illustrated with excerpts from actual cases. The greater part of the second volume consists of full transcripts, including all of the conversations between doctor and patient, of three case histories. The work is addressed mainly to graduate physicians, particularly psychiatrists.

WOLBERG LEWIS ROBERT

The technique of psychotherapy New York Grune & Stratton, 1954 869 p. 26 cm. $14 75 4028

Contents (abridged): I, The scope, types and general principles of psychotherapy. Varieties of psychotherapy. Supportive therapy. Insight therapy with reeducative goals (reconstructive therapy). The equipment of the psychotherapist. The conduct of the psychotherapeutic interview. II, The beginning phase of treatment: The initial interview. Answering questions patients ask about therapy. Establishing a working relationship. Structuring the therapeutic situation. III, The middle phase of treatment: Identifying important trends and patterns. The uncovering of unconscious material. The handling of resistance to cure. Translating insight into action. Supportive and reeducative techniques during middle treatment phases. IV, The terminal phase of treatment: Goals in terminating treatment. Technical problems in termination. [illegible] Special aspects: Adjunctive aids in psychotherapy. Psychotherapy in special conditions. Supervision of the psychotherapeutic process. Questions therapists ask about psychotherapy. References. Recommended reading. Appendices. Author index. Subject index.

Note: An authoritative and detailed presentation of practical psychotherapeutic techniques. The author is Director of the Postgraduate Center for Psychotherapy of New York Medical College, and the book was developed from material used in training seminars in that institution. It is organized in five parts, the titles of which are given above, and 58 chapters, of which only selected titles are listed above. Its viewpoint is eclectic in the sense that there is no

special bias toward any one school of thought. The primary purpose is to teach practicable techniques of psychotherapy All important steps in the psychotherapeutic process are covered in much detail. For example 10 chapters almost 100 pages in total length are devoted to the initial interview *Transcripts* of therapeutic sessions are introduced at numerous points throughout the volume, and the book is concluded with the *full transcript* of the conversations between the psychotherapist and the patient in a specific case which illustrates many of the techniques described in the book.

Wolstein, Benjamin

Transference, its meaning and function in psychoanalytic therapy New York Grune & Stratton, 1954 206 p 21 cm $5 50 4029

Contents The major shift. Hypnotic roots. Early trauma or total personality Transference—positive and negative. Suggestion in the shape of transference. Past and future in the present. A formulation of the concept. Empirical observations and an operational definition. Freedom in transference and metapsychology Values in the therapeutic situation. Scientific epilogue. Bibliography Index.

Note A study in which the analysis of transference is presented as "the major concern of the science and art of psychoanalysis. The author relates the concept of transference and the techniques of its analysis to Freud's views, but he makes it clear that both the concepts and psychoanalytic techniques have undergone important transformations since Freud. *In fact, the book is a study* of the transference reaction and the analysis of transfer distortion in the light of present-day analytical thought and practice. It is addressed to graduate practitioners of psychoanalysis The author is a clinical psychologist on the staff of the *W A White Institute of Psychiatry* Psychoanalysis and Psychology in New York City

Ziskind, Eugene

Psychophysiologic medicine *Philadelphia* Lea & Febiger, 1954 370 p 24 cm $7 50 4030

Contents. Part I, Viewpoint The problem of psychophysiologic medicine. Pertinent psychopathology Part II, Techniques for physicians Diagnosis of psychological factors—modifications of the traditional procedure—the life history Psychotherapy—preliminary considerations—modifications of standard medical procedure—interview techniques. Part III, Toward broader visions Child-parent relationships and their psychopathology Social factors in psychopathology Differential diagnosis of psychiatric syndromes Psychiatric emergencies in medical practice. Part IV Schools of psychiatric thought Freud—classical thought. Early departures from Freudianism. Cultural psychoanalysts. Meyer—the psychobiologist and eclecticism. Mental adaptive mechanisms. Diseases commonly called psychosomatic. Bibliography Author index. Subject index.

Note A book based on a program of psychotherapy developed by the author and his associates at the Cedars of Lebanon Hospital in Los Angeles The program was directed towards incorporating psychotherapy *in a general program of medical care and the book, in turn,* is directed to general practitioners rather than to specialists. The second part, which *is more than 100 pages long,* describes for physicians who are not specialists in psychiatry techniques of diagnosis and therapy which are practical in the light of the author's experience with parallel programs in general medical clinics. The fourth part also *more than 100 pages long,* is a useful exposition of the basic concepts of the various schools of *psychiatry including those based on the views of Freud, Adler* Jung, Rank, Horney and Meyer The bibliography is an extensive one.

ALCOHOLISM AND NARCOTIC ADDICTION

Diethelm, Oskar

Etiology of chronic alcoholism Springfield Ill Charles C Thomas 1955 227 p. illus. 23 cm $6 75 4031

Contents Research in chronic alcoholism, by *O Diethelm. Psychopathology and character structure in chronic alcoholism,* by M. L Sherfey Biochemical experimental investigations of emotions and chronic alcoholism, by M. F Fleet and. Familial and personal background of chronic alcoholics, by M. Bleuler *A comparative study of the constitutions* of Swiss and American alcoholic patients, by M. Bleuler. Alcoholism in the *Cantonese of New York City*—an anthropological study by M. L. Barnett. Index.

Note A monograph based on a five-year program of investigation carried out under the auspices of the Committee on the Problems of Alcohol of the National Research Council. It is composed of the six studies which are listed by title and author in the above Contents. Five of the authors are *medical graduates, and the sixth* is an anthropologist. Medical, biochemical, psychological and sociological aspects of the etiology of chronic alcoholism were studied, and the results of the studies are reported in detail. References to related literature are included for each study The book is an important contribution to the basic literature on chronic alcoholism.

Fox, Ruth, and Peter Lyon

Alcoholism, its scope, cause and treatment. New York Random House, 1955 208 p. 20 *cm $3 00* 4032

Contents. Introduction. W drink. Some of us shouldn't. And some need help. Sources of help.

Note A well-written popular book. It is concerned mainly with the psychological, especially the psychoneurotic, aspects of alcoholism but is written in a style that makes this knowledge intelligible to typical educated readers. A good deal of case material is incorporated, but this too has been rendered into readable form. The senior author is a graduate physician. The chapter entitled "Sources of help is a directory of organizations in the United States and Canada that aid alcoholics.

Karpman, Benjamin

The alcoholic woman case studies in the psychodynamics of alcoholism. *Sponsored by* Washington Institute of Medicine Research Foundation *Westport, Conn.* Associated *Booksellers, 1948 238 p. 22 cm. $3 75* 4033

Contents. The case of Miss Elizabeth Chesser The case of Mrs. Vera Baschek. The case of Mrs. Frances Elliott. General discussion. Epilogue. Index.

Note. The greater part of this book consists of detailed presentations of the case histories of three alcoholic women who were under the author's care for psychoanalysis and psychotherapeutic treatment. The essential thesis of the book is that alcoholism is in many cases merely one manifestation of neurosis.

Kruse, H D, editor

Alcoholism as a medical problem A conference held under the auspices of the Committee on Public Health of the New York Academy of Medicine and the New York *State* Mental Health Commission. New York Paul B Hoeber Inc. Medical Book Department of Harper & Brothers, 1956 102 p. 24 cm. $3 00. 4034

Contents The epidemiology of alcoholism, by J. E. Gordon. Views on the etiology of alcoholism—the organic view by H. C Himwich—the psychodynamic view by F Alexander—the behavioristic view by E. J Shoben, Jr —the sociologic view by A. B. Hollingshead. The natural history of alcoholism its onset and course, by A. Z. Pfeffer—its psychopathologic manifestations, by S. M. Small. Evaluation of the treatment of alcoholism, by R. Muench. Index.

Note. A book directed (as was the conference that produced it) to graduate physicians. It provides a broad but concise and up-to-date *view of alcoholism. It is useful as* a source of basic knowledge for purposes of orientation and as a compact presentation of the clinical picture and prognosis of alcoholism Digests of discussion and literature references are included in most of the papers.

Lindesmith Alfred R

Opiate addiction. Evanston Ill The Principia Press of Illinois Inc. 1947 238 p. 23 cm $4 00 4035

Contents Part I, The nature of the opiate habit *Method and purpose of the study* The effects of opiates. Habituation and about

tion. The nature of addiction. The process of addiction. Cure and relapse. A critique of current theories of addiction. Conclusions and implications. Part II. Opiate addiction as a social problem. The beginnings. Part II, Opiate addiction as social problem. The problem in the United States during the nineteenth century. Federal anti-narcotic legislation. The effects of World War II. Needed research. Appendixes. Glossary of addicts' argot. Selected bibliography. Index of names. Index of subjects.

Note: Primarily a socio-psychologic study, this book contains, nevertheless, an extended analysis of physiological mechanisms involved in the opiate habit and includes much medical case material. Among the reforms proposed by the author is one that physicians be allowed to prescribe narcotics for addicts according to their judgment of the best way of treating the patient.

MAURER, DAVID W AND VICTOR H. VOGEL

Narcotics and narcotic addiction. Springfield, Ill. Charles C Thomas, 1954 303 p. illus. 24 cm. (American lecture series. Publication no. 169 A monograph in the Bannerstone division of American lectures in public protection edited by Le Moyne Snyder and others.) $7.50. 4036

Contents: Introduction. The nature of drug addiction. Opiates and their synthetic equivalents. Non-opiate analgesics considered addicting. Stimulant drugs. Identification of drugs and proof of addiction. Treatment of narcotic addiction. Legal controls for drugs of addiction. Narcotic addiction and crime. Drug addiction and youth. The argot of narcotic addicts. Index.

Note: A broad survey directed to readers with special interests in the subject, including social workers, personnel of reformatories, attorneys, the clergy and physicians who desire only a general knowledge of the subject. It is not intended as a guide to the therapy of narcotic addiction. It presents a wide range of medical, sociological and legal information. Literature references are included in all of the chapters. The chapter on argot includes an extensive glossary of words and phrases peculiar to narcotic addiction.

NYSWANDER, MARIE

The drug addict as a patient. New York Grune and Stratton, 1956 179 p. 22 cm. $4.50. 4037

Contents: Drug addiction in the United States—past and present. Pharmacology. Physiology. Psychology. Social pathology. Clinical diagnosis. The withdrawal treatment. Rehabilitation. The British approach. Looking forward. Appendix: An addict's glossary. Index.

Note: Written by a psychiatrist who is also a recognized authority on narcotic addiction, this book is addressed primarily to practicing physicians who treat narcotic addicts in private practice. It covers the subject broadly, including the social as well as the medical aspects in order to provide the necessary background for the intended readers. The various methods of treatment are fully described, including the methods followed in Great Britain. The importance of treating each patient as an individual person with due regard to his social situation and psychological difficulties is emphasized. Literature references are included.

PODOLSKY EDWARD editor

Management of addictions. New York Philosophical Library 1955 413 p. 21 cm. $7.50 4038

Contents: Part I. Alcohol addiction. Psychodynamics in the excessive drinking of alcohol, by J. W. Kappas. A pragmatic approach to the control of "chronic alcoholism," by C. J. Katz. On "therapeutic success in alcoholism," by G. Laird. The concept of genetotrophic disease, by R. J. Williams. Nutrition and alcoholism—the genetotrophic approach, by R. Woods. Alcoholism—recent advances in its treatment, by H. W. Lovell and J. W. Tintera. Constructive approach to the treatment of alcoholism, by J. Thimann. Psychotherapy of the problem drinker, by R. R. Gottesfeld and H. L. Yager. The treatment of alcoholism with adrenal steroids and ACTH, by W. A. Voegtlin. Endocrine treatment of alcoholism, by J. W. Tintera and H. W. Lovell. The use of Metharol in the treatment of alcoholism, by J. A. Smith and W. T. Brown. An evaluation of the present treatment of alcoholism, by F. LeMere and W. L. Voegtlin. Carbon dioxide inhalation therapy in neuroses in alcoholism (preliminary report), by A. A. LaVerne and M. Herman. Calcium therapy in the treatment of alcoholism, by C. C. O'Brien. Hospital and ambulatory cases of alcoholism—intensive calcium therapy, by C. C. O'Brien. Sedation of alcoholic patients with non-sedative drugs—a preliminary report, by J. Thimann. A new adjuvant in post-alcoholic psychomotor agitation, by M. D. Klaus and others. Tolserol in the treatment of the postalcoholic state, by M. Herman and A. S. Ellner. A clinical evaluation of tetraethylthiuramdisulfide (Antabuse) in the treatment of problem drinkers, by K. Bowman and others. Disulfiram as a sedative in alcoholism, by F. LeMere. Psychological factors in the conditioned-reflex treatment of alcoholism, by F. LeMere. Conditioned-reflex treatment of alcoholism, by J. Thimann. Treatment of chronic alcoholism by intravenous barbiturates, by F. LeMere and P. O'Hollaren. Thiopental U.S.P. (Pentothal) treatment of alcoholism, by F. LeMere and P. O'Hollaren. Hypnotherapy and the treatment of alcoholism, by A. Paley. The alcohol problem, by O. Diethelm. Part II. Drug addiction: Hypoadrenocorticism in alcoholism and drug addiction, by H. W. Lovell and J. W. Tintera. An experiment in group psychotherapy with the narcotic addict, by M. Johnston. A study of results of hospital treatment and drug addiction, by R. O. Knight and C. T. Prout. Drug addictions (a review), by R. R. Arora and Y. N. Sharma. Treatment of drug addiction, preliminary report, by K. Y. Williams. Morphine withdrawal in addicts by the method of prolonged sleep, by G. M. Schlomer. Benadryl—its uses in the narcotic withdrawal syndrome and other conditions, by M. Vanberg. Use of electro-convulsive therapy in morphine, meperidine and related alkaloid addictions, by F. R. Thigpen and others. The problem of narcotic drug addiction, by M. J. Pescor. Index.

Note: A collection of papers, most, if not all, of which have previously appeared in professional journals of pharmacy, psychiatry, neurology, general medicine, etc. The volume is of interest to such readers as medical practitioners and clinical psychologists.

SMITH JACKSON A.

Alcoholism. Philadelphia J B Lippincott Company 1953 72 p. 19 cm. $3.00. 4039

Contents: Behavior leading to the diagnosis of chronic alcoholism. Psychotherapy as applied to the chronic alcoholic. Delirium tremens. Antabuse. Other types of treatment. The treatment of alcoholism in general practice. Index.

Note: Originally published in the *American practitioner and digest of treatment*, in 1953, this small book is addressed primarily to medical practitioners, particularly practitioners of general medicine and internal medicine. For such readers it is a compact and authoritative survey of alcoholism. Most of the space is given to the various methods of treatment. These are discussed concisely but with much specific detail. Fairly extensive references to the literature are included. The author is Director of the Alcoholic Clinic of the Jefferson Davis Hospital in Houston, Texas, and a specialist in psychiatry.

THOMPSON GEORGE N., editor

Alcoholism. Springfield, Ill. Charles C Thomas, 1956. 548 p. illus. 24 cm. $9.50. 4040

Contents: Public health and social aspects of alcoholism, by J. Hirsh. The pharmacology of alcohol, by R. N. Harger and H. R. Hulpieu. Pathology of alcoholism, by E. A. Edmondson and others. Alcohol and brain physiology, by H. E. Himwich. Alcoholism in internal medicine, by A. T. Olson. The neurology of alcoholism, by J. M. Nielsen. The psychiatry of alcoholism, by G. N. Thompson. Electroencephalography in alcoholism, by A. A. Marinacci. Index.

Note: An authoritative and comprehensive monograph, in which both the medical and social viewpoints are represented. It is addressed primarily to professional social workers and medical practitioners. The medical chapters are written in technical terminology but the first chapter is written in a style that can be comprehended by educated laymen. The authors of the various chapters have incorporated a considerable number of case histories and have abstracted a wide range of literature to which references are given.

YALE UNIVERSITY LABORATORY OF APPLIED PHYSIOLOGY

Alcohol, science and society twenty-nine lectures with discussions as given at the Yale Summer School of Alcohol Studies. Second

edition New Haven Quarterly Journal of Studies on Alcohol, 1954 473 p 23 cm $6 00 4041

Contents Introduction to the curriculum, by E. M. Jellinek. The problems of alcohol by E. M Jellinek. Metabolism of alcohol, by H W Haggard. The concentration of alcohol in the blood and its significance ith a demonstration of the alcoholometer by L. A. Greenberg. The physiological effect of large and small amounts of alcohol by H. W Haggard. Alcohol and nutrition—the diseases of chronic alcoholism, by N Jolliffe. Effects of small amounts of alcohol on psychological functions, by E. M. Jellinek. Drinking mores of the social classes, by J Dollard. Heredity of the alcoholic, by E. M Jellinek. Children of alcoholic parents raised in foster homes, by A. Roe. Theories of the alcoholic personality by C. Landis. Alcohol and aggression, by R. S. Banay The functions of alcohol in primitive societies, by D Horton. Alcohol and complex society by S. D Bacon. Some economic aspects of inebriety by B. Y Landis. Excessive drinking and the institution of the family by S. D Bacon. Alcohol and pauperism, by A. J Murphy Alcohol and traffic, by D S. Berry Philosophy of the temperance movement a panel discussion by R. S. Warner and others. The hurches and alcohol by R. H. Ralston. Control consumption of alcoholic beverages, by E. G. Baird. Legal aspects of prohibition by E. B Dunford. Analysis of et and dry propaganda, by D Anderson Penal handling of inebriates a panel discussion by W M Maltbie and others. Medical treatment of the inebriate, by R. Fleming. The role of religious bodies in the treatment of inebriety in the United States, by F W McPeek. Social casework with inebriates, by S. M Baker Pastoral counseling of inebriates, by O. R. Rice The fellowship of Alcoholics Anonymous, by W W (one of the founders)

Note Published in this volume is a selection of lectures originally given at the Summer School of Alcohol Studies of Yale University As indicated by the titles, there is a strong social slant to the collection. However the physiological and medical aspects of alcoholism are discussed in several of the lectures. Since it was first published in 1945 the collection has enjoyed a wide circulation and a seventh printing of the book was made in June, 1957

GYNECOLOGY AND OBSTETRICS

ATLEE, H. B

Chronic iliac pain in women Springfield Ill Charles C Thomas 1954 65 p illus. 22 cm (American lecture series Publication no 198 A monograph in American lectures in gynecology and obstetrics edited by E C Hamblen) $2 50 4042

Content The apologia. The approach. Chronic appendicitis. Adhesions. Painful ovary and/or fallopian tube. "Cysts of the ovary Conditions of the cervix and uterus causing pain. Painful conditions of the ureter Abdominal wall neuralgia. The cecal syndrome Psychic pain. The summing up.

Note A short book—essentially long essay—on common gynecologic complaint. The author who is Head of the Department of Obstetrics and Gynecology of Dalhousie University has written from the viewpoint of his own extensive experience. In pungent style that is easy to read, he offers sound advice on differential diagnosis and management of iliac pain in women.

BECK ALFRED C AND ALEXANDER H ROSENTHAL

Obstetrical practice Sixth edition. Baltimore The Williams & Wilkins Company 1955 1 066 p. illus. 26 cm. $12 00. 4043

Contents (abridged) Relation of menstruation to ovulation, fertilization, and nidation Chronological development of pregnancy Physiology of the fetus. Changes in the maternal organism Diagnosis of pregnancy Management of pregnancy The essential factors in labor The mechanism of labor Clinical course of labor Management of labor The puerperium Lactation Posterior position of the occiput Face presentation Breech presentation. Transverse presentation. Compound presentation and prolapse of the umbilical cord. Multiple pregnancy Diseases of the decidua and fetal membranes. Abortion. Ectopic gestation Hyperemesis gravidarum. Preeclampsia and eclampsia. The pathology of labor Early passages. Placenta previa and abruptio placentae. In uterus of the uterus. Retained and adherent placenta. Postpartum hemorrhage. Puerperal infection. Artificial interruption of pregnancy. Methods used to hasten or complete the dilatation of the cervix. Forceps. Cesarean section. Repair of lacerations. Resuscitation of the newborn child. Analgesia, amnesia and anesthesia. Appendix. Index.

Note One of the leading American textbooks in its field. It is noted for the clarity of both its text and drawings. The first edition was published in 1935 and the fifth edition in 1951. The sixth edition is the first to bear the name of co-author. No change was made in the scope and plan of the book in preparing it. However revisions, including deletions, augmentations and rewritten sections, were made in many chapters in order to incorporate the modern viewpoint and the new advances in obstetrics without destroying the conservative viewpoint of the original work. In the text there are now 947 figures, many of which contain several illustrations, and 22 reproductions of roentgenograms in the appendix.

BERMAN, ROBERT

Obstetrical roentgenology 486 illustrations Philadelphia F A. Davis Company, 1955 599 p illus. 25 cm. (Obstetrics & gynecology, a series of monographs edited by Claude E Heaton) $12 50 4044

Content Introduction. Historical considerations. Clinical aspects of X-ray pelvimetry Technical aspects of X-ray pelvimetry Pelvic diameters and X-ray measurements. The prognostic method of X-ray pelvimetry The inlet view of the pelvis. The lateral view of the pelvis. The outlet view of the pelvis. The lateral view of the uterus. Classification of the pelvis. The fetus. The placenta. Additional methods of X-ray pelvimetry Practical application of X-ray pelvimetry Bibliography Index.

Note. The author of this book is distinguished in both the specialties of obstetrics and roentgenology Although his primary purpose was to inform obstetricians about the potentialities of X-ray pelvimetry he has also paid much attention to the interaction between the two specialties. He makes it clear that the roentgenologist's responsibility is to provide useful roentgenographs which the obstetrician interprets from the standpoint of diagnosis and clinical management. Standardization of roentgenographic technique is therefore given some emphasis. The book is based on about 1500 obstetrical cases and on visits to many leading maternity homes of the United States of America and of Europe. There are several hundred illustrations and comprehensive bibliography

BERNSTINE, J B AND A E RAKOFF

Vaginal infections infestations, and discharges. New York The Blakiston Division McGraw Hill Book Company Inc. 1953 [illegible] p illus (part col d) 23 cm $10 00 [illegible]

Contents Embryologic factors. Anatomy Histology Physiology Examination of the patient Bacteria [illegible] natal period. Gonococcal infections in child [illegible] vulvovaginitis. Vulvovaginitis in the acute [illegible] Infestations with worms Infestations with [illegible] Foreign bodies in the vagina. Menstrual [illegible] charges. Vaginal discharges in the adult [illegible] cervical disease to vaginal infection [illegible] vaginitis. Vulvovaginal mycoses. For the [illegible] fection Plaut Vincent disease) [illegible] of [illegible] venereum. Granuloma inguinale S [illegible] Vaginitis Emphysematosa (colpo [illegible] to physical agents. Chemical [illegible] the adult. Pregnancy Vaginal in [illegible] partum period. Atrophic vaginit [illegible]

Note A specialized treatise [illegible] cussed in more detail than is [illegible] accorded the subject in tre [illegible] covers these conditions in ch [illegible] adults. Diagnosis and treatm [illegible] the book contains several [illegible] physiology etc. and in th [illegible] some space is devoted to [illegible] factors. In many of the ch [illegible] described and the author [illegible] most successful. The book [illegible] partly on clinical experie [illegible] Gynecology of the Jeff [illegible] Philadelphia. Literature [illegible] Contents [illegible]

BREWER, JOHN I.

Textbook of gynecology Baltimore The Williams & Wilkins Company 1953 532 p. illus. 24 cm. 4046

Contents. Part I: Diseases of the vulva. Tumors of the vagina. Carcinoma of the cervix. Uterine fibroids. Carcinoma of the endometrium. Sarcoma of the uterus. Pelvic inflammatory disease. Ectopic pregnancy. Ovarian tumors. Endometriosis. Congenital anomalies. Part II: Leukorrhea. Asymptomatic pelvic tumors. Abnormal uterine bleeding. Bleeding and pain. Pelvic pain. Dyspareunia. Amenorrhea. Sterility. Dysmenorrhea. Bearing-down discomfort. Mass protruding from the vagina. Incontinence of urine. Incontinence of feces. The climacteric. Index.

Note: Intended for the instruction of undergraduate students in medical colleges taking [illegible] first course in gynecology this textbook [illegible] shorter and less elaborate than some other texts on the subject. It [illegible] arranged in two parts as shown above. The first part is devoted to description of disease entities, while in the second part the approach [illegible] from the standpoint of symptoms. This organization [illegible] based upon the teaching method used in the Medical School of Northwestern University where the author is Chief of Obstetrics and Gynecology. The author[illegible] style is lucid and direct, making the book easy to read. There are 146 figures, but no literature references. A second edition was published in 1958, 742 p., $13.00.

BURCH JOHN C AND HORACE T LAVELY

Hysterectomy Springfield, Ill. Charles C Thomas 1954 94 p illus. 27 cm. (American lecture series. Publication no. 226 A monograph in American lectures in gynecology and obstetrics edited by E. C. Hamblen) $5.50 4047

Contents: The hysterectomy problem. An approach to hysterectomy. Some conditions requiring hysterectomy. The choice of operation. Technique. Intraoperative complications. Results. Index.

Note: The section entitled "Technique" in this book is actually an atlas of full-page drawings of surgical techniques divided as follows: abdominal hysterectomy 17 figures [illegible] vaginal hysterectomy 7 figures; radical hysterectomy 6 figures. The seven chapters which precede and follow the atlas section present [illegible] full and expert discussion of the hysterectomy operation, including the problem of unnecessary hysterectomy and the opposite problem of failure to perform the operation when [illegible] is indicated. The psychological aspects are thoroughly discussed in the second chapter and the terminal chapter summarizes, largely in the form of statistical graphs and tables, the results of 1,[illegible] hysterectomy cases performed by the authors and their former students. The authors are members of the faculty of the School of Medicine of Vanderbilt University

CALKINS LEROY A.

Normal labor Springfield, Ill. Charles C Thomas 1955 128 p. illus. 22 cm. (American lecture series. Publication no. 246. A monograph in American lectures in gynecology and obstetrics edited by E. C Hamblen) $4.00 4048

Contents: Etiology of onset of labor. Onset of labor. First stage of labor. Second stage of labor. Third stage of labor. Rectal [illegible] Analgesia and anesthesia. Summary. Appendices. On predicting the length of labor. The second stage of labor—internal rotation. The second stage of labor—the descent phase. The second stage of labor. Factors governing blood loss in the third stage of labor. The third stage of labor. Management of the third stage of labor. Literature cited.

Note: In this small book, basic facts about normal labor gleaned from the detailed records of about 1,000 cases are presented. The case records have been kept by the author during [illegible] practice of 25 years. Data gathered from them are presented in [illegible] tables in the appendices. The chapters that precede the appendices contain no tables and few statistics, but are devoted to critical discussions of the current knowledge pertaining to normal labor, and to the author' personal observations and conclusions. They contain such passages as the following: "In general, we still like the regional over the general anesthetic, whether [illegible] be the simple, pudendal infiltration or something more extensive. At the moment we feel that the possibilities of pudendal block anesthesia have not been sufficiently probed. A complementary work, Abnormal labor 70 p., $3.75, was issued by the same publisher in 1958.

CASTALLO MARIO ALBERTO AND CECILIA L. SCHULZ

Woman's inside story New York The Macmillan Company 1948. 203 p. illus. 21 cm. $3.50 4049

Contents: The miracle of you. Nursery interlude. You grow up to be [illegible] woman. Your sex life. Approach to marriage. Tumors—and rumors. Some day you're going to be forty! You can't have [illegible] baby? Affections, afflictions, and infections! Happy expectations! Obstetrical postscript. Glossary. Index.

Note: An informative and rather lightly written exposition of reproduction and related subjects from the viewpoint of the average woman. Chiefly it outlines in popular terms woman's special psychology and physiology from conception and gestation through stages of infant, girl, young woman, wife, mother, and the menopause. While stressing the nature and function of the feminine reproductive system, there are also general medical information and advice for women on physical ailments, health, and diet. The senior author is Clinical Professor at Jefferson Medical College.

CROSSEN ROBERT JAMES

Synopsis of gynecology Based on the text book Diseases of women. Fourth edition. 132 illustrations including frontispiece in color St. Louis The C. V. Mosby Company 1956. 255 p. illus. (part col d) 20 cm. $5.25 4050

Contents: Anatomy and physiology. Gynecologic examination and diagnosis. Diseases of the external genitals and vagina. Relaxation and fistulas. Displacements of the uterus. Inflammatory and metabolic disturbances of the uterus. Non-malignant tumors of the uterus. Malignant disease of the uterus. Pelvic inflammation. Other diseases of fallopian tube, pelvic peritoneum, and pelvic connective tissue. Diseases of the ovary and parovarium. Malformations. Disturbances of function. Sterility and sexual disturbances. Miscellaneous disturbances. Medicolegal points in gynecology. Index.

Note: This concise handbook was first published in 1932; the third edition appeared in 1946. As indicated in the title, it is based on H. S. and R. J. Crossen: Diseases of women, 10th edition, St. Louis, 1953. Its purposes are two (1) to provide general practitioners who are not specialists with the basic facts on gynecological principles, diagnosis, and treatment, and (2) to serve as [illegible] study guide and review for medical students. The organization of the material remains the same in this edition. Newly added information includes some new concepts, new diagnostic techniques, and more information on aspects of therapy such as the use of antibiotics in infections. There is [illegible] detailed subject index.

CURTIS ARTHUR HALE, AND JOHN WILLIAM HUFFMAN

A textbook of gynecology Sixth edition with 466 illustrations, chiefly by Tom Jones including 37 in color Philadelphia W B Saunders Company 1950 799 p. illus. (part col d) 26 cm. $11.00. 4051

Contents (abridged): Section I, Anatomy. Section II, Physiology (including of the endocrine glands). Section III, The endocrines. Section IV, History and examination. Section [illegible] Infectious processes: Gonorrheal disease of the female genitalia. The "[illegible] group" of pelvic infections. Genital tuberculosis. Syphilis. "Nonspecific" infections. Section VI, Tumors of the uterus. Section VII, Tumors of the ovary. Tumors of fallopian tubes, ligaments and pelvic cellular tissues. Section VIII, Displacements and relaxations. Section IX, Disturbances of function. Section X, Endometriosis. Ectopic pregnancy. Leukorrhea. Genital fistulas. Backache. Disturbances of the pelvic veins. Endometritis. Lesions of the cervix. Inversion of the uterus. Congenital malformations. The early months of pregnancy (from gynecological aspect). Urinary tract problems in gynecology. Radiotherapy. Index.

Note: The first edition of this standard text for medical college students appeared in 1930. This sixth edition is the first one to bear the name of [illegible] collaborating author. The scope and purpose

edition New Haven Quarterly Journal of Studies on Alcohol, 1954 473 p 23 cm $6 00 4041

Contents Introduction to the curriculum, by E. M. Jellinek. The problems of alcohol, by E. M. Jellinek. Metabolism of alcohol by H. W Haggard. The concentration of alcohol in the blood and its significance with demonstration of the alcoholometer by L. A. Greenberg. The physiological effect of large and small amounts of alcohol, by H. W Haggard. Alcohol and nutrition—the diseases of chronic alcoholism, by N Jolliffe. Effects of small amounts of alcohol on psychological functions, by E. M. Jellinek. Drinking mores of the social classes, by J Dollard. Heredity of the alcoholic, by E. M. Jellinek. Children of alcoholic parents raised in foster homes, by A. Roe. Theories of the alcoholic personality by C. Landis. Alcohol and aggression, by R. S. Banay The functions of alcohol in primitive societies, by D Horton Alcohol and complex society by S. D Bacon. Some economic aspects of inebriety by B. Y Landis. Excessive drinking and the institution of the family by S. D Bacon. Alcohol and pauperism, by A. J Murphy Alcohol and traffic, by D S. Berry Philosophy of the temperance movement; panel discussion by H. S. Warner and others. The churches and alcohol by R. H. Bainton. Control consumption of alcoholic beverages, by E. G. Baird. Legal aspects of prohibition by E. B. Dunford. Analysis of wet and dry propaganda, by D Anderson. Penal handling of inebriates panel discussion by W M. Maltbie and others. Medical treatment of the inebriate, by R. Fleming. The role of religious bodies in the treatment of inebriety in the United States, by F W McPeek. Social casework with inebriates, by S. M. Baker Pastoral counseling of inebriates, by O R. Rice. The fellowship of Alcoholics Anonymous, by W W (one of the founders)

Note Published in this vol me is selection of lectures originally given at the Summer School of Alcohol Studies of Yale University As indicated by the titles, there is a strong social slant to the collection. However the physiological and medical aspects of alcoholism are discussed in several of the lectures. Since it was first published in 1945 the collection has enjoyed a wide circula tion and a seventh printing of the book as made in June, 1957

GYNECOLOGY AND OBSTETRICS

ATLEE, H. B

Chronic iliac pain in women. Springfield Ill. Charles C Thomas, 1954 65 p illus 22 cm. (American lecture series Publication no 198 A monograph in American lectures in gynecology and obstetrics, edited by E C Hamblen) $2 50 4042

Content The apologia The approach. Chronic appendicitis. Adhesions. Painful ovary and/or fallopian tube. "Cysts" of the ovary Conditions of the cervix and terus causing pain. Painful conditions of the ureter Abdominal wall neuralgia. The cecal syndrome. Psychic pain The summing up.

Not A short book—essentially long essay—on common gynecologic complaint. The author who is Head of the Department of Obstetrics and Gynecology of Dalhousie University has written from the viewpoint of his own extensive experience. In a pungent style that is easy to read, he offers sound advice on differential diagnosis and management of iliac pain in omen.

BECK ALFRED C, AND ALEXANDER H ROSENTHAL

Obstetrical practice. Sixth edition. Balti more The Williams & Wilkins Company 1955 1 066 p illus 26 cm $12 00 4043

Contents (abridged) Relation of menstruation to ovulation fertilization, and implantation. Chronological development of pregnancy Physiology of the fetus. Changes in the maternal organism. Diagnosis of pregnancy Management of pregnancy The essential factors in labor The mechanism of labor Clinical course of labor Management of labor The puerperium. Lactation Posterior positions of the occiput Face presentation. Breech presentation. Transverse presentation. Compound presentation and prolapse of the umbilical cord. Multiple pregnancy Diseases f the decidua and fetal membranes. Abortion. Ectopic gestation Hyperemesis gravidarum. Preeclampsia and eclampsia. The pathology of labor Faulty passages. Placenta previa and abruptio placentae In ertion of the uterus. Retained and adherent placenta. Postpartum hemorrhage. Puerperal infection. Artificial interruption of pregnancy Methods used to hasten or complete the dilatation of the cervix Forceps. Cesarean section. Repair of lacerations. Resuscitation of the newborn child. Analgesia, amnesia and anesthesia. Appendix. Index.

Note One of the leading American textbooks in its field, it is noted for the clarity of both its text and drawings. The first edition was published in 1935 and the fifth edition in 1951. The sixth edition is the first to bear the name of co-author. No change was made in the scope and plan of the book in preparing it. However revisions, including deletions, augmentations and rewritten sections, were made in many chapters in order to incorporate the modern viewpoint and the new advances in obstetrics without destroying the conservative iewpoint of the original work. In the text there are now 947 figures, many of hich contain several illustrations, and 33 reproductions of roentgenograms in the appendix.

BERMAN, ROBERT

Obstetrical roentgenology 486 illustrations Philadelphia F A. Davis Company 1955 599 p illus. 25 cm. (Obstetrics & gynecology, a series of monographs, edited by Claude E Heaton) $12 50 4044

Contents Introduction. Historical considerations. Clinical aspects of X-ray pelvimetry Technical aspects of X-ray pelvimetry Pelvic diameters and X-ray measurements. The prognostic method of X-ray pelvimetry The inlet view of the pel is. The lateral view of the pelvis. The outlet view of the pel is. The lateral view of the uterus. Classification of the pelvis. The fetus. The placenta. Additional methods of X-ray pelvimetry Practical application of X-ray pelvimetry Bibliography Index.

Note. The author of this book is distinguished in both the specialties of obstetrics and roentgenology Although his primary purpose was to inform obstetricians about the potentialities of X-ray pelvimetry he has also paid much attention to the interrelations between the two specialties. H makes it clear that the roentgenologist responsibility is to provide useful roentgenographs which the obstetrician interprets from the standpoint of diagnosis and clinical management. Standardization of roentgenographic technique is therefore given some emphasis. The book is based on about 1,500 obstetrical cases and on visits to many leading maternity [illegible] of the United States of America and of Europe. There are several hundred illustrations and a comprehensi bibliography

BERNSTINE, J B, AND A E RAKOFF

Vaginal infections, infestations, and discharges. New York The Blakiston Division, McGraw Hill Book Company, Inc., 195[illegible] 4[illegible] p illus (part col d) 23 cm. $10 00 4045

Contents Embryologic factors. Anatomy Histology [illegible] Physiology Examination of the patient. Bacteriology [illegible] natal period Gonococcal infections in children [illegible] vulvovaginitis Vulvovaginitis in the acute inf[illegible] of childhood Infestations with orms Infestations with protozoa in children Foreign bodies in the vagina. Menstruat[illegible] and menstrual discharges. Vaginal discharges in the ad[illegible] Relationship of cervical disease to vaginal infection Trichomonas [illegible] vaginitis. Vulvovaginal mycoses Fusospirochetosis (Vincent infection Plaut Vincent's disease) Chancroid. Lymphogranuloma venereum. Granuloma inguinale Syphilis. Tuberculosis. Condylomata [illegible] Vaginitis Emphysematosa (colpiti s emphysematosa). [illegible] to physical agents. Chemical vaginitis [illegible] the adult. Pregnancy Vaginal infections in the puerperal and postpartum period. Atrophic vaginiti Index.

Note A specialized treatise in hich vaginal infections are discussed in more detail than is possible in the few chapters usually accorded the subject in treatises on gynecology in general. It covers these conditions in children and adolescents as well as in adults. Diagnosis and treatment are the primary topics. However, the book contains several chapters on basic anatomy, histology, physiology etc. and in chapters on specific disorders, some space is devoted anatomic, histologic, and physiologic factors. In many of the aspects, several methods of treatment are described, and the authors indicate which one they have found most successful. The book is based partly on the literature and partly on clinical experience in the Department of Obstetrics and Gynecology of the [illegible] Medical College and Hospital Philadelphia. Literat references are given, and there are 132 illustrations.

Pathology of the puerperium. Section IX, Abnormalities of the newborn. Section X, Operative obstetrics. Index.

Note This book is one of the *standard American* textbooks on obstetrics. It is used both for instruction in medical schools and for reference in the offices of practicing physicians. The first edition was published in 1902. The first six editions were written by J. Whitridge Williams; the next three were the work of Henricus J. Stander. This *eleventh* edition is the second one prepared by Eastman, who is *Professor* of Obstetrics in Johns Hopkins University and Obstetrician-in-Chief to the Johns Hopkins Hospital. In comparison to the 10th edition, this edition contains a number of chapters which have been rewritten in whole or in part, and new chapter, Psychiatric aspects of pregnancy and childbirth, by Leo Kanner has been added to Section III. Recent literature has been added to the bibliographies which, in this edition as in previous ones, are an important feature. Some new illustrations have been added.

Everett Houston Spencer

Gynecological and obstetrical urology Second edition. Baltimore The Williams & Wilkins Company 1947 539 p. illus. 23 cm. $6.00. 4058

Contents (abridged) The relation of female urology to allied specialties. General study of the urological patient. Cystoscopic technique. Diseases of the urethra. Inflammation of the bladder. Neoplastic. Cancer and the bladder. Other bladder conditions. Incontinence of urine. Retention of urine. Diversion of the urinary stream. Congenital anomalies of the kidneys and ureters. Intrinsic ureteral obstructions. Extrinsic ureteral obstructions arising in the genital organs. Extragenital extrinsic obstructions. Hydronephrosis. The etiology and pathology of nontuberculous infections of the upper urinary tracts. Clinical forms of renal infection. Tuberculosis of the urinary tract. Calculous disease of the kidneys and ureters. Tumors of the kidney and ureter. Traumatic injury of the kidneys and ureters. Index.

Note Based largely on the activities and experiences of the Gynecological Department of the Johns Hopkins Hospital and University, this treatise covers thoroughly the special urological diseases and conditions of women. It is designed for medical college students, general medical practitioners, and for gynecologists and obstetricians. Cystoscopic techniques, especially Kelly's, are described in detail, but other surgical techniques are not, generally speaking, described so thoroughly. In the second edition a discussion of indirect cystoscopy and material on penicillin therapy have been added, and the bibliographies have been brought down to date. There are now 132 figures.

Fish John S

Hemorrhage of late pregnancy Springfield, Ill. Charles C Thomas 1955 160 p. illus. 22 cm. (American lecture series. Publication no. 225 A monograph in the Bannerstone division of American lectures in gynecology and obstetrics edited by E. C Hamblen) $5.50 4059

Contents Introduction. Anatomy. History. Clinical characteristics. Clinical diagnosis. Placental diagnosis. Theory of mechanism of marginal sinus rupture. Treatment. Bibliography. Appendix. Index.

Note A contribution to the understanding and management of hemorrhage in the third trimester of pregnancy. It is based on the opinion and experience of a group of five members of the faculty of Emory University. This experience is not solely hospital experience, but includes the long private practice of Dr R A Bartholomew and an extensive group private practice. The theory is advanced that the rupture in the placenta that causes hemorrhage usually involves the marginal sinus of the placenta and only rarely is due to true marginal placental separation. A probable mechanism of the rupture of the marginal sinus is explained in the terminal chapter. Aside from this theory the book contains much information useful to practicing obstetricians on the anatomy, physiology and pathology of the placenta and on the treatment of hemorrhage of late pregnancy and labor.

Fluhmann Charles Frederic

The management of menstrual disorders. Philadelphia W B Saunders Company 1956 350 p. 121 illus. 24 cm. $8.50. 4060

Contents Historical review of concepts of menstruation. The gonadotropins. Steroid hormones. Neural and endocrine control of menstruation. Mammalian reproductive cycles. Age at inception of menstruation. The menarche. *Menstrual disorders of adolescence.* The menstrual cycle. Systemic changes during the menstrual cycle. Systemic disorders of the menstrual cycle. The ovarian cycle. Disorders of the ovulatory phase. The uterine cycle. Cyclic changes of vulva, vagina, fallopian tubes, and mammary glands. A classification of disorders of menstruation and abnormal uterine hemorrhage. Polymenorrhea and oligomenorrhea. Secondary amenorrhea. Diagnosis and treatment of secondary amenorrhea. Hypermenorrhea and hypomenorrhea. Anovulatory menstruation and hyperplasia of the endometrium. Metrorrhagia. The management of pathologic uterine bleeding. Dysmenorrhea. The climacteric and menopause. Clinical usage and commercial preparations of sex hormones. Index.

Note Much information on the clinical management of menstrual disorders together with background information, such as is indicated by the titles of the introductory chapters, is presented in this compactly written book. Graduate general practitioners are the intended audience, and the book is useful also to students who are preparing for the specialty of gynecology. Both rare and common disorders are included, but the emphasis is on the latter. Bibliographies are included in the chapters. The book supersedes the author's *Menstrual disorders*, 1939. It contains some material carried over from the earlier work, but is essentially a new book.

Fluhmann Charles Frederic

Medical treatment in obstetrics & gynecology Baltimore The Williams & Wilkins Company 1951 157 p. illus. 24 cm. $3.00. 4061

Contents Diagnosis and medical therapy in obstetrics and gynecology. Therapeutic measures. Nutrition. Office and hospital procedures. Index.

Note An office reference book which contains concise information on many topics ranging from supporting diets for pregnant women to lists of equipment for treatment rooms associated with a physician's office. A tabulation of useful drugs is included. The miscellaneous material even includes suggested "permission forms" for operations and treatments. Some literature references are supplied. The author is Clinical Professor of Obstetrics and Gynecology in the School of Medicine of Stanford University.

Greenhill Jacob Pearl

Obstetrics. Eleventh edition. 1 170 illustrations on 910 figures, 144 in color Philadelphia W B Saunders Company 1955 1,099 p. illus. (part col'd) 26 cm. $14.00. 4062

Contents (abridged) Part I, The physiology of reproduction, pregnancy, labor and the puerperium: Section I, Physiology and conduct of pregnancy: Ovulation and conception. Physiology of the fetus and the newborn. Endocrine changes and diseases during pregnancy. The diagnosis of pregnancy. Roentgenology in obstetrics. Section II, Physiology and conduct of labor: The passage and the mechanism of labor. The passengers and the mechanism of labor. Mechanism of labor in occiput presentation. Preparations for delivery. Management of the first and second stages. Analgesia and anesthesia. Physiology and management of the third stage. Induction of labor. Section III, Physiology and conduct of the puerperium: General changes in the puerperium. Postpartum care and diagnosis of the puerperium. Psychiatry of pregnancy, labor and puerperium. Part II, The pathology of pregnancy, labor and the puerperium. Section IV The pathology of pregnancy: Minor disturbances in pregnancy. *Hyperemesis gravidarum*—ptyalism—acute yellow atrophy—infectious hepatitis—chloroform poisoning. Toxemias of pregnancy. Ectopic pregnancy. Uterine and vaginal displacements and distortions. Abortion and missed abortion. Placenta previa. Abruptio placentae. Multiple pregnancy. Infectious diseases. Malformations and local diseases. Pregnancy complicated by neoplasms. Fetal erythroblastosis and the Rh factor. Section V Pathology of labor. Anomalies of the powers. Anomalies of the passengers. Prolonged labor and missed labor. Anomalies of the soft parts of the passages. Contracted pelves and other pelvic abnormalities. Conduct of labor in contracted pelves. Accidents of labor—injuries to the parturient canal, bladder, pelvic joints and bones. Prematurity and care of premature babies. Section VI, Pathology of the puerperium. Section VII, Operative obstetrics. General considerations of operative obstetrics. Preparatory obstetric procedures. Breech extraction. Forceps delivery. Cesarean section. Index.

Note A standard medical college text and reference book for

are unchanged the book is still primarily a text and secondarily a reference book for general practitioners and gynecologists. The fifth edition was published in 1946. For this edition, two chapters were extensively revised, some new material was added to other chapters, and a selection of recent literature was added to the reference lists. Before his retirement the senior author was chairman of the Department of Obstetrics and Gynecology in the Medical School of Northwestern University The junior author is currently Associate Professor of Obstetrics and Gynecology in the same school.

DECKER, ALBERT

Culdoscopy, a new technic in gynecologic and obstetric diagnosis With a foreword by Richard W TeLinde Philadelphia W B Saunders Company, 1952 148 p illus. 22 cm $3 50 4052

Contents Culdoscopy its history and development. Anatomy of the vagina. The Decker culdoscope. Culdoscopic technic. Colpoceliocentesis. Ectopic pregnancy Culdoscopy in the management of sterility Culdoscopic uterotubal insufflation. Pneumoperitoneum. Culdoscopy in the diagnosis of endometriosis. Culdoscopic observation of ovulation and ovum transfer Endoscopic photography Case reports. References.

Note A thorough and adequately illustrated presentation of a relatively new instrument and technique which permit visual examination of the pelvic viscera in the course of diagnosis. It is addressed to graduate obstetricians and gynecologists. The bibliography is comprehensive.

DECKER, ALBERT, AND WAYNE H DECKER

Practical office gynecology 103 illustrations 19 in color Philadelphia F A Davis Company, 1956 388 p illus (part col'd) 25 cm (Obstetrics & gynecology a series of monographs edited by Claude E Heaton) $10 50 4053

Contents. The office record and case history The physical examination Instrumental examination. Special examinations. Hysterosalpingography Other examinations. Disorders of the vulva. The menstrual cycle. Disorders of menstruation. Abnormal genital tract bleeding. Endometriosis. Infertility Hormone therapy in gynecology Premenstrual tension. Psychosomatic gynecology The office management of stress incontinence of urine. The vaginal douche. The vaginal pessary Leukorrhea. Backache. Palpable pelvic tumors. Inflammatory diseases of the tubes and ovaries. Indications for gynecologic surgery Cancer detection in women. Premarital consultation Culdoscopy Axioms. Bibliography Index.

Note Addressed primarily to general practitioners of medicine and limited to medical and surgical techniques that may be employed in doctor's offices, this book covers in straightforward style the gynecologic disorders and the techniques of diagnosis and treatment that are mentioned in the chapter titles. In surgery only simple techniques are specifically described. Conditions requiring major surgery are discussed in the chapter entitled "Indications for gynecologic surgery" Illustrations are adequate and clear The father-son authors are specialists in obstetrics and gynecology associated with New York Medical College and the College of Medicine of New York University

DENNEN, EDWARD H.

Forceps deliveries. 91 illustrations by Alfred Fineberg Philadelphia F A. Davis Company, 1955 228 p illus 25 cm (Obstetrics & gynecology a series of monographs, edited by Claude E Heaton) $6 50 4054

Contents Introduction. Prerequisites for forceps deliveries. A classification of forceps operations according to station of head in pelvis. Classical instruments. Technic of application. Traction. Transverse positions of the occiput. Posterior positions of the occiput. Special instruments, Kielland forceps. Barton forceps. Piper forceps for the aftercoming head. Choice of instrument. Conclusion. Index.

Note. A manual of specific and explicit information. The author has stated, "The ultimate object of this book is to show that there is a choice of instruments in delivery with forceps, depending upon the existing conditions; that one should choose the type of forceps that suits the case rather than try to make all cases fit one type of forceps. Both the types of instruments which are in common use and special instruments are described, from the standpoint of the kinds of cases to which they are suited. Techniques of use are described for each. The book is clearly written and is adequately illustrated. The majority of the illustrations are reproductions of simplified diagrams that illustrate techniques.

DIECKMANN, WILLIAM JOSEPH

The toxemias of pregnancy, with fifty text illustrations and three color plates. St. Louis The C. V Mosby Company, 1941 521 p. illus. (part col'd) 25 cm. $10 00 4055

Contents Section I, Classification, incidence, and pathology Classification, etc. Incidence of eclampsia and other toxemias of pregnancy Pathology II Normal and abnormal physiology Physicochemical determinations. Blood pressure. Renal physiology Liver. Ocular system. Placenta. Endocrine glands. Estrogens and gonadotropins. Edema in pre-eclampsia and eclampsia. III, Etiology Factors influencing eclampsia in pregnant animals. In pregnant women. Constitutional and environmental factors. IV Clinical aspects Signs and symptoms. Hypertensive disease. Diseases of the kidney acute chronic. Types of eclampsia. Pre-eclampsia and eclampsia. Complications. V Treatment: Historical résumé. Pharmacodynamics. Procedures and methods. Termination of pregnancy Obstetric treatment of eclampsia. Of nonconvulsive toxemias of pregnancy VI, Maternal and fetal prognosis and prenatal care: Mortality maternal fetal. Maternal and fetal sequelae. Prenatal care. Monographs. Index.

Note This book has two objectives. (1) to acquaint the obstetrician with some of the recent contributions on physiology pertaining to obstetrics (2) to acquaint the investigator, untrained in obstetrics, with some of the physiology and pathology of obstetrics. Because the pathologic picture of toxemia is not clear-cut and the etiology is still obscure, the literature on this subject is voluminous, and in this book the author has condensed and discussed investigations, clinical observations, etc., which have appeared in the literature. The material was thus limited in order to supplement previous monographs on this subject. The opinions, theories, and conclusions expressed by the author are based on his personal work.

DILL, L V

The obstetrical forceps Springfield, Ill. Charles C Thomas, 1953 156 p. illus. 22 cm. (American lecture series. Publication no. 150. A monograph in the Bannerstone division of American lectures in gynecology and obstetrics edited by E C Hamblen) $5 25 4056

Contents. Historical. The development of the forceps in its present form. Indications for the use of the forceps. Prerequisites for application of forceps. The mechanism of the forceps. Application of the forceps. Traction on forceps. Failures of rotation. Application of forceps for the posterior and transverse positions. Abnormalities of flexion. The Tarnier forceps. The Kjelland forceps. The Barton forceps. The Piper forceps. The choice of forceps. Injuries associated with forceps deliveries. Summary Bibliography. Index.

Note. A small but comprehensive monograph. It outlines the history of the obstetrical forceps, and describes the special features of the types currently used or of significance in the historical development. It provides longer discussions of indications for use of forceps and of the techniques of application and traction than are found in most treatises on obstetrics. The descriptions of techniques are explicit and fully detailed. There are 24 figures.

EASTMAN NICHOLSON J

Williams' obstetrics Eleventh edition. New York Appleton-Century Crofts, Inc., 1956 1,212 p illus. (part col'd) 25 cm. $14 00. 4057

Contents (abridged) Section I, Orientation Section II, Anatomy and physiology of reproduction. Section III, Management of normal pregnancy Section IV Physiology and conduct of labor Section V The puerperium and the newborn. Section VI, Abnormalities of pregnancy Section VII, Abnormalities of labor Section VIII,

[illegible] and recto-vaginal fistula. Culdoscopy, by A. Decker. Removal of cyst of the vagina, by H. C. Falk. An improved method of the construction of an artificial vagina, by L. R. [illegible]. The [illegible]. Repair of enterocele, by J. C. Ward. The Fothergill operation, by H. W. Johnston. The Manchester operation for correction of uterine prolapse, by L. E. Phaneuf. Section iv, Operations by [illegible] of urinary fistulas and for the correction of stress urinary incontinence. Surgical operation for correction of stress urinary incontinence, by W. T. Kennedy. Closure of urinary fistulas, by J. C. Moir. Section [illegible], Operations designed chiefly for correction of vaginal prolapse. Le Fort operation for advanced prolapse, by D. N. [illegible]. The modified Le Fort operation for correction of eversion of the vagina following hysterectomy, by C. J. Andrews. Correction of vaginal vault prolapse after previous hysterectomy by [illegible] vaginal operation which does not obliterate the vaginal canal, by J. R. [illegible]. Correction of prolapse of the vagina following hysterectomy, by L. Brady. Abdominal cystourethropexy, by C. B. Marsh. Watkins' interposition (transposition) operation, by R. J. Lowrie. Section vi, Operations on the cervix, [illegible] Conization of cervix, amputation and trachelorrhaphy, by R. J. Lowrie. Electrocauterization and [illegible] of the cervix, by M. C. [illegible]. Trachelotomy by M. C. [illegible]. Removal of cervical polyps, by H. H. [illegible]. [illegible] (excision) of the uterus, by R. J. Lowrie. Section vii, Abdominal hysterectomy. Technic of total abdominal hysterectomy by W. J. Koch and M. J. Nechtow. Radical hysterectomy for cancer of the cervix with bilateral pelvic lymph node dissection, by J. V. Meigs. Fundectomy and [illegible] of uterus, by W. T. Kennedy. Section viii, Vaginal hysterectomy, vaginal-abdominal hysterectomy and operations for correction of prolapse of the uterus. Vaginal hysterectomy by ligature method, by V. B. Green-Armytage. Vaginal hysterectomy by clamp method, by A. M. [illegible]. Complete removal of pelvic viscera for advanced carcinoma, by A. Brunschwig. Section ix, Operations on the fallopian tube and ovary. Cornual resection of the fallopian tubes, by H. C. Falk. The surgery of ectopic pregnancy, by R. B. [illegible]. [illegible] and exploratory operations on the fallopian tubes for correction of infertility by [illegible]. Therapeutic sterilization, by C. T. Javert. Section x, Miscellaneous operations. Operations for relief of intractable pain, by W. P. [illegible]. Subcutaneous implantation of [illegible] in [illegible] therapy, by R. B. Greenblatt. Cesarean section, by R. J. Lowrie. Subject index. Author index.

Note: This book contains 78 chapters contributed by 72 specialists. It provides clear and concise descriptions of [illegible] full range of gynecologic operations. However, it is not [illegible] cyclopedia of such operations, but presents instead the techniques used by the contributing authors in their own practices. There is due emphasis on basic principles, preoperative preparation, etc. Illustrations are numerous and clear. Literature references are included in the chapters. There [illegible] companion volume available from the same publisher: Lowrie, R. J. editor, *Gynecology: diseases and minor surgery*, second edition, 195[illegible].

LULL, CLIFFORD B., AND ROBERT A. KIMBROUGH, editors

Clinical obstetrics. By members of the staff of the Pennsylvania Hospital. With 392 illustrations and 8 color plates. Philadelphia J B Lippincott Company 1953 732 p. illus. (part col'd) 26 cm. $10.00. 4069

Contents: Section [illegible], Anatomy and physiology of reproduction. Anatomy by C. W. Mackie and F. M. Kerr. Embryology and physiology by C. W. Mackie. Abnormalities of the genital tract, by C. W. Mackie. Endocrinology of pregnancy by C. W. Mackie. Fertility by C. W. Mackie. Section ii, Normal pregnancy. Signs and symptoms of pregnancy by R. M. Mitchell. Clinical laboratory methods in obstetrics, by A. B. Crane. Antenatal care and management of pregnancy by W. T. Tompkins. Nutrition and nutritional deficiencies in pregnancy by W. T. Tompkins. Section iii, Complications of pregnancy. Hemorrhages of pregnancy by R. A. Kimbrough. Toxemias of pregnancy by R. M. Mitchell. Medical complications of pregnancy by F. MacNeal and J. B. Vander [illegible]. The surgical complications of pregnancy by C. C. [illegible]. Obstetric [illegible] by F. A. [illegible]. Pathology of pregnancy and labor by A. R. [illegible]. Section iv, Normal labor. Physiology and mechanism of normal labor by J. C. Ullery. The management of normal labor by J. C. Ullery. Obstetric analgesia and anesthesia by R. A. Hingson. Section [illegible], Abnormal labor. Dystocia, by J. C. [illegible]. Abnormal presentations, by J. V. [illegible] and J. C. Ullery. Section vi, Operative obstetrics. Forceps, episiotomy and version, by R. C. McElroy. Cesarean section, by J. C. Ullery. Destructive operations on the fetus, by C. C. [illegible]. Multiple pregnancy by J. [illegible]. Section vii, Puerperal period. Normal puerperium, by C. E. [illegible]. Complications of the puerperium, by R. B. Wilson. Section viii, The newborn: Management of the normal infant in the neonatal period, by H. F. Lee. Hemolytic disease of the newborn, by H. F. Lee. Section ix, Other aspects. Maternal and neonatal mortality by R. M. Mitchell. Outline of obstetric nursing practices, by M. H. Madden. Legal aspects, by E. B. Hodge. Index.

Note: A collaboration among 23 present and former members of the staff of the Pennsylvania Hospital, this book describes the methods used in this hospital. Division of Obstetrics and Gynecology. It is organized as shown in the above contents. Each of the chapters is [illegible] rather full discussion of the facts of the subject covered as it [illegible], and is directed to medical college students and to graduate practitioners. Tabulations of statistical data representing the experience of the Pennsylvania Hospital on the point under discussion are included in some of the chapters. Literature references are given in all.

MACK, HAROLD C.

Plasma proteins in pregnancy: a clinical interpretation. Foreword by Nicholson J Eastman. Springfield, Ill. Charles C Thomas 1955 113 p. illus. 22 cm. (American lecture series. Publication no. 252. A monograph in American lectures in gynecology and obstetrics, edited by E. C. Hamblen) $3.75 4070

Contents: The basic proteins—their structure and functions. The plasma proteins in normal pregnancy. The plasma proteins in toxemia and other disorders of pregnancy. Fetal plasma proteins. Summary. References.

Note: This book is based on an extensive series of electrophoretic and [illegible] determinations of plasma protein levels in normal and complicated pregnancies. The determinations were made in the Research Laboratory of the Children's Fund of Michigan, and the results were interpreted clinically by the author and his colleagues in the Department of Obstetrics and Gynecology of Harper Hospital in Detroit and the College of Medicine of Wayne University. It is addressed primarily to graduate practitioners of medicine, both those [illegible] specialize in obstetrics and those [illegible] treat obstetric patients in the course of general practice. Most of its text is written in narrative form for straightforward reading. However, there are some tables of data. Among the author's conclusions: Although blood protein analyses do not demonstrate specifically that nutritional inadequacy is responsible for the breakdown in the maternal economy which results in toxemias of pregnancy, there is strong supporting evidence to indicate that [illegible] relationship exists between the nutrition of the human mother, the health and survival of her offspring and her own ability to perform the function of reproduction without disease. The list of literature references runs to eight pages.

MEIGS, JOE VINCENT, AND SOMERS H. STURGIS, editors

Progress in gynecology. Volume ii. New York Grune & Stratton, 1950. 821 p. illus. 24 cm. $9.50 4071

Contents (abridged): Growth and physiology: Embryology and development of the human reproductive tract, by W. Schiller. Functioning ovarian neoplasms, by M. R. Dockerty. The morphological and endocrine bases for menstrual bleeding, by J. E. Markee. The hormonal mechanism of the endometrium of the uterus, by E. C. Hughes. Diagnostic methods. Endometrial biopsy, by J. C. Burch and D. Phelps. The clinical evaluation of the vaginal smear, by R. M. Graham. Diagnostic tests for pregnancy by [illegible]. Functional disorders: Functional causes of uterine bleeding, by E. C. Hamblen. Dysmenorrhea, by F. M. [illegible]. The premenstrual syndrome of [illegible], by M. E. [illegible] and H. [illegible]. The psychiatric component in gynecology, by H. Deutsch. Interrelationship of endocrine glands: Hormones in relation to the [illegible] of the female, by I. T. Nathanson. The corpus luteum hormone in gynecology by J. S. L. Browne and others. The thyroid in gynecology by J. [illegible]. Gonadotropins in gynecology, by W. E. Brown and J. T. Bradbury. The function of the adrenal cortex in gynecology by E. C. [illegible]. Androgen therapy in gynecology by C. J. [illegible]. Sterility and reproduction: Diagnostic techniques and treatment of the sterile couple, by F. A. [illegible]. [illegible] and management of threatened abortion, by E. D. [illegible]. Ectopic pregnancy by W. D. [illegible]. Hydatidiform mole and chorionepithelioma, by A. T. Hertig. Infections and their treatment. The treatment of vulvovaginitis in children, by [illegible]. Trichomonas vaginalis vaginitis, by S. J. [illegible]. The

practitioners. Its first edition was published in 1913 and in its various editions it has been used for more than four decades. It covers the care of obstetrical cases from conception to the puerperium. Surgical procedures associated with delivery are fully covered. The illustrations are numerous and exceptionally clear. The 10th edition was published in 1951 and represented a very extensive revision in comparison to the preceding edition. The 11th edition is the result of another wide revision. Revised sections and new data appear in most of the chapters, including those written by the contributors. A number of illustrations were deleted, and 115 new ones were added. A selection of literature published since the 10th edition was written was added to the bibliographies.

GREENHILL, JACOB PEARL

Office gynecology. Sixth edition, revised and enlarged Chicago The Year Book Publishers, Inc., 1954 517 p illus. 21 cm. $7 75 4063

Contents (abridged) Office equipment necessary for gynecologic practice. The gynecologic examination. Postpartum care—prophylactic gynecology. Trichomonas vaginalis vaginitis. Vaginal and vulvar discharges due to mycotic and similar organisms. Vulvovaginitis in children—gonorrheal and nonspecific. Gonorrhea in adults. The uterine cervix—its disturbances and their treatment. Dyspareunia and frigidity. Sterility. The Rubin test—transuterine insufflation of gas. Artificial insemination. Culdoscopy. Vaginal douches. Backache. Control of conception. General anesthesia for office procedures. Office treatment of Bartholin's gland abscess and cyst. Gynecologic and obstetric endocrinology. Menstrual irregularities. The climacteric or menopause. Pruritus vulvae. Diagnosis of preinvasive uterine carcinoma by vaginal and cervical smears. The Schiller test for carcinoma of the cervix. Office urology. Office proctology. Obesity. Premarital examination and advice. Index.

Note. A concise manual directed to general practitioners of medicine and to young doctors beginning to practice in gynecology. In its various editions, it has been widely used in the United States of America and in other countries since the publication of the first edition in 1939. It covers both the medical aspects of gynecologic ailments and also the techniques of most minor operations that can be performed in doctors' offices. The fifth edition was published in 1948. In preparing this sixth edition, two chapters were deleted, and seven new chapters were added. The chapters carried over from the fifth edition were all revised, some of them very extensively. The book is now organized in 47 chapters, of which a selection is listed by title above. There are 127 figures in the sixth edition.

GREENHILL, JACOB PEARL

Surgical gynecology, including important obstetric operations. Illustrated by Angela Bartenbach. Chicago The Year Book Publishers Inc., 1952 350 p illus 21 cm 4064

Contents Preoperative preparation and postoperative care and complications. Vulvar and perineal operations. Vaginal operations. Abdominal operations. Index.

Note In this book the first chapter is 70 pages long and the remainder of the space, except that occupied by the index, is devoted to 101 plates, most of which contain reproductions of several drawings. The book is organized so that a plate on a left-hand page faces a page of printed text of description of the particular plate. The illustrations were made from original drawings of techniques employed by the author who is Professor of Gynecology in Cook County Graduate School of Medicine. The book is potentially of interest to general surgeons and to beginners in gynecology. A second edition was published in 1957 377 p., $9.50.

HERBUT, PETER A

Gynecological and obstetrical pathology 428 illustrations on 246 figures and 2 colored plates. Philadelphia Lea & Febiger 1953 683 p illus (part col d) 24 cm $12 00 4065

Contents Embryology of female genital system. Physiology by A. E. Rakoff. Cytology by A. E. Rakoff. Vulva. Vagina. Uterine cervix. Body of uterus. Fallopian tubes, broad ligaments, and round ligaments. Ovaries. Fetal membranes. Rh factor and blood groups, by L. A. Erf. The mother—anemias of pregnancy by L. A. Erf. Index.

Note Primarily a text for undergraduate medical college students, this book provides an inclusive, adequately illustrated survey of its subject. The chapter titles listed above show the arrangement. In dealing with the pathology of a specific region, the normal growth and microscopic anatomy is first described, then the diseases of the region are considered under the headings "Congenital anomaly," "Tumors," and "Mechanical disturbances." In dealing with individual disorders, the arrangement of the material is the standard one of: definition, incidence, cause, gross appearance, microscopic appearance, complications, clinicopathologic correlation, diagnosis, treatment and prognosis. Rather extensive lists of references to the literature are included.

HERSHENSON, BERT B

Obstetrical anesthesia, its principles and practice Springfield, Ill. Charles C Thomas, 1955 403 p illus. 23 cm. $9 50 4066

Contents Historical background. Reflex irritability. Pain. Labor. Premedication. Signs and stages of general anesthesia. Respiratory and circulatory derangements. Asphyxia neonatorum. Selection of anesthetic agent and technic—inhalation anesthesia (ether)—regional anesthesia. Complications. Index.

Note: A well-written presentation of fundamental knowledge and technical information. It is addressed to medical college students, general practitioners of medicine, and obstetricians rather than to specialists in anesthesia. In accordance with the author's thesis that "the skill and judgment of the obstetrician and anesthesiologist are of more significance than the anesthetic agent employed," more space is devoted to clinical physiology and pharmacology than to anesthetic techniques. However the latter are described explicitly and adequately for the book's purpose. Special consideration is given to complications, such as heart disease or poliomyelitis, and the handling of emergencies are discussed, in addition to standard cases. The author is Director of Anesthesia for the Boston Lying-In Hospital.

HINGSON, ROBERT A., AND LOUIS M HELLMAN

Anesthesia for obstetrics, labor delivery infant care. Philadelphia J B Lippincott Company, 1956 344 p illus (part col d) 26 cm. $12 50 4067

Contents Obstetric amnesia, analgesia and anesthesia in broad perspective. Obstetric amnesia, analgesia and anesthesia in historical perspective. Anatomic and physiologic considerations. Technics in obstetric amnesia, analgesia and anesthesia. Psychological principles of pregnancy and delivery. Control of pain in maternal and fetal complications. Anesthesia mortality. Infant mortality and morbidity. Maternal and infant safeguards, by V. Apgar. Organization of obstetric anesthesia service on 24-hour basis. Index.

Note A specialist in anesthesia and a specialist in obstetrics and gynecology are the authors of this thorough, up-to-date book. The historical development of the use of anesthetics and analgesics to ease the pain of labor is outlined in the first chapter. Most of the remainder of the book is devoted to correlation of the mechanisms of the various stages of labor with the principles and techniques of anesthesia. The actions of various anesthetics on the organs of the mother and of the unborn child are shown graphically in a series of 17 charts in color. All the methods currently in use are considered and their advantages and disadvantages discussed in detail. Techniques of administration are precisely described. Psychological aspects, including natural childbirth, are discussed. The book is directed to graduate anesthetists and obstetricians. The chapter on organization of obstetric anesthesia services on a 24-hour basis is also of interest to hospital administrators.

LOWRIE, ROBERT J, compiler and editor

Gynecology surgical techniques. Foreword by J P Greenhill Springfield Ill. Charles C Thomas 1955 523 p. illus 26 cm. $17 75 4068

Content (abridged) Section I, General principles of operative gynecology pre- and postoperative care. Section II, Operations on the vulva and its component structures. Incision and drainage of Bartholin's gland abscess, by G. L. Bowen. Treatment of Bartholin's gland cyst or abscess by marsupialization by P. Jacobson. Excision of the glands of the female urethra, by W. T. Kennedy. Vulvectomy for malignant disease, by C. White. Section III, Operations on the vagina, including repair of cystourethrocele, rectocele, enterocele.

Parmelee, Arthur Hawley

Management of the newborn. Chicago The Year Book Publishers, Inc., 1952 358 p. illus. 21 cm. $7.00. 4076

Contents: Introduction. The fetus. Birth and neonatal adjustments. Characteristics of the newborn. The premature infant. Care and management of the newborn. Disturbances directly due to birth processes. Disturbances due to abnormal variations of physiologic [illegible]. Disturbances due to prenatal factors. Disturbances due to acquired infections and other postnatal hazards. Index.

Note: A [illegible], short treatise designed mainly for general practitioners. It makes available to the nonspecialist many of the advances in knowledge that have been published in recent years in such books as Potter and Adair, *Fetal and neonatal death*, 2nd edition, 1949, and Smith, *The physiology of the newborn infant*, 1945. Also, much material has been included from the author's own extensive experience at Cook County and Presbyterian hospitals in Chicago. The diagnosis and treatment of disorders and unusual conditions are stressed. The chapters are supplemented by useful lists of references, and there are 47 figures.

Potter, Edith Louise, and Fred L. Adair

Fetal and neonatal death a survey of the incidence, etiology and anatomic manifestations of the conditions producing death of the fetus in utero and the infant in the early days of life. Second edition. Chicago The University of Chicago Press, 1949 173 p. illus. 22 cm. (The University of Chicago Committee on Publications in Biology and Medicine) $6.00. 4077

Contents: The normal fetus and infant. Postmortem examination. Survey of the principal causes of fetal and neonatal death. Special pathology. Statistical data pertaining to births, maternal deaths, infant deaths, and stillbirths. Index.

Note: A compact handbook on the nature, importance, and identification of the principal causes of death of human infants before birth or in the days immediately following birth. Normal anatomy and standards are first covered, then the authors describe techniques of the postmortem examination, outline the principal causes of death, cover the pathology in some detail, and finally summarize the statistical data of the fetal and infant deaths in the United States of America. Literature references are included. The first edition was published in 1939. For this edition the book was extensively revised, especially in the bibliographies and statistical data. Material was added on topics such as the effects of rubella and other virus infections of the mother during the first few months of pregnancy.

Potter, Edith Louise

Pathology of the fetus and the newborn. Chicago The Year Book Publishers, Inc., 1952 574 p. illus. 27 cm. $19.00. 4078

Contents: Early development of fetus and placenta. Rate of intrauterine growth. Chorionic villi and placenta. Abortion. Causes of fetal and infant death. Postmortem examination. Prematurity. Anemia. Birth trauma. Infections. Malformations. Tumors. Multiple pregnancies and conjoined twins. Heart and blood vessels. Lungs and trachea. Thymus and glands of internal secretion. Mouth, esophagus, stomach and intestine. Diaphragmatic and abdominal hernias. Liver and gallbladder. Pancreas. Spleen. Kidneys, ureters, urinary bladder and urethra. Sex organs, gonads and mammary glands. Central nervous system. Skeleton. Muscles, tendons and joints. Skin. Ears. Index.

Note: A notable contribution to the knowledge of abnormalities, physiological disorders, and certain diseases of infants from time of conception to about one year of age. A considerable part of the material pertains to conditions that result in prenatal death or death soon after delivery. The book is based on an intensive study of many thousands of autopsies performed at Chicago hospitals, particularly the Chicago Lying-in Hospital where the author holds the position of Pathologist. There are 621 figures, nearly all of which are reproductions of photographs. Each chapter is accompanied by lists of references.

Reich, Walter J., and Mitchell J. Nechtow

Practical gynecology With 187 illustrations, including 55 subjects in color Philadelphia J B Lippincott Company 1950. illus. (part col'd) 449 p. 24 cm. 4079

Contents: Psychosomatics of gynecology. Practical approach to gynecologic diagnosis. Biopsy and the early detection of cancer. Laboratory findings in gynecology. Reproductive endocrinology. Menstruation. Disturbances of menstrual function. Anomalies and malpositions of the female pelvis. Inflammatory lesions. Infections. Traumatic lesions. Neoplasms. Common gynecological complaints. Genital fistulas. Technics and operations. Low fertility and sterility. Premarital examination and counsel. Index.

Note: Although limited mainly to procedures which can be carried out in the general practitioner's office, this modern manual covers a wide range of gynecologic disorders and related matters. Both medical and minor surgical treatments are included. There is more than the usual emphasis on diagnostic techniques and on psychosomatic aspects, but most of the space is devoted to clear, explicit descriptions of techniques. The book is based on extensive experience in the outpatient clinics of Cook County Hospital in Chicago and on teaching the subject in the Cook County Graduate School of Medicine. A second edition was published in 1957 ($12.50).

Reynolds, S. R. M., and others

Clinical measurement of uterine forces in pregnancy and labor By S. R. M. Reynolds, Jerome S. Harris, and Irwin H. Kaiser Springfield, Ill. Charles C Thomas, 1954 328 p. illus. (part col'd) 24 cm. $9.50. 4080

Contents: Part one, Background and bases: Historical background. Physiological basis of tokodynamometry. Part two, Methods: Internal tokodynamometry. External tokodynamometry. Analysis of records. Internal uterine pressures during pregnancy and labor. Part three, Uterine contractions during pregnancy and labor: Development of uterine contraction patterns during pregnancy. Uterine contraction patterns during normal labor. Uterine contractions in abnormal labor. Part four, Effects of psyche and drugs on uterine contractions. General considerations—controls and routes of injection. Effect of [illegible] and [illegible] on uterine contractions. The psyche and uterine contractions. The effect anesthesia and analgesia on labor. The effect of pitocin on uterine contractions. Author index. Subject index.

Note: A book of outstanding importance for obstetricians and other physicians who conduct research on the mechanisms of labor and on the effects of hypnosis, drugs, etc., on labor. In a brief but informative first part, the history and physiological bases of tokodynamometry are outlined. The remainder of the book is devoted to detailed presentations of measurement techniques and to what has been learned by the techniques of tokodynamometry about uterine contractions in normal and abnormal labor and the effects of the patient's psychological state and of drugs on these contractions. The three-channel tokodynamometer developed by Sanborn Laboratories, Inc. is described and pictured. The discussions of the effects of psychological preparation for labor, of spinal anesthesia, and the administration of pitocin are of interest also to practicing obstetricians who are not concerned with research. Literature references are included in all the chapters.

Ricci, James Vincent and James Pratt Marr

Principles of extraperitoneal Caesarean section. New York. McGraw Hill Book Company Inc., 1942 224 p. illus. (part col'd) 23 cm. $4.50. 4081

Contents: The extraperitoneal principle of Caesarean section. Intra-abdominal lower segment, exclusion and extraperitoneal types of Caesarean. Anatomy and histology of the isthmus and lower segment. Anatomy and histology of the fascia and its relationship to the bladder, lower segment and peritoneum. Isthmus, zone and rupture of the lower segment. Methods of delivery in the extraperitoneal Caesarean. Wound infections and methods of drainage. Technique of the extraperitoneal types of Caesarean. Essential factors in the execution of the Physick-Latzko extraperitoneal

management of uterine abortion complicated by infection, by W E. Studdiford. Benign growths Treatment of the fibroid uterus, by W T Dannreuther Endometriosis, by W R. Holmes. Malignant growths Treatment of carcinoma of the ovary by H. C. Taylor Jr. Adenocarcinoma of the uterus, by C. L. Randall. The present-day status of noninvasive cervical carcinoma, by R. W Te Linde and G. A. Galvin. Cancer of the cervix—principles of radiation treatment, by A. N Arneson. Radical hysterectomy for cancer of the cervix with bilateral pelvic lymphadenectomy (the so-called Wertheim operation) by J V Meigs. Radiotherapy in uterine cancer by H. L. Kottmeier The surgical problem of advanced pelvic cancer—partial and complete pelvic exenteration, by A. Brunschwig and V K. Pierce. Carcinoma of the vulva, by L. Parsons. Super voltage radiation in gynecology by L. L. Robbins and M. D Schulz. Cancer of the cervix in pregnancy by A. R. Hunt and R. D Mussey Operative technique Vaginal hysterectomy by A. D Campbell. The management of prolapse of the uterus and vagina, by L. E. Phaneuf The Manchester Fothergill operation, by T L. Montgomery Complete tear of the perineum, by B. P Watson. The treatment of stress incontinence of urine, by C. D Reed. Enterocele, by J V Meigs. Vaginal atresia and construction of the vagina, by L. R. Wharton. Preoperative and postoperative care Anesthesia for gynecological procedures, by H. K. Beecher Antibacterial therapy in gynecological surgery and pelvic infections, by C. Lyons. Surgical treatment of the pain of pelvic disease, by B. Selverstone and J C. White. Commercial preparations of endocrine products used in gynecology by P H. Benedict. Index.

Note The pattern of the first volume published in 1946 (now out of print) has been followed in Volume II of this series. Again there are 70 short monographs, each of which has been written by a specialist who has made a "hobby" of the subject about which he writes. Most of the monographs are therefore summaries of the current status of the topic rather than reviews of progress during the period of arbitrary length. Short lists of literature references accompany many of the papers, but no author has attempted a comprehensive bibliography The series is addressed to graduate medical practitioners. The editors are members of the faculty of Harvard Medical School. Volume III was published in 1957 $15.50.

National Committee on Maternal Health

Menstruation and its disorders Proceedings of the Conference. Edited by Earl T Engle Springfield, Ill Charles C Thomas, 1950 358 p illus 24 cm. $6 50 4072

Contents Studies on the effects of steroid sex hormones on alkaline phosphatase in the endometrium, by W B Atkinson. The chemical histology of the human uterine cervix with supplementary notes on the endometrium, by G. B Wislocki and others. Methods of study for these lipase, by G. Gomori. Enzymes in the ovarian tissues of rats, by R. K. Meyer and W H. McShan Aborting human ova and associated endometria, by A. T Hertig and J. Rock. The histophysiology of the human endometrium, by H. Okkels. The relation of blood flow to endometrial growth and the inception of menstruation, by J E. Markee. Menstrual toxin—experimental studies, by O. W Smith. Menstrual toxin—clinical significance, by G. V S. Smith. Humoral factors related to peripheral vascular homeostasis, by E. Shorr and B W Zweifach Endometrial pathology of functional bleeding, by R. W TeLinde The atypical secretory phase, by C L. Buxton The physiology and pharmacology of the myometrium, by R. A. Woodbury Summary of proceedings, by J Rock. List of members of the conference on menstruation.

Note A collection of original papers, most of which present information based on recent investigations and not published hitherto. Excerpts from the discussions at the conference are included for some of the papers, and literature references are appended to most of them.

Novak Emil

Gynecologic and obstetric pathology with clinical & endocrine relations. Third edition With 630 illustrations 19 in color Philadelphia W B Saunders Company, 1952 595 p illus (part col d) 26 cm. 4073

Contents (abridged) The endocrinology of the menstrual cycle and pregnancy Diseases of the vulva. Diseases of the vagina. Benign lesions of the cervix, cervicitis, cervical erosion and cervical polyp. Carcinoma of the cervix. Histology of the endometrium. Hyperplasia of the endometrium. Endometritis, endometrial polyp, myometritis. Myoma and other benign tumors of uterus. Adenomyosis (adenomyoma) uteri. Sarcoma of the uterus. Carcinoma of the endometrium. Salpingitis. Tumors of the tube, parovarium, and uterine ligaments. Inflammatory diseases of the ovary Nonneoplastic cysts of ovary Cystadenoma of ovary Primary carcinoma of the ovary Metastatic ovarian carcinoma. Brenner tumor of ovary Dysgerminoma of the ovary Arrhenoblastoma of the ovary adrenal tumors of ovary masculinovoblastoma, hilus cell tumor (masculinizing tumors) Ectopic pregnancy Pelvic endometriosis. Hydatidiform mole and chorionepithelioma malignum. Abnormalities and diseases of the placenta and appendages (other than hydatidiform mole and chorionepithelioma) by L. M. Hellman. Common breast lesions of gynecologic interest. Index.

Note. A comprehensive textbook designed for medical students, practitioners, pathologists, and specialists. The subject is covered in terms of all the important features, such as gross and microscopic characteristics, malignancy and histogenesis of neoplasms, and histology of the female genital organs. Special attention is given to the correlation of pathology with clinical practice, and to endocrinologic aspects. The third edition has been extensively revised, and the book now includes material on many uncommon lesions not discussed in previous editions. About 90 illustrations have been added. The chapter on common breast lesions of gynecologic interest has been added. References to recent literature have been incorporated in some of the bibliographic lists. A fourth edition was published in 1958, 650 p., $14.00.

Novak, Emil, and Edmund R. Novak

Textbook of gynecology Fifth edition. Baltimore The Williams & Wilkins Company, 1956 840 p illus (part col'd) 23 cm. $11 00 4074

Content (abridged) Anatomy Embryology of the female generative organs. The gynecological history and examination. Physiology and endocrinology of menstruation. Cyclical histology of the genital tract. Clinical features of menstruation. Congenital anomalies of the female generative organs. Gynatresia. Diseases of the vulva. Diseases of the vagina. Cervicitis and cervical polyp. Carcinoma of the cervix. Displacements of the uterus. Myoma of the uterus. Sarcoma of the uterus. Chronic pelvic inflammatory disease. Tuberculosis of female generative organs. Benign tumors of the ovary Malignant tumors of the ovary Endometriosis. Ectopic pregnancy Leukorrhea. Backache in women. Problems of sex life Management of the menopause. Uterine bleeding. Sterility Pregnancy conditions in gynecological practice. Common disorders of the female urinary organs. Index.

Note A standard work in which diagnosis and treatment are emphasized, but in which there is also much information on endocrinology and other biological aspects of gynecology The book is used both by undergraduate students in medical colleges and by graduate practitioners. The fourth edition was published in 1952 and, like the fifth, was co-authored by the author's son and associate in Johns Hopkins Medical School. The chapters dealing with uterine cancer and with tuberculosis of the female generative organs were rewritten for this fifth edition, and numerous less extensive changes were made in other chapters. A selection of new literature has been added to the chapter bibliographies. There are 543 figures, including more than 40 in color

Papanicolaou, George Nicholas, and others

The epithelia of woman's reproductive organs a correlative study of cyclic changes, by George N Papanicolaou Herbert F Traut and A A Marchetti Cambridge Mass. Harvard University Press 1948 53 p. illus. (part col'd) 28 cm $10 00 4075

Contents Introduction. The material and methods. The classification of the menstrual cycle. The ovaries. The epithelium of the fallopian tubes. The epithelium of the uterine mucosa. The epithelium of the endocervical glands. The epithelium of the vagina and the portio vaginalis of the cervix (ectocervix) The cytology of the vaginal fluid and the vaginal smear The cytology of the endometrial and endocervical fluids. Correlation of cyclic changes. Bibliography Plates.

Note The principal aim of this detailed study is clarification of existing knowledge covering cell structures and their physiologic morphologic relationships in the epithelial portions of human female genitalia. Cytologic changes that occur during all phases of the menstrual cycle are minutely described, illustrated, and tabulated. Twenty-one pages of colored plates containing photomicrographs and drawings are included. The bibliography contains references to 90 articles and books selected from the international literature.

tions, fistulas, and displacements. Management of menstrual disorders. Endocrinopathic primary and secondary amenorrhea and [illegible]. The menopause, dysmenorrhea, [illegible], and hypermenorrhea. [illegible]. Sterility. The use of hormone preparations in gynecology and [illegible] as to proprietary hormone products. Index.

Note: The essentials of contemporary gynecology are covered very [illegible] in this work, which is addressed primarily to medical students [illegible] and secondarily to general practitioners. The [illegible] brief but abbreviated text [illegible] supplemented by brief references to the readily available recent literature. The author is head of the Department of Obstetrics and Gynecology in the School of Medicine of the University of Colorado.

TE LINDE, RICHARD W

Operative gynecology [illegible] figures and 7 color plates. Second edition. Philadelphia. J B. Lippincott Company 1953. 92[illegible] p. illus. (part col d) 26 cm. $[illegible].52 [illegible]

Contents: Preoperative care and [illegible]. Anesthesia in gynecology. Opening and closing the abdomen. Postoperative care and complications. [illegible] of uterus. Prolapse of uterus. Prolapse of the vagina, with or without cervix, following hysterectomy. The use of pessaries. Urethrocele, cystocele and stress incontinence of urine. Urinary incontinence not curable by sphincter plication. [illegible] and [illegible] fistulas. Relaxed vaginal outlet, rectocele and enterocele. Complete perineal lacerations and rectovaginal fistulas. The anus and the rectum in relation to gynecology. Myomata uteri. Operative injury of the ureter. Surgery of the double uterus. [illegible] cervical lesions and their treatment. Dilatation of the cervix and curettage of the uterus. Cancer of the cervix uteri. Carcinoma-in-situ of the cervix. Carcinoma of the corpus uteri. Sarcoma of the uterus. Functional uterine bleeding. Endometriosis. Presacral neurectomy. Gonorrhea and its complications. Abortions. Tuberculosis of the female genital organs. Sterility. Hysterectomy and [illegible]. Sterilization. Ectopic pregnancy. Cul-de-sac. Ovarian tumors. Retroperitoneal tumors encountered in gynecology. Congenital absence of the vagina. Surgical conditions of the vulva and the vagina. Surgery of the abdominal [illegible]. Appendicitis. The [illegible] in relation to gynecology. [illegible] therapy of the menopause. Index.

Note: A treatise of high merit. The author is Gynecologist-in-Chief of the Johns Hopkins Hospital, and the book reflects but is not strictly limited to methods of that institution. It presents a [illegible] and up-to-date view of surgical gynecology. The text [illegible] and clearly written and is well illustrated. The first edition was published in 1946. For the second edition, many sections were rewritten in order to incorporate such recent advances as the use of antibiotics in the treatment of infections and the development of the smear technique for the detection of uterine cancer as well as progress in operative techniques. Four chapters were added and more than 100 illustrations.

THOMS HERBERT

Pelvimetry New York. Paul B. Hoeber Inc., Medical Book Department of Harper & Brothers, 1956 120 p. illus. [illegible] cm. $5.00. 4088

Contents: General considerations. Methods and accuracy of pelvic measurements. The important pelvic diameters. Development of the pelvis. Nutrition and pelvic conformation. Male and female pelvis. Clinical significance of pelvic variations. Pelvic midplane contraction. Pelvic outlet contraction. Roentgenometry of the pelvis. Pelvic abnormalities caused by disease. [illegible] pelvis. Rare forms of pelvic abnormality: spondylolisthetic, [illegible], kyphotic, scoliotic, and coxalgic pelves. Injuries to the [illegible] of the symphysis pubis. Conclusions. A single film screening survey. Index.

Note: The title of this book is somewhat modest, for it deals as much with variations and abnormalities of the human pelvis as it does with measuring it. It [illegible] addressed to graduate practitioners of obstetrics and [illegible] compactly written. The author points out that roentgenometry is essential for measurements of the upper pelvis, but should be combined with palpatory measurements of the lower pelvis. Both the manual and the radiographic techniques are completely described. Pelvic abnormalities are included so that the practitioner can recognize and assess their importance [illegible] he discovers them. The author, Emeritus Professor of Obstetrics and Gynecology in the Yale University School of Medicine, has based the book partly on the literature and partly on [illegible] long series of combined clinical and roentgenological surveys made by the University Service of the Grace-New Haven Community Hospital, as part of the routine for all primigravidas. There are 43 figures.

TITUS, PAUL

The management of obstetric difficulties. Revised by J Robert Willson. Fifth edition With [illegible]48 text illustrations and one color plate. St. Louis The C. V Mosby Company 1955. [illegible]37 p. illus. (part col d) 25 cm. $12.50 4089

Contents: Introduction. Section I, Infertility. The [illegible] factors in infertility and their detection. Treatment of infertility. Section II, The diagnosis of pregnancy and prenatal care. The diagnosis and duration of pregnancy. Prenatal care and minor complications of pregnancy. Section III, Complications of pregnancy: Anomalies and diseases of the generative tract during pregnancy. General surgical conditions during pregnancy. Infectious diseases, skin diseases, and disorders of the nervous system during pregnancy. Diseases of the urinary system during pregnancy. Diseases of the heart and blood-forming organs, the gastrointestinal tract, and the endocrine organs during pregnancy. Abnormalities and diseases of the placenta and the fetal membranes. Abortion and premature labor. Ectopic pregnancy. Bleeding during late pregnancy. Multiple pregnancy. Toxemias of pregnancy. Section IV, Complications of labor. Normal labor. Dystocia from anomalies of uterine contractile force. Dystocia from developmental anomalies and gynecologic abnormalities. Pelvimetry and the recognition of contracted pelvis. Dystocia from contracted pelvis. Dystocia due to fetal complications. Postpartum hemorrhage and complications of the third stage of labor. Injuries to birth passages and adjacent organs. Section [illegible], Obstetric operations: Induction of abortion, sterilization and induction of labor. Breech delivery—breech extraction—version and extraction. Forceps delivery. Cesarean section. Mutilating operations of the fetus (embryotomy). Section [illegible], Complications of the puerperium. The normal puerperium. [illegible] and the management of puerperal complications. Puerperal infection. Section VII, Special therapy. Obstetric analgesia and anesthesia. Preparation for obstetric operations. Special examinations and treatment. Section VIII, The newborn infant. Care of the infant during labor and at delivery. The newborn infant. Index.

Note: As the table indicates, this book deals with obstetric difficulties and emergencies primarily and only incidentally with the management of normal pregnancy and labor. It is designed for the instruction of graduate medical students during their internships and to serve as [illegible] reference book by general practitioners. Much of the information presented is of interest also to specialists in obstetrics, particularly during their early years of growth. The first edition [illegible] published in 1937 and the fourth edition in 1950. This fifth edition is essentially [illegible] new book. [illegible] by Professor Willson [illegible] head of the Department of Obstetrics and Gynecology of Temple University Hospital, and Professor of Obstetrics and Gynecology in Temple University School of Medicine. A [illegible] range of conditions is covered, but the author has not attempted to be encyclopedic in inclusion of techniques for dealing with them. Instead, he has described methods which [illegible] for the most part represent those which are used in the Temple University Hospital and which are taught to the house staff and the medical students.

UNITED STATES CHILDREN'S BUREAU

Prenatal care. Completely rewritten Washington, D C. Government Printing Office 1949 76 p. illus. 22 cm. (United States. Children's Bureau. Publication no. 4) $0 15 4090

Contents: Planning your care. How the baby grows. Thoughts and feelings. This is [illegible] family affair. If this is not your first child. How to keep well. Some discomforts. Some problems. Getting ready for the baby. Preparing for delivery. When the baby arrives. Getting back on your feet. The newborn baby. Appendix. Glossary. Index. Suggested reading on pregnancy and baby care.

Note: A helpful, widely used booklet of information and advice for parents, especially mothers. It is intended to supplement physicians' instructions, especially in the answering of common questions on such matters as diet, exercise during pregnancy, and the beginning of labor. It is written in [illegible] simple, very readable style.

YEAR BOOK OF OBSTETRICS AND GYNECOLOGY (1956–1957 Year book series) Edited by J P Greenhill. Chicago. The Year Book Publishers, Inc., 1956 592 p. illus. 20 cm. $6.00. 4091

Caesarean. Extraperitoneal Caesarean in patients previously Caesar ezized or laparotomized. Complications. Appendix. Index.

Note This book gives in full detail the technique of all types of extraperitoneal Caesarean. The object is primarily to advance the extraperitoneal principle of Caesarean section, particularly the Physick-Sellheim principle. This operation, which exposes the entire lower segment with no possible danger to the ureter nor to the bladder in its vaginal area, giving the maximum margin of safety to the mismanaged parturient, is proposed to supplant the outmoded Porro section and craniotomy It argues that since it prevents peritonitis, it should displace all other types f Caesarean in infected or mismanaged cases. The literature dealing with extraperitoneal, transperitoneal and exclusion procedures has been reviewed with meticulous care in order to give the eader broad historical perspective, an orderly sequence of events, and balanced rationale.

RUBIN, I C, AND JOSEF NOVAK

Integrated gynecology, principles and practice New York The Blakiston Division, McGraw Hill Book Company, Inc 1956 3 v illus. 24 cm $60 00 4082

Contents Volume I Introduction. Anatomy Evolution and involution. Physiology Gynecologic examination. Congenital anomalies of the genitourinary organs. Injuries of the female sex organs. Effect of toxic agents on the female genital organs. Deformities and displacements of the internal genital organs. Inflammatory diseases of the female genitals. Index. Volume II Tumors of the female sex organs. Constitutional disorders and gynecology Disorders of reproduction. Index Vol me III Relationship between reproductive and other body systems Gynecologic symptomatology Operative gynecology Physiotherapy Female hygiene. Index.

Note A comprehensive ork based on extensive clinical experience in Austria and the United States of America. The authors emphasize the importance of correlating gynecology with other branches of medicine their discussion of physiology is 171 pages long, their discussions of relationships between the reproductive system and other body systems, 361 pages long, etc. Both medical and surgical treatments are covered. Operative techniques are fully described. There are 218 figures in Volume I, 163 in Volume II, and 129 in Volume III. Extensh bibliographies, hich are especially strong in citations of literature in German and in English, are included. The work is suitable for use as text for advanced medical students and as reference book for general practitioners. It is also of interest to established specialists in gynecology

SCHAEFER, GEORGE

Tuberculosis in obstetrics and gynecology With 58 halftone illustrations Boston Little Brown and Company 1956 307 p illus 22 cm $8 75 4083

Contents General aspects of tuberculosis and its treatment. Part I, Tuberculosis in obstetrics Incidence of tuberculosis complicating pregnancy and childbirth. Antepartum are of the tuberculous woman. Management of labor in tuberculosis Management of the puerperium Effects f pregnancy and childbirth on tuberculosis. Fate of infants f tuberculous mothers. Extrapulmonary tuberculosis and pregnancy Therapeutic abortion in tuberculosis. Tuberculosis f the breast Part II Tuberculosis in gynecology (tuberculosis of the female genital tract) Incidence and localization. Pathogenesis of genital tuberculosis. Pathology Clinical diagnosis. Laboratory aids in diagnosis. Treatment of tuberculosis of the female genital tract. Index.

Note The present status of diagnosis and treatment of tuberculosis in obstetrics and in gynecology is reviewed in this book, hich is directed to specialists in gynecology and obstetrics and t general practitioners of medicine. Much information not previously published in book form is included Both pulmonary and extrapulmonary tuberculosis are considered in the obstetrical part of the olume hile the gynecological part is limited to tuberculosis of the female genital tract. In the obstetrical part the uthor makes definite recommendations on treatment of tuberculosis in the pregnant patient and discusses the effect of lobectomy and other lung operations on the course of pregnancy Both parts of the olume are compactly written and include selected though extensive bibliographies. The author is specialist in clinical obstetrics and gynecology on the staff f Cornell University Medical College I New York City and is in charge of the Obstetric Pulmonary Clinic of the New York Lying-In Hospital.

SNOW, WILLIAM

Roentgenology in obstetrics and gynecology Second edition. With 273 illustrations. Springfield, Ill Charles C Thomas, 1951. 363 p illus. 24 cm $10.50 4084

Contents. General discussion of Roentgen study of pregnancy. Technic of Roentgen study of pregnancy Pelvic architecture. The usual occiput presentations and parturition. Some factors which influence position, engagement, and delivery Atypical presentations. The fetus. Roentgen study of the soft parts of pregnancy Placenta previa. Premature placental separation. Extra-uterine pregnancy The size of the uterus in pregnancy Utero-salpingography The internal genitalia and the urinary tract. The internal genitalia and the gastro-intestinal tract. Growths in the pelvis, review Roentgen study in bleeding with pregnancy Recovery of these from X-radiation. Index.

Note. Obstetric and gynecologic roentgenology is a special field attended by difficulties in interpretation because the soft tissues under study produce roentgenograms of low contrast. This book by a radiologist who has had extensh experience in this specialty is an introductory but comprehensh text. As might be expected, most of the illustrations are reproductions of roentgenograms. The illustrations are carefully and specifically interpreted in the text. In numerous instances where it was not possible to make clearly contrasted reproduction, the roentgenogram is supplemented by drawing.

SPEERT, HAROLD, AND ALAN F GUTTMACHER

Obstetric practice. New York Landsberger Medical Books Inc. Distributed solely by the Blakiston Division of the McGraw Hill Book Co Inc., 1956 478 p 22 cm. $7 00 4085

Content (abridged) Diagnosis of pregnancy Obstetric pelvis. Pregnancy hygiene. Minor complaints of pregnancy Spontaneous abortion and fetal death in utero. Ectopic pregnancy Hydatidiform mole and choriocarcinoma. Cardiovascular diseases in pregnancy Metabolic disorders in pregnancy Neurological disorders in pregnancy Diseases of the urinary organs in pregnancy Surgical complications f pregnancy Gynecological complications of pregnancy Therapeutic abortion. Multiple pregnancy Toxemia of pregnancy Bleeding complications of lat pregnancy Normal labor and delivery Operath obstetrics. Obstetrical and analgesia and anesthesia. The normal puerperium and lactation. Postpartum and puerperal hemorrhage. The newborn. The postpuerperal survey Index.

Note. An unusual kind of text on obstetrics It is intended for graduate practitioners, particularly physicians in rural areas and other localities where the general practitioner manages fairly large umber of obstetric cases It contains no illustrations, no bibliography and omits the customary basic information on anatomy and physiology On the other hand, it provides ide range of useful and practical information and advice on the management of pregnancy and labor Bleeding complications of pregnancy to cite an example, are discussed uthoritatively and clearly Both uthors are members of the faculty of the College of Physicians and Surgeons of Columbia University and Dr Guttmacher Director of the Department of Obstetrics and Gynecology of Mt. Sinai Hospital in New York City

TAYLOR, E STEWART

Manual of gynecology With 70 illustrations Philadelphia Lea & Febiger 1952 204 p illus. 24 cm. $4 50 4086

Content History taking and physical examination. Anatomy and embryology of the female generative organs. Physiology and endocrinology of the female generath tract. Cyclic histology of the female generative tract and menstruation. Congenital anomalies of the female genital tract. Diseases of the external genitalia. Diseases of the vagina. Benign conditions of the cervix. Malignant diseases of the cervix. Benign conditions of the uterus. Malignant diseases of the uterus. The use of biopsy and the smear in gynecology by V P Isbell. Acute pelvic inflammatory disease. Pelvic abscess and chronic inflammatory disease. Benign tumors of the ovary Malignant and potentially malignant tumors of the ovary and tube. Endometriosis. Ectopic pregnancy Hydatidiform mole and chorionepithelioma. Abortion. Genital lacerations, ...

tors. Proceedings of the association, December 10 and 11 1954, New York, N Y With 63 illustrations and 21 tables. Baltimore The Williams & Wilkins Company 1954 504 p. illus. 24 cm. (Research publications. Vol. xxxiv) $11.00. 4098

Contents (abridged) Part I, Infections of the central nervous system. Treatment of pyogenic meningitis, by H. E. Alexander. Tuberculous meningitis, by E. M. Fisher and J. H. Arnold. Encephalitides and postinfectious encephalomyelitides, by H. L. Rader. Part II, Developmental and traumatic aspects. Intracranial hemorrhage in infancy and childhood, by D. D. Matson. Developmental defects of the skull and spine associated with lesions of the central nervous system, by E. A. Kahn. Hydrocephalus, by D. S. Russell. Part III, Functional and degenerative disturbances. The cerebral palsies and encephalomalacias of infancy and childhood, by A. Wolf and D. Cowen. Myasthenia gravis in infants and children, by R. P. Walker. Part IV Roentgenographic aspects. Some radiological features of traumatic lesions in the growing skull, by J. Caffey. Part V Psychiatric aspects. The epidemiology of behavior disorders of childhood, by B. Pasamanick. The psychiatric approach to posttraumatic and postencephalitic syndromes, by A. Blau. Affective deprivation and early institutional placement, by J. F. Kahmann. The role of the clinical psychologist in the evaluation of children with specific handicaps, by S. J. Beck. Part VI, Symposium on juvenile schizophrenia. Problems in the differential diagnosis of childhood schizophrenia, by J. C. Mlenberg and E. M. Bryant. Treatment of juvenile schizophrenia, by L. Bender. List of members. Index.

Note Twenty-two papers, of which the selection is listed above by title and author, are published in this volume. The authors are graduate psychologists and physicians specializing in pediatrics, neurology, psychiatry, etc. and most of them are associated with colleges of medicine in the United States of America. They addressed themselves primarily to other participants in the meeting, in short, to graduate physicians and scientists interested in neurology. The papers deal with areas of medical and psychological research in which significant advances have recently been made. They are accompanied by transcripts of the discussions and by literature references.

Bridge, Edward M

Epilepsy and convulsive disorders in children. New York McGraw Hill Book Company Inc., 1949 670 p. illus. 24 cm. (McGraw Hill series in health science Amos Christie, consulting editor) $12.00 4099

Contents Part I, Introduction and general concept. The hereditary factor. The factor of brain injury. Physiological factors. Personality factors. Environmental factors. The total background of epilepsy. Part II The onset of epilepsy. Major seizures. Minor seizures. General management. Dietary treatment. Psychotherapy. Outcome. Community aspects and prevention. Part III Diagnostic procedures. Appendix. Outlines for [illegible] study. Evaluation of etiologic factors. Screening tests of maturity and intelligence. Statistical recording of data. Care of patients. Prescriptions and preparations in common use. Determination of bromide in blood. Normal data. Reference data. Dehydration diets. Creative activities for children with epilepsy. Occupations for persons with epilepsy. Alphabetical list of references. Index.

Note An important work which is based principally on material accumulated at the Epilepsy Clinic organized in 1928 at Johns Hopkins Hospital where a group of pediatricians, psychiatrists, neurosurgeons, social workers, laboratory technicians, and representatives from community agencies formed a team to study the various aspects of the problem. The clinical problems of causation and diagnosis, the sociological and psychiatric aspects, and details of practical care of affected children are considered. Each chapter opens with a pictorial table of contents which, with the other excellent illustrations, are aids in assimilating the material. The style is technical, and the book is intended for physicians, social workers, and others with professional training rather than lay readers. A 1-page bibliography is appended.

Campbell Meredith

Clinical pediatric urology. With a section on nephritis and allied diseases in infancy and childhood by Elvira Goettsch and John D Lyttle Philadelphia W B Saunders Company 1951 1 113 p. illus. 26 cm. $18.00. 4100

Contents: Methods of examination and diagnosis. Urinary obstruction. Embryology and anomalies of the urogenital tract. Urinary infections. The male genital tract and the female urethra. Urogenital injuries. Urinary calculous disease. Tumors of the urogenital tract. The adrenals. Neuromuscular uropathy. Enuresis. Urologic surgery. Operative procedures. Nephritis and allied diseases in infancy and childhood. Index.

Note A comprehensive treatise based both on the author's own experience in the urology of infants and children and on the pertinent literature. Although much information that is necessarily basic to adult urology as well, has been necessarily included, the book is special also because in its full discussion of the special diagnostic and operative techniques required in urologic practice with children. The long chapter (183 pages) on embryology and anomalies is of special interest to pediatricians and to urologists with pediatric practices. There are 843 figures, a considerable number of which contain reproductions of more than one drawing or photograph. Long bibliographies accompany all of the chapters. The author is emeritus Professor of Urology in New York University Post-Graduate Medical School.

Chobot Robert

Pediatric allergy New York McGraw Hill Book Company Inc., 1951 284 p. illus. 21 cm. $6.00. 4101

Contents: Forms of hypersensitivity. Diagnostic procedures. Asthma. Food allergy. Vasomotor rhinitis. Hay fever pollens—molds and fungi. Skin allergies. Serum reactions and drug allergy. Allergy of the eye. Migraine. Physical allergy. ACTH, cortisone, and the future. Appendices. Anaphylaxis and human sensitivity. Common allergens. A typical allergen test table. Cases. Index.

Note A relatively brief text and manual. The author has made no attempt to include something on every phase of the subject or to illustrate the range of cases. Instead, he has presented a simple, to-the-point survey of topics most useful to the pediatrician and the general practitioner who is not a specialist in allergy. Selected literature references are included in most chapters. Synopses of 28 cases are given in an appendix. The author is a member of the faculty of New York University-Bellevue Center.

DeSanctis Adolph G

Handbook of pediatric medical emergencies. Second edition. By Adolph G DeSanctis. With the collaboration of Charles Varga and ten contributors. With 73 illustrations. St. Louis The C. V Mosby Company 1956 389 p. illus. 23 cm. $6.25 4102

Contents: Cardiovascular emergencies. Metabolic emergencies. Genitourinary emergencies. Neurological emergencies. Respiratory emergencies. Respiratory paralysis in poliomyelitis. Care of the premature infant. Miscellaneous emergencies. Pediatric procedures. Dosages. Poisoning. Accident and poison prevention. Appendix. Index.

Note A useful and authoritative reference manual developed in the Pediatric Department of the Post-graduate Medical School of New York University-Bellevue Medical Center. It is organized largely in outline form, with most of the space given to very concise indications and descriptions of therapeutic techniques. A certain amount of basic information is included also, usually in the form of introductory paragraphs in the various chapters. There are 73 figures and more than 70 tables. The first edition of the book was published in 1951 and has been translated into several languages, in addition to wide use in the original language. This second edition is a very extensive revision, with several newly added chapters, tables and illustrations.

Dunham Ethel C.

Premature infants a manual for physicians. Second edition completely revised and reset. New York Paul B Hoeber Inc. Medical Book Department of Harper & Brothers, 1955 459 p. illus. 24 cm. $8.00. 4103

Contents Obstetrics. Pregnancy Labor Puerperium. The new born. Gynecology General principles. Diagnosis. Infertility Operative technic. Infections. Nonmalignant tumors. Malignant tumors. Menstrual disorders. Endocrinology Index. Index to authors.

Note An annual publication similar in scope and organization to others in the publishers' *Year book* series. The chapters are composed chiefly of abstracts of articles selected by the editor from the world literature. The abstracts are long enough to give the gist of the article without reference to the source publication however reference to the source is always given. Some of the abstracts are supplemented by comments written by the editor In some cases these comments are aimed at evaluating the contents of the article in others they relate the article to other writings. *Illustrations* and tables taken from the source articles are sometimes included. The period of time covered by each annual in the series is one year which, however does not correspond to a calendar year In the case of the issue noted here, the articles abstracted appeared in journals which were received by the editor between *July 1955 and July* 1956.

PEDIATRICS

ADVANCES IN PEDIATRICS Volume III Editorial Board S Z Levine, Allan M Butler, L Emmett Holt, jr , A. Ashley Weech Chicago *The Year Book Publishers* Inc., 1948 363 p illus 24 cm. $7 50 4092

Content Effects of birth processes and obstetric procedures upon the newborn infant, by C. A. Smith. Retrolental fibroplasia, by T L. Terry Emotions and symptoms in pediatric practice, by M. J E. Senn. Therapeutic agents in the treatment of epileptiform seizures, by W G. Lennox. Viral hepatitis, by J Stokes, jr Abnormalities and variations of sexual development during childhood and adolescence, by L. Wilkins. Puberty and adolescence—psychologic considerations, by H. Bruch. The osteochondroses, by B. Howorth. Author index. Subject index. Cumulative indexes, Volumes I–III.

—— Volume V Editor, S Z. Levine associate editors Allan M Butler, Margaret Dann L Emmet Holt jr and A Ashley Weech. Chicago The Year Book Publishers Inc , 1952 272 p illus. 24 cm $7 00 4093

Contents Advances in the treatment of bacterial meningitis, by H. E. Alexander The nephrotic syndrome in children, by H. L. Barnett and others. The relation of vitamin K deficiency to hemorrhagic disease of the newborn, by H. Dam and others. Angiocardiographic studies in children, by J Lind and C. Wegelius. Iron metabolism in infants and children—serum iron and iron-binding protein—diagnostic and therapeutic implications, by C. H. Smith and others. BCG vaccination, by A. J Wallgren. Subject index. Author index.

—— Volume VI Editor S Z. Levine associate editors John A. Anderson Margaret Dann L Emmett Holt jr A Ashley Weech, and Myron E Wegman. Chicago The Year Book Publishers, Inc 1953 323 p illus. 23 cm. $7 50 4094

Contents. Lymphosarcoma in childhood, by H. W Dargeon. Preventive prenatal pediatrics, by T H. Ingalls. Intestinal obstruction in the neonatal period, by C. E. Koop. Hemolytic disease of the newborn, by P Levine and others. Pulmonary pathology in the newborn by E. L. Potter The lipoidoses, by S. van Creveld. Megaloblastic anemia of infancy by W W Zuelzer and J Rutzky Subject index. Author index.

—— Volume VII. Editor S Z Levine, associate editors John A. Anderson Margaret Dann A Ashley Weech Myron E Wegman and Warren E Wheeler Chicago The Year Book Publishers Inc. 1955 351 p illus. 23 cm. $8 00 4095

Contents On fibrous defects in cortical walls of growing tubular bones, by J Caffey The urinary tract in childhood, by M. F Campbell. Malnutrition in infancy and childhood, with special reference to Kwashiorkor by F Gómez and others. Pneumoencephalography in children, by E. Mannheimer Infantile cerebral palsy by M. A. Perlstein. Mucoviscidosis, by H. Shwachman and others. Congenital megacolon by O. Swenson. Subject index. Author index.

—— Volume VIII Editor, S Z. Levine associate editors John A. Anderson, Margaret Dann, A Ashley Weech, Myron E. Wegman, and Warren E Wheeler Chicago. The Year Book Publishers Inc., 1956, 273 p. illus 23 cm. $8 00 4096

Contents. The etiology of infantile diarrhea, by H. L. Bain. Isosexual precocity in boys including a case of gonadotropin-producing teratoma, by S. Z. Levine and others. True isosexual precocity Sarcoidosis in childhood, by J P McGovern and D. E. Merritt. Offspring of diabetic and prediabetic mothers, by H C. Miller Subdural lesions in childhood, with special reference to infectious processes, by M. H. D Smith. Prevention of accidents in childhood, by G. M. Wheatley Mental deficiency by H. Yannet. Subject index. Author index.

Note. The series in which the volumes listed above appear is devoted to the publishing of monographic reviews in which recent advances are emphasized. Authors of the reviews are not limited to the literature of one year or of a stated period, as in the case of some review series. The individual monographs are based on a body of literature, most of it recent but it is not uncommon for an author to cover the literature of 25 years or even longer if necessary in order to round out the treatment of his topic. The series is designed for graduate practitioners of medicine, including specialists in pediatrics. Volumes I, II and IV are out of print. Volume IX was published in 1957 $9.00.

THE AMERICAN ACADEMY OF PEDIATRICS. COMMITTEE FOR THE STUDY OF CHILD HEALTH SERVICES

Child health services and pediatric education. Report of the *Committee for* the Study *of Child Health Services of the American Academy of Pediatrics with the cooperation* of the United States Public Health Service and the United States *Children's* Bureau. Cambridge Mass Harvard University Press, 1949 270 p illus 23 cm $3 50 4097

Contents (abridged) Part I, Child health services. The study of child health services. Total volume of child health services. Private practice. Hospitals. Community health services. Health supervision for the preschool child. Part II, A, Undergraduate education. Part II, B Graduate education *Staff in hospitals* approved for pediatric residency General inpatient training. Outpatient training. Ward rounds and conferences. Part III, General summary References. Appendix. Tables referring to pediatric *education List of 70 approved* medical schools in the United States, 1946–1947 Staff of pediatric departments in each of three groups of medical schools. Clinical facilities for pediatric teaching *in each of three groups* of medical schools. Content of pediatric course in each of three groups of medical schools. Pediatric department and medical school budgets in each of three groups of medical schools.

Note. This volume reports the results of a three-year study the objective of which was to bring attention to deficiencies in child health service and pediatric education in the United States of America, with a view to correcting them. As the task assigned to the Study Committee was to collect the *facts* and report them, the Committee did not attempt to *formulate* recommendations based upon the findings. The Committee's supplement to this report, *Child health services and pediatric education—methodology and tabulations on services*, Cambridge, Mass., Harvard University Press, 1949 39 p., $1.50, contains statistical tables and a survey of the methods pursued in gathering the data.

ASSOCIATION FOR RESEARCH IN NERVOUS AND MENTAL DISEASE

Neurology and psychiatry in childhood. Rustin McIntosh and *Clarence* C Hare edi

available for reference. It also makes possible the incorporation of background information on child psychology and on other matters not strictly medical, at points where the relation of these topics to clinical medicine is apparent. The essays are written in a direct and readable style, and they include selected literature references. There are only a few illustrations, and most of these are graphs and diagrams. The first-named author is a member of the faculty of the Yale University School of Medicine and the co-author is Chairman of the Department of Pediatrics of the State University of New York College of Medicine at Syracuse.

HAAS SIDNEY VALENTINE AND MERRILL PATTERSON HAAS

Management of celiac disease. Philadelphia. J B Lippincott Company 1951. 188 p illus. 24 cm. $5.00 4108

Contents Scope and purpose of the work. History Definition. Incidence. Etiology Clinical symptoms. Pathology Roentgenographic evidence. Digestion and absorption. Digestive juices, enzymes, etc. Endocrine system. Nervous system and psychological considerations. Allergy Diagnosis. Treatment. Prognosis. Celiac disease today—a concept based on the authors' experience. Course. An etiologic hypothesis. Summary Bibliography Index.

Note A monograph on a specific dysfunction of infancy and early childhood, defined by the authors in the following words: ". . . we define celiac disease as a condition, seen primarily in infancy and childhood, where there exists a prolonged intestinal disturbed state resulting in various degrees of malnutrition." The authors' viewpoint is primarily clinical. They point out that the etiology of the disease is still unknown, and there is "no chemical diagnostic test or procedure." Prognosis, however, is excellent if polysaccharides (complex carbohydrates) are removed from the diet and monosaccharides, together with proteins and fats, substituted. The book is based both on the authors' extensive experience and on a review of the literature. There is a bibliography of 446 references.

HILL, FONTAINE S

Practical fluid therapy in pediatrics. Philadelphia W B Saunders Company 1954 275 p. illus. 25 cm. $6.00. 4109

Contents Glossary. Section I, Basic physiologic principles and their clinical significance. Role of water in body physiology. Normal electrolyte composition of blood plasma. Interstitial fluid. Intracellular fluid, and gastrointestinal secretions. Abnormalities of electrolyte patterns. Renal regulation of fluid and electrolyte balance. Dehydration and water conservation. Section II, Diagnosis and treatment of clinical conditions. Solutions for parenteral administration. Diarrhea. Diabetic coma. Fluid therapy in renal disease. Pyloric stenosis and nonobstructive vomiting. Fluid therapy in acute infections. Salicylate poisoning. Fluid therapy in surgical conditions. Fluid therapy in burns. Respiratory acidosis and alkalosis. Section III, Technical procedures. Techniques for obtaining blood specimens. Techniques for parenteral fluid administration. Bibliography Index.

Note A book directed to graduate physicians, including general practitioners and pediatricians. Over 90 pages are devoted to the basic physiology and its clinical significance. One hundred forty-five pages are devoted to the diagnosis and treatment of clinical conditions of fluid and electrolyte imbalance. The book is organized in short chapters with several subdivisions within each chapter, thus making it convenient for both reading and reference. The importance of an understanding of fluid requirements and fluid therapy in the treatment of infants and children is fully emphasized. Clinical manifestations, pathophysiology, interpretation of laboratory findings, and treatment are adequately covered. Most of the 22 figures show techniques of obtaining blood specimens and of administration of fluid to infants.

HILL LEWIS WEBB

The treatment of eczema in infants and children. With 39 illustrations. St. Louis The C V Mosby Company 1956. 79 p. illus. 26 cm. $4.00. 4110

Contents General principles of treatment. Seborrheic dermatitis. Leiner's disease. Fungus infections. Secondary infection. Infectious eczematoid dermatitis. Nummular eczema. Circumscribed neurodermatitis. Contact dermatitis. Atopic dermatitis. Index.

Note A small but valuable book based on the author's long experience and interest in eczema in infants and children. It is directed to almost any physician who is interested in the subject, but is of particular interest to general practitioners and specialists in pediatrics. It covers the subject thoroughly with primary emphasis on treatment and prognosis. Medicaments and other treatments are discussed explicitly in the light of the author's experience. He lists them. References are made to related literature which the author considers reliable. The material was first published in the *Journal of pediatrics* in the latter half of 1955.

HOLT L. EMMETT JR. AND RUSTIN MC INTOSH

Holt pediatrics. Twelfth edition. New York Appleton-Century-Crofts, Inc., 1953 1 485 p. illus. (part col d) 25 cm. $15.00. 4111

Contents General considerations. The newborn infant. Premature infants. Nutrition and nutritional disturbances. Deficiency diseases. The eyes. The mouth, nose throat and ears. The alimentary tract. The lungs. The circulatory system. The blood and blood-forming organs. The spleen, lymph nodes and thymus. The ductless glands. The bones and joints. Collagen diseases. The genitourinary system. The skin. Allergy Psychopathologic problems. The nervous system. The muscles. The specific infectious diseases. Miscellaneous diseases. Accidents and poisonings. Appendix. Index.

Note Formerly entitled *Diseases of infancy and childhood*, the lineage of this book goes back to 1897 when the first edition, authored by L. M. Holt, sr. was published. The present authors have been responsible for the book since 1936. This 12th edition is the first to appear under the present title. The book provides encyclopedic coverage of the diseases to which infants and children are subject, and, in addition, contains general chapters on such matters as infant mortality, biochemical aspects of early life, and general aspects of growth. The field is covered from the standpoint of practice, and due attention is given to such aspects of each disease as diagnosis, prognosis and treatment. Literature references are given for each general topic and each disease. Although the names of two authors only appear on the title page, 72 other authorities contributed to this 12th edition, and their contributions are identified by means of initials appended to the sections of the book to which they contributed. In comparison to the 11th edition published in 1940, the 12th edition is the result of a thorough revision. New and revised sections appear throughout the volume, and recent literature has been added to the bibliographies. There are now 109 figures in monochrome and 11 colored plates.

JEANS PHILIP C AND OTHERS

Essentials of pediatrics. By Philip C. Jeans F Howell Wright, and Florence G. Blake. 103 illustrations, including 3 color plates. Fifth edition. Philadelphia J B Lippincott Company 1954 808 p illus. (part col d) 21 cm $5 50 4112

Contents (abridged) Unit I, Orientation: Introduction to pediatric nursing. Preventive pediatrics. Unit II, Growth, development, care and guidance of the infant and the child. Unit III, General nursing care. The nurse-child and nurse-parent relationships. Pediatric therapy. Unit IV Nursing in the care of the sick infant and child. Care of the newborn. Diseases of the digestive system—Respiratory system—Circulatory system—Genito-urinary system—Nervous system—Skin—Eye—Glands of internal secretion—Blood. Viral and rickettsial infections. Bacterial, fungous, spirochetal and protozoal infections. Unit V Nutrition and the nutritional diseases. The essential constituents of the diet and the amounts required. Nutrition of the normal infant. Digestion—breast feeding—artificial feeding. Nutrition of the child. Digestive and nutritional diseases. Deficiency diseases. Index.

Note. A nursing school textbook which enjoys wide use in the United States of America. The nursing care of infants and children is the principal subject, but in order to provide the nurse with the necessary background, children's diseases are described at length, and there are also discussions of child psychology and general principles of care and guidance. Carefully selected literature references are included in the chapters.

KIESEWETTER, WILLIAM B editor

Pre and post operative care in the pediatric surgical patient. Chicago The Year Book Publishers, Inc., 1956 347 p. illus. 20 cm. $7.00 4113

Contents. Part I, General considerations. Definitions and criteria of prematurity. Incidence. Causes and prevention. Development. Prognosis. Part II, Clinical considerations. Care. Feeding. Abnormal conditions. Part III, Public health considerations. Deaths of premature infants. Programs for premature infant care. Appendixes. Author index. Subject index.

Note. The first edition of this work was published in 1948 as Publication no. 325 of the United States Children's Bureau, and it soon acquired the status of the standard work on the subject. It is addressed primarily to general practitioners of medicine and to obstetricians, but is of value also to hospital administrators, nurses specializing in infant care, and public health authorities. Each of the topics named in the above chapter titles is covered in some detail, and those topics listed under clinical conditions are covered comprehensively. References to related literature are included in all chapters. The appendixes include a variety of reference information, such as "Recommendations for developing comparable statistics on prematurely born infants and neonatal mortality," "Growth charts," "Technics of feeding," "Special standards and recommendations for hospital care of premature infants." In comparison with the first edition, there has been considerable revision and augmentation.

GARDNER, LYTT I., editor

Adrenal function in infants and children: a symposium. New York, Grune & Stratton, 1956. 221 p. illus. 22 cm. $6.75 4104

Contents. Histophysiology of the adrenal cortex in fetal and prepuberal rats, with comments on the carbonyl reactivity in the cortical lipide droplets, by H. W. Deane. Dehydroepiandrosterone and androsterone levels in maternal and cord plasma, by C. J. Migeon. Chromatographic studies of urinary steroids in term and premature infants, by R. A. Ulstrom and D. Doeden. ACTH response in newborn infants, by R. Klein and A. Rovnanek. The origin of dehydroisoandrosterone, by S. Lieberman. Certain aspects of steroid metabolism in the adrenogenital syndrome, by A. M. Bongiovanni and W. R. Eberlein. Chromatographic studies on urinary 17-ketosteroids in children with hyperadrenocorticism, by J. W. Jailer. Round-table discussion on the present status of therapy of hyperadrenocorticism, by L. Wilkins. Hermaphroditism, gender and precocity in hyperadrenocorticism—psychologic findings, by J. Money. Hermaphroditic genital appearance, rearing and eroticism in hyperadrenocorticism, by J. G. Hampson. The influence of testosterone and cortisone on growth, by E. H. Sobel. Excretion of aldosterone in normal children and children with nephrosis, by J. A. Luetscher, Jr. The significance of plasma corticosteroids as a measure of adrenal cortical function, by D. H. Nelson. Blood ACTH and 17-hydroxycorticosteroids in children, with special reference to rheumatic fever, by V. C. Kelley. Plasma neutral 17-ketosteroids in pregnancy, by L. I. Gardner. Appendix. Index.

Note. Published in this volume are papers written by eminent specialists in pediatrics practicing in the United States of America and Canada. The papers were originally contributed to a symposium held under the auspices of the Department of Pediatrics of the University of the State of New York, at Syracuse, in November 1954. Several of them are reports of recent studies carried out under research grants. Accompanying the papers are transcripts of the discussion at the symposium. The volume is of interest to graduate pediatricians and endocrinologists.

GESELL, ARNOLD, AND CATHERINE S. AMATRUDA

Developmental diagnosis: normal and abnormal child development, clinical methods and pediatric applications. Second edition, revised and enlarged. New York, Paul B. Hoeber, Inc., Medical Book Department of Harper & Brothers, 1948. 496 p. illus. 24 cm. $7.50 4105

Contents. Part I, Principles and methods. The development of behavior. The developmental examination of behavior. Norms of development. The conduct of the examination. Part II, Defects and deviations of development. Problems of differential diagnosis. Amentia and retardation. Amentia of high grade. Low grade amentia. Endocrine disorders. Convulsive disorders. The neurological diagnosis of infant behavior. Cerebral injury. Blindness. Deafness. Prematurity. Precocity. Environmental retardation. Clinical aspects of child adoption. Part III, The protection of early child development. Diagnosis and guidance. Developmental pediatrics. Appendices. Examination technique. Growth trend chart. Examination equipment. Cinematic case studies. Readings on developmental guidance. Professional training for developmental pediatrics. Index.

Note. A manual whose purpose is to provide family physicians and pediatricians with practical guidance in diagnosing normal and abnormal behavior patterns in infants and children up to five years of age. It is based on 35 years of investigation and experience on the part of Dr. Gesell and his associates. A considerable amount of material, much of it based on experience at the Yale Clinic of Child Development, has been added in this revised edition, particularly in the discussions of blindness, deafness, low grade amentia, prematurity, convulsive disorders, and adoption. The final chapter on developmental pediatrics and the last two appendices are entirely new in this edition.

GLASER, JEROME

Allergy in childhood. Springfield, Ill., Charles C Thomas, 1956. 529 p. illus. (part col'd) 24 cm. (American lecture series. Publication no. 272. A monograph in the Bannerstone division of American lectures in allergy, edited by Max Samter) $12.50. 4106

Contents (abridged). General characteristics of the allergic child. History taking and the physical examination. Skin testing. Gastrointestinal allergy. The celiac syndrome. Atopic dermatitis. Seborrheic dermatitis. Contact dermatitis. Eczematoid dermatitis of bacterial origin. Nummular eczema—circumscribed neurodermatitis. Bronchial asthma in infants and children. Management of the child with chronic asthma. The treatment of allergic diseases with corticotropin (ACTH) and cortisone. Corticotropin (ACTH) and cortisone in pregnancy. Pollinosis (seasonal allergic rhinitis—tree pollinosis—rose fever—hay fever). Recurrent upper respiratory disorders of allergic origin and perennial allergic rhinitis. Allergy to drugs. Allergy to vaccines. The antihistamines. Anaphylactoid purpura (Schönlein, Henoch syndrome). Neuroallergy in childhood. Migraine. Allergy to insect bites and stings. Ocular allergy. Physical allergy. Eosinophilic pneumonopathy (Löffler's syndrome—tropical eosinophilia). The allergic tension-fatigue syndrome. The collagen diseases. Psychosomatic aspects of allergic disease in infancy and childhood. Dietary treatment of allergic disease. Substitutes for cow's milk in infant feeding. Climate and altitude. The allergic child in camp. Routine prophylaxis in allergic children. Index.

Note. An introductory text written by one of the leading contemporary specialists in pediatric allergy in the United States of America. It is based on a course given by the author for many years at the School of Medicine and Dentistry at the University of Rochester and is directed primarily to medical college students. It is of interest also to general practitioners of medicine who treat children and to pediatricians who have not studied courses in allergy. It is written from the viewpoint that many facets of allergy in children differ essentially from allergy in adults and require different techniques of administration and management. It is organized in 68 short chapters, of which the titles of only a few could be given above. Only the common allergies of children are included, and there is emphasis on the more common of these. Approximately 90 pages are devoted to bronchial asthma. Selected literature references are furnished.

GREEN, MORRIS, AND JULIUS B. RICHMOND

Pediatric diagnosis. Philadelphia, W. B. Saunders Company, 1954. 436 p. illus. 26 cm. $10.00 4107

Contents (abridged). Section I, Introduction. The pediatric history. Section II, Physical examination. The pediatric physical examination. Examination of the head—the eyes—the ears—the nose—the mouth—the teeth—the throat—the chest—the heart—the abdomen—genitalia—the skeletal system. The neurologic examination. Examination of the skin. Section III, Signs and symptoms. Disturbances in growth. Fever. Edema. Cyanosis. Symptoms referable to the urinary tract. Symptoms related to sexual development. Convulsions. Intellectual retardation. Leg pains. Obesity. Anorexia. Regurgitation and vomiting. Constipation. Diarrhea. Symptoms referable to the respiratory tract. Pallor. Hemorrhagic purpura. Jaundice. Section IV, Health supervision. Infancy. Preschool period (1 to 5 years). The school years. Adolescence. Appendix. Percentiles for weight and length—birth to 5 years. Percentiles for weight and height—5 to 18 years. Percentiles for selected measurements—birth to 5 years—in centimeters. Percentiles for selected measurements 5 to 18 years—in centimeters. Index.

Note. A useful, carefully written book which is addressed to advanced students in medical colleges and to graduate physicians, including pediatricians as well as general practitioners. It is organized in three sections and a series of short essays. The titles of the sections and of a selected number of the essays are listed above. The organization makes the contents of the book readily

annotative for reference. It also makes possible the incorporation of background information on child psychology and on other matters not strictly medical, at points where the relation of these topics to clinical measures is apparent. The essays are written in a direct and readable style, and they include selected literature references. There are only a few illustrations, and most of these are graphs and diagrams. The first-named author is a member of the faculty of the Yale University School of Medicine and the co-author is Chairman of the Department of Pediatrics of the State University of New York College of Medicine at Syracuse.

HAAS, SIDNEY VALENTINE, AND MERRILL PATTERSON HAAS

Management of celiac disease. Philadelphia. J B Lippincott Company 1951 188 p. illus. 24 cm. $5.00. 4108

Contents: Scope and purpose of the work. History. Definition. Incidence. Etiology. Clinical symptoms. Pathology. Roentgenographic evidence. Digestion and absorption. Digestive juices, enzymes, etc. Endocrine system. Nervous system and psychological considerations. Allergy. Diagnosis. Treatment. Prognosis. Celiac disease today—a concept based on the authors' experience. Course. An etiologic hypothesis. Summary. Bibliography. Index.

Note: A monograph on a digestive dysfunction of infancy and early childhood, defined by the authors in the following words: "... we define celiac disease as a condition, seen primarily in infancy and childhood, where there exists a prolonged intermittent diarrheal state resulting in various degrees of malnutrition." The authors' viewpoint is primarily clinical. They point out that the etiology of the disease is still unknown, and there is "no clear-cut diagnostic test or procedure." Prognosis, however, is excellent if polysaccharides (complex carbohydrates) are removed from the diet and monosaccharides, together with proteins and fats, substituted. The book is based both on the authors' extensive experience and on review of the literature. There is a bibliography of 648 references.

HILL, FONTAINE S

Practical fluid therapy in pediatrics. Philadelphia. W B Saunders Company 1954 275 p. illus. 25 cm. $6.00. 4109

Contents: Glossary. Section I, Basic physiologic principles and their clinical significance. Role of water in body physiology. Normal electrolyte composition of blood plasma, interstitial fluid, intracellular fluid, and gastrointestinal secretions. Abnormalities of electrolyte patterns. Renal regulation of fluid and electrolyte balance. Dehydration and water intoxication. Section II, Diagnosis and treatment of clinical conditions. Solutions for parenteral administration. Diarrhea. Diabetic coma. Fluid therapy in renal disease. Pyloric stenosis and nonobstructive vomiting. Fluid therapy in acute infections. Salicylate poisoning. Fluid therapy in surgical conditions. Fluid therapy in burns. Respiratory acidosis and alkalosis. Section III, Technical procedures. Techniques for obtaining blood specimens. Techniques for parenteral fluid administration. Bibliography. Index.

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HILL, LEWIS WEBB

The treatment of eczema in infants and children. With 39 illustrations. St. Louis The C. V. Mosby Company 1956 79 p. illus. 26 cm. $4.00. 4110

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HOLT, L. EMMETT, JR., AND RUSTIN MC INTOSH

Holt pediatrics. Twelfth edition. New York Appleton-Century-Crofts, Inc., 1953 1485 p. illus. (part col'd) 25 cm. $15.00. 4111

Contents: General considerations. The newborn infant. Premature infants. Nutrition and nutritional disturbances. Deficiency diseases. The eyes. The mouth, nose, throat and ears. The respiratory tract. The lungs. The circulatory system. The blood and blood-forming organs. The spleen, lymph nodes and thymus. The ductless glands. The bones and joints. Collagen diseases. The genitourinary system. The skin. Allergy. Psychopathologic problems. The nervous system. The muscles. The specific infectious diseases. Miscellaneous diseases. Accidents and poisonings. Appendix. Index.

Note: Formerly entitled *Diseases of infancy and childhood*, the lineage of this book goes back to 1897 when the first edition, authored by L. M. Holt, Sr., was published. The present authors have been responsible for the book since 1936. This 12th edition is the first to appear under the present title. The book provides encyclopedic coverage of the diseases to which infants and children are subject, and, in addition, contains general chapters on such matters as infant mortality, biochemical aspects of early life, and general aspects of growth. The field is covered from the standpoint of practice, and due attention is given to such aspects of each disease as diagnosis, prognosis and treatment. Literature references are given for each general topic and each disease. Although the names of two authors only appear on the title page, 72 other authorities contributed to this 12th edition, and their contributions are identified by means of initials appended to the sections of the book to which they contributed. In comparison to the 11th edition published in 1940, the 12th edition is the result of a thorough revision. New and revised sections appear throughout the volume, and recent literature has been added to the bibliographies. There are now 160 figures in monochrome and 11 colored plates.

JEANS, PHILIP C., AND OTHERS

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Contents (abridged): Unit I, Orientation. Introduction to pediatric nursing. Preventive pediatrics. Unit II, Growth, development, care and guidance of the infant and the child. Unit III, General nursing care: The nurse-child and nurse-parent relationship. Pediatric therapy. Unit IV, Nursing in the care of the sick infant and child: Care of the newborn. Diseases of the digestive system—Respiratory system—Circulatory system—Genito-urinary system—Nervous system—Skin—Eye—Glands of internal secretion—Blood. Viral and rickettsial infections. Bacterial, fungous, spirochetal and protozoal infections. Unit V, Nutrition and the nutritional diseases: The essential constituents of the diet and the amounts required. Nutrition of the normal infant. Digestion—breast feeding—artificial feeding. Nutrition of the child. Digestive and nutritional diseases. Deficiency diseases. Index.

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KIESEWETTER, WILLIAM B., editor

Pre and post operative care in the pediatric surgical patient. Chicago The Year Book Publishers, Inc., 1956. 347 p. illus. 20 cm. $7.00. 4113

Contents Section I, General preoperative considerations The child's emotions and surgery by E. A. Loocak, Jr Fluid and electrolyte balance, by T S. Danowski. Anesthesia, by J H. Marcy Section II, General postoperative considerations The normal postoperative period, by W K. Sieber The abnormal postoperative period, by W K. Sieber Care f wound by W L. White. Oxygen therapy by J H. Marcy Section III, Specific pre and postoperative considerations Abdominal, by W R Kiesewetter Thoracic, by E. M. Kent and others. Orthopedic, by A. R Ferguson, Jr Neurosurgical, by A. F Susen. Plastic, by S. M. Dupertuis and R. H. Musgrave. Urologic, by S. H. Johnson, III. Otorhinolaryngologic, by H. K. Sherman. Ophthalmic, by M. F McCaslin and L. A. Lloyd. Appendices. Index.

Note. The editor and all of the contributors to this manual are on the staff f the Children's Hospital of Pittsburgh, and the practices described in it are those currently followed in that institution. All of the chapters are compactly written, and many are organized in outline form. Literature references to more detailed treatments are included. The 79 figures are reproductions of photographs of equipment and techniques.

LEIDER, MORRIS

Practical pediatric dermatology With 280 photographs and 13 drawings St. Louis The C V Mosby Company, 1956 433 p illus (part col'd) 26 cm $10 50 4114

Contents Basic science aspects of dermatology (with particular reference to the skin f the infant and child) Principles of dermatologic diagnosis—therapy Dermatoses attributable to physical causes. Dermatoses caused by pyogenic bacteria. Superficial fungous infections of the skin, hair and nails. Dermatoses caused by viruses (exclusive of the ...ial exanthemata) Zoonoses—dermatoses caused by metazoal ("animal") parasites. Dermatoses based principally on allergic mechanisms. Dermatoses caused by the mycobacteria (tuberculosis cutis, leprosy) by the actinomyces and nocardia (actinomycosis and nocardiosis) and by the so-called deep fungi (deep cutaneous mycoses) Reciprocal relationships between cutaneous diseases, other organ diseases and systemic diseases. Hereditary congenital, dysplastic, nevoid, and neoplastic processes. Important dermatoses not etiologically classifiable A miscellany of minor or uncommon dermatoses of infants and children. Glossary Index.

Note The word "practical" in the title of this book is significant. The book is expressly designed as a guide and reference manual for practicing physicians, including general practitioners and pediatricians. Because it is devoted to the special problems of diagnosis and treatment of dermatoses in children, it is of interest also to dermatologists. Although it is not cyclopedic work in the sense that every disease of the skin that has been found in children is discussed, wide range of disorders is covered by compact writing and extend use f tabular presentations of information. Some rare conditions such as the Ehlers-Danlos syndrome are included, but the greater part of the space is given to more common disorders. Practically all of the photographs are pictures of patients with skin disorders. The principal exceptions are few photographs showing methods of applying dressings and insects that produce dermatoses. Not shown in the abov contents is a 28-page formulary of dermatologic preparations There are no literature references. The author is Associate Professor of Dermatology and Syphilology in the New York University Post-Graduate Medical School.

LIVINGSTON SAMUEL

The diagnosis and treatment of convulsive disorders in children Springfield Ill Charles C Thomas 1954 314 p illus 26 cm $9 50 4115

Content Diagnosis of convulsions. Treatment of the isolated convulsion. Cryptogenic epilepsy Secondary epilepsy Disorders simulating epilepsy Classification of epileptic seizures. Precipitating factors. Cranial roentgenography Electroencephalography General plan of treatment f epilepsy Drug therapy Dietary treatment Social management of epilepsy by F F Sch enker Surgical treatment of epilepsy by A. E. Walker Inheritance and predisposition. Appendices Author index Subject index.

Note A outstanding work based on studies of over 4,000 epileptic children observed in the Epilepsy Clinic of the Johns Hopkins Hospital. It is directed to graduate practitioners of medicin particularly general practitioners who treat children and specialists in pediatrics. It covers the subject broadly containing some discussion of all of the topics named in the chapter titles given abov and at the same time covers many aspects in considerable detail. T cite examples, the chapter on disorders simulating epilepsy is more than 30 pages long, that on electroencephalography is 30 pages long, and the one on drug therapy runs to 48 pages. Diagnostic techniques are fully described, and special problems such as the risk of pertussis immunization are discussed. Literature references are included in the chapters.

LOWENBERG, MIRIAM E

Food for young children in group care. Revised Washington, D C Government Printing Office, 1947 40 p. 22 cm. (United States Children's Bureau. Publication no. 285) $0 15 4116

Contents (abridged) Good eating habits. Meeting the food needs of children. Buying food. Storing food. Preparing food. Suggested menus. Serving meals. Community resources—workers and food. References.

Note A booklet of practical advice, cooking directions, suggested menus, etc. useful in the feeding of children two to five years of age who are fed in groups as in nursery schools.

MAY, CHARLES D

Cystic fibrosis of the pancreas in infants and children Springfield, Ill Charles C Thomas 1954 93 p illus. 22 cm. (American lecture series. Publication no 234 A monograph in American lectures in pediatrics edited by John A. Anderson) $3 00 4117

Contents Definition. Orientation and plan of presentation. Historical. The pancreatic lesion. The pulmonary lesion. Physiological consequences of the pancreatic and pulmonary lesions. Clinical manifestations. Diagnosis. Treatment. The cause and pathogenesis of cystic fibrosis of the pancreas. Bibliography

Note A useful summary of current knowledge of familial disorder hich though having an incidence of 0.7 to 1.0 case per thousand live births attracted little attention until 1938. It is directed to general practitioners and pediatricians rather than to specialists. In spite of its brevity it presents the essential information pertinent to the physiology clinical picture and diagnosis of this disorder The chapter on treatment is based on critical survey of 10 years of clinical experience in managing the disease The bibliography lists 83 literature references.

MICHAL SMITH, H., editor

Pediatric problems in clinical practice special medical and psychological aspects. New York Grune & Stratton 1954 310 p. illus. 21 cm. $6 00 4118

Contents: The normal child, by A. L. Gesell. The sick child by L. W Slobody The emotionally disturbed child, by W C. Hulse. The schizophrenic child, by L. Bender The mentally retarded child, by H. Michal-Smith. The brain-injured child, by K. Goldstein. The cerebral palsy child, by W M. Phelps. The orthopedically handicapped child, by G. Deaver The allergic child, by B Ratner The cardiac child, by J F. Dammann Jr. The diabetic child, by P White. The epileptic child, by W G. Lennox. The tuberculous child, by C. K. Cayley Recommended reading for parents. Index.

Note A book of medical and psychological information on the care of handicapped children. It contains the contributed chapters whose titles and authors are listed above and is directed to such readers as social workers, teachers and practicing physicians, especially general practitioners and pediatricians. The chapters may be read independently of one another for orientation and guidance on special problems. Each chapter is accompanied by literature references for physicians and members of other professions. At the end of the volume there is a selected list of books for recommendation to parents.

MORSE, KENNETH T editor

Epidemic and endemic diarrheal diseases of the infant. Editor in chief Kenneth T Morse. Associate editor Franklin N Furness Conference co-chairmen James A. Baker and Erwin Neter Consulting editor

Erwin Neter New York Published by the Academy 1956 230 p. illus. 22 cm. (New York Academy of Sciences. Annals. Vol. 66 art. 1) $3.50 4119

Contents: Introductory remarks, by H. Koprowski. Preface, by E. Neter. Diarrheal diseases of man—a historical review and global appraisal, by A. V. Hardy. Diarrheal diseases of animals—an appraisal, by W. A. Hagan. Host-parasite relationships, by W. J. Kempster. Genetics and nutrition of the host in relation to susceptibility to infection, by R. A. Schneider. Active and passive immunity of the infant, by G. Edsall. *Salmonella* and *Salmonellosis*, by P. R. Edwards. An epidemic of *Salmonella panama* infections in infants, by F. S. Leeder. Enteropathogenic *Escherichia coli* serotypes, by W. H. Ewing. Experimental diarrheal disease of human volunteers due to *Escherichia coli*, by W. W. Ferguson. *Escherichia coli* associated with infantile diarrhea, by M. L. Cooper and others. Infantile diarrhea due to *Escherichia coli*, by C. S. Stulberg and W. W. Zuelzer. Observations on enteropathogenic *Escherichia coli*, by E. B. Lindberg and V. M. Young. Epidemiologic studies on enteropathogenic *Escherichia coli* diarrhea, by A. H. Stock and M. E. Shuman. Spread and control of *Escherichia coli* diarrheal disease, by W. E. Wheeler. Control of epidemic diarrhea of the newborn in hospital nurseries and pediatric wards, by A. M. Harris and others. *Escherichia coli* as a cause of diarrhea in calves, by H. W. Dunne and others. The role of *paracolobactrum* and *proteus* in infantile diarrhea, by C. D. Graber and M. C. Dodd. The bacterial hemagglutination test for the demonstration of antibodies to enterobacteriaceae, by E. Neter and others. Hemagglutination with red cells sensitized with extracts of enteropathogenic *Escherichia coli*, by C. D. Graber and M. C. Dodd. The role of clostridia in diarrheal diseases of man, by I. D. MacLennan. *Clostridia* in diarrheal diseases of cattle, by K. M. [illegible], Jr., and L. A. Grace. Gamma globulin deficiency in infancy, by D. M. Speck and others. Epidemic diarrheal disease of viral origin of newborn calves, by C. A. Mebus and A. W. McClurkin. Epidemic diarrheal disease of viral origin in newborn mice, by K. O. Habermann and L. M. Kirchenge. Propagation of transmissible gastroenteritis virus in tissue culture, by K. M. Lee. Epidemic diarrheal disease of suckling mice, by F. S. Cheever. Diarrhea in puppies caused by distemper virus, by J. H. Gillespie and others. *Mycoplasma* bovis infection in calves, by C. J. York and J. A. Baker. Diarrhea of newborn and older infants due to viruses, by H. L. Hodes. Virus diarrhea of adults and their possible relationships to infantile diarrhea, by I. Gordon and E. Whitney. The significance of viruses recovered from the intestinal tracts of healthy infants and children, by A. B. Sabin.

Note: Papers first presented at a conference held by the Section of Biology of the New York Academy of Sciences in December, 1955, have been made available in this publication. They are listed by title and author above. A principal subject is diarrhea of the human infant. However, some studies from experiments on animals and on adult human patients are also included. Clinical experience rather than experimental investigation was the basis for many of the papers. Literature references are included in the individual papers.

MYKLEBUST HELMER R.

Auditory disorders in children a manual for differential diagnosis. New York Grune & Stratton, 1954 367 p 21 cm. $6.50 4120

Contents: Part I, Introduction. The problem. Auditory disorders and language development. Professional specialization and auditory disorders in young children. Part II, the history: Differential history taking. History interpretation. Part III, Behavioral symptomatology: Auditory disorders due to peripheral deafness—due to aphasia—due to psychic deafness—due to mental deficiency. Part IV: The examination: methods and procedures. The use of tests. Examination of auditory capacity. Psychological examination. Part V: Illustrative cases and recommendations. Case studies. Summary and recommendations for training. Index of authors. Index of subjects.

Note: An authoritative manual written by the Director of the Children's Hearing and Aphasia Clinic of Northwestern University. It is intended for graduate students of such professions as psychology and practitioners of such medical specialties as otolaryngology and pediatrics. It describes methods which the author and his colleagues have found useful in the differential diagnosis of auditory disorders in infants and young children and in older children who do not talk or who lack the ability to make reliable responses to standard tests of hearing, particularly those based on the use of tuning forks and the audiometer. There is considerable emphasis on the interpretation of patients' histories and behavior as well as on the specific tests of auditory capacity. Literature references are included.

NELSON, WALDO E., editor

Textbook of pediatrics Sixth edition. With the collaboration of seventy contributors Philadelphia W B Saunders Company 1954 1,581 p. illus. (part col d) 26 cm. $15.00 4121

Contents (abridged): An introduction to the medical problems of infants and children, by W. E. Nelson. Care and evaluation of well children: Physical growth and development, by H. C. Stuart and S. S. Stevenson. Mental and emotional development, by M. J. E. Senn. Nutritional requirements, by A. E. Hansen. General factors in the care of sick children: History and physical examination, by F. K. Stevenson. Disturbances of fluid and electrolyte equilibrium, by G. M. Guest. Parenteral fluid therapy, by K. Dodd. Anesthesia for children, by C. R. Ilchner. Prenatal disturbances: Prenatal factors in diseases of children, by J. Warkany. Inborn errors of metabolism, by M. Rapoport. The newborn infant: Introduction to neonatal pediatrics, by C. A. Smith. Diseases of the newborn infant—full term and premature, W. E. Nelson and H. H. Gordon. Unexpected death, by S. S. Gellis. Nutritional disturbances: Malnutrition, W. E. Nelson. Infectious diseases: Infection, immunity and allergy in relation to pediatrics, by C. A. Janeway. Bacterial infections, A. T. Wilson and others. Viral infections, including those presumed to be caused by viruses, by J. Stokes, Jr. and others. Rickettsial diseases, J. Stokes, Jr. Mycotic infections, by D. S. Martin and others. Parasitic diseases, by E. C. Faust and others. Protozoan diseases, by A. J. Walker and others. Diagnosis of poisoning, by J. A. Anderson. The digestive system: The oral cavity, by J. B. Richmond and others. The gastro-intestinal tract, by W. E. Nelson and others. Anus, rectum and sigmoid, by H. E. Bacon. The liver, by M. Rapoport. The respiratory system: The upper respiratory tract. The ear, by D. Myers. The thoracic cavity. The cardiovascular system: The heart and circulation in health and disease, by R. A. Lyon and S. Kaplan. Rheumatic fever, by A. G. Kuttner. Diseases of the blood: Disorders of red blood cells, by L. K. Diamond and others. The anemias. Diseases of the blood associated with defects in hemostasis. The spleen, by N. J. Smith. The lymphatic system. Diseases of the lymph vessels, by L. K. Diamond and others. Disturbances of cellular lipid metabolism and related conditions, by S. Gellis. The genitourinary system: Urine and urination, by M. L. Rubin. Malformations and diseases of the male and female genital organs. Psychologic disorders. Disorders in language function. The nervous system: Examination, by F. C. Ivey. Convulsive disorders. Cerebral palsy, by W. M. Phelps. The endocrine system. Diabetes mellitus: Diabetes mellitus, by W. E. Nelson. Infants of diabetic mothers, by S. S. Gellis. Hypoglycemia, by M. Rapoport. The bones and joints: Skeletal defects, by J. Warkany. Metabolic bone disorders simulating rickets, by L. I. Gardner. The muscles. The skin. Burns, by R. H. Hoch. The eye. Allergic diseases. Neoplasms and other tumors, by J. B. Arey. Radiation injury, by R. W. Miller. Adolescence: Physical aspects of adolescence, by J. A. Johnston. Psychologic aspects of adolescence, by M. J. E. Senn. Appendix. Index.

Note: A standard work used as a text for students of medical colleges and as an office reference book by medical practitioners. It is essentially a systematic treatise on pediatrics as currently practiced in the United States of America. A selection only of the chapter titles is listed above. The contributors are outstanding teachers and practitioners in pediatrics and in allied fields, such as neurology, pathology and dermatology. The fifth edition was published in 1950. Revisions were made in most of the chapters in preparing this sixth edition. They were designed to keep the book up to date, rather than to effect a change in its scope.

PATERSON DONALD AND JOHN FERGUSON McCREARY editors

Pediatrics With 36 contributing authors. Philadelphia J B Lippincott Company 1956 654 p. illus. (part col d) 26 cm. $14.00 4122

Contents: History taking and physical examination. Normal growth and development. Diseases due to prenatal factors. The newborn baby. Infant feeding. Fluid and electrolyte balance. Nutritional disturbances. Diseases of the alimentary tract. Accidents, burns, poisoning and sudden death. Diseases of the cardiovascular system. Diseases of the ear, nose and throat. Diseases of the respiratory system. Allergies. Diseases of the liver and the pancreas. Diseases of the blood, the spleen, the lymph glands and the thymus. Diseases of the genito-urinary system. Pediatric gynecology. Diseases of the endocrine glands. Diseases of the

nervous system. Mental retardation and behavior disorders. Disturbances of adolescence. Diseases of the skin—muscles—bones and joints. Inborn errors of metabolism and storage diseases. Diseases of the eye. Immunization. Public health service. Infectious diseases. Rickettsial diseases and those caused by helminthes, arthropods and protozoa. Tuberculosis. Syphilis. Therapy and procedures. Appendix Drug therapy Normal values as determined by laboratory technics. Diets. Index.

Note With one exception, the editors and authors of this volume are Canadians. Dr McCreary is Head of the Department of Pediatrics at the University of British Columbia, and many of the contributors are from the same university however other Canadian universities and hospitals are represented. Chapters and sections within chapters bear the initials of the contributing authors. The book is essentially a reference volume addressed to general practitioners. Diagnosis and treatment are emphasized. There are 34 tables of reference data in addition to recipes and menus for special diets and 192 figures. Literature references ar included in all of the chapters.

PEDIATRIC CLINICS OF NORTH AMERICA. Symposium on the Child's Mouth, November, 1956 Philadelphia W B Saunders Company 1956 292 p illus. 24 cm $15 00 per year of 4 numbers. 4123

Contents Foreword, by J B Richmond. The mouth of the newborn, by A. H. Parmelee, Jr Examination of the mouth, by R. E. McDonald. The diagnosis and management of oral infections, by P F Wehrle. Oral neoplasms of children, by H. B G. Robinson. Trauma in and about the mouth in children, by L. K. Pickett and D B Stark. Clinical problems related to the tongue, by E. Cheraskin and R. T Blaiford, Jr Salivary gland infection, by J A. Bigler The pediatrician's responsibility in dental examination by P L Leach and W R. Simon. Caries control in pediatric practice by M. Massler The orthodontist and the pediatrician, by M. B Engel. The fractured incisor by B. Z. Rabinowitch. Cleft lip and cleft palate—perspectives in management, by E. F Lis and others. Cleft lip and cleft palate—surgical considerations, by W B. Slaughter and others. Psychological and psychophysiological aspects of oral activities in childhood, by D G. Prugh. Index of authors. Index to Volumes 1 2 and 3 (1954, 1955 and 1956)

Note. Pediatric clinics of North America is published six times year and is continuously paged through the annual volumes as a periodical. However each issue is devoted to symposium-in-print on topic of current interest, and the issues are available bound in cloth as books. The November 1956 issue contains the papers whose authors and titles are listed above. Most of the contributors to this issue are eminent teachers and practitioners of pediatrics and dentistry The symposium is directed to graduat pediatricians and is of interest also to dentists.

SCHAUFFLER GOODRICH C

Pediatric gynecology with sections on urology and proctology Third edition. Chicago Year Book Publishers Inc, 1953 318 p illus. 23 cm 4124

Contents 1, General considerations. Embryologic development of the female genital system, by G G Robertson. Special methods of investigation. The external genitalia. The vagina and vaginal cervix. Management of agitatio. The uterus. Disorders during adolescence—the onset of menstruation Surgical aspects of the pelvic viscera. General surgical considerations, with C. W Brunkow Special urologic considerations, with E. Belt and C. V Hodges. Special proctologic considerations, with D R. Laird Social connotations and social service aspects, with S. R. Stimmel. Medicolegal aspects, with D H. Northup and S. R. Stimmel. Appendix. Index.

Note A standard, well-established manual of a branch of pediatrics on which there is relatively little literature in book form The author is specialist in obstetrics and gynecology he for more than 25 years has gathered information from the literature and from clinical experience The book is directed to practicing physicians. It covers the subject from the clinical standpoint and includes much practical information, including even the names of drugs which the author has found useful. The first edition was published in 1942 and the second edition in 1947 Comparing the second edition to the third, the book has been rather extensi ely reorganized and revised. The chapter on embryologic dev lopment has been newly added, and many of the other chapters ha been revised or augmented. A fourth edition was published in 1958, 349 p.

SLOBODY, LAWRENCE BORIS

Survey of clinical pediatrics. Second edition New York The Blakiston Division, Mc Graw Hill Book Company, Inc., 1955 502 p. 24 cm $9 50 4125

Contents. Growth and development. Feeding of infants and children. Vitamins. Preventive pediatrics. Psychologic problems. Treatment. Fluid and electrolyte balance. The normal newborn infant. Diseases of the newborn. Prematurity Infectious diseases. Respiratory diseases. Heart disease. Gastrointestinal diseases. Surgical conditions of the abdomen. Genitourinary diseases. Neurologic conditions. Diseases of the skeletal system. Blood disorders. Neoplasms of infancy and childhood. Endocrine diseases. Allergy Skin disorders. Appendix. References. Index.

Note. Based on material previously used in teaching by the pediatric staff of the New York Medical College, this textbook covers the subject for medical students and general practitioners who wish to have the facts of modern pediatric practice in a convenient format. The outline form is the principal method of presentation and, together with the 22 tables in the text, is skillfully used to give wealth of essential information in relatively little space. Most of the book is made up of condensed monographs on specific diseases and abnormalities. In general, the material on a specific disease covers etiology clinical features, diagnosis, prognosis, and treatment. The bibliography lists six books for general collateral reading and 36 books for additional readings on particular subjects. The first edition as published in 1952. New and revised information on a variety of topics was added in this second edition. Dr Slobody received the 1950 award of the Association for Help of Retarded Children.

SMITH, CLEMENT ANDREW

The physiology of the newborn infant. Second edition. Springfield, Ill. Charles C Thomas, 1951 348 p illus. 24 cm. $8.50. 4126

Contents. Introductory Respiration—fetal aspects—neonatal aspects. The circulatory system. The blood. Icterus neonatorum. Metabolism and heat regulation. The physiology of the digestive tract. Fetal and neonatal utilization—assimilation and metabolism of specific food substances. Minerals and vitamins. Renal physiology—regulation of water and electrolytes. Neonatal endocrinology Neonatal immunology Index.

Note The physiology of the period of life in hich more physiological alterations and adjustments occur than in any other comparable span is the subject of this book. Except for the omission of a discussion of the nervous system, the subject is covered thoroughly with careful cross-referencing bet een the text and the literature citations in the extensi chapter bibliographies. Some data based on animal experimentation are included, but most of the information has been derived from observations on human infants. The book is of primary interest to obstetricians and pediatricians. The first edition was published in 1945. Revisions have been made in the text of most chapters, and the length of the book has been extended by 25 pages. Recent literature has been added to the bibliographies.

STONE, EMERSON LAW

The new born infant a manual of obstetrical pediatrics Third edition, thoroughly revised Philadelphia Lea & Febiger, 1945. 314 p 21 cm $3.25 4127

Contents. The immediate care of the new-born. The physiology and development of the new-born. The ursing care of the normal infant. The technique of ursing. The pathological aspects of birth. Modified feeding. The dietary disorders of infancy. Birth injuries—cranial. Birth injuries—extracranial. Infections. Disorders of special systems. The premature infant. Index.

Note This little olume is the outgrowth of short course of lectures given to senior students at the Johns Hopkins Medical School. It is written primarily for the obstetrician and discusses the care and treatment of the infant during the first month or six weeks of life, a period which does not normally fall within the jurisdiction of either the obstetrician or pediatrician. The present revision takes into account the latest obstetric and pediatric principles and practices relating to the newborn infant, as evidenced by many small alterations, condensations, eliminations, and additions to the text.

Pediatrics

TALBOT NATHAN BILL AND OTHERS

Functional endocrinology from birth through adolescence. By Nathan B Talbot, Edna H. Sobel, Janet W McArthur and John D Crawford. Published for the Commonwealth Fund. Cambridge, Mass. Harvard University Press, 1952 638 p. illus. 26 cm. $10.00. 4128

Contents: The thyroid. The parathyroids. The adrenal cortices. The adrenal medulla. The ovaries. The testes. The anterior pituitary. The posterior pituitary. The pancreatic islets. Appendix. Index.

Note: This book covers (to use the words of the authors) "the actions of endocrine systems in health and ordinary disease and the management of endocrinopathies as they appear in young people." It is addressed to graduate practitioners, particularly pediatricians and general practitioners, but the authors have not assumed any previous knowledge of endocrinology on the part of the reader. Within the age limitations as stated, the field is covered comprehensively with particular emphasis on diagnostic and clinical aspects. Although for practical purposes the book is self-contained, literature references are included. The first-named author is Associate Professor of Pediatrics in the Medical School of Harvard University.

THOMAS, LEWIS, editor

Rheumatic fever. A symposium held at the University of Minnesota on November 29 30 and December 1 1951 under the sponsorship of the Minnesota Heart Association. Minneapolis University of Minnesota Press, 1952 349 p. illus. 24 cm. $6.50 4129

Contents: The natural history of rheumatic fever, by T. D. Jones and E. F. Bland. The epidemiology of rheumatic fever, by F. F. Schwentker. The histopathology of rheumatic fever—a critical review, by G. E. Murphy. Inflammatory complications of congenital heart disease, by T. J. Dry and D. C. Connolly. The biology of group A hemolytic streptococci, by M. McCarty. Studies on the epidemiology of rheumatic fever in the armed services, by C. H. Rammelkamp and others. Infection and reinfection by hemolytic streptococci in early childhood, by L. A. Rantz and others. Non-rheumatic [illegible], by H. L. [illegible]. Acute-phase reactions in rheumatic fever, by R. A. Good. The antibody response in rheumatic fever, by M. McCarty. Attempts to induce rheumatic fever in experimental animals—a critical review with particular reference to the Aschoff bodies in the myocardium, by G. E. Murphy. Experimental [illegible] and glomerulonephritis—a description of a method of production utilizing [illegible], and summary of the results of antibiotic therapy, by C. W. Lillehei and others. Tissue factors in streptococcal infections, by D. W. Watson and W. J. Cromartie. The biochemistry of connective tissue and rheumatic fever, by A. Dorfman. The penetration of antigens into connective tissue, by A. H. Coons. The pathogenesis of the Shwartzman and Arthus phenomena and their relation to human rheumatic fever, by C. A. Stetson, Jr. The generalized Shwartzman reaction in rabbits injected with group A hemolytic streptococci, by L. Thomas. The surgical problem in rheumatic valvular heart disease, by R. L. Varco and C. D. Rosenzweig. Subacute bacterial endocarditis, by W. R. Harrell and F. R. Hollinger. Acute rheumatic fever treated with cortisone and corticotropin, by A. R. Barnes and others. Therapy of rheumatic fever—a discussion, by A. G. Kuttner. The prevention of rheumatic fever, by C. H. Rammelkamp and others. The management of rheumatic fever, by M. J. Shapiro. Bibliography.

Note: Many of the papers collected in this volume describe recent advances in the understanding and therapy of rheumatic fever, including the results of studies carried out by the United States Armed Forces. Several of the papers are accompanied by transcripts of the discussions which took place at the symposium. Some include extensive bibliographies.

UNITED STATES. CHILDREN'S BUREAU

Infant care. Tenth edition. Washington, D C. Government Printing Office 1955 106 p. illus. 22 cm. (United States. Children's Bureau. Publication no. 8) $0.15 4130

Contents (abridged): The newborn baby. Feeding your baby. Satisfying your baby's sleep needs. Clothing for your baby. Bathing your baby. How your baby develops and learns. Accidents and their prevention. Immunizations. The sick baby. Illnesses. Common communicable diseases. Appendixes. Cow's milk feeding. Foods necessary for nursing mother. The premature. Index.

Note: A perennial "best seller" of the United States Government Printing Office, this helpful pamphlet is designed as a guide to parents in taking care of babies. It provides sane and practical advice on all the points mentioned in the chapter titles listed above and on many others.

WILKINS LAWSON

The diagnosis and treatment of endocrine disorders in childhood and adolescence. Springfield, Ill. Charles C Thomas, 1950 384 p. illus. 29 cm. 4131

Contents (abridged): Endocrine relationships and their influences upon growth and development. Methods of endocrine study and diagnosis. Thyroid disorders. Dwarfism. Variations in the pattern of adolescent development. Sexual precocity of isosexual pattern. Sexual infantilism. Adrenal cortex—hormones and their actions—adrenal insufficiency—hyperadrenocorticism—adrenogenital syndrome and Cushing's syndrome. Hermaphroditism. Pituitary tumors and intracranial lesions causing endocrine disorders. Diabetes insipidus. Calcium and phosphorus metabolism. Carbohydrate metabolism and spontaneous hypoglycemia. Obesity. Congenital anomalies sometimes mistaken for endocrinopathies. Index.

Note: The emphasis in this work is on clinical diagnosis, and special attention is given to recently developed diagnostic tests and techniques. Differential diagnoses are discussed. Current methods of treatment are outlined. The book is based largely on studies done at the Johns Hopkins Hospital. There are more than 400 illustrations, including six reproduced in color. A considerable number of the illustrations are photographs of endocrine cases. Each chapter concludes with a list of references to selected literature. A second edition was published in 1957 [illegible] p., $17.50.

WILSON MAY GEORGIANA

Rheumatic fever: studies of the epidemiology, manifestations, diagnosis, and treatment of the disease during the first three decades. Cambridge, Mass. Harvard University Press 1940 595 p. illus. (part col d) 26 cm. $4.50. 4132

Contents (abridged): Historical summary. Epidemiology of rheumatic fever. Familial epidemiology of rheumatic fever. Consideration of etiological hypotheses. Bacteriological investigations relative to the etiology of rheumatic fever. Immunological response of rheumatic subjects to streptococcal infections; and relation of rheumatic fever to other infections. Summary. Symptoms and signs of infection in rheumatic fever. Involvement of the heart and great vessels in rheumatic fever. Involvement of organs and tissues—cutaneous lesions; small peripheral arteries of systemic circulation, arterioles, capillaries, and veins. Bacterial endocarditis. Age and type of manifestation at onset. Recurrence of manifestations of rheumatic activity. Prognosis related to manifestations of rheumatic activity. Mortality and life expectancy. Graphic presentation of the course of rheumatic fever in 447 individual rheumatic patients. Criteria of diagnosis and differential diagnosis. Diagnostic significance of symptoms of physical signs. Diagnostic value of the roentgenogram examination of the heart. Diagnostic value of other tests. Diagnostic value of the vital capacity measurement. Diagnostic significance of the electrocardiogram in rheumatic fever. General therapeutic measures. "Specific" therapy. Symptomatic treatment and sedatives. Bibliography. Appendixes. Illustrations.

Note: Dr. Wilson presents in this volume the results of more than 20 years' study she has given to the etiology, epidemiology, manifestations, course, diagnosis, prognosis, and treatment of childhood rheumatism. She has followed many cases of rheumatic fever and rheumatic heart disease from onset of the illness in childhood through the years of adolescence and early adult life. In preparing this book she has drawn upon the important literature relating to the subject as a setting for the presentation of her own experience.

YEAR BOOK OF PEDIATRICS. (1956–1957 Year book series.) Edited by Sydney S. Gellis,

Chicago The Year Book Publishers, Inc., 1956 480 p illus 20 cm $6 00 4133

Contents The premature and the newborn. Nutrition and metabolism. Infectious disease and immunity Allergy Dentistry and otolaryngology Ophthalmology Respiratory tract. Gastrointestinal tract. Genitourinary tract. The heart and blood vessels. Blood. Endocrinology Orthopedics. Dermatology Neurology and psychiatry Tumors. Therapeutics and toxicology Miscellaneous. Index. Index to authors.

Note. An annual volume organized and edited on essentially the same plan as the other books in this publisher's *Year book series.* The chapters consist of fairly long abstracts of important articles selected from the medical periodicals of the world, published during the period of one year In the issue reviewed here, the abstracts are based on articles in journals received by the editors from June, 1955 through May 1956. The abstracts are arranged under the headings given above. References are given in all cases to the original publications. In addition to the abstracts, illustrations and tables are sometimes reproduced, and there is often a short note by the editor criticizing the author's conclusions or relating them to other studies on the subject. There are 134 figures in the present issue.

ZAHORSKY, JOHN

Synopsis of pediatrics By John Zahorsky, assisted by T S Zahorsky Sixth edition. With 158 text illustrations and 9 color plates St. Louis The C V Mosby Company 1953 470 p illus. (part col'd) 20 cm $7 50 4134

Contents (abridged) Growth and development. The incidence of diseases—prophylaxis—mental hygiene. Nutrition. Natural feeding. Artificial feeding of infants. Feeding the sick infant. Diagnosis. Diseases of the newborn. Malformations of the newborn. Nutritional disorders. Deficiency diseases. Disorders of growth. Disorders of metabolism Infectious diseases. Rheumatism—acute rheumatic fever Infestations. Allergy Diseases of the endocrine glands. Diseases of the blood. Diseases of the alimentary tract. Diseases of the respiratory organs. Diseases of the circulatory system. Diseases of the genitourinary organs. Diseases of the brain and meninges. Diseases of the nervous system. Diseases of the bones and joints Diseases of the skin. Diseases of the eyes and ears—disorders of speech. Poisons and bites. Appendix The management of medical emergencies. Drugs and doses. Index.

Note A condensation of the important principles, facts and techniques of pediatrics, presented in handbook form. It is used by students in medical colleges, internes in hospitals, and general practitioners of medicine who are not specialists in pediatrics. There are no literature references. The first edition was published in 1934 and the fifth in 1948. The appendix on the management of medical emergencies was added in this sixth edition.

ZIEGLER, ROBERT F

Electrocardiographic studies in normal infants and children Springfield Ill Charles C Thomas, 1951 207 p illus 29 cm $10.50 4135

Contents Introduction and review of the literature. Material and method. The cardiac mechanism Auricular activation and auriculoventricular conduction. Ventricular activation. Electrical axis of QRS and T and the ventricular gradient. The initial ventricular deflections The final ventricular deflections. Representative electrocardiograms at various ages. Appendix Statistical data in the study of electrocardiograms of normal infants and children. Definition of terms. Index.

Note This work is the result of a planned effort to establish standards of normal for the electrocardiogram of infants and children without heart disease. It is based on the electrocardiograms of three groups of children ranging in age from birth to 15 years and totaling 635 in number A series of electrocardiograms identified with the sex and age of the subject are reproduced. The appendix contains a series of charts on which the observed percentage incidence and the predicted distribution of values for such measurements as heart rate duration of P-wave measured in seconds and amplitude of T-wave in precordial lead V6, measured in 1/10 millivolt. Both the observed and the predicted charts are arranged by age groups.

GERIATRICS

BOAS, ERNST PHILIP

Treatment of the patient past fifty Third edition Chicago The Year Book Publishers, Inc, 1947 479 p illus. (part col'd) 21 cm. $6 50 4136

Contents Aging and disease. The aging process. General management of the aging and aged person. Principles of diagnosis and treatment. Diseases of the cardiovascular system. Diseases of the cardiovascular system—hypertension. Diseases of the cardiovascular system—syphilis. Diseases of the cardiovascular system—valvular diseases and irregularities. Diseases of the cardiovascular system—general management. Diseases of the lungs. Diseases of the gastrointestinal tract. Diseases of the bile passages, liver and pancreas. Diseases of the genito-urinary tract. Diseases of the bones and joints, and gout. Infectious diseases. Diabetes. Diseases of the thyroid gland. Disorders of the blood. Diseases of the eyes. Diseases of the skin. Diseases of the nervous system. Index.

Note The special approach required in treating aging and aged patients is explained in this standard guide to geriatrics for general physicians, surgeons, industrial physicians, and internists.

KAPLAN, OSCAR J, editor

Mental disorders in later life. Second edition Stanford Stanford University Press, 1956 508 p illus. 24 cm $7.50 4137

Contents. Introduction, by K. M. Bowman. A statistical survey of mental disorders in later life, by B. Malzberg. Genetic aspects of mental disorders in later life, by F J Kallmann. Physiological aspects of mental disorders in later life, by H. E. Jones and O J. Kaplan. Sociological aspects of mental disorders in later life, by H. W Dunham. Food for the later years, by C. M. McCay. Neuroses of later maturity by N Cameron. The involutional psychoses, by E. Davidoff The presenile dementias, by G. A. Jervis. Senile psychoses and psychoses with cerebral arteriosclerosis, by D Rothschild. The toxic delirious reactions of old age, by G. W Robinson Jr Older mental patients after long hospitalization, by E. Hanfmann. The aged subnormal, by O. J. Kaplan. Psychosomatic medicine and the older patient, by B. Mittelmann. Psychotherapy in the older individual, by F V Rockwell. The use of electric shock therapy in older patients, by C. T Prout and others. Mental hygiene in later maturity by N D C Lewis. Orientation of the problems, by E. J Stieglitz. Index.

Note This book is a collection of original essays on various phases of the problem of mental disorders in later life rather than a comprehensive study Most of the authors discuss their specific topics in relation to physical conditions, illness, and previous mental history with emphasis on causes, prevention and treatment. Bibliographies, some of them very extensive, are included in most of the chapters. The volume is of interest to professional workers who are concerned with the care of the aged, including not only specialists in psychiatry but also psychologists, public health authorities, and general practitioners of medicine. The first edition was published in 1945 The chapters on genetic aspects and on electric shock therapy were added in this second edition, and some of the chapters carried over were revised.

LANSING, ALBERT INGRAM editor

Cowdry's Problems of ageing biological and medical aspects Third edition edited by Albert I Lansing Baltimore The Williams & Wilkins Company 1952 1 061 p. illus. $15 00 4138

Contents Section I, Biological and cellular problems of ageing General physiology by A. I. Lansing Ageing of tissue fluids, by E. V Cowdry Ageing of individual cells, by E. V Cowdry Ageing processes considered in relation to tissue susceptibility and resistance, by W deB. MacNider Quantitative histochemical changes in ageing, by O. H. Lowry and A. B Hastings. Chemical aspects of ageing and the effect of diet upon ageing, by C. M. McCay Longevity in retrospect and in prospect, by L. I. Dublin. Section II, Clinical and organic problems of ageing: Ageing in the nervous system, by J. L. O'Leary The eye, by J S. Friedenwald The ear by W P Covell. The heart and great vessels in old age, by P D. White. Arteriosclerosis in the aged, by J B. Shapleigh and others. Arteriosclerosis (lipid metabolism) by J M. Steele. Experimental hypertension, by W S. Hartroft. The thyroid, pancreatic islets, parathyroids, adrenals,

thymus, and pituitary by A. J. Carlson. Cytologic changes in the cells of the pituitary thyroids, adrenals, and sex glands of ageing birds, by F Payne. Homeostatic and histochemical aspects of the endocrine glands, by E. W Dempsey Ageing of homeostatic mechanisms, by N. W Shock. Teeth and jaws, by H. B. G. Robinson and L. R. Boling. Digestive system, by A. C. Ivy and M. I. Grossman. Lymphatic tissue, by W Andrew. The respiratory system in the aged, by H. A. Bickerman. Age changes in renal function, by N. W Shock. Urinary system, by J. R. Oliver. Female reproductive system, by W H. Masters. Male secondary sexual organs, by R. A. Moore. Male reproductive system, by E. T. Engle. Metabolism of mineralized tissues and changes associated with ageing, by J. E. Kirk and P F Hansen. Ageing of the skin, by Z. K. Cooper. Skeleton, by W M. Cobb. Surgical problems in the aged, by R. Elman. Anesthesia in the aged, by E. Apgar. Degeneration and regeneration, by W B. Kountz. Cosmetological aspects of ageing, by M. Cheek. Rehabilitation for the chronically ill and aged, by H. A. Rusk and E. J. Taylor. Cancer and ageing, by J. A. Saxton, Jr. Section III, Social and economic problems of ageing: Trends in the ageing population, by P. M. Hauser and E. Shanas. The older worker in industry by R. K. Burns and L. B. Brown. Roles and status of older people, by R. J. Havighurst. Personal adjustment in old age, by R. S. Cavan.

Note A distinguished and useful work in which specialists in gerontology and related subjects cover the developments of the last decade and also discuss significant trends. As the section and chapter titles show, the book is not limited to the biological and medical aspects, but includes also papers on social and economic phases. The first two editions were edited by Edmund Vincent Cowdry who is contributor to the third edition. The book is of interest to general practitioners, specialists in geriatrics, graduate physicians, and other persons with professional interests in the medical and socio-economic questions generated by the ageing process and the increasing numbers of the aged.

MONROE, ROBERT THORNHILL

Diseases in old age a clinical and pathological study of 7941 individuals over 61 years of age. Cambridge, Mass. Harvard University Press 1951 407 p. 22 cm. (Harvard University monographs in medicine and public health editorial committee, A. Baird Hastings, chairman. Number 11) $5.00. 4139

Contents: General features of the group. Diseases of the nervous system. The cardiovascular system. Diseases of the respiratory system. Diseases of the gastrointestinal system. Diseases of the kidney, ureter, and bladder. Diseases of the blood. Diseases of the endocrine system. Venereal diseases. Nutritional disorders and alcoholism. Diseases of the bones and joints. Malignant disease. Summary of medical findings. The community resources essential for old people. References. Index.

Note A study based chiefly on the records of the Peter Bent Brigham Hospital, Boston, from 1913 to 1943. Approximately 100 tables of statistical data are accompanied by critical interpretative text. Included are social and psychological factors as well as pathological findings and therapy. Tentative conclusions are drawn, but the author points out the need for many more such studies before geriatrics can be established as distinct field of medicine.

SHOCK NATHAN WETHERILL

A classified bibliography of gerontology and geriatrics. Prepared for Stanford University under a grant from The Forest Park Foundation, Peoria, Illinois. Stanford Stanford University Press, 1951 599 p. 28 cm. $10.00 4140

Contents (abridged): Biology of aging. Cellular biology and physiology. Climate. Exercise. Longevity. Metabolism. Nutrition. Physiological age. Rejuvenation. Theories. Organ systems: Blood. Cardiovascular system. Connective tissue and cartilage. Endocrine system. Gastro-intestinal tract. Kidney. Lymphatic system. Muscular system. Nervous system. Reactions of the body as whole. Reproductive system. Respiratory system. Sense organs. Skeletal system. Skin and integument. Urogenital system. Geriatrics: Medical care. Diagnosis and physical examinations. Disease. Surgery. Psychological processes. Intellectual functions. Motor functions. Personality. Social and economic aspects. Miscellaneous. Historical references. Lay items. Research methods, organizations, programs and institutions. Abbreviations of journals cited. Index of authors. Index of subjects.

Note A comprehensive, international bibliography. The classification is detailed. Shown above are part-titles and the titles of main subdivisions. However, the larger subdivisions, for instance endocrine system, are broken down into appropriate subgroups. Titles are given for the cited publications in addition to other usual bibliographical data. The number of references exceeds 18,000. The United States Public Health Service, Stanford University and the Forest Park Foundation shared in the work preparation.

STIEGLITZ EDWARD JULIUS editor

Geriatric medicine medical care of later maturity Third edition. 205 figures. Philadelphia J B Lippincott Company 1954 718 p. illus. 26 cm. $15.00. 4141

Contents: Section I, Basic considerations. Foundations of geriatric medicine, by E. J Stieglitz. Principles of geriatric medicine, by E. J. Stieglitz. Anatomic changes of normal senescence, by J. Oliver Physiologic changes of normal senescence, by A. J. Carlson. Intellectual changes of normal senescence, by O. J. Kaplan. Medical care of normal senescents, by E. J Stieglitz. Mental hygiene in later maturity by E. J Stieglitz. Medical care of the normal aged, by F D Zeman. Medicolegal aspects of senility by A. W Brown. Essentials of geriatric surgery by F C. Fishback. Essentials of geriatric anesthesia, by R. T Knight. Essentials of geriatric nursing, by L. L. Roland. Section II, Disorders of metabolism: Malnutrition, by W H. Sebrell, Jr and J M. Hundley Diseases of the blood, by C.-S. Wright and C. A. Doan. Diabetes mellitus, by E. L. Bortz. Gout, by J. H. Talbott. Dysfunctions of the thyroid, the gonads and the adrenals, by W B. Kountz. Section III, Disorders of the mind and the nervous system. Mental diseases, by W Overholser and T C. C. Fong. Organic diseases of the brain, the spinal cord and the peripheral nerves, by C. D. Camp. Diseases of the eye, by R. Rosen. Diseases of the ear by C. A. Hardy. Section IV Disorders of the respiratory system. Diseases of the upper respiratory tract, by A. W Proetz. Chronic diseases of the lungs, by J. A. Myers. Acute diseases of the lungs and the pleura, by H. A. Bickerman. Section Disorders of the circulatory system. The normal senile heart, by H. B. Sprague. Cardiac decompensation, by G. Sharpe and E. J. Stieglitz. Angina pectoris, myocardial infarction and acute coronary failure, by W S. Priest. Arteriosclerosis, by I. S. Wright. Diseases of the aorta, by C. S. Keefer and W E. R. Greene. Hypertensive arterial disease and hypotension, by E. J. Stieglitz. Diseases of the veins, by R. R. Linton. Section VI, Disorders of the alimentary system Diseases of the mouth and the teeth, by J R. Rowe and M. P Fryer. Diseases of the esophagus, the stomach and the small intestine, by H. C. Bockus and J B. Kirsner. Diseases of the colon, the rectum and the anus, by R. S. Smith, and others. Diseases of the liver and the biliary passages, by G. M. Piersol. Section VII, Disorders of the genitourinary system. Gynecology of senescence and senility by M. E. Davis. The nephropathies, by E. J. Stieglitz. Surgical renal disease, by J. M. Mericks and F B. Papierniak. Diseases of the bladder, the prostate and the urethra, by V. J. Herbst. Section VIII, Disorders of the skeletal system and the integument. Diseases of the joints, by W M. Solomon. Diseases of the bones, by L. J. Lacroix and others. Diseases of the skin, by H. Rattner. Index.

Note A standard treatise on the medical care of the aged. Earlier editions published in 1943 and 1949 had the title *Geriatric medicine, the care of the aging and the aged.* General principles and specific disorders are covered from the standpoint of general medical practice, with attention to the clinical picture, diagnosis and treatment. The range of diseases covered is not greatly different than in comprehensive texts on general medicine, but the manifestations and other aspects which are different in the aged are pointed out. In such passages as: "The course of acute pulmonary disease in the aged often does not follow the pattern observed in younger patients. Many changes, both systemic and locally in the lungs, which come with advancing years bring about lessened reactivity of the patient and often mask the presence of infection. In this third edition, the book has been very extensively revised and rewritten.

STIEGLITZ, EDWARD JULIUS

The second forty years. Philadelphia J B Lippincott Company 1946 327 p. illus. 22 cm. $4 95 4142

Contents: How old is old? The biology of senescence. What senescence means to us. The hazards of senescence. Life with handicapped heart. High blood pressure. Nutrition in later years. Sex and age. The question of cancer. The point of view Wise investment of leisure. An aging people. Constructive medicine. Post-script.

Note The increasing numbers of older people in the United States has turned attention to the special health and psychical problems of the aged and has resulted in an increasing production of books and technical articles dealing with these subjects. Most of this published material has been written for the physician and biologist directly concerned with problems of gerontology. The author of this book, however feels that what is now known about aging successfully belongs in the hands of the aging adult himself. Accordingly he has written a simple direct book for laymen who are interested in establishing and maintaining optimum conditions of mental and physical health during the years after forty

THEWLIS, MALFORD WILCOX

The care of the aged (geriatrics) Fifth edition thoroughly revised, with 65 illustrations St. Louis The C V Mosby Company, 1946 500 p illus 25 cm. $9 50 4143

Contents (abridged) Part I, General considerations. History of geriatrics. Part II Geratology: Life extension. Hygiene (gerocomia) Hobbies. Part III, Medicolegal relations. Part IV Miscellaneous geriatric problems. Anatomic changes. Physiologic and pathologic changes. Therapeutics. Geriatric nursing. Part V Diseases of metabolism and endocrine disorders. Part VI, Infectious diseases and focal infection. Part VII, Systemic pathologic conditions Special senses. Respiratory system. Cardiovascular system. Alimentary tract. Neurology Muscles, bones, and joints. Genitourinary disease. Diseases of the skin. Part VIII, Special topics Alcoholism. Allergy Cancer Anesthesia. Surgery Index.

Note The author of this text, using the experience of his own practice as background, has produced practical and concise guide to the clinical problems of the aged. Particular attention is given to the special problems arising from the diagnosis and treatment of disease in the aged person. This edition has undergone considerable revision and reorganization and, new material has been added on stress and longevity congestive heart failure, venous pressure, the kidneys during infections, mental hygiene, psychotherapy and preventive geriatrics. References are included at the end of each chapter.

CHRONICALLY ILL

COMMISSION ON CHRONIC ILLNESS

Chronic illness in the United States Volume II Care of the long term patient. Cambridge Mass Published for The Commonwealth Fund by Harvard University Press 1956 606 p illus 24 cm $8 50 4144

Contents The long-term patient. The patient at home. Rehabilitation at home and in institutions. The patient in an institution Personnel and education. Coordination and integration. Research for planning and administration. Financing. Summary—conclusions and recommendations. National Conference on Care of the Long-term Patient. Appendixes Prevalence of long-term disabling illness. Characteristics of special groups of long-term patients. Job definition and recommended qualifications for supervisor of homemaker service. The patient in an institution Health personnel and education. Coordination and integration. Definitions. Index.

Note This book is the first volume published of an authoritative four volume report on chronic illness in contemporary United States of America. The other volumes will be titled as follows Volume I, *Prevention of chronic illness* Volume III, *Chronic illness in rural area* and Volume IV *Chronic illness in large city* The present volume is concerned with the whole problem of the care of chronically ill patients, whether the patients are cared for in their own homes or in institutions such as hospitals. It is written from the social and public health viewpoints rather than the medical and, as the chapter titles indicate considers costs, financing, and research as well as care. It was based in part on reports of 28 study groups set up by the commission who first reported at the *National Conference on the Care of the Long Term Patient* held in 1954 and in part on the literature and other sources.

HARROWER, MOLLY editor

Medical and psychological teamwork in the care of the chronically ill. Springfield Ill. Charles C Thomas, 1955 232 p. 22 cm. (American lecture series. Publication no. 276. A monograph in the Bannerstone division of American lectures in psychology, edited by Molly Harrower) $5 75 4145

Contents (abridged) Care and treatment of the chronically ill. Psychological problems of the chronically ill. Problems of teamwork in the care of the chronically ill. Problems in teaching and training medical and psychological personnel for care of the chronically ill. The pros and cons of new medical discipline. Problems of interdisciplinary research in the care of the chronically ill. General discussion. Communication in teamwork for the chronically ill. Bibliography Index.

Note: The proceedings of a conference jointly sponsored by the Josiah Macy Jr Foundation and the University of Texas Medical Branch at Galveston, Texas, in March, 1954 are published in this volume. The conference was concerned with the psychological problems of chronically ill patients and with the question of what could be done to assist physicians, particularly general practitioners and internes, in the handling of such problems. This question pointed to the profession of clinical psychology and there is much discussion in the book of the present and potential roles of clinical psychologists in the psychological care of the chronically ill. The seven chapters of the book are composed of short papers and reports of committees of participants in the conference. The typical chapter is composed of about six short, signed papers and one report. An exception is the fifth chapter, "The pros and cons of new medical discipline, which consists entirely of paper by Lawrence S. Kubie. The volume is cross section of thought rather than a formal monograph.

HOMBURGER, FREDDY

The medical care of the aged and chronically ill, with particular emphasis on degenerative disorders, advanced cancer and other as yet incurable diseases. Boston Little, Brown and Company 1955 253 p. illus. 22 cm. $5 75 4146

Contents. The role of the modern physician in the management of chronic illness. Osteoporosis. Arthritis. Malnutrition and debilitation. Management of advanced cancer. Management of hemiplegia. Management of paraplegia. Management of distressing complications of chronic illness. Nursing problems in chronic illness. Index.

Note. A practical book directed to advanced medical students, nurses, and general practitioners of medicine. Its purpose is to furnish reliable guidance on the care outside of hospitals of chronically ill and aged patients. It provides reliable and explicit information on those illnesses and conditions mentioned in the chapter titles given above, and includes information not known to the average general practitioner such as techniques of administering the nitrogen mustards to patients with incurable cancers. Much of the space is devoted, of course, to less spectacular information on routine matters, for example guide for rational cathartic therapy, which is presented in the form of full-page table. The author is Director of the Cancer Research and Cancer Control Unit of Tufts College Medical School.

INFECTIOUS DISEASES

BAUER, JULIUS

Constitution and disease applied constitutional pathology Second edition, revised and enlarged. New York Grune & Stratton, 1945 247 p 22 cm $4.50 4147

Contents. Introduction. Constitutional pathology and its general significance. Constitutional biologic inferiority of organs and tissues. The integrative systems of individual constitution—I. The integrative systems of individual constitution—II. Classification of normal and abnormal constitution. Some major diseases with chiefly constitutional etiology Principles of treatment, nonspecific therapy pitfalls. Bibliography Index.

Note: A somewhat militant expression of the view that the proper approach in medicine is to consider the patient's whole personality rather than to concentrate attention only on the organ that appears to be the seat of his disease, view that is more in accord with European than with American medical tradition. The literature that supports this thesis is summarized, and the text is

lay ed to the chapters of the original articles. In this revised edition, an index has been provided. Many parts of the text have been rewritten or expanded, and the bibliography has been extended.

BODANSKY MEYER

Biochemistry of disease, by M Bodansky and O Bodansky Second edition, thoroughly revised and enlarged by Oscar Bodansky New York The Macmillan Company 1952 1,208 p. illus. 24 cm. $12 00. 4148

Contents: Diseases of the blood. Diseases of the heart and cardiovascular system. Diseases of the respiratory tract. Diseases of the kidney and genitourinary tract. Disorders of the digestive system. Disorders of the liver and biliary tract. Diseases of the pancreas. Diseases of the adrenals. Diseases of the pituitary. Diseases of the thyroid. Diseases of the parathyroids. Diseases of bone. Diseases of muscle. Diseases of the male gonads. Applications of biochemistry in obstetrics and gynecology. Miscellaneous disorders of nutrition. Miscellaneous disorders of metabolism. Biochemical aspects of neurological and psychiatric disorders. Appendix. Index of subjects.

Note: As the title indicates, this treatise is concerned with the biochemical aspects of clinical medicine. It is addressed to upper class medical college students and to practicing physicians. It is of interest also to the upper ranks of technical personnel in diagnostic laboratories. The scope is comprehensive. Thus, there is not only discussion of the biochemistry of thyroid disease, but also of such matters as the biochemical aspects of electric shock used in the treatment of psychoses. Extensive bibliographies are included. The first edition appeared in 1940. This edition represents an almost complete rewriting and considerable expansion. Many diseases are now included which were not mentioned in the first edition.

HAGAN WILLIAM ARTHUR, AND OTHERS

The relation of diseases in the lower animals to human welfare. New York New York Academy of Sciences, 1947 226 p. illus. 24 cm. (New York Academy of Sciences. Annals. Vol. 48 p. 351–576 1947) $2.50. 4149

Contents: Introduction to the conference, by W A Hagan. Rabies, by H N Johnson. Equine encephalomyelitis, by R. A. Kelser. Psittacosis, ornithosis, and related viruses, by H. R. Cox. The relation of brucellosis to human welfare, by I. F Huddleson. The prevention of plague in the light of newer knowledge, by K F Meyer. Animal tuberculosis and its relation to the disease in man, by W H Feldman. Anthrax in animals and its relationship to the disease in man, by C D Stein. Erysipelothrix rhusiopathiae infection in swine and in human beings, by J V Klauder. Animal parasites transmissible to man, by W H Wright.

Note: The papers comprising this volume are the work of prominent veterinarians, public health workers, bacteriologists, and pathologists. Various animal diseases which are transmissible to man are discussed on the basis of etiology, diagnosis, susceptibility, treatment, and control. Particular attention is given to critical appraisal of existent preventive measures. Formal bibliographies or foot-note references are included in each paper. There is no index.

HUDDLESON, IRVIN FOREST

Brucellosis in man and animals. Contributing authors A. V Hardy J E. Debono and Ward Giltner Revised edition. Cambridge, Mass. Harvard University Press, 1943 379 p. illus. (part col d) 23 cm. $3.50 4150

Contents: The genus Brucella. Methods of isolating Brucella. Differentiation of the species of the genus Brucella. Brucellosis in human beings. Historical survey. Brucellosis in the United States. Brucellosis in Malta. Treatment. Brucellosis in animals. *Brucellosis bovis*. *Brucellosis suis*. *Brucellosis caprinus* and *ovium*. Brucellosis in the guinea pig. Laboratory diagnosis of brucellosis. Allergic methods. The opsonocytophagic test. The blood picture in brucellosis in human beings and in bovine animals. Eradication or control of sources of brucellosis infection. Appendix: Case reports. Bibliography. Index.

Note: The 1943 edition of this well-known treatise on the history, nature, diagnosis, treatment, and control of the disease includes more complete description of the virulent or dissociated types of the organism and detailed discussion of the simple and rapid method, recently developed, of determining the virulence of the species of Brucella. The value of new agents such as sulfa and drug therapy in the treatment of human brucellosis, and recent information on the epidemiology and diagnosis of human brucellosis, are set forth. There is detailed presentation of information pertaining to the nature of the disease in animals and as to immunization in cattle.

HULL, THOMAS G

Diseases transmitted from animals to man. Fourth edition. Springfield, Ill. Charles C Thomas, 1955 717 p. illus. 25 cm. $12.50 4151

Contents: Part I, Diseases of domestic animals and birds and occasionally of wild animals and rodents: Tuberculosis, by W H. Feldman. Anthrax, by C. D Stein. Brucellosis, by C. M. Carpenter. Vibriosis, by C. M. Carpenter. Glanders, by W E. Jennings. Swine erysipelas, by J. D. Klauder. Salmonella food infections, by G. M. Dack. Listeriosis, by R. Graham. Rabies, by R. A. Kelser. Psittacosis (ornithosis) by H. J. Shaughnessy. Vesicular stomatitis, by R. P Hanson. The pox diseases of man and animals, by W A. Hagan. Milker's nodules, by W A. Hagan. Contagious ecthyma of sheep, by T G. Hull. Newcastle disease, by C. H. Cunningham. Regional lymphadenitis—benign lymphoreticulosis (cat fever, cat scratch disease) by L. Foshay. Pseudotuberculosis, by W H. Feldman. Hemorrhagic septicemia—pasteurella multocida infection, by T G. Hull. Arthropod-borne viral encephalitides, by W McD. Hammon. Rift valley fever by J. H. R. Gear. Milk sickness, by T G. Hull. Infections produced by animal parasites, by E. C. Faust. Fungous diseases, by L. Z. Saunders. Part II, Diseases of rodents and wild animals and occasionally of domestic animals: Plague, by K. F Meyer. Tularemia, by L. Foshay. Leptospirosis, by W L. Jellison, and K. Reinhard. Rat-bite fever—Sodoku and Haverhill fever, by W L. Jellison. The endemic relapsing fevers, by G. E. Davis. Murine typhus fever by R. E. Dyer. Rocky Mountain spotted fever by R. E. Dyer. Tsutsugamushi disease, by R. E. Dyer. Q fever, by R. E. Dyer. Rickettsialpox, by R. E. Dyer. Jungle yellow fever by F L. Soper. Lymphocytic choriomeningitis, by C. Armstrong. Part III, The relation of human and animal diseases. Human diseases spread by animals, by T G. Hull. Animals as passive carriers of disease organisms, by T G. Hull. The role of different animals and birds in diseases transmitted to man, by T G. Hull. Index.

Note: A standard manual, the first edition of which was published in 1930 and the third edition in 1947 It is used primarily for reference by medical practitioners, public health officers, medical research workers and veterinarians. Information is included on identification, history, prevalence, etiology, prevention and control of the diseases mentioned in the above chapter titles. Salient points are summarized at the end of each chapter and references are furnished to the more important literature. In this fourth edition, the length of the work has been increased by approximately 143 pages. Several of the chapters of the third edition have been consolidated and one chapter omitted, and seven new chapters have been added. Most of the chapters carried over from the third edition have been revised in part.

PULLEN ROSCOE LE ROY, editor

Communicable diseases 253 figures, 35 illustrations on 20 color plates. Philadelphia Lea & Febiger 1950 1,035 p illus. (part col d) 26 cm. $20 00 4152

Contents (abridged): General considerations. Communicable diseases with predominant skin manifestations: Exanthemata. Primary diseases of the skin. Deep fungous infections of skin with devastating systemic manifestations. Venereal diseases. Communicable diseases with predominant respiratory manifestations. Communicable diseases with predominant involvement of the eye. Communicable diseases with predominant central nervous system manifestations. Communicable diseases with predominant enteric manifestations. Communicable diseases of uncertain origin. Communicable diseases capable of becoming potential menaces. Appendix. Index.

Note: A comprehensive treatise composed of 60 signed chapters written by prominent physicians, pathologists, bacteriologists, and public health workers. It is based both on the literature and on experience in the Charity Hospital of Louisiana. The typical chapter deals with a single disease or group of diseases, is approximately 15 pages long, and concludes with an extensive bibliography. In most instances a particular disease is discussed under the following headings: definition, geographic distribution, etiology, epidemiology, pathology, symptomatology, diagnosis, treatment and prevention. The changes which the development of effective antibiotics and other

chemotherapeutic agents have made possible in the management of communicable diseases are reflected throughout the book. The editor is a Professor of Medicine and Dean of the School of Medicine at the University of Missouri.

SPINK, WESLEY W

The nature of brucellosis. Minneapolis University of Minnesota Press, 1956 464 p illus (part col'd) 23 cm $8 00 4153

Contents The evolution of the concept that brucellosis is disease of animals and man. The brucella cell. The reservoir of brucellosis. The dissemination of brucella organisms from the animal reservoir Epidemiological studies on human brucellosis. The pathogenesis of brucellosis. The natural course of brucellosis. The complications of brucellosis. The diagnosis of human brucellosis. The therapy of brucellosis. The prevention of brucellosis. What of the future? Appendixes. Protocols of 244 cases of brucellosis. The serum agglutination test for Bang's disease. Report of committee on brucellosis, December 4 1947 United States Livestock Sanitary Association. Report of committee on brucellosis, September 25 1953 United States Sanitary Livestock Association—uniform methods and rules for the establishment and maintenance of certified brucellosis-free herds of cattle and modified certified areas. Report of swine brucellosis committee, November 1954 United States Livestock Sanitary Association. Bibliographical index of authors. Subject index.

Note. A comprehensive monograph written by an internationally recognized authority on brucellosis. The results of two decades of study on this disease in animals and in man by the author and his colleagues are incorporated in it, together with related results from the literature. The original studies were carried out largely at the University of Minnesota Hospital and the Veterans Administration Hospital in Minneapolis where an abundance of cases were available among farmers and employees of meat-packing plants. The book is devoted primarily to human and animal brucellosis caused by *Brucella abortus*, but some information is included on brucellosis due to *Brucella melitensis* and *Brucella suis*. One hundred twenty-one of the bacteriologically proved cases described in the appendix were due to *Brucella abortus* 13 were due to *Brucella suis*, and five were due to *Brucella melitensis*. In the terminal chapter titled "What of the future?" the author surveys the prospects for control of brucellosis throughout the world and points out aspects of the problem that require further investigation. The Bibliographical index of authors, which is both a list of references cited and index to cited authors, contains 906 entries.

STIMSON, PHILIP MOEN, AND HORACE LOUIS HODES

A manual of the common contagious diseases. Fifth edition, thoroughly revised 84 illustrations and 10 plates, 8 in color Philadelphia Lea & Febiger 1956 624 p illus (part col'd) 21 cm. $8 50 4154

Contents Principles of contagion. Serum reactions. The antibiotics and the sulfonamides. Diphtheria. Vincent' angina. Beta hemolytic streptococcal infections of the respiratory tract, including scarlet fever Measles. Rubella. Whooping cough. Mumps. Chickenpox. Smallpox. Vaccination against smallpox. Acute bacterial meningitis. Poliomyelitis. General management of contagious diseases. Glossary Index.

Note A standard compendium of clinical information which has been used in its various editions since 1931 It is useful for general practitioners, public health officers, school physicians, nurses and others whose professional work requires knowledge of children's and other contagious diseases. The typical discussion of disease covers synonyms, definitions, etiology epidemiology pathology immunity incubation period, clinical manifestations, complications, diagnosis and differential diagnosis, mortality and prognosis, period of infectivity isolation and quarantine, prophylaxis and treatment. In addition, selected references to the pertinent literature are furnished. The fourth edition was published in 1947 This fifth edition is the first to bear the name of co-author previous editions having been written by Dr Stimson alone. It is accurately described as an extensive revision with much information newly added on antibiotics, viruses, new developments in treatment. The chapter on poliomyelitis has been completely rewritten. Recent literature has been added to the bibliographies.

TOP, FRANKLIN H.

Communicable diseases by Franklin H. Top, and collaborators. With 109 text illustrations and 15 color plates Third edition. St. Louis The C V Mosby Company 1955 1,208 p illus (part col'd) 23 cm. $13.50. 4155

Contents (abridged) Section I General considerations applicable to communicable diseases Infection and immunity Epidemiology Specific prevention of certain communicable diseases. Serums and serum reactions. Antibiotics, by M. Clapper Management of communicable diseases in the home by L. P Campbell. Management of communicable diseases in the hospital, by P L. Clarke nursed by E. Anderson. Section II, Communicable and infectious diseases classified by common portal of entry A, The respiratory tract Coccidioidomycosis, by C. E. Smith. Histoplasmosis, by A. Christie. Leprosy by C. H. Binford. Meningitis. Pneumococcal pneumonia, by G. B Myers. Streptococcal infections, hemolytic. Rheumatic fever by D D Rutstein. Tuberculosis, by P T Chapman. Chickenpox. The common cold. Infectious encephalitis. Influenza, by J E. Salk. Lymphocytic choriomeningitis. Measles. Mononucleosis, infectious. Mumps. Primary atypical pneumonia, by W S. Jordan, Jr Poliomyelitis. Psittacosis. Rubella. Smallpox. B, The gastrointestinal tract Brucellosis. Dysentery amebic—bacillary Food poisoning. Hepatitis, viral, by J R. Neefe. Trichinosis. Typhoid fever C, The mucous membranes or skin (contact, trauma, bites) Chancroid, by L. W Shaffer Gonorrhea, by G. Stuart. Lymphogranuloma venereum, by L. W Shaffer Ophthalmia neonatorum, by W E. Wheeler Syphilis, by L. W Shaffer Keratoconjunctivitis, epidemic, by J G. Molner. Trachoma, by P Heath. Impetigo. Granuloma inguinale, by L. W Shaffer Pediculosis. Ringworm of the scalp by J G. Molner and L. W Shaffer Scabies. Anthrax, by I. H. Borts. Cat-scratch fever. Hookworm disease. Leptospirosis, by J G. Molner. Tetanus. Tularemia. Malaria, by L. T Coggeshall. Rickettsial diseases, by J C. Snyder Rabies. Section III, Appendix. Glossary Index.

Note. A standard reference book which is not cyclopedic, but in which most diseases of interest to general practitioners of medicine are adequately covered. A few relatively rare diseases such as leprosy are included along with the common ones. In this edition the first part, devoted to general considerations, is 272 pages long. In contrast, the second section, exclusive of the appendix, is 816 ... definition, history infectious agent, epidemiology immunity pages long. In it individual diseases are arranged according to the most common portal of entry and each is discussed in the pattern pathology symptoms, complications, diagnosis, prognosis, treatment, and prevention. The discussions are somewhat fuller than in the average textbook. The second edition was published in 1947 In this third edition, five new chapters have been added, and several chapters carried over from the preceding edition have been rewritten by new authors. Changes have been made in the illustrations, and the literature references and the suggested reading included in the chapters have been revised to include selection of literature published since the 1947 edition was prepared. The author is Head of the Department of Hygiene and Preventive Medicine of the Medical School of the University of Iowa.

TROPICAL DISEASES

COATNEY, G ROBERT, AND OTHERS

Survey of antimalarial agents chemotherapy of *Plasmodium gallinaceum* infections toxicity correlation of structure and action. By G Robert Coatney W Clark Cooper Nathan B Eddy and Joseph Greenberg. Washington D C. Government Printing Office 1953 322 p illus. 26 cm (United States Public Health Service. Public health monograph no 9) $1 25 4156

Contents List of tables. Introduction Procedure. Phenanthrene derivatives. Naphthalene derivatives. Acridine derivatives. 8-amino quinolines. 4-aminoquinolines. Other quinoline derivatives. Benzene and cyclohexane derivatives. Diphenyl derivatives. Sulfonamides Compounds Other ring structures. Aliphatic amines and diamines. Antibiotics and antimetabolites containing metallic component. General summary Appendices List of salts or other form of compounds tested. Sources of test compounds. List of publications on compounds mentioned in the text and in the tables. Index to compounds, by survey number (SN) or drug repository number (DR)

Note. Chiefly presented in tabular form, this publication gives some of the results of research study of various chemical compounds effective for antimalarial activity against *Plasmodium gallinaceum*, in which study over period of about 10 years nearly

1,000 substances were screened by the authors. The compounds are arranged according to chemical relationships, and the data analyzed to indicate the relation between antimalarial activity and chemical structure. The tabulated data show the degree of toleration of the drugs by otherwise normal laboratory chicks, the degree of antimalarial activity and the therapeutic index.

GRADWOHL RUTHERFORD BIRCHARD HAYES, AND OTHERS editors

Clinical tropical medicine. R. B H. Gradwohl, editor-in-chief Luis Benitez Soto Oscar Felsenfeld editors. With 473 illustrations and 6 color plates. St. Louis The C. V Mosby Company 1951 1,647 p. illus. (part col'd) 26 cm. $10.00. 4157

Contents (abridged) Intestinal protozoa of man, by E. Bohrin. Amebic dysentery, hepatic abscess, and other intestinal conditions caused by protozoa, by O Felsenfeld and V M. [illegible]. Malaria, by L. W Colvin. Chagas' disease, by S. Mazza. Pinta, and [illegible], by F. León-Blanco and E. Sánchez-García. Relapsing fever, by A. A. Pachecheme. Weil' disease, by A. A. Pachecheme. Fevers due to rickettsia (excluding [illegible]) by A. Carballo Hernandez. Yellow fever, by H. de Azevedo Penna. Poliomyelitis (poliomyelitis, [illegible]) by E. F Meyer. Lymphogranuloma venereum, by J. L. Soto Rangel. Tularemia, by L. Foshay. Plague, by A. Macchiavello, translated by A. Donovan. Cholera (Asiatic cholera) by E. Henderson and H. [illegible]. Leprosy by F Pardo Castelló. Tropical phagedenic ulcer (Vincent's ulcer) by O. Pardo-Eckstein, by M. Greenberg. Dermatitis or Guinea worm disease, by A. E. A. Hudson. Schistosomiasis japonica, by F. R. [illegible]. Tropical mycoses, by A. González-Ochoa. South American blastomycosis, by F. Paula de Almeida. Histoplasmosis and toxoplasmosis, by R. B. H. Gradwohl. Diseases caused by ticks, mites, centipedes, and bees, by L. Vargas. Snake poisoning (ophidism) by A. do Amaral. Diseases due to nutritional disturbances, by A. Chaves Rios. Sprue, by E. M. Suárez. Beriberi, by R. R. Williams. Pellagra, by R. E. Butler. Therapeutics of tropical diseases, by R. J. [illegible]. The use of antibiotics in tropical diseases, by O. Felsenfeld and R. J [illegible]. Rapid frozen section methods in tropical diseases, by A. A. Koslow. Index.

Note A very comprehensive work in 73 chapters written by more than 80 leading specialists in the various fields of tropical medicine. The authors include the citizens of several South American countries as well as citizens of the United States of America. Although the organization and scope of the chapters vary considerably each one, which is devoted to specific disease or group of diseases, summarizes the current information regarding etiology epidemiology pathology symptomatology laboratory tests, diagnosis, treatment, and prophylaxis. The book is suitable for use both as text in graduate courses and as reference manual by graduate physicians practicing in the tropics and subtropics. Extensive bibliographies are included.

MACKIE, THOMAS TURLAY AND OTHERS

A manual of tropical medicine prepared under the auspices of the Division of Medical Sciences of the National Research Council. By Thomas T Mackie, George W Hunter III and C Brooke Worth. Second edition. 304 illustrations, 7 in color Philadelphia W B Saunders Company 1954 907 p. illus. (part col'd) 24 cm. $12.00 4158

Contents (abridged) Section Virus diseases. Section II, Rickettsial diseases. Section III, Spirochetal diseases. Section IV Bacterial diseases. Section Mycotic diseases. Section VI, Protozoal diseases. Section VII Helminthic diseases. Section VIII, Nutritional diseases. Section IX, Miscellaneous conditions. Section X, Medically important molluscs. Section XI, Medically important arthropods. Section XII, Some laboratory diagnostic methods. Index.

Note A concise reference book of tropical medicine which was originally prepared under the auspices of the National Research Council to meet the needs of medical personnel with the Armed Forces of the United States of America who were engaged in military and naval operations in tropical regions during World War [illegible]. However it [illegible] fully as useful in the practice of civilian medicine and public health not only in the tropics but also in other geographical regions where the characteristic tropical diseases are encountered. It covers wide range of information which is organized into the 12 sections whose titles are given above, and 74 chapters. A considerable part of this volume is devoted to information on incidence, transmission and control of specific diseases. Each disease is discussed as to distribution, etiology epidemiology pathology diagnosis, treatment, and prophylaxis. The first edition was published in 1945. In preparing this second edition, much new information was added and the length of the book was increased by nearly 200 pages.

SHATTUCK GEORGE CHEEVER

Diseases of the tropics. New York Appleton-Century-Crofts Inc. 1951 803 p. illus. 25 cm. $12.00. 4159

Contents (abridged) Part I, Protozoa of the blood and tissues. Part II, Spirochetoses. Part III, Rickettsial diseases. Part IV Bacterial diseases. Part Viral diseases. Part VI, Helminthic diseases. Part VII, Intestinal protozoa. Part VIII, The mycoses. Part IX, Miscellaneous diseases. Part X, Disorders of nutrition. Part XI, Tropical climates and health. Part XII, Noxious animals, plants and arthropods. Index.

Note A compact presentation in which the emphasis is on prevalent and potentially epidemic diseases. The discussions of specific diseases are organized under the following subheadings: synonyms, definition, geographical distribution, epidemiology etiology transmission, prevention, pathology symptoms, diagnosis, prognosis, treatment, and literature references. The discussions of some diseases include, in addition, information on insect vectors, sanitation, quarantine practice, diagnostic laboratory tests, etc. The book is suitable for use as text and also as reference guide for physicians concerned with the care of either military or civilian personnel in tropical regions. It is of interest also to public health officials in those regions.

UNITED STATES PUBLIC HEALTH SERVICE. MALARIA CONTROL HEADQUARTERS (ATLANTA) AND UNITED STATES TENNESSEE VALLEY AUTHORITY HEALTH AND SAFETY DEPARTMENT

Malaria control on impounded water Washington, D C. Government Printing Office, 1947 422 p. illus. 24 cm. $2.00 4160

Contents (abridged) Malaria and its relation to impounded water. Planning malaria control. Reservoir preparation. Permanent marginal measures. Water level management. Shore-line maintenance. Larviciding. Mosquito-proofing. Reservoir [illegible]. Facilities and operation procedures. Malaria measures. Malariology. The relation of plants to mosquito control. Interrelationships of malaria control and wildlife conservation. Personnel training and public relations. Small reservoirs. Appendices: Example of hydraulic analysis for prediction of the frequency and duration of flooding in flood control storage reservoirs. Chemicals employed in malaria control. Equipment, tools, and supplies. Design of airplane larviciding equipment. Methods of determining the recovery of larvicides on water surface. The more important anopheline mosquitoes transmitting malaria in the principal regions of the world with typical breeding places and usually applicable control measures. Malaria survey diagnostic techniques.

Note The purpose of this manual is to present the basic principles and the modern practices of malaria control on impounded water. It arranged so as to provide ready reference for engineers, medical officers, and others concerned with malaria control measures on such impoundments. In considering the various phases of malaria control, such as the epidemiological, engineering, and biological aspects, the volume places emphasis upon their practical application to the problem as whole.

INDUSTRIAL MEDICINE

DRINKER, PHILIP AND THEODORE HATCH

Industrial dust hygienic significance measurement and control. Second edition. New York McGraw Hill Book Company Inc., 1954 401 p illus. 24 cm. $10 00 4161

Contents Physical properties of dust, fumes, and mists. Effects of dusts and fumes upon man. Dust and toxic dusts. Physical and chemical factors in pneumoconiosis. Dust retention by man. The dusty trades. Appraisal of dustiness. Determination of dust con-

centration. Determination of particle size. Chemical and mineralogical analysis of dust. Methods for the control of industrial dust. Design of local exhaust systems. Air cleaning. Air cleaning by filtering. Scrubbing and electrical precipitation. Dust respirators and air masks. Bibliography Author index. Subject index.

Note In this standard book, the dust hazard in industry is discussed chiefly from the viewpoint of engineers in charge of the design or management of processes in which hazardous dusts are procured. How dusts are produced, their properties and how to control them are the main topics. Much information on the health aspects, including case histories from industry is included also. Such matters as techniques for the determination of concentrations of dust—which are of interest both to engineers and industrial physicians—are covered very thoroughly The first edition appeared in 1936 This second edition represents very extensive revision with several new chapters including the chapters on dust retention, the dusty trades, and scrubbing and lectrical precipitation. The bibliography now runs to 458 citations and includes some references to literature published in 1953 and 1954

ELKINS, HERVEY BERTRAND

The chemistry of industrial toxicology New York John Wiley & Sons, Inc., 1950 406 p illus 23 cm. $8 00 4162

Contents (abridged) Evaluation of hazards. The elements. Inorganic compounds. Organic compounds. Natural and industrial products. Preventive measures. Industrial operations and processes. Maximum allowable concentrations. Fallacies and unsol ed problems. Air sampling devices. Analytical methods and procedures. Bibliography Index.

Note A reference manual of chemical information about harmful substances encountered in industry It describes the properties of the various elements and compounds, indicates their harmful physiological facts, states the maximum allowable concentrations, and describes tests and other methods of evaluating concentrations and contaminations. However it does not cover pathology and other medicinal topics which usually constitute the main content of books on industrial toxicology It ill be useful to plant physicians, industrial health engineers, public health workers, and others concerned professionally with industrial hygiene.

FAIRHALL, LAWRENCE TURNER

Industrial toxicology Baltimore The Williams & Wilkins Company 1949 483 p illus. 24 cm 4163

Contents (abridged) Part I, Inorganic substances. Part II, Carbon compounds. Index.

Note A reference manual f information on substances handled in industry that ha some toxicological interest although they may not be poisonous. Iron and tin, for instance, are discussed under inorganic substances along ith arsenic, fluorine etc. Each of the two major parts consists of series of short essays arranged alphabetically under the name of the substance. The following points are covered in the typical essay on an individual substance chemical and physical properties, industrial uses, toxicity analysis, and literature references. The verage length of an essay is slightly over tw pages. A second edition was published in 1957 $10 00.

FLEMING, A. J , AND C A D'ALONZO, editors

Modern occupational medicine Associate editor, J A. Zapp 44 illustrations 1 in color Philadelphia Lea & Febiger 1954 414 p illus (part col d) 24 cm. $10 00 4164

Contents Section I, Organization The evaluation of medical services in industry by G. H. Gehrmann. History of industrial medicine—Administration, function, location, personnel, layout, and equipment—Medical history and physical examinations—Medical records, their purpose, value, and study by C. A. D Alonzo. Section II, Industrial preventive medicine Preventive medicine in industry by J H. Foulger Research, toxicological methods, and plant surveys, by J A. Zapp. Protective clothing for the chemical industry by E. E. E ans and others. The functions of the industrial hygiene laboratory by E. E. Evans and others. Immunizations in industry by J P Griffin. Section III, The physical environment and occupational health Temperature, humidity and air movement, by L. Brouha. Industrial noise by J A. Zapp. Radiological hazards, by P E. Smith. Fatigue, by L. Brouha. Section IV Services allied to occupational medicine Medicolegal aspects of occupational medicine, by C. E. Gruber The rehabilitation of the alcoholic in industry by G. H. Gehrmann. The occupational back, by J. P Griffin. Surgical considerations in industry by T J Bulger Inplant feeding in industry by D. A. Milavetz. The nurse in industry by E. Mayer Sanitation, water supply and pollution, washing facilities, toilet facilities, sewage disposal, and atmospheric pollution, by C. L. Savage. The chemist and occupational medicine, by A. J Fleming. Safety in industry, by J S. Queener Section V Psychiatry Practical application of psychiatry to industry by G. Gordon. Effective discipline promotes mental health, by F W Dershimer. Section VI, Toxicology Chemical health hazards, by A. J Fleming. Insecticides, by J. A. Zapp. The carotid sinus and chemicals hich affect it, by C. A. D'Alonzo. Tetraethyl lead, by S. L. Rankin. Section VII, Acute poisoning The problem of acute poisoning, by C. A. D'Alonzo. Index.

Note When this book was published, all the editors and contributors were associated with E. I. du Pont de Nemours & Company Not surprisingly there is some emphasis on techniques of dealing with the special hazards of the chemical industry However the range of topics covered is wide one, as the above chapter titles indicate. Most of the chapters are compactly written and are supplemented by literature references. Tabular presentations of data are common. The book is of interest to such readers as executives of industrial corporations, safety engineers and physicians on the staffs of such firms.

FORBES, JOHN JOSEPH VINCENT, AND OTHERS

Review of literature on dusts, by J J Forbes, Sara J Davenport, and Genevieve G Morgis Washington, D C. Government Printing Office, 1950 333 p 23 cm. (United States. Bureau of Mines. Bulletin 478) $0.65 4165

Content Introduction. Definition and classification of dusts. Exposure to dust. Physiological effects of breathing dust. Historical résumé. Incidence of dust diseases. Types of dust injuries to health. Terminology of dust diseases. Pneumoconiosis. Silicosis. Prevention of dust diseases Principal dust factors producing pulmonary pathology Determination of dust in air Engineering control in prevention of dust diseases. Medical control in prevention of dust diseases. General recommendations for control of dust diseases in industry Economic and legal aspects of dust diseases in industry Cost of compensation for silicosis. Determination of working capacity Bibliography Index.

Note. This revision of Bureau of Mines Bulletin 400, 1937 assembles information in convenient form on arious phases of the dust problem especially in the mining and allied industries. Because of the large amount of literature ailable on the subject the authors ha not attempted to include all published material or all types of dust diseases, but have limited their assemblage of data t certain aspects of the subject, ith particular reference to lung affections.

HYSLOP, FRANCES L , AND W M GAFAFER

Bibliography of occupational health. Occupational health and related publications from the Public Health Service, 1909–1953 U S Department of Health Education, and Welfare Public Health Service, Division of Occupational Health of the Bureau of State Services. Washington D C. Government Printing Office, 1954 110 p. 23 cm. (United States. Public Health Service. Public health bibliography series no 9) $0.35 4166

Contents. Bibliography Chemistry Analytical. Biochemistry Contact Mineralogy Physical chemistry Dentistry Dermatology Contact dermatitis. Physical causes. Biologic causes. Diagnosis and prevention. Biochemistry of skin. Education. En ironmental factors. Chemical appraisal and control Instrumentation and sampling. Humans and agents. Physical agents. Air conditioning. Sanitation. Medicine housing. Atmospheric pollution. General. Legislation. Laboratory Cancer Communicable diseases. Dust diseases. Fatigue. Mines, health, and safety Munition plants, health problems. Ophthalmology Physical status. Pressure and temperature Problems of aging and the aged. Toxic metals. Toxic gases, liquids and fumes. Other medical problems. Medical facilities and services. In

[illegible]

JACOBS, MORRIS BOris

The analytical chemistry of industrial poisons, hazards, and solvents. Second edition, revised and enlarged. Volume 1. New York. Interscience Publishers Inc., 1949 788 p. illus. 24 cm. (Chemical analysis. A series of monographs on analytical chemistry and its applications Editors, Beverly L. Clarke and I. M. Kolthoff) $14.75 4167

Contents: [illegible]

Note: [illegible]

MCGEE, LEMUEL C

Manual of industrial medicine. Third edition. Philadelphia University of Pennsylvania Press, 1956. 212 p. 21 cm. $3.00. 4168

Contents: [illegible]

Note: [illegible]

PATTY FRANK A., editor

Industrial hygiene and toxicology New York Interscience Publishers, Inc., 1948–49 2 v illus. 25 cm. Vol. I, $13.50 vol. II, $16.50. 4169

Contents: [illegible]

Note: [illegible]

RESNICK, LOUIS

Eye hazards in industry: extent, cause, and means of prevention. New York. Published for the National Society for the Prevention of Blindness by Columbia University Press, 1941. 321 p. illus. 23 cm. $4.50. 4170

Contents: [illegible]

Note: [illegible]

SCHWARTZ, LOUIS, AND OTHERS

Occupational diseases of the skin, by Louis Schwartz, Louis Tulipan, and Samuel M. Peck. Second edition, thoroughly revised with 146 illustrations and a colored plate. Philadelphia Lea & Febiger, 1947 964 p. illus. (part col'd) 24 cm. 4171

Contents (abridged): [illegible]

apparel. Cosmetics. Electroplating. Dermatoses caused by explosives. Dermatoses caused by furs. Dermatoses from glass manufacture. Dermatoses caused by insecticides and fungicides. Dermatoses in leather manufacture. Dermatoses caused by paints, varnishes and lacquers. Dermatoses caused by resins and waxes. Dermatoses in the manufacture of rubber. Dermatoses caused by organic solvents. Sugar industry Irritant plants and woods. Dermatoses caused by animal parasites. Dermatoses caused by bacterial infections. Occupational dermatoses from mycotic infections. Occupational cancer Analysis of skin hazards in one hundred and fourteen occupations. Medico-legal aspects of occupational dermatitis. Chemicals which are known to be skin irritants. Index.

Note This detailed and comprehensive work discusses dermatoses arising in industrial environments and also those resulting from the use of the products of industry by the consumer The authors point out that skin afflictions are of more frequent occurrence than the total of all other industrial diseases. Despite somewhat technical language, the book is directed at a wide audience including plant physicians, employers, safety engineers, and insurance men. It is well illustrated, and contains extensive bibliographies and a glossary of known chemical skin irritants. This edition has been considerably revised. A third edition was published in 1957 981 p., $18.00.

STONE, ROBERT SPENCER, editor

Industrial medicine on the plutonium project survey and collected papers. New York McGraw Hill Book Company, Inc., 1951 511 p illus. 24 cm (National nuclear energy series Manhattan Project technical section Division IV—Plutonium project record Vol 20) $7 00 4172

Contents Introduction General introduction to reports on medicine, health physics, and biology by R. S. Stone. Part A, Survey: Medical services of the plutonium project, by J E. Wirth. Biological bases for maximum permissible exposures, by S. T Cantril. Protective measures for personnel, by J J Nickson Clinical laboratory examination of plutonium project personnel, by L. O. Jacobson and E. K. Marks. Hematological effects of ionizing radiations, by L. O. Jacobson and others. Biochemical studies relating to the effects of radiation and metals, by S. Schwartz. Uranium excretion studies, by R. J Ferretti and others. Distribution and excretion of plutonium, by E. R. Russell and J J Nickson. Management and treatment of exposed personnel, by J E. Wirth. Requirements of an adequate health service in relation to atomic research and industrial development, by S. T Cantril and others. Part B Collected papers: Industrial medical program—Hanford Engineer Works, by S. T Cantril. Blood changes in human beings following total-body irradiation, by J J Nickson. Hematological studies on patients treated by total-body exposure to X-rays, by B V A. Low Beer and R. S. Stone. Changes in mean blood levels of metallurgical laboratory employees during the first year of employment as related to working conditions, by N Pearlman and G. A. Sacher Biometric investigations of blood constituents and characteristics in a population of project workers, by G. A. Sacher and others. Effect of exercise on leucopenia a statistical analysis, by E. K. Marks and others. Determination of radium in excreta, by E. R. Russell and G. W Reed, jr Treatment of plutonium poisoning by metal displacement, by J Schubert. Status of health and protection at the Hanford Engineer Works, by S. T Cantril and H. M Parker Tolerance to whole-body irradiation of patients with advanced cancer by L. F Craver Index.

Note A collection of summarized reports and papers based on original research (and to a lesser extent on experience) carried out in connection with the production of the atomic bomb. The style of presentation is technical. The book is suited to such readers as graduate scientists who are concerned with programs of research into the effects of radioactive substances upon living tissue and physicians whose duties include the protection of industrial and laboratory personnel from exposure to excessive radiation.

AVIATION MEDICINE

AERO MEDICAL ASSOCIATION

Aviation toxicology an introduction to the subject and a handbook of data. Prepared under the direction of the Committee on Aviation Toxicology Aero Medical Association New York McGraw Hill Book Company, Inc., 1953 120 p illus 21 cm $4 00 4173

Contents (abridged) Part I, General features of the problems of aviation toxicology Allowable degree of bodily impairment in airmen performing their duties. Duration and intensity of exposure Effects of high altitude on toxicity Methods for expressing gaseous concentrations in relation to altitude. Part II, Specific problems of aviation toxicology: Antifreezing agents. Exhaust gases and smoke. Fire extinguishants. Hydraulic fluids. Propellants. Refrigerants. Insecticides. Transportation of toxic materials by air Part III, Chemicals important in aviation toxicology Carbon monoxide. Carbon dioxide. Gasoline. Major classes of organic compounds. Inorganic compounds. Appendixes. Time-concentration curves of toxicity Calculation of the concentration of carboxyhemoglobin in the blood stream at high altitude. Toxicity data for individual compounds. References. Index to chemicals.

Note The conditions of airplane flight give particular importance to the hazards of exposure of crew and passengers to toxic substances while in flight. Some of the kinds of toxic materials present on aircraft are named above in the subtitles of Part II. Other toxic agents may be generated by fire, or excessive heat, acting on the components of aircraft equipment. This book is a carefully prepared presentation of the subject that covers both the general problems and those associated with specific kinds of exposure. Besides describing the hazards, it provides useful information on the toxicity of the individual compounds and permissible concentrations. The list of references contains 75 literature citations.

ARMSTRONG, HARRY GEORGE

Principles & practice of aviation medicine. Third edition. Baltimore The Williams & Wilkins Company, 1952 476 p. illus. (part col'd) 24 cm. $9 00 4174

Contents Historical (to 1900) Historical (twentieth century). Principles and practice. Introduction to pilot selection. Examination of the eye. Cardiovascular examination. Ear nose and throat examination. General physical examination. Neuropsychiatric examination. Objective aptitude tests for flying training. Various substances in aviation. The atmosphere. Altitude sickness. Oxygen in aviation. Aerotitis media and aerosinusitis. Effects of aircraft noises. Aerial equilibration. Airsickness. Decompression sickness. Pressure cabin aircraft. Speed and acceleration. Accidents in aviation. Emotional reactions to flight. Air rescue and air evacuation. Aerial hygiene and sanitation Protective flying equipment. Index.

Note A standard treatise which provides a general survey of the scope and contents of aviation medicine and is addressed to both advanced students in medical colleges and graduate practitioners of medicine. In many parts the terminology is only semitechnical, hence the book has some utility as a source of information for technically trained persons in fields other than medicine. Four new chapters have been added in the present edition, and there have been considerable revision and rearrangement of the material carried over from preceding editions. The author is the Surgeon-General of the United States Air Force, Europe.

BENFORD, ROBERT J

Doctors in the sky the story of the Aero Medical Association Springfield Ill. Charles C Thomas, 1955 326 p illus. 23 cm. $8.75 4175

Contents Medicine goes aloft. Aviation medical journalism. Birth of a tradition. Guests from overseas. Medicine and air commerce. Flight surgeons for airlines. The war years. Awards for achievement. The specialty of aviation medicine. By-laws and branches. The silver wing. Doctors in the sky Appendixes. Index.

Note Written to mark the twenty-fifth anniversary of the Aero Medical Association, this book is a narrative history of the society development from its organization in 1929 to its present status as an international organization of wide influence and sponsor of the important *Journal of aviation medicine.*

FULTON, JOHN FARQUHAR

Aviation medicine in its preventive aspects an historical survey New York Oxford University Press 1948 174 p. illus. 23 cm. (University of London. Heath Clark lectures, 1947) $3 50 4176

Contents Altitude sickness and acclimatization the history of oxygen. Decompression sickness the genesis of the inert gas... Pressure cabins and explosive decompression the spread of the air...

Aviation Medicine

Effects of acceleration: dim-out and black-out, protective measures. Man and the machine: problems of safety in flight. Index.

Note: These lectures are devoted chiefly to outlining the development of the current knowledge of the physiological effects of [illegible] and excessive gravitational forces upon human beings. Mechanical devices and other techniques for preventing or ameliorating adverse effects from these causes are described also. Selected results from research carried on during World War II are discussed, and there [illegible] rather full account of the development of the antig-suit. The lecture texts are supplemented in the book with illustrative matter and literature references.

MCFARLAND ROSS A.

Human factors in air transportation occupational health and safety New York McGraw Hill Book Company Inc., 1953 830 p. illus. 26 cm. $13.00 4177

Contents: Part I, Introduction. Nature and extent of airline operations. Part II, Selection and training of flight personnel. Psychological factors in the selection of airmen. Role of the physical [illegible] in selection. Indoctrination and training of flight personnel. Part III, Maintenance of health and efficiency of flight personnel. Periodic examinations for airmen. Maintenance of physical [illegible]. Operational aspects of fatigue, and psychological factors in aircrews. Part IV, Selection, placement and [illegible] and efficiency in airmen. Part V, Selection, placement of ground [illegible] health of ground personnel. Selection and placement of ground personnel. Maintenance of health of ground personnel. Part [illegible] Prevention of industrial accidents on the ground and in flight. Prevention of industrial accidents in ground operations. Survival and rescue in aircraft accidents. Part VI, Sanitation and health in airline operations. Sanitary [illegible]. Health and quarantine control of airports and ground facilities. Health and quarantine regulations in air travel. Part VII, Passenger and service problems. Care and contentment of passengers. Transportation of patients by air. Part VIII, Health and medical services in air transportation. Organization and functions of air transport medical programs. Appendix. Index.

Note: An encyclopedic treatment of psychological, medical and public health aspects of airplane piloting and air transportation. The phases of the subject that are treated in the chapter titles are treated rather fully and each chapter has its own selected and rather extensive bibliography. The style [illegible] and the book [illegible] addressed to the scientific and technical personnel of airlines, to public health authorities and to specialists in aviation medicine. It is complementary to the author's *Human factors in air transportation design*, New York, 1946. The author is [illegible] member of the faculty of the Harvard School of Public Health.

NATIONAL RESEARCH COUNCIL. COMMITTEE ON AVIATION MEDICINE

Decompression sickness caisson sickness diver's and flier's bends and related syndromes. Compiled under the auspices of the Subcommittee on Decompression Sickness, Committee on Aviation Medicine, Division of Medical Sciences, National Research Council, Washington, D C Philadelphia W B Saunders Company 1951 437 p. illus. 24 cm. $8.50 4178

Contents: Historical introduction, by J. F. Fulton. The clinical nature of high altitude decompression sickness, by E. B. Ferris, Jr and G. L. Engel with [illegible] note on psychologic reactions, by J Romano. Decompression sickness following exposure to high pressures, by A R Behnke. Physical factors in bubble formation, by E N Harvey. Animal experiments on bubble formation. Part I, Bubble formation in cats, by E N Harvey. Part II, Bubble formation in frogs and rats, by L A Blinks and others. Decompression sickness—physical factors and pathologic consequences, by I Gersh and H Catchpole. Constitutional factors affecting susceptibility to decompression sickness, by J B Gray. Environmental factors affecting decompression sickness. Part [illegible] A physical theory of decompression sickness, by L F Nims. Part II, Role of exercise temperature, drugs and water balance in decompression sickness, by S F Cook. Preoxygenation and nitrogen elimination. Part [illegible] Review of data on value of preoxygenation in prevention of decompression sickness, by J B Bateman.—Part II, Gas exchange and blood-tissue perfusion factors in various body tissues, by H B Jones. Prediction tests, by F M. Henry and A. C [illegible] Decompression sickness in actual flights, by C. A. Tobias. Explosive decompression, by F A. Hitchcock. Addendum, by R. B. Livingston. References. Index.

Note: The major work on its subject. Essentially its chapters are detailed reports of studies carried out for the Subcommittee on Decompression Sickness in [illegible] program designed to study the problem from [illegible] broad biological standpoint with [illegible] view to elucidating the factors involved in bubble formation in tissues and devising ways and means of eliminating the dangers arising from aeroembolism. Most of the chapters contain data from original experiments on animal or human subjects and also data from the published literature. The bibliography contains 345 citations.

UNITED STATES. DEPARTMENT OF THE NAVY BUREAU OF MEDICINE AND SURGERY AVIATION MEDICINE DIVISION

Aviation medicine practice. Prepared by Bureau of Medicine and Surgery Published by Bureau of Naval Personnel. Washington D C. Government Printing Office, 1955 288 p. illus. 26 cm. (Navpers 10839–A) $1 00 4179

Contents: The beginnings of aviation medicine. The problems of reduced barometric pressures. The problem of acceleration. Ophthalmology in aviation medicine. Otolaryngology in aviation medicine. The cardiovascular system in aviation medicine. Aviation psychology. The psychology of adjustment. Neuropsychiatry in [illegible] Aviation physical standards and the [illegible] to aviation medicine. A [illegible] physical examination. Aviation dentistry. Operational problems in aviation medicine. Aviation safety and allied problems. Appendix. Death procedures. Index.

Note: This publication consists of 13 monographs written by specialists in the various fields of aviation medicine together with [illegible] section on death procedures and an index. The monographs are designed primarily for naval medical officers lacking special training in the ramifications of aviation medicine. With one exception, each of the monographs contains [illegible] bibliography. The book is [illegible] completely revised version of [illegible] publication of the same title issued in 1949

WHITE, CLAYTON S AND OTIS O BENSON JR. editors

Physics and medicine of the upper atmosphere a study of the aeropause. The proceedings of a Symposium on the Physics and Medicine of the Upper Atmosphere held at San Antonio Texas, November 6 7 8 9 1951, sponsored by the Air University School of Aviation Medicine, Randolph Field, Texas. Arranged by The Lovelace Foundation for Medical Education and Research. Albuquerque The University of New Mexico Press 1952 611 p. illus. 26 cm. $10.00 4180

Contents. Basic environmental problems relating man and the aeropause, by A. M. Mayo. Basic environmental problems relating man and the highest regions of the atmosphere as seen by the biologist, by H. Strughold. Physical characteristics of the upper atmosphere of the earth, by E. O. Hulburt. Temperatures and motions of the upper atmosphere, by W W Kellogg. Adiabatic compression and friction, by F Haber. Thermal aspects of travel in the aeropause—problems of thermal radiation, by K. Buettner. The chemosphere, by J. Kaplan. Atmospheric ozone, by V H. Regener. Gravity inertia, and weight, by H. Haber. Meteoritic phenomena and meteorites, by F L. Whipple. Toxicology of travel in the aeropause, by H. Specht. Solar physics and the atmosphere of the earth, by M. Nicolet. Ultraviolet radiation and X-rays of solar origin, by T. R. Burnight. The nature and intensity of the cosmic radiation, by J A. Van Allen. The biologic effects of laboratory radiation, by A. T Krebs. The biologic effects of cosmic radiation, by H. J. Schaefer. Genetic effects of cosmic radiation, by H. J Muller. Discussion of physics of the upper atmosphere, by J. Kaplan. Meteoroids, meteorites, and hyperbolic meteoritic particles, by L. LaPaz. Methods and vehicles for research in the high atmosphere, by J A. Van Allen. Plastic balloons [illegible] platform for experiments in the upper atmosphere, by C. B. Moore. Characteristics of the high-altitude rocket as [illegible] research tool, by H E.

Newell, jr The angular motion of high-altitude rockets, by J A. Van Allen. The return of a winged rocket vehicle from a satellite orbit to the earth, by W von Braun. The physical recovery of instruments and data from a rocket flight, by C. P Smith, jr High-altitude parachute recovery by T W Kaache. Radio telemetering, by W J Mayo-Wells. Methods of assessing the biologic effects of ionizing radiation by A. T Krebs. Cosmic ray ionization and the methods of measuring it, by E. P Ney Known and predicted problems of human travel in the aeropause, by P A. Campbell. Engineering techniques in relation to human travel at upper altitudes, by R. M. Salter Human orientation during travel in the aeropause, by P A. Campbell. The effect on vision produced by stimulation of the semicircular canals by angular acceleration and stimulation of the otolith organs by linear acceleration, by A. Graybiel. A survey of present techniques for emergency escape from aircraft, by R. L. Christy Problems of escape during flight above 50,000 feet, by J P Henry A discussion of the potential effects on man of ionizing radiation present in the upper atmosphere, by T C. Evans. The biological effects of power plant radiation, by J M. Talbot. Biological effects of radiation of possible extraterrestrial origin, by K. Buettner Human tolerance for temperature extremes, by C. L. Taylor Retinal adaptation applicable to visual problems in flight at increasing altitudes, by P A. Cibis. Physiological limitations in cabin environment and human adaptations, by U Luft. Phasing and co-ordination of medical research with technical and environmental development, by H. Haber Appendix. Plates. Index.

Note The papers collected in this volume are addressed primarily to scientists and engineers. Together they constitute a broad survey of the physical and physiological problems of flight into and beyond the atmosphere, and of the knowledge already in hand pertaining to their solution. The papers are accompanied by substantial bibliographies which include papers published down to about July 1951

NAVAL AND MILITARY MEDICINE

ADAMS, GEORGE WORTHINGTON

Doctors in blue the medical history of the Union Army in the Civil War New York Henry Schuman, 1952 253 p illus. 22 cm. $4 00 4181

Contents The medical confusions of 1861 Reformers vs. regulars. The Barnes regime and the army surgeons. Beginnings of an ambulance system. Improvement in field tactics. Wartime surgery Operations and infections. The general hospitals. Nurses, staffs, and convalescents. Army sanitation and hygiene. Diseases and treatments. A note on the sources. Appendix. Index.

Note. A detailed and graphic picture of military medicine as practiced during the Civil War period in the United States of America. Despite the advances that had been made in medicine up to that time, the descriptions of camp conditions, facilities for hospitalization care of the wounded on the battlefield, surgical methods and general medical care, indicate rather appalling conditions. Although limited to one phase of medical practice the book provides a general picture of the state of medical knowledge in the United States in the 1860's. A long list of source materials is included however statements and data in the text are not directly related to the sources.

BEEBE, GILBERT WHEELER, AND MICHAEL E DEBAKEY

Battle casualties, incidence mortality, and logistic considerations Springfield Ill. Charles C Thomas 1952 277 p illus. 24 cm. $10 50 4182

Contents. Introduction. Incidence of hits and wounds. Death from wounding. Effectiveness of weapons. Location of hits and wounds. Logistic problems of personnel, hospitalization, and evacuation in forward areas. Appendices. Glossary Index.

Note. A work based on data contained in official records of the Army Medical Service, United States Army It contains analyses of United States experience in World War II. The experience is analyzed in discussions and also in about 100 tables. The work is of interest to military surgeons, especially those who are in charge of planning for the surgical care of men wounded in battle.

BEECHER, HENRY KNOWLES

Early care of the seriously wounded man. Springfield Ill Charles C Thomas, 1952 32 p 22 cm. (American lecture series. Publication no 138 A monograph in American lectures in surgery, edited by Michael E. DeBakey and R. Glen Spurling) $0.75 4183

Contents. Introduction. General considerations. Field care prior to hospital admission. Specific preoperative procedures. Care of men with specific wounds. Morphine and other narcotics. Anesthesia for wounded men. Summary

Note. This monograph is based on actual experience with men wounded in battle. The emphasis is on treatment of the patient in the interval between the actual wounding and the final repair. The author weighs the various levels of resuscitation in their application at different times and under many conditions. He describes anesthetic action to be taken in variety of wounded conditions, with emphasis first on general conditions and finally on specific procedures. In each instance the effects of specific remedies are described. Where certain anesthetics should not be used, that information is also presented.

BRILL, NORMAN Q, AND GILBERT W BEEBE

A follow up study of war neuroses. The work reported herein is part of the program of studies of the Follow up Agency of the National Research Council developed by the Committee of Veterans Medical Problems in cooperation with the Veterans Administration, the Army, and the Navy This investigation was supported by the Veterans Administration upon the specific advice of the Committee on Veterans Medical Problems of the National Research Council. It was begun while the senior author was Assistant Chief Neuropsychiatry Division, Department of Medicine and Surgery, Veterans Administration and was conducted under contracts with George Washington University School of Medicine (Winfred Overholser, M. D., Professor Psychiatry, being the responsible investigator) and the National Research Council. Washington, D C. Government Printing Office, 1956 393 p illus. 24 cm. (VA Medical Monograph) $2.25 4184

Contents: Introduction. Part I, The basic findings Military and sociological characteristics of the population sampled. Psychiatric aspects of the preservice history Period of military service. Follow up status. Part II, Analysis of follow up data. Disability Diagnosis at follow-up. Adjustment at follow-up. Treatment since separation from service. Improvement since separation from service. Man's own comparison of health at follow-up and at entry [illegible] pensation for psychiatric disability Part III, Analysis of military experience: Nature of stress. Location at first breakdown. Severity of illness at first breakdown. Treatment in service. Pattern of [illegible] position. Part IV Analysis of preservice period Family history Preservice personality Preservice adjustment. Part [illegible] Implications for induction, utilization, and disposition policies. Appendices Abstracting form for military personnel history Abstracting form for medical history military period. Form letters used in follow-up Examination booklet used by psychiatrist. Sample case summaries based on psychiatric interviews. History outline used by Red Cross social worker Health questionnaire used in follow-up. Index.

Note: One of series of volumes reporting on major follow-up study comparing the medical records of certain persons during their time in the armed services in World War II with the subsequent medical history of the same persons as recorded in the 172 hospitals and 69 regional offices of the Veterans Administration. The practical need for the study was partly to consider the correctness of the decision that psychoneurosis in itself was no cause for discharge from the services and partly to determine compensability for neuroses which clearly antedated military service and for those which first occurred while the individual was in the armed forces. Approximately 225 psychiatrists, whose names are listed in the text, participated in the extensive survey and analysis beginning in

1946 by examining each of the selected veterans for 4-hour period and reporting on them. The findings in the study are based upon the results of these examinations from all over the United States of America and their correlation with the original medical records.

BUNNELL, STERLING editor

Hand surgery in World War II. Edited by Sterling Bunnell. Associate editor Mary E. McDonald. Assistant editor Janie W Williams. Office of the Surgeon General Department of the Army Washington, D C. Government Printing Office, 1955 447 p. illus. 26 cm. (United States. Army Medical Service. Office of the Surgeon General. The Medical Department of the United States Army. Surgery in World War II) $3 75 4185

Contents: The overall picture in Zone of Interior by C. W Cutler, jr. Conclusions on the care of injured hands in World War derived from the experiences of the civilian Consultant for Hand Surgery to the Secretary of War, by S. Bunnell. Incidence. Observations on organization of special hand centers. Report on hand defects and recommendations for improved care. Clinical principles in management of hand injuries. Nerve injuries. Plastic surgery on the hand. Injuries of bones and joints. Construction of new digits for prehension. Injuries of tendons and muscles. Vasomotor and trophic conditions. Splinting. Occupational therapy and rehabilitation. Hand injuries in theaters of operations. Hand injuries in the Mediterranean (North African) Theater of Operations, by H. S. Allen. Hand injuries in the European Theater of Operations, by M. Cleveland. Hand injuries in debarkation hospital (Lawson General Hospital) by D. R. Pratt. Hand surgery at nine hand centers in the Zone of Interior. Hand surgery at Newton D. Baker General Hospital, by S. B. Fowler. Hand surgery at William Beaumont General Hospital, by W. H. Frackelton. Hand surgery at Crile General Hospital, by G. L. Hyroop. Hand surgery at Cushing General Hospital, by J W Littler. Hand surgery at Dibble General Hospital, by D. R. Pratt. Hand surgery at Northington General Hospital, by A. J. Barsky. Hand surgery at O'Reilly General Hospital, by G S Phalen. Hand surgery at Valley Forge General Hospital, by W C. Graham. Hand surgery at Wakeman General Hospital, by L. D. Howard, jr. Index.

Note: In this volume is contained an official record of the surgical treatment of wounded hands by United States Army surgeons in World War. Because of the large numbers of hand injuries requiring surgical attention, centers for this work were set up in the United States of America, and major portion of this book contains series of illustrated surveys of the accomplishments of nine of these centers compiled by the respective surgical officers in charge. Details of hand surgery at scores of cases as well as general procedures are described. Administrative problems are also recorded.

CLEVELAND MATHER editor

Orthopedic surgery in the European Theater of Operations. Editor Mather Cleveland. Associate editor Elizabeth M. McFetridge. Office of the Surgeon General, Department of the Army Washington, D C. Government Printing Office, 1956 387 p. illus. 26 cm. (United States. Army Medical Service. Office of the Surgical General. The Medical Department of the United States Army Surgery in World War II) $4.00. 4186

Contents: Introduction, by M. Cleveland. Part Administrative and related considerations, by M Cleveland. The consultant system. Types of hospitals. Training of personnel. Hospital facilities and orthopedic equipment. Mass management of casualties with bone and joint injuries. Management of bone and joint injuries in prisoners of war. Representative hospital experiences. Part II, Clinical policies and practices, by M. Cleveland. General clinical policies. The management of compound fractures—initial and reparative wound surgery. The management of compound fractures—techniques of fracture management. Regional injuries. Amputations. Adjunct therapy. Postoperative complications. Rehabilitation. Noncombat lesions. Part III, Special types of bone and joint injuries, by M. R. Urist and M. Cleveland. Complete dislocations of the acromioclavicular joint. Battle-incurred compound fractures about the hip joint. Jeep injuries of the hip joint. Injuries of the knee joint. Appendixes: Pertinent directives. Proposed revision of Manual of therapy (Orthopedic Section). Index.

Note: Of the 161,180 Americans wounded and injured in action in Europe during World War II, the largest single group, approximately two-thirds of the total, suffered battle injuries of the extremities including bones and joints. The orthopedic care of this enormous number of wounded was task which required careful and detailed planning and execution. This volume is an administrative and clinical record of this phase of the war, edited by one of the senior Army consultants in orthopedic surgery he had an active part in the work in the European Theater during the war.

ELKIN DANIEL C AND MICHAEL E. DE BAKEY editors

Vascular surgery in World War II. Office of the Surgeon General, Department of the Army Washington D C. Government Printing Office, 1955 465 p. illus. (part col d) 26 cm. (United States. Army Medical Service. Office of the Surgeon General. The Medical Department of the United States Army Surgery in World War II) $4 25 4187

Contents: Specialized centers for the management of vascular injuries and diseases, by D. C. Elkin. Experiences of the vascular center in traumatic and arteriovenous lesions of the blood vessels, by A. H. Storck. Acute battle-incurred arterial injuries, by M. E. DeBakey and F A. Simeone. Arterial aneurysms and arteriovenous fistulas—general considerations, by D. C. Elkin and H. B. Shumacker, jr. Arterial aneurysms and arteriovenous fistulas—circulatory effects of arteriovenous fistulas, by D. C. Elkin. Arterial aneurysms and arteriovenous fistulas—alterations in the cardiac size in arteriovenous fistulas, by H. B. Shumacker jr. Arterial aneurysms and arteriovenous fistulas—technical considerations in their surgical management, with special reference to exposure of the blood vessels, by D. C. Elkin and H. B. Shumacker, jr. Arterial aneurysms and arteriovenous fistulas—maintenance of arterial continuity by N. E. Freeman and H. B. Schumacker, jr. Arterial aneurysms and arteriovenous fistulas—successful suture of the abdominal aorta for arteriovenous fistula, by N E. Freeman and A. H. Storck. Arterial aneurysms and arteriovenous fistulas—collateral therapy in reparative surgery by H. B. Shumacker, jr. and others. Arterial aneurysms and arteriovenous fistulas—sympathectomy as an adjunct measure in operative treatment, by H. B. Shumacker, jr. Arterial aneurysms and arteriovenous fistulas—spontaneous cure, by H. B. Shumacker, jr. Peripheral vascular disturbances—thromboangiitis obliterans, arteriosclerosis, and arterial thrombosis and embolism, by N E. Freeman. Peripheral vascular disturbances—vasospastic disorders, Raynaud's syndrome and Raynaud-like disorders, by H. B. Shumacker, jr., and D. I. Abramson. Peripheral vascular disturbances—posttraumatic vasomotor disorders, by H. B. Shumacker jr., and D. I. Abramson. Sympathectomy in circulatory disturbances of the extremities, by N. E. Freeman. Index.

Note: During World War II, the United States Army solved the problem of supplying competent specialized surgical care for the large numbers of soldiers who suffered wounds of the major arteries by the establishment, within the United States of America, of three vascular centers to which surgeons in this specialty were attached and to which the wounded personnel were sent. These also became centers for the training of surgeons in vascular work. This volume gives an account of the problems faced and the methods of treatment undertaken at these centers. Included are statistical data and numerous case study reports. The low mortality rate reflected the efficiency of the procedures adopted, which are covered in detail.

HAMPTON OSCAR P , JR.

Wounds of the extremities in military surgery With 131 illustrations. St. Louis The C. V Mosby Company 1951 434 p. illus. 26 cm. $6.50 4188

Contents: General considerations of military surgery. First-aid measures and emergency splinting. Initial wound surgery including preoperative preparation and transportation splinting. Reparative wound surgery. Special types of injury I, Vascular and nerve injuries—II, Compound fractures—III, Wounds of the joints—IV Am-

Newell, jr The angular motion of high-altitude rockets, by J A. Van Allen. The return of a winged rocket vehicle from a satellite orbit to the earth, by W von Braun. The physical recovery of instruments and data from a rocket flight, by C. P Smith, jr High-altitude parachute recovery by T W Kaacke. Radio telemetering, by W J Mayo-Wells. Methods of assessing the biologic effects of ionizing radiation, by A. T Krebs. Cosmic ray ionization and the methods of measuring it, by E. P Ney Known and predicted problems of human travel in the aeropause, by P A. Campbell. Engineering techniques in relation to human travel at upper altitudes, by R. M. Salter. Human orientation during travel in the aeropause, by P A. Campbell. The effect on vision produced by stimulation of the semicircular canals by angular acceleration and stimulation of the otolith organs by linear acceleration, by A. Graybiel. A survey of present techniques for emergency escape from aircraft, by R. L. Christy Problems of escape during flight above 50,000 feet, by J P Henry A discussion of the potential effects on man of ionizing radiation present in the upper atmosphere, by T C. Evans. The biological effects of power plant radiation, by J M. Talbot. Biological effects of radiation of possible extraterrestrial origin, by K. Buettner Human tolerance for temperature extremes, by C. L. Taylor. Retinal adaptation applicable to visual problems in flight at increasing altitudes, by P A. Cibis. Physiological limitations in cabin environment and human adaptations, by U Luft. Phasing and co-ordination of medical research with technical and environmental development, by H. Haber. Appendix. Plates. Index.

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BEEBE, GILBERT WHEELER, AND MICHAEL E DEBAKEY

Battle casualties incidence mortality and logistic considerations. Springfield, Ill Charles C Thomas, 1952 277 p. illus. 24 cm. $10 50 4182

Contents. Introduction. Incidence of hits and wounds. Death from wounding. Effectiveness of weapons. Location of hits and wounds. Logistic problems of personnel, hospitalization, and evacuation in forward areas. Appendices. Glossary Index.

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BEECHER, HENRY KNOWLES

Early care of the seriously wounded man. Springfield, Ill. Charles C Thomas, 1952 32 p 22 cm. (American lecture series. Publication no 138 A monograph in American lectures in surgery, edited by Michael E. DeBakey and R. Glen Spurling) $0.75 4183

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BRILL, NORMAN Q, AND GILBERT W BEEBE

A follow-up study of war neuroses. The work reported herein is part of the program of studies of the Follow up Agency of the National Research Council developed by the Committee of Veterans Medical Problems in cooperation with the Veterans Administration, the Army, and the Navy This investigation was supported by the Veterans Administration upon the specific advice of the Committee on Veterans Medical Problems of the National Research Council. It was begun while the senior author was Assistant Chief Neuropsychiatry Division, Department of Medicine and Surgery, Veterans Administration, and was conducted under contracts with George Washington University School of Medicine (Winfred Overholser, M. D., Professor Psychiatry being the responsible investigator) and the National Research Council. Washington D C. Government Printing Office, 1956 393 p. illus. 24 cm. (VA Medical Monograph) $2 25 4184

Contents. Introduction. Part I, The basic findings: Military and sociological characteristics of the population sampled. Psychiatric aspects of the preservice history Period of military service. Follow-up status. Part II, Analysis of follow-up data. Disability Diagnosis at follow-up. Adjustment at follow-up. Treatment since separation from service. Improvement since separation from service. Man's own comparison of health at follow-up and at entry VA compensation for psychiatric disability Part III, Analysis of military experience: Nature of stress. Location at first breakdown. Severity of illness at first breakdown. Treatment in service. Pattern of disposition. Part IV Analysis of preservice period Family history Preservice personality Preservice adjustment. Part Implications for induction, utilization, and disposition policies. Appendices. Abstracting form for military personnel history Abstracting form for medical history military period. Form letters used in follow-up. Examination booklet used by psychiatrist. Sample case summaries based on psychiatric interviews. History outline used by Red Cross social worker Health questionnaire used in follow-up. Index.

Note One of a series of volumes reporting on major follow-up study comparing the medical records of certain persons during their time in the armed services in World War II, with the subsequent medical history of the same persons as recorded in the 171 hospitals and 69 regional offices of the Veterans Administration. The practical need for the study was partly to examine the correctness of the decision that psychoneurosis in itself is no cause for discharge from the services and partly to determine compensability for neuroses which clearly antedated military service and for those which first occurred while the individual was in the armed forces. Approximately 223 psychiatrists, whose names are listed in the text, participated in the extensive survey and analysis beginning in

Naval and Military Medicine

[illegible]-oxygen mixtures in diving, by E. H. Lanphier. Some theoretical aspects of the use of multiple-gas mixtures for deep-sea diving, by A. P. Webster. Fixed-time [illegible] of decompression [illegible], by A. P. Webster. [illegible] Introduction to respiratory [illegible] and [illegible]. Respiratory problems in diving, by H. Rahn. Breath holding, by A. B. Dubois. The respiratory dead space, by J. R. Pappenheimer. Resistance to breathing at increased ambient pressures, by J. Mead. The role of carbon dioxide in [illegible] gas narcosis, by F. G. Carpenter. [illegible] by K. E. Schaefer. Symposium [illegible]. Bibliography.

Note: Although the symposium of which this volume is the product was sponsored by the Committee on Undersea Warfare, most of the topics covered are basic, and applications to military operations are not stressed. For the most part, the papers describe the techniques and report the results of scientific experiments. They are accompanied by what are apparently full transcripts of the discussions at the meeting. The bibliography, which is a list of the literature cited in all of the papers, includes 126 references.

Sheets, Lawrence M.

The initial management of thoracic and thoraco-abdominal trauma. Springfield, Ill. Charles C Thomas, 1956. 121 p. illus. 26 cm. (American lecture series. No. 265. A monograph in the Bannerstone division of American lectures in surgery edited by Michael E. DeBakey and R. Glen Spurling. Thoracic surgery division editor Brian B Blades) $6.50. 4194

Contents: Resuscitation. Thoracic wounds. Thoraco-abdominal wounds. Thoracic wall wounds and closed thoracic and thoraco-abdominal trauma. [illegible] cases. Bibliography. Index. Name index. Subject index.

Note: Written by a military surgeon and based largely on experience with battlefield wounds, this book describes techniques of [illegible] and emergency procedures which are applicable also to wounds incurred in civilian accidents. In addition, some types of wounds peculiar to civilian life, such as [illegible] wounds with [illegible], are discussed. The importance in many cases of adequate [illegible] procedures before surgery is emphasized. The book is designed for straightforward reading rather than reference. There are only 18 figures, but they are carefully chosen and well reproduced.

United States Army Medical Service

Surgery in World War II. Editor-in-chief John Boyd Coates, jr Editor for general surgery Michael E DeBakey Associate editors B. Phillip Giddings, Elizabeth M Mc Fetridge. Prepared under the direction of The Surgeon General, United States Army in the Historical Unit, Army Medical Service, Office of the Surgeon General, Department of the Army Washington, D C. Government Printing Office, 1955 417 p. illus. 26 cm. (United States. Army Medical Service. The Medical Department of the United States Army in World War II) Vol. 2 $4.25 4195

Contents: Volume II, General surgery. Part I, Resuscitation, control of pain and anesthesia, by H. K. Beecher. Resuscitation of men severely wounded in battle. The control of pain in men wounded in battle. Anesthesia for men wounded in battle. Part II, Abdominal injuries and the initial surgery of abdominal wounds, edited by W. P. Giddings. Derivation of data, source material, and methods of analysis, by W. P. Giddings. Distribution of injuries and other statistical data, by L. H. Wolff and others. Wounding agents, by L. H. Wolff and others. Timing and the [illegible] factor in abdominal injuries, by L. H. Wolff and others. Associated (extra-abdominal) wounds, by L. K. Haynes and F. D. Taylor. Shock therapy, by B. T. Towery and J. D. Welch. Traumatic evisceration, by R. B. Childs. Diagnosis and preoperative routine, by W. P. Giddings and L. H. Wolff. Anesthesia, by O. K. Dennedy and others. Laparotomy incisions and closure, and wound dehiscence, by H. F. Swingle and D. S. Condie. Postoperative complications and sulfonamide therapy, by J. C. Dryer. Postoperative complications—prophylaxis and therapy, by J. C. Dryer and W. P. Giddings. Factors of mortality, by W. P. Giddings and L. H. Wolff. Wounds of the stomach, by L. H. Wolff. Wounds of the jejunoileum and [illegible], by W. H. Cave. Wounds of the colon and [illegible], by W. P. Giddings and J. R. McDaniel. Wounds of the liver [illegible], by C. F. Chunn and R. V. Harver. Wounds of the [illegible] and of the extrahepatic biliary tract, by O. F. Madding and others. Wounds of the pancreas, by H. L. Poole. Wounds of the spleen, by H. L. Poole. Wounds of the kidney, by W. L. Ryan. Wounds of the ureter, by W. L. Ryan. Wounds of the urinary bladder, by L. M. Michels. Wounds of the great vessels of the abdomen, by H. F. Swingle and D. S. Condie. Retroperitoneal [illegible], by H. F. Swingle and D. S. Condie. Special types of [illegible], by H. F. Swingle and K. R. Lawrence. Part [illegible] abdominal injury, by O. F. Madding and K. R. Lawrence. The management of colostomies, by D. H. Farr [illegible], Colostomy. Index.

Note: This is the first volume to be issued of a set of books on the history of surgery in World War II. It is primarily an analysis of the surgical treatment of 3,154 abdominal injuries [illegible] in combat in the North African and European campaigns in 1944 and 1945. All the surgery was urgent and was performed on non-transportable cases in forward Army medical units. Operations of this nature were carried out on a larger scale than had been possible in previous wars, the chapters of the book revealing [illegible] what success. The analysis of cases was planned in advance, and the result is apparently the largest series of combat injuries of the abdomen to be analyzed in such detail. The practice of preoperative transfusion, with the liberal use of whole blood as its central feature, is described in the first part of the book. The statistical and other analyses presented in the second part of the volume are based upon special clinical records from the field for each case. Each of the chapters in the second part is signed by one or more medical doctors and generally consists of the following parts: general introduction, diagnosis, nature of injury, clinical considerations, treatment, postoperative complications, factors of mortality. The final part of Volume II is based upon Army experience with 2,378 colostomies performed in World War II.

United States. Army Medical Service. Graduate School

Recent advances in medicine and surgery (19–30 April 1954) based on professional medical experiences in Japan and Korea 1950–1953 Army Medical Service Graduate School Walter Reed Army Medical Center Washington, D C. Washington, D C. Government Printing Office, 1955 2 v illus. 23 cm. (United States. Army Medical Service. Graduate School. Medical science publication no. 4) Vol. 1 $1 75 vol. 2 $1.50. 4196

Note: These two volumes contain a wealth of up-to-date material on all phases of military medicine and military surgery. They contain the texts of lectures delivered in 1954 at a two-week course conducted by the Army Medical Service Graduate School covering medical experiences of the physicians and surgeons and problems encountered and lessons learned by the Army Medical Service during the Korean War. Authors of the lectures are given. The publication constitutes a history of the professional and clinical activities of the Army Medical Service in Korea during the years 1950–1953.

United States Department of the Navy Bureau of Medicine and Surgery

Combat and field medicine practice. Prepared by Bureau of Medicine and Surgery Published by Bureau of Naval Personnel, Department of the Navy Washington D C. Government Printing Office, 1956 191 p. illus. 26 cm. (Navpers 10819–A) 4197

Contents: Amphibious warfare. Medical and dental service in amphibious operations. The amphibious troops medical and dental service. The amphibious task force medical and dental service. Medical and dental service planning. Problems of casualty evacuation. Medical and dental service procedures in amphibious operations. Management of battle casualties. Care of neuropsychiatric

casualties in combat areas. The clinical aspects of shock. Medical aspects of tropical warfare. Medical aspects of warfare in climates of extreme cold. Prevention and control of disease. Combat casualty reporting. Index.

Note. This manual was prepared to meet two needs, (1) to present a comprehensive text for training Reserve Medical Department personnel by correspondence work, and (2) to provide a convenient manual for regular and active-duty Reserve personnel assigned to duty involving medical and dental support of the Marine Corps in landing operations. Significant medical problems incident to amphibious landing operations are considered in the order of their importance. Prevention and control of disease in the field, as well as the treatment and evacuation of battle casualties, are covered.

UNITED STATES DEPARTMENT OF THE NAVY BUREAU OF MEDICINE AND SURGERY

Submarine medicine practice. Prepared by Bureau of Medicine and Surgery Published by Bureau of Naval Personnel Washington, D C Government Printing Office, 1956 357 p illus 26 cm (NavMed P–5054) $2 00 4198

Contents Part I, Section I, Deep sea diving and underwater medicine practice. General information. Medical aspects of diving. Navy standard decompression tables. The dive. Helium-oxygen diving. Diving accidents and safety precautions. Part I, Section II, Diving with self-contained underwater breathing apparatus Diving with self-contained underwater breathing apparatus. Types of self-contained underwater breathing apparatus. Selection and training for the use of self-contained underwater breathing apparatus. Safety considerations in the use of SCUBA. Specific medical problems in the use of SCUBA. Physiological considerations in the design and evaluation of breathing apparatus. Decompression in air diving with self-contained apparatus. Oxygen tolerance. Gas mixtures in self-contained diving. Protective clothing and other accessories. Diving without breathing apparatus. Part II Submarine medicine practice Submarine habitability and clothing. Submarine personnel selection and assessment. Medical problems in submarines. Escape from submarines. Medical problems of future submarines. Index.

Note A manual designed to serve as a guide for the training of regular and reserve United States Navy Medical Department personnel in the various problems connected with submarine medicine practice. Bibliographical references appear at the ends of Chapters 11–14 16–18, and 21

UNITED STATES DEPARTMENT OF THE NAVY BUREAU OF NAVAL PERSONNEL

Standard first aid training course. Prepared by Bureau of Naval Personnel Washington, D C Government Printing Office, 1955 262 p illus 20 cm. (United States. Department of the Navy Bureau of Naval Personnel Navy training courses Navpers 10081) $1 00 4199

Contents General instructions. Hemorrhage. Asphyxiation. Shock. Poisoning. Wounds. Injuries to bones, joints, and muscles. Injuries from heat and cold. Defense against ABC agents. Survival at sea. Rescue and transportation procedures. Appendixes. Index.

Note A basic reference manual on first aid, with primary emphasis on shipboard first aid problems. The course is designed for individual study by both officers and enlisted men of the Navy but the manual may also be used as a basic text for group instruction in first aid procedure The appendixes consist of tabulated summaries of the contents of the chapters to serve as reviews of the information given in the body of the book and to serve as readily available sources of information for emergency use.

WATKINS, JOHN GOODRICH

Hypnotherapy of war neuroses a clinical psychologist's casebook. New York The Ronald Press Company 1949 384 p. illus. 23 cm $6 00 4200

Contents. Part I, Military neuroses Introduction. Psychotherapy in a military setting. Theoretical bases of treatment. Strategy and tactics. Part II, Hypnotherapy: Hypnosis, past and present. Inducing trance states. Hypnotherapeutic technique. Advanced hypnotherapeutic techniques. Part III, Individual case studies: Forward to the case studies. Aphonia. Amnesia. Stuttering. Suicidal depression. Phobia. Psychogenic skeleto-muscular reaction. Tremor. Conversion hysteria. Camptocormia. Hysterical paralysis. Part IV The hypnoanalytic treatment of an entrenched phobia. Margaret was an old man. The problem is much deeper Conflict One body—two personalities. The knife of Mr X. Dreams of fear. X approaches Y The masquerade is ended. Part V Evaluation Summary Glossary: Military terms. Professional terms. Bibliography Author index. Subject index.

Note A report of psychotherapy done by the author in the neuropsychiatric division of an Army convalescent hospital during and immediately after World War II. The men whose treatment is described in the case studies were men of various backgrounds who became neurotically ill during their army service as a result of the stress of war. The cases were selected from a much larger number in order to illustrate the different forms which war neurosis—the shellshock of 1918—may take and the variations of therapeutic attack necessary to bring about improvement. The cases are introduced by an account of the nature and purpose of wartime psychotherapy the theoretical basis of the author's work, and the nature of hypnotherapeutic techniques. The case studies include the quoted transcripts of extended sessions between hypnotherapist and patient.

RADIATION MEDICINE

BLOOM, WILLIAM, editor

Histopathology of irradiation from external and internal sources. New York Mc Graw Hill Book Company, Inc., 1948. 808 p. illus (part col'd) 23 cm (National nuclear energy series) $10 75 4201

Contents Introduction, by W Bloom. Materials and methods, by R. G. Murray and others. The cell, by W Bloom. The skin, by R. S. Snider Bone, by M. Heller Bone marrow by M. A. Bloom The spleen, by R. G. Murray Lymph node and intestinal lymphatic tissue, by P P H. De Bruyn. The thymus, by R. G. Murray The gastrointestinal tract, by M. Pierce. Structures accessory to the gastrointestinal tract, by R. P Rhoades. The testis, by M. Heller The ovary by W Bloom. The kidney by W. Bloom. The lung, by R. P Rhoades. The vascular system, by R. P Rhoades. The adrenal, by R. P Rhoades. The nervous system, by R. S. Snider. Summary by W Bloom. Appendix—Experiments listed by agent, animal species, and mode of administration. Bibliography Alphabetical list of experiments. Index.

Note. A condensed account of fundamental research carried out as part of the program of the Manhattan District Project during the years 1942 1945 The experiments were carried out on small animals, and the purpose was to accumulate knowledge of the histological effects of various types of radiation applied in various ways. Although there is some description of methods, most of the text is devoted to reports and evaluations of findings. There are several hundred reproductions of microphotographs.

BUSCHKE, FRANZ AND OTHERS

Supervoltage roentgentherapy By Franz Buschke Simeon T Cantril, and Herbert M. Parker Springfield Ill Charles C Thomas 1950 297 p illus 24 cm $10 50 4202

Contents Physical considerations of supervoltage roentgentherapy at the Tumor Institute. Carcinoma of the oral cavity Malignant tumors of the pharynx. Carcinoma of the oesophagus. Carcinoma of the maxillary sinus. Carcinoma of the larynx. Carcinoma of the bladder Carcinoma of the breast. Carcinoma of the cervix uteri. Pituitary adenoma. Conclusions. Index.

Note In this book, three members of the Tumor Institute of the Swedish Hospital in Seattle, Washington, summarize the experience with this hospital's high-voltage X-ray apparatus which was installed in 1932 and has been in use since that year The installation which operates at about 800 K. V. is described in the first chapter. The remainder of the book is made up chiefly of detailed discussions of case histories. Although the authors avoid hard and fast conclusions, they have found some advantages in the use of X-ray voltages above 800 K. V. The book contains 150 illustrations, some of which are colored. Bibliographies are included with the chapters.

Medicine

Radiation Medicine

CRONKITE, E. P AND OTHERS editors

Some effects of ionizing radiation on human beings. A report on the Marshallese and Americans accidentally exposed to radiation from fallout and a discussion of radiation injury in the human being. From the Naval Medical Research Institute, Bethesda 14 Maryland, U S. Naval Radiological Defense Laboratory San Francisco, California, and Medical Department, Brookhaven National Laboratory Upton New York. Edited by E. P Cronkite, V P Bond and C. L. Dunham. United States Atomic Energy Commission. Washington, D C. Government Printing Office, 1956 106 p illus (part col d) 27 cm. (United States. Atomic Energy Commission. TID 5358) 4203

Contents Introduction. Radiation characteristics of the fallout material and the determination of the dose of radiation, by C. A. [illegible] and others. Clinical observations and treatment, by [illegible] and others. Skin lesions and epilation, by R. A. Conard and others. Hematologic observations, by V P Bond and others. Internal deposition of radionuclides in human beings and animals, by S. H. Cohn and others. Human radiation injury resulting from the use of nuclear devices, by E. P Cronkite and V P Bond.

Note A detailed report summarizing the findings of medical team organized to treat 239 Marshallese and 28 Americans [illegible] were exposed to radioactive fallout due to unexpected wind changes following the experimental thermonuclear explosion on March 1, 1954, at the Eniwetok Proving Grounds of the United States Atomic Energy Commission. The initial data were supplemented by field surveys [illegible] and 24 months after the original investigation. The accident resulted in substantial increases in the fundamental knowledge of radiation injury and improvement in medical techniques for caring for persons exposed to large doses of radiation. Each of the chapters [illegible] accompanied by [illegible] bibliography

DELARIO A. J

Roentgen, radium and radioisotope therapy With 65 illustrations and 155 tables. Philadelphia Lea and Febiger 1953 371 p. illus. 25 cm. $7.50. 4204

Contents The composition of matter. The production of ionizing radiation from matter. The nature of Roentgen rays. Roentgen rays—why they penetrate and how they are absorbed. The heterogeneity of Roentgen rays. Methods of measuring ionizing radiation. Physical factors which influence the radiation dose. Physical and chemical changes produced in tissues by ionizing radiation. Biological changes produced by ionizing radiation. The recovery of tissues from ionizing radiation. The erythema dose. The therapeutic radiation dose, and diseases amenable to radiation therapy. Injuries caused by ionizing radiations. Various Roentgen therapeutic modalities (low voltage to megavoltage Roentgen therapy). The natural radioactive substances—(radium). Radium therapy doses. Protection from ionizing radiation. New radiotherapeutic modalities (neutron and electron therapy—the cyclotron and the betatron). Radioactive isotopes. The biological use of radioactive isotopes. The safe handling of radioactive isotopes. Ionizing radiation from atomic bombs and fission (uranium 235). Index.

Note The value of this book lies in the wide range of practical information presented in it. The author [illegible] practicing radiologist of many years' experience, based [illegible] largely on [illegible] file of journal articles and other literature which he found useful in his own practice. The knowledge so accumulated has been organized and presented very compactly with references to the sources. The concisely written text is supplemented by 148 tables and [illegible] considerable number of graphs. In some of the chapters, for example that on radiation from atomic bombs, the author has ventured into fields [illegible] here he could not have had extensive experience. However, these passages are [illegible] minor part of the volume. The bibliography contains 330 references.

HAHN, PAUL F., editor

A manual of artificial radioisotope therapy New York Academic Press, Inc., 1951 310 p. illus. 23 cm. $6.80 4205

Contents Introduction to radiation therapeutic problems, by A. [illegible] Evans. Criteria for [illegible] H. Dowdy Terminology and standards, by P F Hahn. Dosimetry of [illegible] the use of therapeutic isotopes, by E. H. Quimby. Radio [illegible] administered radioactive isotopes, by E. H. Quimby [illegible] phosphorus in the treatment of polycythemia vera and the leukemias, by C. F Stroebel and R. E. Hall. Radioactive iodine in the diagnosis and treatment of hyperthyroidism, by J. B. Hursh and J. [illegible] Radioactive iodine in the study and treatment of carcinoma of the thyroid, by R. W Rawson and J R. Trunnell. Radioactive colloids in the treatment of lymphoid-macrophage diseases, by P F Hahn. Tumor therapy by direct infiltration of radioactive colloidal metallic gold, by P F Hahn. Radiological instrumentation [illegible] therapeutic program employing artificial radioactive isotopes, by [illegible] Autoradiography [illegible] R. L. Weiland. Health physics, by K. Z. Morgan. [illegible] used in medical research, by C. P Leblond and [illegible] Availability of isotopes and means of procurement, by P C. Aebersold. Planning the radioisotope program in the hospital, by E. H. Quimby and C. B. Braestrup. Author index. Subject index.

Note A book made up of short monographic chapters [illegible] by [illegible] eminent American scientists and physicians [illegible] are active in the production of radioactive isotopes or in their therapeutic application. As the chapter titles show therapeutic rather than physical aspects are emphasized. The book is directed for biologists, radiologists, and physicians, and it serves both as [illegible] manual of tested therapeutic techniques and [illegible] guide to the pertinent literature. The editor is associated with the Cancer Research Laboratories of Meharry Medical College, and the contributors are mostly members of the faculties of outstanding medical schools.

KAPLAN IRA I

Clinical radiation therapy With 614 illustrations. Second edition. New York Paul B Hoeber Inc., Medical Book Department of Harper & Brothers, 1949 844 p. illus. 24 cm. $15.00 4206

Contents Historical development of radiation therapy. Radiation physics. Principles of radiation therapy. General considerations in the use of radiation therapy. Radiation in skin conditions. Radiation in ear, nose, and throat conditions. Radiation in eye conditions. Radiation in chest conditions. Radiation in inflammatory conditions. Radiation in breast conditions. Radiation in gastrointestinal conditions. Radiation in gynecologic conditions. Radiation in genitourinary conditions. Radiation in neurologic conditions. Radiation in bone conditions. Radiation in soft tissue sarcomas. Radiation in blood dyscrasias. Radiation of specific diseases of the lymph nodes. Radiation of specific diseases of the reticuloendothelial system. Radiation in endocrinology. Complications and injuries associated with X-ray and radium therapy. Trauma and cancer. The legal aspects of radiation therapy. Index.

Note The author of this work is Clinical Professor of Radiology in New York University Medical College and Director of the Radiation Department of Bellevue Hospital in New York City. The book is based on an extensive [illegible] experience and [illegible] large file of case histories. A wide range of diagnostic and therapeutic techniques is included, and each is extensively described. The illustrations include reproductions of numerous roentgenograms as [illegible] all as photographs. The first edition was published in 1937. Numerous changes in [illegible] parts of the book were made in preparing the present edition, and the chapter on the legal aspects of radiation therapy was added.

OAK RIDGE INSTITUTE OF NUCLEAR STUDIES INC. MEDICAL DIVISION

Radioisotopes in medicine a course given by the Oak Ridge Institute of Nuclear Studies, September 1953 Work done under contract with the United States Atomic Energy Commission. Edited by Gould A. Andrews Marshall Brucer and Elizabeth B Anderson. Washington, D C. Government Printing Office, 1955 817 p. illus. 26 cm. (United States. Atomic Energy Commission. ORO-125) $6.00 4207

Contents (abridged) Part I, Availability and uses of isotopes Philosophy and policies of the Atomic Energy Commission control of radio isotope distribution, by P C. Aebersold. Part II, Problems in radiation Some aspects of the pathology of radiation, by R. M Kniseley Radiological safety by E. E. Anderson. Biochemical considerations of distribution, by G. C. Kyker Part III, Radiation measurement and dosimetry: Some problems of theory of radiation dosimetry by H. H. Rossi. Techniques of dosimetry by G. L. Brownell. Calculation of radiation dosage in internal therapy with I 131 by R. Loevinger New developments in instrumentation for medicine, by P R. Bell. Part IV Tumor localization External counting and localization, by B Cassen. The use of radioactive isotopes in the detection and localization of brain tumors, by W H. Sweet and G. L. Brownell. The localization of radioactive potassium in human breast neoplasms, by W H. Baker. Part V Diagnostic and therapeutic uses of radioiodine Diagnostic uses of I 131 by H. C. Allen, Jr Iodine 131 in the treatment of hyper thyroidism studies I dosage and metabolism, by A. S. Freedberg. Iodine 131 in the treatment of intractable angina pectoris or congestive failure, by A S. Freedberg. Iodine therapy in thyroid carcinoma, by J B. Trunnell. Pathologic changes produced in the thyroid by I 131 by R. M. Kniseley and G A. Andrews. Part VI, Metabolic and vascular studies Blood volumes—methods and results, by N I. Berlin. A method for measuring cardiac and peripheral vascular flow utilizing serum albumin labeled with radioactive iodine, by H. L. Friedell and W J MacIntyre. Body composition—an introduction to the clinical and investigative use of isotope dilution methods, by F D. Moore. Part VII, Isotopes in the study and treatment of hematologic disorders The use of radioisotopes in the therapy of blood diseases, by W F Beihard. The use of radioactive colloidal gold (Au-198) in chronic myelogenous and lymphatic leukemia, by G. R. Meneely Part VIII, Therapy with radioactive colloids The clinical utilization of artificially radioactive suspensions of particles of different sizes, by J H Muller Treatment of carcinoma of the prostate with gold 198, by R. H. Flocks and H. B Elkins. Interstitial use of radioactive chromic phosphate in therapy by H. L. Jaffe. Experiences with the use of Au-198 in the treatment of carcinoma of the cervix, by A. I Sherman. Part IX, Therapy with external and implanted sources Teletherapy by C. B. Braestrup. The potentialities of radiotherapy of malignant neoplasms, by J A. del Regato. The external and internal use of radioactive phosphorus, by B. V A. Low-Beer Radiotherapy (especially of bladder cancer) by means of rubber balloons filled *in situ* with solutions of radioisotopes, by J. H. Muller Cobalt 60 as an interstitial plaque-like, intracavitary gamma ray medium a review by I. Meschan. Bibliography Subject index.

Note The Medical Division of the Oak Ridge Institute of Nuclear Studies sponsored in September 1953 an advanced medical course to cover clinical uses of radioisotopes. The speakers were asked to present reviews of current information on their special topics, with emphasis on practical clinical techniques. The speakers were subsequently requested to put their contributions into publishable form, and this volume, abundantly illustrated and with a 59-page bibliography is the result. It is addressed primarily to graduate physicians.

OUGHTERSON, ASHLEY W , AND SHIELDS WARREN, editors

Medical effects of the atomic bomb in Japan. New York McGraw Hill Book Company Inc. 1956 477 p illus. 24 cm. (National nuclear energy series Manhattan project technical section Division VIII, vol. 8) $8 00 4208

Contents Summary Prelude to medical investigation Scope of damage and the effects on medical care and facilities. Number and types of casualties Clinical observations in Hiroshima and Nagasaki Hematology of atomic-bomb injuries Pathology of atomic-bomb injuries. Appendixes Organization and personnel of the Joint Commission and collaborating groups. Materials and methods of investigation. Reports of Japanese scientists and physicians. Studies of population and casualties Statistical survey of survivors. Summary tables for Chapters 4 and 5 Index

Note. A book of primary importance in radiation medicine It is based on the six volume report of the Joint Commission for the Investigation of the Effects of the Atomic Bomb in Japan which began work in Japan only a few weeks after the bombs were dropped on Hiroshima and Nagasaki in August 1945. The data gathered by the Joint Commission are here condensed, integrated, and assembled in a form suitable for reading and reference. Several hundred illustrations, many of them reproductions of microphotographs of pathology are included, and there are also several hundred tables of statistical data Literature references are included in all of the chapters.

POHLE, ERNST ALBERT, editor

Clinical radiation therapy Second edition, enlarged and thoroughly revised, with 201 illustrations and a colored plate. Philadelphia Lea & Febiger 1950 902 p. illus. (part col d) 24 cm $15 00 4209

Contents Radiation therapy in diseases of the blood and blood-forming organs, by O O. Meyer. Radiation therapy in diseases of the circulatory system, by R. Golden and H. W Jacox. Radiation therapy in diseases of the respiratory system and of the breast, by G. E. Richards. Radiation therapy in diseases of the gastro-intestinal tract, by G. T Pack and G. McNeer. Radiation therapy in diseases of the female genital organs, by C. L. Martin. Radiation therapy in malignant diseases of the genito-urinary tract, by A. L. Dean and R. J Guttmann. Radiation therapy in diseases of the nervous system, by R. W Burford. Radiation therapy in diseases of the eye and ear by A. U. Desjardins. Radiation therapy in diseases of the muscles, bones, joints and tendons, by H. F Hare and M. I. Smedal. Radiation therapy in diseases and dysfunctions of the glands of internal secretion, by L. J. Menville. Radiation therapy in inflammatory diseases, by E. A. Clark. Radiation therapy in diseases of the skin, by J. J Eller and E. A. Clark. Radiation reactions and injuries, by G. M. MacKee and A. C. Cipollaro. The civil liability of the radiologist, by S. W Donaldson. Supplement I. Low intensity radium needles, by C. L. Martin. Supplement II. Dosage calculation in radium therapy Index.

Note. Together the chapters of this work constitute a useful and authoritative guide to the potentialities and techniques of radiation therapy The coverage of techniques is not comprehensive, but those included are described explicitly and in detail. Literature references are included both for the techniques described in full and those only mentioned. In this edition the title was changed from the former *Clinical roentgen therapy* to indicate the inclusion of techniques based on radium, radioactive iodine etc. Revisions of text and additions to the bibliography are found throughout the book.

UNITED STATES. NATIONAL BUREAU OF STANDARDS. NATIONAL COMMITTEE ON RADIATION PROTECTION

Protection against betatron-synchrotron radiations up to 100 million electron volts. Washington D C. Government Printing Office, 1954 52 p. illus. 24 cm. (United States. National Bureau of Standards. Handbook 55) $0.25 4210

Contents Definitions. Protection against operation hazards. Protection against radiation hazards. Installations. Surveys. Working conditions. Appendixes The roentgen and radiation units above 3 Mev Secondary standards for measuring X-ray intensities. Calorimetric method of determining X-ray intensities. Determination of the dose produced in a medium by X-rays. X-ray absorption coefficients for monoenergetic X-rays. Theoretical half-value layers of various materials for 7.5-Mev X-ray photons. Characteristics of the X-radiation from a circular electron accelerator. Neutron production data. Concrete attenuation data.

Note Because electron accelerators, such as electron synchrotrons and betatrons, are sources of high-energy radiations, and because of their widespread applications, they represent a potential hazard to operating personnel, to patients in hospitals, and to others. This publication supplies recommendations for the safety of those who operate these devices. The hazards resulting from the various radiations produced are described, as well as those due to certain associated effects, such as ozone and smoke production. Because much of the experimental data in this field is far from complete, the technical information contained in the appendixes is an essential part of the *Handbook*.

THERAPEUTICS

CURRENT THERAPY 1956 latest approved methods of treatment for the practicing physician. Edited by Howard F Conn. Consulting editors George E. Burch and others.

Therapeutics

Philadelphia. W B Saunders Company 1956. 632 p. 28 cm. $11.00. 4211

Contents (abridged) Section II The infectious diseases. Section III. Diseases of the respiratory system. Section IV. Diseases of the blood and spleen. [illegible] cardiovascular system. Section VI Diseases of the digestive system. Section VI Disorders of metabolism and nutrition. Section VII Diseases of the endocrine system. Section VIII Diseases of the urogenital tract. Section IX The allergic diseases. Section X The venereal diseases. Section [illegible] Diseases of the nervous system. Diseases of the skin. Section XII Diseases of the locomotor system. Section XIV Obstetric and gynecologic conditions. Section XV Diseases due to physical and chemical agents. Section XVI. Appendices and indices. A manual of drugs. Index of authors. Index of subjects.

Note An annual publication, in each volume of which eminent practitioners of medicine and other recognized authorities describe currently used methods of therapy in the whole range of diseases. It consists of many short articles written expressly for it; in other words, it is not a digest of periodical literature. In the 1956 issue there are approximately 250 signed contributions, each one describing one or more methods of treatment for a specific disease or closely related group of diseases. Additional information on drugs mentioned in the articles is supplied in the appendix. The publication is useful for its clear and authoritative descriptions of reliable methods.

GOODMAN LOUIS S AND ALFRED GILMAN

The pharmacological basis of therapeutics a textbook of pharmacology toxicology and therapeutics for physicians and medical students. Second edition. New York The Macmillan Company 1955 1,831 p. illus. 26 cm. $17.50. 4212

Contents (abridged) Section I Introduction. Section II. Central nervous system depressants. History and theories of general anesthesia. General anesthetics. Basal anesthetics. Hypnotics and sedatives. Natural and synthetic narcotics. Analgesics and antipyretics. Section III. Central nervous system stimulants. Section IV. Local anesthetics. Section V. Drugs acting on autonomic effector cells. Anatomical, physiological and general pharmacological considerations. Drugs stimulating structures innervated by cholinergic nerves. Drugs stimulating structures innervated by adrenergic nerves. Adrenergic blocking agents. Section VI, Histamine and its antagonists. Section VII, Cardiovascular drugs. Section VIII, Water, salt, and ions. Section IX, Drugs affecting renal function and electrolyte metabolism. Section X, Drugs affecting uterine motility. Section XI, Gases and vapors. Section XII, Heavy-metal antagonists. Section XIII, Locally acting drugs. Section XIV Antiseptics, disinfectants, and drugs used in the chemotherapy of infectious diseases. Drugs used in the chemotherapy of helminthiasis. Drugs used in the chemotherapy of malaria. Drugs used in the chemotherapy of amebiasis. Penicillin therapy of syphilis. Drugs used in the chemotherapy of tuberculosis and leprosy. Antibiotics. Section XV Drugs used in the chemotherapy of neoplastic disease. Section XVI, Drugs acting on the blood and the blood-forming organs. Section XVII, Hormones and hormone antagonists. Section XVIII, The vitamins. Appendices: Principles of prescription writing. General principles of toxicology. Index.

Note A widely-used, comprehensive work. It is arranged in 18 sections, the titles of all of which are given above, and in 73 chapters. All but a few of the chapters are devoted to specific groups of drugs. In these chapters, the drugs are taken up individually and discussed under such headings as "History," "Chemistry and preparations," "Routes of administration and dosage," "Absorption, fate and excretion," "Pharmacological actions," and "Therapeutic uses." Other sub-headings are used where appropriate; for example, in the discussions of anesthetic drugs there is some emphasis on correlation between chemical structure and physiological and pharmacological actions of specific drugs. Very extensive literature references are included. The first edition was published in 1941. The organization of this second edition is essentially the same. Otherwise the book is the result of a complete revision, approximately [illegible] per cent.

HARDY JAMES D

Fluid therapy 77 illustrations. Philadelphia Lea & Febiger 1954 255 p. illus. 24 cm. $5.50. 4213

Contents General physiology of body fluid metabolism. Methods. Classification of states of water and electrolyte imbalance. The diagnosis of fluid imbalance. Treatment of fluid imbalance. Routine management—fluid therapy in patients who are not dehydrated preoperatively and who have no postoperative complications. Repair solutions. The management of abnormalities of potassium metabolism. The management of [illegible]. Calcium and magnesium—metabolism and therapy. Common surgical problems—pyloric and duodenal obstruction, small bowel obstruction, and pancreatic and small bowel fistulas. Fluid therapy in infants and children. Fluid therapy in the elderly—some guides to management. Heart failure, diabetic acidosis, and adrenocortical insufficiency—some comments on their management. Urology neurosurgery and orthopedics. Renal failure—acute and chronic. The early treatment of burns. The management of blood loss. Liquid alimentation. Complications of intravenous fluid therapy. Index.

Note In this book knowledge pertaining to basic physiology is integrated with practical fluid therapy. Physiologic aspects are discussed in the introductory chapter and, in addition, physiologic considerations are introduced in the specific chapters that form the bulk of the volume. The book is directed primarily to surgeons. The author is Chairman of the Department of Surgery and Director of Surgical Research in the University of Mississippi Medical Center.

HYMAN HAROLD THOMAS

Handbook of treatment. Philadelphia J B Lippincott Company 1955 511 p. 24 cm. $8.00. 4214

Note A compact cyclopedia of internal medicine in which the emphasis is on the common disorders encountered in the general practice of medicine. The main topics are arranged in alphabetical order, ranging from "Acidosis" to "[illegible]." [illegible] such as alcoholism and diabetes are included, along with specific diseases. Related diseases are grouped; for example, scarlet fever is to be found under streptococcal infections. The volume is fully indexed to facilitate the location of topics not in alphabetical order. In general, the articles on individual disorders are subdivided under "General principles," "Immediate care," and "Continuing care." A wide range of drugs is mentioned at appropriate points, and 15 pages are devoted to dietotherapy, including many typical diets.

MINER, ROY WALDO editor

Oral fat emulsions. Consulting editor Fredrick J Stare. New York Published by the Academy 1952 139 p. illus. 22 cm. (New York Academy of Sciences. Annals. Vol. 56 art. 1) $3.00. 4215

Contents Introduction to oral fat emulsions, by F. J. Stare. The importance of fat in the diet, by R. W. Swift. Fat absorption and the experimental basis of oral fat emulsions, by R. P. Geyer. Clinical studies on the use of an oral fat emulsion, by M. [illegible]. Oral fat emulsions in the study of calorie-nitrogen relationships in man, by T. B. Van [illegible] and others. Oral fat emulsions in the feeding of patients with severe burns, by S. M. Levenson and others. Fat ingestion and chylomicrons, by H. [illegible]. The use of oral fat in hyperalimentation and parenteral alimentation, by A. A. Albanese. The use of oral fat emulsions in experimental and clinical medicine, by A. Grollman. The use of oral fat emulsions in surgical patients by mouth, gastrostomy and jejunostomy—clinical and metabolic studies, by [illegible], Jr., and others. The use of an oral fat emulsion in the supportive treatment of pulmonary tuberculosis, by M. E. Dailey. Experimental studies in human gastric physiology—I. The effect of fat upon gastric evacuation after partial gastrectomy, by W. R. Waddell and C. C. Wang. Absorption of orally administered emulsified lipid in pancreatic insufficiency in infants and children, by C. U. Lowe and C. D. May. Oral fat emulsions combined with protein supplements in the management of acute poliomyelitis, by G. J. [illegible]. Laboratory and clinical studies following the use of an oral fat emulsion, by S. D. Jacobson. Forced high-calorie low-protein diet in the treatment of uremia, by W. J. Kolff. Importance of calories in the growth of children, by I. G. Macy. Interrelationships of foodstuffs, by J. P. Peters.

Note Papers presented at a conference held by the Section of Biology of the New York Academy of Sciences in April, 1952, are published in this volume. The authors and titles are given above. Most of the papers include literature references. Generally speaking, the papers report clinical case experience or the results of research.

MODELL, WALTER

The relief of symptoms. Philadelphia W B Saunders Company 1955 450 p. 24 cm. $8.00. 4216

Content (abridged) Part I, Availability and uses of isotopes Philosophy and policies of the Atomic Energy Commission control of radio isotope distribution, by P C. Aebersold. Part II Problems in radiation Some aspects of the pathology f radiation, by R. M. Kniseley Radiological safety by E. K. Anderson. Biochemical considerations of distribution, by G. C. Kyker Part III Radiation measurement and dosimetry Some problems of theory of radiation dosimetry by H. H. Rossi. Techniques of dosimetry by G. L. Brownell. Calculation of radiation dosage in internal therapy with I 131 by R. Loevinger New developments in instrumentation for medicine, by P R. Bell. Part IV Tumor localization External counting and localization, by B Cassen. The use of radioacti isotopes in the detection and localization of brain tumors, by W H. Sweet and G. L. Brownell. The localization of radioacti potassium in human breast neoplasms, by W H. Baker Part V Diagnostic and therapeutic uses of radioiodine Diagnostic uses of I 131 by H. C. Allen Jr Iodine 131 in the treatment of hypert thyroidism studies of dosage and metabolism, by A. S. Freedberg. Iodine 131 in the treatment of intractable angina pectoris or congestive failure, by A. S. Freedberg. Iodine therapy in thyroid carcinoma, by J B Trunnell. Pathologic changes produced in the thyroid by I 131 by R. M. Kniseley and G. A. Andrews. Part VI, Metabolic and vascular studies Blood volumes—methods and esults, by N I. Berlin. A method for measuring cardiac and peripheral vascular flow utilizing serum albumin labeled with radioactive iodin by H. L. Friedell and W J MacIntyre. Body composition—an introduction to the clinical and investigative use of isotope dilution methods, by F D Moore. Part VII, Isotopes in the study and treatment f hematologic disorders The use f radioisotopes in the therapy of blood diseases, by W F Bethard. The use of radioactive colloidal gold (Au-198) in chronic myelogenous and lymphatic leukemia, by G. R. Meneely Part VIII Therapy with radioacti colloids The clinical utilization f artificially radioactive suspensions of particles of different sizes, by J H. Muller Treatment of carcinoma f the prostate ith gold 198, by R. H. Flocks and H. B. Elkins. Interstitial use of radioacti chromic phosphat in therapy by H. L. Jaffe. Experiences with the use of Au-198 in the treatment of carcinoma of the cervix, by A. L. Sherman Part IX, Therapy with external and implanted sources Teletherapy by C. B Braestrup. The potentialities of radiotherapy f malignant neoplasms, by J A. del Regato. The external and internal use of radioactive phosphorus, by B. V A. Low-Beer Radiotherapy (especially of bladder cancer) by means of rubber balloons filled in sit with solutions of radioisotopes, by J H. Muller Cobalt 60 as an interstitial, plaque-like, intracavitary gamma ray medium a review by I. Meschan. Bibliography Subject index.

Note The Medical Division of the Oak Ridge Institute of Nuclear Studies sponsored in September 1953 an advanced medical course to cover clinical uses of radioisotopes. The speakers were asked to present reviews of current information on their special topics, with emphasis on practical clinical techniques. The speakers wer subsequently requested to put their contributions into publishable form and this volume, abundantly illustrated and with a 59-page bibliography is the esult. It is addressed primarily to graduate physicians.

OUGHTERSON, ASHLEY W AND SHIELDS WARREN, editors

Medical effects of the atomic bomb in Japan New York McGraw Hill Book Company Inc 1956 477 p illus. 24 cm (National nuclear energy series. Manhattan project technical section Division VIII, vol 8) $8 00 4208

Contents Summary Prelude to medical investigation. Scope of damage and the effects on medical care and facilities Number and types of casualties. Clinical observations in Hiroshima and Nagasaki. Hematology of atomic-bomb injuries. Pathology of atomic-bomb injuries. Appendixes Organization and personnel of the Joint Commission and collaborating groups. Materials and methods of investigation. Reports of Japanese scientists and physicians. Studies of population and casualties. Statistical survey of survivors. Summary tables for Chapters 4 and 5. Index

Note A book of primary importance in radiation medicine. It is based on the six-volume report of the Joint Commission for the Investigation of the Effects of the Atomic Bomb in Japan which began ork in Japan only few eeks after the bombs were dropped on Hiroshima and Nagasaki in August, 1945 The data gathered by the Joint Commission are here condensed, integrated, and assembled in form suitable for reading and reference Several hundred illustrations, many of them reproductions of microphotographs of pathology are included, and there are also several hundred tables of statistical data. Literature references are included in all of the chapters.

POHLE, ERNST ALBERT, editor

Clinical radiation therapy Second edition, enlarged and thoroughly revised, with 701 illustrations and a colored plate. Philadelphia Lea & Febiger 1950 902 p. illus. (part col d) 24 cm. $15 00 4209

Contents Radiation therapy in diseases of the blood and blood-forming organs, by O. O. Meyer Radiation therapy in diseases of the circulatory system, by R. Golden and H. W Jacox. Radiation therapy in diseases of the espiratory system and of the breast, by G. E. Richards. Radiation therapy in diseases of the gastro-intestinal tract, by G. T Pack and G. McNeer Radiation therapy in diseases of the female genital organs, by C. L. Martin. Radiation therapy in malignant diseases of the genito-urinary tract, by A. L. Dean and R. J Gottmann. Radiation therapy in diseases of the nervous system, by R. W Benford. Radiation therapy in diseases of the eye and ear by A. U Desjardins. Radiation therapy in diseases of the muscles, bones, joints and tendons, by H. F Hare and M. I. Smedal. Radiation therapy in diseases and dysfunctions of the glands of internal secretion, by L. J Menville. Radiation therapy in inflammatory diseases, by E. A. Clark. Radiation therapy in diseases f the skin, by J J Eller and E. A. Clark. Radiation reactions and injuries, by G. M. MacKee and A. C. Cipollaro. The civil liability of the radiologist, by S. W Donaldson. Supplement I. Low intensity radium needles, by C. L. Martin. Supplement II. Dosage calculation in radium therapy Index.

Note. Together the chapters of this work constitute a useful and authoritative guide to the potentialities and techniques of radiation therapy The coverage of techniques is not comprehensive, but those included are described explicitly and in detail. Literature references are included both for the techniques described in full and those only mentioned. In this edition the title was changed from the former *Clinical roentgen therapy* to indicate the inclusion f techniques based on radium, radioacti iodine, etc. Revisions of text and additions to the bibliography are found throughout the book.

UNITED STATES NATIONAL BUREAU OF STANDARDS NATIONAL COMMITTEE ON RADIATION PROTECTION

Protection against betatron-synchrotron radiations up to 100 million electron volts. Washington D C Government Printing Office, 1954 52 p. illus. 24 cm. (United States. National Bureau of Standards. Handbook 55) $0 25 4210

Contents Definitions. Protection against operation hazards. Protection against radiation hazards. Installations. Surveys. Working conditions. Appendixes The roentgen and radiation units above 3 Mev Secondary standards for measuring X-ray intensities. Colorimetric method of determining X-ray intensities. Determination of the dose produced in medium by X-rays. X-ray absorption coefficients for monoenergetic X-rays. Theoretical half value layers of arious materials for 1.5-Mev X-ray photons. Characteristics of the X-radiation from circular lectron accelerator Neutron production data. Concrete attenuation data.

Note Because electron accelerators, such as electron synchrotrons and betatrons, are sources of high-energy radiations, and because of their widespread applications, they represent potential hazard to operating personnel, to patients in hospitals, and to others. This publication supplies recommendations for the safety of those ho operate these devices The hazards resulting from the various radiations produced are described, as well as those due to associated effects, such as noise and ozone production. Because much of the experimental data in this field is far from complete, the technical information contained in the appendixes an essential part of the Handbook

THERAPEUTICS

CURRENT THERAPY 1956 latest approved methods of treatment for the practicing physician Edited by Howard F Conn. Consulting editors George E. Burch and others

Therapeutics

Philadelphia W B Saunders Company 1956. 632 p. 28 cm. $11.00. 4211

Contents (abridged): Section I. The infectious diseases. Section II. Diseases of the respiratory system. Section III. Diseases of the blood and spleen. Section IV. Diseases of the cardiovascular system. Section V. Diseases of the digestive system. Section VI. Disorders of metabolism and nutrition. Section VII. Diseases of the endocrine system. Section VIII. Diseases of the urogenital tract. Section IX. The venereal diseases. Section X. The allergic diseases. Section XI. Diseases of the nervous system. Section XII. Diseases of the skin. Section XIII. Diseases of the locomotor system. Section XIV. Obstetric and gynecologic conditions. Section XV. Diseases due to physical and chemical agents. Section XVI. Appendices and indices. A roster of drugs. Index of authors. Index of subjects.

Note: An annual publication, in each volume of which eminent practitioners of medicine and other recognized authorities describe currently used methods of therapy in a wide range of diseases. It consists of many short articles written expressly for it; in other words, it is not a digest of periodical literature. In the 1956 issue there are approximately 330 signed contributions, each one describing one or more methods of treatment for a specific disease or closely related group of diseases. Additional information on drugs mentioned in the articles is supplied in the appendix. The publication is useful for its clear and authoritative descriptions of reliable methods.

GOODMAN, LOUIS S., AND ALFRED GILMAN

The pharmacological basis of therapeutics: a textbook of pharmacology, toxicology, and therapeutics for physicians and medical students. Second edition. New York: The Macmillan Company, 1955. 1,831 p. illus. 26 cm. $17.50. 4212

Contents (abridged): Section I, Introduction. Section II, Central nervous system depressants. History and theories of general anesthesia. General anesthetics. Basal anesthetics. Hypnotics and sedatives. Natural and synthetic narcotics. Analgesics and antipyretics. Section III, Central nervous system stimulants. Section IV, Local anesthetics. Section V, Drugs acting on autonomic effector cells: anatomical, physiological and general pharmacological considerations. Drugs stimulating structures innervated by cholinergic nerves. Drugs stimulating structures innervated by adrenergic nerves. Autonomic blocking agents. Section VI, Histamine and its antagonists. Section VII, Cardiovascular drugs. Section VIII, Water, salt, and ions. Section IX, Drugs affecting renal function and electrolyte metabolism. Section X, Drugs affecting uterine motility. Section XI, Gases and vapors. Section XII, Heavy-metal antagonists. Section XIII, Locally acting drugs. Section XIV, Antiseptics, disinfectants, and drugs used in the chemotherapy of infectious diseases. Drugs used in the chemotherapy of helminthiasis. Drugs used in the chemotherapy of malaria. Drugs used in the chemotherapy of amebiasis. Penicillin therapy of syphilis. Drugs used in the chemotherapy of tuberculosis and leprosy. Antibiotics. Section XV, Drugs used in the chemotherapy of neoplastic disease. Section XVI, Drugs acting on the blood and the blood-forming organs. Section XVII, Hormones and hormone antagonists. Section XVIII, The vitamins. Appendices: Principles of prescription writing. General principles of toxicology. Index.

Note: A widely-used, comprehensive work. It is arranged in 18 sections, the titles of all of which are given above, and in 5[illegible] chapters. All but a few of the chapters are devoted to specific groups of drugs. In these chapters, the drugs are taken up individually and discussed under such headings as "History," "Chemistry and preparations," "Routes of administration and dosage," "Absorption, fate and excretion," "Pharmacological actions," and "Therapeutic uses." Other sub-headings are used where appropriate; for example, in the discussions of anesthetic drugs, there is some emphasis on correlation between chemical structure and physiological and pharmacological actions of specific drugs. Very extensive literature references are included. The first edition was published in 1941. The organization of this second edition is essentially the same. Otherwise the book is the result of a complete revision, approximately 50 per cent.

HARDY, JAMES D.

Fluid therapy. 77 illustrations. Philadelphia: Lea & Febiger, 1954. 255 p. illus. 24 cm. $5.50. 4213

Contents: General physiology of body fluid metabolism. Methods. Classification of states of water and electrolyte imbalance. The diagnosis of fluid imbalance. Treatment of fluid imbalance. Routine management—fluid therapy in patients who are not dehydrated preoperatively and who have no postoperative complications. Repair of [illegible]. The management of abnormalities of potassium metabolism. The management of abnormalities of [illegible]—acidosis and alkalosis and therapy. Common [illegible]. Calcium and magnesium—metabolism and therapy. Common surgical problems—pyloric and duodenal obstruction, small bowel obstruction, and pancreatic and small bowel fistulas. Fluid therapy in infants and children. Fluid therapy in the elderly—some guides to management. Heart failure, diabetic acidosis, and adrenocortical insufficiency—some comments on their management. Urology, neurosurgery and orthopedics. Renal failure—acute and chronic. The early treatment of burns. The management of blood loss. Liquid alimentation. Complications of intravenous fluid therapy. Index.

Note: In this book knowledge pertaining to basic physiology is integrated with practical fluid therapy. Physiologic aspects are discussed in the introductory chapter and, in addition, physiologic considerations are introduced in the specific chapters that form the bulk of the volume. The book is directed primarily to surgeons. The author is Chairman of the Department of Surgery and Director of Surgical Research in the University of Mississippi Medical Center.

HYMAN, HAROLD THOMAS

Handbook of treatment. Philadelphia: J B Lippincott Company, 1955. 511 p. 24 cm. $8.00. 4214

Note: A compact cyclopedia of internal medicine in which the emphasis is on the common disorders encountered in the general practice of medicine. The main topics are arranged in alphabetical order, ranging from "acidosis" to "xanthoma." Troubles such as alcoholism and malaria are included, along with specific diseases. Related diseases are grouped; for example, scarlet fever is to be found under streptococcal infections. The volume is fully indexed to facilitate the location of topics not in alphabetical order. In general, the articles on individual disorders are subdivided under "General principles," "Immediate care," and "Continuing care." A wide range of drugs is mentioned at appropriate points, and 10 pages are devoted to dietotherapy, including many typical diets.

MINER, ROY WALDO, editor

Oral fat emulsions. Consulting editor Fredrick J Stare. New York: Published by the Academy, 1952. 139 p. illus. 22 cm. (New York Academy of Sciences. Annals. Vol. 56, art. 1) $3.00. 4215

Contents: Introduction to oral fat emulsions, by F J Stare. The importance of fat in the diet, by R. W. Swift. Fat absorption and the experimental basis of oral fat emulsions, by R. P. Geyer. Clinical studies on the use of an oral fat emulsion, by M. Shoshkes. Oral fat emulsions in the study of caloric-nitrogen relationships in man, by T B Van Itallie and others. Oral fat emulsions in the feeding of patients with severe burns, by S. M. Levenson and others. Fat ingestion and chylomicrons, by H. Necheles. The use of oral fat in hyperalimentation and parenteral alimentation, by A. A. Albanese. The use of oral fat emulsions in experimental and clinical medicine, by A. Grollman. The use of oral fat emulsions in surgical patients by mouth, gastrostomy and jejunostomy—clinical and metabolic studies, by I F Stein, Jr and others. The use of an oral fat emulsion in the supportive treatment of pulmonary tuberculosis, by M. E. Dailey. Experimental studies in human gastric physiology—I. The effect of fat upon gastric evacuation after partial gastrectomy, by W. R. Waddell and C. C. Wang. Absorption of orally administered emulsified lipid in pancreatic insufficiency in infants and children, by C. U. Lowe and C. D. May. Oral fat emulsions combined with protein supplements in the management of acute poliomyelitis, by G. J. Balsam. Laboratory and clinical studies following the use of an oral fat emulsion, by S. D. Jacobson. Forced high-calorie low-protein diet in the treatment of uremia, by W. J. Kolff. Importance of calories in the growth of children, by I. G. Macy. Interrelationships of foodstuffs, by J. P. Peters.

Note: Papers presented at a conference held by the Section of Biology of the New York Academy of Sciences in April, 1952, are published in this volume. The authors and titles are given above. Most of the papers include literature references. Generally speaking, the papers report clinical case experience or the results of research.

MODELL, WALTER

The relief of symptoms. Philadelphia: W B Saunders Company, 1955. 450 p. 24 cm. $8.00. 4216

Contents Part I, Theory: An argument for the relief of symptoms. The nature of relief. The complaint. Placebo action of drugs. The trial with the drug. Part II, Practice: Pain. Anxiety Insomnia. Gas. Constipation. Diarrhea. Loss of appetite. Obesity. Palpitations. Edema. Dyspnea. Cough. Fever. Weakness and fatigue. Nausea and vomiting. Vertigo. Itch. Hiccups. Unconsciousness. Convulsions. Skeletal muscle spasm. Menstrual disorders. Frequency and dysuria. Jaundice. Headache. Part III, Counsel: Cortisone and the masking of symptoms. Index.

Note This book is unusual in that it is devoted to the relief of symptoms, pain, or distress rather than to the cure of disease. The five chapters in the 91-page first part are introductory and general. The remainder of the space is devoted to methods for the relief of symptoms or distress in the conditions and disorders named in the chapter titles. The chapters vary in length but one that on the relief of pain, is more than 50 pages long. None of them is a mere tabulation of emergency measures. In most chapters a number of techniques are discussed and compared, and selected references to other literature are given. The author is a member of the faculty of Cornell University Medical College.

MOYER, CARL A

Fluid balance, a clinical manual Chicago The Year Book Publishers, 1952 191 p 18 cm $3 75 4217

Contents. Early studies on body fluids. Chemistry of body fluids. Body fluid equilibrium. Disturbances of body fluid equilibrium. Evaluation of diagnostic signs of fluid imbalance. Clinical and laboratory signs of changes in fluid volume and osmolar concentration. Diagnosis of changes in ionic composition of body fluids. Distributional shift of extracellular fluid. Descriptive diagnoses of fluid imbalance. Treatment of fluid imbalance. Role of fluid therapy in surgical patients and in trauma. Complications of parenteral fluid therapy Index.

Note A short but useful volume on the diagnosis and treatment of fluid and electrolyte imbalances. There is some emphasis on the rapid interpretation of signs and symptoms. Lists of literature references are included. The author is Professor of Surgery in the School of Medicine of Washington University

REHFUSS, MARTIN EMIL, AND ALISON HOWE PRICE

A course in practical therapeutics Third edition. Baltimore The Williams & Wilkins Company 1956 972 p illus. (part col'd) 29 cm $15 00 4218

Contents (abridged) Section I, General therapeutic principles Diagnostic survey Adjustment of the patient. Prescription writing. Dietary principles. Nursing problems of interest to the physician. Contents of the physician's bag Section II, Symptomatic therapy Section III, Treatment of specific disorders Vitamin deficiency states and nutritional disorders. Digestive tract disorders. Diseases of blood and blood-forming organs. Diseases of the heart. Peripheral vascular diseases. Diseases of the kidneys. Venereal diseases. Respiratory diseases. Arthritis. Allergic disorders. Physical agents and poisons. Infectious diseases. Systemic mycoses. Endocrine disorders. Section IV Special treatment Antibiotics. Steroid therapy Psychosomatic medicine. Industrial therapeutics. Preoperative treatment. Body water and electrolytes. Therapeutic use of parenteral solutions. Oxygen therapy Radioactive isotopes. Radiation therapy Index.

Note A comprehensive, well-organized work which was originally developed from material used in instructing medical students in a two-year course in practical therapeutics in Jefferson Medical College in Philadelphia. It is used as a textbook and as an office reference book by general practitioners of medicine. It provides a broad and at the same time detailed presentation of the subject. In this third edition, the third section is 583 pages long. It covers the symptoms, differential diagnoses, and treatment of a large number of diseases classified under 19 headings similar to those quoted under Section III above. The second edition was published in 1951 Many parts of the book, especially in Sections III and IV were rewritten for this third edition in order to incorporate information on new drugs and new methods of treatment There are 101 figures and, again, they include many large-scale reproductions of drawings upon which reference points in diagnosis and therapeutic techniques are marked in color

SNIVELY, WILLIAM D, AND MICHAEL J SWEENEY

Fluid balance handbook for practitioners. Illustrations by Kathleen Calhoun. Springfield, Ill Charles C Thomas, 1956 326 p. illus. (part col d) 23 cm. $6 75 4219

Contents (abridged) Part I, Foundation facts. Body fluid types. Composition of body fluid. Gains and losses of body fluids. Body automation. Part II, Clinical diagnosis Specific fluid imbalances—three basic types. Changes in properties of extracellular fluid. Changes in position of extracellular fluid. Changes in the nutritional status of the body Systematic diagnosis. Part III, Therapy—changes in properties of extracellular fluid Yardstick for dosage. Balanced solutions. Pump priming solutions. Replacement solutions. When body homeostasis is impaired. Part IV Therapy—changes in position of extracellular fluid. Part V Therapy—changes in nutritional status of body Part VI, Therapy—routes of administration. Part VII, Down to cases. Epilogue. References for additional reading. Quotations. Index.

Note. A broad, elementary presentation of basic information on fluid balance and fluid therapy It is addressed, as indicated in the title, to graduate practitioners of medicine and is of special interest to general practitioners who work at some distance from diagnostic laboratories. The elementary basic knowledge is outlined in the first 35 pages. The rest of the book is devoted to clinical aspects, with approximately half of the space devoted to therapy The organization is somewhat unconventional and the style is lighter than in most medical texts. The list of references for additional reading is well selected.

WEISBERG, HARRY F

Water, electrolyte and acid-base balance, normal and pathologic physiology as a basis for therapy Baltimore Williams & Wilkins Company 1953 245 p. illus. 24 cm. $5.00. 4220

Contents Section I, Normal physiology Introduction. Concentration in milliequivalents per liter Body water Body electrolytes. Acid-base (anion-cation) regulation. Section II, Pathologic physiology: Abnormal exchanges of water and electrolytes. Dehydration. Electrolyte alterations. Acidosis and alkalosis. Aids in diagnosis. Nutritional status. Fluids. Electrolyte repair solutions. Adjuvant therapy Compendium. References. Glossary Index.

Note A practical introduction to fluid therapy intended for medical students and practicing physicians. It presents the facts from a large body of journal literature, and, although succinctly done, is readable. The section on normal physiology is 44 pages long and that on pathologic physiology is 132 pages long. The chapter entitled "Compendium" in the latter discusses the application of the basic knowledge to problems in the management of patients. The bibliography gives references to 198 publications. The book was developed from a seminar conducted by the author at Mount Sinai Hospital in Chicago and from material prepared by him and others for an exhibit and symposium sponsored by the College of American Pathologists and the American Society of Clinical Pathologists.

WELT, LOUIS

Clinical disorders of hydration and acid-base equilibrium. Boston Little, Brown and Company 1955 262 p. illus. 22 cm. $6.00. 4221

Contents Part one, Physiologic considerations Definitions. The volumes and composition of body fluids. Internal exchanges of water and electrolytes. Extrarenal external exchanges of electrolytes and water Acid-base relationships. Renal physiology Consequences of expansion and contraction of the body fluids. Part two, Clinical considerations Maintenance requirements for water, salts and carbohydrate General comments on the use of parenteral fluids. Dehydration, general comments. Specific clinical examples of dehydration. Adrenal cortical insufficiency asymptomatic hyponatremia and diabetes insipidus. Disorders of acid-base equilibrium. Pathogenesis and management of edema. Acute renal insufficiency (acute tubular necrosis) Bibliography Index.

Note A concise monograph written by a recognized authority on fluid and electrolyte metabolism. The first 87 pages are devoted to the basic physiologic aspects, while approximately 115 pages are

... over to clinical aspects, including both pathogenesis and treatment. Considerable cost experience is incorporated in the clinical part. The book is based on the literature, including the author's own publications. In both parts references are made from statements in the text to citations of sources articles in the bibliography. The latter contains 437 references to literature in English.

PHARMACOLOGY AND TOXICOLOGY

ANTIBIOTICS ANNUAL 1955–1956 Edited by Henry Welch and Felix Marti Ibañez. New York Medical Encyclopedia, Inc., 1956 994 p. illus. 26 cm. $10.00. 4222

Note: Published in this volume are the proceedings of the Third Annual Symposium on Antibiotics sponsored by the Division of Antibiotics of the United States Department of Health, Education, and Welfare, Food and Drug Administration. More than 150 papers and the proceedings of four panel discussions are included. The symposium was an international one, participated in by scientists from 16 nations including the United States of America. Many of the papers discuss clinical experiences with antibiotics, [illegible] considerable number of them deal with new antibiotics, and [illegible] of four is devoted to the use of antibiotics in the preservation of food. Literature references are included in most of the papers. The volume contains [illegible] subject index and an index to the names of authors of the papers, but not to the names of the authors of cited literature. The 1956–57 annual was published in 1957 1,114 p. $12.00

BECKMAN HARRY

Pharmacology in clinical practice. With 152 illustrations. Philadelphia W B Saunders Company 1952 839 p. illus. 25 cm. $12.50. 4223

Contents: Section [illegible] Clinical use of drugs. Allergy. Anesthesiology. Antibiotics. Autonomic pharmacology. Cardiology (including the vascular diseases). Dentistry. Dermatology. Endocrinology. Gastroenterology. Hematology. Internal medicine. Neuropsychiatry. Obstetrics. [illegible] Ophthalmology. Otorhinolaryngology. [illegible] Surgical specialties. Venereology. Section II. Drug data. A compendium of drugs. Index.

Note: In this the author, director of the Departments of Pharmacology at the Marquette University Schools of Medicine and Dentistry has made [illegible] special effort to present pharmacology from the viewpoint of practitioners of medicine and dentistry. The table of contents given above shows the special arrangement of the material. Under each of the main headings in the first part, diseases and other conditions amenable to drugs are concisely described first, than the pharmacology [illegible] taken up. Drugs are discussed in connection with conditions to which they apply and their dosage and effects are indicated. The second section is [illegible] concise catalogue of drugs in which their chemical nature, physical properties, etc., are briefly stated. It is arranged alphabetically and includes some United States of America proprietary names. Instead of referring to an extensive literature, the author mentions books for supplementary reading. An excellent index covering nearly 70 pages facilitates reference use of the volume.

BEYER, KARL H.

Pharmacological basis of penicillin therapy Springfield, Ill. Charles C Thomas, 1950. 214 p. illus. 22 cm. (American lecture series. Publication number 77 American lectures in pharmacology edited by Chauncey D Leake) $4.50. 4224

Contents (abridged): Penicillin pharmacology. Mode of action of penicillin. Repository penicillin preparations. Penicillin excretion. Addendum—[illegible]. Index.

Note: The reactions of the body to penicillin rather than the reactions between drug and organisms with which the body may be infected are the subject of this monograph. The physiological reactions to aqueous solutions and to [illegible] suspensions, for example are described and those [illegible] which determine the methods of delaying the elimination of penicillin from the body. One chapter is devoted to [illegible] discussion of the enzymological bases of the inhibitory effect of compounds on the renal excretion of the drug. There [illegible] bibliography of 47 references. The book is of interest both to general medical practitioners and to pharmacologists.

BLOCK WALTER D., AND KORNELIUS VAN GOOR

Metabolism, pharmacology and therapeutic uses of gold compounds. Springfield, Ill. Charles C Thomas 1956 76 p. 22 cm. (American lecture series. Publication no. 282 A monograph in American lectures in dermatology edited by Arthur C. Curtis) $2.75 4225

Contents: Historical. Chemistry of gold compounds. Metabolism. Mode of action of gold salts in therapy. Therapeutic results with gold compounds. Toxicity. Prevention of toxicity and detoxification. Conclusion. Bibliography. Index.

Note: A concise survey of the history and present status of gold compounds in therapy. Primarily [illegible] is an exploration of the present unsatisfactory state of knowledge on the mode of action of gold compounds and on their toxicity. The author concludes, "The mode of action of gold salts in therapy is not known. The occurrence of toxic reactions [illegible] is for the most part unpredictable. [illegible] Such limitations certainly justify the severe criticism to [illegible] which gold therapy has been subjected. The bibliography provides 214 references to the international literature.

BURGER, ALFRED

Medicinal chemistry: chemistry biochemistry therapeutic and pharmacological action of natural and synthetic drugs. New York Interscience Publishers, Inc., 1951 2 vols. 23 cm. $11.50 per vol. 4226

Contents (abridged): Volume I: Historical development of medicinal chemistry. Relation of chemical structure and biological activity. Biological [illegible] of drugs. Physical properties and biological activity. [illegible] Anticonvulsant drugs. Analgesics. Hypnotics and sedatives. [illegible] Parenteral fluid therapy. [illegible] Analeptics. Cardiovascular drugs. [illegible] Drugs eliciting symptoms in the gastrointestinal tract. Adrenergic drugs. Parasympathetic stimulants. Curare and curareform drugs. Antispasmodics. Histamine and antihistaminic drugs. Diagnostic agents. Thyroxine and antithyroid drugs. Drugs for the treatment of cancer. The vitamins. Subject index. Volume II: The hormones. Essential amino acids and fatty acids. Theories of metabolite antagonism. [illegible] in chemotherapy. The sulfonamide drugs. Antimalarials. Chemotherapy of acid-fast infections. Metal-free drugs used in tropical diseases. Antibiotics. Antifungal agents. Anthelmintics. Antiseptics. Cumulative index. Volumes I–II.

Note: An inclusive treatise in [illegible] which the chief drugs currently used in medicine are discussed and described. The preliminary chapters are brief; for example, the chapter "Relation of chemical structure and biological activity" is only nine pages long. Most of the space is given to chapters on the classes and groups of drugs [illegible] which are named in the table of contents. In these chapters the drugs are described from the chemical standpoint. A formula diagram is usually included; and in addition such points as theory of action, methods of testing, and synthesis are covered. Numerous references to pertinent articles are given as footnotes but the author did not attempt an extensive bibliography.

CANTAROW ABRAHAM AND MAX TRUMPER

Lead poisoning Baltimore The Williams & Wilkins Company 1944 264 p. illus. 23 cm. $1.50. 4227

Contents: Absorption, transportation, deposition and excretion of lead. Pathology and pathological physiology. Clinical manifestations. Lead in blood, body fluids and excretions. Normal intake of lead. Treatment of lead poisoning. Occurrence of chronic lead poisoning. Lead products in industry. Procedures for determination of lead, by M. R. Jacobs. Bibliography. Index.

Note: The authors have sifted the literature on the subject and have presented the data which they believe are essential to [illegible] comprehensive understanding of the nature, prevention, and management of lead poisoning. On controversial issues they have indicated their personal opinions which are based on the study of hundreds of workers exposed to lead hazards. The book is of interest to physicians in industry and to others concerned with the subject, including medical college students.

DRILL, VICTOR A , editor

Pharmacology in medicine a collaborative textbook New York McGraw Hill Book Company, Inc., 1954 1,264 p illus. 28 cm $19 50 4228

Contents (abridged) Introduction. General anesthetics. Local anesthetics. Adjuncts to anesthesia. Sedation, hypnosis, and analgesia. Central nervous system stimulants. The autonomic nervous system The cardiovascular system. Water and salt balance. Allergic manifestations. The gastrointestinal tract. Dermatomucosal agents. The hematopoietic system. The metals and radioactive elements. Gases, vapors, and dusts. The vitamins and other nutritional factors. The endocrine glands and accessory reproductive organs. Specific chemotherapy Index.

Note A comprehensive work composed of 18 parts hose titles are listed above and 87 chapters. Authorship f each chapter is indicated in the book. Most of the 82 contributors are teachers of pharmacology or allied subjects in medical colleges of the United States of America. The typical chapter deals ith a single group of drugs, for example histamine and antihistaminics, and covers the group as to history chemistry physiological effects, absorption, fate and excretion, tolerance and therapeutic uses. Some chapters are devoted to such topics as fluid therapy rather than to drugs. Literature references are given in the chapters. The comprehensive scope of the book makes it useful to graduate physicians as ell as to students.

DUGGAR, BENJAMIN MINGE, AND OTHERS

Aureomycin—a new antibiotic. Consulting editor J H. Williams. New York The New York Academy of Sciences, 1948 168 p illus. (part col d) 24 cm (New York Academy of Sciences Annals. Vol 51, p 175–342, 1948) $2 50 4229

Contents Aureomycin, product of the continuing search for new antibiotics, by B M. Duggar The pharmacology of aureomycin by B K. Harned and others. Bacteriological studies of aureomycin, by C. W Price and others. The determination of ureomycin in serum and other body fluids, by A. C. Dornbush and E. J Pelcak. In vitro studies with aureomycin, by C. A. Chandler and E. A. Bliss. Laboratory studies with aureomycin, by T P Paine Jr and others. Clinical studies with ureomycin, by H. S. Collins and others. Studies on serum concentrations in humans and preliminary observations on the treatment of human infections with ureomycin, by H. F Dowling and others. Use of aureomycin on some experimental infections in animals, by P A. Little. T eatment of experimental infections with aureomycin, by M. S. Bryer and others. The pharmacology and clinical trial of aureomycin a preliminary report, by E. R. Schoenbach and others. Aureomycin in ocular infections, by A. E. Braley and M. Sanders. Action of ureomycin against experimental rickettsial and iral infections, by S. C. Wong and H. R. Cox. Aureomycin—a new antibiotic with antirickettsial properties its effect on experimental spotted fever and epidemic typhus, by L. Anigstein and others. The treatment of lymphogranuloma venereum and granuloma inguinale in humans with ureomycin, by L. T Wright and others. Treatment of Q fever in man with ureomycin, by E. H. Lennette and others.

Note Aureomycin an antibiotic obtained from mold belonging to the streptomyces group, as first isolated at the Lederle Laboratories of the American Cyanamid Company in November 1947 These papers, which were originally presented at a conference held in July 1948 under the uspices of the New York Academy of Sciences, describe and evaluate series of experiments conducted by the authors to determine the effectiveness of ureomycin in treating arious rickettsial and iral diseases The material is addressed to research workers in the fields of medicine pharmacology and bacteriology

FLIPPIN, HARRISON F AND GEORGE M EISENBERG

Antimicrobial therapy in medical practice. Philadelphia F A Davis Company, 1955 284 p 24 cm $5 00 4230

Contents. Antimicrobial agents. Antimicrobial combinations and adjuvants. Laboratory aspects of antimicrobial therapy Complications of antimicrobial therapy and their management Diagnosis of infectious diseases. Antimicrobial therapy of specific infectious diseases. Prophylactic use of antimicrobial agents. Antimicrobial therapy—looking into the future. Appendix: Partial index of commercially available antimicrobial agents. References. Index.

Note A concise and useful manual, designed for the instruction of advanced students of medicine and the guidance of medical practitioners. It identifies the established antibiotics and sulfonamides, describes uses, dosages and complications that may ensue hen they are used therapeutically The chapter on diagnosis is a brief one and is essentially in the nature of a warning to the practitioner not to be rushed into prescribing a therapeutic agent that may modify true disease and confuse the diagnosis. More than 100 pages are devoted to the antimicrobial therapy of specific infections and diseases. In this part of the book, specific diseases are covered from the standpoint of the use of antimicrobial agents in their therapy The physician is told also hen the effectiveness of such agents has not been established, as in treating the common cold. The list of references is a selected but moderately extensive one. The uthors are members of the faculty of the Graduate School of Medicine of the University of Pennsylvania.

GRIFFITH, JOHN Q , JR., AND OTHERS

Rutin and related flavonoids chemistry, pharmacology, clinical applications. By John Q Griffith, jr Charles F Krewson and Joseph Naghski Easton Pa. Mack Publishing Company, 1955 275 p illus. (part col'd) 23 cm $7 50 4231

Contents Introduction. The chemistry of rutin and the technology of its manufacture. General physiology involved in vascular fault. Capillary permeability and movement of lymph. Capillary fragility The pharmacology of rutin and related flavonoids. Evaluation of flavonoids in radiation injury Incidence of capillary fault and effect of rutin therapy The use of mortality statistics in the evaluation of therapy Effect of rutin therapy on mortality The physiology and treatment of retinal hemorrhage Clinical applications of rutin in other vascular abnormalities. Preparation and clinical applications of quercetin. Bibliography Index.

Note A comprehensive though not an exhaustive review of clinical experience with rutin to approximately the close of 1953, together with information on the chemistry and production of the substance, a review of the literature on some other flavonoids, and a chapter reporting the results of preliminary studies on quercetin. It is based both on the authors' extensive work in the field and upon the published ork of others. The bibliography includes 800 citations.

GROLLMAN, ARTHUR

Pharamacology and therapeutics a text book for students and practitioners of medi cine. Second edition, revised and enlarged. 127 illustrations Philadelphia Lea and Fe biger, 1954 866 p illus 24 cm 4232

Contents. Introduction. General anesthetics. The aliphatic alcohols. Morphine and other opium alkaloids. Analgesics and antipyretics. Hypnotics and sedatives. Analeptics or antiepileptics. Stimulants of the central nervous system. Drugs acting on autonomic effector cells. Epinephrine and other drugs stimulating structures innervated by adrenergic nerves. Drugs inhibiting structures innervated by adrenergic nerves. Drugs stimulating structures innervated by cholinergic nerves. Depressants of the postganglionic cholinergic nerves. Drugs inhibiting autonomic ganglia and skeletal muscles. Histamine and antihistaminic compounds. Local and regional anesthetics. Drugs acting primarily on the cardiovascular system. Drugs acting primarily on the gastrointestinal tract. Drugs acting primarily on the kidney—diuretics. Chemotherapy The sulfonamides and related compounds. The antibiotics. Quinine and other antimalarials. Local anti-infectives and other drugs characterized chiefly by their local action The hormones and drugs acting on the endocrine organs The vitamins. Drugs acting on the blood and hematopoietic system. Water and other non-metallic compounds. The metalloids—Arsenic, antimony and bismuth. The heavy metals. Vaccines, sera and miscellaneous biologicals. Appendix A, Prescription riting Appendix B, Classification of drugs according to their therapeutic uses. Index.

Note A modern work in hich the great advances of chemotherapy in recent years are adequately reflected. As is common in books of this kind, most of the space is devoted to discussions and descriptions of groups of drugs and of specific drugs. In general, the information given on each drug includes the chemical name, structural formula (when known) physiological action, therapeutic uses, dosage and methods of administration. Selected literature references are given throughout. The first edition as published

in 1951. The organization of this second edition is the same, but numerous revisions have been made, most of them to include descriptions of new drugs. A selection of literature published since the first edition was written has been added to the bibliography. The author ... Chairman of the Department of Experimental Medicine of the Southwestern Medical School of the University of Texas. A new edition was scheduled for publication early in 1958.

GROVE, DONALD C AND WILLIAM A. RANDALL

Assay methods of antibiotics a laboratory manual. New York Medical Encyclopedia, Inc., 1955 238 p. illus. 23 cm. (Antibiotics monographs no. 2 Under the editorial direction of Henry Welch and Félix Martí Ibáñez) $5.00. 4233

Contents (abridged) Penicillin. Streptomycin and dihydrostreptomycin. The tetracyclines (chlortetracycline, oxytetracycline, and tetracycline) Chloramphenicol Bacitracin Tyrothricin. Polymyxin. Neomycin. Erythromycin Carbomycin. Viomycin Fumagillin. [illegible] Anisomycin. Assay of mixtures of antibiotics in pharmaceutical dosage forms. Identification of the antibiotics: Qualitative tests. Ultraviolet absorption spectra. Infrared absorption spectra. Optical rotations of antibiotics. Optical-crystallographic method for the identification of crystalline antibiotics. Tests for toxicity, pyrogens, histamine, and sterility. Methods for the determination of bacterial susceptibility to antibiotics. Miscellaneous tests and methods. Media, solutions, reagents, and apparatus. References. Index.

Note: The methods described in this reference book are largely those in use in the laboratories of the Food and Drug Administration of the United States Department of Health, Education and Welfare. Methods for the assay of all antibiotics in commercial production in the United States of America when the book was written are included. Several methods are described for each antibiotic, and for the most important, such as penicillin, microbiologic assay methods, chemical methods for the assay of bulk and pharmaceutical dosage forms, and methods for determination of the substance in body fluids and other materials, such as blood, tissue and milk, are included. Laboratory procedures are described explicitly and in adequate detail for the guidance of experienced technicians. Inclusion of methods for the assay of pharmaceutical dosage forms ... noteworthy.

HUSSAR, ALLEN E. AND HOWARD L. HOLLEY

Antibiotics and antibiotic therapy a clinical manual. New York The Macmillan Company 1954 475 p. 21 cm. $6.00. 4234

Contents (abridged) Part I, The fundamentals of antibiotic therapy Mode of action of antibiotics. Antimicrobial spectrum. Indications for use of antibiotics. Complications of antibiotic therapy Combinations of antibiotics. The causes of therapeutic failure. Part II, General description of the antibiotics in clinical use. Penicillin. Streptomycin Aureomycin Terramycin Tetracycline. Chloramphenicol Bacitracin Polymyxin Neomycin Tyrocin Erythromycin. Carbomycin. Part III, The drug of choice: Bacterial infections and diseases. Rickettsial infections and diseases. Parasitic infections and diseases. Infections in the specialized fields—pediatrics—surgery—obstetrics—otolaryngology—ophthalmology [illegible] dentistry. Subject index.

Note: A comprehensive and useful reference book addressed to general practitioners of medicine. The principles of antibiotic therapy are concisely stated in the first part, which is only 14 pages long but contains a selected bibliography of 134 references. About 150 pages are devoted to essays on the individual antibiotics. In these essays information is provided on such matters as the antimicrobial activity of the specific antibiotic, acquired resistance to it on the part of bacteria; absorption, excretion, and blood levels, side reactions; preparations and dosage, and literature references. The third part on the choice of drugs is 170 pages long, and is specifically designed to aid medical practitioners in the choice of antibiotics for specific uses. Well selected bibliographies are included in this part also.

INTERNATIONAL CONFERENCE ON VENOMS

Venoms papers presented at the First International Conference on Venoms December 27–30 1954 at the annual meeting of the American Association for the Advancement of Science Berkeley California. Edited by Eleanor E. Buckley and Nandor Porges. Washington, D C American Association for the Advancement of Science 1956 467 p. illus. 24 cm. $9.50 4235

Note: Fifty-one papers contributed by more than 80 scientists from many nations, including the United States of America, are contained in this publication. The individual papers range in scope from a clinical account of a single case of venomous poisoning to reports of extensive research investigations on the biochemistry and modes of action of specific venoms. The volume contains some information on the venoms of most of the known poisonous animals of the world. A very detailed subject index has been included, thus facilitating its use for reference.

JENKINS, GLENN LLEWELLYN AND WALTER H. HARTUNG

The chemistry of organic medicinal products. Third edition. New York John Wiley & Sons, Inc., 1950 745 p. illus. 24 cm. 4236

Contents. Hydrocarbons. Halogenated hydrocarbons. Hydroxyl derivatives of hydrocarbons. Ethers and other peroxides. Carbonyl group. Carboxyl group. Natural mixtures. Amines and amino derivatives. Cyanides and nitro compounds. Sulfur compounds. Compounds of phosphorus, arsenic, and antimony. Metallic derivatives of organic compounds. Heterocycles containing one heteroatom. Heterocycles containing two or more heteroatoms. Stereoisomerism. Some physico-chemical properties of medicinal products. General bibliography. Index.

Note: An introductory but fairly substantial survey. The organization of the book and much of the discussion are based on the chemical aspects rather than the medical. Usually the material on a substance or product includes its chemical history, one or more structural diagrams, and descriptions of the important methods of synthesis. However physiological reactions and medical uses also are mentioned. In this edition many sections, particularly those on the antibiotics, the antimalarials, the antihistamines, and enzymes, have been rewritten in line with recent advances. Also, there have been extensive changes in the bibliographical footnotes and some additions to the general bibliography. In addition to its use as a text for college students of organic chemistry, medicine, pharmacology etc., the book has some value as reference material. A fourth edition was published in 1957. 569 p., $10.75.

KAREL, LEONARD AND ELIZABETH SPENCER ROACH compilers

A dictionary of antibiosis. New York Columbia University Press 1951 373 p. 25 cm. $8.50. 4237

Note: A reference book of comprehensive scope within its field. It includes not only the names of fungi and other plants from which antibiotic substances have been derived but also the names of those that have been tested, the names of organisms (mostly bacteria) used in tests, and the names of antibiotic substances. Most entries are short and serve only to define the term and provide a literature reference. However, articles of considerable length are included for the successful antibiotics. The article on streptomycin, for instance, runs to eight columns and covers a wide range of chemical and clinical information. There is an extensive bibliography of the international literature.

KAYE, SIDNEY

Handbook of emergency toxicology a guide for the identification, diagnosis and treatment of poisoning Springfield Ill. Charles C Thomas, 1954 303 p. 23 cm. (American lecture series. Publication no. 214 A monograph in the Bannerstone division of American lectures in public protection edited by LeMoyne Snyder and others) $5.75 4238

Contents: Section I, Introduction. Symptoms and signs. Antidotes. Analysis. Evaluation and interpretation of analytical results. Section II, Commercial sources of poisons. Poisons generally found in household articles. Section III, Alphabetical listing of poisons. Index.

Note. The title of this book accurately indicates its purpose. It is designed for reference use by practitioners of medicine, technicians in diagnostic laboratories, law enforcement officers and others who may be called upon to treat victims of poisoning or to identify poisons. The first two sections, which contain tabulations of symptoms and signs, antidotes, a list of commercial and household products containing poisons, and other matters as noted above, occupy the first 72 pages. The remainder of the volume except the few pages occupied by the index is devoted to the alphabetical listing of poisons. In this section a variety of substances are described individually as to chemical composition, synonyms, uses, physical and chemical properties, minimum lethal dose, symptoms, identification and treatment. The author is Toxicologist in the Office of the Chief Medical Examiner of the Commonwealth of Virginia.

KRANTZ, JOHN C, JR., AND C JELLEFF CARR

The pharmacologic principles of medical practice, a textbook on pharmacology and therapeutics for medical students physicians and the members of the professions allied to medicine. Third edition. Baltimore The Williams & Wilkins Company, 1954 1,183 p illus. 24 cm. 4239

Contents (abridged) Part I, The history of pharmacology pharmacologic principles, and an introduction to drugs The scope of pharmacology The nature and source of drugs. The dosage forms of drugs. Drug control—the Pharmacopeia and other compendia. The prescription. General pharmacologic principles and the response of cells to drugs. Part II, The anti-infective drugs The chemotherapy of malaria. Response of bacteria to antibiotics. The use of drugs in the treatment of syphilis. The chemotherapy of tuberculosis. The chemotherapy of infectious tropical diseases. The chemotherapy of amebiasis. The use of drugs in helminthiasis. Part III, The response of the skin and mucous membranes to drugs. Part IV The response of the central nervous system to drugs. Part V The response of the autonomic nervous system to drugs. Part VI, The pharmacologic response of the heart and circulation. Part VII, The pharmacologic response of the reproductive system. Part VIII, Effect of pharmacologic agents on metabolism. Part IX, Miscellaneous Therapeutic aids. Dietary adjuvants. Index.

Note. A standard textbook, the first edition of which was published in 1949 and the second edition in 1951 Principles of pharmacology and therapeutics are emphasized, but as is common in such books, most of the space is devoted to concise discussions of individual drugs. In these the properties and chemical structure of the drug are first described, then the physiologic effects on blood pressure, respiration, muscles, gastrointestinal tract, metabolic processes, are described. Finally the fate of the drug in the body its toxicology and its uses in medicine are covered. The authors are members of the faculty of the School of Medicine of the University of Maryland. In preparing the third edition, the organization and scope of the book were not changed, but one chapter was deleted, one added, and many revisions and augmentations made in those carried over. Most of the changes are concerned with drugs developed since the second edition was written. The information on preparations and dosages is also a new addition, and selected references to recent literature have been added to the bibliographies. The fourth edition was published early in 1958, 1,318 p., $14.00.

LUKENS FRANCIS D W, editor

Medical uses of cortisone including hydrocortisone and corticotropin New York The Blakiston Division The McGraw Hill Book Company Inc, 1954 534 p illus 24 cm. $7 50 4240

Contents Physiology of the adrenal cortex, by J A. Russell and A. E. Wilhelmi. Pharmacologic aspects of adrenocortical hormones in man, and their effects in adrenal insufficiency by G. W Thorn and others. Rheumatoid arthritis and other rheumatic or articular diseases, by P S Hench and L E Ward Rheumatic fever by J. L. Bunim. Other collagen diseases, by G. Baehr and M. F Levitt. Asthma and rhinitis, by B Rose. Allergic reactions to therapeutic agents, by A. M. Harvey Diseases affecting the skin, by D M. Pillsbury and F Urbach. Granulomas—pulmonary granulomatoses, pulmonary fibrosis, other pulmonary conditions, by D W Richards and J H. McClement. Infections, by C. S. Keefer Eye diseases, by T E. Machella. Blood diseases and malignancy by F H. Bethell. Diseases of the kidney by J. A. Luetscher Jr Neuropsychiatric disorders, by S. Cobb and others. Index.

Note. A survey written approximately five years after the announcement of the discovery of the anti-inflammatory effects of cortisone. It is composed of the 15 chapters whose authors and titles are given above. Some of the chapters are essentially critical summaries of the literature with all important statements keyed to citations of the source articles. In contrast, others are based largely on the clinical experience of the author or authors. The book is compactly written, and a wide range of information is included. There is a very detailed subject index, but no author index.

MANSKE, R H F, AND H. L. HOLMES, editors

The alkaloids, chemistry and physiology New York Academic Press, Inc., 1950–55. 5 v illus. 23 cm Vol I–II, $14 50 per vol., vol. III, $11 00, Vol. IV, $8.50 vol. V, $9.50. 4241

Contents Volume I Sources of alkaloids and their isolation, by R. H. F Manske. Alkaloids in the plant, by W O. James. The pyrrolidine alkaloids, by L. Marion. Senecio alkaloids, by N. J. Leonard. The pyridine alkaloids, by L. Marion. The chemistry of the tropane alkaloids, by H. L. Holmes. The strychnos alkaloids, by H. L. Holmes. Author index. Subject index. Volume II: The morphine alkaloids I, by H. L. Holmes—II, by H. L. Holmes and (in part) G. Stork. Sinomenine by H. L. Holmes. Colchicine, by J W Cook and J. D London. Alkaloids of the amaryllidaceae, by J W Cook and J. D. London. Acridine alkaloids, by J. R. Price. The indole alkaloids, by L. Marion. The erythrina alkaloids, by L. Marion. The strychnos alkaloids, Part II, by H. L. Holmes. Author index. Subject index. Volume III The chemistry of the cinchona alkaloids, by R. B. Turner and R. B. Woodward. Quinoline alkaloids, other than those of cinchona, by H. T Openshaw The quinazoline alkaloids, by H. T Openshaw Lupin alkaloids, by N J Leonard. The imidazole alkaloids, by A. R. Battersby and H. T Openshaw The chemistry of solanum and veratrum alkaloids, by V Prelog and O. Jeger β-phenethylamines, by L. Reti. Ephedra bases, by L. Reti. The ipecac alkaloids, by M. Janot. Author index. Subject index. Volume IV The biosynthesis of isoquinolines, by R. H. F Manske. Simple isoquinoline alkaloids, by L. Reti. Cactus alkaloids, by L. Reti. The benzylisoquinoline alkaloids, by A. Burger The protoberberine alkaloids, by R. H. F Manske and W R. Ashford. The aporphine alkaloids, by R. H. Manske. The protopine alkaloids, by R. H. F Manske. Phthalideisoquinoline alkaloids, by J Stanek and R. H. Manske. Bisbenzylisoquinoline alkaloids, by M. Kulka. The cularine alkaloids, by R. H. F Manske. α-naphthaphenanthridine alkaloids, by R. H. F Manske. The erythrophleum alkaloids, by G. Dalma. The aconitum and delphinium alkaloids, by E. S. Stern. Author index. Subject index. Volume V Pharmacology Narcotics and analgesics, by H. Krueger. Cardioactive alkaloids, by E. L. McCawley Respiratory stimulants, by M. J Dallemagne and C. Heymans. Antimalarials, by L. H. Schmidt. Uterine stimulants, by A. K. Reynolds. Alkaloids as local anesthetics, by T P Carney Pressor alkaloids, by K. K. Chen. Mydriatic alkaloids, by H. R. Ing. Curare-like effects, by L. E. Craig. The lycopodium alkaloids, by R. H. F Manske. Minor alkaloids of unknown structure, by R. H. F Manske. Author index. Subject index. Volumes I–IV

Note An exhaustive organization of the accumulated knowledge on the alkaloids. In compact text and numerous tables, it presents in the first four volumes the information on the chemical structures and properties of this large group of substances that is of interest generally to chemists, biochemists and specialists in pharmacology. In the fifth volume—which may be used independently of the other volumes—the pharmacological aspects are dealt with specifically. Here, the approach is from the standpoint of physiological actions rather than chemical structure. Extensive literature lists are a feature of each chapter in all of the volumes. Separate author indexes to the literature citations are included in each volume, and no combined author index is provided. However the two subject indexes in the fifth volume when used together provide a subject key to the entire set.

MARTIN, GUSTAV J

Biological antagonism the theory of biological relativity New York McGraw Hill

Medicine

Pharmacology and Toxicology

Book Company Inc., 1951 516 p. illus. 24 cm. $8.50. 4242

Contents: Enzymatic inhibition by chemicals structurally related to the natural substrate. Pharmacological aspects. Sulfonamides, p-aminobenzoic acid, folic acid. Amino acid analogues, general. Methionine analogues. Tryptophan analogues. Phenylalanine-tyrosine analogues. Glutamic and aspartic acid analogues. Arginine, lysine, and histidine analogues. Proteins and protein antagonists. Metabolite analogues of pantothenic acid. Metabolite analogues of pteroylglutamic acid. Metabolite analogues of thiamine and riboflavin. Metabolite analogues of pyridoxine, nicotinic acid, and biotin. Metabolite analogues of choline, inositol, and vitamin B12. Metabolite analogues of vitamins K, E, A, C, and "P". Metabolite analogues of purines and pyrimidines. Steroid and lipid antagonisms. Thyroxine displacers. Ion antagonisms. Inorganic metabolite antagonists. Miscellaneous biological antagonists. Drug resistance and bacterial adaptation. General comment and the theory of biological relativity. Index.

Note: The concept of structural displacement—which covers the world of the antigen and antibody—is known as a storehouse of chemotherapeutic agents, and this book is published as an outline guide to those concerned with further investigations in this field. Many of the chapters include one or more tables displaying the known effects of various compounds. Molecules and compounds of organic substances are diagrammed throughout. The bibliographies at the ends of the chapters average more than two pages in length. The work is of fundamental interest and value to persons concerned with biological research, especially biochemists, enzyme chemists, immunologists, and pharmacologists.

MEDICINAL CHEMISTRY A series of reviews prepared under the auspices of the Division of Medicinal Chemistry of the American Chemical Society C M Suter editor-in-chief. Volume I. New York John Wiley & Sons, Inc., 1951 473 p. illus. 24 cm. $10.00 4243

Contents: Antithyroid compounds, by G W Anderson. Antispasmodics derivatives of carboxylic acids, by R R Burtner. Anthelmintics from plants, by C J Cavallito. Benzoates and substituted benzoates as local anesthetics, by T P Carney. Analgesics: A. Arylpiperidines, by E J Fellows and G E Ullyot. B. Partial structures related to morphine, by J Lee. Index.

—— Volume II. Editors F F Blicke, C. M. Suter associate editor L. A. Woods assistant editor Harriet Geer New York John Wiley & Sons Inc., 1956 311 p. illus. 24 cm. $10.00 4244

Contents: Some chemical aspects of the cardiac glycosides, by A. Stoll. Supplement by T L Johnson. Synthetic estrogens, by J A Hogg and J Korman. Analgesics: arylpiperidine derivatives, by C M Suter. β-haloethylamine adrenergic blocking agents, chemistry and structure-activity relationships, by G E Ullyot and J F Kerwin. Index.

—— Volume III. Editors F F Blicke, R. H. Cox associate editor L. A. Woods assistant editor Harriet Geer New York John Wiley & Sons Inc., 1956 346 p. illus. 24 cm. $10.50 4245

Contents: Methadone and related analgesics, by T P Carney. Quaternary ammonium germicides, by P L de Benneville. Non-mercurial diuretics, by V Papesch and E F Schroeder. Synthetic analogs of physostigmine, by A. Stempel and J A Aeschlimann. Index.

Note: An authoritative series devoted to the publishing of lengthy monographic reviews of the accumulated knowledge pertaining to groups of chemical compounds of medicinal interest. The three volumes published so far contain the reviews whose titles and authors are listed above. In all of the volumes much information is presented in tabular form and extensive bibliographies are a prominent feature. Some of the volumes include references to patents. The series is of interest to scientists associated with pharmaceutical manufacturing, to graduate physicians, and to biochemists.

MINER ROY WALDO editor

Bioflavonoids and the capillary. Conference co-chairmen Gustav J Martin and Albert Szent Gyorgyi. Consulting editor Gustav J Martin. New York Published by the Academy 1955 637–736 p. illus. (part col'd) 22 cm. (New York Academy of Sciences. Annals. Vol 61 art. 3) $3.00 4246

Contents: Part I. Laboratory studies. Chemistry of bioflavonoids, by W E Baker. Biochemistry of the bioflavonoids, by G. J Martin. Estrogenic activity of some naturally occurring isoflavones, by E. W Cheng and others. Responses of the flavonoids, by F Moreno. Anatomical and functional change in the peripheral vascular system during certain induced increases in vascular fragility, by R. E. Lee and others. Structural makeup of capillary wall, by B. W Zweifach. The role of the flavonoids in coumarin anticoagulant therapy, by C. E. Bramhall. Part II. Clinical studies. Rheumatic fever—observations on the histogenesis, pathogenesis, and use of ascorbic acid and bioflavonoids, by J. F Rinehart. Decidual bleeding in pregnancy, by C. T Javert. The management of habitual abortion, by R. B. Greenblatt. A stimulus for the use of hesperidin and ascorbic acid in the management of purpura, by G. J Boines. Summary of the clinical aspects of bioflavonoids and ascorbic acid, by J B Youmans. Perspective for the bioflavonoids, by A. Szent-Gyorgyi.

Note: Papers originally presented at a conference held by the Section of Biology of the New York Academy of Sciences in February 1955, are published in this monograph and are listed by author and title above. Literature references are included in all of the papers and transcripts of discussion for most of them. The terminal article is a survey of the state of knowledge of the bioflavonoids and ascorbic acid and a summary of the conference. Among the conclusions in this summary is the following: "We might agree that there is evidence, not conclusive but suggestive, and suggestive in varying degrees, that these substances do have some beneficial results in the case of clinical medicine but I think we need additional research, additional indexes involving some of the other chemical and biochemical actions which have been described here to be applied in the case of clinical tests, so that we can come out with a more clear-cut understanding of the action and mechanism of these substances."

MINER ROY WALDO editor

Paul Ehrlich centennial. Conference co-chairmen R. J Schnitzer and E. Grunberg. Consulting editor E. Grunberg New York Published by the Academy 1954 141–276 p. illus. 22 cm. (New York Academy of Sciences. Annals. Vol. 59 art. 2) $3.00 4247

Contents: Portrait busts of Paul Ehrlich and Emil von Behring. Opening remarks, by J A. Aeschlimann. Address and presentation of busts of Paul Ehrlich and Emil von Behring, by H. L. Kretchler. Introductory remarks, by E. Grunberg. Paul Ehrlich's influence on chemistry and biochemistry, by H Bauer. Ehrlich's side-chain theory in the light of present immunology, by E. Witebsky. Ehrlich and problems of immunity, by B Schick. Paul Ehrlich and the cancer problem, by C P Rhoads. The chemotherapy of trypanosome infections, by C H. Browning. Chemotherapy of spirochetal infections, by J A Kolmer. Chemotherapy of bacterial infections, by R J Schnitzer. Drug resistance, by H. Eagle. Vital staining, by N C. Foot. Blood morphology, by P Reznikoff.

Note: Papers originally presented at a conference held in honor of the centennial of the birth of Paul Ehrlich by the Section of Biology of The New York Academy of Sciences in March, 1954, are contained in this publication. In addition to stressing the importance of Ehrlich's work, they present a picture of the current state of chemotherapy. Literature references are included in some of them.

MINER ROY WALDO editor

Tissue culture technique in pharmacology. Conference co-chairmen C. M. Pomerat and Elmer L. Severinghaus. Consulting editor C. M Pomerat. New York New York Academy of Sciences, 1954 971–1326 p. illus. 22

cm. (New York Academy of Sciences. Annals Vol 58, art. 7) $4 50 4248

Contents Introduction—tissue culture, past, present, and future, by M J Kopac. Part I, Pure strain, long-term and mass culture methods commercial and synthetic media virology Responses of a variety of normal and malignant cells to continuous cultivation and some practical applications of these responses to problems in the biology of disease, by G. O Gey and others. Certain factors limiting the size of the tissue culture and the development of massive cultures, by W R. Earle and others. Studies of certain defined media for testing proliferation in replicate tissue cultures, by V J Evans and others. Chemically defined synthetic nutrients for tissue cultures for pharmacological studies, by P R. White and C. Waymouth. The certification of commercial culture media, by K. R. Porter Growth of cells in agitated fluid medium, by O von H. Owens and others. The application of mammalian cells in continuous culture for assays in virology by J T Syverton and W F Scherer The application of tissue cultures to the preparation and assay of viral antibodies, by J. F Enders. Drug action on cells *in vitro* (exhibition of a motion picture) by R. Lettré. Activities and responses of living cells and their components as recorded by cinephase microscopy and electron microscopy by G. O. Gey and others. Part II, Special assay technique comparison between *in vitro* and *in vivo* results Short term cultures for drug assays—general considerations, by C. M. Pomerat and C. D Leake. Assay of carcinolytic and carcinostatic agents, by J J Biesele. Metabolic and chemotherapeutic investigation of human glioblastoma *in vitro*, by M. R. Murray and others. A comparison of *in vivo* and *in vitro* tests for antineoplastic activity of eight compounds, by P A. Eichorn and others.

Note. Papers prepared for a conference held by the Section of Biology of the New York Academy of Sciences and the Tissue Culture Association in January 1954 have been published in this volume and are listed by author and title above.

National Academy of Sciences

The chemistry of penicillin. Report on a collaborative investigation by American and British chemists under the joint sponsorship of the Office of Scientific Research and Development, Washington D C, and the Medical Research Council, London Compiled under the auspices of the National Academy of Sciences, Washington D C pursuant to a contract with the Office of Scientific Research and Development. Princeton Princeton University Press, 1949 1 094 p illus. 28 cm $36 00 4249

Contents (abridged) Brief history of the chemical study of penicillin, by H T Clarke and others. Isolation and characterization of the various penicillins, by O. Wintersteiner and others. Penillic acids and penillamines, by A. H. Cook. Desthiobenzylpenicillin and other hydrogenolysis products of benzylpenicillin, by E. Kaczka and K. Folkers. The thiocyanate derivative of benzylpenicillin methyl ester by V du Vigneaud and D B Melville. The X-ray crystallographic investigation of the structure of penicillin, by D Crowfoot and others. Infrared spectroscopic studies on the structure of penicillin, by H. W Thompson and others. The constitution of penicillins, by J R. Johnson and others. Penicillamine, its analogs and homologs, by H. M. Crooks Penilloaldehydes and penaldic acids, by E. V Brown Biosynthesis of penicillins, by O. K. Behrens. Chemical modifications of natural penicillins, by R. D Coghill and others. Oxazoles and oxazolones, by J W Cornforth. Attempted syntheses of penicillins, by W E. Bachmann and M. W Cronyn. Methyl benzylpseudopenicillinate, by J H. Hunter and others. Thiazolidines, by A. H. Cook and I. M Heilbron. The chemistry of β-lactams, by S. A. Ballard and others. Synthetic benzylpenicillin by V du Vigneaud and others Assay of penicillins, by J V Scudi and H. B. Woodruff. Appendix. Subject index.

Note. A comprehensive survey of the results of an international effort during World War II and later to ascertain the chemical formula of penicillin, and to synthesize it in the laboratory Thirty-nine British and American scientific groups participated in the effort, and some hundreds of progress reports were issued for the information of all participants while the research was going on This book is based on these progress reports. However instead of reprinting the reports, they have been used as the basis of the 29 chapters of the present work. Aside from its major and fundamental significance in chemotherapy the work is a monument to large-scale international collaboration on a scientific problem such as had never been attempted before. It was edited by H T Clarke.

National Research Council. Chemical Biological Coordination Center

First symposium on chemical biological correlation, May 26–27, 1950 sponsored by the Chemical Biological Coordination Center of the National Research Council. Washington, D C. National Academy of Sciences—National Research Council 1951 415 p. illus. 25 cm (National Research Council. Publication 206) $4.00 4250

Contents Welcome, by D W Bronk. Correlations between the chemical structure and biological activity of arsenobenzenes, by G. O. Doak and H. Eagle. Structure—activity relationships in plant growth-regulators, by A. G. Norman and R. L. Weintraub. Review of the structural requirements for sympathomimetic drug action, by A. M. Lands. Organization, objectives, and program of the CBCC, by W R. Kirner The National Research Council chemical code, by H. A. Geer The biological codes, by R. L. Beard. Demonstration of machine biochemorphology correlation of antihistaminic activity and chemical structure by means of the National Research Council Chemical-Biology Coordination Center IBM punch cards, by D F Marsh. A demonstration of the use of the CBCC system in the field of antithyroid compounds, by G. W Anderson. Panel discussion on antimalarials (R. C. Elderfield, moderator) The biological basis for antimalarial tests, by R. J Porter Structure of 4-aminoquinolines in relation to antimalarial activity in avian infections, by R. J Porter Structural types tested for curative activity against lepturus malaria in the chick, by A. M. Moore. The relations between chemical structure and toxicity among the 8-aminoquinolines, by L. H. Schmidt. Primaquine, S N 13 272 a new curative agent in vivax malaria. A preliminary report, by A. S. Alving, et al. 5-aryloxy-2,4-diaminopyrimidines as antimalarials, by G. H. Hitchings and others. Relation of structure of diphenyl compounds to fungistaticity by J. G. Horsfall and others. Effect of structural changes in plant insecticides and related synthetic compounds on their toxicity to insects, by H. L. Haller. The effect of drugs on physiologically active thiol systems, by M. Schubert. Influence of isosteric replacements upon biological activity by H. L. Friedman. Panel discussion on antimetabolites, carcinogenesis, and cancer chemotherapy (M. J. Shear moderator) Antimetabolites, by D. W Woolley Chemical-biological correlation in the field of carcinogenesis, by I. Berenblum. A consideration of chemical-biological correlation in experimental cancer chemotherapy, by C. C. Stock. Antimetabolites, by B. D Davis. Carcinogenesis, by H. P Rusch. Cancer chemotherapy by R. B. Angier Cancer chemotherapy by S. Farber Antimetabolites as chemotherapeutic agents, by G. H. Hitchings. Carcinogenesis, by A. M. Seligman. Cancer chemotherapy by A. Gellhorn. Purines and pyrimidines in experimental cancer chemotherapy by A. Gellhorn. Carcinogenesis, by W C. Hueper Cancer chemotherapy by K. Dobriner Cancer chemotherapy by J. H. Burchenal. Cancer chemotherapy by E. R. Schoenbach. Cancer chemotherapy by A. D. Welch. Cancer chemotherapy by F S. Phillips.

Note. The papers printed in this volume were presented by chemists and biologists at a symposium concerned with the effect of the structure of chemicals on their biological activity and the mechanisms of such activity They are accompanied by transcriptions of the discussions at the meeting.

New York Academy of Medicine. Section on Microbiology

Evaluation of chemotherapeutic agents. Symposium held at the New York Academy of Medicine March 25 and 26 1948 Edited by Colin M MacLeod. New York Columbia University Press 1949 205 p. illus. 23 cm. $4 00 4251

Contents. Foreword, by G Shwartzman. Introduction, by C. M. MacLeod. The significance of drug concentration in the blood, as applied to chemotherapy by E. K. Marshall, Jr Blood levels, renal clearance, and chemotherapeutic activity with particular reference to arsenicals and penicillin, by H. Eagle. The binding of chemotherapeutic agents to proteins and its effect on their distribution and activity by B D. Davis. The problem of microbial resistance to chemotherapeutic agents, by H. E Alexander Defense mechanisms of the host in relation to chemotherapy of acute bacterial infections, by W B. Wood, Jr The nature of the lesion and the response to

antimicrobial therapy, by W. McDermott. Trimethoprim-sulfa [illegible] therapy of bacterial and tumor infections, by E. K. Sanders and J. [illegible] Lockwood. Chemoprophylaxis of streptococcal infections and of bacillary dysentery, by F. B. Cheever. An evaluation of chemoprophylaxis of streptococcal infections, by A. T. Wilson. Evaluation of antimicrobial drugs, by J. A. Bauman. The chemotherapy of the [illegible] diseases, by J. F. Fox. Chemotherapy of viral infections, by F. L. Horsfall, Jr., and H. S. Ginsberg. The experimental evaluation of chemotherapeutic agents in cancer, by C. C. Stock and C. P. Rhoads. The clinical evaluation of chemotherapeutic agents in cancer, by D. A. Karnofsky and J. H. Burchenal.

Note: A collection of original papers prepared for the symposium named in the book title. The symposium was planned as a general evaluation of chemotherapeutic drugs and as a general presentation of evaluatory techniques in relation to particular groups of diseases. No attempt was made to assess the value of specific substances, for example, penicillin. The papers are addressed to graduate workers in fields concerned with chemotherapeutic agents, particularly medicine. Each paper is accompanied by literature references. There is no index to the volume.

OLDHAM FRANCES K., AND OTHERS

Essentials of pharmacology by Frances K. Oldham, F. E. Kelsey and E. M. K. Geiling. Third edition. Philadelphia J B Lippincott Company 1955 520 p. illus. 21 cm. $6.00. 4252

Contents: Historical development of pharmacology. General principles of pharmacology. Control and dispensing of drugs. Administration of drugs. General anesthetics. Regional anesthetics. Hypnotics and sedatives. Antipyretic analgesics. Morphine and allied drugs. Central nervous system stimulants. Autonomic drugs. Histamine and antihistamine drugs. Heart drugs. Diuretics. Blood, blood derivatives and blood substitutes. Drugs affecting the blood and the blood-forming organs. Oxytocics. Endocrines. Drugs affecting the gastro-intestinal tract. Vitamins. Diagnostic agents. Local anti-infectives. Anthelmintics. Amebicides. Antimalarial drugs. Antimony compounds. Antitrypanosomal drugs. Sulfonamides. Antibiotics. Chemotherapy of tuberculosis and leprosy. Index.

Note: An established, introductory textbook. Directed primarily to students of medical sciences. It is not encyclopedic, but does provide adequate discussion for the intended readers of the general principles of pharmacology and the administration of drugs, together with descriptive surveys of the chief classes of substances of pharmaceutical interest—those named in the above chapter titles. In the discussions of the individual drugs date of discovery and mode of discovery, physiological action, method of administration, side effects and toxicity are the chief points covered. Classified literature references are included in all of the chapters.

PRATT ROBERTSON AND JEAN DUFRENOY

Antibiotics. Second edition. 87 illustrations including one plate in full color Philadelphia J. B. Lippincott Company 1953 398 p. illus. (part col'd) 24 cm. $7.50. 4253

Contents: Part I, Fundamental aspects: Antibiotic spectra. Biologic significance of fields of diffusion. Antibiotics and chemotherapy. Part II, Industrial aspects: Industrial production of antibiotics. Screening and assaying. Part III, Applied aspects: Penicillin. Bacitracin, subtilin and tyrothricin. Streptomycin. Viomycin, neomycin and polymyxin. Chloromycetin, aureomycin and terramycin. Erythromycin and carbomycin. Mixed antibiotic therapy. Antibiotics in dental practice and oral surgery. Antibiotics in agriculture. Part IV, Modification of biologic and neural systems: Emergence of resistant strains of micro-organisms. Mechanisms of antibiotic action. Some social and economic aspects of antibiotics. Appendices: Antimicrobial substances from chlorophyllous plants and from animals. Schematized structures of selected antibiotics derived from micro-organisms. Index.

Note: Matters such as criteria for identification of antibiotics, the concept of antibiotic spectra, and the chemistry, properties and uses of the many important antibiotic substances are given prominence in this book. Lists of suggested reading are included in most of the chapters. The book is used as a text in schools of pharmacy and is potentially useful also to any reader with a background in chemistry and biology who is in need of a broad introduction to the field. The first edition was published in 1949. Five new chapters were added in this second edition. New information was added in most of those carried over, and the book was reorganized.

PRATT ROBERTSON, AND HEBER W YOUNGKEN JR.

Pharmacognosy the study of natural drug substances and certain allied products. Second edition. 70 illustrations, including 3 plates in full color Philadelphia J B Lippincott Company 1956 694 p. illus. (part col'd) 24 cm. $10.00. 4254

Contents: Part I, Fundamentals: Sources and uses of natural drug products. Biosynthesis as the source of drugs. Part II, Biosynthetic drugs: Biosynthetic drugs affecting the skin and the mucous membranes. Biosynthetic drugs directly affecting the gastrointestinal tract. Biosynthetic drugs producing systemic effects on the muscle and the nervous systems. Biosynthetic drugs affecting components of the circulatory system. Biosynthetic drugs used chemotherapeutically for the treatment of infectious diseases. Biosynthetic products used for diagnosis, prophylaxis, and therapy in specific nonnutritional disorders. Part III, Practices and procedures: Production of crude drug materials. Preservation and protection of crude drugs. Evaluation of crude drugs. Part IV, Pest and weed control, problems in public health: The problem. The control of insects—of rodents—of fungi, weeds, and other pests. Appendix: Common poisonous plants and animals. Index.

Note: An introductory textbook for undergraduate students of pharmacy. It is concerned with drug materials which are biologic in origin, and it deals with their chemical, physical, and physiological properties, and with their evaluation and applications in medicine and public health. Most of the space is given to descriptions of classes of drugs and specific drugs. This information is always presented against a background of basic biochemistry and is related to applications not only in medicine but also in the control of insects, fungi, etc., as noted in the above contents. The last-mentioned topics are included because of their relation to public health. The first edition was published in 1951. In comparison, the second edition contains a considerable range of additional information on new drugs and on the mechanisms of their actions. In addition, there has been some reorganization of the material, and a selection of the literature published since the first edition was written has been added to the bibliography.

SALTER, WILLIAM THOMAS

A textbook of pharmacology principles and application of pharmacology to the practice of medicine. Philadelphia W B Saunders Company 1952 1,240 p. illus. 26 cm. $15.00. 4255

Contents (abridged): Part I, General principles of pharmacology. Part II, Drug action on physiological mechanisms: Section I, The relief of pain and sensory disturbances. Section II, General anesthesia. Section III, Convulsions and coma. Section IV, Drugs acting on the circulation. Section V, Endocrine and vitamin regulation. Section VI, The autonomic nervous system. Part III, The application of drugs in clinical medicine: Section VII, Drugs and body systems. Section VIII, Toxic substances of industrial and hygienic origin. Section IX, Chemotherapeutic and chemoprophylactic agents. Part IV, Toxicology. Epilogue. Index.

Note: The material in this text has been judiciously selected from the standpoint of what is valuable to present-day medical students and practitioners. Nevertheless, the book is a large one with about 830,000 words of text. Information is included on background aspects, such as the development of pharmacological knowledge and the development of our knowledge of drugs, but most of the space is given to discussions of the pharmacological principles of specific drugs and groups of related drugs. In the drug descriptions, the emphasis is on physiological effects and on what becomes of the drug in the human body but information is included also on the occurrence and other properties of the drugs and on dosage. Most of the chapters contain an introductory section on [illegible] problems. The chapters are supplemented by substantial reference lists.

SHILS MAURICE E., AND ROBERT S GOODHART

The flavonoids in biology and medicine a critical review New York The National Vitamin Foundation, Inc., 1956 101 p. 23 cm. (Nutrition monograph series. No. 2) $2.00. 4256

Contents (abridged) Chemistry Investigations employing experimental animals. Metabolism and toxicity of flavonoids. Clinical studies. Bibliography

Note The published literature beginning with the papers of A. Szent-Györgyi and his associates in 1936 and continuing through the literature published in 1955 on the flavonoid substances in biochemistry and medicine is concisely summarized and critically reviewed in this work. Statements in the text are referenced to the citations of the source articles in the bibliography which cites 299 publications. The results of clinical studies and animal experiments bearing on capillary fragility blood clotting, hemorrhages, inflammatory reaction, irradiation effect, etc., are all discussed. The authors state. As result of this review it is our considered opinion that there is no convincing evidence for a nutritional role of these substances. A large number of papers indicate pharmacological role for certain of the flavonoids, however the pharmacological actions are not unique and are relatively weak compared to other drugs which are available. Despite this, the possibility exists that such compounds may have clinical value in the treatment of disorders of the vascular system. Therefore, the clinical literature has been surveyed in great detail to assess the present knowledge and status. We conclude from this survey that the great number of contradictory reports and the sparsity of acceptable clinical evidence in this field place the burden of proof on those who claim therapeutic value to these substances.

SILVERMAN, MILTON

Magic in a bottle. Second edition. New York The Macmillan Company, 1948 386 p 21 cm $4.25 4257

Contents. The conquest of pain—Sertuerner and morphine. The amazing alkaloids—Pelletier and quinine. Housewife's recipe—Withering and digitalis. Blessing from hell—Koller and cocaine. Kill the germs!—Lister to Ehrlich to 205 The fever-fighters—Kolbe to aspirin. Synthetic lullaby—Fischer Von Mering, and the barbitals. Food against death—Eijkman and the vitamins. Magnificent trifles—Brown-Séquard and the hormones. The red amazon—Domagk and the sulfa-drugs. Miraculous accident—Fleming, Florey and penicillin. The devil-slayers—Locock to Lennox, and the drugs against epilepsy Atomic medicine—Becquerel, the Curies, and the atom-smashers. Bibliography Index.

Note. A readable and dramatic account of some of the achievements of chemotherapy It is intended for lay readers.

SPECTOR, WILLIAM S

Handbook of toxicology Volume I Acute toxicities of solids liquids and gases to laboratory animals Prepared under the direction of the Committee on the Handbook of Biological Data, Division of Biology and Agriculture the National Academy of Sciences the National Research Council. Philadelphia W B Saunders Company 1956 408 p. 28 cm. $7 00 4258

Contents Introduction. Abbreviations. Table I, Lethal doses of solid and liquid compounds Laboratory animals. Table II, Lethal concentrations of gases, vapors, and fumes in respired air Laboratory animals. Bibliography abbreviations. Index.

Note The first volume published of handbook scheduled for completion in five or more volumes. It presents in tabular form data on the acute toxicity for laboratory animals of wide range of chemical substances. The data have been selected from the literature and have been carefully reviewed for accuracy References to the source publications are included in the tables. Volume II of the set covering the toxicities of antibiotics was published in 1957 264 p., $6.00.

TANNENBAUM ALBERT, editor

Toxicology of uranium survey and collected papers New York McGraw Hill Book Company Inc. 1951 333 p. illus. 24 cm. (National nuclear energy series Manhattan Project technical section Division IV—Plutonium project record. Vol 23) $4 75 4259

Contents. Part A, Introduction to the toxicology of uranium. Introduction and general considerations, by A. Tannenbaum and H. Silverstone. Nature of uranium poisoning as observed in mice, by A. Tannenbaum and H. Silverstone. Factors affecting uranium poisoning, by A. Tannenbaum and H. Silverstone. Distribution in tissues and excretion of uranium, by A. Tannenbaum and H. Silverstone. Gross and microscopic pathology of uranium poisoning, by A. Tannenbaum. Biochemical effects of uranium poisoning, by S. Schwartz. The mechanism of action of uranium and the transport of uranium to the tissues, by E. S. G. Barron. Summary of experimental studies. Relation to uranium poisoning in man, by A. Tannenbaum and H. Silverstone. Part B, Collected papers. Uranium poisoning. Review of literature to 1942, by S. T Cantril and J. J Nickson. Some aspects of the toxicology of uranium compounds, by A. Tannenbaum and H. Silverstone. Failure to affect toxicity of ingested uranium chloride by dietary acid (HCl) or base ($NaHCO_3$) by A. Tannenbaum and H. Silverstone. Accumulation of uranium in the tissues of mice ingesting uranyl nitrate, by A. Tannenbaum and H. Silverstone. Relation of uranium excretion to the total amount of uranium in the mouse, by A. Tannenbaum and H. Silverstone. Studies on acquired tolerance to uranium, by A. Tannenbaum and H. Silverstone. Distribution of U^{233} in tissues of mice following injection of uranyl nitrate, by A. Tannenbaum and others. Tracer studies of the distribution and excretion of uranium in mice, rats, and dogs, by A. Tannenbaum and others. The transport of uranium to the tissues, by J. A. Muntz and E. S. G. Barron. Tissue metabolism of rats treated with uranyl nitrate, by J Meyer and others. The reversible inhibition of enzymes by uranium, by T P Singer and others. Effect of uranium on the metabolism of yeast and bacteria, by J A. Muntz and others. An introduction to the nonclassified literature dealing with biochemical studies of experimental uranium poisoning, by S. Schwartz and E. J. Katz. Uranium distribution studies, by R. J. Ferretti and S. Schwartz. The effect of uranium exposure on urinary catalase excretion, by E. J. Katz and others. Studies of porphyrin metabolism—the effect of metals on coproporphyrin excretion, by S. Schwartz and R. M. Zagrin. Index.

Note. A volume made up chiefly of reports of original investigations on the toxicology of uranium made in the course of the work on the Manhattan Project during World War II. The findings are summarized in the papers in Part I. In Part II the reports themselves are assembled. Literature references are included with the papers.

THIENES, CLINTON H., AND THOMAS J HALEY

Clinical toxicology Third edition enlarged and thoroughly revised Illustrated. Philadelphia Lea & Febiger 1955 457 p. illus. 20 cm. $6 50 4260

Contents Section I, Convulsant poisons Cerebral convulsants. Medullary excitants. Cord convulsants. Peripherally acting convulsants. Section II, Central nervous system depressants The alcohols. Toxicology of general anesthesia. Miscellaneous depressant vapors. Basal anesthetics and somnifacients. The toxicology of analgetics. Section III, Peripherally acting nerve poisons, Poisons acting on nerve trunks, ganglia and nerve endings Somatic nerves. Poisoning of nerve ends and myoneural junctions of somatic nerves. Poisons of nerves and muscles of the viscera. Section IV Muscle poisons. Smooth muscle excitants and depressants. Cardiac poisons. Section V Protoplasmic poisons Local irritants and corrosives. Poisons causing degenerative lesions of the nervous system. Liver poisons Kidney poisons. Poisoning with symptoms referable to the digestive tract. Toxicology of the lungs. Miscellaneous protoplasmic poisons. Poisons of animal origin. Section VI, Poisons of the blood and hematopoietic organs Bone-marrow erythrocyte and leucocyte poisons. Poisons affecting blood plasma. Section VII, Principles of treatment Measures to decrease absorption Elimination of absorbed poison. Physiological antagonism of poisons. General care. Section VIII, An outline of symptom diagnoses Bone charts. Section IX, Chemical diagnosis of poisoning Preservation of tissues. Special equipment essential for the toxicologist. Separation of poisons—methods of extraction of non-volatile organic poisons. Analysis of acid-ether extract Analysis of alkaline chloroform extract. Metallic poisons. Miscellaneous poisons. Appendix. Special reagents. Index.

Note Used both as text in medical colleges and as reference by general practitioners of medicine, this book provides in compact form range of clinical information about poisons. It is not cyclopedic treatment, but it covers those poisons which are most commonly encountered in practice and which give rise to distressing symptoms or death. The sections and chapter titles listed above show the arrangement. Within the chapters specific poisons are discussed as to toxic dose source and chemistry ethiology, symptoms and actions, diagnosis, prognosis, pathology treatment.

etc. The section on chemical diagnosis, that is to say identification of poisons, is over 150 pages long in this edition and is one of the major features of the book.

THIENES CLINTON H.

Fundamentals of pharmacology New York Paul B Hoeber Inc., Medical Book Department of Harper & Brothers, 1947 497 p. illus. 22 cm. (Medical students series Fred C. Zapffe, editor) $5 75. 4261

Contents (abridged) Section Stimulants of the central nervous system. Section II. Depressants of the central nervous system. Section [illegible] Drugs acting on the peripheral nervous system. Section [illegible] Drugs acting on muscles. Section [illegible] Diuretics. Section VI, Antiparasitic drugs. Section VII, Hormones, special minerals, and tissue extracts. Section VIII, Vitamins. Section IX, Drugs used because of local action on body surfaces. Section X, Chemical diagnostic agents. Section XI, Actions of drugs on cells. Section XII, Pharmacy and prescription writing. Index.

Note: A concise introduction specifically designed for students of medicine, dentistry or pharmacy and intended as an exposition of fundamental knowledge rather than an encyclopedic treatment. The greater part of the book consists of systematized and specific information on the most important drugs and preparations. The nature, uses, doses, physiological actions, including absorption, distribution, metabolism and excretion of each drug listed are described concisely but adequately.

TRELEASE, SAM FARLOW AND ORVILLE A. BEATH

Selenium its geological occurrence and its biological effects in relation to botany chemistry agriculture nutrition, and medicine. New York. Published by the authors, 1949 292 p. illus. 24 cm. $5.50 4262

Contents. History Selenium indicator plants. Distribution of selenium in rocks and soils. Accumulation of selenium by plants. Selenium poisoning in animals. Selenium in relation to public health. Prevention and control of selenium poisoning. Chemistry of selenium. Bibliography Author index. Subject index.

Note. The poisoning of cattle as a result of eating vegetation grown on seleniferous soils is a common local problem in some parts of the United States of America. The poisoning of human beings in the same way has not been so clearly established, but some cases appear in clinical literature, and there have been several area studies by public health authorities. This book is a summary of the current knowledge. A considerable part of the space is devoted to background information, such as data on plants that absorb selenium and the quantities absorbed. There is an extensive bibliography.

UNIVERSITY OF CALIFORNIA

Hospital formulary and compendium of useful information. Second edition, completely revised. *Berkeley and Los Angeles* University of California Press, 1952 317 p. 17 cm. $3 75 4263

Contents. Prescription writing and conversion tables. Sizes of prescriptions and orders. Drugs subject to Federal and state regulations. Federal and hospital schedules. Therapeutic index. Drug list. Parenteral solutions. Antiseptics. Pediatric therapeutic index and procedures. Dental formulary. Preoperative procedures. Antigens, serums and their administration. Procedure for X-ray examination. Contrast media used in radiology. Laboratory and clinical procedures. Treatment of acute poisoning. Miscellaneous tables. Index.

Note. The scope of this reference handbook is indicated by the chapter titles. Although designed primarily for the personnel of the University of California Medical Center it is potentially useful to the staff of other hospitals and also to graduate physicians practising independently. Each of the chapters is a compact arrangement of useful information. The drug list contains precise descriptions of not only drugs which are listed in the United States *Pharmacopoeia*, the *National Formulary* and *New and Non-Official Remedies*, but also of many nonofficial drugs used in this medical center. The appendix includes an index of proprietary and common drug names which are different from the official names.

VOEGTLIN CARL AND HAROLD C. HODGE editors

Pharmacology and toxicology of uranium compounds with a section on the pharmacology and toxicology of fluorine and hydrogen fluoride. New York McGraw Hill Book Company Inc., 1949 2 v. illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division VI—Vol. 1 pt. I–II) $14.25 4264

Contents: Part I, The pharmacology and toxicology of uranium compounds: The chemistry of uranium compounds, by A. L. Dounce and J. F. Flagg. Analytical methods for determining uranium and fluorine, by J. F. Flagg. Statistical methods, by D. V. Tiedeman and others. *Pathological anatomy following uranium poisoning*, by T. R. Barnett and R. G. Metcalf. Characteristics of uranium poisoning, by J. H. Wills. *Toxicity following parenteral administration* of certain soluble uranium salts, by F. Haven and H. C. Hodge. Studies of toxicity of various uranium compounds when fed to experimental animals, by E. A. Maynard and H. C. Hodge. The toxicology of compounds of uranium following application to the skin, by J. A. Orcutt. The toxicology of uranium compounds following application to the eye, by J. A. Orcutt. Toxicity following inhalation, by H. E. Stokinger and others. The distribution and excretion of uranium, by W. F. Neuman. Tolerance to uranium compounds, by F. Haven. The action of uranium on enzymes and proteins, by A. L. Dounce and T. H. Lan. Catalase as a sensitive test for uranium poisoning, by A. L. Dounce and others. The mechanism of action of uranium compounds in the animal body, by A. L. Dounce. Studies on human exposure to uranium compounds, by J. W. Howland. Part II, The pharmacology and toxicology of fluorine and hydrogen fluoride. Toxicity following inhalation of fluorine and hydrogen fluoride, by H. E. Stokinger. Appendix. Index.

Note: These volumes are based on the work of the Division of Pharmacology of the Manhattan District Project which, during World War II, was charged with the development of the atomic bomb. Much of the information contained in them is derived from original investigations, however, results reported in the literature have been included also.

VOEGTLIN CARL, AND HAROLD C. HODGE, editors

Pharmacology and toxicology of uranium compounds—chronic inhalation and other studies. New York McGraw Hill Book Company Inc., 1953 2 v. illus. 24 cm. (National nuclear energy series. Division VI, vol. 1, pt. III–IV) Set, $14.25 4265

Contents Part III, Chronic studies: Chemistry by W. F. Neuman and Gorman R. Thikoff. Biochemical methods, by N. Glover and others. *Oral toxicity of uranium compounds*, by E. A. Maynard and others. Toxicity following inhalation for 1 and 2 years, by H. E. Stokinger and others. Inhalation studies in rabbits with dusts of uranium compounds, by H. E. Thompson and L. T. Steadman. Part IV, Mechanism and metabolic studies. Metabolic studies, by R. L. Burke and others. Deposition of uranium in bone, by W. F. Neuman. Studies in cell metabolism, by A. Rothstein. Maximum allowable concentration of uranium dust in air, by H. C. Hodge and others. Biological effects of uranium—literature review by A. G. Dunn and L. J. LaFrance. Special materials, by H. E. Stokinger and C. J. Spiegl. Résumé of Chapters 18 to 48, by H. C. Hodge. Appendix. Cumulative index, parts I to IV.

Note The papers in these volumes, together with those presented in the volumes described in the preceding entry present the results of a very comprehensive investigation of uranium and its compounds from the standpoint of their toxicity. Studies of certain substances not containing uranium but of interest in uranium processing were included in the program, which was largely one of animal experimentation. Techniques are fully described and results are presented in much detail. The presentation is so complete that even the summary chapter is nearly 130 pages long. The books in the combined set are published in the format of four thick volumes, however, they are designated as four parts of a single volume.

Contents (abridged) Chemistry Investigations employing experimental animals. Metabolism and toxicity of flavonoids. Clinical studies. Bibliography

Note. The published literature beginning with the papers of A. Szent-Györgyi and his associates in 1936 and continuing through the literature published in 1955 on the flavonoid substances in biochemistry and medicine is concisely summarized and critically reviewed in this work. Statements in the text are referenced to the citations of the source articles in the bibliography which cites 299 publications. The results of clinical studies and animal experiments bearing on capillary fragility blood clotting, hemorrhages, inflammatory reaction, irradiation effect, etc., are all discussed. The authors state As a result of this review it is our considered opinion that there is no convincing evidence for a nutritional role of these substances. A large number of papers indicate a pharmacological role for certain of the flavonoids, however the pharmacological actions are not unique and are relatively weak compared to other drugs which are available. Despite this, the possibility exists that such compounds may have clinical value in the treatment of disorders of the vascular system. Therefore, the clinical literature has been surveyed in great detail to assess the present knowledge and status. We conclude from this survey that the great number of contradictory reports and the sparsity of acceptable clinical evidence in this field place the burden of proof on those who claim therapeutic value to these substances.

SILVERMAN, MILTON

Magic in a bottle Second edition. New York The Macmillan Company, 1948 386 p 21 cm. $4 25 4257

Contents The conquest of pain—Sertuerner and morphine. The amazing alkaloids—Pelletier and quinine. Housewife's recipe—Withering and digitalis. Blessing from hell—Koller and cocaine. Kill the germs!—Lister to Ehrlich to 205 The fever-fighters—Kolbe to aspirin. Synthetic lullaby—Fischer Von Mering, and the barbitals. Food against death—Eijkman and the vitamins. Magnificent trifles—Brown-Séquard and the hormones. The red assassin—Domagk and the sulf-drugs. Miraculous accident—Fleming, Florey and penicillin. The devil-slayers—Locock to Lennox, and the drugs against epilepsy Atomic medicine—Becquerel, the Curies, and the atom-smashers. Bibliography Index.

Note. A readable and dramatic account of some of the achievements in chemotherapy It is intended for lay readers.

SPECTOR, WILLIAM S

Handbook of toxicology Volume I Acute toxicities of solids, liquids and gases to laboratory animals Prepared under the direction of the Committee on the Handbook of Biological Data, Division of Biology and Agriculture the National Academy of Sciences the National Research Council. Philadelphia W B Saunders Company 1956 408 p 28 cm. $7 00 4258

Contents Introduction. Abbreviations. Table I, Lethal doses of solid and liquid compounds Laboratory animals. Table II, Lethal concentrations of gases, vapors, and fumes in respired air Laboratory animals. Bibliography abbreviations. Index.

Note The first volume published of a handbook scheduled for completion in five or more volumes. It presents in tabular form data on the acute toxicity for laboratory animals of a wide range of chemical substances. The data have been selected from the literature and have been carefully reviewed for accuracy References to the source publications are included in the tables. Volume II of the set covering the toxicities of antibiotics was published in 1957 264 p., $6.00.

TANNENBAUM, ALBERT, editor

Toxicology of uranium survey and collected papers. New York McGraw Hill Book Company Inc. 1951 333 p illus 24 cm (National nuclear energy series Manhattan Project technical section Division IV —Plutonium project record Vol 23) $4 75 4259

Contents. Part A, Introduction to the toxicology of uranium. Introduction and general considerations, by A. Tannenbaum and H. Silverstone. Nature of uranium poisoning as observed in mice, by A. Tannenbaum and H. Silverstone. Factors affecting uranium poisoning, by A. Tannenbaum and H. Silverstone. Distribution in tissues and excretion of uranium, by A. Tannenbaum and H. Silverstone. Gross and microscopic pathology of uranium poisoning, by A. Tannenbaum. Biochemical effects of uranium poisoning, by S. Schwartz. The mechanism of action of uranium and the transport of uranium to the tissues, by E. S. G. Barron. Summary of experimental studies. Relation to uranium poisoning in man, by A. Tannenbaum and H. Silverstone. Part B, Collected papers Uranium poisoning. Review of literature to 1943 by S. T Cantril and J. J. Nickson. Some aspects of the toxicology of uranium compounds, by A. Tannenbaum and H. Silverstone. Failure to affect toxicity of ingested uranium chloride by dietary acid (HCl) or base ($NaHCO_3$) by A. Tannenbaum and H. Silverstone. Accumulation of uranium in the tissues of mice ingesting uranyl nitrate, by A. Tannenbaum and H. Silverstone. Relation of uranium excretion to the total amount of uranium in the mouse, by A. Tannenbaum and H. Silverstone. Studies on acquired tolerance to uranium, by A. Tannenbaum and H. Silverstone. Distribution of U^{233} in tissues of mice following injection of uranyl nitrate, by A. Tannenbaum and others. Tracer studies of the distribution and excretion of uranium in mice, rats, and dogs, by A. Tannenbaum and others. The transport of uranium to the tissues, by J A. Muntz and E. S. G. Barron. Tissue metabolism of rats treated with uranyl nitrate, by J Meyer and others. The reversible inhibition of enzymes by uranium, by T P Singer and others. Effect of uranium on the metabolism of yeast and bacteria, by J A. Muntz and others. An introduction to the nonclassified literature dealing with biochemical studies of experimental uranium poisoning, by S. Schwartz and E. J. Katz. Uranium distribution studies, by R. J Ferretti and S. Schwartz. The effect of uranium exposure on urinary catalase excretion, by E. J. Katz and others. Studies of porphyrin metabolism—the effect of metals on coproporphyrin excretion, by S. Schwartz and R. M. Zagaria. Index.

Note. A volume made up chiefly of reports of original investigations on the toxicology of uranium made in the course of the work on the Manhattan Project during World War II. The findings are summarized in the papers in Part I. In Part II the reports themselves are assembled. Literature references are included with the papers.

THIENES, CLINTON H, AND THOMAS J HALEY

Clinical toxicology Third edition enlarged and thoroughly revised Illustrated Philadelphia Lea & Febiger 1955 457 p illus. 20 cm. $6 50 4260

Contents. Section I, Convulsant poisons Cerebral convulsants. Medullary excitants. Cord convulsants. Peripherally acting convulsants. Section II, Central nervous system depressants The alcohols. Toxicology of general anesthesia Miscellaneous depressant agents. Basal anesthetics and somnifacients. The toxicology of analgetics. Section III, Peripherally acting nerve poisons, poisons acting on nerve trunks, ganglia and nerve endings Somatic nerves. Poisoning of nerve ends and myoneural junctions of somatic nerves. Poisons of nerves and muscles of the viscera Section IV Muscle poisons. Smooth muscle excitants and depressants. Cardiac protoplasmic poisons. Section V Protoplasmic poisons Local irritants and corrosives. Poisons causing degenerative lesions of the nervous system. Liver poisons. Kidney poisons. Poisoning with symptoms referable to the digestive tract. Toxicology of the lungs. Miscellaneous protoplasmic poisons. Poisons of animal origin. Section VI, Poisons of the blood and hematopoietic organs Bone-marrow erythrocyte and leucocyte poisons. Poisons affecting blood plasma. Section VII, Principles of treatment Measures to decrease absorption. Elimination of absorbed poison. Physiological antagonism of poisons. General care. Section VIII, An outline of symptom diagnosis Bone lesions. Section IX, Chemical diagnosis of poisoning Preservation of tissues. Special equipment essential for the toxicologist. Separation of poisons—methods of extraction of non-volatile organic poisons. Analysis of acid-ether extract Analysis of alkaline chloroform extract. Metallic poisons. Miscellaneous poisons. Appendix Special reagents. Index.

Note Used both as a text in medical colleges and as a reference by general practitioners of medicine, this book provides in compact form a range of clinical information about poisons. It is not encyclopedic treatment, but it covers those poisons which are most commonly encountered in practice and which give rise to distressing symptoms or death. The section and chapter titles listed above show the arrangement. Within the chapters specific poisons are discussed as to toxic dose, source and chemistry, history, symptoms and actions, diagnosis, prognosis, pathology, treatment,

etc. The section on chemical diagnosis, that is to say identification of poisons, is over 150 pages long in this edition and [illegible] one of the major features of the book.

THIENES, CLINTON H.

Fundamentals of pharmacology New York Paul B Hoeber Inc., Medical Book Department of Harper & Brothers, 1947 497 p. illus. 22 cm. (Medical students series Fred C. Zapffe editor) $5 75 4261

Contents (abridged). Section I, Stimulants of the central nervous system. Section II, Depressants of the central nervous system. Section III [illegible] Drugs acting on the peripheral nervous system. Section IV, Drugs acting on muscles. Section [illegible] Section VI, Antipyretic drugs. Section VII, Hormones, special minerals, and tissue extracts. Section VIII, Vitamins. Section IX, Drugs used because of local action on body surfaces. Section X, Chemical diagnostic agents. Section XI, Actions of drugs on cells. Section XII, Pharmacy and prescription writing. Index.

Note: A concise introduction specifically designed for students of medicine, dentistry or pharmacy and intended as an exposition of fundamental knowledge rather than an encyclopedic treatment. The greater part of the book consists of systematized and specific information on the most important drugs and preparations. The [illegible], dosage, physiological actions, including absorption, distribution, metabolism and excretion of each drug listed are described concisely but adequately.

TRELEASE, SAM FARLOW AND ORVILLE A. BEATH

Selenium its geological occurrence and its biological effects in relation to botany chemistry agriculture nutrition, and medicine New York Published by the authors 1949 292 p. illus. 24 cm. $5.50 4262

Contents. History. Selenium indicator plants. Distribution of selenium in rocks and soils. Accumulation of selenium by plants. Selenium poisoning in animals. Selenium in relation to public health. Prevention and control of selenium poisoning. Chemistry of selenium. Bibliography. Author index. Subject index.

Note. The poisoning of cattle as [illegible] result of eating vegetation grown on seleniferous soils [illegible] a serious local problem in some parts of the United States of America. The poisoning of human beings in the same way has not been so clearly established, but many cases appear in clinical literature and there have been several [illegible] studies by public health authorities. The book is [illegible] summary of the current knowledge. A considerable part of the space is devoted to background information, such as data on plants that absorb selenium and the [illegible] absorbed. There [illegible] an extensive bibliography.

UNIVERSITY OF CALIFORNIA

Hospital formulary and compendium of useful information. Second edition, completely revised. Berkeley and Los Angeles University of California Press 1952 317 p. 17 cm. $3 75 4263

Contents: Prescription writing and conversion tables. Items of [illegible] and [illegible]. Drugs subject to Federal and state regulations. [illegible] Therapeutic index. Drug list. [illegible] Pediatric therapeutic index and [illegible]. Dental [illegible]. [illegible] agents and their [illegible]. Procedure for X-ray [illegible]. Contrast media used in radiology. Laboratory and clinical procedures. Treatment of acute poisoning. Miscellaneous tables. Index.

Note: The scope of the reference handbook is indicated by the chapter titles. Although designed primarily for the personnel of the University of California Medical Center [illegible] useful to the staff of other hospitals and also to graduate physicians practising independently. Each of the chapters is [illegible] compact presentation of useful information. The drug list contains precise descriptions of not only drugs which are listed in the *United States Pharmacopoeia*, the *National Formulary* and *New and Non-Official Remedies*, but also of some nonofficial drugs used in this medical center. The appendix includes an index of proprietary and common drug names which are different from the official names.

VOEGTLIN, CARL, AND HAROLD C HODGE, editors

Pharmacology and toxicology of uranium compounds with a section on the pharmacology and toxicology of fluorine and hydrogen fluoride. New York McGraw Hill Book Company Inc. 1949 2 v illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division VI—Vol. 1 pt. I–II) $14.25 4264

Contents: Part I, The pharmacology and toxicology of uranium compounds. The chemistry of uranium compounds, by A. L. Dounce and J. F. Flagg. Analytical methods for determining uranium and fluorine, by J. F. Flagg. Statistical methods, by D. [illegible] and others. Pathological anatomy following uranium poisoning, by T. R. Barnett and R. G. Metcalf. Characteristics of uranium poisoning, by J. H. Wills. Toxicity following parenteral administration of certain soluble uranium salts, by F. Haven and H. C. Hodge. Studies of toxicity of various uranium compounds [illegible] fed to experimental animals, by E. A. Maynard and H. C. Hodge. The toxicology of compounds of uranium following application to the skin, by J. A. Orcutt. The toxicology of uranium compounds following application to the eye, by J. A. Orcutt. Toxicity following inhalation, by H. E. Stokinger and others. The distribution and excretion of uranium, by W. F. Neuman. Tolerance to uranium compounds, by F. Haven. The action of uranium on enzymes and proteins, by A. L. Dounce and T. H. Lan. Catalase [illegible] test for uranium poisoning, by A. L. Dounce and others. The mechanism of action of uranium compounds in the animal body, by A. L. Dounce. Studies on human exposure to uranium compounds, by J. W. Howland. Part II, The pharmacology and toxicology of fluorine and hydrogen fluoride. Toxicity following inhalation of fluorine and hydrogen fluoride, by H. E. Stokinger. Appendix. Index.

Note: These volumes are based on the work of the Division of Pharmacology of the Manhattan District Project [illegible], during World War II, [illegible] charged [illegible] the development of the atomic bomb. Much of the information contained in these [illegible] derived from original investigations, however results reported in the literature have been included also.

VOEGTLIN, CARL, AND HAROLD C. HODGE, editors

Pharmacology and toxicology of uranium compounds—chronic inhalation and other studies. New York McGraw Hill Book Company, Inc., 1953 2 v illus. 24 cm. (National nuclear energy series. Division VI, vol. 1, pt. III–IV) Set $14.25 4265

Contents: Part III, Chronic studies: Chemistry, by W. F. Neuman and [illegible]. Biochemical methods, by [illegible] and others. Oral toxicity of uranium compounds, by E. A. Maynard and others. Toxicity following inhalation for 1 and 2 years, by H. E. Stokinger and others. Inhalation studies in rabbits [illegible] of uranium compounds, by H. E. Thompson and L. T. Steadman. Part IV, Mechanism and metabolic studies: Metabolic studies, by H. L. Barke and others. Deposition of uranium in bone, by W. F. Neuman. Studies in cell metabolism, by A. Rothstein. Maximum allowable concentration of uranium dust in air, by H. C. Hodge and others. Biological effects of uranium—literature review, by [illegible] and L. J. LaFrance. Special materials, by H. E. Stokinger and C. J. Spiegl. Résumé of Chapters 11 to 24, by H. C. Hodge. Appendix. Cumulative index, parts [illegible] to IV.

Note: The papers in these volumes, together with those presented in the volumes described in the preceding entry, present the results of [illegible] very comprehensive investigation of uranium and its compounds from the standpoint of their toxicity. Studies of certain substances not containing uranium but of interest in uranium processing were included in the program, which [illegible] largely one of animal experimentation. Techniques are fully described and results are presented in much detail. The presentation is so complete that even the summary chapter is nearly 120 pages long. The books in the complete set are published in the format of four thick volumes; however, they are designated as four parts of [illegible] single volume.

VON OETTINGEN, WOLFGANG FELIX

The halogenated aliphatic, olefinic, cyclic, aromatic, and aliphatic-aromatic hydrocarbons, including the halogenated insecticides, their toxicity and potential dangers. Washington, D C Government Printing Office 1955 430 p. illus. 24 cm (United States Public Health Service Publication no 414) $2 50 4266

Contents. Halogenated aliphatic hydrocarbons Halogenated methane derivatives. Halogenated ethane derivatives. Halogenated propane derivatives. Halogenated butane derivatives. Halogenated pentane derivatives. Halogenated hexane derivatives. Halogenated olefinic hydrocarbons. Halogenated ethene derivatives. Halogenated propene derivatives. Halogenated butene derivatives. Halogenated pentene derivatives. Comparison of the physical-chemical properties of halogenated olefinic hydrocarbons. Halogenated diolefinic hydrocarbons. Halogenated cyclic hydrocarbons. Halogenated aromatic hydrocarbons Halogenated benzene derivatives. Halogenated toluene derivatives. Methyl-halogenated derivatives of toluene (benzyl derivatives) Halogenated xylene derivatives. Halogenated diphenyl derivatives. Halogenated naphthalene derivatives. Halogenated indene derivatives. Halogenated terpene derivatives. Halogenated aliphatic-aromatic hydrocarbons. Index.

Note This is an extensive pharmacological review and study of the toxicity of the various halogenated hydrocarbons. The author discusses the chemistry analytical procedures, investigative and clinical toxicology and the prophylaxis and treatment of poisonings from the halogenated hydrocarbons. The purposes of the publication are to help reduce the incidences in industry and elsewhere of such poisonings, to facilitate their diagnosis and treatment, and to stimulate further research in the field. Bibliographies appear at the ends of the sections.

WAKSMAN, SELMAN ABRAHAM

The literature on streptomycin 1944–1952 New Brunswick Rutgers University Press, 1952 553 p 24 cm. $6 00 4267

Contents Actinomycetes General references. Streptothricin. Streptomycin. Author index. Subject index.

Note. This second edition contains 5,500 references to the literature of streptomycin as compared with 3,171 in the 1948 edition. Uses of the antibiotic other than in the treatment of diseases are now included, such as in animal feeding and in the preservation of semen and foods. A more detailed and enlarged index has also been provided. As in the previous edition the arrangement is chronological.

WELCH, HENRY

Principles and practice of antibiotic therapy Specially edited by Félix Martí Ibáñez. New York Medical Encyclopedia, Inc. 1954 699 p illus 22 cm $12 00 4268

Contents Part I, The antibiotics Isolation and development of the antibiotics Tyrothricin. Penicillin Streptomycin and dihydrostreptomycin. Bacitracin. Polymyxin, neomycin, viomycin, subtilin, and fumagillin. Erythromycin and carbomycin. Chlortetracycline Chloramphenicol. Oxytetracycline. Tetracycline Synergism, antagonism, and hormesis with reference to antimicrobial substances, by G. L. Hobby Part II, Antibiotic therapy of infectious diseases Pneumococcal and streptococcal infections, by H. F Dowling. Staphylococcic infections, by M. Finland. Meningococcal and gonococcal infections, by H. F Dowling Treponemal diseases, by C R. Rein. Spirochetal diseases other than the treponematoses, by C R. Rein. Surgical infections, by E. J Pulaski. Urinary tract and intestinal tract infections, by C. Keefer and L. Weinstein. Brucellosis, plague and tularemia, by V Knight. Antibacterial drugs in treatment of tuberculosis, by H. C. Hinshaw Virus and rickettsial diseases, by T Woodward and J E. Smadel. Miscellaneous diseases, by W Herrell. Part III, Antibiotic therapy in medical specialties Antibiotic therapy in ophthalmology by A. E Braley Antibiotic therapy in pediatrics, by S. Ross. Antibiotic therapy in oral surgery and dentistry by H. A. Zander and H. B Clark Index

Note. A successor to H. Welch and C. N Lewis, *Antibiotic therapy* 1951 It is a broad survey of the antibiotics and their uses in medicine. The first part, devoted to the discovery development, spectra, and pharmacology of the antibiotics that have found extensive application in medicine, is 284 pages long. The remainder of the space is devoted to the 14 contributed chapters on the uses of various antibiotics in the treatment of specific classes of infections and to the applications of the same substances in specialized fields of medicine, including dentistry The chapters in this part describe a considerable range of clinical experience. Throughout the book, the chapters are accompanied by extensive bibliographies.

WHITELOCK, OTTO V ST , editor

Experimental methods for the evaluation of drugs in various disease states. Editor in chief Otto V St. Whitelock. Associate editor Franklin N Furness Conference chairman and consulting editor Bradford N Craver New York Published by the Academy 1956 463–732 p illus. 22 cm. (New York Academy of Sciences. Annals. Vol. 64 art. 4) $4 00 4269

Contents. Introductory remarks, by B. N Craver Part I, Collagen diseases. On the localization of steroid hormones in connective tissue, by T F Dougherty and others. Assay of drugs on connective-tissue permeability by J Seifter and D. H. Baeder. Screening of possible therapeutic agents by means of experimental replicas of connective-tissue diseases, by H. Selye and G Jasmin. Part II, Angina pectoris Introductory remarks, by D. K Gross. Clinical aspects for the appraisal of drugs used for the treatment of the anginal syndrome, by R. C. Batterman. The design of proper experiments to investigate clinical angina pectoris and the importance of knowing the determinants of coronary flow in considering therapy of angina pectoris, by L. N Katz. Neurohumoral factors in the origin and treatment of angina pectoris, by W Raab. Evaluation of drugs used in the treatment of angina pectoris by means of exercise-electrocardiographic tests, by H. I Russek. Part III, Cardiac arrhythmias Introductory remarks, by G. K. Moe. Arrhythmias following experimental coronary occlusion and their response to drugs, by B. B. Clark and J R. Cummings. Screening of drugs for antiarrhythmic activity by C. H. Ellis. Relation between atrial and ventricular antiarrhythmic assay methods—rationale for a screening program, by M. M. Winbury Correlation between pharmacological tests and clinical trial, by L. L. Terry. Part IV Atherosclerosis Inhibitors of cholesterol biosynthesis and the problem of hypercholesteremia, by D. Steinberg and D. S Fredrickson. Serum lipoproteins and the evaluation of atherosclerosis, by J W Gofman. Experiences in assaying estrogen antiatherogenesis in the chick, the rabbit and man, by J. Stamler and others. Atherosclerotic complications in hypertensive disease, by A. C. Corcoran and others. Part V Disorders of the central nervous system Introduction, by J. E. P Toman. A comparative approach to the evaluation of drug effects upon affective behavior by J V Brady Use of intracerebral electrodes to evaluate drugs that act on the central nervous system, by J M. R. Delgado and L. Mihailovic. The experimental evaluation of ataractic agents in animals, by R. K. S. Lim and others. The predictable value of anticonvulsant indices, by E. H. Jenney and C. C. Pfeiffer. The experimental evaluation of antiparkinsonian compounds, by V G. Vernier and K. R. Unna. The correlation between animal testing procedures and clinical effectiveness of centrally acting muscle relaxants of the mephenesin type by E. F Domino Concluding remarks, by J E. P Toman.

Note Papers first presented at a conference held by the Section of Biology of the New York Academy of Sciences in March, 1956, have been made available in this monograph. A variety of techniques for the assay of drugs and for evaluation of their pharmacological activities are explicitly described Most of the techniques are recent developments. Apparently restriction of the conference (and the papers) to experimental methods pertinent to diseases primarily of the aged was only a device for setting necessary limits to the scope of the conference.

YEAR BOOK OF DRUG THERAPY (1955–1956 Year Book series) Edited by Harry Beckman. Chicago The Year Book Publishers, Inc. 1956 560 p illus. 20 cm $6 00 4270

Contents Introduction. Allergy Antibiotics and sulfonamides. Cardiovascular diseases. Dermatology Endocrinology Gastroenterology Hematology Internal medicine Neuropsychiatry Obstetrics and gynecology Ophthalmology Otorhinolaryngology Pediatrics Surgery Venereology Index to authors. Index.

Note Organized similarly to the other annuals in this publisher's medical Year Book series, this annual volume consists of abstracts of articles selected from the periodical literature of the world. The period covered in the issue at hand is August, 1954, to August, 1955. The typical abstract is several hundred words in length. In many instances, it is supplemented by a brief editorial comment which adds to the information given in the abstract or critically evaluates the author's methods or conclusions. References to the source articles are given in all cases. In this issue there are 64 illustrations.

MEDICAL EMERGENCIES AND FIRST AID

AMERICAN RED CROSS

American Red Cross first aid textbook prepared by the American Red Cross for the instruction of first aid classes. Revised. With 264 illustrations. New York The Blakiston Division, McGraw Hill Book Company 1945 254 p. illus. 20 cm. 4271

Contents The why and how of first aid. Shock. Dressings and bandages. Wounds and their care. Artificial respiration and the treatment of common asphyxial accidents. Poisons. Injuries to bones, joints, and muscles. Injuries due to heat or cold. Transportation. First aid for common medical emergencies. The human body—how it is put together and how it works. First aid kits. Index.

Note A standard textbook for classes in first aid and a reference guide for the emergency treatment of injuries. It is carefully written in collaboration with various medical and surgical experts, but is couched in a plain, direct style that anyone who reads can understand. Furthermore, it is adequately illustrated. The fourth revised edition was published by Doubleday and Company in 1957 241 p. $1.00.

AMERICAN RED CROSS

First aid textbook for juniors with an appendix on safety information. Second edition. Garden City N Y Doubleday & Company Inc., 1953 145 p. illus. (part col d) 22 cm. $1.00. 4272

Contents (abridged) Need for first aid. Shock. Wounds. Dressings and bandages. Bruises. The circulatory system. First aid for bleeding. Special wounds and eye injuries. The breathing system. Artificial respiration. Artificial respiration and rescue. Poisoning. Body framework. Fractures: signs of and first aid for fractures. Dislocations and sprains. A general plan for giving first aid. Moving injured or sick persons. Injuries due to heat and cold. Unconsciousness. Common illnesses. First aid kits. Other common illnesses. Appendix: Safety information. Index.

Note This textbook varies from the standard first aid course of the American Red Cross in that it is specifically designed for young people from 12 to 1[illegible] years old. The descriptions are written in simpler language, and the range of injuries covered is less extensive. The book is designed for use in organized classes, and the chapters are accompanied by review questions. The appendix on safety information was added in this edition.

COLE, WARREN HENRY AND CHARLES B PUESTOW

First aid surgical and medical. Illustrated by Carl Linden and Tom Jones. Fourth edition. New York Appleton-Century-Crofts, Inc., 1951 432 p illus. 22 cm. $4 00. 4273

Contents Procedures and limitations in first aid work, by W H Cole. General principles of first aid—common conditions requiring first aid—general method, by W H. Cole. Anatomy and physiology by C B Puestow. Bandaging, by W H Cole. Wounds, by W H. Cole. Shock—blood transfusions, by C B. Puestow. Injuries to large blood vessels, by Oscar de Takats. Burns—frost bite, by F W Gowdy. Transportation of the injured, by L. Reed. Fractures, dislocations and sprains, by H. B. Thomas and F W Hark. Compound fractures—compound dislocations, by H. B. Thomas and C. N. Lambert. Gas and bomb raids, by H. C. Lueth. Respiratory emergencies, by W H. Cassels. Injuries of the head, by W Van Wagenen. Abdominal emergencies, by W C. Beck. Emergencies of the genito-urinary tract, by C. M. McKenna and J. H. Kiefer. Wounds of the mouth, face and neck, by L. W Schultz. Injuries of the scalp, skull, spine and nervous system, by E Oldberg and F Barry. Medical emergencies, by R. W Keeton and M. H. Montgomery. The poisoned patient, by W H. Cole. Chronic or remote military casualties, by C. B. Puestow. Miscellaneous conditions frequently requiring first aid care, by W H. Cole. The feet, by C. B. Puestow. First aid in industry by W F Lyon and R. C. Kilbourne. References. Index.

Note A book which is inclusive enough to be of practical value not only to laymen who are taking training in first aid but also to nurses and physicians. Some of the material is more advanced than is commonly included in books on first aid treatment, but care has been taken to point out where first aid treatment should be given only as a precautionary measure or not at all and the injured or ill person turned over to a physician. Some of the information on treatment is addressed specifically to the physician rather than to the lay worker. The third edition was published in 1948. Much of its text has been carried over to this edition. However revisions have been made wherever advances in medicine have made them necessary. A chapter has been added on first aid in industry; a section has been added on first aid in atomic warfare and recent literature has been added to the bibliography.

CULLEN, STUART C. AND E. G GROSS

Manual of medical emergencies. Second edition. Chicago The Year Book Publishers Inc., 1953 278 p. illus. 18 cm. $4.50 4274

Contents General principles in emergency treatment. Airway and artificial respiration. Oxygen therapy. Circulatory emergencies. Acute poisoning. Local anesthetic drug reactions. Head injuries. Allergic disturbances. Emergencies due to central nervous system stimulation. Care of patient in acute and chronic comatose states. Miscellaneous emergencies. Technics of venepuncture. Drugs, preparations and dosages. Index.

Note This pocket-size manual has been expressly prepared for the general medical practitioner who must act, rather than "search the literature," in meeting an emergency. It is concerned with techniques of dealing with acute emergency situations, rather than with prolonged therapy. The authors have confined their recommendations to drugs, equipment and procedures that are readily available. The style is didactic in keeping with the purpose of the volume, although tested alternative treatments are sometimes suggested. The authors are faculty members of the College of Medicine of the University of Iowa.

FICARRA, BERNARD J editor

Emergency surgery 578 illustrations. Philadelphia F A. Davis Company 1953 1,000 p illus. 26 cm. $18.00. 4275

Contents (abridged) Section I, Emergencies encountered in the region of the head and neck. Management and treatment of acute injuries to skull and brain, by J. E. Adams. Treatment of wounds and lacerations of the face, by H. May. Emergency treatment of facial bone fractures, by L. R. Rubin. Ligation of carotid arteries for active hemorrhage from cancer of the head and neck, by A. J. Vendier. Tracheotomy by H. von Leden. Immediate treatment of ocular injuries, by J. J. La-Frenll. Section II, Emergencies encountered in the thoracic region. Acute breast abscess, by B. J. Ficarra. Foreign bodies in the air and food passages, by M. S. Lloyd. Traumatic lesions of the thorax (exclusive of the heart) by R. H. Betts. Emergency surgery of the esophagus with special reference to stricture, by R. Adams. Section III, Diagnosis and treatment of acute abdominal emergencies: Pathologic conditions causing acute abdominal symptoms and physical signs, by B. J. Ficarra. Traumatic rupture of the spleen and liver, by C. E. Welch. Management of penetrating abdominal injuries, by E. R. Best. Emergency surgery for acute intestinal obstruction, by O. E. Moore. Section IV. Emergencies of gynecological organs. Section [illegible] Management of acute conditions of the osseous and neuromuscular systems: Emergency treatment of fractures of the arm and leg, by R. E. Bowers. Acute nonfracture injuries of the shoulder by A. F DePalma and H. E. Snodden. Acute nonfracture injuries of the knee and ankle, by D. J. Magilligan. The management of acute orthopedic problems in children, by H. C. Fett and H. C. Fett, Jr. Athletic injuries by B. J. Ficarra. Fractures of the spine and pelvis, by S. J Coleman, Trauma, by R. S. Dean Rivera. Section VI, Emergencies of the vascular system: Venous thrombosis and arterial embolism,

by J L. Madden. Cardiac arrest during anesthesia and surgery by J Johnson and C. K. Kirby Shock, by J Scudder Section VII, Urological emergencies. Section VIII, Acute surgical problems the result of unforeseen complications Postoperative hemorrhage, by J D Martin, Jr Wound disruption, by S. A. Localio. Emergencies in the course of anesthesia, by R. T Patrick and J S. Lundy Section IX, Surgical emergencies seen in certain groups of patients, and the treatment of human and animal bites Subphrenic abscess, by K. C. Sawyer Acute surgical emergencies in infancy and childhood, by R. J Coffey and H. S. Madigan, Emergent surgery in the aged, by W E. Branch. Section X, Management of casualties resulting from bombing and similar catastrophies. Index.

Note A cyclopedic work composed of 70 contributed chapters organized in 10 sections. The titles of all of the sections and of a few of the chapters are listed above. Most of the 79 contributors are eminent teachers in medical colleges in the United States of America. It is directed to all physicians and surgeons, but is of special value to general practitioners and to surgeons in the emergency wards in hospitals. The volume is fully indexed for quick reference.

FLINT, THOS, JR

Emergency treatment and management. Philadelphia W B Saunders Company, 1954 303 p 24 cm $5 75 4276

Content (abridged) General medical principles and procedures Barbiturate prescriptions. Death cases. Drug dosage in children. Narcotic prescriptions. Serum sensitivity and desensitization. Somnifacients. X-rays. Emergency treatment of specific conditions. Abdominal pain. Abortions. Abrasions. Allergic reactions. Asphyxiation. Bites Bleeding. Bullet wounds. Burns. Cardiac emergencies. Concussion of the brain. Convulsions. Dislocations. Drowning. Eye conditions. Foreign bodies. Fractures. Head injuries. Heat exhaustion. Hemorrhoids. Hiccup Insulin shock. Intestinal obstruction. Neck injuries Nosebleed. Paralysis. Pneumonia. Poisoning, Acute Pregnancy Pulmonary edema. Rectal complaints. Respiratory tract complaints. Shock. Snake bites. Spinal cord injuries Stab wounds. Suicide Toxic reactions to average doses of commonly used drugs Urinary and genital tract problems. Venereal diseases. Vertigo. Administrative, clerical and medicolegal procedures. Birth, stillbirth and death certificates. Emergency case log. Photographing of patients Public liability cases. Release of information Responsibilities of the physician treating emergency cases Unusual occurrence reports Appendix. Index.

Note A reference book of concise and explicit directions for treatment and related procedures in a wide variety of medical emergencies. One hundred four conditions are listed in the section on emergency treatment of specific conditions The directions under each heading range in length from only a few lines, as for the emergency treatment of abscesses, to two pages or more under such headings as cardiac emergencies. The information is conveyed in a very concise style and is organized for quick reference by the use of numerals, letters, distinctive type, etc. A special section on acute poisoning and poisons is arranged in two parts, one of four pages on general emergency procedures and a 112-page section on the symptoms and treatment of poisoning by specific substances. The author is Chief of the Emergency Department of the Permanente Medical Group, Kaiser Foundation Hospital, Richmond, California.

MURPHY, FRANCIS D AND OTHERS

Medical emergencies diagnosis and treatment By Francis D Murphy and associate authors Paul G LaBissoniere Edwin G Olmstead Anthony V Pisciotta Joseph W Rastetter Burton A Walsbren Illustrated fifth edition Philadelphia F A Davis Company 1955 603 p illus 24 cm $7 50 4277

Contents Vascular disease, by F D Murphy Diseases of the blood, by A V Pisciotta The heart by F D Murphy Collagen diseases, by F D Murphy and J W Rastetter Metabolic disorders, by F D Murphy The nervous system, by E G Olmstead. The kidneys, by F D Murphy The lungs, by B A Walsbren Acute abdominal emergencies, by P G LaBissoniere. The liver by J W Rastetter Acute infections, by B A Walsbren Tropical diseases, by F D Murphy and W L Coffey Jr Acute poisoning, by F D Murphy Drugs, by F D Murphy and B A Walsbren Appendix by B A Walsbren Index

Note A standard manual of diagnosis and treatment in medical emergencies. It is designed for use in the instruction of medical college students taking advanced courses and as an office reference book for medical practitioners. A wide range of emergencies is covered under the headings noted above. Generally speaking, information is given on the following points for each emergency etiology pathology signs and symptoms, diagnosis, prognosis, and treatment. Techniques of emergency treatment are covered explicitly and in considerable detail. The other points are covered concisely The principal author is head of the Department of Medicine, of the Marquette University School of Medicine. He was the sole author of the first four editions of the book. He was joined by six colleagues in the writing of this fifth edition, which is a substantially revised edition containing much newly added material. A new edition was scheduled for publication in 1958.

YOUNG, CARL B, JR

First aid and resuscitation. Emergency procedures for rescue squads, firemen, policemen, ambulance crews, interns and industrial nurses. Springfield, Ill Charles C Thomas, 1954 338 p illus 24 cm $8.50 4278

Content (abridged) Shock. The unconscious patient. Resuscitation. Transportation of the seriously ill and injured. Procedures to be carried out at the scene of an emergency Proper equipment for an emergency ambulance. Acute heart emergencies. Acute indigestion. Cerebral vascular accidents. Common respiratory emergencies following injury Acute drug intoxication. Acute alcohol intoxication Electric shock. Submersion. Various cases. Asphyxia of the newborn and related emergencies. Bronchial asthma. Pneumonia. Burns, hemorrhage, shock, and the use of oxygen. Sterilization of equipment. Suicide. Oxygen therapy Records and statistics. Apparent death and death. Glossary Index.

Note. A reference manual that goes beyond the usual layman book on first aid measures, both in the kinds of emergencies covered and in the range of procedures described. As noted in the subtitle, it is addressed to non-medical personnel who has official responsibility for some emergency care of injured persons and persons struck with acute medical disorders. Furthermore, it describes good procedures in cases where the victim is dead and the primary consideration is protection of the body and the immediate surroundings from curious onlookers. The recommended procedures are described clearly and specifically Also, there is considerable discussion of the organization and management of ambulance services. The majority of the 169 figures are reproductions of photographs. The author has had extensive experience in both military and civilian first-aid work.

PHYSICAL THERAPY AND REHABILITATION

BIERMAN, WILLIAM AND SIDNEY LICHT

Physical medicine in general practice With twenty two contributors. Third edition. New York Paul B Hoeber Inc. Medical Book Department of Harper & Brothers 1952 798 p illus $12 50 4279

Contents Part I, Methods Heat and cold, by C. S. Wise Hydrotherapy by W Bierman. Climatotherapy and spa therapy by W S. McClellan Visible and infrared radiation, by W D. Paul Diathermy by F B Moor and W Bierman. Surgical diathermy by W Bierman Galvanic and low frequency current, by W Bierman and S. Licht. Ultraviolet radiation, by W Bierman. Ultrasound, by F Friedland. Massage by W Bierman Manipulation, by J Bastow Functional muscle testing, by H. O. Kendall and F P Kendall Exercise by T L. DeLorme Occupational therapy by S. Licht. Medical rehabilitation, by S Licht. Part II, Clinical applications The conduct of treatments, by W B. Snow Diseases of the locomotor system, by W Bierman Arthritis and rheumatic conditions, by W M. Solomon. The lower extremity amputee by S. Brunnstrom. Neurologic diseases, by S. Mead. Anterior poliomyelitis, by M E Knapp. Neuromuscular reeducation for paralysis, by H. Kabat Cardiovascular diseases, by K. Harpuder Diseases of the digestive system, by C O. Molander Genitourinary diseases, by S. Dick. Gynecologic diseases, by W Bierman Eye, ear nose and throat diseases, by W Bierman Respiratory diseases, by W Bierman. Dermatologic diseases, by S M Peck and G. Klein Index.

Note A standard manual for general practitioners of medicine and beginners in the field of physical therapy In the first part, methods which are currently considered to have therapeutic ... are described explicitly In the second part, the uses of physical ...

Physical Therapy

of therapy in various types of diseases are discussed. Literature references are included in each chapter. The preceding edition was published in 1944 and was written by Dr. Bierman. In preparing this edition the contributors named in the Contents above have revised or completely rewritten the chapters now signed with their names. Without changing the purpose or level of the book, much obsolete material was eliminated and a wide range of new material added.

BRYCE, MARGARET

Physical therapy after amputation the treatment of the unilateral lower-extremity amputee. Madison University of Wisconsin Press, 1954 93 p. illus. 17 cm. $1.50. 4280

Contents: Introduction. Bed positioning. Bandaging. Exercises. Prosthetic training. Legs. Prostheses. Suction socket. Sequence of events. Bibliography

Note. A small, useful manual directed to students preparing for careers in physical therapy and to working physical therapists. Its limitation to the therapy of one class of amputee is indicated in the subtitle. It covers the training of this class of amputee in specific detail, beginning with rest in bed immediately after the operation and continuing until walking has been mastered. Patients' difficulties in learning to use prostheses are described, and the reader is told what the therapist must do about them in the way of training and advice. A two-page bibliography lists a selection of recent American literature.

BUCHWALD EDITH AND OTHERS

Physical rehabilitation for daily living by Edith Buchwald in collaboration with Howard A. Rusk, George G. Deaver and Donald A. Covalt. New York McGraw Hill Book Company Inc. 1952 183 p. illus. 29 cm. $7.50. 4281

Contents: Functional training. Bed and mat exercises. Wheelchair exercises. Self-care. Ambulation. Elevation and travel on crutches. Special problems. Wheel chairs. Braces. A D L testing. Equipment and furniture for A D L. Index

Note. Based upon the program developed at New York University-Bellevue Medical Center, this manual is intended for physical therapists, physicians, and nurses who are concerned with teaching the skills necessary for physical independence to persons who have lost the proper use of their legs and must rely upon braces, crutches, wheel chairs. The volume outlines the step-by-step procedures for such activities of daily living (A.D.L.) as toilet activities, dressing activities, eating activities, getting from place to place, walking, climbing stairs, and use of the wheel chair. Nearly half of the pages of the book contain photographic illustrations showing the recommended steps and positions. While primarily intended for hospital programs of rehabilitation, the publication is written in nontechnical language and should be valuable also to patients themselves and their families.

CRUICKSHANK WILLIAM M., AND GEORGE M. RAUS editors

Cerebral palsy its individual & community problems. Syracuse Syracuse University Press, 1955 560 p. illus. 24 cm. $7 50. 4282

Contents: Part I. Diagnosis and assessment: Size and scope of the problem, by W. M. Cruickshank and G. M. Raus. Cerebral palsy—medical aspects, by E. Denhoff. Evaluation of intelligence, by H. V. Bice and W. M. Cruickshank. Personality characteristics, by W. M. Cruickshank and H. V. Bice. Hearing and speech problems among cerebral palsied children, by L. M. DiCarlo and W. W. Amster. Part II, Planning for life adjustment: Physical therapy, by E. E. [illegible]. Occupational therapy, by R. [illegible]. Educational planning, by W. M. Cruickshank. Mental retardation and cerebral palsy, by G. O. Johnson. Parent education and counseling, by H. V. Bice. Realistic vocational guidance and placement, by J. A. Garrett. Social casework in relation to cerebral palsy, by G. White. Total community planning for the cerebral palsied, by M. Abbott. The rehabilitation process, by G. M. Raus. Index

Note. The contributors to this volume include specialists in physical therapy, speech pathology, clinical psychology, physical medicine, vocational rehabilitation, pediatrics, medical social work, and education. Together their contributions constitute an authoritative and comprehensive professional-level text and reference book on the diagnosis, assessment, care and rehabilitation of cerebral palsy children. A truly interprofessional survey of the problem is achieved. The various aspects of the subjects which are named in the chapter titles are treated in most instances in considerable detail. More space is given to psychological and social aspects than to medical, however, the chapter on medical aspects is one of the longest in the book. Literature references are included in all chapters.

DI CARLO LOUIS M AND OTHERS

Speech after laryngectomy a comparative study of the breathing and speech coordinations of laryngectomized and normal subjects, and the relationships between the breathing and speech coordinations and articulatory errors of laryngectomized subjects to their speech intelligibility By Louis M Di Carlo Walter W Amster Gilbert R. Herer Syracuse Syracuse University Press 1955 184 p. illus. 24 cm. (Syracuse University Special education and rehabilitation monograph series 1 edited by William M Cruickshank) $4.00 4283

Contents (abridged): Introduction. Survey of the literature. Experimental design of procedures. Results and discussion: Speech breathing. Articulation analysis. Rhythm analysis. High and low intelligibility groups. Correlations of intelligibility criteria and intelligibility predictors. Report of surgical data. History information. Summary and conclusions. Appendix. Bibliography

Note. A report in considerable detail of a study of the speech of 18 laryngectomized males between the ages of 36 and 74 years and 13 normal speaking males between the ages of 37 and 70 years. Examined were such aspects of the problem as the breathing and speech coordinations of the laryngectomized compared to those of normal speakers and factors in the intelligibility of the speech of laryngectomized speakers. The techniques of the study are fully described. In their conclusions, the authors recommend among other things that laryngectomized individuals should learn good breath control and voice production before attempting speech. The volume contains 31 tables and 70 figures, most of the latter being graphical representations of the results of tests. The bibliography runs to four pages.

EWERHARDT F H AND GERTRUDE F RIDDLE

Therapeutic exercise Philadelphia Lea & Febiger 1947 152 p. illus. 24 cm. $2.50 4284

Contents: Introduction to therapeutic exercise. Analysis of joint motion. Brief review of muscles participating in joint movements. Physiology of skeletal muscle. Plexuses of nerves controlling the upper and lower extremities. Physiology of therapeutic exercise. Special applications of therapeutic exercise. Application of therapeutic exercise in medicine. Poliomyelitis. Spastic paralyses. Index.

Note. A brief description of special exercises and the manner of their application in the treatment of various diseases, in the re-education of muscles, and in the correction of faulty posture. The anatomy of muscles and the physiology of muscle contraction are discussed in outline, but considerable attention is given to the characteristics and mechanism of muscular action. The book is written primarily for the use of students of physical education, occupational therapy, and physical therapy, but the methods discussed will also be of value to the general practitioner. A short bibliography is included.

GOLDTHWAIT JOEL ERNEST AND OTHERS

Essentials of body mechanics in health and disease. By Joel E. Goldthwait Lloyd T Brown, Loring T Swaim John G Kuhns. 135 illustrations. Fifth edition. Philadelphia J B Lippincott Company 1952 356 p illus. 20 cm. $6.00 4285

Contents: The problem of chronic illness. Body types. Body mechanics. Developmental deformities. Backache and other spinal sprains. The circulatory system. Diseases of the abdominal [illegible]. Diseases of the nervous system. Chronic arthritis. Treatment. The foot and body mechanics. Public health aspects of body mechanics. Geriatrics and body mechanics. Index.

Note. A practical discussion of the relationship between body structure and chronic illness. The book is written for the general practitioner and stresses the need for therapeutic measures which will correct faulty body mechanics and the resultant diseases. Case studies, photographs of patients before and after treatment, and chapter bibliographies are included.

GRAHAM, EARL C, AND MARJORIE M MULLEN, compilers

Rehabilitation literature 1950–1955, a bibliographic review of the medical care, education employment, welfare, and psychology of handicapped children and adults. New York The Blakiston Division, McGraw Hill Book Company, Inc., 1956 621 p 26 cm $13 00 4286

Note More than 5,000 journal articles, pamphlets and books pertaining to the medical care, psychology rehabilitation and welfare of the handicapped are listed in this bibliography Each listing provides the name of the author the title name of the journal, date of issue, volume number and page number for journal articles, and name of author price of publication, publisher year of publication, and number of pages for books and pamphlets. Every entry includes also a short annotation. The arrangement is alphabetical by topic and an author index is provided. Supplementary lists appear currently in the journal *Rehabilitation literature.*

KENDALL, HENRY O, AND OTHERS

Posture and pain. By Henry O Kendall, Florence P Kendall, and Dorothy A. Boynton Baltimore The Williams & Wilkins Company 1952 204 p illus. 29 cm. $7 00 4287

Contents: Part I, Alignment The standard posture. Postural faults. Part II, Mobility Joint and muscle analysis and relation to posture. Tests for muscle length. Tests for muscle strength. Procedure for postural examination. Part III, Treatment Pain associated with faulty body mechanics. Painful conditions of the low back, leg, knee, foot. Painful conditions of the upper back, neck, arm. Part IV Prevention of postural faults Developmental factors and environmental influences affecting posture. Index.

Note. The title of this work is somewhat misleading, for postural faults not associated with pain are considered as well as those that are painful. The authors are all associated with the Physical Therapy Department of the Children's Hospital School in Baltimore, and the book is based on approximately 12,000 cases on file in that department Nevertheless, it is not a highly technical treatment for specialists. Instead, the analysis, treatment, and prevention of postural faults are discussed simply and practically There are 159 figures, some of which contain several illustrations. The book is of interest not only to physical therapeutists but also to general practitioners of medicine and to teachers and others interested in the promotion of good posture

KESSLER, HENRY HOWARD

The principles and practices of rehabilitation By Henry H Kessler in collaboration with other authors With 132 illustrations and a colored plate Philadelphia Lea & Febiger 1950 448 p illus. (part col d) 24 cm. $9 00 4288

Contents: Part I, Principles. General considerations, by H. H. Kessler Physical restoration, by H. H. Kessler Rehabilitation with plastic surgery by J B. Brown and M P Fryer Rehabilitation with plastic surgical prosthetic restorations, by A. M. Brown. Physical therapy in rehabilitation, by F. Krusen. Physical conditioning, by D A. Covalt. The principles of occupational therapy in the rehabilitation of the physically handicapped, by W. L. West. Physical rehabilitation of the industrial injured, by H. D. Storms. A rehabilitation center by B. Greve. Disability evaluation, by F A. Hellebrandt. Guidance training, and placement, by M. E. Odoroff. Placement, by B. Hanman. Part II, Practices Rehabilitation of the amputee, by H. H. Kessler Psychiatric disabilities including epilepsy and mental deficiency by V H. Vogel. The rehabilitation of cerebral palsy by W M. Phelps. Physical rehabilitation of neurological disabilities, by A. B. C. Knudson. Rehabilitation in poliomyelitis, by R. L. Bennett. Rehabilitation of the patient with heart disease, by M. C. Becker Rehabilitation and the tuberculous, by H. Hahn. Rehabilitation of the blind, by E. C. McKay Hearing rehabilitation, by R. E. Marcus and F L. Lederer. Index.

Note. A practical, inductive manual. It is addressed primarily to graduate nurses and medical practitioners who are entering rehabilitation work from other specialties or who need fundamental and practical information about it because they occasionally have rehabilitation cases. The typical chapter is a compact outline of a specific rehabilitory technique, supplemented by selected literature references which serve to guide the nonspecialist to books and papers where fuller discussions of particular techniques are available.

KESSLER, HENRY HOWARD

Rehabilitation of the physically handicapped. Revised edition New York Columbia University Press 1953 275 p. 24 cm. $4 00 4289

Contents: Part I, Problems of the physically handicapped. General considerations. Problems of the disabled. The crippled child. The injured worker The disabled veteran. The chronic disabled. Part II, Principles of rehabilitation Physical restoration. Rehabilitation centers. Vocational guidance. Vocational training. Placement. Part III, Rehabilitation in practice The mentally and emotionally disabled. The orthopedic patient. The blind and the deaf. Medical and surgical invalids. Part IV A national program. Legislation and administration. A national challenge. Major centers and agencies for the handicapped. Index.

Note. This book by an internationally recognized authority is a standard general survey of rehabilitation. It discusses the problems of rehabilitation of all types of physically handicapped persons, not only war veterans, children, but also the blind, the deaf, and those with mental and emotional disorders. It deals with the problems and needs of the disabled with the principles of their rehabilitation and specifically with some of the rehabilitation techniques that have proved successful. A major premise is that the physically handicapped individual can often be restored to his full productive capacity in society when aided by intelligently directed medical and social therapy The final part describes the present organization of the rehabilitation of the handicapped in the United States of America, points out serious gaps in it, and suggests remedies. The first edition was published in 1947 The scope and organization of the book are unchanged in this second edition, but revisions have been made throughout in order to incorporate changes in the status of the physically handicapped and in efforts toward their rehabilitation that have occurred since the first edition was written. As would be expected, many of the revisions pertain to organization and legislation.

KNOTT, MARGARET, AND DOROTHY E. VOSS

Proprioceptive neuromuscular facilitation. Foreword by Sedgwick Mead. New York Paul B Hoeber Inc. Medical Book Department of Harper & Brothers, 1956. 135 p. illus. 27 cm $5.50 4290

Contents (abridged) Part I, Techniques of proprioceptive neuromuscular facilitation. Part II, Patterns of facilitation Part III, Reference tables. Evaluation and treatment program Part IV Reference tables. Index.

Note Rehabilitation methods developed by the authors at the Kabat Kaiser Institute are the basis of this manual, which is directed to graduate physical therapists. Some of the ideas basic to the methods are that better response is obtained from stretched muscle, stimulation of reflexes assists in neuromuscular movement, and that spiral and diagonal patterns of motion are the most effective Specific techniques for the stimulation and facilitation of specific patterns of movement are described in detail in the second and major part of the volume Each technique is described under the following subheadings "Antagonistic pattern," "Components of motion," "Normal timing," "Timing for emphasis," "Manual contacts," "Commands," "Pattern analysis," and "Limiting factors." Diagrammatic illustrations are included.

Kóvacs Richard

Electrotherapy and light therapy with essentials of hydrotherapy and mechanotherapy Sixth edition, thoroughly revised with 363 illustrations and a color plate. Philadelphia. Lea & Febiger 1950. 739 p. illus. (part col'd) 24 cm. $10.00. 4291

Contents (abridged) Part i, Electrophysics. Part ii, General electrotherapy and electrodiagnosis. Electromedical currents, apparatus and accessories. Electrophysiology Electrodiagnosis. The galvanic current and ion transfer. Medical diathermy Hyperthermy Electrosurgery. Electrical injuries. Part iii, Light therapy Physics of radiant energy Infrared and luminous radiation. Ultraviolet radiation—physics and effects. Heliotherapy Part iv Essentials of hydrotherapy and mechanotherapy Hydrotherapy Hypotherapy Massage. Exercise. Part v Applied physical therapy Cardiovascular conditions. Chronic arthritis and fibrositis. Affections of the central nervous system. Affections of bones, joints, muscles and tendons. Gynecological and genito-urinary conditions. Proctological conditions, by R. T Gorsch. Dermatological conditions. Diseases of the ear, nose and throat, by W Mezzana. Physical therapy in office practice. Physical therapy in institutional practice. Physical medicine and rehabilitation in general practice, by A. B. C. Knudson. Appendix. Glossary. Author index. Subject index.

Note A standard reference manual of physical medicine. Although there is some emphasis on electrotherapy and light therapy as indicated by the phrasing of the title, all of the physical therapies are included. The material is presented from the viewpoint of graduate physicians and physical therapists. Techniques are described separately first in general, then in relation to particular diseases. Selected literature references are included. The fifth edition was published in 1945. In this edition, there are new chapters, and many sections of those carried over have been revised or augmented. Seventy-five of the illustrations are new.

Kovács Richard

Light therapy Springfield, Ill. Charles C Thomas, 1950. 112 p. illus. 22 cm. (American lecture series. Publication no. 57 A monograph in American lectures in physical medicine edited by W A. Selle) $2.25 4292

Contents The history of light therapy Physics of radiant energy Infrared and luminous radiation. Ultraviolet radiation. Bibliography Index.

Note A brief survey of the current techniques in the therapeutic use of light and of infrared and ultra-violet radiation. Literature published as late as 1947 appears in the bibliography hence, there is some information in the book which is not to be found in older books on the subject. Essentially however it is a book to be used by graduate physicians who are not specialists in physical medicine but desire to know something about the status of light therapy The techniques discussed are those used in hospitals, doctors' offices, etc., in fact, warning against home use of "sunlamps" without the supervision of a physician is included in the book.

Rusk, Howard and Eugene J Taylor

Living with a disability By Howard A. Rusk and Eugene J Taylor in collaboration with Muriel Zimmerman and Julia Judson. New York The McGraw Hill Book Company Inc., 1953 207 p. illus. 22 cm. $3.50. 4293

Contents Taking advice. Three meals a day Looking your best. Keeping up appearances. Doing things differently Getting around indoors and out. Conquest of the kitchen. Living with your home. Time out to read. Picture credits. Index.

Note Written by staff members of the Institute of Physical Medicine and Rehabilitation in New York City the purpose of this book is to enable handicapped persons to achieve the greatest possible degree of independence, efficiency happiness, and comfort" in their daily lives. It is directed to the handicapped, and it provides ideas and specific instructions on performing the routines of living in spite of physical disabilities. It contains many pictures of devices and equipment and of unusual but practical ways of performing common tasks. Although some commercially developed aids, such as wheel chairs, are illustrated and their uses described, the main emphasis is on the adaptation of standard devices and utensils, that is to say adaptation of equipment available for the use of persons without disabilities. There are 213 illustrations, and the majority are reproductions of photographs.

Shestack, Robert

Handbook of physical therapy Foreword by I William Nachlas. New York Springer Publishing Company Inc. 1956. 212 p. illus. 21 cm. $4.25 4294

Contents. Part i, General considerations. History of physical therapy Ordering physical therapy Part ii, Physical therapy modalities: Radiant heat and infrared radiation. Diathermy (high frequency currents) Microwave diathermy Ultrasonics. Ultraviolet irradiation. Galvanic current (direct current). Low frequency currents. Electrodiagnosis. Faradic current. Paraffin baths. Hydrotherapy Massage. Exercise. Part iii, Physical therapy for medical conditions. Arthritic and rheumatic conditions. Degenerative joint disease (osteoarthritis). Peripheral nerve conditions. Neurological conditions. Peripheral vascular conditions. Acute joint injuries, allied conditions and orthopedic disorders. Fractures. Hand injuries. Poliomyelitis. Genitourinary conditions. Dermatologic conditions. Burns. Eye, ear, nose and throat conditions. Part iv Movements produced by muscles. Bibliography Index.

Note This book, written by a physical therapist of long experience, is well organized for both study and reference. It is limited to information on fundamentals and techniques, and is written in a concise style. The part devoted to modalities is 84 pages long; that on physical therapy for various medical conditions is 91 pages long. Both the modalities and their applications are specifically described for the benefit of both physicians who prescribe therapy and students of physical therapy Information is included on dosages, precautions and contraindications. The bibliography is a selected one designed as a guide to further reading rather than a list of references supporting the text.

Shriner, Mildred

Foundations for walking a practical guide for therapists, teachers and parents of cerebral palsied children. Chicago The National Society for Crippled Children and Adults, Inc., 1951 93 p. illus. 23 cm. $1.00. 4295

Contents Locomotion goals. The child needs the proper chair for sitting. The child needs other equipment to aid sitting balance. The child sits and gets around on all fours. The child is lifted and carried. The child stands. The child walks. The author. Bibliography

Note An authoritative booklet of practical techniques in the teaching of walking to children affected with cerebral palsy Most of the illustrations show special apparatus such as chairs, skate shoes, crawlers, specially adapted tricycles, parallel bars, and practice stairs. There is a bibliography of 21 references.

Soibelman Doris

Therapeutic and industrial uses of music a review of the literature. New York Columbia University Press, 1948 274 p. 20 cm. $3.25 4296

Contents Introduction. Opinions based on empirical methods. Experiments on physiological effects. Experiments on mood effects. Some interpretations. The application of music. Music in occupational and physical therapy Music and anesthesia. Music in industry Summary Bibliography Index.

Note Essentially a summation of the more important findings regarding the medical uses of music, as reported in the rather extensive literature of the subject. The mode of treatment is selective, and only those papers which report factual data and actual experiments are discussed. An appraisal of the arguments for and against the use of music as a therapeutic agent is presented in the final chapter. The majority of the references cited in the 14-page bibliography fall within the period 1940 to 1947

Steindler, Arthur

Kinesiology of the human body under normal and pathological conditions. Spring

field Ill Charles C Thomas 1955 708 p illus. 26 cm $19 75 4297

Contents (abridged) Part I, General kinetics The aims and purposes of kinesiology On the physical properties of bone. On functional adaptation of bone under pathological conditions. On the physical properties of cartilage, muscles, fascia and tendons. On the mechanics of joint and muscle action. On body balance and body equilibrium. On measurement and computation of bodily motion. Part II, The trunk Dynamics of the normal spine. Normal and pathological mechanics of the pelvis. Mechanics of respiration introduction and definition. Mechanics of posture. Part III, The extremities. Pathomechanics of the paralytic hip joint. Mechanics of the knee joint. Pathomechanics of the paralytic knee. Mechanics of foot and ankle. The lower extremity as a whole. Mechanics of shoulder-arm complex. Pathomechanics of paralysis of the shoulder Mechanics of the elbow joint. Mechanics of hand and fingers. The arm as a whole. Sprains of the joints of the upper extremity The pathomechanics of the more common fractures of the upper extremity The pathomechanics of the more common fractures of the lower extremity Part IV The gait. Author index. Subject index.

Note. A comprehensive and thorough presentation of the area of knowledge defined as "that part of physiology of motion which describes and analyzes locomotor events so far as they reflect the action of mechanical forces." It supersedes the author's *Mechanics of normal and pathological locomotion* 1935 It is organized in four parts, whose titles are given above, and in 38 "lectures" of which a selection is listed by title above. Except for the first part, which is devoted to basic aspects, discussions of the mechanics of normal joints and other locomotor and postural elements are followed by discussions of the mechanics of diseased ones. For example, the lecture on the mechanics of the normal knee joint is followed by 2 lectures on the mechanics of knee joints affected by deformity and paralysis. Although containing less mathematics and somewhat simpler in style than the earlier work, the book is still a very technical presentation suitable for specialists in physical medicine and orthopedics. Selected bibliographies are included and there is an adequate number of illustrations.

DIET THERAPY

BARBORKA, CLIFFORD JOSEPH

Treatment by diet. Fifth edition. 14 plates including 13 in color Philadelphia J B Lippincott Company 1948 784 p illus. (part col d) 26 cm $12 50 4298

Content (abridged) Part I, Diet in health. Part II, The application of diet therapy Part III, Diet in disease, Section A, Diseases in which diet is of paramount importance Diabetes mellitus. Gout. Overweight—obesity Underweight—emaciation. Nephritis. Diseases of the digestive tract. Deficiency diseases. Section B, Conditions in which diet is of varying importance Diseases of circulation. Febrile diseases. Diseases of esophagus and stomach. Diseases of the liver Diseases of the gallbladder Diseases of the intestines. Food allergy Diseases of the urinary tract. Addison's disease. Hyperinsulinism. Protein and amino acids in nutritional therapy Chronic arthritis. Pregnancy and lactation. Ketogenic diet. Diet and skin diseases. Part IV Routine hospital diets—preoperative and postoperative dietary management. Part V Appendix. Bibliography Index.

Note An encyclopedic manual of nutrition and diet, which has been specifically designed for the use of general practitioners of medicine. A brief description of each disease precedes the discussion of dietary considerations and principles in connection with it A large part of the text consists of tables of dietary information and menus which have been worked out to suit specific disorders or nutritional requirements There are brief mentions of certain other therapies used with dietary treatment. In this edition the work has been very substantially revised. There is a new chapter on deficiency diseases and another on diseases of the skin Changes in the illustrations include a new series of color plates which show comparative servings of various kinds of food as recommended by the Food and Nutrition Board of the National Research Council. The bibliography is exceptionally full.

GOODHART ROBERT S , editor

Nutrition in the practice of medicine with comments on nutrition disease and geography Proceedings of the Nutrition Symposium held at the University of California School of Medicine, San Francisco October 30 1951 Edited by Robert S Goodhart, New York The National Vitamin Foundation, Inc, 1952 163 p illus. 23 cm. (Nutrition symposium series. No 4) $1 50 4299

Contents. Some factors related to intestinal absorption, by P J Culver Nutritional aspects of liver disease in man, by R. M. Kark. Influence of pancreatic insufficiency on nutrition, by H. Necheles. Nutritional and metabolic disturbances in ulcerative colitis, by J. A. Bargen. Some aspects of nutrition in relation to tissue development and maintenance by F J Stare. Some features of tissue changes induced by nutritional deficiencies, by P R. Cannon. Some international economic aspects of nutrition, by J. R. Condliffe.

Note Each of the papers in this book is original and is written at the research level. In most instances the results of recent investigations and observations are described, and in some of the papers particular stress is laid on problems still awaiting solution. A transcript of the discussion which followed the presentation of each paper is included, and literature references are supplied.

MCLESTER, JAMES SOMERVILLE, AND WILLIAM J DARBY

Nutrition and diet in health and disease. Sixth edition. Philadelphia W B Saunders Company 1952 710 p. 24 cm. $10 00. 4300

Contents (abridged) Part I, Nutrition in health Utilization of food. The vitamins. Inorganic nutrients. Milk and milk products. Meat, fish and eggs. Other foods. Feeding of infants. Nutrition in pregnancy and lactation. Part II, Nutrition in disease. Deficiency diseases. Diabetes mellitus. Gout. Obesity and leanness. Diseases of the kidney and urinary tract. Diseases of the digestive organs. Febrile diseases. Diseases of the heart and arteries. Diseases of the joints. Diseases of the nervous system. Endocrine disorders. Diseases of the skin. Nutrition in surgery Special methods of feeding. References. Supplementary tables. Composition of foods. Index.

Note. A technical survey of the available information on nutrition both in health and in disease. Although it contains much information which is valuable to physicians, nurses, and public health workers, it is addressed not only to such readers but intended also for nutritionists, teachers of home economics, etc. It is based on the literature, and both the text and the tables are referenced to the bibliographies. The first edition was published in 1927 and the fifth edition in 1949 The sixth edition is the first one to bear the name of a collaborator on the title page. In comparison with the preceding edition it is a very extensive revision with newly added information in practically every chapter There are now 143 tables, some of which are statements of recommended menus for patients for use in the treatment of specific diseases The bibliographies are not comprehensive but include the classical references and the more useful modern studies.

MAYO CLINIC COMMITTEE ON DIETETICS

Mayo Clinic diet manual Second edition. Philadelphia W B Saunders Company, 1954 247 p illus. 24 cm. $5 50 4301

Note A reference manual of specific information and detailed descriptions of specified diets developed and used at the Mayo Clinic and associated institutions. It is designed for persons with training in medicine or dietetics rather than for patients and the general public.

RICE, THURMAN BROOKS

Low sodium diet a manual for the patient. Philadelphia Lea & Febiger 1951 103 p. 24 cm $2 75 4302

Contents The forms of sodium found in food. Why sodium may be injurious. Where and how does one get low-sodium food? Eating out. Originality and ingenuity in the low-sodium diet. The psychology of dieting. Errors and penance. Body weight in relation to the low-sodium diet. The use of sodium compounds in the processing of foods. Suggestions for the preparation of low-sodium menus. Food lists rated by content of natural sodium. Typical charts for study and consideration. Water supplies in relation to sodium content. Appendix. Index.

Note A graduate physician who is on a low-sodium diet himself wrote this practical guide for those who must also follow such diet and for those who prepare menus for them.

Wohl, Michael G., and Robert S. Goodhart editors

Modern nutrition in health and disease dietotherapy 55 contributors. 80 illustrations and 127 tables. Philadelphia. Lea & Febiger 1955 1,062 p. illus. 24 cm. $18.50 4303

Contents (abridged) Part I, Normal nutrition. The physiology of the gastro-intestinal tract and its bearing on nutrition, by J. L. Bowman and E. E. Wasinger. The hormonal control of metabolism, by E. P. Ralli and M. E. Dumm. The psychology of appetite, by E. W. Brown. Physiology of hunger, appetite and satiety by J. R. Brobeck. Digestion, absorption and metabolism of protein, by E. Geiger. The role of carbohydrates in the diet, by S. Soskin and R. Levine. The absorption, digestion, and metabolism of fats and of related lipids, by H. J. Deuel, jr. Iron and the essential trace elements, by C. V. Moore. The vitamins, by R. M. Kagan and others. Fluid and electrolyte balance, by C. Alper. The relation of diet to oxidative enzymes, by R. A. Harte and B. F. Chow. Dietary interrelationships, by B. Sure. Part II, Nutrition in disease. Nutrition in relation to infection and immunity by J. A. Kolmer. Principles of dietotherapy by M. G. Wohl. Dietary treatment in diabetes mellitus, by H. F. Root and C. C. Bailey. Nutrition in renal disease, by H. M. Odel. Nutrition in endocrine disease, by B. Hudson and M. Rapaport. Nutrition in cardiovascular disease, by H. M. Odel. Nutrition in the anemias, by W. C. Spain and others. Nutrition in rheumatism, arthritis and gout, by T. B. Bayles. Nutrition in the care of the surgical patient, by I. S. Ravdin and H. A. Zintel. Part III, Nutrition in periods of physiologic stress. Nutrition in pregnancy by W. T. Tompkins. Nutrition in the aged, by E. J. Stieglitz. Emergency feeding, by R. S. Goodhart. Appendix. Index.

Note A successor to M. G. Wohl, editor, *Dietotherapy*, 1945. It provides a comprehensive view of nutrition from the viewpoint of preventive medicine and clinical medicine. There are three parts and 57 chapters, of which selections are listed above by author and title. The space is almost evenly divided between the section on normal nutrition and the section on nutrition in disease. In both parts the chapters are compactly written. Many of them are essentially literature surveys containing the gist of cited articles but referring to the periodical literature for full details. To cite an example, diseases in relation to dental caries are discussed in only four pages, but there are 10 references to the literature. Summary data are included in some of the chapters. Most of the contributors are associated with the faculties of medical schools.

SURGERY

Ackerman, Lauren V

Surgical pathology With 913 illustrations. St. Louis The C. V Mosby Company 1953 836 p. illus. 26 cm. $11.00. 4304

Contents Introduction. Skin. Oral cavity. Mandible and maxilla. Respiratory tract. Mediastinum. Parathyroid. Thyroid. Gastrointestinal tract. The major and minor salivary glands. Liver. Gall bladder. Pancreas and periampullary region. Adrenal gland. Genitourinary tract. Male reproductive system. Female reproductive system. Breast. Lymph nodes. Spleen. Bone and joint. Soft tissues. Peritoneum and retroperitoneum. Vessels. Central nervous system, by D. E. Smith. Index.

Note Primarily a textbook directed to medical college students who have acquired a knowledge of general pathology, this book deals with the pathology of conditions for which surgery is the indicated therapy. It is devoted largely to the more common of such conditions, although a few rare diseases are described. As would be expected, there is much description of tumors, both benign and malignant. The illustrations which include many reproductions of microphotographs as well as photographs of gross pathology are an outstanding feature. Literature references are included for all of the chapters. The author is Professor of Surgical Pathology and Pathology at the School of Medicine of Washington University.

American College of Surgeons. Committee on Trauma

Early care of acute soft tissue injuries. Chicago American College of Surgeons, 1954 192 p. illus. 21 cm. $1.00. 4305

Contents General principles of care of open wounds. First aid and early care. Physical examination of the injured. Management of acute head injuries. Management of acute injuries of the spinal cord. Principles of treatment in severe facial injury. Initial treatment of acute injuries of the eye. Management of acute injuries to the neck. Initial management of patients with thoracic injuries. Early care of injuries to the abdomen. Early care of injuries of the genito-urinary tract. Injuries to the soft tissues of the extremities. Management of acute peripheral nerve injuries. Care of hand injuries. Amputations. Open wounds of joints. Vascular injuries. Treatment of burns. Early recognition and management of shock. Use of antibiotics and sulfonamides in treatment of acute injury. Anesthesia in care of the injured. Immunization in prophylaxis for tetanus and gas gangrene.

Note A complementary work to the American College of Surgeons' *Outline of the treatment of fractures*. It is equally authoritative. The selection of topics and the writing of the separate chapters were carried out under the College's Committee on Trauma. Authorship of the various chapters is given in the book's Foreword. It is addressed to all physicians who may be called upon for the first treatment of persons injured in accidents, whether the physician be a general practitioner or a specialist required to render a kind of surgical aid which is outside his specialty. Specific and reliable advice is given on immediate and early care of a full range of acute injuries to the soft tissues of the body.

Anson, Barry Joseph, and Walter G Maddock

Callander's surgical anatomy Third edition, with 929 illustrations. Philadelphia W B Saunders Company 1952 1,074 p. illus. 26 cm. $14.00. 4306

Contents (abridged) Part I, The head. Part II, The neck. Part III, The thorax. Part IV, Abdomen. Part V, The pelvis. Part VI, Male perineum and external genitalia. Part VII, Female perineum and external genitalia. Part VIII, The vertebral column, vertebral canal, and spinal cord. Part IX, Upper extremity. Part X, Lower extremity. Index.

Note One of the standard American texts for medical college students preparing for surgery. The primary emphasis is on anatomy but the basic material is carefully related to surgical technique and to related topics, such as anesthesia. The preceding edition appeared in 1939 and was the work of Dr. C. L. Callander. In this edition, the work is substantially enlarged, and there are many new illustrations. The authors are members of the faculty of Northwestern University Medical School.

Bacon, Harry E., and Stuart T Ross

Atlas of operative technic anus, rectum, and colon. With 403 illustrations. St. Louis The C. V Mosby Company 1954 301 p. illus. 30 cm. $13.50 4307

Contents (abridged) General considerations. Part I, Anorectal operations. Part II, Colonic operations. Index.

Note The authors of this book are eminent American specialists in proctology and the surgical techniques described have all been tested in their own practice. Seventy pages at the beginning of the work are devoted to general and background information on regional anatomy, preoperative and postoperative care of patients, anesthesia, instruments, and surgical methods of opening and closing the abdomen. This preliminary section is followed by the atlas proper which consists of large-scale reproductions of drawings and concise explanatory text. The material is organized so that in most cases the drawings showing the steps in a specific operation are printed on a right-hand page with the text pertaining to them on the facing left-hand page. However, more pages are devoted to complicated operations, for example, to the Miles technique for abdominoperineal excision of the rectum, which is described in 13 illustrations and accompanying text which together occupy 12 pages. The drawings are clear and are reproduced in large scale.

Beal, John M., editor

Manual of recovery room care. By members of the Department of Surgery the New York Hospital—Cornell Medical Center New York. The Macmillan Company 1956. 111 p. illus. 24 cm. $3 75 4308

Contents: General considerations, by R. B. Stark. Administrative considerations, by T. F. Stark. Recovery room nursing, by G. Jones. Respiration, circulation, and pain in the recovery room,

by J F Artusio, Jr The administration of intravenous fluids in the recovery room, by D M. Hays. Care of the general surgical patient, by J. M. Beal. Care of the patient following thoracotomy by W D O'Sullivan. Care of the neurosurgical patient, by R. A. Clark Jr and H Parsons. Care of the ophthalmological patient, by S. S. Snyder Care of the plastic surgical patient, by R. B. Stark. Care of the urological patient, by R. M. Spellman. Care of the ear nose and throat patient, by J. M. Holman. Care of the orthopedic patient, by L. R. Straub. Cardiac arrest in the recovery room, by G. R. Holswade. References. Index.

Note. The management of surgical patients in the hours immediately following operation is described in this authoritative and useful book. The subject is covered from a viewpoint that makes the book of interest to hospital administrators and nurses as well as to surgeons. Organization, equipment and record-keeping are discussed from the administrative viewpoint, while the chapters on patient care are written from the viewpoint of nurses in charge of recovery rooms and surgeons, especially the latter. The book is based on the experience and practices of the New York Hospital—Cornell Medical Center which has had recovery rooms as part of its operating theater since 1907

Beneventi, Francis A.

Retropubic prostatectomy for benign enlargement of the prostate gland. Art direction and 44 original drawings by William P Didusch. Springfield, Ill. Charles C Thomas, 1954 227 p illus (part col'd) 29 cm $11 00 4309

Contents Anatomy Vascular anatomy Prostatic enlargement. Preoperative management. Technique of retropubic prostatectomy Discussion of the steps of the operation and variations in technique. Postoperative management. Postoperative complications. Osteitis pubis. Evaluation. History Author index. Subject index.

Note. An important work on the surgical technique of retropubic prostatectomy A detailed and fully illustrated description of the surgical technique as the author has developed it in a long series of cases is a principal feature. The anatomy and pathology are described at length and the chapters on postoperative management and complications are adequate. The chapter on osteitis pubis is an extensive and careful review of the relation of this disorder to retropubic prostatectomy Literature references are included in all of the chapters, and the names of the authors of the cited literature are brought out in the index. There are 74 figures, including eight in color Most of the figures are reproduced in large scale.

Bleck, E E., and others

Atlas of plaster cast techniques By E E Bleck, Nellie Duckworth and Nancy Hunter Chicago The Year Book Publishers, Inc. 1956 128 p illus. 25 cm $4 75 4310

Contents Plaster of paris. Plaster room equipment. General technique. Lower extremity casts. Body casts. Upper extremity plaster casts. Wedging casts. Plaster cast complications Removal of plaster casts. Appendix. Bibliography Index.

Note. In this book, the techniques of making plaster casts are explained largely by photographs, which are arranged in step-by-step sequence for each kind of cast. To cite an example the various steps in making the kind of cast known as the long leg cast is shown in a series of 15 reproductions of photographs, and each photograph is accompanied by a short legend in which the step depicted is described verbally Altogether there are 347 illustrations. The book is intended for the instruction of technicians and medical graduates, who are new to the art of making plaster casts, and to graduate physicians, surgeons and nurses who make them only occasionally and therefore need a simple book for reference.

Bowers Warner F, editor

Surgery of trauma. With forewords by Melvin A. Casberg and Surgeons General of the Army the Navy and the Air Force 284 illustrations. Philadelphia J B Lippincott Company 1953 605 p illus 26 cm $15 00 4311

Contents (abridged) Section I. Physiologic aspects of the management of trauma Basic factors in wound healing, by W F Bowers. Wound healing in specialized tissues, by W F Bowers and others. Healing of wounds due to special agents, such as thermal, chemical and electrical injuries, by G. K. Lewis and others. Responses of the body to wound, by W F Bowers and others. Wound infections, by W A. Altemeier and others. Section II. Regional wound surgery Craniocerebral trauma, by D D. Matson. Penetrating wounds of the spinal cord, by E. Campbell and A. Meirowsky Peripheral nerve wounds, by B. Woodhall and F Nulsen. Early and late care of the traumatic maxillofacial wound, by B. N Soderberg. Eye wounds, by F Harbert. Neck wounds, by M. E. Lichtenstein. Thoracic wounds, by J H. Forsee. Abdominal wounds, by R. M. Zollinger and H. D Sisk. Wounds of perineum, rectum and buttocks, by F B. Berry and R. H. Wylie. Vascular wounds, by G. H. Pratt. Fractures occurring in war wounds, by M. Cleveland. Wounds of the hand, by O. S. Lentz. Amputations, by L. T Peterson. Wounds of joints, by O. P Hampton, Jr. Genito-urinary wounds, by J. C. Kimbrough. Cold injuries, by H. B Shumacker Burns, by C. P Artz and others. Section III. Military considerations in wound management Surgical implications of the evacuation and the distribution of war casualties, by W F Bowers. Classification and nomenclature of wounds, by R. H. Holmes. Wound ballistics, by C. M. Herget. Management of the wounded soldier, by F K. Hagman and others. General wound management, by O. B. Bolibaugh. Section IV Study methods and research problems. Study methods and research problems, by W F Bowers. Bibliographic index. Subject index.

Note. A treatise of primary importance. It is based largely on experience during World War II and the conflict in Korea, and it covers not only first aid, but definitive treatment, both medical and surgical, and for some types of trauma such as wounds of the hand, rehabilitation. Altogether there are 28 chapters written by 43 authors. Some of the chapters include advice on psychological aspects of management of patients. The illustrations include many photographs of severe wounds as well as drawings and radiographs pertaining to their therapy Preparation and publication of the work was sponsored by the Medical Policy Council of the Armed Forces of the United States of America. Its usefulness is not limited to military medicine, but is applicable also to the care of civilians injured in war or in other large-scale catastrophes.

Boyd, William

Pathology for the surgeon Seventh edition. With 547 illustrations including 10 in color Philadelphia W B Saunders Company 1955 737 p. illus. (part col d) 26 cm. $12.50. 4312

Contents. General surgical pathology The surgeon and the pathologist. Inflammation and repair Wound infections. The granulomata. Gangrene. Shock and burns. Coagulation, thrombosis and embolism. General pathology of tumors. Special surgical pathology: The mouth and jaws. Neck, salivary glands and esophagus. The thyroid gland. The stomach and duodenum. The small intestine. The colon and rectum. The vermiform appendix. The gall bladder and liver. The pancreas. The peritoneum. The upper urinary tract. The lower urinary tract. The male reproductive system. The female reproductive system. The breast. The spleen. The lymphatic system. The cranium and its contents. The spine, spinal cord and nerves. The bones. The joints. The soft tissues. The skin. The endocrine glands. The cardiovascular system. The lungs and mediastinum. Index.

Note Originally entitled *Surgical pathology* this book passed through six editions between 1925 and 1947 It has been retitled in this seventh edition because it has been completely rewritten and its scope changed somewhat It is still a survey of pathology from the surgeon's viewpoint, but there is more emphasis on basic anatomy physiology and clinical manifestations. Important terms in the text are italicized. Undoubtedly the purpose of this feature is to facilitate the use of the book for review In fact, the book is now directed primarily to medical college graduates who are preparing for examinations in specialty boards. The chapters include selected and classified references for further study The index is an exceptionally detailed one.

Brown James Barrett, and Frank Mc Dowell

Neck dissections. Springfield Ill. Charles C Thomas 1954 163 p. illus. (part col d) 22 cm. (American lecture series. Publication no. 207 A monograph in the Bannerstone division of American lectures in surgery edited by Michael E. De Bakey and others) $7 50 4313

Surgery

Contents: General considerations. Special considerations in cancer of the lip. Treatment of primary lesions as it may affect neck dissection. Preoperative considerations, anesthesia, and keeping the mortality low. Operative technique for complete unilateral neck dissection. Operative technique of bilateral upper dissection (supra-omohyoid dissection). Combined neck dissection and jaw resection. Special considerations in the treatment of some lesions. Postoperative care, late results of operation. Bibliography. Index.

Note: Surgical operations on the neck for the eradication of metastases from cancer of the mouth and lip are the subject of this book. Although the surgical techniques are the principal subject, considerable space is devoted also to background information on such aspects as physical examination, diagnosis, the resistance of metastatic neck carcinoma to radiation, and preoperative and postoperative care. The book is based on extensive experience with the operations described and on the literature. There is a bibliography of 217 references. The figures, of which there are 82, include photographs of gross pathology, before-and-after photographs of patients, and drawings of surgical techniques. The authors are teachers of clinical surgery in Washington University School of Medicine.

BUNNELL, STERLING

Surgery of the hand. Third edition. 1,047 illustrations and 9 color plates. Philadelphia J B Lippincott Company 1956 1 079 p. illus. (part col d) 26 cm. $22.50. 4314

Contents: Part one. The hand. Phylogeny and comparative anatomy. The normal hand. Part two. Reconstruction of the hand. Examination of the hand. Skin and flexion contractures. Bones. Joints. Nerves. Tendons. Intrinsic muscles of the hand—loss of the thumb—methods of supplying. The arm in its relation to the hand. Part three. Injuries and infections of the hand. Injuries of the hand—fractures and dislocations. Infections of the hand. The hand in industry. Part four. Other conditions of the hand. Congenital deformities. Tumors and trophic conditions. Tetanus of the hand, by L. D. Howard, Jr. Index.

Note: An authoritative and comprehensive treatise, widely recognized as the leading work on its subject since the publication of the first edition in 1944. The composite nature of hand surgery embracing segments of orthopedic, plastic and neurologic surgery is stressed, and the book is written from this viewpoint. Surgical techniques are described in full detail. However, the book is not limited to them, but includes related material such as medical treatment for burns. The illustrations are outstanding. All are clearly reproduced, and many of them are in large scale. The second edition was published in 1948. More than 170 new illustrations have been added in this third edition, and the verbal text has been revised to include the advances in hand surgery made since the second edition was written.

CATTELL, RICHARD B., AND KENNETH W WARREN

Surgery of the pancreas. Philadelphia W B Saunders Company 1953 374 p. 100 illus. 26 cm. $10.00. 4315

Contents: The anatomy and physiology of the pancreas. Congenital malformations of the pancreas. Acute pancreatitis. Chronic relapsing pancreatitis. Pancreatic cysts. Pancreatic injuries. Islet cell adenoma and hyperinsulinism. Carcinoma of the pancreas and periampullary area. Total pancreatectomy. Index of authors. Subject index.

Note: A monograph based in part on the literature and in part on experience with over 1,000 patients with surgical diseases of the pancreas treated at the Lahey Clinic in Boston. Although surgical procedures are described, and there are some discussions of chosen operative procedures, congenital abnormalities and diseases of the pancreas are the principal subjects. Diseases are described in regard to etiology, pathology, diagnosis, differential diagnosis, complications, and treatment. Medical treatment is included where applicable, as in acute pancreatitis. The authors' experience with different operative procedures is described. Numerous case reports, supplemented in some instances by special comments by the authors, are included. The chapter on total pancreatectomy analyzes the known cases, presents the results in two tables, and concludes with an appraisal of this technique. Bibliographies are extensive. There are 100 figures.

COLE, WARREN HENRY editor

Operative technic in general surgery. Second edition. With 67 contributing authors. New York Appleton-Century-Crofts Inc., 1955 973 p. illus. 25 cm. $20.00. 4316

Contents: Introduction, by F. H. Lahey. Wound healing and the care of wounds, by E. L. Howes. Hemorrhage and shock, by J. D. Stewart. Blood transfusion and fluid problems, by J. G. Allen. Burns, by C. C. Lund and S. M. Levenson. Preoperative and postoperative care, by R. Elman. Amputations, by F. M. McKeever. The esophagus, by W. E. Adams. Abdominal incisions, by F. A. Coller and K. F. Maclean. Surgery of the stomach and duodenum, by W. Walters and E. A. Gray. Gastric vagotomy in the treatment of peptic ulcer, by L. R. Dragstedt. Surgery of the small intestine, by C. Dennis and P. E. Lane. Gastrointestinal surgery in infancy and childhood, by W. L. Riker. The pancreas and the adrenals, by A. Brunschwig. The gallbladder and bile ducts, by W. H. Cole. The liver and subphrenic space, by A. Ochsner and M. E. DeBakey. The colon, by R. R. Graham and J. Gray. The appendix, by J. T. Reynolds. The lower part of the sigmoid, the rectum and anus, by C. F. Dixon and A. L. Lichtman. The lymphatic system, by R. K. Gilchrist. The spleen, by W. H. Cole. Abdominal hernia, by E. P. Lehman and C. E. Davis, Jr. The breast, by T. G. Orr. The thyroid and parathyroid glands, by J. deJ. Pemberton and B. M. Black. The muscles, tendon sheaths, tendons, and bursae, by H. L. McLaughlin. Surgery of the hand and its tendons, by H. S. Allen and S. L. Koch. The skin and subcutaneous tissue, by F. Glenn and R. B. Stark. Index.

—— Operative technic in specialty surgery. Second edition. With 67 contributing authors. New York Appleton-Century-Crofts Inc. 1956. 967 p. illus. 25 cm. $20.00 set $37.50 4317

Contents: Introduction, by A. O. Whipple. The blood vessels, by M. E. DeBakey and others. The heart and pericardium excluding congenital and valvular lesions, by C. S. Beck. Congenital malformations of the heart and great vessels, by J. H. Gibbon, Jr. and H. C. Land. Cardiac septal defects and open cardiotomy; hypothermia and the heart-lung machine, by J. H. Gibbon, Jr. and H. C. Land. Intracardiac surgery for acquired valvular heart disease, by J. C. Jones and R. W. Meyer. The surgery of portal hypertension, by N. A. Womack. Thoracic wall, pleural cavity, lungs, and diaphragmatic hernia, by J. M. Dorsey. *The face, mouth, jaws, and neck,* by J. B. Brown and F. McDowell. Plastic surgery, by P. W. Greeley. Fractures, by J. A. Key. Hematogenous osteomyelitis, by F. Dickson. Deformities and neoplasms of the bone, by C. E. Badgley. Surgical approaches to the joints, by L. R. C. Abbott and others. The orthopedic surgical treatment of spastic paralysis and anterior poliomyelitis, by F. A. Chandler. The autonomic nervous system, by R. H. Smithwick. Peripheral nerves, by R. G. Spurling. Scalp, cranium, and brain, by M. A. Brown and [illegible]. The spinal cord, by Cobb Pilcher and W. F. Meacham. Lesions of the cranial nerves, by B. S. Ray. Gynecologic surgery, by J. V. Meigs and L. Parsons. The male genitourinary system, by D. K. Rose. Index.

Note: The two volumes of this work are uniform in format and are edited and written from the same viewpoint. The editor is Head of the Department of Surgery of the College of Medicine of the University of Illinois, and the contributors are eminent teachers and practitioners of surgery in the United States of America and Canada. The books are essentially graduate-level textbooks, used primarily in the instruction of medical college graduates who are preparing for the specialty of surgery. They are useful also to practicing surgeons as reference books. Despite the length of the respective volumes, they are not cyclopedic. The contributors have not attempted to cover their topics historically but have limited themselves largely to describing techniques which they themselves use. These techniques are described concisely and in detail. Related matters such as etiology, clinical picture, and diagnosis also are discussed. The first edition of both volumes was published in 1949. Each volume contains approximately 500 illustrations. Several chapters were added in both volumes in the second edition, and some of the chapters carried over were revised, in some cases by the original author and in others by a collaborating author.

COLE, WARREN HENRY AND ROBERT ELMAN

Textbook of general surgery. Foreword by Evarts A. Graham. Sixth edition. New York Appleton-Century-Crofts, Inc., 1952 1 154 p. illus. 24 cm. $12.50. 4318

Contents (abridged) Inflammation and repair Acute surgical infections. Ulcer gangrene sinus, fistula. Surgical methods. Anesthesia. Wounds. Amputations. Surgery in diabetes. Shock and hemorrhage. Thermal, chemical and electrical trauma. Fractures, dislocations and sprains. Blood vessels. The lymphatic system. The nervous system. Liver gallbladder pancreas and spleen. The alimentary tract. The peritoneal cavity Hernia. Surgical diseases of the chest, by E. A. Graham and T H. Burford. The endocrine glands. Gynecology Military surgery by F B Berry Index of authors. Index of subjects.

Note A standard textbook for medical college courses. It covers the physiological and pathological bases of surgery and describes the main surgical diseases with emphasis on their etiology and clinical manifestations. The treatment of each disease is also outlined, and nonsurgical therapies are considered, along with surgical ones. Numbers inserted in the text lead the reader to citations of related literature where fuller discussions of particular therapies can be found. The fifth edition was published in 1948. Important though moderate revisions and additions were made in preparing this edition. The revised and added material relates to such fields as thoracic surgery cardiac surgery gastrointestinal surgery and vascular surgery

Cutler, Elliott Carr, and Robert M Zollinger

Atlas of surgical operations Second edition. Illustrated by Mildred B Codding New York The Macmillan Company, 1949 225 p. illus 38 cm. $12 00 4319

Contents (abridged) I. General considerations Surgical technic. Anesthesia. Preoperative and postoperative care. II. Surgical operations Neck. Chest. Abdominal wall. Gastro-intestinal system. Pilonidal sinus. Spleen. Gynecologic system. Extremities. Genito-urinary system. Central nervous system.

Note In this work, the common surgical operations are described by means of brief text, and fairly detailed drawings arranged in sequence for each operation. The book is made up so that the drawings are on right-hand pages and the explanatory text is on facing left-hand pages. It is not work for specialists, but it is a useful one for advanced medical students, young surgeons, and general practitioners doing occasional surgery In the present edition 30 procedures have been added. New illustrations are of course included for these, and in addition many of the illustrations that were in the original edition have been redrawn.

Davis, Loyal, editor

Christopher's textbook of surgery Sixth edition. Edited by Loyal Davis 1,359 illustrations on 716 figures Philadelphia W B Saunders Company 1956 1 484 p. illus. 26 cm. $15 50 4320

Content History of surgery by A. O Whipple Physiology of wound healing, by W A. Altemeier and J M. Stevenson. Surgical bacteriology chemotherapy and antibiotic therapy by F L. Meleney Shock, by I. S Ravdin and J E. Eckenhoff Principles of pre- and postoperative care, by R. L. Varco and B Zimmermann Endocrinology and metabolism in surgical care by F D Moore and R W Sternburg. Anesthesiology by J Adriani. Basic principles of technique in surgical care by F Lounsbury The principles of the surgical care to the soft tissues, by H S Allen. Thermal and irradiation injuries, by H. S. Allen and others The head, by L Davis and others The neck, by W W Carroll and F J Putney The thyroid and parathyroid glands, by G Crile Jr and R W Schneider The breasts, by L MacDonald The mediastinum, by J M Dorsey The thoracic wall, pleura and lungs, by W E. Adams and others. The heart and pericardium by C. A Hufnagel The abdominal wall and peritoneum, by M E Lichtenstein. Hernia, C B McVay The alimentary canal, by T H. Lanman and others. The liver and biliary system, by F Glenn and A H Blakemore The pancreas, by J M Waugh and G A Hallenbeck The adrenal glands, by J H. Harrison and R E. Dennstein The spleen, by R. M Zollinger and R D Williams The urinary system, by R. M Nesbit and others. The male reproductive system, by L W Riba. The female reproductive system, by J C Burch and others. The bones and joints, by R H Kennedy and others Surgery of the hand, by M L. Mason Surgery of the foot, by P Lewin Amputations and artificial limbs, by R. H Alldredge Physical medicine and rehabilitation by L. B Newman. The vascular system, by H. Laufman and others. The nervous system, by L. Davis and others. The qualifications of surgeon, by P R. Hawley Index.

Note. First published in 1936 this book has enjoyed the use of a standard medical-college textbook for two decades. The present edition is the first to be edited by Dr Loyal Davis, he Chairman of the Department of Surgery of Northwestern University Medical School. The book has been extensively reorganized and revised. It is now more than ever presentation of basic information, facts and principles which underlie the practice of surgery including the practice of surgical specialties. There are 55 chapters whose titles are given above. Many of the chapters consist of separate sections written by various contributors. For example, the chapter on the head is composed of six signed subsections. The subsections vary in style, but none is overly compressed. Literature references designed as guides to further study are included, and there is fully detailed subject index.

Dodson, Austin Ingram

Urological surgery With contributions by R. Carl Bunts and others. Third edition. With 664 illustrations St. Louis The C. V Mosby Company, 1956 868 p. illus. 26 cm. $20 00 4321

Contents (abridged) Diagnosis. Preoperative and postoperative care of the urological patient, by C. M. Nelson. Anesthesia in urological surgery by W E. Pembleton. Congenital anomalies of the kidney and their treatment. Renal tuberculosis and its treatment, by T L. Howard. Injuries of the kidney and their treatment, by G. C. Prather Nephroptosis and its treatment. Renal calculi and their treatment. Hydronephrosis—surgical treatment of obstruction at the ureteropelvic junction. Cysts of the kidney and their treatment. Nephrectomy The adrenal glands, by A. I Dodson, Jr Surgical diseases of the ureter and their treatment. Ureteral calculi and their treatment. Injuries of the ureter and their treatment, by G. C. Prather Ureteral anastomoses and implantations. Injuries of the bladder and their treatment, by G. C Prather Surgical treatment of urinary tract dysfunction due to disease or injury of the nervous system, by R. C. Bunts. Surgical treatment of bladder tumors. Surgical treatment of strictures and fistulas of the male urethra, and perineal defects. Injuries of the urethra and their treatment, by G. C. Prather Surgical conditions of the female urethra and their treatment. Surgical conditions of the scrotum and their treatment. Surgical conditions of the testis and their treatment Endocrinology and endocrine therapy of the prostate, by L. D Keyser The prostate gland. Postoperative urinary incontinence Index.

Note. Exceptionally detailed descriptions of surgical techniques are a principal feature of this standard work. These descriptions are based largely on the author's own practice, and they cover not only the incision to be made but also such matters as the suture to be used and the types and diameters of sutures. In addition to the surgical techniques, information is included on the diseases and disorders for which surgical therapy is indicated, and on necessary pre- and postoperative care, etc The illustrations include many clear reproductions of excellent drawings. The second edition published in 1950. Numerous changes including the deletion of three chapters, the addition of two, and the revision of several others, were made in preparing this third edition.

Donaldson, Joy Kenneth

Surgical disorders of the chest diagnosis and treatment. Second edition thoroughly revised With 146 illustrations and 2 color plates Philadelphia Lea & Febiger 1947 485 p illus. (part col d) 24 cm. $8.50 4322

Contents (abridged) Part I, Inflammations, tumors, congenital anomalies of the thoracic wall and thoracic injuries. Part II, Nontuberculous intrathoracic infections, pleurisy including tuberculous empyema pulmonary embolism and infarction intrathoracic tumors and congenital abnormalities. Part III, Surgical therapy in pulmonary tuberculosis—comments on anesthesia and prevention and treatment of postoperative pulmonary complications—resuscitation and inhalation therapy Index.

Note Written for nonspecialists in thoracic surgery this work nevertheless presents very inclusive account of modern techniques in this field. Etiology pathology diagnosis, and treatment, both surgical and nonsurgical, are covered compactly but adequately The purpose is twofold (1) to aid general practitioners and diagnosticians in diagnosis and in deciding when reference to a specialist is indicated and (2) to aid general surgeons in performing operations on patients who cannot be sent to specialist. To aid the latter group, modern operative techniques are described in considerable detail. In preparing the present edition the work ...

thoroughly revised and is now about 100 pages longer. In addition to considerable reorganization, there are several new chapters, and most of the older ones have been revised. Good bibliographies accompany the chapters. There are now 145 illustrations. Many of them, unfortunately, are poorly reproduced.

FERGUSON L. KRAEER

Surgery of the ambulatory patient. With a section on fractures by Louis Kaplan. Third edition. 664 illustrations. Philadelphia J B Lippincott Company 1955 866 p illus. 24 cm. $12.00. 4323

Contents: Part I, Surgical principles and technic: A survey of the field of ambulatory surgery. Equipment for surgery of the ambulatory patient. Anesthesia, by H. H. Stone. Preparation for and conduct of operations on ambulatory patients. Postoperative care. Dressings and bandages. Treatment of inflammation due to infection, by E. J. Pulaski. Specific surgical lesions, by E. J. Pulaski. Open wounds. Burns and frostbite. Foreign bodies. Superficial cysts and tumors. Part II, Regional surgery: The scalp. Face, nose, ear, eye. Mouth and salivary glands. The neck. Chest and breast. The abdomen. The back. Perineal region, anus and anal canal. The genito-urinary system. Arm and shoulder. Hand and fingers. The leg. Foot and ankle. Part III, The musculoskeletal system: General considerations. The thoracic region, clavicle and scapula. The upper extremity. The lower extremity. Index.

Note: A comprehensive and practical reference book of surgical therapy and related matters pertaining to the surgical treatment of patients who do not require hospitalization. It is designed for the guidance of general practitioners of medicine, physicians practicing in industrial and military establishments, and medical school graduates who are studying surgery or beginning to practice. It covers general aspects such as instruments and other equipment needed, anesthesia and techniques of anesthesia, dressings and bandages. Most of the space is devoted to surgery in specific disorders or in special regions of the body. The discussions of disorders are arranged on a conventional pattern with attention to etiology, symptoms, and treatment. The part which is entitled "Regional surgery" is primarily a discussion of diseases and disorders, their etiology, symptoms and treatment of the regions named in the chapter titles of this part. The third part is long and is concerned primarily with the treatment of fractures. The number of illustrations is exceptionally high, but most of them are small. The first edition was published in 1942 and the second edition in 1947. Extensive changes involving both revisions and additions of information were made in preparing this third edition. The principal author is Professor of Surgery in the Graduate School of the University of Pennsylvania. Literature references are included in the chapters.

FLOCKS, R. G AND DAVID CULP

Surgical urology a handbook of operative surgery Illustrated by Paul Ver Vals. Chicago The Year Book Publishers, Inc., 1954 392 p. illus. 22 cm. $9 75 4324

Contents (abridged): Section I, The kidney: Surgical approach to the kidney. Renal and perirenal surgery. Surgical treatment of conditions of the kidney. Section II, The ureter: Surgical procedures on the ureter. Surgical treatment of conditions of the ureter. Section III, The bladder: Open surgical procedures on the bladder. Surgical treatment of conditions of the bladder. Section IV, The prostate: Surgical access to the prostate. Prostatectomy. Section V, The urethra: Surgical approach to the urethra. Surgery of the urethra. Section VI, The penis. Section VII, The scrotum. Section VIII, The testis. Section IX, The epididymis and vas deferens. Section X, Transurethral surgery. Index.

Note: Although surgical techniques are the principal topic of this book, anatomy and physiology are covered also. Each of the sections but two begins with a short discussion of basic anatomy or anatomy and physiology. The book is organized in 30 chapters, and most of them consist of full-page plates illustrating surgical techniques and descriptions and discussions of the individual techniques. The arrangement is such that each technique is illustrated step by step in a plate on the right-hand page, while a verbal description of the technique, keyed to the illustration, is on the facing left-hand page. The drawings are sharp and uncommon enough to merit making the book to an atlas, though a small one. The book is useful to surgical residents in hospitals and to general practitioners of surgery who are not specialists in urological surgery but occasionally perform urological operations.

FORSEE JAMES H.

The surgery of pulmonary tuberculosis. 59 illustrations 1 in color 11 graphs and 46 tables. Philadelphia Lea & Febiger 1954 208 p. illus. (part col d) 24 cm. $6.50 4325

Contents: Part I, Principles in the application of surgery in pulmonary tuberculosis: The patient and his disease. Pulmonary tuberculosis as a surgical disease. Part II, Operative surgical procedures: Collapse therapy. Extirpative surgical therapy. Part III, Experience with surgical therapy in pulmonary tuberculosis: General considerations in surgical therapy. Experience with collapse therapy. Extirpative surgical therapy. Results of surgery in the treatment of pulmonary tuberculosis. Index.

Note: A monograph based in part on the experience of the author and his associates at Fitzsimons Army Hospital in Denver, Colorado, and in part on the modern literature. It reflects the emergence of surgery as a therapy in the treatment of pulmonary tuberculosis which has taken place since the end of World War II. It deals with the principles and applications of surgery in the treatment of tuberculosis, not with the techniques of operations. The two chapters on collapse therapy and extirpative therapy account for approximately one-half of the length of the book, and both are reports of extensive experience. The terminal chapter is a statistical account of seven years' experience at Fitzsimons Army Hospital with surgery in the treatment of pulmonary tuberculosis. Literature references are included.

FRANTZ, VIRGINIA KNEELAND, AND HAROLD DORTIC HARVEY

Introduction to surgery Third edition. New York Oxford University Press 1954 233 p. illus. 19 cm. $5 00. 4326

Contents: Introduction. History. Injury and inflammation. Repair. Degeneration, hypertrophy, atrophy, regeneration. Deformities. Cysts. Neoplasms. Contusions. Abrasions. Incised wounds. Wounds with loss of substance. Repair of accessory skin structures. Repair of mucous membrane—muscle—tendon—hollow and solid viscera—nervous system—vessels and synovial surfaces—cartilage—bone. Foreign bodies. Calculi. Infection. Specific infections. Infection in tissues and synovial spaces. Infection in bone. Drainage. Operative wounds. Accidental wounds. Ulcers. Burns. Gangrene. Hemorrhage. Shock. Contact with the patient. Surgical technique. Anesthesia. Plastic surgery. The new surgery. Lavoisier. Appendix. Bibliography. Index.

Note: A short, lucid and useful presentation of information about the injury, inflammation, surgical repair, and natural healing of tissues. It is intended for student surgeons, and it presents background knowledge rather than detailed descriptions of surgical techniques. The second edition was published in 1951. Although the book has the same organization and the same number of pages as in the second edition, errors have been corrected and some sections have been rewritten so as to incorporate new advances in such areas as infection and burns. Also a few references are added to the bibliography.

GECKELER EDWIN OSCAR

Plaster of Paris technic. Second edition. Baltimore The Williams & Wilkins Company 1948 220 p. illus. 23 cm. $3.00. 4327

Contents (abridged): Forms of plaster of Paris used in surgery. General technic (bandage method). Application of plaster of Paris (bandage method): Spine. Shoulder and upper limb. Pelvis and lower limb. Plaster of Paris in war surgery. Plaster for injury and inflammation of soft tissues—the use of plaster of Paris for burns. References. Index.

Note: A practical manual which deals thoroughly with the construction, care, and removal of plaster-of-Paris casts. It contains nothing on other orthopedic techniques. In the present edition, the changes in the text are relatively minor, but the legends under the illustrations have been rewritten in many instances, and about 20 illustrations have been added which did not appear in the previous edition. There are now 214 illustrations, and most of them are reproduced from photographs which show details of techniques or show completed casts.

GROSS ROBERT E.

The surgery of infancy and childhood Its principles and techniques. With 1 488 illus-

trations on 567 figures Drawings by Etta Piotti. Philadelphia W B Saunders Company 1953 1,000 p illus. 26 cm. $16 00 4328

Contents The field of children's surgery Preoperative and post operative care. Anesthesia for pediatric surgery Disruption of abdominal wounds. Surgery in premature infants. Atresia of the esophagus. Esophageal stenosis or stricture. Cardio-esophageal chalasia. Congenital hypertrophic pyloric stenosis. Peptic ulcer—gastrostomy Congenital atresia of the intestine and colon. Congenital stenosis of the intestine and colon. Intestinal obstruction in the newborn resulting from meconium ileus. Malrotation of the intestines and colon. Annular pancreas producing duodenal obstruction. Meckel's diverticulum. Duplications of the alimentary tract. Foreign bodies in the alimentary tract. Appendicitis. Intussusception. Polyps of intestine and colon. Chronic ulcerative colitis. Congenital megacolon (Hirschsprung's disease) Malformations of the anus and rectum. Rectal bleeding in infants and children. Omental cysts and mesenteric cysts. Primary peritonitis. Iliac adenitis. Omphalitis. Rare conditions of the umbilicus and abdominal wall. Omphalocele (umbilical eventration) Umbilical hernia. Congenital hernia of the diaphragm. Intra-abdominal hernia. Inguinal hernia. Hydrocele. Undescended testicle (cryptorchidism) Torsion of the testis and the appendix testis. Tumors of the testicle. Diseases of the female genital tract. Obstructive jaundice in infancy Miscellaneous conditions of the liver and biliary passages. Diseases of the spleen. Hypoglycemia. Embryoma of the kidney (Wilms' tumor) Neuroblastoma sympatheticum. Retroperitoneal teratoma. Uretero-pelvic obstruction. Double ureters. Ectopic ureter Ureterocele. Exstrophy of the bladder. Epispadias. Hypospadias. Urinary obstruction from posterior urethral valves. Urinary and fecal incontinence of neurogenic origin. Pectus excavatum (funnel chest) Cysts and primary tumors of the thorax. Bronchiectasis. The patent ductus arteriosus. Coarctation of the aorta. Interauricular septal defect. Tetralogy of Fallot. Congenital pulmonary stenosis. Vascular anomalies in the thorax producing compression of the trachea or esophagus. Thyroglossal cysts and sinuses. Cysts, sinuses, and other anomalies of the branchial apparatus. Cystic hygroma. Wringer injuries of the arm. Index.

Note Written by the Chief of the Surgical Service of the Children's Hospital in Boston and based largely on the clinical experience in that great hospital, this book is an outstanding contribution to the literature of surgery The titles of the chapters given above outline its scope. It does not cover neurosurgery orthopedic surgery or plastic surgery but aside from these exceptions, it is probably the most comprehensive work available on pediatric surgery As could be expected, it deals primarily with the surgical correction of congenital abnormalities. Surgical techniques are fully described and related matters including medical treatment are discussed where they are appropriate. Numerous tabulations of case experience in the Children's Hospital are included and short lists of literature references are included in most of the chapters.

HARDY, JAMES D

Surgical physiology of the adrenal cortex. Springfield, Ill Charles C Thomas 1955 191 p illus 22 cm. (American lecture series Publication no 266 A monograph in the Bannerstone division of American lectures in surgery edited by Michael E De Bakey and R. Glen Spurling) $5 75 4329

Contents. An outline of adrenocortical function. Effect of single operation and other forms of stress upon adrenocortical activity—correlation with other aspects of metabolism. The physiologic reaction to multiple staged operations in man. Adrenocortical activity following extensive thermal burns in man Adrenocortical function in malnourished cancer patients, with observations on the relative dependability of the ACTH-eosinophil test and the epinephrine-eosinophil test as measures of adrenocortical reserve. Adrenocortical hyperplasia—case report with physiologic studies. Masculinizing adrenocortical carcinoma—case report with physiologic studies. Hyperadrenocorticism. Adrenalectomy for essential hypertension and for malignant neoplasms—survey of current status. ACTH and cortisone therapy Index.

Note. Written by the Chairman of the Department of Surgery of the University of Mississippi and addressed to surgeons, this book presents much information useful in the management of surgical operations. It deals with adrenocortical function in surgical stress, in extensive burns, and in malnutrition with disease of the adrenals, with the responses to adrenalectomy and finally with ACTH and cortisone therapy These topics are covered essentially from the standpoint of applied physiology Much of the information presented was derived from physiologic studies on human patients. A number of case histories are included and discussed. The literature has also been searched and is cited in bibliography of 274 references.

HARTWELL, SHATTUCK W

The mechanisms of healing in human wounds Springfield Ill. Charles C Thomas, 1955 166 p illus. 22 cm. (American lecture series Publication no. 250 A monograph in the Bannerstone Division of American Lectures in Surgery edited by Michael E. De Bakey and R. Glen Spurling) $4 75 4330

Contents A practical approach to the consideration of human wounds and their repair Epithelial healing in human surgical wounds. Fibrous healing in human surgical wounds. Burns, abscesses, donor sites and ulcers. A new concept of the basal cells of human epithelium related to carcinoma. Summary References. Index.

Note. In the early years of his career the author surgeon, made an extensive microscopical study of the mechanisms of healing in human wounds. In subsequent years, he observed the healing of surgical wounds, burns, ulcers, skin grafts, etc., in the light of what he had learned in his research. In this book he presents synthesis of research results and surgical experience. He points out that his findings differ from those in most textbooks, and indicates that the difference is due to the fact that the textbooks are based upon histological findings in wounds in laboratory animals. Practical applications of his theories in wound closure are pointed out.

HERBUT, PETER A.

Surgical pathology Second edition, thoroughly revised, with 528 illustrations. Philadelphia Lea & Febiger, 1954 893 p. illus. 24 cm. $14 00 4331

Contents Skin and subcutaneous tissue. Breast. Nose and sinuses. Larynx. Trachea, bronchi and lungs. Neck. Mediastinum. Mouth, pharynx and salivary glands. Esophagus. Stomach. Small intestine. Appendix. Large intestine and anus. Peritoneum and retroperitoneum. Liver biliary system and pancreas. Lymphatic system and spleen. Adrenals. Urinary system. Male genital system. Female genital system. Bones, joints, tendons, bursae and skeletal muscles. Central nervous system, by B J Alpers. Index.

Note. A clearly-written discussion of a broad group of conditions emphasizing gross and microscopic pathology but including also definition, embryology anatomy etiology diagnosis, treatment, and associated diseases. The book is suitable for two types of uses. (1) as a medical college textbook and (2) as a reference manual for surgical pathologists and surgeons. The material presented under each heading has been rigidly selected and compactly presented, and there are extensive lists of references to related material for use when a particular subject must be pursued further The first edition was published in 1948. In this second edition the length of the book has been extended by nearly 100 pages and the number of illustrations increased by more than 100 There are two new chapters and many revised and extended sections in chapters carried over A selection of the literature published since the first edition was written has been added to the bibliographies.

HIRSCH, EDWIN F

Pathology in surgery Photography by I M Porter Baltimore The Williams & Wilkins Company 1953 474 p. illus. (part col'd) 24 cm $10 00 4332

Contents. Respiratory system. Digestive system Urinary system. Female reproductive system. Male reproductive system. Nervous system. Liver gallbladder bile ducts and pancreas. Bones, joints and skeletal muscle tissues. Lymph nodes and spleen. Ductless glands. Skin. Addendum. Index.

Note. The illustrations, of which there are [illegible]—all of them being reproductions of photographs of gross or micropathology are the principal feature of this book. The illustrations are accompanied by short, identifying legends and by somewhat longer comments. The preface to the volume contains an extended discussion of methods of keeping records of pathology and specimens in the hospital pathology department. The book is based on the author's hospital pathology department.

patients, records and collections as pathologist at St. Luke's Hospital in Chicago. It is, in effect, a pathology collection in print with such comments as would be made in teaching. It is of interest to resident graduates in hospitals who are preparing for specialty surgery and to graduate pathologists and surgeons.

HOLMAN EMILE

New concepts in surgery of the vascular system. Springfield Ill. Charles C Thomas, 1955 108 p. illus. 22 cm. (American lecture series. Publication no. 271 A monograph in American lectures in surgery edited by Michael E De Bakey and R. Glen Spurling) $3.50. 4333

Contents: The immediate and late treatment of arterial injuries. The significance of segmental stenosis and poststenotic dilatation in the development of arterial injuries. Index.

Note: This small volume contains two lectures written by a surgeon who has been one of the leading contributors to the modern development of vascular surgery. The first lecture is an informative review of recent advances in techniques and in the understanding of physiology associated with injuries to the vascular system. The second lecture presents the results of experimental investigations of hydrodynamic forces and structural fatigue in man's circulatory system, in short, with important factors in the production of aneurysms. Literature references are included with both lectures.

HORSLEY GUY W AND ISAAC A. BIGGER

Operative surgery Sixth edition. Illustrations by Helen Lorraine. St. Louis The C. V Mosby Company 1953 2 v illus. 26 cm. $20.00. 4334

Contents (abridged): Volume I: Technic, sutures, and instruments, by G. W Horsley. Principles underlying operations for malignant tumors. Anesthesia, by W R. Pendleton. Collateral circulation, aneurysms and ligation of arteries, by I. A. Bigger. Amputations. General principles of plastic surgery, by H. J Warthen, Jr. Transplantation of flaps containing skin, by H S Jackson. Free grafts of skin and mucous membranes, by L. Smith. Deep tissue grafts, by L. Smith. Cleft lip and palate, by L. Smith. Plastic operations on nose and ear by L. Smith. Operations for carcinoma of the floor of the mouth, palate, tongue and upper jaws, by L. Smith. Operations on the neck, by H. J Warthen, Jr. The thorax, by F P Coleman. The lungs and bronchi, by I A Bigger. Pharynx and cervical esophagus, by F P Coleman. Thoracic esophagus, by F P Coleman. Diaphragmatic hernia, by I A. Bigger. Pericardium and heart, by I A Bigger. The mammary gland, by G W Horsley. Hernia, by R. C. Lee. Volume II: Abdominal incisions, by B W Rawles, Jr. Acute conditions of the abdomen, by C Williams, Jr. Peritonitis, by C Williams, Jr. Operations on jejunal or gastrojejunal ulcer, by G. W Horsley. Operations on the small intestine, by G W Horsley. Appendectomy, by G. W Horsley. Operations on the colon and rectum, by C. Williams. The liver gall bladder, and bile tracts, by B W Rawles, Jr. The pancreas and spleen, by B W Rawles, Jr. Operations for fractures, by M J Hoover, Jr. Operations on tendons, by M. J. Hoover, Jr. Operations on joints, by M. J Hoover Jr. General principles governing amputations, by M J Hoover Jr. The kidney and ureter, by A. I. Dodson. The prostate gland, by A I. Dodson. The uterus cervix—curettage and operations for benign lesions, by E. H. Hage. The uterus. The ovaries. The head. Injuries and infections, by C E Troland. Spinal cord, by C E Troland. Surgery of peripheral nerves, by C E Troland. Surgery of the sympathetic nervous system, by C. E. Troland. Index.

Note: A collaborative textbook and reference treatise edited and written by members of the faculty of the Medical College of Virginia. Earlier editions were written by John S. Horsley, Isaac A. Bigger, and contributors. The book is designed for the instruction of surgical residents who are preparing for careers in general surgery and for reference use by practicing general surgeons. In this sixth edition, there are 87 chapters, a selection of which are listed by title and author above. In the typical chapter surgical techniques are described, and considerable space is given to background knowledge, particularly to the clinical picture of the disorder for which the particular technique is indicated. Some chapters contain also considerable discussion of the associated pathology and physiology. There are 1,274 figures in the two volumes. Selected literature references are included in the chapters.

HOSLER, ROBERT M

A manual on cardiac resuscitation Springfield Ill. Charles C Thomas, 1954 183 p. illus. 16 cm. $4.00. 4335

Contents: Introduction. History. General considerations. Incidence. Etiology. Mechanism of the heart beat. Oxygen and the brain. Equipment. Preventive measures. Danger signals of cardiac arrest. Methods of cardiac massage. Steps in cardiac resuscitation. Results for resuscitation. Closure of the chest. Post-operative management. Legal aspects. Bibliography. The course in cardiac resuscitation. Index.

Note: A small but valuable handbook devoted to practicing surgeons and anesthesiologists. It deals explicitly and in detail with cardiac resuscitation in the operating room. Early signs of cardiac failure, equipment needed for resuscitation, the exact steps in reestablishment of the oxygen system and restoration of the heart beat, and the techniques of cardiac massage are fully described. Also described are allied matters, such as post-operative management. The author was one of the founders of the course in cardiac resuscitation which has been given by the Cleveland Area Heart Society in Cleveland, Ohio, since 1950.

JOHNSON JULIAN AND CHARLES K. KIRBY

Surgery of the chest a handbook of operative surgery Illustrated by Edna Hill Chicago The Year Book Publishers Inc., 1952 387 p. illus. 22 cm. $9.00 4336

Contents: Introductory considerations. The management of chest injuries. Operations for empyema and lung abscess. Incisions. Surgical anatomy of the lungs. Pneumonectomy. Lobectomy. Segmental resection. Special problems arising during major thoracic operations. Surgery of the esophagus. Surgery of the heart and great vessels. The surgery of pulmonary tuberculosis. Miscellaneous operations. Index.

Note: A compact atlas which contains 84 plates of clear drawings of operative techniques including some used in diagnosis. The authors have selected techniques of clearly established value, and they have described them for general surgeons who are beginners in thoracic surgery or who only occasionally perform operations in this region. The drawings are supplemented by both general and specific description. Each plate is accompanied by at least one page of discussion. A second edition was published in 1958, 398 p.

JONAS KARL C editor

Babcock's principles and practice of surgery With 1,006 illustrations and 10 colored plates. Philadelphia Lea & Febiger 1954 1,543 p. illus. (part col d) 26 cm. $18.00. 4337

Contents (abridged): Inflammation and repair, by V Menkin. Fluid and electrolyte therapy, by J. Humphrey-Long. Shock, cause and detection, by W W Babcock. The bacteriologic approach to acute surgical infections, by E. H. Spaulding. Anesthesia, by LeR. Krumperman and S Mercator. Wounds, by W W Babcock. Burns, by R W McNealy and F W Mumma. Military surgery, by F M. Cooke. Plastic, maxillofacial and reconstructive surgery, by K. L. Pickrell. Orthopedic surgery, by J. R. Moore, and others. Amputations, by W W Babcock. Neurosurgery, by M. Scott and others. Autonomic nervous system, by H. R. Shumacker. Urologic surgery, by K. R. Conger and others. Pediatric surgery, by E. C. Koop and W Kiesewetter. The lymphatic system, by M. Thorek. The skin and cutaneous appendages, by C. S. Wright. The jaws, by J Cameron. The pharynx, larynx and trachea, by C. L. Jackson. Thyroid gland, by A. Jackson. The pituitary and adrenal glands, by W H. Perloff. The esophagus, by G. E. Lindskog. The thoracic wall, by W W Babcock. The mammary gland, by C. D Haagensen. Surgery of the lungs, by E. R. Kay and others. Surgery of the heart and great vessels, by R. M. Glover and T. J. O'Neill. Peripheral vascular system, by G. H. Pratt. Hemorrhage and hemostasis, by W W Babcock. Thrombosis and embolism, by O P Large. Necrosis and gangrene, by W W Babcock. Hernia, by K C. Jonas. The peritoneum, by A. S. Cannon-Dunn. Stomach and duodenum, by K. C. Jonas and H. M. Stauffer. Surgery of the small intestine, by A. J. Kremen. The liver and biliary system, by I. S. Ravdin and R. Roberts. The pancreas, by K. W Warren and R. B. Cattell. The spleen, by R. M. Zollinger and R. D. Williams. The vermiform appendix, by F A. Fiske. The colon, by H. E. Bacon and H. D. Trimpi. Surgery and diabetes, by C. R. Shuman. Cardiac considerations in the surgical patient, by

H. Roesler Psychiatric considerations in the surgical patient, by K. Fischer Index.

Note A successor to W W Babcock, *Principles and practice of surgery* 1944. The book is now composed of 49 chapters, written by 57 contributors, most of whom are members of faculties of medical colleges in the United States of America. A selection of the chapter titles is listed above. The book is directed primarily to students in medical colleges and secondarily to graduate practitioners. It presents a broad view of surgery and an introduction to surgical specialties. Basic information rather than surgical techniques is emphasized, although some techniques are described. In comparison to the original work, the book has been extensively revised in both text and illustrations. It has been printed from reset type in new format with two columns to page.

LAHEY CLINIC, BOSTON

Surgical practice of the Lahey Clinic, by members of the staff 784 illustrations on 509 figures. Philadelphia W B Saunders Company 1951 1,014 p illus. 26 cm. $15 00 4338

Contents (abridged) The thyroid gland and neck. Experience with the preoperative use of the antithyroid drugs, by F H. Lahey and E. C. Bartels. Technic of subtotal thyroidectomy by F H. Lahey Surgical treatment of hyperthyroidism, by R. B. Cattell. The surgical treatment of progressive exophthalmos, by J L. Poppen. Malignancy in adenomas of the thyroid, by F H. Lahey and H. F Hare. Radical dissection of the neck, by F H. Lahey Tracheotomy after thyroidectomy by F H. Lahey and W B Hoover Tumors of the neck, by F H. Lahey Trends in surgery for carcinoma of the larynx, by W B. Hoover The esophagus, lungs and heart. The surgical management of obstructing lesions of the esophagus, by H. D Adams. The technic of total pneumonectomy by D P Boyd. The surgical treatment of extrapulmonary neoplasms, by D. P Boyd and J. M. Moseley Treatment of portal hypertension and associated acute hemorrhage, by H. D Adams. The stomach and duodenum The surgical treatment of diaphragmatic hernia—clinical report of 73 cases, by D P Boyd and J N Clausen. Partial gastric resection for peptic ulcer by S. F Marshall. Should total gastrectomy be employed in early carcinoma of the stomach? Experience with 139 total gastrectomies, by F H. Lahey and S. F Marshall. The small intestine, colon, sigmoid and rectum Resection of the small intestine, by K. W Warren. Technic of ileostomy by B. P Colcock. Indications for surgical intervention in ulcerative colitis, by F H. Lahey Polyps of the colon and rectum, by N W Swinton and J H. Holt. Prognosis in carcinoma of the colon and rectum, by B. P Colcock. Abdominoperineal resection for carcinoma of the rectum, by R. B. Cattell. The biliary tract Experience with the operative management of 280 strictures of the bile ducts, with description of new method and complete follow-up study of the end results in 229 of the cases, by F H. Lahey and L. J Pyrtek. The spleen, adrenal gland and pancreas Splenectomy when is it indicated? by F H. Lahey and J W Norcross. Partial pancreatectomy by R. B. Cattell. An appraisal of pancreatoduodenal resection follow-up study of 61 cases, by R. B. Cattell and L. J Pyrtek. Pheochromocytoma—its diagnosis and treatment, by E. C. Bartels and R. B Cattell. The pelvis Presacral neurectomy by C. E. Sedgwick. Treatment of prolapse of the uterus, by B. P Colcock. The management of vesicovaginal fistula, by E. E. Ewert. The bones and joints The treatment of primary malignant bone tumors of the humerus, by G. E. Haggart. The management of chronic suppurative osteomyelitis of the femur by G E Haggart and M T Hurley The brain, spinal cord and nerves Treatment of tumors of the pineal body by G. Horrax. The end results of complete extracapsular removal of acoustic tumors, by G. Horrax and J L. Poppen. Meningiomas and neurofibromas of the spinal cord, certain clinical features and end results, by G. Horrax and others. The herniated intervertebral disk 400 proven cases 18 months to 10 years following operation, by J L Poppen. Relief of angina pectoris by sympathectomy by J A. Evans and others. The technic of lumbar sympathectomy by J L. Poppen Anesthesia Preoperative preparation and premedication, by M J Nicholson. Technic of endotracheal anesthesia, by M. J Nicholson. Complications of spinal anesthesia, by U H. Eversole. Experiences with cardiac arrest, by F H. Lahey and E R Ruzicka. Miscellaneous Surgery of Ménière's disease, by F D Lathrop. The practical anatomical and surgical considerations for exposure of the facial nerve, by F D Lathrop. Anticoagulant treatment of postoperative venous thrombosis and pulmonary embolism, by J A. Evans and J F Dee. Surgical management of arteriovenous aneurysms, by H. D Adams. Repair of incisional hernia, by R. B Cattell. The repair of inguinal hernias, by K. W Warren. Index.

Note. Surgical procedures which have become standardized at the Lahey Clinic are described and illustrated in this work. Dr. Lahey has stated in the book preface " w has continued to be impressed with the fact that, with allowances for the natural variations in anatomy and pathology the employment of standardized operative procedures by all of the surgeons in the clinic makes for refinement of operative details and understanding cooperation on the part of the operating nurses and assistants. Altogether there 70 papers of which only a selection is noted above by author and title. The book is of interest to students of surgery and to practitioners individually and to the staffs of surgical clinics.

LEITHAUSER, DANIEL JAMES

Early ambulation and related procedures in surgical management. Springfield Ill. Charles C Thomas, 1946 232 p. illus. 23 cm. $5 00 4339

Contents. Introduction. History of early ambulation. General physiologic principles relating to early ambulation after surgery. Prevention of pulmonary complications. Prevention of complications related to the circulation. Prevention of gastro-intestinal complications. Prevention of wound complications. Prevention of dehydration and nutritional disturbances. Psychological factors. Preoperative care. Surgical technic. Postoperative management. Surgical nursing care of ambulatory patients. Clinical results of early ambulation after surgery with case reports and follow-up. Economic factors. Index.

Note. This volume presents the case for a method of surgical management which the author has found most successful in preventing post-operative complications. It discusses the reasons for and desirability of early ambulation, and describes the special surgical techniques and post-operative care which must be followed for variety of operations. Also included is a review of the results obtained in 2,047 surgical cases, many of which are presented in the form of case histories. References are given at the end of each chapter

LINDSKOG, GUSTAF E, AND AVERILL A. LIEBOW

Thoracic surgery and related pathology New York Appleton Century-Crofts Inc., 1953 644 p. illus. (part col d) 24 cm. $15.00 4340

Contents (abridged) Trauma to the chest. Diseases of the chest wall. Diseases of the pleura. Surgical anatomy of the lung. Embryology and developmental abnormalities of the lungs. Respiratory function and its clinical evaluation, by W E. Hiesner Pulmonary abscess. Bronchiectasis. The pathology of tuberculosis. The treatment of pulmonary tuberculosis. General considerations, by F C. Warring, Jr—Therapeutic pneumothorax, oleothorax, pneumoperitoneum, by F C. Warring, Jr—Phrenic nerve paralysis—Pneumonolysis and apicolysis—Thoracoplasty—Cavity drainage—Resection. Tuberculous empyema. Infections caused by actinomycetes, yeasts and fungi. Thoracic manifestations of echinococcus disease. Emphysematous blebs and bullae, giant air cysts of the acquired type Spontaneous pneumothorax Tumors of the trachea, bronchi and lungs. Trauma to the pericardium and heart, cardiac resuscitation. Diseases of the pericardium. Congenital lesions of the heart. Diseases of the aorta and great vessels. Acquired heart disease. Diseases of the mediastinum and thoracic duct. Mediastinal tumors. Diseases of the esophagus. Other diseases of the esophagus. Diseases of the diaphragm. Preoperative preparation, operative and postoperative care of the thoracic surgical patient, by R. D. Way Postoperative pulmonary complications. Index

Note The title notwithstanding, surgical techniques are not the primary subject of this distinguished text. Basic physiology pathology and disorders and diseases in which surgical measures may be the best therapy are fully discussed. Alternative or supplementary therapeutic measures, for example, chemotherapy are covered in equal fullness in relation to the diseases to which they are applicable. Discussions of individual diseases are thorough, typical discussion being organized under the following subheadings pathogenesis, symptoms and physical signs radiographic findings laboratory findings clinical course treatment and literature references. Surgical techniques are concisely described but are not illustrated. Various therapies are compared in such statements as "The best available treatment at present for ulcerative bronchostenosis and bronchiectasis is pulmonary resection. When anatomic considerations and functional reserve will permit it. When the diffuseness of the disease and limited respiratory reserve render this approach impossible the alternative local treatment by dilatation of the strictures and streptomycin-PAS therapy. Literature references are given, and there are 215 figures. The authors are members of the faculty of the School of Medicine of Yale University and much of the book is based on an extensive series of cases treated in Grace-New Haven Community Hospital.

MARKOWITZ J

Experimental surgery including surgical physiology In collaboration with J Archibald and H. G Downie. Third edition. Baltimore The Williams & Wilkins Company 1954 851 p. illus. 24 cm. $10.00. 4341

Contents Introductory remarks. The animal lecture amphitheater. Care and feeding of animals, revised by J. Archibald. Anesthesia, revised by J. Archibald. Equipment, technic, sutures and instruments, revised by J. Archibald. Surgical exercises, revised by J. Archibald. Standard technical procedures in the surgery of the alimentary canal. Gastric fistulae. Intestinal fistulae—jejunostomy. The experimental production of chronic peptic ulcer. Exteriorization of an intestinal loop. Surgical physiology of intestinal obstruction. Absorption, excretion and motility of the isolated colon. Experimental surgery of the esophagus. Some features of experimental peritonitis. Experimental surgery of the pancreas. Total biliary fistula. Experimental surgery of the gall-bladder. Transplantation of ducts. Facial transplantation. Transplantation of organs, revised by H. G. Downie. Experimental surgery of joints. The experimental surgery of bone, revised by J. Archibald. Several standard intracranial operations. Experimental surgery of the lung, trachea and bronchi. The experimental surgery of the heart. The mechanical heart—cardiac arrest. Experimental surgery of the involuntary or autonomic nervous system. Vascular surgery. Experimental hematology. Experimental surgery and physiology of the kidney including the artificial kidney. The experimental surgery of the liver. Epilogue. Index.

Note When first published in 1937 this book was the pioneer text in its field, and [illegible] now enjoys the status of being the standard work on experimental surgery in the English language. The operative techniques described are for use on animals, particularly dogs. The [illegible] purpose is primarily physiologic, that is to say many of the techniques described are valuable in studying the functions of organs. However they are valuable also in gaining practice in surgery. The second edition was published in 1949. References to the literature including the author's own papers are given in all of the chapters. The illustrations of which there are 614 in the third edition are of high quality. Comparing the third edition with the second edition published in 1949 the total length of the work has been increased by approximately 300 pages. A number of the chapters have been revised by collaborating authors as noted in the above contents. A selection of the literature published since the second edition was written has been added to the bibliography. The book is useful as an introduction to surgery for medical and veterinary students and as [illegible] guide for research physiologists who are outside in experimental work.

MAYO CHARLES W

Surgery of the small & large intestine a handbook of operative surgery Illustrated by Russell Drake Chicago The Year Book Publishers, Inc. 1955 340 p. illus. 22 cm. $9.00 4342

Contents Section [illegible] Introductory considerations. Diet, instruments, sutures. Diet. Surgical instruments. Incisions. Section II. The small intestine. Blood supply and lymphatic drainage of the small intestine. The duodenum. The jejunum. The ileum. Obstruction in the small intestine. Section III. The colon. Surgical considerations of the vascular system. Preoperative preparation. Postoperative care. Benign lesions. Surgical treatment. Malignant lesions—surgical treatment. Colostomy—surgical technic. Intestinal anastomoses—surgical technics. Section IV. The rectum and anus. Benign lesions—congenital malformations of the rectum and anus. Prolapse of the rectum. Anal surgical technics. Index.

Note A concise presentation, devoid of extraneous information. It deals with surgical instruments and surgical techniques only and these are described as concisely as possible. Essentially the book is [illegible] small atlas in which the 94 plates containing probably three times as many illustrations are the principal feature. The material [illegible] arranged so that in most instances [illegible] plate appears on [illegible] right-hand page while the discussion of it [illegible] on the facing left-hand page. The author, who is associated with the Mayo Clinic and Mayo Foundation, has selected the techniques carefully and described them clearly.

MOHS FREDERIC E.

Chemosurgery in cancer gangrene and infections featuring a new method for the microscopically controlled excision of cancer Springfield Ill. Charles C Thomas, 1956 305 p. illus. (part col d) 26 cm. $13.50 4343

Contents (abridged) Experimental background. Part I, Malignant tumors of the skin and other accessible structures. Chemosurgical technic. Carcinoma of the face, scalp and neck. Carcinoma of the nose. Carcinoma of the ear. Carcinoma of the eyelids. Carcinoma of the extremities and trunk. Carcinoma of the skin—a summary of therapeutic results with comments. Carcinoma of the lips. Carcinoma of the larynx. Neoplasms of the parotid and other salivary glands. Carcinoma of the penis and scrotum. Carcinoma of the vulva, vagina, urethra and cervix. Carcinoma of the anus and lower rectum. Malignant melanoma. Modes of spread of cancer. Part II, Benign tumors and precancerous lesions. Benign tumors of epithelial origin. Benign tumors of connective tissue origin. Hemangiomas. Tumors of infectious origin. Precancerous conditions. Part III, Gangrenous conditions. Part IV. Infections. Infectious granulomas. Pilonidal sinuses and other infected tracts. Miscellaneous infections. Part [illegible] Chemosurgery as [illegible] specialty. Why chemosurgery should be practiced as [illegible] specialty. Setting up the chemosurgery clinic. References. Index.

Note A pioneer work on [illegible] special method of removal of diseased tissue, particularly external malignant, gangrenous or infected tissue. The tissue is first fixed *in situ* by chemical means, then surgically excised. In the treatment of cancer—which is the principal use of the technique—the excision is guided by microscopic examination of frozen sections of the fixed tissue, [illegible] technique that makes possible the precise location of even minute cancerous areas. Although the first comprehensive monograph on the method, the book is based on extensive animal experimentation, followed by treatment of over 4,000 human patients. Many of the 221 figures consist of before-and-after pictures of cancers and other lesions treated by chemosurgical techniques. The author is Associate Professor of Chemosurgery on the faculty of the Medical School of the University of Wisconsin and Head of the Chemosurgery Clinic of the General Hospital of the State of Wisconsin.

MOORE, FRANCIS D AND MARGARET R. BALL

The metabolic response to surgery Metabolic diagrams by Mildred B Codding. Springfield Ill Charles C Thomas 1952 156 p. illus. 29 cm. (American lecture series. Publication number 132 A monograph in American lectures in surgery edited by Michael E De Bakey and R. Glen Spurling) $7.50 4344

Contents Technique—subjects and methods, presentation and charting, terminology and interpretation. The response to [illegible] single trauma. The disturbance, being [illegible] separate consideration of starvation, immobilization and endocrine factors in the operative response. Further responses to trauma and depletion. Complex problems in metabolic response. Changing the balance. Facts and corollaries; being [illegible] summary of the book, together with clinical corollaries which may be drawn in applying these concepts to the care of surgical patients. Appendix. Surgical diets and parenteral supplements. Bibliography.

Note A work based partly on original studies made by the authors at Peter Bent Brigham Hospital and Massachusetts General Hospital, Boston, and partly on the literature. The original studies were made on "everyday surgical patients" with the use of healthy persons for control studies. The book is addressed to practicing surgeons, and its purpose is to provide authoritative information on the metabolic factor in the responses of patients to surgery. It includes rather full documentation of [illegible] variety of case histories. The last chapter in which the knowledge is compactly summarized is [illegible] useful feature. The bibliography runs to 18 columns and includes not only literature cited in the text but also other studies which the authors believe has potential usefulness for their readers.

MOSELEY H. F

An atlas of musculoskeletal exposures. With 376 illustrations in color and 63 figures in black and white. Illustrated by Helen T MacArthur with 5 plates by Frank Netter

Philadelphia J B Lippincott Company, 1955 235 p illus (part col'd) 29 cm. $22.50 4345

Contents General considerations. The face. The upper extremity Clavicle and its articulations. Shoulder Arm. Elbow Forearm. Wrist. Hand. The trunk. The lower extremity Hip. Thigh. Knee. Leg. Ankle. Foot. Index.

Note. A complementary work to the author's *Shoulder lesions*, second edition New York, 1953. Its principal feature is an extensive series of colored plates in which are depicted the detailed anatomic relations of the bones and joints of the parts of the body named in the above chapter titles. In addition to showing clearly the anatomic relations, the pictures show the steps in the surgical exposure of individual joints. In many instances several surgical approaches to the same joint are pictured to cite an example, eight approaches and variations are shown for the shoulder The pictures of anatomy and surgical incisions are supplemented by photographs showing techniques of positioning and draping for surgery The illustrations are accompanied by a short but clear explanatory text and by literature references. The author is a member of the faculty of McGill University and of the staff of Royal Victoria Hospital in Montreal.

MOSELEY, H F , editor

Textbook of surgery With a foreword by G Gavin Miller With 571 text illustrations and 79 color plates. Second edition. St. Louis The C V Mosby Company, 1955 1,136 p illus (part col'd) 26 cm $16 50 4346

Contents The evolution of modern surgery by E. W Workman. Reaction to injury and repair by T R. Waugh. Surgical bacteriology and chemotherapy by G. G. Kalz. Shock and blood transfusion, by P G. Weil. Preoperative and postoperative care, by J F Hopkirk and R. C. Long. Injuries due to physical agents. Thermal, irradiation, electrical, and chemical trauma, by H. A. Baxter Injuries due to cold, by D R. Webster Radioactive isotopes in diagnosis and treatment, by C. B Peirce and P L. Cox. Anesthesia, by R. G B Gilbert and F A. H. Wilkinson. Surgical technique, by D W MacKenzie, Jr and M. G. Warnock. Plastic surgery by H. A. Baxter Neurosurgery by A. R. Elvidge. Diseases of the face, mouth, and neck, by H. L. Dawson and E. J Tabah. Surgery of the endocrine glands, by S. Baxter and others. The breast, by R. Lawson. Thoracic surgery by S. Baxter Heart and pericardium, by C. B Ripstein and A. M Vineberg. Esophagus, by A. M. Vineberg. The stomach, duodenum and small intestine, by D R. Webster Liver and portal hypertension by J F Hopkirk and R. C. Long. The biliary system, by J F Hopkirk and R. C. Long Pancreas, by H. S. Dolan and J F Hopkirk. Surgery of the spleen, by D W MacKenzie Jr and L. Lowenstein. The peritoneum, omenta and mesenteries, by J R. McCorriston. Intestinal obstruction, by J R. McCorriston. Appendix, by H. S. Morton. Colon by H. S. Morton. Rectum and anus, by H. S. Morton. Abdominal aspects of gynecology by G. A. Simpson. Hernia, by W M. Cooper Genitourinary system, by J T MacLean. The diagnosis of acute abdominal conditions, by J R. McCorriston Peripheral vascular diseases, by J C. Luke. The lymphatic system, by J C. Luke. Amputations, by J C. Luke. Fractures, by H. F Moseley Joints, by H F Moseley Bursae, by H. F Moseley Fractures and other disorders of the upper extremity—lower extremity by H F Moseley Infections of bone, by H. F Moseley Tumors of bones and joints, by J G. Petrie. Disorders of the vertebral column, by A. A. Butler and J G. Petrie. Index.

Note. In the foreword of this volume, its contributors are termed "the younger men of the surgical staff of the Royal Victoria Hospital. The book is based on the postgraduate course in surgery conducted by McGill University and taught largely at Royal Victoria Hospital at Montreal. It is introductory and basic although surgical techniques are described, the primary emphasis is on descriptions of diseases for which surgery is indicated and on other topics closely related to surgery such as anesthesia. The full-page color illustrations are a primary feature. The text figures are also an important part of the exposition. The first edition was published in 1952 In this second edition, two chapters were added and most of the others revised in some degree.

NICHOLS, H MINOR

Manual of hand injuries. Chicago The Year Book Publishers Inc 1955 352 p illus. 23 cm. $9 50 4347

Contents. Anatomy General technic pre- and postoperative care. Minor injuries. Amputations. Burns. Skin grafting. Losses of skin—primary flap grafts. Tendon and muscle injuries. Nerve injuries. Fractures and dislocations. Infections. Secondary tendon repairs—tendon grafting. Elective and reconstructive procedures. Index.

Note. A compact introduction to the care of wounds and infections of the hand. It is addressed primarily to graduate general practitioners of medicine and surgery who are not specialists in hand surgery but are sometimes charged with the management of hand cases. The basic anatomy is outlined in the first chapter and the chapters that follow cover general and specific techniques of emergency care, repair and reconstruction. Most of the surgical techniques included are described in detail, but the discussions of reconstructive procedures are not explicit and intended only as background information for the general surgeon who is expected to refer patients requiring plastic surgery to a specialist. There are 180 figures in the book representing a higher number of illustrations however the illustrations are small. The author is a member of the faculty of the Medical School of the University of Oregon, and many of the injuries discussed are of the kind suffered by workers in the lumber and woodworking industries.

NISSEN, RUDOLF

Duodenal and jejunal peptic ulcer technic of resection New York Grune and Stratton, 1944 150 p illus. 22 cm. $4 75 4348

Contents. Foreword. Preface. Part I, Duodenal ulcer: General considerations. Anatomic features. Technics of resection. Evaluation of procedures. Part II, Jejunal peptic ulcer: General considerations. Anatomic features. Two stage resection. Radical operation for marginal ulcer secondary to anterior gastro-enterostomy Radical operation for marginal ulcer secondary to posterior gastroenterostomy Radical operation for marginal ulcer following gastrectomy Gastrojejunocolic fistula. Bibliography Index.

Note Mainly a book of drawings that illustrates certain surgical maneuvers and techniques. The brief text is designed to supplement and amplify the legends that accompany the illustrations. The author claims that 50 per cent of all peptic ulcer cases admitted to surgery can be handled by the procedures described.

OCHSNER, ALTON, AND MICHAEL E. DE BAKEY editors

Christopher's Minor surgery Seventh edition Philadelphia W B Saunders Company, 1955 547 p 251 illus. 24 cm. $9 00. 4349

Contents Part I, General considerations Equipment, by O. Creech, Jr Surgical considerations, by O. Creech, Jr. Dressings and bandages, by O. Creech, Jr Anesthesia and resuscitation, by J. Adriani. The surgical resident, by F P Boyce. Part II, Skin and subcutaneous (adjacent) tissues. Anomalies, by J. M. Howard. Tumors, by D. A. Cooley and others. Mechanical injuries, by J M. Howard. Thermal, chemical and electrical injuries, by E. W Haynes, Jr Infections, by C. Lyons. Part III, Musculoskeletal system Deformities and anomalies, by G. A. Caldwell and H. D. Morris. Injuries, by G. A. Caldwell and H. D Morris. Part IV Alimentary tract Diseases of the mouth, by A. Ochsner. Anal, perianal and rectal regions, by P Hanley and M. G. Hines. Part V Peripheral vascular diseases Arterial diseases, by M. E. DeBakey and O. Creech, Jr Diseases of veins and lymphatics, by P T DeCamp. Tumors of the blood and lymph vessels, by H. E. Kahle Part VI, Genito-urinary system Male genito-urinary organs, by J C. Reed. by W K. Kittredge. Female genito-urinary organs, by J H. Allen. Part VII, The head Minor surgery of the eye, by J H. Allen. Ear nose and throat, by M. G Lynch Part VIII, The nervous system Diseases of the nervous system, by D H. Echols. Index.

Note. A standard work of which six editions were published between 1929 and 1948. This is the first edition to be prepared by the present editors who are in order of their names in the title Chairman of the Department of Surgery of Tulane University School of Medicine and Chairman of the Department of Surgery of Baylor University College of Medicine. The book has been completely reorganized and rewritten and now consists of the several parts and chapters whose authors and titles are given above. It is still essentially a reference book, and its scope is not easy to define. In the main, it deals with "the management of surgical conditions which are usually associated with no immediate and little potential threat to life Surgical techniques are described, but most of the space is given to basic anatomy physiology diagnosis, etiology clinical course etc. of diseases and disorders for which minor surgery is the indicated therapy Selected literature references are included.

Medicine

Surgery

ORR, THOMAS GROVER

Operations of general surgery Second edition. With 1700 step-by-step illustrations on 721 figures. Philadelphia W. B. Saunders Company 1949 890 p. illus. 27 cm. $14.50 4350

Contents: Wound healing. Treatment of fresh wounds. Sutures and knots. Amputations. The skin and subcutaneous tissues. Muscle, fascia, and bursae. Tendons and tendon sheaths. Thorax and respiratory system. The breast. Circulatory system. Abdominal incisions. Digestive system. Hernias. Bones and joints. The nervous system. The sympathetic nervous system. Lymphatic system. Endocrine system. Congenital anomalies. Genito-urinary system. Female reproductive system. Index.

Note: A successful textbook for students in medical colleges and manual for practicing surgeons. Surgical technique is of course the main subject matter but surgical anatomy, dangers, and safeguards, as well as other practical information, are included also. All surgical techniques are not described; instead, only one or two proven techniques for each operation are given. The illustrations are of high quality and include a number of step-by-step sequences. The first edition was published in 1944. In the present edition the work has been enlarged by 160 pages, and the number of illustrations substantially increased. Additions have been made to the chapter bibliographies.

OVERHOLT, RICHARD HOLLIS AND LAZARO LANGER

The technique of pulmonary resection. Revised second printing Springfield, Ill. Charles C Thomas, 1951 216 p. illus. (part col d) 24 cm. $9.50. 4351

Contents: Pre-operative preparation. Operative preliminaries. General considerations pertaining to all resections. Intrapulmonary and hilar surgical anatomy. Specific resections. Post-resection management and complications. Post-resection thoracoplasty. Afterword. Bibliography. Index.

Note: A well-rounded treatise for students and general surgeons preparing for thoracic surgery. The techniques described are those actually used by the authors, including their new technique for segmental excision which was first presented in May 1946 before the American Association for Thoracic Surgery. Pathology, diagnosis and other topics not directly related to surgery are not covered; instead, the book is limited to those topics of direct concern to the surgeon. The style is direct and explicit and the illustrations are of excellent quality. In the "Afterword," developments between January 1947 and January 1951 are reviewed concisely.

PARSONS, LANGDON AND HOWARD ULFELDER

An atlas of pelvic operations. Illustrated by Mildred B. Codding. Philadelphia W. B. Saunders Company 1953 231 p. illus. 29 cm. $18.00 4352

Contents: Section I. Abdominal operations: Considerations preliminary to all abdominal surgery. Helpful hints for hysterectomy. Modifications of total hysterectomy. Conservative operations. Operations on tube and ovary. Operations involving the intestine. Operations involving the urinary tract. Operations on the abdominal wall. Complications following abdominal operations. Section II. Vaginal and perineal operations: Considerations preliminary to all vaginal and perineal operations. Vaginal plastic procedures. Combined abdominal and vaginal procedures. Operations for repair of fistulae. Minor operations. Section III. Operations for malignant disease. Index.

Note: A fully illustrated graduate-level text and reference book. It consists primarily of 197 plates, each of which contains several illustrations—sometimes as many as 10—arranged in the order followed in actual operations. Illustrations in each series are numbered consecutively, a device that makes it easy to study the entire operation, step by step in proper sequence. The illustrations are accompanied on the same page by short legends in which the steps depicted are described verbally. Included in these descriptions are warnings and notes on precautions to be taken; for example, "This [illegible] exposes the vessels at the mid portion of the muscle which cause troublesome bleeding when divided. These vessels should be identified, clamped and ligated with silk or cotton." Although most of the operations described can be classified as gynecological surgery, the scope of the book is not strictly limited to that branch of surgery but includes other operations involving the pelvis, such as an operation for umbilical hernia.

PARTIPILO, A. V.

Surgical technique and principles of operative surgery. Fifth edition thoroughly revised. With 548 figures containing 998 illustrations. Original illustrations by W. C. Shephard and Hooker Goodwin. Philadelphia Lea & Febiger 1953 704 p. illus. 27 cm. 4353

Contents (abridged): General principles of operative surgery. Fluid therapy in surgery, by T. A. Tesluk. Sutures and ligature material. Knots and methods of tying. The abdominal wall. The peritoneum and peritoneal cavity. Inguinal hernia. Femoral hernia. Abdominal hernias. Hydrocele. Varicocele. Gastric surgery. Gall bladder and extra hepatic bile ducts, by H. A. Oberhelman. Surgery of the pancreas, by J. L. Keeley. Surgery of the small intestine. Aseptic gastrointestinal anastomoses. Vermiform appendix. Surgery of the large bowel, by C. L. Martin. Ano-rectal diseases, by C. L. Martin. Surgery of the kidney, by H. E. Landes. Peripheral vascular diseases. Chest surgery, by R. M. Dorsey. Principles of plastic surgery, by W. R. [illegible], by W. J. Pickett. Blood transfusions, by E. [illegible]. Surgery of the thyroid gland. Index.

Note: Emphasis upon physiology as well as upon anatomy and pathology is one of the distinguishing qualities of this standard textbook. Another noteworthy feature is the inclusion of a high number of illustrations, most of which are reproduced in large scale. There are 34 chapters of which selections are listed above. Those listed by title only were written by Dr. Partipilo. The others were contributed by the authors whose names are given. The sixth edition of the book was published in 1957: 944 p. $20.00.

PRATT, GERALD H.

Cardiovascular surgery 358 illustrations on 261 figures and 4 color plates. Philadelphia Lea & Febiger 1954 843 p. illus. (part col d) 24 cm. $15.00. 4354

Contents (abridged): Nomenclature, case history and physical examination of the patient. Ancillary surgical procedures. Surgery of the heart. The arterial system. The venous system. The lymphatic circulatory system. Ancillary surgical procedures. Special cardiovascular technics. Index.

Note: A successor to the author's "Surgical management of vascular diseases," 1949. It presents a comprehensive view of cardiovascular surgery with emphasis on surgical therapies currently in use, many of which were developed in recent years. It is organized in eight sections, the titles of which are given above, and 45 chapters. Surgical techniques are not described in detail. Rather, the book is concerned with the abnormalities and diseases for which surgery is indicated and with the principles and applications of surgical therapies. Rather extensive bibliographies are included in the chapters. The author is Chief of the Vascular Clinic of St. Vincent's Hospital in the City of New York, and the book reflects the practice of this clinic at the time of writing.

PUESTOW, CHARLES B.

Surgery of the biliary tract, pancreas & spleen a handbook of operative surgery Illustrated by Jessie W. Phillips. Chicago The Year Book Publishers, Inc., 1953 370 p. illus. 22 cm. $9.00 4355

Contents: Section I, The liver: General considerations. Anatomy and physiology of the liver. Surgical diseases of the liver. Complications of liver disease. Portal hypertension. Section II, The extrahepatic biliary system: Anatomy and physiology of the extrahepatic biliary tract. Diseases of the gallbladder. Complications of cholecystic disease. Preoperative and postoperative management. Anesthesia for biliary tract surgery. Gallbladder surgery. Surgery of the bile ducts. Factors causing symptoms after biliary tract surgery. Section III, The pancreas: Anatomy and physiology of the pancreas. Benign surgical lesions of the pancreas. Carcinoma of the head of the pancreas. Section IV, The spleen: Anatomy and

physiology of the spleen. Indications and contraindications for splenectomy Splenectomy Index.

Note. A concise work designed for surgical residents in hospitals and for practicing surgeons who are not specialists in the surgery of the biliary tract, pancreas, and spleen. It is useful for study review and reference. Its principal feature is series f 72 full-page plates, each of which contains reproductions of two or more illustrations. The plates are complemented by a concise but clear text on general considerations, as well as by legends of some length. The author is Clinical Professor of Surgery in the College of Medicine of the University of Illinois and specialist in the regional surgery covered by the book.

PULASKI, EDWIN J

Surgical infections, prophylaxis—treatment—antibiotic therapy Springfield Ill Charles C Thomas 1954 332 p illus. 23 cm. (American lecture series. Publication no 170 A monograph in the Bannerstone division of American lectures in surgery, edited by Michael E De Bakey and R. Glen Spurling) $7 75 4356

Contents Part i, Antibiotic therapy General considerations of antibiotic therapy The special antibiotics. Part ii, The management of surgical infections Wound infections—prophylaxis and management. Specific infections. Regional infections and wounds. Appendix References for tables. General references. Index.

Note. An authoritative and thorough manual on the control of infections. A principal thesis is that antibiotic therapy should be viewed only as an adjunct to proved surgical measures and other supportive therapies. Even so, one of its useful features is the information given on the use of antibiotics in controlling infection, both in general and in the treatment of specific types of ounds and infections. The problem of superinfection is discussed. About one-third of the space is devoted t the general principles and techniques of antibiotic therapy and discussions of the individual antibiotics while two-thirds is used for discussions of specific kinds of infections and wounds, including surgical ounds, and directions for their management by the administration of antibiotics and other measures.

RICHARDS VICTOR

Surgery for general practice. With 476 illustrations St. Louis The C V Mosby Company 1956 947 p illus. 25 cm. $17 50 4357

Contents (abridged) Local anesthesia. Hemorrhage blood replacement, blood substitutes, shock. Infection and chemotherapy in surgery Anticoagulants—venous thrombosis—pulmonary embolism. Burns Plastic surgery Ear nose, and throat, by R. Mc Naught. Visible and palpable tumors of soft parts. Mouth, oropharynx, lip jaw tongue Neck. Breast, by C. J Matheson Chest disorders, by R. B Cohn Acute abdominal disorders, by R. B Cohn. Anal canal and rectum, by R R. Klein. Urology by F Howard Common gynecologic problems, by C. McLennan. Peripheral ascular disease. Veins and lymphatics. Sympathetic nervous system Endocrine problems. Hypertension. The central nervous system Craniocerebral trauma. Infections of the central nervous system Intractable pain Peripheral nerve surgery Surgical lesions of the spinal cord. Injuries to the spinal cord. Neurovascular pain in the cervicobrachial area. Arm and shoulder Elbow Wrist and hand General principles f the surgery of the hand. Low back pain. Hip. Knee Ankle and foot. Bone tumor Fractures, by F J Cox. Index.

Note. An excellent and useful book but ith somewhat misleading title. It is addressed to general practitioners of medicine and is devoted primarily to the management of patients with conditions for hich surgery is indicated. It does not describe the techniques of surgical operations except in general and incidental way nor is it strictly limited to disorders that require surgical treatment. It emphasizes methods of diagnoses that may be carried out in doctors offices, but refers to others Care of patients, and especially ambulatory care, of patients before and after operations is ell covered. The author is Chairman of the Department of Surgery of the School of Medicine of Stanford University and the book is based on experience in the Surgical Outpatient Clinics of Stanford University The contributor chapter on fractures is 138 pages long and deals ith both emergency care and definitive care, with emphasis on the latter

ROEN, PHILIP R

Atlas of genito-urinary surgery Introduction by Clarence G Bandler Illustrations by Charles Stern New York Appleton-Century Crofts, Inc., 1951 325 p illus. 25 cm. $10.00. 4358

Contents (abridged) General principles of urologic surgery Operations on the kidney Operations on the adrenal gland. Operations on the ureter Operations on the bladder. Operations on the prostate Operations on the scrotum and testicle Operations on the urethra. Operations on the penis. Index.

Note: This book is organized so that the right-hand pages contain reproductions of drawings of standard surgical techniques, hile the facing left-hand pages contain concise discussions of the drawings and the techniques illustrated by them. In most instances the drawings on one page illustrate all of the surgical steps in particular operation, but in other instances the author has used several successi pages. Drawings are original and are reproduced in adequately large scale. The book is designed for medical college students and for general surgeons who are not specialists in urological surgery but who must nevertheless occasionally perform urological operations.

RUSTAD, WILLIAM H

The recurrent laryngeal nerves in thyroid surgery Illustrations by Ralph Sweet. Springfield, Ill Charles C Thomas, 1956 47 p. illus. 26 cm. $4 50 4359

Contents. Historical background. Laryngeal muscles and their nerv supply The recurrent laryngeal nerves. Clinical considerations. Illustrations. Bibliography

Note. The results of an extensi series of dissections carried out to obtain representati picture of the anatomy of the extralaryngeal portion of the recurrent laryngeal nerves on the right and left sides of the neck are presented in this small but significant book. On the basis of the findings, ariations of these nerves are arranged in 11 groups hich ar illustrated and described in detail. Among the important findings is the lack of consistency the patterns of these nerves between right and left sides in the same individual. Suggestions as to the application of this study in surgical operations are offered in the chapter entitled "Clinical considerations.

SADOVE, MAX S, AND JAMES H CROSS

The recovery room immediate postoperative management With contributions by 24 authorities. Philadelphia W B Saunders Company 1956 597 p illus. 24 cm $12.00. 4360

Content Introduction, by W H. Cole. An administrator looks at intensi therapy by M J Segall and others. Principles of recovery room management, by M. S. Sadove and J H. Cross Management of circulation, shock, respiration and ... ation, by M S Sadove and J H. Cross. Neurosurgery by O Sugar Surgery of the eye, by M D Pearlman. Surgery of the ear nose and throat, by F L. Lederer and E. M. Skolnik. Surgery of the chest, by H T Langston. Laryngology and bronchoesophagology by P H. Holinger and K. C. Johnston Surgery of the abdomen, by W J. Grove. Surgery for anorectal disease, by C. Porter. Surgery of the soft tissues, by M. Gibbel Orthopedic surgery by T A. Fox. Urological surgery by R. R Cross, Jr Plastic surgery by R. F Stokes The treatment of burns, by R. F Stokes. Oncological surgery by H. W Southwick and D P Slaughter Obstetrics and gynecology by J W Payne and J Wolff. Vascular surgery by W S. Dye Jr and O. C. Julian. Pediatric surgery by J. L. Keeley Management of medical problems, by E. J Wise. Nursing care in the recovery room, by R. Milone and others. Index.

Note A treatise on the care of hospital patients during the initial period of recovery from surgery The authors are all teachers in colleges of medicine in the United States of America or members f hospital staff Most of the chapters of the book describe specifically and in detail procedures for both routine postoperative care and postoperati care when there are complications. The book is of interest to surgeons, urses and hospital administrators.

SCHAFFER, PAUL W

Pathology in general surgery With 495 plates. Chicago The University of Chicago Press, 1950. 581 p. illus. (part col d) 27 cm. (The University of Chicago Committee on Publications in Biology and Medicine edited by Lester R. Dragstedt and others) $20.00 4361

Contents: Perfusion and general aspects. Vascular system. Endocrine glands. Breast. Lung and mediastinum. Head and neck. Esophagus. Stomach. Duodenum and small intestine. Appendix, colon, and rectum. Pancreas. Liver. Gall-bladder and bile ducts. Peritoneum. Index.

Note: The pathology of diseases usually treated by surgery is the subject of this book. The author points out that the duty of surgeons is "to follow resected tissues into the laboratory there to determine their gross and microscopic character. Such clinical-pathologic correlations not only represent the basis for improvement in the practice of medicine, but should also be regarded as the reference point from which may be derived original concepts so vital to the continued advance of the frontiers of medical knowledge." The chapters whose titles are listed above are subdivided by specific diseases. For example, the chapter on the pancreas has the following subheads: "Pancreatic cysts," "Acute pancreatitis," "Chronic pancreatitis," "Islet-cell tumors," "Carcinoma of the pancreas," and "Sarcoma of the pancreas." Each individual disease is discussed in several pages of text, which are accompanied by large illustrations of typical pathological specimens. There are 495 plates, and more than half are reproduced in color. Literature references are included.

SCOTT WILLIAM WALLACE, AND PERRY B HUDSON

Surgery of the adrenal glands. Springfield, Ill. Charles C Thomas, 1954 150 p. illus. 22 cm. (American lecture series. Publication no. 227 A monograph in American lectures in abdominal viscera edited by Lester R. Dragstedt) $3.50. 4362

Contents: Introduction. Development. Structure. Function. Tumors of the adrenal gland. Surgical treatment of adrenal tumors (including Cushing syndrome. Bilateral adrenalectomy in the treatment of disseminated cancer of the prostate and breast. Bibliography. Author index. Subject index.

Note: A condensed but informative presentation of current thought and clinical experience pertaining to surgical treatment of tumors of the adrenal glands. The first four chapters cover very briefly the background information on the development, structure and function of these glands. This introductory material is followed by a 77-page chapter on the tumors and a 6-page chapter on surgical treatment. A considerable range of case material is incorporated: there are 33 figures and extensive citation of the recent literature. The senior author is Urologist-in-Charge, the Johns Hopkins Hospital and Director of the James Buchanan Brady Urological Institute.

SHACKELFORD RICHARD T

Bickham-Callander surgery of the alimentary tract. By Richard T Shackelford assisted by Hammond J Dugan. Philadelphia W B Saunders Company 1955 3 v illus. 26 cm. $60.00 4363

Contents: Volume I. The esophagus. The stomach and duodenum. The liver. The gallbladder and extrahepatic biliary ducts. Volume II. The pancreas. The spleen. The small intestine (jejunal and ileal portions). The peritoneum, omenta and mesentery. The colon. Volume III. The anorectal tract. Excisions of the rectum. Hernias of the gastrointestinal tract. Ileostomy. Index to Volumes I and II.

Note: A cyclopedic presentation of surgical techniques of the alimentary tract. It is based on the section on surgery of the alimentary tract in W S Bickham *Operative surgery* Philadelphia, 1924–31, seven volumes, and on unpublished material prepared by C Latimer Callander who worked for some years on revision of Bickham's work but did not have it ready for publication when he died. The same comprehensive approach that was characteristic of Bickham's work is to be found in this one. All known techniques pertaining to surgery of the alimentary tract are described and detailed in some detail. However, the present author has added evaluatory comments, a feature that was lacking in the original work. In addition, discussions of preoperative and postoperative care and of other topics closely related to the surgical techniques have been added. There are 1,704 figures, most of which contain more than one illustration, in the three volumes. The total number of pages is 2,315 plus 59 pages of index. The index covers the contents of Volumes I, II and III and is included in all three volumes.

SMITH FREDERICK M

Surgery of the elbow Springfield, Ill. Charles C Thomas 1954 340 p. illus. (part col d) 26 cm. $10.75 4364

Contents: Traumatic lesions of the elbow region. Pathology of fractures. Anatomy of the elbow region. Symptoms and signs of fractures and dislocations. Physical examination of the elbow. General principles of fracture treatment. Anesthesia. General considerations of the patient. Classification of fractures and dislocations. *Fracture of lower extremity of humerus. Fracture of upper* extremity of ulna. Fracture of upper extremity of radius. Aspiration of the elbow joint. Complications following elbow injuries. Operative treatment of fractures. Operations on the soft parts associated with fracture or dislocation. Surgical approaches to the elbow region. Early treatment aids following injury. Rehabilitation. The treatment of late deformities and disabilities resulting from fracture or dislocation. Conditions in the elbow region or joint due to trauma other than fracture or dislocation. Non-traumatic conditions of the elbow region or joint. Special operations upon the elbow joint. Bibliography. Index.

Note: A comprehensive monograph on surgical and related therapies of *disorders* of the *elbow* joint and region. Surgical treatment is the principal subject, as the title indicates, but related techniques, such as physical therapy and rehabilitation, are also discussed, though with relative brevity. Most of the space is devoted to surgical management of fractures and dislocations. However, all *disorders of the elbow* are considered, including bursitis, sprains, arthritis, osteomyelitis, and neoplasms. There are 133 figures, and a classified bibliography of 313 references. The author is Associate Professor of Clinical Orthopedic Surgery in the College of Physicians and Surgeons of Columbia University.

SPIVACK JULIUS L.

The surgical technic of abdominal operations. Fifth edition. 1,037 illustrations on 495 figures, mostly original. Springfield, Ill. Charles C Thomas, 1955 931 p. illus. 26 cm. $17.50 4365

Contents (abridged): Part I. General surgical technic in the abdominal cavity. Abdominal incisions. Anatomy of the small and large bowel—intestinal localization. Methods of suturing the stomach and bowel. Intestinal anastomoses. Enterostomy—enterotomy. Aseptic methods in gastro-intestinal surgery. Surgery of the large bowel. Malformations of the intestinal tract—atresia and stenosis of the intestinal tract. Part II. Anatomy of the stomach. Gastrostomy. Operations for congenital pyloric stenosis. Gastropexy. Excision of gastric ulcer—exclusion of gastric ulcer—repair of perforated ulcer. Part III. Gastroenterostomy. Gastro-duodenostomy. Gastrectomy. Other surgical procedures on the stomach. Part IV. Surgery of the gall-bladder and biliary passages. Surgery of the liver. Surgery of the spleen. Surgery of the pancreas. Part V. Hernia. Internal hernia. Gynecological operations. Index.

Note: A standard text and reference book, the first edition of which was published in 1934 and the fourth edition in 1946. It is outstanding for its clear, step-by-step descriptions of surgical techniques. No prior knowledge of surgery is assumed. Such elementary details as knot-tying are not only explained in the text, but are shown in sequence in clear drawings. In most instances, several modern techniques for the same operation are described. Drawings are clear and well reproduced, and lengthy bibliographies are included. The fourth edition was very thoroughly revised in the preparation of this fifth edition. One chapter was deleted, three new ones added, and many of the chapters carried over were revised, and in many instances, extended. The illustrations also were substantially increased in number.

SURGICAL CLINICS OF NORTH AMERICA

Symposium on pediatric surgery Philadelphia W B Saunders Company 1956.

1439–1713 p illus 23 cm $18 00 per year of six numbers. 4366

Contents Foreword, by W J Potts, consulting editor Anesthesia for pediatric surgery by W O. McQuiston. Fluid and electrolyte therapy in the surgery of infants and small children, by T G. Baffes. Congenital atresia of the esophagus with tracheo-esophageal fistula, by C. A. Stephens and others. Malrotation of the intestine, by W H. Snyder and L. Chaffin. The nonoperative treatment of intussusception hydrostatic pressure reduction by barium enema, by M. M. Ravitch. Intussusception—surgical treatment, by P F Fox. Hirschsprung' disease during infancy by O. Swenson and J H. Fisher Atresia of the intestinal tract, by O. S. Wyatt and others. Meconium ileus, by R. Seidenberg and E. S. Hurwitt. Imperforate anus, by W B Kiesewetter The diagnostic laparotomy in obstructi jaundice in infants, by H. W Clatworthy Jr., and V G. McDonald. The treatment of hypospadias, by D W Mac Collum, and others. Lumbar myelomeningocele, by F D Ingraham and F D Fowler Cleft lip and cleft palate, by H. E. Coe. Cysts and sinuses of the eck of thyroglossal and branchial origin by A. H. Bill, Jr Lung cysts and pneumothorax in infants and children by W L. Riker The management of pectus excavatum, by C. E. Koop. Criticism of operations for pulmonary stenosis, by H. T Bahnson and M. W Brown. Hemangiomas in infancy and childhood report based on 6479 cases, by D W MacCollum and L. W Martin. Index to volumes XXXIV XXXV and XXXVI (1954 1955 and 1956)

Note. Surgical clinics of North America is published six times a year and is continuously paged through the volume as periodical. However each issue is devoted to a symposium on a topic of current interest, and the issues are valuable bound in cloth as books as well as in paper The December 1956, issue contains the papers whose uthors and titles are listed above. The authors are teachers and practitioners f surgery and they have addressed themselves to graduate pediatricians and graduate surgeons, especially the latter

SUTTON, JOHN E

Minor surgery With over one hundred illustrations. New York Landsberger Medical Books Inc., distributed solely by the Blakiston Division of the McGraw Hill Book Company Inc., 1955 334 p illus 21 cm. $7 00 4367

Contents Inflammatory reactions, infections, and abscesses. Traumatic lesions and ounds. Lesions of the skin and subcutaneous tissue Sprains. Bursitis. Antimicrobials. Equipment and technique. Anesthesia and analgesia. First aid bandaging and splinting. Preoperati preparation and post operative care. Miscellaneous conditions. Routine procedures. Minor surgery in infants and children. Index.

Note A readable handbook intended for the guidance of general medical practitioners. It deals with conditions that can be treated in patients' homes or in physicians' offices without the use of elaborate equipment. Simple surgical treatments applicable to such conditions as are named in the chapter titles are described fully A few case histories that illustrate the application of the procedures described in the book are included However there are no references to other literature, and the umber of illustrations is fewer than might be expected in book f this nature. The uthor is member of the faculty of the Medical College of Cornell University

SWEET, RICHARD H

Thoracic surgery Second edition Illustrations by Jorge Rodriguez Arroyo Philadelphia W B Saunders Company 1954 381 p 159 illus (part col d) 26 cm $10 00 4368

Contents Surgical anatomy of the thorax. General technical considerations. Thoracic incisions. Operations on the thoracic wall. Operations concerning the pleural cavity Operations on the lung. Operations within the mediastinum. Operations on the esophagus. Abdominal operations performed through thoracic incisions. Surgery of the diaphragm. Index.

Note. A manual of established technique. It is addressed primarily to graduat general surgeons, nevertheless, each operation included is described in full detail and the erbal descriptions are supplemented by clear drawings which are based mainly on sketches made of actual operations. Included also are rather full discussions of such matters as choic of method, complications and postoperative care of patients. The first edition was published in 1950. Descriptions of several new techniques ha been added in this second edition and there has been some revision and ugmentation of the illustrations, including new set of illustrations of instruments used in thoracic surgery The second edition has been printed from re-set type. Changes ere extensive enough to require resetting of the type. The uthor is Associate Clinical Professor of Surgery in the Harvard University Medical School.

THOREK, MAX

Modern surgical technic. With a foreword by Fred W Rankin Second edition. 2,590 illustrations including 57 full color plates. Philadelphia J B Lippincott Company, 1952 4 v and index. illus. (part col d) 26 cm. $89 00 4369

Contents (abridged) Volume I. Part I, General operative considerations. The surgeon and his art. Selection and management of "poor-risk" patients. Postoperati considerations. Anesthesia, by C. J Betlach. Blood transfusion. Electrosurgery Part II, Surgery of head and neck and principles of plastic surgery Surgery of the orbit and eye, by J. Igersheimer. Surgery of the ears and adjacent structures, by W L. Gatewood. Surgery of the face. Surgery of the jaws. Surgery of the sinuses and tonsils, by W L. Gatewood. Surgery of the neck and the cervical endocrine glands. Principles of plastic surgery and skin grafting. Volume II. Part III, Surgery of the nervous and vascular systems: Surgery of the central nervous system, by H. C. Voris. Surgery of the arteries, by R. W McNealy Surgery f the eins, by H. O. McPheeters. Part IV Surgery of the chest, by R. Nissen. Part V Surgery of the bones and joints Orthopedic surgery by K. Eikelbaum and H. E. Turner Fractures, dislocations and sprains, by J J Callahan. Volume III. Part VI, Surgery of the breast. Part VII, Surgery of the abdomen Surgery of the stomach and the duodenum. Surgery of the intestines. Surgery of the liver gallbladder and biliary passages. Surgery of the pancreas. Surgery of the spleen. Volume IV Part VIII, Hernia. Part IX, Gynecology and genito-urinary surgery Index.

Note A cyclopedic work of reference nature. The techniques described are those in fairly wide, current use. Each technique included is covered explicitly in considerable detail. The textual descriptions are supplemented by illustrations, and many of these are arranged in step-by-step series. Short lists of selected references are included in most chapters. The book is well suited to use as reference work in the offices of general medical practitioners and general surgeons. It is useful also to surgeons practicing specialties who are sometimes called upon to perform operations outside their own fields. The first edition was published in 1938 in three volumes and was reissued in 1942 in one-volume edition for the use of medical officers of the Armed Forces. In this second edition, more than 400 pages of text have been added, and the number of illustrations has also been substantially increased.

THOREK, PHILIP

Surgical diagnosis With drawings by Carl T Linden. Philadelphia J B Lippincott Company 1956 320 p. illus. 26 cm $12 00. 4370

Contents Head The oral cavity Neck. Chest. The breast. Esophagogastro-intestinal tract Liver gallbladder and bile ducts. Pancreas. Spleen. Hernia. Genito-urinary conditions. Gynecologic conditions Abdominal injuries. Superior extremity—the hand. Inferior extremity—varicose veins. Index.

Note A compactly written textbook of the diagnosis of conditions hich require surgical therapy Physical techniques are emphasized, but there is also stress on the study of symptoms and the interpretation of laboratory tests. There are 391 figures representing somewhat higher umber of illustrations, and most of these illustrate physical manifestations or physical diagnostic techniques. The book is designed for use in medical school courses, both undergraduate and graduate The author is Professor of Surgery on the faculty of the Cook County Graduate School of Medicine in Chicago.

THORNDIKE AUGUSTUS

A manual of bandaging strapping and splinting Second edition with 119 illustrations. Philadelphia Lea & Febiger 1950. 148 p illus. 19 cm. $2 00 4371

Medicine

Anesthesia

Contents: The dry sterile dressing for clean wounds. Septic wound dressing. Sprains, strains, and contusions. Dislocations and emergency splinting. Transportation of fractures. The use of plaster of Paris and similar bandages in splinting. Bibliography. Index.

Note: A brief, illustrated manual addressed primarily to medical students, student nurses, and hospital orderlies. The second edition has been revised to incorporate the changes in practice brought about as [illegible] result of experience and research stimulated by World War II, including, among other new forms and types of useful bandaging materials, the plastic impregnated bandage used as substitute for plaster of Paris bandage.

Walter, Carl W

The aseptic treatment of wounds. Illustrated by Mildred B Codding. New York The Macmillan Company 1948 372 p. illus. 29 cm. $9.50. 4372

Contents: The importance of the aseptic treatment of wounds. The development of the concept of asepsis. Chemical destruction of bacteria. Chemical disinfection of instruments. Physical destruction of bacteria. Sterilization by boiling water. Sterilization by steam. The control of steam sterilization. Sterilization by dry heat. Sterilization of dressings and dry goods. Care and sterilization of instruments. Disinfection of the skin. Air-borne contamination. Operating room technic. Terminal sterilization of instruments and utensils. Aseptic care. Preparation of parenteral fluids. Blood and plasma transfusion. Central supply room technic. Hospital infection of wounds. Control of communicable diseases. Maintenance of sterilizing equipment. Index.

Note: A practical and detailed exposition of the principles of asepsis and of the techniques of sterilization, disinfection etc. [illegible] contribute to surgery as surgical and hospital procedures. Concrete information on the effectiveness of various methods [illegible] given. Good techniques are illustrated step by step. There are 233 figures, many of which contain reproductions of six or more drawings. Pertinent literature is cited in footnotes. The work is addressed particularly to surgeons and nurses, but it contains much material of interest also to hospital administrators and to manufacturers of hospital equipment and supplies.

Welch Claude E.

Surgery of the stomach & duodenum a handbook of operative surgery Second revised edition. Illustrated by Muriel Mc Latchie Miller Chicago The Year Book Publishers, Inc., 1955 370 p. illus. 22 cm $9.00 4373

Contents: Anatomy of stomach and duodenum. Historical summary. Pre- and postoperative treatment, anesthesia. Special instruments. Incisions and closure. Congenital abnormalities. Perforating wounds. Gastrotomy and duodenotomy. Gastrostomy. Diverticula of the stomach and duodenum. Hiatus hernia. Pyloroplasty and cardioplasty. Side-to-side anastomoses. Duodenal and gastric ulcer. Other operations for complications of ulcer. Gastric cancer. Tumors of the duodenum. Complications of gastric resection. Late complications of gastric operations. Anastomoses [illegible] special clamps. Duodenal fistula. Appendices. Bibliography. Index.

Note: Essentially an atlas, this book contains 79 plates, most of which contain reproductions of several drawings. The drawings are accompanied on facing pages by short, specific descriptions and discussions. They have been made from original sketches based chiefly on operations at the Massachusetts General Hospital in Boston. There are [illegible] few pages of background information at the beginning of the book, particularly [illegible] description of the anatomy of the stomach and duodenum and [illegible] brief summary of the development of surgical techniques on these organs. The first edition was published in [illegible] 951. The book was not widely changed for the second edition, but the changes are important. [illegible] The author is [illegible] member of the faculty of Harvard Medical College.

Wilder, Joseph R

Atlas of general surgery With 101 plates. St. Louis The C. V Mosby Company 1955 222 p illus. 32 cm. $13.50. 4374

Note: Devoted to advanced [illegible] students in medical colleges, interns and graduate surgeons, this book shows in illustrations and descriptions in concise explanatory legends, the step-by-step procedures for [illegible] variety of surgical operations including tracheostomy, thyroidectomy, radical mastectomy, hernia repair (several procedures), cholecystostomy, closure of ulcer perforation, splenectomy, appendectomy, anterior resection of the colon, total hysterectomy and subtotal hysterectomy. Approximately 40 procedures are covered. The descriptions are arranged [illegible] ith the illustrations and the pertinent text on facing pages. The author is [illegible] member of the faculty of New York Medical College.

Year book of general surgery (1956–1957 Year book series) Edited by Evarts A. Graham. With a section on anesthesia, edited by Stuart C. Cullen. Chicago The Year Book Publishers, Inc., 1956 647 p. illus. 20 cm. $6 75 4375

Contents: Introduction. General considerations. Technical considerations. Nutrition. Shock. Fluids and electrolytes. Wounds and wound healing. Antibiotics. Neoplasms. The head. Neck. Thyroid. Breast. Lungs and pleura. Thorax and mediastinum. Heart. Aorta and peripheral arteries. Peripheral veins. Lymphatic system. Abdomen—general. Liver and spleen. The biliary tract. Pancreas. Esophagus. Stomach and duodenum. Small intestine. Appendix. Colon and rectum. Pilonidal cysts and sinuses. Hernia. Adrenal glands. Genitourinary system. Extremities. Anesthesia: Depressant drugs. Ventilation. Inhalation anesthesia. Muscle relaxants. Barbiturates. Spinal anesthesia. Regional anesthesia. Hypothermia. Circulation. Miscellaneous. Index. Index to authors.

Note: This annual publication is edited and organized similarly to other volumes in the publisher's Year book series. Significant articles are selected from the medical literature of the world, and are reduced to abstracts [illegible] hich average 500 words in length. The abstracts are classified under the various headings given in the contents above. They are not highly condensed summaries, but are written in narrative fashion so that they can be read [illegible] ith ease. A reference to the original source is given, and in numerous instances the abstract is supplemented by an evaluatory note written by the editor. Each issue covers the journals of approximately one year and in the issue reviewed here the abstracts are of articles appearing in journals received by the editors between April, 1955, and May 1956. There are 117 figures in the present issue.

Zimmerman Leo M and Barry J Anson

Anatomy and surgery of hernia. Baltimore The Williams & Wilkins Company 1953 274 p. illus. (part col d) 26 cm. $10.00 4376

Contents: Hernia through the ages. Hernia in general. Anatomy of the abdominal wall. Indirect inguinal hernia. Direct inguinal hernia. Inguinal hernia—etiology—pathology. Clinical manifestations of inguinal hernia. Treatment of inguinal hernia. Special forms of inguinal hernia. Recurrent inguinal hernia. Femoral hernia—anatomy—surgery. Umbilical hernia. Ventral hernia. Diaphragmatic hernia, by R. R. Bettman. Internal hernias. Pelvic hernias. Medicolegal aspects of inguinal hernia. Index.

Note: This monograph is the product of collaboration between [illegible] specialist in surgery and [illegible] specialist in anatomy. It is [illegible] broad presentation [illegible] hich covers the historical development of hernia operations, general and statistical information on the incidence, etiology, pathology, treatment, and complications of hernia; detailed anatomy of the abdominal wall, and the techniques of surgical operations for the correction of hernia. The latter are described in detail. The book is written in [illegible] lucid style, and the illustrations are excellent in quality and are reproduced in an adequately large scale. Selected literature references are included in the chapters.

ANESTHESIA

Adriani John

The chemistry of anesthesia. Springfield Ill. Charles C Thomas, 1946 536 p. illus. 23 cm. $8.50 4377

Contents: Inorganic chemistry related to anesthesia: The physical behavior of gases. Clinical applications of the physical laws of gases. The chemistry of inorganic gases. The chemical absorption of carbon dioxide in rebreathing appliances. Organic chemistry related to anesthesia. The chemical nature of anesthetic drugs. Hydrocarbons. Alcohols. Aldehydes and ketones. Acids, acyl derivatives, and esters. Ethers, alkene oxides, and acetals. Halogenated compounds. Sulphur-containing substances—sulphonmethanes. Aromatic and heterocyclic

compounds. Opium and opium alkaloids. Amides, ureides, and related compounds—barbiturates. Local anesthetic drugs. Drugs affecting the autonomic nervous system. Stimulating drugs used as analeptics. Standards of purity of drugs. Inflammability of anesthetic mixtures. Biochemistry related to anesthesia. Chemical basis of proposed mechanisms [illegible] narcosis. Effects of anesthesia upon composition of body fluids. The effects of anesthesia on liver function. Effects of anesthesia upon formation and composition of urine. Effects of anesthetic drugs on lipoid and nervous tissues. Enzymes, vitamins and hormones. Metabolism during anesthesia. Detoxification and elimination of anesthetic drugs. Toxicology. Biochemical aspects of local anesthesia. Bibliography. Glossary. Appendix. Index.

Note A basic work for practicing anesthesiologists and for postgraduate medical students who are preparing for this specialty. As the title indicates, it deals, not with the uses and administration of anesthetic drugs, but with their chemistry, chemical and pharmacological descriptions, and their chemical effects in the body. Its purpose is to enable the practitioner to understand the drugs he uses and perhaps to stimulate him to undertake fundamental research. Extensive literature references are provided for each of the chapters.

Adriani, John

Nerve blocks, a manual of regional anesthesia for practitioners of medicine. Springfield, Ill. Charles C Thomas, 1954. 265 p. illus. 26 cm. $6.50 4378

Contents General considerations of regional anesthesia. Paravertebral block anesthesia. Block of cranial nerves. Blocks of peripheral nerves. Field blocks. Spinal anesthesia. Epidural anesthesia. Blocks used to perform surgical procedures. Index.

Note Limited to the more important and commonly used blocks, this book is organized for reference use by general practitioners of medicine and other physicians who are not specialists in anesthesia. It is introductory to the subject of regional anesthesia, but contains full descriptions of the techniques included in it. The information on specific blocks is organized in outline form under such subheadings as "Definition, Indication, Anatomy, Technique, Complications, Precautions" and "Contraindications." Most of the 168 figures illustrate techniques of administering anesthetic or locate essential anatomic landmarks. Some of the material has been taken from the first edition of the author's *Techniques and procedures of anesthesia*, 1946, but has been revised and augmented. Selected literature references are included.

Adriani, John

The pharmacology of anesthetic drugs, a syllabus for students and clinicians. Third edition completely revised. Springfield, Ill. Charles C Thomas, 1952. 179 p. illus. 28 cm. $9.50 4379

Contents Effects of physical and chemical properties on pharmacological activity. Administration, absorption and elimination of anesthetic drugs. General systemic effects. Administration of volatile drugs. Gaseous agents. Volatile agents. Inorganic non volatile agents. Aliphatic non volatile agents. Barbiturates and other non volatile agents derived from urea. Opium alkaloids and synthetic analgesics. Local anesthetics. Non anesthetic drugs used in conjunction with anesthesia. Inorganic gases used in conjunction with anesthesia. Some clinical considerations. Glossary. References. Index.

Note An illustrated digest of fundamental facts about the properties, actions, and technics of administration of anesthetic drugs in current use. It is organized in chapters whose titles are given above. Within most of the chapters the drugs are taken up one by one. The history, preparation, properties, administration, uses, advantages, contraindications are all covered concisely. In addition, the physiological actions are summed up in diagrams based on the human figure. The book contains a number of auxiliary reference aids, such as a glossary, tabulation of dosages, literature references, and a very detailed index. The second edition was published in 1947. For this edition the work was revised and expanded throughout and is now almost twice as long.

Adriani, John

Selection of anesthesia, the physiological and pharmacological basis. Springfield, Ill. Charles C Thomas, 1955. 327 p. illus. 26 cm. $6.50 4380

Contents (abridged) Part I, Pharmacological basis for the selection of anesthesia. Classification of the types of anesthesia. Volatile anesthetics. Gaseous anesthetics. Volatile liquids. Non volatile drugs. Local anesthetics. Muscle relaxants. Analeptics and antinarcotic drugs. Vasopressors and vasoconstrictors. Hypotensive anesthesia and hypothermia. Endotracheal anesthesia. Causes of operating room deaths. Part II, Relationship of anesthesia to nonsurgical diseases complicating surgery. Cardiovascular disease. Diseases of respiratory system. Metabolic diseases. Genito-urinary system. Diseases of the skeletal system. Disturbances of the endocrine system. The extremes of age. Part III, Relationship of anesthesia to type of operation. Operations about the head. Intra- and extra-thoracic operations. Operations on the abdominal wall, pelvis, perineum and rectum. Operations on the vertebral column and extremities. Autonomic nervous system, skin and blood vessels. Anesthesia for obstetrical patients. Index.

Note An introduction to modern anesthesia, addressed to surgeons and recent medical graduates beginning the study of anesthesia. It is elementary in level and broad in scope. The 14-page first part is devoted to background information, such as basic factors in the selection of anesthesia, the pharmacology of the currently used anesthetic drugs, the techniques of administering them to patients, etc. In the third part specific operations are discussed from the standpoint of the anesthetic requirements, definite recommendations as to choice of anesthetic drug and methods of administration are made, and other useful information is given such as an estimate of time required for specific operations. Brief lists of references to other literature are included in other chapters.

Adriani, John

Techniques and procedures of anesthesia. Second edition. Springfield, Ill. Charles C Thomas, 1956. 568 p. illus. 26 cm. $8.75 4381

Contents (abridged) Part I General considerations. Part II, Inhalation anesthesia. Type and methods. Techniques of inhalation anesthesia. Part III, Complications of anesthesia. Complications during general anesthesia. Circulatory complications. Neurological complications. Technical complications. Care of patient at termination of anesthesia. Part IV Basal narcosis and analgesia by intravascular injection. Part V Rectal anesthesia. Part VI, Regional anesthesia. General considerations of regional anesthesia. Spinal anesthesia. Epidural anesthesia. Paravertebral block anesthesia. Nerve blocks. Field blocks. Part VII, Specialized procedures. Pediatric anesthesia. Anesthesia in aged (geriatric) patients. Thoracic surgery. Obstetric analgesia and anesthesia. Hypothermia during anesthesia. Intentional hypotension (hypotensive anesthesia). "Controlled" respiration. Postanesthetic recovery room. Tracheobronchial aspiration with catheter. Part VIII, Resuscitation. Artificial respiration. Analeptic drugs. Part IX, Inhalation therapy. Oxygen therapy. Carbon dioxide-oxygen therapy. Helium-oxygen therapy. Appendix. Index.

Note A thorough and detailed manual of the administering of anesthetics. The information given in the parts devoted to specific types of anesthesia covers such matters as definition of the type, synonyms, uses, drugs employed, materials required, premedication, preparation and position of the patient, the procedure, factors influencing duration, advantages and disadvantages of the type, complications and their treatment, contraindications, and references to related literature. Most of the exposition is in outline, step-by-step form. The book is used as a text for medical courses, students and as a reference aid for general practitioners of medicine and young anesthetists. The first edition was published in 1946. This second edition represents a very extensive revision and expansion of the original edition. Although some material was deleted, the book's length has been increased by 160 pages. There are now 194 figures.

Burstein, Charles L

Fundamental considerations in anesthesia. Second edition. New York. The Macmillan Company, 1955. 219 p. illus. 22 cm. $5.50 4382

Contents The autonomic nervous system. The respiratory pattern during general anesthesia. Respiratory disturbances. Altered respiratory patterns. Laryngeal spasm. Circulatory disturbances. Shock. Celiac plexus reflex. Pressoreceptor reflexes. During spinal anesthesia. Cardiac arrhythmias. Acute circulatory arrest. Parasympathetic reactions. Other than vagal. Vagal respiratory. Vagal cardiac. Gastrointestinal autonomic reactions. Pulmonary. Skeletal-muscle relaxants. Autonomic ganglionic blockade. Control.

Note A compact but valuable monograph of value to surgeons, anesthesiologists and teachers of anesthesia. It includes the results

Medicine

Anesthesia

[illegible] experimentation as well as extensive clinical experience. [illegible] and analyzes, with reference to the fundamental [illegible] anatomy, the complications and physiology involved and [illegible] the treatments for various reactions. The first edition was published in 1950. Much information on new anesthetic drugs and other topics has been added in this second edition, and the bibliographies have been revised to include references to literature published since the first edition was written.

CLEMENT FREDERICK WALTER

Nitrous oxide-oxygen anesthesia. Third edition, thoroughly revised, with 129 illustrations. Philadelphia Lea & Febiger 1951 369 p. illus. 24 cm. $6.50. 4383

Contents (abridged): Part I. General considerations: Properties and [illegible] of gases. Theory of nitrous oxide-oxygen [illegible]. Signs of nitrous oxide-oxygen anesthesia. Metabolism and [illegible]. Part II. Premedication. Charting and shock. Classification of patients. Part III. The administration of N_2O-O_2 anesthesia. The gas apparatus. [illegible] Obstruction, airways and [illegible]. Nitrous oxide-oxygen and [illegible]. Oxygen [illegible]. Part III. [illegible] Special techniques. Primary and secondary [illegible]. Pressure. [illegible] Endotracheal anesthesia. Part IV. [illegible] Carbon dioxide absorption. [illegible] Advantages and disadvantages of [illegible] of N_2O-O_2 anesthesia. [illegible] other N_2O for anesthesia. Comparison of nitrous oxide-oxygen [illegible]. Part V. [illegible] anesthesia. Part [illegible] Dental anesthesia [illegible]. Part VI. Some physical factors in the administration of [illegible] anesthetics, by E. I. McKesson. Index.

Note: The standard treatise on this kind of anesthesia. The author, in association with the late E. I. McKesson, [illegible] an appreciable part in its development. The first [illegible] editions of the book were largely limited to [illegible] the McKesson-Clement technique, but in this considerably expanded edition the [illegible] subject is covered, including the advances in the fundamental knowledge of anesthesia and the [illegible] in techniques [illegible] have taken place in recent years. The book is of interest not only to anesthetists but also to surgeons and to dentists. Literature references are included.

CULLEN STUART C

Anesthesia in general practice. Fourth edition. Chicago The Year Book Publishers, Inc., 1954 312 p. illus. 21 cm. $5.00. 4384

Contents: Use of depressant drugs. Airway. Ventilation. Inhalation anesthesia [illegible]. Spinal analgesia. Regional [illegible]. [illegible] and topical analgesia. Signs of anesthesia. Choice of anesthetic agent and technic. Recognition and treatment of shock. Oxygen therapy. Pre- and postanesthetic care of the patient. [illegible] Appendix: Anesthetic agents available for office use. Index.

Note: A short manual addressed to general practitioners and part-time anesthesiologists. Although anesthetic drugs are described, the emphasis [illegible] on basic matters and standard techniques. The third edition was published in 1951. Additions and revisions in this fourth edition include [illegible] newly added chapter on ventilation and an extensively revised discussion of muscle relaxants. The author is Chairman of the Division of Anesthesiology of the State University of Iowa Hospitals and Professor of Surgery at the College of Medicine of the University of Iowa. A fifth edition, entitled *Anesthesia, [illegible] manual for students & physicians*, was published in 1957 [illegible] p., $[illegible].

GILLESPIE, NOEL ALEXANDER

Endotracheal anaesthesia. Second edition, revised and enlarged. Madison The University of Wisconsin Press, 1948 237 p. illus. (part col'd) 21 cm. $4.50 4385

Contents: Introduction. The history of endotracheal anaesthesia. Advantages and disadvantages of endotracheal anaesthesia. Intubation [illegible] endotracheal anaesthesia. Equipment and apparatus for intubation. Intubation. Miscellaneous technical considerations during [illegible]. Sequence of endotracheal anaesthesia and their influence on the choice of route. The practical applications of endotracheal anaesthesia. The uses of intubation for purposes other than anaesthesia. Bibliography. Index.

Note: Essentially [illegible] practical guide to the techniques of endotracheal anaesthesia, the work also covers succinctly the history of the subject and provides [illegible] key to the literature. Most of the space [illegible] given to explicit descriptions of the ways in which the technique is applied under various conditions and in various operations. This edition [illegible] larger by about 50 pages than the preceding one. The newly added material relates to thoracic operations, tactile oral intubation, and [illegible] other developments reported since 1940.

GRAUBARD DAVID J., AND MILTON C PETERSON

Clinical uses of intravenous procaine. Springfield Ill. Charles C Thomas 1950 104 p. illus. 22 cm. (American lecture series. Publication no. 73 A monograph in American lectures in anesthesiology edited by John Adriani) $2.50. 4386

Contents: Introduction. Chemistry and pharmacology. Intravenous local anesthesia. Pruritus. Serum sickness and other states of [illegible]. Analgesia in burns and postoperative pain. Acute [illegible]. Pain in traumatic and inflammatory [illegible] arrhythmias during anesthesia. [illegible] Acute anterior poliomyelitis. Other indications. Index to [illegible] authors.

Note: Rather than [illegible] brief survey based on [illegible] selection of the pertinent literature, the work is [illegible] comprehensive review of its subject. The text is very concise; nevertheless, the essential data in the [illegible] articles are stated. Some transcripts of case histories are included. The bibliographies appended to the chapters are international in scope. About 743 names appear in the author index, indicating the comprehensiveness of the literature coverage.

GROSS, E. G AND M J SCHIFFRIN

Clinical analgetics. Springfield, Ill. Charles C Thomas, 1955 101 p. illus. 22 cm. (American lecture series. Publication no. 273 A monograph in American lectures in pharmacology edited by Chauncey D Leake) $3.00 4387

Contents: General considerations. Salicylates, para-aminophenols and pyrazolones. Opiates. Opioids. Opiate antagonists. Local anesthetics. Index.

Note: A manual of very specific information on analgetics and local anesthetics. The selection is not comprehensive. Instead, the compounds included were selected on the basis of their usefulness in medicine. The individual compounds are discussed as to their chemistry, pharmacology, indications, contraindications, and dosages. Preparations available from pharmaceutical manufacturers in the United States of America are listed.

GUEDEL ARTHUR ERNEST

Inhalation anesthesia a fundamental guide. Second edition. New York The Macmillan Company 1951 143 p. illus. 22 cm. (Macmillan surgical monographs) $4.25 4388

Contents: Part I. Principles of inhalation anesthesia. Mechanism of inhalation anesthesia. Stages of anesthesia. Signs of anesthesia. Depth of anesthesia. The mechanism of various anesthetic requirements. Part II. Anesthetic accidents. Accidents due to changes in blood pressure during anesthesia. Ventricular fibrillation. Central respiratory failure. Accidents due to peripheral respiratory interference. Aspiration of debris. Miscellaneous accidents. Cyanosis. Anesthetic explosions. Selected references. Index.

Note: A concise, authoritative guide addressed to students and teachers in medical colleges, [illegible], physicians and surgeons as well as to anesthetists. Special attention has been given to describing the signs of anesthesia. The anesthetic requirements for various operations are stated explicitly. The second part, which is devoted to anesthetic accidents, constitutes half of the book. Although [illegible] few cases are discussed, this part consists mainly of discussions of techniques and precautions that guard against accidents.

HALE, DONALD E., editor

Anesthesiology By forty American authors. 149 illustrations. Philadelphia F A. Davis Company 1955 756 p. illus. 27 cm $15.00. 4389

Contents. Physiology in anesthesia, by H. E. Hoff and C. G. Breckenridge. Pharmacology by B. H. Robbins. Complications of anesthesia, by C. E. Wasmuth. Selection of the anesthetic, by A. Faulconer Jr and J S. Lundy Preanesthetic preparation and premedication, by M. J Nicholson. Management of the anesthesia, by R. T Knight and A. B Tarrow Liquid anesthetics, by H. J Shields and R. A. Gordon. Nitrous oxide, by K. C. McCarthy Ethylene, by P R. Woodbridge. Cyclopropane, by L. H. Taylor Endotracheal anesthesia, by D E. Hale. Pentothal sodium, by C. F McCuskey and D A. Rovenstine. Intravenous procaine, by J W Winter Rectal anesthesia, by H. M. Livingstone. Topical anesthesia, by R. M. Tovell and others. Conduction anesthesia, by D. E. Hale. Spinal anesthesia, by R. J Whitacre. Continuous spinal anesthesia, by E. B Tuohy Continuous caudal analgesia, by R. A. Hingson. Epidural anesthesia, by F P Haugen. Refrigeration anesthesia, by P H. Lorhan. The muscle relaxants, by M. Brotman and R. C. Cullen. Anesthesia in obstetrics, by B. B. Sankey Pediatric anesthesia, by W Bourne and C. R. Stephen. Anesthesia for intrathoracic surgery by D E. Hale. Anesthesia for the poor-risk patient, by L. H. Mousel. Management of anesthetic emergencies, by V Apgar Control of pain, by F A. D Alexander Resuscitation, by J Krebelman and D A. Holaday Inhalation therapy by M. Saklad. Blood and blood substitutes, by T H. Seldon. Anesthesia records and statistics, by M. Saklad. Fires and explosions, by C. B. Hickcox. Index.

Note. A comprehensive treatise composed of the 33 contributed chapters whose titles and authors are given above. It presents basic knowledge on physiology pharmacology etc., and describes from practical viewpoint the currently important anesthetic and techniques of anesthesia. The chapter on physiology is 33 pages long and includes an extensive classified bibliography The chapter on pharmacology is almost as long. It contains bibliography of 304 citations. In the chapters on techniques, preparation of the patient including pre-medication the techniques of the administration of the anesthetic including the apparatus used, precautions and dangers, supplements and adjuncts, are all discussed in considerable detail. Safety is constantly reiterated theme.

KEOWN, KENNETH K

Anesthesia for surgery of the heart. Springfield Ill Charles C Thomas 1956 109 p illus 22 cm (American lecture series. Publication no 304 A monograph in the Bannerstone division of American lectures in anesthesiology, edited by John Adriani) $3 75 4390

Contents (abridged) History The selection of the patient. Preliminary medication. Anesthesia management. Cardiac irregularities with which the anesthesiologist should be familiar Future developments. Summary Bibliography

Note A handbook which is useful both to medical graduates who are preparing for the specialty of anesthesiology and practicing anesthetists in need of specific information on anesthesia for heart surgery Most of the space is devoted to essays on the cardiac abnormalities for which surgical therapy is indicated. Each of these essays includes background information on the nature of the disorder its etiology signs and symptoms, and diagnosis but is primarily concerned with evaluation of the patient as a subject for anesthesia, preliminary medication, choice of anesthetic and anesthetic technique during surgery The author is an eminent specialist in anesthesiology holding the position of Associate Professor of Anesthesiology in Hahnemann Medical College and Hospital, Philadelphia.

LITTLE, DAVID M

Controlled hypotension in anesthesia and surgery Springfield Ill. Charles C Thomas 1956 159 p illus 22 cm (American lecture series Publication no 283 A monograph in the Bannerstone division of American lectures in anesthesiology edited by John Adriani) $4 50 4391

Contents. Introduction. Bleeding during surgery The control of bleeding during surgery Induction of hypotension Postural ischemia Reduction of circulating blood volume Reduction of peripheral resistance—conduction anesthesia—ganglionic blockade. Physiological considerations. Fatal and non-fatal complications Contraindications. Indications. Requirements. Bibliography Index.

Note. For purposes of this monograph the generic term controlled hypotension was defined as being a condition of 1. The deliberate induction of hypotension 2. The employment of Dale's 'postural ischemia. The advantages and disadvantages of "controlled hypotension are clearly presented, but the main purpose of the book is to show how the risk is great it may be lessened. The various techniques of achieving reduction in blood pressure are described in detail. Physiological aspects, complications, and contraindications are adequately discussed. The comprehensive bibliography contains 317 references to the periodical literature.

LORHAN, PAUL H.

Geriatric anesthesia Springfield Ill. Charles C Thomas, 1955 90 p. 22 cm. (American lecture series. Publication no. 245. A monograph in American lectures in anesthesiology, edited by John Adriani) $3.25. 4392

Contents. General consideration. Physiologic changes in the aged Preoperative preparation. Surgical management. Preanesthetic medication. Anesthetic. Anesthetic management. Postoperative management. Summary References.

Note. Special considerations in administering anesthetics to aged patients are the primary subject of this small book. Included also are discussions of anesthetics especially suited to aged persons. As the chapter titles show considerable attention is given also to other aspects of surgical operation on the aged. Physiologic changes in the aged are summarized because of the importance of taking them into account in planning surgery and anesthesia. Also included are such comments as the following. A factor of great importance, but one which is often lightly considered by the anesthesiologist and the surgeon, is the patient comfort on the operating table. Due to their infirmities, mental laxness, and fusion of joints, it is difficult for elderly patients to rest comfortably for any length of time in one position. There are 39 entries in the list of references. The author is Professor of Anesthesiology in the University of Kansas Medical Center

MOORE, DANIEL C

Complications of regional anesthesia etiology signs and symptoms, treatment. Springfield Ill. Charles C Thomas 1955 291 p. illus (part col d) 26 cm $10 50. 4393

Contents (abridged) Part I, Complications of local infiltration and peripheral nerve block Systemic reactions to high blood levels of local anesthetic drugs. Systemic allergic reactions to local anesthetic drugs. Systemic reactions to vasoconstrictor drugs used to prolong the effect of local anesthetic drugs. Primary oxygen want and hypotension. Pneumothorax. Death and cardiac failure. Bleeding following puncture of blood vessels. Lesions of the peripheral nerves. Puncture of organs and large blood vessels during block procedures. Dermatitis. Part II, Complications of spinal (subarachnoid) block and epidural (peridural) block Hypotension from spinal or epidural block. Nausea and vomiting. Headache. Backache. Meningitis and meningeal irritation. Lesions of the spinal cord following regional block procedures. Part III, Incidental complications Broken needles or catheters. Amnesia in outpatient locations. Retention of urine. Reactions following regional block procedures. Retention of urine. Paralytic ileus. Appendix Complications of specific regional nerve blocks. Index.

Note A concise, comprehensive survey of the complications of regional anesthesia. It was based on review of the literature and on the author's own experience and is addressed to surgeons, anesthesiologists and medical graduates preparing for these specialties. In spite of the book's wide scope most topics are discussed in detail and numerous points of special importance are set in distinctive type. Extensive lists of references to the literature are included.

MOORE DANIEL C

Regional block a handbook for use in the clinical practice of medicine and surgery Springfield Ill Charles C Thomas, 1953 373 p 27 cm. 4394

Contents (abridged) Part I, Fundamental considerations. Part II, Nerve block analgesia. Part III, Spinal (subarachnoid) and caudal (epidural) analgesia. Index.

Anesthesia

Note A practical introduction to regional anesthesia, suitable for use as a text for the instruction of medical graduates who are preparing for the specialty of anesthesia. It is organized in 44 chapters of which nine are devoted to fundamental aspects, such as drugs used in regional block, instruments used, and factors in the selection of regional analgesia. All of the remaining chapters are devoted to specific blocks, such as block of the mandibular nerve, block of the psoas, and block of the sciatic and femoral nerves. Each block is discussed as to indications, anatomy, premedication, drugs, instruments and other equipment, technique, effects, and complications. Only one technique is described for each block. The book is fully illustrated. The author is Director of the Department of Anesthesiology of the Mason Clinic in Seattle. A second edition was published in 1957 416 p., $10.00.

MOORE, DANIEL C.

Stellate ganglion block techniques—indications—uses. Springfield, Ill. Charles C Thomas, 1954 280 p. illus. 27 cm. $10.50 4395

Contents (abridged) Part I, General considerations Fundamentals. Blocking agents of short duration. Blocking agents of long duration. Vasoconstrictor drugs. Equipment. Hyaluronidase. The use of X-ray and radiopaque materials. Part II, Techniques, reactions and sequelae, and complications. Part III, Clinical indications and uses of stellate ganglion block. Appendix Techniques of stellate ganglion block other than those used by the author. Index.

Note A fully detailed exposition of the technique of stellate ganglion block used by the author. Different techniques used by other anesthesiologists and surgeons are described in the 19-page appendix. The book is organized in three parts. [illegible] tables are given there, and 45 chapters. Eighty pages are devoted to the background anatomy physiology pharmacology etc., then follow approximately 100 pages on the author's techniques and on indications for the use of stellate ganglion block in specific disorders. There are 128 figures. Literature references are included in the chapters.

PITKIN GEORGE P

Conduction anesthesia. Edited by James L. Southworth, Robert A. Hingson, and Winifred M. Pitkin. Second edition. With 585 illustrations. Philadelphia J B Lippincott Company 1953 1,005 p. illus. 26 cm. $22.50. 4396

Contents Inherited concepts concerning conduction anesthesia. The vertebral canal and its contents. Anatomy of the cranial nerves. Anatomy of the spinal nerves. The autonomic nervous system. The clinical pharmacology of the local anesthetics. Fundamentals of conduction anesthesia. Anesthesia of the head. Blocking the trigeminal nerve Cervical block Brachial-plexus block Intercostal block. Segmental block for visceral surgery. Conduction anesthesia of the extremities Local anesthesia. Topical and refrigeration anesthesia. Extradural anesthesia. Spinal anesthesia. Therapeutic conduction anesthesia. Complications of conduction anesthesia. *Bibliography* Bibliographic Index Index.

Note A cyclopedic treatise on the various types of anesthesia whose mechanism consists of interruption of nerve conduction. As the titles of the chapters listed above indicate, it includes techniques known as "block" or "nerve blocking," local anesthesia, refrigeration anesthesia, and spinal anesthesia. It was planned by Dr George C Pitkin (1885–1943) and was partly written by him. However, two of the editors of this second edition, Southworth and Hingson, edited the first edition. Furthermore, the first edition had a number of contributors whose names do not appear in this second edition. The principal features of the second edition are, however the same as the first. The anatomy of the nervous system is presented in great detail, always in relation to specific anesthetic techniques. The placing of anesthetics so as to block the innervation of various sections of the body is minutely described. The illustrations are exceptional in scope and in rendering of detail. The first edition was published in 1946. In this second edition, some chapters of the first edition have been condensed and others have been extensively revised and augmented. The chapter on complications has been added. Several illustrations showing newly developed techniques have been added. The bibliography has been revised to include literature published since the first edition was written.

SAKLAD MEYER

Inhalation therapy and resuscitation. Springfield, Ill. Charles C Thomas, 1953 343 p. illus. 24 cm. (American lecture series. Publication no. 156. A monograph in the Bannerstone Division of American lectures in Anesthesia edited by John Adriani) $7.50. 4397

Contents History Terminology Physiological considerations. Classification of hypoxia. Pathologic considerations. Symptomatology. The effects of the inhalation of oxygen. Indications. Methods of treatment. Resuscitation. Bibliography *Index.*

Note Both oxygen therapy and ventilatory resuscitation are covered in this comprehensive work. The chapter on pathologic considerations outlines the accumulated knowledge of the effects of oxygen want on various systems of the body such as the cardiovascular system, central nervous system, liver and alimentary tract. The chapter on indications is a compact outline of hypoxic and non-hypoxic conditions in which oxygen therapy is indicated. Techniques and equipment for administering oxygen and oxygen-enriched atmospheres are described. The chapter on resuscitation covers both techniques for which some apparatus is necessary and manual methods such as are used in first aid. When the book was written, the harmful effects of high concentrations of oxygen for premature infants had not been discovered, therefore, the short discussion it contains of this aspect of oxygen therapy is out of date, and it should not be followed in clinical practice. Otherwise, the book contains a wide range of reliable information garnered from an extensive bibliography. The author is Director of the Department of Anesthesiology of Rhode Island Hospital.

STEPHEN C. R.

Elements of pediatric anesthesia. Springfield, Ill. Charles C Thomas, 1954 109 p. illus. 22 cm. (American Lecture series. Publication no. 232 A monograph in American lectures in anesthesiology edited by John Adriani) $3.50 4398

Contents Introduction. Physiological background. The premature infant. The thymic child. Premedication. Basal anesthesia. Techniques. Anesthetic drugs. Anesthesia for surgical procedures. Oxygen therapy The treatment of asphyxia neonatorum. References. Index.

Note A brief but overwhelming, useful presentation of basic information pertaining to physiologic considerations and techniques of administration of anesthetics to infants and children. There are 25 figures, the majority of which are illustrations of equipment and techniques. The book is of interest to beginners in anesthesia, to anesthetists who are not experienced in pediatric anesthesia, and to general practitioners of medicine who occasionally treat child patients.

VIRTUE, ROBERT W

Hypothermic anesthesia. Springfield, Ill. Charles C Thomas 1955 62 p. illus. 21 cm. (American lecture series. Publication no. 275 A monograph in American lectures in anesthesiology edited by John Adriani) $2.50 4399

Contents Introduction. Early observations on animals. Early observations of physiological effects on animals. Ventricular fibrillation. Clinical experiences. Complications of hypothermia. Outline of present clinical procedures. Future developments. Summary

Note A short but informative survey of the historical development and current status of the use of low temperatures to obtain anesthesia. It is addressed primarily to medical graduates, including anesthesiologists who have had no experience with this kind of anesthesia but wish to be informed about it. It includes a bibliography of 64 references. The author is Head of the Division of Anesthesiology of the School of Medicine of the University of Colorado.

WATERS, RALPH MILTON, editor

Chloroform, a study after 100 years Madison The University of Wisconsin Press 1951 138 p illus 22 cm. $2 75 4400

Contents The effect of chloroform on hepatic function, by O. S. Orth and others. The effect of chloroform on renal function, by O S. Orth and E. B Cohen. The effect of chloroform on the cardiovascular system, by O S. Orth and others. A clinical evaluation of chloroform, by N A. Gillespie. Chloroform in blood and respired atmosphere by L. E. Morris. Conclusions, by R. M. Waters. References. Index.

Note. The results of a series of planned studies of chloroform as an anesthetic drug are reported in this short but valuable book. The studies were unusual in that they were made of an old drug rather than a new one. Some of the studies were conducted on experimental animals, but detailed observations were recorded of the results when chloroform was administered in more than 1,000 cases of surgery on human beings.

FRACTURES

AMERICAN COLLEGE OF SURGEONS

An outline of the treatment of fractures By the Committee on Trauma. Revised and amplified sixth edition. Chicago American College of Surgeons, 1956 97 p illus 21 cm. $1 00 4401

Contents Committee on Trauma. Subcommittee on the revision of *An outline of the treatment of fractures* General principles of fracture treatment. Immediate care—first aid. Definitive care. Treatment of specific fractures. Rehabilitation. The operative treatment of fractures. Fracture aphorisms. Bibliography

Note An authoritative and frequently revised reference handbook. It is intended for medical college students and graduate practitioners of medicine who are not specialists in fractures but are nevertheless called upon to treat them occasionally It presents explicitly the fundamentals of fracture treatment and first-aid in fracture cases, and describes in detail the techniques of X-ray examination and diagnosis of specific fractures in adults and in children. It includes also descriptions of treatment, discussions of signs and symptoms, and other useful information. Positioning for X-ray views, application of casts, positioning and devices for traction and motions for the estimation of functioning of joints are shown in diagrams as well as described in the verbal text. On the other hand, operative techniques are described, but not illustrated.

BLOUNT WALTER PUTNAM

Fractures in children. Baltimore The Williams & Wilkins Company 1955 279 p illus. 26 cm $9 50 4402

Contents Introduction. Injuries of the shoulder girdle. Fractures of the shaft of the humerus Injuries about the elbow Fractures of the forearm and wrist Injuries of the hand Injuries of the femur Fractures about the knee Injuries of the leg and ankle Injuries of the foot Injuries of the ribs and sternum. Injuries of the pelvis. Injuries of the spine. Facial bone fractures and dislocations. Skull fractures and craniocerebral injuries. Open (compound) fractures. Pathologic fractures. References. Index.

Note An outstanding work written by a specialist in orthopedic surgery The greater part of it is based on the experience of the Fracture Service of the Milwaukee Children's Hospital. The exceptions are the chapter on "Skull fractures and craniocerebral injuries" written by David Cleveland, a specialist in neurosurgery; the chapter "Injuries of the hand" contributed by William H Frackelton, and the chapter "Facial bone fractures and dislocations," also by William H Frackelton The illustrations, of which there are 311 are a principal feature. These include drawings, roentgenograms and photographs, showing traction devices and set-ups, fractures of many varieties and operative techniques. They are accompanied by a direct, readable text.

COMPERE, EDWARD LYON AND SAM W BANKS

Pictorial handbook of fracture treatment. Third edition Revised with the assistance of Clinton L. Compere. Illustrated by Harold Laufman Chicago The Year Book Publishers, Inc., 1952 414 p illus. 21 cm. (The general practice manuals) $6.50 4403

Contents (abridged) Part I, General considerations of treatment of fractures and dislocations. Fracture pathology Fracture braces The diagnosis of fracture. Emergency treatment of fracture. Anesthesia. Reduction of fractures. Immobilization of fractures. Rate of healing of fractures. After-treatment of fractures. Open and infected fractures. Complications of fractures. Aseptic necrosis of bone Pathologic fractures. Birth fractures. Part II, Fractures and dislocations of the upper extremity scapula and clavicle. Part III, Fractures and dislocations of the lower limbs. Part IV Fractures and dislocations of the trunk. Part V The face and skull. Index.

Note. A concise reference book addressed primarily to the general medical practitioner The text is concise and explicit, and approximately half of the space is devoted to illustrations. Methods of fracture management which have proved successful in the authors own experience and are available to the average general practitioner are described. Only slight reference is made to the wide assortment of gadgets and automatic reducing devices available in large hospitals. The second edition was published in 1945. Important changes were made in preparing this edition, and three chapters have been extensively rewritten. Revisions are made also in the illustrated matter

GECKELER, EDWIN OSCAR

Fractures and dislocations for practitioners. Fourth edition Baltimore The Williams & Wilkins Company, 1948 371 p. illus. 23 cm. $5 00 4404

Contents (abridged) Part I, Fractures. Emergency treatment. Fracture wounds. Reduction. Immobilization. Traction. Follow-up treatment. Bones of the skull and face. Vertebrae. Pelvic bones. Clavicle and scapula. Forearm bones. Bones of wrist and hand. Bones of leg. Bones of ankle. Bones of foot. Part II, Dislocations Temporomandibular joint. Spinal and sacroiliac joints. Shoulder joint. Elbow joint. Wrist and hand. Hip joint. Knee joint. Index.

Note. A standard manual designed not for the specialist but for the advanced student and the general practitioner Instead of covering the subject comprehensively the author has elected to select one method of treatment for each type of fracture and to describe this in adequate detail for practical use. Bibliographies at the ends of the chapters refer to fuller discussions and to other methods. There is considerable emphasis on plaster-of-Paris techniques as a universally popular form of immobilization. The changes in the text of this edition are relatively minor but many new illustrations have been added.

KEY JOHN ALBERT AND H EARLE CONWELL

The management of fractures, dislocations and sprains. Sixth edition. St. Louis The C. V Mosby Company 1956 1 168 p. illus. 27 cm $20 00 4405

Contents Part I, Principles and general aspects General considerations. Repair of fractures. Principles of treatment of fractures. First aid in fractures and associated injuries. Complications of fractures. Pathologic fractures. Compound or open fractures and war wounds Dislocations. Part II, Diagnosis and treatment of specific injuries. Injuries of the spine Fractures and dislocations of the hyoid, larynx, and tracheal cartilages. Injuries of the thorax. Injuries in the region of the shoulder girdle and shoulder Fractures of the shaft of the humerus. Fractures in the region of the elbow Fractures of the forearm Injuries in the region of the wrist and hand. Fractures and dislocations of the pelvis. Injuries in the region of the hip. Fractures of the shaft of the femur Injuries in the region of the knee joint. Fractures of the shafts of the tibia and fibula. Injuries in the region of the ankle. Injuries of the foot. Index.

Note A standard medical college textbook and practitioners reference book. It covers not only injuries to bones but also soft-tissue injuries such as often accompany fractures. The procedures described are selected in other words the authors have not attempted to describe all recorded procedures Nevertheless, the scope is wide, and hundreds of procedures are described. Those included are described with considerable fullness, a helpful feature for the physician

or surgeon who treats only an occasional fracture. The fifth edition was published in 1931. Although it was an extensive revision as compared to the fourth edition, this sixth edition also has been substantially revised both in text and illustrations. The chapters on fractures of the skull and fractures of the jaw and related bones of the face which appeared in the fifth edition have been deleted, because the treatment of fractures of this kind are now specialties. There are now 1,121 figures comprising, as in preceding editions, diagrams, drawings of apparatus, case photographs and roentgenograms.

MAGNUSON PAUL BUDD AND JAMES K. STACK

Fractures. Fifth edition. 323 illustrations. Philadelphia J B Lippincott Company 1949 537 p. illus. 24 cm. $7.00. 4406

Contents: Fundamentals. "Functional" treatment of fractures. Treatment of compound fractures. Pathology and repair of fractures. Anatomic mechanics and physical equipment in the reduction of fractures. Equipment. Fractures and dislocations of the clavicle and the scapula. Fractures about the shoulder. Fractures and dislocations of the humerus. Fractures about the elbow. Fractures and dislocations of the forearm, the wrist and the hand. Injuries of the wrist and hand. Fractures of the ribs and costal cartilages and the sternum. Fractures of the pelvis—dislocation of the hip. Fractures of the neck of the femur. Fractures of the femur below the neck. Fractures of the femur in children—separation of lower epiphysis. Fractures of the patella. Fractures of the tibia. Fractures of bones of the leg. Fractures of the ankle and the foot. Fractures and dislocations of the spinal column. Applied anatomy of the spinal column and the spinal cord, by L. Davis. Fractures of the cervical spine. Fracture-dislocations of the spinal column, by L. Davis. Compression fractures of the spine. Fractures of the spinous, articular and transverse processes of the vertebrae. Fractures of the skull, by L. Davis. Physical therapy in the treatment of fractures, by J. S. Coulter. Exercise in the treatment of fractures, by J. S. Coulter. Index.

Note: A standard manual addressed to general practitioners. Its purpose is to make available to the physicians, who are usually the first to treat fractures, the basic anatomic and physiologic knowledge and to relate this knowledge to practical techniques of diagnosis and treatment. Modern techniques of treatment are described explicitly and in adequate detail. The book is very well illustrated. In comparison to the fourth edition, the greater part of the text is unchanged. However, the second chapter has been added, and the chapter on compound fractures has been revised. A few changes have been made in illustrations.

STIMSON BARBARA BARTLETT

A manual of fractures and dislocations. Third edition, thoroughly revised. 97 illustrations. Philadelphia Lea & Febiger 1956 224 p. illus. 20 cm. $4.50. 4407

Contents: Part I, General considerations: Definition, classification and diagnosis of fractures. Bone repair in fractures. Symptoms and signs of fractures. Principles of treatment of fractures. Details of technique in treatment of fractures. Accidents [illegible] procedure. Part II, The upper extremity: Injuries to the shoulder girdle. Injuries at the shoulder joint. Fractures of the shaft of the humerus. Injuries at the elbow joint. Injuries to the forearm. Injuries at the wrist. Injuries to the hand. Part III, The trunk: Injuries to the chest. Injuries to the spine. Injuries to the pelvic girdle. Part IV, The lower extremity: Injuries at the hip joint. Fractures of the shaft of the femur. Injuries at the knee joint. Fractures of the shafts of the tibia and fibula. Injuries at the ankle joint. Injuries to the foot.

Note: A compact and useful manual intended for medical college students, interns, and general practitioners, rather than specialists. The information typically given for a specific kind of fracture covers briefly the following points: occurrence, displacement, diagnosis, pathology, treatment, period of immobilization, and prognosis. Operative treatments are mentioned in the articles on types of fractures in which they may be indicated, but they are not described in detail. On the other hand, non-operative treatments that are within the scope of general practitioners are described. The textual material is supplemented by simple line drawings. The second edition was published in 1947. In this third edition, there is more emphasis on the common injuries which are usually treated by general practitioners. However, extensive revisions have not been made.

ORTHOPEDICS

BANCROFT FREDERIC WOLCOTT editor

Surgical treatment of the motor-skeletal system. Supervising editor Frederic W Bancroft associate editor Henry C. Marble. Second edition, with 1 049 illustrations and 3 color plates. Philadelphia. J B Lippincott Company *1951 2 v* illus. (part col d) 26 cm. $25.00. 4408

Contents: Part 1, Deformities: Congenital anomalies of upper extremity and shoulder girdle, by F. R. Ober. Congenital deformities of the spine, by J. A. Freiberg. Congenital deformities of lower extremities, by J. H. Kite. Congenital dislocation of hip, by A. H. Brewster. Acquired and static deformities of lower extremities, by E. D. W. Hauser. Surgical treatment of scoliosis, by W. H. von Lackum. Paralytic disorders: Anterior poliomyelitis, by M. Cleveland. Treatment of paralytic disorders exclusive of poliomyelitis, by W. M. Phelps. Affections of back, muscles, fasciae, tendons, bursae and ganglia. Low-back pain, by J. A. Freiberg. Affections of muscles, fasciae, and tendons (except tumors and trauma) by C. R. Murray. Affections of bursae and ganglia, by G. A. Caldwell. New growths: Treatment of bone tumors, by B. L. Coley. Treatment of tumors of joints, by B. L. Coley and J. C. Pierson. Tumors of muscle, fasciae, and tendons, by C. R. Murray. Diseases of bones and joints: Tuberculosis of bones and joints, by F. D. Dickson. Joint infection and arthritis (except tuberculosis) by J. A. Key. Hematogenous osteomyelitis, by F. Buchman. Miscellaneous bone disease and infections, by C. R. Murray. Nontraumatic affections of epiphyses, by R. K. Ghormley. Amputations: Amputations, disarticulations, and prostheses, by P. C. Colonna. Amputations in diabetes and vascular disease, by L. S. McKittrick and T. C. Pratt. Kineplastic amputations, by H. H. Kessler. Part 2, Bone repair: The physiology of bone repair, by M. R. Urist. Fractures and dislocations in general: General discussion of fractures, dislocations, and other trauma, by C. R. Murray. Compound fractures, by W. Darrach and R. H. Schmidt. Fractures and dislocations of head: Fractures of facial bones, by D. B. Brigham. Fractures of jaws, by F. S. McCaffery. Fractures and dislocations of trunk: Injuries to the spine, by A. G. Davis and M. J. Bellinger. Treatment of patients paralyzed after cord injury, by H. S. Talbot. Treatment of fractures of pelvis, sacrum, and coccyx, by F. R. Steele. Fractures and dislocations of upper extremities: Injury to shoulder girdle, by H. C. Marble. Fractures of humerus, by J. A. Caldwell. Fractures and dislocations involving elbow joint, by F. M. Smith. Treatment of fractures of bones of forearm, by P. B. Magnuson. Fractures and dislocations of carpus, by D. W. G. Murray. Fractures and dislocations of metacarpals and phalanges, by J. P. North. Fractures and dislocations of lower extremities: Hip fractures, by L. Thornton. Fractures of shaft of femur by E. K. English and W. K. Lee. Fractures and dislocations involving knee joint, by R. A. Griswold and C. F. Wood. Internal derangements of knee joint, by F. R. Ivins and W. D. Carothers. Fractures of shafts of tibia and fibula, by R. G. Carothers. Fractures of ankle and foot, by O. J. Hermann. Sprains, sprain-fractures, muscle and tendon injuries: Treatment of sprains, including compound joint fractures, by P. M. Harmon. Contusions, strains, ruptures and avulsions of muscles, tendons and ligaments, by T. B. Quigley. Birth injuries of motor-skeletal system. Skeletal birth injuries, by K. D. Trumbull. Bibliographic index. Subject index.

Note: A detailed description of currently useful surgical techniques. Except in a few of the chapters, there is little discussion of etiology or diagnosis or of other methods of therapy. Instead, the space is devoted to surgery. The text is explicit and detailed and liberal use has been made of illustrations. The 1,049 illustrations mentioned in the title refer to figures. Many of the figures contain several illustrations. The first edition was published in 1945. In preparing this edition most of the chapters were revised to some extent, and at least one was completely rewritten.

BANKS SAM W., AND HAROLD LAUFMAN

An atlas of surgical exposures of the extremities. 552 illustrations on 179 plates. Philadelphia W B Saunders Company *1953 391* p. illus. 28 cm. $15.00 4409

Contents: Region of the shoulder girdle. Region of the shoulder joint. Region of the shaft of the humerus. Region of the elbow joint. Region of the radius and ulna. Region of the wrist joint and hand. Region of the hip joint. Region of the femur. Region of the knee joint. Region of the tibia and fibula. Region of the ankle joint and foot. Index.

Note: This book consists of 179 plates, the majority of which contain three or more pictures. Throughout the volume, the plates are printed on the right-hand pages, while on the facing left-hand pages is a concise text giving the title of the exposure, the indications for surgery and step-by-step descriptions of the surgical procedure. Both simple and complicated incisions are described. However, in the book's preface the authors disavow having originated any of the techniques described. The book is suitable for use as a text for advanced students of surgery and as a "refresher" or reference book for general surgeons who are not specialists in orthopedic surgery.

BATEMAN, JAMES E

The shoulder and environs. Drawings by Louise Gordon. St. Louis The C. V Mosby Company, 1955 565 p. illus. 26 cm. $12.50 4410

Contents. Evolution and applied embryology of the shoulder region. Applied, variational, and radiographic anatomy of the shoulder. Applied physiology of the shoulder. Examination and investigation of the shoulder region. Differential diagnosis of shoulder region disorders. Disorders with shoulder neck pain. Disorders with shoulder pain predominating. Conditions producing shoulder pain plus radiating pain. Nerve injuries and paralytic disorders about the shoulder. Tumors of the shoulder region. Fractures and dislocations of the shoulder region. Management and assessment of disability in the shoulder region. Author index. Subject index.

Note. A well-organized and thorough treatise on diseases and disorders of the shoulder. The three introductory chapters on embryology anatomy and physiology of the shoulder total 112 pages and contain 87 figures. Following these chapters are two extended ones on the general techniques of diagnosis and differential diagnosis of this region. The author emphasizes the importance of looking upon the shoulder as a region which includes also the root of the neck, and the interscapular and scapular zones, and this point of view is carried forward to the chapters on specific disorders. Pathology clinical course and treatment as well as diagnosis are covered for each kind of lesion. There are 376 figures including not only drawings but also photographs and radiographs. Literature references are included in most of the chapters.

BICK, EDGAR MILTON

Source book of orthopaedics. Second edition. Baltimore The Williams & Wilkins Company, 1948 540 p illus 23 cm. $8 00 4411

Contents (abridged) Part I, Orthopedic surgery before the 19th century Part II, Contemporary orthopedic surgery and its recent sources Physiology Morphology and genetics. Pathology Bone surgery Fractures. Surgery of the articulations. Congenital dislocation of the hip and special surgery of the hip joint. Surgery of the neuromuscular apparatus. Deformities of the spine. Static deformities of the foot. Mechanical, physical, manipulative, and drug therapy Rise of orthopedic hospitals and institutions. Appendices Orthopedic journals. General bibliography Index.

Note. The gradual development of orthopedic surgery from ancient times is traced in detail in this work, which is both a history and reference guide to the books and papers in which significant contributions were first published. The authors' method is to summarize in a running narrative the important publications appearing on each topic and subtopic, and to refer by means of superior numbers from his text to citations of the original sources. The material is not limited to surgical techniques but includes related material on pathology chemotherapy etc. In this edition the revisions are fairly extensive. New text bearing on the background of techniques which have recently come into prominence and new illustrations have been added.

BURMAN, MICHEL, AND SAMUEL E SINBERG

Injury of the xiphoid. New York Columbia University Press 1952 92 p illus 23 cm $3 50 4412

Contents. Apparent and real xiphoides. The epigastric syndrome and the sometimes malformed but unbroken xiphoid. The referred pain of secondary xiphoidalgia. Primary and secondary disease of the xiphoid. On direct injury to the xiphoid. On the rigid xiphoid and its fracture. Analytic summary of symptoms and signs in the various groups of disability Bibliography. Index.

Note: A monograph based on the literature and on the [illegible] to 100" cases of xiphoid injury and disease encountered by the authors in their own practice. Numerous cases are concisely described. The illustrations include reproductions of 11 [illegible]

COZEN, LEWIS

Office orthopedics. Second edition, enlarged and revised. With 191 illustrations. Philadelphia Lea & Febiger, 1953. 504 p. illus. 24 cm. $5.50 4413

Contents: Section I: Materials. Physical therapy. Local anesthesia. Prosthesis fitting. Section II: The foot. The ankle and the calf. The knee. The thigh and the hip. The back. Coccygodynia. The neck. The shoulder. The elbow. The hand. Section III: Cold foot. Limp in a child. Crooked back in a child. Child with flat-footed. Bowlegs and knock knees. Clumsiness of hands [illegible] Wry neck. Painful arm or leg in a child. Abnormal leg in a child. Inability of a child to sit up. Painful arm or leg in an adult. Deformity of arm or leg in an adult. Weakness of arm or leg in an adult. Coldness and pain in an extremity. Care of painful jaw Myositis. Fractures. Roentgenograms [illegible] orthopedics. How to examine orthopedic cases for the [illegible] Index.

Note: A manual of simple therapeutic procedures in orthopedics. It is compactly but clearly written and is fully illustrated. Generally speaking, it covers those conditions which the general practitioner is often called upon to treat and which he can treat by methods that can be applied in the office or home. Some advice is given on diagnostic procedures. A considerable amount of new text and 45 new illustrations have been added in the new edition.

COZEN, LEWIS, AND ALVIA BROCKWAY

Operative orthopedic clinics. In collaboration with Paul E McMaster 310 illustrations. Philadelphia J B Lippincott Company, 1955 329 p. illus. 26 cm. $10.00. 4414

Contents. The hip. The knee and miscellaneous bone deformities of the lower extremity The spine. The upper extremity Plastic operations. The foot and the ankle. Fractures. Orthopedic Instruments. General bibliography Index.

Note: The greater part of this book is made up of the transcripts of reports on operations dictated by the surgeons who performed the operations. Thus the book is a form of clinical teaching reduced to print. The individual reports are arranged under the subheads Gross findings, Procedure, and Remarks. The "Remarks" were written by one or both of the authors [illegible] The illustrations, which illustrate the techniques discussed in each report, are all reproductions of simple line drawings. Each of the chapters is supplemented by a lengthy bibliography which is a guide to further reading. Drawings of a variety of surgical instruments and prostheses are included in the appendix. The book is of interest to general surgeons and orthopedic surgeons.

DANIEL, EARLE HORACE

Amputation prosthetic service. Foreword by Howard A. Rusk Baltimore The Williams & Wilkins Company, 1950 327 p. illus. 24 cm. $7 00 4415

Contents (abridged) Glossary of prosthetic terms. Care of the [illegible] procedures. Psychological treatment of the amputee. Care of the [illegible] Limb selection and construction. Leg specifications. [illegible] Artificial limbs for children. Limb measurements. Prosthetic clinics. Arm selection. Plastic cosmetic gloves and hands. [illegible] ment of the amputee. Special clothing for arm and leg amputees. Limb shop data. Government research and development of artificial limbs. List of limb and bracemakers. Appendix. [illegible]

Note. A practical manual designed for use by all who are concerned with amputation cases from surgeons to artificial limb makers. The complete care of the patient, including adequate training in the use of artificial limbs, is stressed. The book is also outstanding for the wide range of information on details of artificial limbs, for instance on the mechanisms of artificial hands. The largest [illegible] directory of limb and brace makers included at the end of the book lists only firms in the United States of America.

Orthopedics

DANIELS, LUCILLE, AND OTHERS

Muscle testing techniques of manual examination. By Lucille Daniels, Marian Williams, Catherine Worthingham. Second edition. Format and test illustrations by Harold Black anatomical drawings by Lorene Sigal. Philadelphia W B. Saunders Company, 1956. 176 p. illus. 28 cm. $4 00. 4416

Contents (abridged) Neck. Trunk. Lower extremity Upper extremity Face. Bibliography

Note Evaluation of the residual strength of injured muscles is of importance both in physical therapy and orthopedics. This book describes in detail techniques for the carrying out of systematic examinations to determine muscle strength. After an 11-page introductory section which contains, among other things, comparisons of the various methods which have been offered for the grading of muscle responses in manual tests, the volume is devoted to illustrations of tests of individual muscles and muscle groups. The illustrations are supplemented by directions for classifying the results as "Normal and good, "Fair, "Poor, and "Trace and zero. The first edition was published in 1946, and it has been widely used in both the original English version and in translations. In preparing the second edition, section on the testing of muscles of the face, eyes, and mouth was added, and important changes were made in some of the other sections. Two of the authors are members of the faculty of Stanford University and the third is Director of Professional Education of the *National Foundation for Infantile Paralysis*, Inc.

DEPALMA ANTHONY F

Diseases of the knee management in medicine and surgery 455 illustrations. *Drawings* by Carl Brill. Philadelphia J B Lippincott Company 1954 840 p. illus. 26 cm. $22.50. 4417

Contents: Evolution of the knee joint. Comparative anatomy of the knee joint. Normal anatomy of the knee joint. Mechanics of the knee joint. Affections of the menisci. Disorders of the extensor apparatus of the knee joint. Congenital and acquired deformities of the knee joint. *Traumatic* lesions of the ligaments. Fractures and wounds about the knee joint. Loose bodies. Affections of the synovialis and the bursae of the knee joint. Arthritides. Surgical approaches and procedures. Bone neoplasms in the region of the knee joint. Bibliographic index. Subject index.

Note A comprehensive, fully illustrated treatise. The main subject is diseases of the knee, as the title indicates. However, the first four chapters on the evolution, anatomy and mechanics of the knee joint are valuable discussions in their own right. The chapter on mechanics is especially well written and detailed. In the chapters devoted to abnormalities and diseases, each condition is discussed at length with regard to mechanism of production, clinical features and treatment. Some case records are included The book is based on critical survey of the literature in the light of the author's own experience and research. Extensive bibliographies are included. The author is Head of the Department of Orthopedic Surgery of Jefferson Medical College.

EPSTEIN BERNARD S

The spine a radiological text and atlas. 721 illustrations on 331 figures. Philadelphia Lea and Febiger 1955 539 p. illus. 26 cm. $16.50. 4418

Contents. The normal spine. Malformations of the spine. Diseases of congenital, endocrine or metabolic origin. Inflammatory degenerative and various diseases of the spine Neoplasms of the vertebral column. Spinal traumatic changes. Diseases of the intervertebral discs. Diseases of the spinal cord and its coverings. Diseases of the hematopoietic, collagen and reticulo-endothelial systems. Aortic aneurysms. Bibliography Index.

Note More textbook than atlas, this is thorough work on radiologic examination of the spine. It covers both the normal spine and the spine as affected by various diseases, and the spine in infants and children, as well as in adults. It is written on an advanced level which assumes on the part of the reader the basic knowledge of not only anatomy but also of diagnosis and radiologic techniques. In justification of the term "atlas" there are 331 figures, most of which contain more than one illustration and are reproductions of radiographs. However, all are reproduced on rather small scale. The greater part of the space in the volume is devoted to compact text on diseases of the spine, which is based on the author's experience and on the literature. The bibliography is 38 pages long. Radiologic technique as such is not covered.

FOX HERBERT

Chronic arthritis in wild mammals, being a description of lesions found in the collections of several museums and from a pathological service. Philadelphia The American Philosophical Society 1939 77 p. illus. 30 cm. (American Philosophical Society Transactions. New *series* Vol. 31 part II) $1.00 4419

Contents (abridged) Introduction Intention and plan of work; sources of material. Definition of arthritis applicable to wild mammals. *Description* of each case discovered. Analysis of specimens according to zoological order. Comment on arthritis as physical change. Comment on zoological character of animals. Contrast of animals without arthritis. Ecology and habits of animals showing arthritis. Associated morbidity Consideration of diet and age. *Comment* on body build and arthritis. Summary

Note This article records the results of an investigation of arthritis as seen in the skeletal material from many museums and from the autopsy service at the Zoological Garden in Philadelphia. Apparently this as the first observational study of the spontaneous pathology of this disease in animals to be made. Among the 1,749 skeletons and autopsies which furnished the material, 73 cases were accepted as arthritic. This condition was discovered both in specimens which had been exhibited in menageries and in animals killed in their wild habitat, and the lesions in the two types were entirely comparable. This survey was made primarily in an attempt to increase the available information on the nature and causation of chronic arthritis in man. A further purpose was to throw some light on the functions of muscle and bone. The report is intended for physicians, physiologists, and veterinarians.

GOFF CHARLES WEER AND OTHERS

Legg-Calvé-Perthes syndrome and related osteochondroses of youth. By Charles Weer Goff in association with Ned M. Shutkin and Myerma R. Hersey Springfield, Ill. Charles C Thomas, 1954 332 p. illus. 26 cm. $10 75 4420

Contents: Historical account of the Legg-Calvé-Perthes syndrome. Legg-Calvé-Perthes syndrome—LCPS. Genetics of LCPS. Growth and development. Constitutional aspects. The hip joint. X-ray determinations. End results of LCPS. Other osteochondroses. Sociological aspects of *LCPS*. Differential *diagnosis of LCPS*. Summary Appendix. Bibliography Index.

Note: The history nomenclature, hereditary aspects, sociological aspects, clinical picture, differential diagnosis, and other aspects of the Legg-Calvé-Perthes syndrome, also known as coxa plana, are covered in this comprehensive monograph. An unusual feature is the inclusion of chapter summarizing the social case work in relation to the adjustment to treatment of group of children undergoing therapy for this disease at the Newington Home and Hospital for Crippled Children. The 30-page chapter on other osteochondroses is also *noteworthy. The* book was based on thorough review of the literature and an intensive study of group of children and youths in the Newington Home. There are 124 figures and 16-page bibliography

HART VERNON L.

Congenital dysplasia of the hip joint and sequelae (in the *newborn* and early postnatal life) Springfield, *Ill.* Charles C Thomas, 1952 187 p. illus. 22 cm. (American lecture series, publication number 102 A monograph in American lectures *in* surgery division of orthopedic surgery editor Robert P Kelly) $5.50. 4421

Contents Introduction. The background. Definition. Etiology Pathogenesis. Clinical findings. The "sign of the jerk." Rotational attitude of the extremities. Pathological dislocation. Roentgen features. Differential diagnosis. Treatment. Summary. References.

Note. The fact that this work was originally prepared for delivery as a lecture probably explains its brevity. In effect, it is not only a thorough discussion of the historical aspects of diagnostic and corrective techniques, but also it contains considerable discussion of the relations between congenital dysplasia of the hip joint and hip disorders in later life. There are 83 figures and bibliography of 141 references. It is addressed to pediatricians, roentgenologists, and general practitioners as well as to orthopedic surgeons.

HASS, JULIUS

Congenital dislocation of the hip Springfield, Ill. Charles C Thomas, 1951 405 p illus. 25 cm $13 00 4422

Contents. History Frequency and occurrence. Classification and nomenclature. Pathology Etiology Symptoms. Course. Prognosis. Diagnosis. Prophylaxis. Closed reduction. Open reduction. Reconstruction (shelf) operation. Palliative procedures. Summary of treatment. Treatment of the typical congenital dislocations. Conclusion. Bibliography Author index. Subject index.

Note. All aspects of congenital dislocation of the hip that are of interest in orthopedic surgery are covered in this substantial monograph. However the history and other background topics are treated briefly whereas such aspects as pathology are treated at length. The chapter on closed reduction, for example, runs to 87 pages and contains 38 illustrations. There are 134 illustrations in the whole and 70-page bibliography

JACKSON, RUTH

The cervical syndrome. Springfield, Ill Charles C Thomas, 1956 130 p illus (part col'd) 22 cm. (American lecture series. Publication no 268 A monograph in American lectures in orthopedic surgery, edited by Robert J Joplin) $4 75 4423

Contents Introduction. Anatomy The mechanism of cervical nerve root. Etiology Diagnosis. Differential diagnosis. Treatment. References. Index.

Note. A practical book written by specialist in orthopedic surgery and addressed to physicians who are not specialists in this field. Approximately the first half is devoted to the basic anatomy including the neuroanatomy of the cervical spine, the etiology of the symptoms, and clinical findings designated as the "cervical syndrome. The chapter on anatomy contains more than 30 illustrations. In the second half of the book, diagnosis and treatment are covered in considerable detail.

KENDALL, HENRY OTIS, AND FLORENCE P KENDALL

Muscles testing and function. Baltimore The Williams & Wilkins Company 1949 278 p illus 29 cm. $7 50 4424

Contents Fundamental principles in manual muscle testing. Nerve and muscle charts for recording muscle examinations. Upper extremity and scapular muscles. Lower extremity muscles. Trunk muscles. Facial, neck, and throat muscles. Appendix—muscle origins and insertions. Index.

Note Modern techniques for testing the response and strength of groups of muscles, and major individual muscles are explicitly described in this work. The word descriptions are supplemented by 162 figures, the majority of which are reproductions of photographs. The book is based on an extensive experience in the Physical Therapy Department of the Children's Hospital School in Baltimore. It is organized so that it can be used both as textbook in classes and as reference manual for orthopedic surgeons, physical therapists, etc.

KESSLER, HENRY HOWARD

Cineplasty with a foreword by Ross T McIntire. Springfield Ill Charles C Thomas 1947 201 p illus (part col d) 23 cm. $6 75 4425

Contents. General considerations. Functions of the upper extremity Mechanical prosthesis. Cineplasty—history Cineplasty—physiology and anatomy Cineplasty—surgical technique. Cineplasty—aftercare and complications. Cineplastic prosthesis. Congenital amputations. Double arm amputations. Plastic procedures. Rehabilitation. Bibliography Index.

Note. A description of modern surgical methods of utilizing the tendons and muscles in amputation stumps as motors for the operation of mechanical hands, feet, arms, and legs. The book is thoroughly illustrated with photographs, drawings, and diagrams, and is based on the author's more than 20 years of personal experience in the restoration of amputees to lives of normal activity The volume is addressed to surgeons, physicians, and rehabilitation workers.

KLEIN, ARMIN, AND OTHERS

Slipped capital femoral epiphysis. By Armin Klein, Robert J Joplin, John A. Reidy, and Joseph Hanelin. Springfield, Ill. Charles C Thomas, 1953 130 p. illus. 26 cm. (American lecture series. Publication no. 153 A monograph in American lectures in roentgen diagnosis, edited by Aubrey O. Hampton) $6 75 4426

Contents Roentgenographic standard of "normal" hips. Diagnosis. Treatment. Operative technique. Post-operative treatment. Conclusions. Index.

Note: The authors' technique, developed at the Massachusetts General Hospital, for treatment of slipped capital femoral epiphysis is fully described in this book. As an aid in early diagnosis, which the authors' experience has proved to be important, 35 pages are devoted to an atlas of roentgenograms of normal hips ranging from hips of females six days old to hips of males 18 years old. In a later chapter the operative technique is explicitly described. In the terminal chapter the authors review their experience with the patients treated from January 1931 to November, 1949 and show the results in roentgenograms.

KLEINBERG, SAMUEL

Scoliosis, pathology, etiology, and treatment. Baltimore The Williams & Wilkins Company 1951 286 p illus. 24 cm. $7.50 4427

Contents (abridged) Part I, Anatomy pathology etiology. Anatomy embryology physiology Classification and pathology Etiology. Part II, Treatment. History symptomatology examination, records. Preventive treatment. Treatment of functional and transitional scoliosis. Treatment of structural scoliosis. Gymnastic exercises. Treatment by forcible correction. Surgery in structural scoliosis. References. Index.

Note. Although considerable amount of background is included, this book is essentially practical manual of the modern treatment of scoliosis. All currently used methods of treatment from exercises to surgery are described in detail. Preventive therapy also is discussed. There are 161 figures and bibliography of 102 references. The work is of interest not only to orthopedists but also to general practitioners of medicine. It supersedes another work on the same subject written by the author and published quarter of century earlier

LEWIN, PHILIP

The back and its disk syndromes including injuries, diseases, deformities and disabilities with notes on the pelvis and coccyx. Illustrated with 371 figures and 4 color plates. Line drawings by Harold Laufman. Second edition thoroughly revised. Philadelphia Lea and Febiger, 1955 942 p. illus. (part col d) 24 cm. $18.50 4428

Content (abridged) Part I, Basic considerations. Physiology and biomechanics of the back. Etiological factors in back disturbances. Symptoms of back disturbances. Physical examination of the back. Roentgen-ray findings in back disorders. Laboratory diagnostic aids in back disorders. Basic principles of treatment of back disorders. Surgical back disturbances. Operative treatment of back disorders.

Medicine

Orthopedics

of lateral curvature of the spine. Traumatic and industrial causes of back disorders. Back disorders in the military service. Fractures of the vertebrae—dislocations. Infectious diseases of the vertebrae. Arthritis of the spine—gout—[illegible]. Clavicle—sternum—ribs—scapula. Tumors of the vertebrae. Infantile paralysis—anterior poliomyelitis. Low back disorders. Sacro-iliac joint disorders. The coccyx. The pelvis. Part II. Neurological lesions affecting the back. The spinal arthropathies. Sciatica—neuritis—neuropathy. Part III. Intervertebral disk syndromes: Pathological changes in disks. Physiology and biomechanics. Etiologic factors. History signs and symptoms. Neurologic examination for disk disorders. Myelography. The diagnosis of protruded intervertebral disk. Differential diagnosis. Prognosis. Surgery. Fusion operations. Appendix. References. Index.

Note: A work of broad scope addressed to practicing physicians and surgeons, including specialists in orthopedic surgery. It is based on experience with more than 40,000 back cases. It covers thoroughly disorders of the back caused in the above chapter titles as to their basic anatomy and mechanics, signs and symptoms, diagnosis, prognosis, treatment, and, in appropriate instances, complications. It describes surgical operations on the back for those who are already familiar with the general principles of surgery. Such aspects of diagnosis and management of patients with back complaints as the detection of malingering and the psychosomatic aspects of back disorders are discussed also. The book is written in a somewhat unconventional but effective style. There is a 30-page bibliography of the international literature.

LEWIN PHILIP
The foot and ankle their injuries diseases, deformities and disabilities. Third edition, thoroughly revised. With 389 illustrations line drawings by Harold Laufman. Philadelphia Lea & Febiger 1947 847 p. illus. 24 cm. 4429

Contents (abridged) Embryology and anatomy of the foot and ankle. Physiology and biomechanics of the foot and ankle. Basic principles of foot and ankle disturbances. Basic principles of treatment of foot and ankle disturbances. Congenital defects and deformities. Static defects and deformities. Pes cavus—claw-foot. Affections of the great toe. Disturbances in the region of the heel. Disturbances of the epiphyses of the foot and ankle. Affections of muscles, tendons, fascia, and bursae of the foot and ankle. Fractures of the bones of the foot and ankle. Dislocations of the foot and ankle joints. Military aspects of foot and ankle disorders. Infections of the foot and ankle. Arthritis of the foot and ankle. Neurological lesions affecting the function of the foot and ankle. Anterior poliomyelitis—infantile paralysis. Spastic paralyses involving the foot and ankle. Peripheral vascular lesions of the lower extremities. Gangrene of the foot and ankle. Abnormalities and affections of the toenails. Foot hygiene and sanitation. The relations of back, pelvis, hip, thigh, knee and calf to the foot and ankle. Surgical technic as applied to the foot and ankle. Appendix. Bibliography. Index.

Note A comprehensive treatment of foot and ankle disorders, including both congenital disorders and those due to disease or accident. Relations between foot defects and other troubles such as back-aches, knee pains, and hip pains are also discussed. In the present edition the work is nearly 200 pages longer than in the second edition. Compound fractures, crushing wounds, and osteomyelitis are given new emphasis. Material has been added on chemotherapy and on administration of blood or blood plasma in treatment for shock. Psychosomatic considerations in relation to orthopedic conditions are discussed briefly. There are 85 more illustrations, the total in the present edition being 389. The bibliography has been extended. A fourth edition was in preparation in 1957.

LEWIN PHILIP
The knee and related structures injuries—deformities—diseases—disabilities. Illustrated with 333 figures and 2 colored plates. Philadelphia Lea & Febiger 1952 illus. (part col d) 914 p. 24 cm. $16.00. 4430

Contents (abridged) The anatomy of the knee. Physiology and biomechanics of the knee joint. Etiologic factors in knee disturbances. Physical examination of the knee. Roentgen ray findings in disorders of the knee. The diagnosis of disorders of the knee. Fractures in disorders of the knee. Neurosis in knee disorders. Nonoperative treatment of knee disturbances. Operative treatment of knee disorders. Internal derangements of the knee. Loose bodies in the knee joints—bursae. The ligaments of the knee. External derangements of the knee. The extensor apparatus of the knee and its derangements of the knee. The knee. Industrial knee injuries. Fractures. Deformities of the knee. Dislocations of the knee joint. [illegible] in and around the knee joint. Tuberculosis of the knee. Knee disorders in the military service. Osteomyelitis involving the knee region. The syphilis of the knee. Arthritis of the knee. Operative methods in infections of the knee. Spastic paralysis. Operations for the residual effects of anterior poliomyelitis. Circulatory and vascular disturbances of the knee. Neuropathies involving the knee. Metabolic and endocrine disorders that affect the knee. Neoplastic tumors of the knee. Equalization of length of lower extremities. Appendix. Bibliography. Index.

Note. A comprehensive treatise in which the author has endeavored to incorporate all of the currently valid knowledge pertinent to disorders of the knee and to medical and surgical methods of treating them. Altogether there are 44 chapters and a long appendix. The latter includes discussions of such aspects of the subject as the embryology of the knee and of lower subtopics, such as leg pains in children. The work is based both on the author's 35 years of existing abstracts of the world's literature on orthopedic surgery and his long experience as a teacher and orthopedic surgeon. The bibliography is international in scope.

LUCK JAMES VERNON
Bone and joint diseases pathology correlated with roentgenological and clinical features. Springfield, Ill. Charles C Thomas, 1950. 614 p. illus. 26 cm. $18.50 4431

Contents: The normal skeletal system. Acute infections of bones and joints. Chronic osteomyelitis. Aseptic necrosis. Fractures. Chronic arthritis. Neuroarthropathies. Skeletal manifestations of metabolic disorders. Osteitis fibrosa. Paget's disease. Melorheostosis. Hypertrophic osteoarthropathy. Skeletal manifestations of endocrine disorders. Congenitally defective skeletal ossification. Extraskeletal calcification and ossification. Osseous lesions in the reticulo-endothelioses. Bone changes produced by lead, bismuth, phosphorus, radium, and fluorine. Benign tumors of bones. Malignant primary tumors of bones. Secondary involvement of the bones by malignant disease. Tumors of joints. Index.

Note: Correlation of pathology with clinical manifestations and with the interpretation of roentgenograms is the main theme of this comprehensive work. The subheadings in a typical chapter—that on Paget's disease—will serve to illustrate the approach: historical, skeletal distribution, laboratory findings, etiology, complications, roentgenologic correlation, clinical correlation, references. Although organized as a textbook, the book is also well adapted because of its full coverage and detailed indexes to reference use in personal and institutional libraries. There are more than 450 figures, including several in color, and extensive lists of references to the literature.

MILCH HENRY
Osteotomy of the long bones. Springfield, Ill. Charles C Thomas, 1947 294 p. illus. 24 cm. $7.50 4432

Contents (abridged) Historical review. The objective of osteotomy. Lineal osteotomy. Transverse osteotomy. Parallax test for rotation. The transpositional osteotomy. The angulational osteotomy. On the use of Nelaton's line. The pelvi-femoral angle. The pelvic support osteotomy. The neck of the femur. The post-osteotomy angle. Leg lengthening by abduction osteotomy. The osteotomies. The Schanz versus the Lorenz osteotomies. The abduction osteotomy in the treatment of fractures of the femoral neck—in osteo-arthritis of the hip joint—in tuberculosis of the hip. Author index. Index of subjects.

Note: A practical, thoroughly illustrated discussion of the techniques of osteotomy. Although intended for general surgeons rather than orthopedists, the author's use of trigonometry in corrective measurements and his observations on hitherto unsuspected orthopedic relationships will be of interest to the latter group also. Discussions of theory are directly related to practice by means of case histories which are illustrated with reproductions of both photographs and roentgenograms. There are 115 literature references, all keyed to the text.

MOSELEY H. F
Shoulder lesions. With 43 medical illustrations in full color by Helen MacArthur Second edition, revised and enlarged. New York Paul B Hoeber Inc., Medical Book

Department of Harper & Brothers, 1953 329 p illus (part col d) 27 cm. $12 00 4433

Contents. Anatomical considerations. Examination of the shoulder Ruptures of the rotator cuff. The bicipital syndromes. Calcified deposits in the rotator cuff Subluxations and dislocations of the gleno-humeral joint. Fractures of the proximal end of the humerus and scapula. The clavicle and its articulations. Fibrositis around the shoulder. The stiff and painful shoulder. Operative procedures. Re-education of the shoulder Neurological aspects of shoulder lesions, by F L. McNaughton. X-ray diagnosis and treatment, by C. B. Peirce and J Bouchard. Conclusions. Tables. Acute ruptures of the rotator cuff. Chronic ruptures of the rotator cuff. Index.

Note. A compact, fully illustrated presentation of knowledge pertaining to disorders of the shoulder girdle, including both the humeral joint and the clavicle. It is not exhaustive in scope, but covers a wide range of congenital abnormalities, injuries, and diseases. All are covered from the viewpoint of graduate medical practitioners and surgeons. The first edition was published in 1947 In this second edition, the book is more than 100 pages longer and contains 216 monochrome figures in addition to the 43 color plates mentioned in the title. The total number of illustrations is over 400. The chapters on fractures in the shoulder region and the clavicular articulations are new in this edition. Chapters carried over from the first edition have been revised, some rather extensively

NATIONAL RESEARCH COUNCIL ADVISORY COMMITTEE ON ARTIFICIAL LIMBS

Human limbs and their substitutes, presenting results of engineering and medical studies of the human extremities and application of the data to the design and fitting of artificial limbs and to the care and training of amputees. Prepared under the sponsorship of the Advisory Committee on Artificial Limbs, National Academy of Sciences, National Research Council In summary and correlation of a research program for the Department of Medicine and Surgery U S Veterans Administration and for the Office of the Surgeon General Department of the Army By Paul E Klopsteg and Philip D Wilson New York McGraw Hill Book Company Inc., 1954 844 p illus. 24 cm. $12 00 4434

Contents The amputee and the problem, by P E. Klopsteg and P D Wilson. Part I Medical problems of the amputee The influence of new developments on amputation surgery by R. H. Alldredge and E. F Murphy The techniques of cineplasty The influence of phantom limbs, by B. Feinstein and others. Psychological adjustment of the amputee, by L. E. Abt. The principles of prosthetic prescription, by C. O. Bechtol. Part II, The upper limb and its substitutes The biomechanics of the normal and of the amputated upper extremity by C. L. Taylor New developments in hands and hooks, by M. J Fletcher Cosmetic gloves, by F Leonard and C. L. Milton, Jr New developments in artificial arms, by M. J Fletcher and A. B. Wilson, Jr The mechanics of voluntary muscle, by V T Inman and H. J Ralston. Control design and prosthetic adaptations in biceps and pectoral cineplasty by C. L. Taylor The electric arm, by S. W Alderson. Part III, The lower limb and its substitutes The functional structure of the lower limb, by H. Elftman. The principal elements in human locomotion, by H. D Eberhart and others. The locomotor mechanism of the amputee, by H. D Eberhart and others. New developments in lower-extremity prostheses, by E. M. Wagner and J G. Catranis. Part IV Adjustment of the limb to the amputee The principles of fitting, by C C Haddan Fitting the artificial arm, by L. Carlyle. Suction-socket suspension of the above-knee prosthesis, by H D Eberhart and J C. McKennon Alignment of the above-knee artificial leg, by C. W Radcliffe. The fitting of below-knee prostheses, by E. F Murphy Part Training and evaluation Training the upper-extremity amputee by H Jampol and J. Levy Training the lower-extremity amputee by C Hoppert and H. Kramer The principles of artificial-limb evaluation, by S. Fishman. Appendices. Index.

Note: A ork of primary importance It is product of an extensive research program which included the study of existing prosthetic devices, the analysis of requirements, and experiments directed toward the development of new and better devices. The results of the experimental work are presented in full, along with expert presentations of the medical, psychological, and education aspects. Literature eferences, hich include patents and technical reports as well as articles, are included in many of the chapters. There are several hundred illustrations.

NEW YORK ACADEMY OF MEDICINE

The musculoskeletal system. A symposium presented at the twenty third graduate fortnight of the New York Academy of Medicine, October ninth to twentieth, 1950. Edited by Mahlon Ashford. New York The Macmillan Company, 1952 368 p illus. 22 cm. $6.50. 4435

Contents. The structure and biological reactivity of connective tissue, by J Gross. The chemistry of connective tissue, by M. Schubert. On certain aspects of the physiology of muscle, by J. L. Lilienthal, Jr Diseases and disorders of muscle function, by D. McEachern. Metabolism of calcium and phosphorus in bone, by J. E. Howard. Metabolic bone diseases—facts and theories, by I. Snapper. Skeletal changes associated with diseases of the blood, by M. L. Sussman. The clinical effects of cortisone and ACTH on rheumatic diseases, by J J Bunim. Rheumatoid arthritis—the natural history of the disease and its management, by C. Ragan. Some recent advances in the study of uric acid metabolism and gout, by A. B. Gutman. The collagen diseases, by G. L. Duff. Vascular rheumatism, by R. H. Freyberg. Pyogenic arthritis, by A. Steindler Tuberculosis of bones and joints, by D. M. Bosworth. Tumors of bones and joints, by H. L. Jaffe and G. Selin. The rôle of aseptic necrosis of bone in skeletal diseases and injuries, by C. R. Hatcher

Note. A book composed of original lectures presented on the occasion named in the book title. The lectures are addressed to graduate physicians, and each of them is an up-to-date summary of current knowledge, supplemented by bibliography There is an index.

NICOLA, TOUFICK

Atlas of surgical approaches to bones and joints with a foreword by Norman T Kirk. New York The Macmillan Company 1945. 218 p illus. 28 cm $6 00 4436

Contents. Part I, Shoulder girdle Clavicle. Sternoclavicular joint. Acromioclavicular joint. Scapula. Part II, Upper extremity Shoulder joint. Humerus. Elbow Radius and ulna. Wrist. Fingers. Part III, Trunk. Cervical spine. Cervical rib. Dorsal spine. Lumbar spine. Ilium. Ischium. Part IV Lower extremity. Hip joint. Lesser trochanter of the femur Shaft of the femur Knee joint. Tibia. Fibula. Ankle joint. Calcaneus. First metatarsophalangeal joint. Part V, Skull Temporomandibular joint. Mandible.

Note. A collection of reproductions of original drawings in which the anatomy of surgical approaches to bones and joints is illustrated. The necessary incisions for each operation are shown in sequence, and in each drawing of a series the major muscles, nerves, arteries and veins that will be exposed at the particular stage of the operation are shown. Directions for making incision, isolating nerves, retracting muscles, etc., so as to avoid unnecessary damage, are given in short legends adjacent to the illustrations. The drawings are well executed and are reproduced on a reasonably large scale. The book is intended as reference guide for surgeons.

ROPES MARIAN W AND WALTER BAUER

Synovial fluid changes in joint disease. Cambridge Mass. Published for the Commonwealth Fund by Harvard University Press 1953 150 p. illus. 25 cm. $4 00. 4437

Content Introduction. Variations in characteristics of synovial fluid with disease. Findings in fluids in Group I. Disease of traumatic origin. Findings in fluids resembling both groups in some respects. Findings in fluids in Group II. Rheumatoid arthritis and diseases of infectious origin. Diagnostic value of joint aspiration. Physiological considerations. Bibliography Index.

Note. The results of study carried on over period of 22 years by the Arthritis Group at the Massachusetts General Hospital on synovial fluid in health and disease are reported in the book.

Medicine

Orthopedics

The properties of normal synovial fluid, methods of examining synovial fluid in the laboratory and techniques for obtaining it from joints are described in the first chapter. The other chapters are devoted to those aspects of the study which are treated in their titles. The authors found that information gained from fluid analysis is of value in the diagnosis and prognosis of joint disease. The significant findings are explicitly described, and the application [illegible] illustrated in several case histories. For convenience in using the findings in diagnosis, they are summarized on a separate chart which is supplied with the book. The bibliography contains 212 citations.

RUSH LESLIE V
Atlas of Rush pin technics a system of fracture treatment. Meridian Miss. The Berivon Company 1955 227 p. illus. 32 cm. 4438

Contents (abridged) Section I, Dynamics, stability of fracture and general considerations: The pin story. Temporary treatment. Indications for pinning. Position of patient. Instruments. Inserting the pin. Extraction. Reduction of fracture. Dynamic factors. Stability of fixation. Multiple fragments. Short fragments. Use of bending [illegible]. Bone healing. Delayed healing and non-union. Special [illegible]. Section II, Lower extremity technics: Femur. Arthrodesis [illegible]. Tibia. The ankle. The foot. Section III, Upper extremity technics: Clavicle. Humerus. The elbow. The forearm. The wrist. Metacarpals.

Note The Rush pin is an intramedullary pin of specific design developed by the author of this book. It is widely used in the treatment of fractures, and the book is a fully illustrated presentation of techniques of using it. It consists largely of illustrations: reproductions of drawings and roentgenograms. There are approximately 200 plates, most of which contain several illustrations. Plates are accompanied by legends and short discussions. The book is intended for surgeons who are already familiar with the techniques of general surgery and of fracture treatment, and who need a reference volume primarily on the use of the Rush pin. Some information is included on allied subjects, such as techniques of making removable plaster splints. There are no literature references and no index.

SCUDERI CARLO
Atlas of orthopedic traction procedures. With 124 illustrations. St. Louis The C. V Mosby Company 1954 230 p. illus. 29 cm. $10.00. 4439

Note A reference book covering appliances such as head halters, Crutchfield and Barton tongs, the Bohler-Braun splint, frames and pulleys and procedures such as cervical traction, arm traction, skeletal traction, and traction for fractures of the femur in children. At the beginning of the volume there are approximately 40 pages of discussion of general matters such as the selection of beds and mattresses for orthopedic patients and care of patients under traction. The majority of the illustrations are reproductions of photographs, and all of them show details of appliances and procedures clearly. The author is a member of the faculty of the Medical School of the University of Illinois and of the Cook County Graduate School.

SHANDS ALFRED RIVES JR.
Handbook of orthopaedic surgery In collaboration with Richard Beverly Raney Illustrated by Jack Bonacker Wilson and others. Fourth edition. St Louis The C. V Mosby Company 1952 644 p illus. 23 cm. 4440

Contents (abridged) Congenital deformities. Affections of growing bone. Affections of adult bone. Infections of bone (exclusive of tuberculosis). Infections of joints (exclusive of tuberculosis). Tuberculosis of bones and joints; the spine and pelvis—the extremities. Chronic arthritis. Neuromuscular disabilities—infantile paralysis. Neuromuscular disabilities (exclusive of infantile paralysis). Involvement of the bones and spinal cord—involvement of peripheral nerves and of muscles. Tumors. Fracture deformities. Body mechanics and physical therapy. Affections of the spine and thorax. Affections of the low back. Affections of the hip. Affections of the knee. Affections of the ankle and foot. Affections of the neck and shoulders. Affections of the elbow, wrist, hand, and [illegible]. Bibliography. Index.

Note: A standard work used both as a text in medical colleges and as a reference book in the office libraries of general practitioners. It is not an exhaustive treatise, but all of the common conditions are covered. The third edition was published in 1948. The fourth edition was prepared after consultation with the heads of departments of orthopedics in the medical schools of the United States of America. Although no major change was made in the text, numerous small revisions were made, and 18 sections were added on topics not included in the third edition. More extensive changes were made in the illustrative matter. These are described by the author thus: "There are one hundred and new illustrations as follows: seventy-nine new [illegible], twenty new drawings, two retouched drawings, and three [illegible]; two replacements of drawings from the first edition, forty of the illustrations of drawings from other publications; forty of the illustrations of the third edition have been deleted, most of which were drawings from roentgenograms." A fifth edition was published in 1957 725 p. $8.75.

SNAPPER, ISIDORE
Medical clinics on bone diseases a text and atlas. Second completely revised and augmented edition. New York Interscience Publishers Inc., 1949 308 p. illus. 28 cm. $32.50. 4441

Contents. Hyperparathyroidism. Introduction—Recklinghausen's bone disease—renal and gastrointestinal manifestations—treatment and summary. Hyperplasia of the parathyroids secondary to other [illegible]. Rickets and osteomalacia. Osteoporosis. Paget's disease of bone. Osteogenesis imperfecta. Marble bone (osteopetrosis). Osteopoikilosis. Lipoid granulomatosis of the bones. Letterer-Siwe disease, eosinophilic granuloma. Gaucher's disease. Osteitis fibrosa disseminata (Albright). Fibrous dysplasia (Lichtenstein and Jaffe). Localized or polyostotic fibrous dysplasia. Multiple myeloma. Skeletal lesions [illegible]. Neurofibromatosis of bone. Bone lesions in Hodgkin's disease and in lymphosarcoma. Bone changes in hemolytic anemias. Author index. Subject index.

Note An outstanding treatise in which is presented the knowledge of bone diseases that has developed since Mandl discovered the relation between the function of the parathyroids and Recklinghausen's bone disease. It covers the relations among bone diseases, [illegible] and other conditions generally classified in general medicine. The work is based partly on the author's extensive experience in the Netherlands, China, and the United States of America, and partly on the literature. Extensive lists of references are included. The first edition was published in 1943. For this second edition, the work was thoroughly revised and the order of chapters rearranged. Both the amount of text and the number of illustrations were substantially increased. There are now 44 plates, most of which contain an average of six photographs or roentgenographs each.

SNAPPER, ISIDORE
Rare manifestations of metabolic bone disease their practical importance. 29th annual Beaumont Lecture delivered before the Wayne County Medical Society February 6 1950 Springfield Ill. Charles C Thomas 1952 96 p. illus. 22 cm. (American lecture series. Publication no. 107 A monograph in American lectures in metabolism edited by Paul György and others) $3.00. 4442

Note A group of bone diseases in which metabolic changes are the most prominent feature is covered in this short work. Seven cases are described in detail. The author is an internationally known authority on bone diseases.

SPEED J S editor
Campbell's operative orthopaedics. Associate editor Robert A. Knight. Third edition. With 1323 illustrations, including 2 color plates. St. Louis The C. V Mosby Company 1956. 2 v illus. 26 cm. $40.00 4443

Contents: Volume I: Surgical physiology. Preoperative and postoperative care. Apparatus. Surgical technic. Surgical approaches.

Acute infective (pyogenic) arthritis wounds of joints. Traumatic affections of joints. Dislocations. Fractures. Malunited fractures. Delayed union and nonunion of fractures. Peripheral nerve injuries. Amputations. Author index. Subject index. Volume II Miscellaneous affections of joints. Tuberculosis. Arthrodesis. Ankylosis and deformity. Arthroplasty. Miscellaneous affections of bones. Tumors of bones, joints, and soft tissues. Affections of muscles, tendons, and tendon sheaths—fasciae, bursae, and lymphatic system. Anterior poliomyelitis. Miscellaneous affections of the nervous system. Static or postural affections. Congenital anomalies. Author index. Subject index.

Note One of the very outstanding texts in its field. The first edition was published in 1939 and the second edition in 1949. The original author was Willis C. Campbell, 1880–1941. Dr. Speed, the editor of the current edition, was an associate of Dr. Campbell during the latter's lifetime, and 17 of the 22 specialists who contributed to this edition are members of the Campbell Clinic and the faculty of the College of Medicine of the University of Tennessee. The work provides a broad and detailed coverage of orthopaedic surgery and of associated topics and techniques. It is based not only on the experience of the Campbell Clinic and of the contributors but also on the published literature. In this edition, the editors have placed somewhat greater emphasis on such fundamentals as indications and contra-indications for operation. Although they usually express a preference for a particular technique, they offer in most instances, a choice of methods in operative procedures. The illustrations are both numerous and well reproduced.

STEIN, IRVIN, AND OTHERS

Living bone in health and disease by Irvin Stein Raymond O Stein and Martin L. Beller 387 illustrations. Philadelphia J B Lippincott Company, 1955 510 p illus. 26 cm $16 50 4444

Contents Part I, Living bone in health. Bone and its structure. Inorganic (mineral) metabolism of bone. Organic (protein) metabolism of bone. Enzymes as related to bone. Hormones as related to bone. Vitamins as related to bone. Kidney function as related to bone. Part II, Living bone in disease. Developmental faults. Endocrine disturbances. Physical factors. Defects in matrix calcification. Defects in kidneys affecting the parathyroids and the skeleton. Defects in matrix formation. Hypervitaminoses. Lipoid granulomas. Paget's disease. Inflammatory reactions. Neoplasms. Hematopoietic and lymphatic disturbances. Part III, Diagnostic classification of bone diseases. Index.

Note Essentially this is a monograph on bone diseases. The first part which describes the structure, physiology and biochemistry of healthy bone, although adequate for the book's purpose, is only 87 pages long. The descriptions and discussions of some diseases are extensive. The chapter on Paget's disease, to cite an example, is 74 pages long, contains 39 figures, representing many more illustrations, and a bibliography of 125 references. It is organized under the subheadings "Historical notes, Incidence "Distribution, "Etiology Clinical features, Pathology "Complications" and "Treatment. The same subheads have been used in organizing the material on most of the diseases, although much less space is given to many of them. The illustrations, many of which are reproductions of roentgenograms, are a special and important feature. The authors are members of the faculty of the University of Pennsylvania Medical School and the Hahnemann Medical School. The book is addressed to graduate physicians and surgeons.

STEINDLER ARTHUR

Orthopedic operations indications technique and end results. Springfield Ill Charles C Thomas 1940 766 p illus 26 cm. $14 00 4445

Contents I, General biological, anatomical, pathological, and clinical topics pertaining to orthopedic operations. Biology of functional restoration. Special surgical risks in orthopedic operations. Choice of anesthesia in orthopedic operations. Special orthopedic pre- and postoperative care. Operative approaches. II, Technique of orthopedic operations. Surgery of tendons—tenotomy, tendon lengthening, tendon and stripping. Tendon sutures, tendon plastics and tendon repairs. Tendon transplantations. Fascial surgery and ligamentous reconstruction. Capsular surgery. Orthopedic operations on bone. Surgery of joints. Joint surgery—arthrodesis and arthrorisis. Surgery of the spinal column. Surgery of the bursae and tendon sheaths. Peripheral nerve surgery. Skin plasty operations. III, Indications and end results in specific orthopedic conditions: Operative indication and end results in congenital deformities. Traumatic deformities and disabilities. Operative indications in certain static and constitutional deformities. Operative indications and end results in inflammatory conditions. In chronic arthritis. Operations for deformities and disabilities due to disturbances of the nervous system. Operative indications in degenerative bone diseases. In tumors. In circulatory diseases. Index.

Note. The author's purpose in this book is to record what he has learned of the several phases of operative orthopedic treatment. Because he feels that plan and principle of procedure, technique of execution, and the final judgment rendered by end results, are inseparable and of equal importance, they are presented as equivalent. Thus indications and statistics are given equal prominence with the operative technique. The arrangement of the material is such that the reader is first made acquainted with the patient as a whole; he then learns the operative procedures on the several structures of the locomotor system, and finally the precise clinical situations in which these operations are to be applied. If the text is used as a reference book, the clinical portion will be consulted first, and then the technique of the particular operative procedure advised. The operative procedures have been carefully evaluated before being included in the text. The book is intended for use by students as well as surgeons.

STEINDLER, ARTHUR

Post graduate lectures on orthopedic diagnosis and indications Springfield Ill. Charles C Thomas, 1950–52 4 v 27 cm. Vol. I, $7.50; vol. II, $6 00, vol III, $8 75, vol. IV, $9 75. 4446

Contents (abridged) Volume I: Section A, Propedeutics in orthopedic diagnosis. Symmetry and asymmetry of the body. On contractures. On the interpretation of pain in orthopedic surgery. On the pathology of the gait. Section B, Congenital deformities and disabilities. General observations and remarks on congenital deformities of the locomotor system. On congenital deformities due to disturbance of bone growth—the chondrodystrophies. On congenital deformities of the spine and thorax. On congenital talipes. On congenital defects and malformations of the long bones of the lower extremities. On congenital dislocation of the hip. On congenital deformities of the upper extremity. Index. Volume II: Section A, Paralytic disabilities. On poliomyelitis (pathogenesis and pathology). On anterior poliomyelitis—the clinical pathology. On anterior poliomyelitis—conservative treatment. On anterior poliomyelitis—operative treatment. On the paralytic scoliosis. On spastic paralysis. Section B, Static disabilities: On lumbosacral pain or low back pain. On idiopathic scoliosis. On the internal derangement of the knee. On static deformities of the foot and ankle. Subject index. Author index. Volume III: Section A, Tuberculosis of the skeletal system. On tuberculosis of the skeletal system. On tuberculosis of the spine. On tuberculosis of the hip joints. On tuberculosis of the knee. On tuberculosis of the foot and ankle. On tuberculosis of the upper extremity. Section B, Osteomyelitis. On the pathogenesis and pathology of osteomyelitis. On the clinical pathology of osteomyelitis. On the treatment of osteomyelitis. On osteomyelitis of the spine. On osteomyelitis of the pelvis. On the more unusual types of osteomyelitis. Subject index. Author index. Volume IV: Section A, Arthritis and diseases of muscles, bursae, tendons and fasciae. On chronic nonspecific arthritis. On the general treatment of atrophic arthritis. On the orthopedic treatment of atrophic arthritis. On hypertrophic arthritis. On spondylarthritis. On gout. On pyogenic arthritis. On syphilis of bone and joint. On the inflammatory diseases of the muscles. On Dupuytren's contracture. On diseases of tendons and bursae. On primary neuromuscular diseases—muscular dystrophies and atrophies. Section B, Deficiency and degenerative diseases of the locomotor system. On [illegible]. On [illegible] diseases of the bone. On degenerative bone diseases. On aseptic necrosis or the osteochondritides. On neuro-arthropathies. Subject index. Author index.

Note: A collection of lectures by one of the most eminent authorities on orthopedic surgery in the United States of America. All orthopedic conditions are covered, including rare conditions. A wide range of material from case histories is included. Much attention is given to pathogenesis, pathology and differential diagnosis. Therapy is covered also, but more briefly. Literature references accompany most of the lectures.

STEINDLER ARTHUR

The traumatic deformities and disabilities of the upper extremity by Arthur Steindler in collaboration with John Louis Marxer

Springfield, Ill. Charles C Thomas, 1946. 494 p. illus. 26 cm. $12.00. 4447

Contents: Part A, General considerations pertaining to traumatic disabilities of the upper extremity: Traumatic deformation of upper extremity and restoration of form. Restoration of function. Pain factor in traumatic disabilities of upper extremity. General surgical principles applying to upper extremity. Part B, Special part: Traumatic disabilities of shoulder girdle and arm. Traumatic disabilities of elbow joint. Traumatic disabilities of forearm and wrist: Traumatic disabilities of forearm and wrist from tendon injuries. Traumatic deformation of hand and fingers. Index.

Note: The author has written this monograph as a case book rather than a text because the complex nature of the deformities and disabilities resulting from traumatic injuries does not permit any consistent grouping according to anatomical or functional principles. A general discussion of the subject matter, including restoration of form and function by various methods, is contained in Part A. The "special part" B, which forms the major portion of the text, is subdivided according to the skeletal elements of the upper extremity and it is here that the numerous case reports are analyzed from various aspects: mechanical, diagnostic, therapeutic, and surgical. The individual case reports are accompanied by statistical data. The book contains many interesting photographs, as well as a list of illustrations, an author index, and a subject index. Bibliographical references are given for each of the two parts separately.

WILLIS, THEODORE A.

Man's back. Springfield, Ill. Charles C Thomas 1953 161 p. illus. (part col'd) 28 cm. $9.50. 4448

Contents: Embryology of the back. Anatomy of the back. Vertebral anomalies and defects of development. Mechanics of the back. Examination of the back. Injuries of the back. Diseases of the back. Tumors of the back. Scoliosis. Psychoneuroses and malingering. Physical therapy of back lesions. Operations on the back. Index.

Note: Written primarily from the standpoint of orthopedics, this book contains extensive discussion of the embryology, anatomy and mechanics of the back, as well as of its diseases and congenital anomalies. Congenital disorders, injuries, and diseases are covered as to etiology, diagnosis, and treatment. The book is based on the author's own extensive experience and on the literature. However, literature references are not included. There are 121 figures.

WOODCOCK, BEATRICE

Scoliosis, the practical approach to treatment. Stanford Stanford University Press, 1946. 111 p. illus. 22 cm. $2.00 4449

Contents: Part I, Introduction. Change of outlook. What is scoliosis? Rotation and deviation. Compensation. Part II, First principles in the gymnastic program. Appendix. Index.

Note: In the first part of this useful book the author discusses the morphology of curvature of the spine, the skeletal and muscular changes produced by it, and how nature can be aided in making compensatory adjustments, such as counter-curves. The latter part describes and illustrates corrective exercises. The author has had long experience in the field, part of it under Dr Arthur Steindler at the University of Iowa. The book is addressed chiefly to physical therapists, but medical practitioners, particularly pediatricians, also will find it of interest.

YEAR BOOK OF ORTHOPEDICS AND TRAUMATIC SURGERY

The year book of orthopedics and traumatic surgery (1955–1956 Year Book series) Edited by Edward L. Compere. Chicago The Year Book Publishers, Inc., 1956. 333 p. illus. 20 cm. $6.50 4450

Contents: Introduction. Anatomy, embryology, physiology and pathology. Congenital deformities. The epiphyses. Poliomyelitis. Osteomyelitis and other infections. Tumors, cysts and fibrodysplasias. Arthritis and rheumatism. Fractures and dislocations. The spine and pelvis. The neck, shoulder and arm. The hand and wrist. The hip, leg and knee. Amputations and prostheses. Surgical and diagnostic technics. Instruments, appliances and brace books. Calcium and phosphorus metabolic diseases of bones. Miscellaneous. Index.

Note: This annual volume is edited and organized similarly to the other books in this publisher's useful Year Book series. Selections of the world's medical literature published between November, 1954, and November, 1955, are abstracted at some length. References given in all cases to the original publication. The abstract is often supplemented by a note in which the editor himself evaluates the findings reported in the article or relates them to other works. There are 211 figures in this issue.

PLASTIC SURGERY

BROWN, ADOLPH MARTIN

Modern plastic surgical prosthetics. New York Grune & Stratton, 1947 293 p. illus. 22 cm. $6.75 4451

Contents: Part I, General considerations. The prosthesis laboratory. Part II, Examination of the patient. Making the negative impression. The positive cast. The materials used in prosthetic sculpture. Sculpture. Separating compounds. Finishing the mold. Part III, Nasal prostheses. Prostheses for the eye and orbit. Prosthetic restorations for the breast. Aesthetic correction of lower limb deformities with finished latex prostheses. Prosthetic restorations for the hand and parts of the hand. Prostheses as implants in plastic surgery. Part IV, Plastic materials. Latex. Colors suitable for rubber latex prostheses. Acrylic resins. Vinylpolymers as prosthetic materials. Other flexible plastic materials suitable for prostheses. Bibliography. Illustrations. Index.

Note: A manual of materials used and methods followed in making artificial restorations of missing or deformed parts of the human body, especially the face. The mechanics of artificial limbs is not covered. There are 180 plates that illustrate techniques and the "before and after" appearances of patients. The book is of interest chiefly to plastic surgeons.

BROWN, JAMES BARRETT AND FRANK MCDOWELL

Skin grafting. Second edition. 239 illustrations, including two plates in color. Philadelphia J B Lippincott Company 1949 339 p. illus. (part col'd) 26 cm. $7.50. 4452

Contents (abridged): Early general care of burns. Early local care of burns. Spontaneous healing of burns and other open wounds. Preparation of wounds for skin grafting. Application of thick split skin grafts. Application of free full-thickness grafts. Pedicle flaps. Repairs of hand, arm and axilla. Repair of body and lower extremities. Repairs of face, neck and mouth. Repairs of nose and ears. Homografts. Restoration of defects from mechanical injuries. Repair of chemical and electrical burns. Surgical repair of radiation injuries. Skin grafting in military plastic surgery. Faults of skin grafts. Bibliography. Index.

Note: The first edition of this book—published in 1943—was limited to skin grafting of burns. In this edition its scope has been enlarged to include skin grafting in the repair of lesions from other causes as well. Though more inclusive, the book remains a manual of selected techniques, based largely on the authors' own work but including also some techniques described in the literature. Approximately half of the space is devoted to the illustrations. The text which accompanies the illustrations is written in a direct and lucid style. The bibliography is extensive.

BURKS, JAMES W., JR.

Wire brush surgery in the treatment of certain cosmetic defects and diseases of the skin. Springfield Ill. Charles C Thomas, 1956 154 p. illus. 24 cm. $6.75 4453

Contents: History of corrective cosmetic technics. Anatomy of the skin. Histopathology of the healing process. Psychologic aspects of planing. Equipment and supplies for surgical planing. Anesthesia for planing. Technic of surgical planing. Postoperative care. General results. Complications. Indications and contraindications of surgical planing. Future trends in surgical planing. References.

Note: Abrasive planing of the skin with a rotating wire brush as a technique in correcting disfigurements, such as acne scarring, has come into wide use in recent years. The author of this book, a member of the faculty of the School of Medicine of Tulane University, is one of the pioneers in its use, and at the time the book was written had made over 100 planings. In this book he has

outlined the historical development of planing techniques, presented the basic information on anatomy and histopathology described the wire-brush technique in detail, and discussed indications and contraindications. Many of the 68 figures are before-and-after photographs of cases. Included also are photographs of equipment and of the arrangement of the operating room. There are 71 references in the bibliography

Fox, Sidney A

Ophthalmic plastic surgery New York Grune & Stratton, 1952 290 p illus. 27 cm $15 00 4454

Contents The brow and the lids—anatomy Fundamentals of lid surgery Grafts. Technical details. Minor surgical procedures. The lid margins—first aid. Lid notches and colobomata. Canthal repairs. Entropion. Ectropion. Ptosis. Displacements of lid and globe. The conjunctiva. Socket reconstruction. Reconstruction of the lower lid. Upper lid reconstruction. Hair-bearing grafts. Index.

Note. A useful well-illustrated manual addressed to general surgeons and to beginners in ophthalmic surgery The author states, I have attempted to include here in systematic and progressive order all the basic classical operations of our specialty Except for few final chapters on the more esoteric reconstructive aspects of lid surgery all the procedures found here are those commonly used in every day practice. Generally speaking, each procedure included is described in a compact text and is illustrated in a series of drawings. Included also are valuable comments on special points in connection with the selected procedure and on alternative procedures.

Hughes, Wendell L

Reconstructive surgery of the eyelids Second edition With 268 illustrations St. Louis The C V Mosby Company, 1954 260 p illus. 26 cm $7 00 4455

Contents Introduction. Early development of skin grafting. Development of grafting without a pedicle. Variations of pedicle flaps. Thin dermo-epidermic grafts. General considerations regarding grafting. Reconstruction of the conjunctival layer Reconstruction of tarsus. Transplantation of cilia and other miscellaneous lid structures. Case reports illustrating blepharopoiesis by the author's method. Upper lid reconstruction. Reconstruction of both lids. Choice of treatment for arious types of growths. References. Index.

Note. A standard monograph on the plastic surgery of the eyelids. It is based both on the literature and on the uthor's own practice and includes a historical review of all reported techniques from the 17th century onward. The uthor's own methods are described specifically and in detail. The illustrations include not only numerous before-and-after photographs of patients, but also drawings of surgical operations showing the techniques step by step. The first edition as published in 1943 and was only 160 pages long. In preparing this second edition revisions and augmentations were made in both the text and pictures. The added material includes an extensive section on upper lid reconstruction and also the chapter on choice of treatment. A few references to literature published since the first edition was written have been added to the bibliography which now contains 458 references to the international literature.

Kazanjian, Varaztad Hovhannes and John Marquis Converse

The surgical treatment of facial injuries. Baltimore The Williams & Wilkins Company 1949 574 p illus. 26 cm $10 00 4456

Contents The face. Healing of wounds. General principles of operati technic. Early treatment of facial injuries. Fractures of the mandible. Fractures of the maxilla. Fractures of the nose. Fractures f the zygoma. Complex fractures of the face. Some general principles f reconstructi surgery Pedicled skin flaps. Free grafts of skin and mucosa. Free grafts f dermis, fat, fascia, cartilage and bone. Deformities of the upper portion of the face. Deformities of the eyelids and orbital region. Deformities f the nose. Deformities of the soft tissues of the lower portion of the face Deformities of the bones of the lower portion of the face. Surgery of the oral cavity and pharynx. Temporomandibular ankylosis. Facial paralysis. Deformities of the external ear Burns of the face. Maxillofacial prosthesis. Anesthetic management. Index.

Note A comprehensive work based on the very extensi experience of the authors in pri ate institutional, and military practice. Anatomical, psychological and other basic aspects are not neglected, but most of the space in the book is devoted to descr[illegible] and illustrations of surgical cases and techniques. There are 44 [illegible], and many of them contain several reproductions of drawings [illegible] photographs. A typical chapter is organized under the [illegible] subheadings, introduction—general considerations—the [illegible] of burns—local treatment—late treatment of burn deformities—case histories. The book is of primary interest to medical students [illegible] interests in plastic surgery and to plastic surgeons and general surgeons, and of secondary interest to general practitioners of medicine, dentists, etc.

Padgett, Earl Calvin

Plastic and reconstructive surgery With the collaboration of Kathryn Lyle Stephenson Springfield, Ill. Charles C Thomas, 1949 945 p illus. 29 cm. $22.50 4457

Contents (abridged) Skin flaps. Transplantation of skin, [illegible] and mucosa. Transplantation of bone and cartilage. Transplantation of fat, fascia, tendons, and nerves. Transplantation of other miscellaneous tissues and organs. The general care of wounds of the soft tissues. Traumatic surgery of the nerves, tendons, and blood vessels. Traumatic surgery of the head, face, and neck. Traumatic surgery of the extremities. The early care of the thermal and physico-chemical injuries. Reconstructive surgery of the head and forehead. The reconstruction of congenital clefts. Reconstructive surgery Of the nose. Of and about the orbit. Of the ear. Of the cheek and face. Of the mouth and jaw Of the neck. Of the chest wall, breast, oesophagus, and heart. Of the abdominal all, abdomen, and back. Of the uro-genital organs, perineal and anal regions. Of the skin and subcutaneous tissues of the extremities. Of the deep soft tissues of the extremities. Of the hard tissues of the extremities. Fracture and cineplastic amputations and reconstructions. Appendix. Index.

Note A comprehensi presentation of this subject, written by one of the outstanding authorities in the field. It covers not only the techniques which ar in current use but also those of historic interest. All techniques are fully illustrated, most of them in step-by-step sequences, and some of the historical ones are pictured also. As the contents indicate, some operations hich are usually performed by surgeons in other specialties, such as urology are covered in addition to operations usually done by plastic surgeons. The related literature is fully cited in chapter bibliographies. The book is designed for specialists in the field and also for other surgeons who are occasionally called upon to perform reconstructive surgery

Peer, Lyndon A

Transplantation of tissues. Volume I Cartilage, bone, fascia, tendon, and muscle. Baltimore The Williams & Wilkins Company, 1955 421 p. illus. 26 cm. $13.50 4458

Contents. Part I, General considerations The importance of understanding tissue cells. The cell and smaller living units. The human tissue cell. Differentiation, aging and death of tissue cells. Intercellular dead substances surrounding tissue cells. Structure and viability of cells. The parenchymal cell in free tissue grafts. Part II, Cartilage Heterogenous, homogenous and autogenous grafts. Transplantation of cartilage in animals. Structure of cartilage. Transplantation of cartilage in humans. Clinical use of cartilage grafts. Part III, Bone Structure of bone. Transplantation of bone in animals. Autogenous bone transplants in humans. Homogenous bone transplants in humans. Heterogenous bone transplants in humans. Clinical use of bone grafts. Part IV Fascia and tendon Structure of fascia and tendon Transplantation of fascia in animals. Transplantation of fascia in humans. Transplantation of tendon in animals. Transplantation of tendon in humans. Clinical use of fascia and tendon grafts. Part Muscle Structure of skeletal muscle. Transplantation of muscle in animals. Transplantation of muscle in humans. Part VI, Theories of cell replacement Cell survival theory [illegible] replacement theory Index.

Note: The author of this book is the [illegible] of diced cartilage grafts and has made other contributions to the [illegible] of these transplantations. The [illegible] basic knowledge and techniques of these transplantations [illegible] experimental work on animals is included in separate chapters [illegible] of the full picture, but the primary emphasis is on the [illegible] to date with transplantation of tissues in human patients [illegible] ences in results between transplantations in animals and human patients are pointed out in such passages as the [illegible] should use great discretion in applying the results of [illegible] periments with cartilage grafting [illegible] the behavior of [illegible] as [illegible] human. Techniques are fully described [illegible] pages are devoted to cartilage grafts, and the techniques are [illegible] illustrated. The book is based on the international literature, [illegible]

cluding the author's own publications, and extensive bibliographies are included in the chapters. There are 163 figures, most of which contain reproductions of more than one drawing or other illustration.

THOREK, MAX

Plastic surgery of the breast and abdominal wall. With an introduction by Rudolf Nissen. With a foreword by J Eastman Sheehan. Springfield, Ill. Charles C Thomas, 1942 446 p. illus. (part col'd) 26 cm. $20.00. 4459

Contents (abridged) Anatomy—histology. Embryology. Histophysiology. Historical, developmental and comparative considerations. Physiology of the breast. Factors concerning the female breast. Racial characteristics. Congenital anomalies of the breast. Hypertrophies of the female breasts. Etiology, symptoms, course and complications of breast hypertrophies. Gynecomastia. Indications and contraindications for reconstructive surgery of the female breast. The technic of plastic operations for hypertrophy and pendulosity of the female breast. Scars and keloids. Amastia, hypomastia and inequality. Diseases of the nipples. Reconstructive surgery of the abdominal wall. Index.

Note. This book was built upon the author's experience of over 25 years of active general surgical practice. It presents, evaluates, and illustrates the various standardized procedures on plastic surgery of the breast and abdominal wall as advocated by many surgeons. It is supported by the author's own [illegible] and original technique. Correlated subjects are discussed. Operative techniques and details are carefully shown. Four hundred fifty-eight illustrations, including a number of color plates, clarify the text.

PUBLIC HEALTH

AMERICAN PUBLIC HEALTH ASSOCIATION

Control of communicable diseases in man an official report of the American Public Health Association. Eighth edition. New York. The American Public Health Association, 1955 219 p. 20 cm. $0.60. 4460

Note. A reference manual which not only is widely used in the United States of America, but also enjoys a considerable circulation in other countries in the original language and also in translations. It is addressed to public health workers and others who are concerned in one way or another with the control of communicable diseases. It discusses such matters as the reporting of cases of communicable diseases to local health authorities, but most of the space, in fact all but 18 pages, is devoted to compact articles on the known communicable diseases. These articles are arranged alphabetically by name of disease beginning with Actinomycosis and ending with Yellow Fever. The discussion of each disease is arranged under the following subheads: identification, etiologic agent, source and reservoir of infection, mode of transmission, incubation period, period of communicability, susceptibility and resistance, occurrence, and methods of control. Comparing the eighth edition with the seventh, the number of diseases has been increased from 92 to 1[illegible]; the individual accounts of diseases have been revised somewhat, especially as to methods of control, and the index has been improved.

AMERICAN PUBLIC HEALTH ASSOCIATION COMMITTEE ON ADMINISTRATIVE PRACTICE. SUBCOMMITTEE ON LOCAL HEALTH UNITS

Local health units for the nation a report by Haven Emerson, with the collaboration of Martha Luginbuhl. Cambridge, Mass. Harvard University Press, 1945 339 p. illus. 27 cm. $1.25 4461

Contents Principles. Definitions and sources of data. Local public health services, existing and proposed, in the United States. Present and suggested personnel and costs for local health services for each state and the District of Columbia. State laws requiring or authorizing the creation of local health jurisdictions.

Note. The report presents information on existing local health services and recommendations for a national and adequate system under which each state would be divided into a series of health administrative areas, none of which would be [illegible] population under 50,000. For each of the 1,197 proposed divisions the authors give data as to the boundaries, population, area, financial resources, hospital beds, practicing physicians, and minimum desirable personnel and budgets, as well as information about existing local health services. The study is particularly addressed to town and county government officers and to residents of rural areas.

ANDERSON C L.

School health practice St. Louis The C. V Mosby Company 1956 560 p. illus. 22 cm. $4.75 4462

Contents. Introduction. Part I. The school age child: Health of the normal child. Good physical growth and development. Emotional development. Departures from normal health, growth and development. Part II. Organization of the school health program. Basic plan of the school health program. Part III. School health services. Appraisal aspect of health services. Preventive aspects of school health services—communicable disease control—safety emergency care and first aid. Remedial aspects of health services. Part IV Health instruction. Foundations of instruction. Elementary school health instruction. Junior high school health instruction. Senior high school health instruction. Health contributions of high school subject fields. Part V Healthful school living: Healthful school. Part VI. Measurement in school health practice; Evaluation. Appendixes. Index.

Note: An unexpectedly comprehensive textbook for student teachers, which is of value also to nurses engaged in or about to enter school nursing. It deals with those areas of public health which under the system of education and community organization prevalent in the United States of America come within the province of the schools. In other words, it covers both the appraisal of the health of school children and the school instruction of children in good health practices. It includes glossaries, activity lists, and lists of textbooks, pamphlets, etc., useful in school health work.

ANDERSON GAYLORD WEST AND MARGARET G. ARNSTEIN

Communicable disease control a volume for the health officer and public health nurse. *Third edition. New York The Macmillan Company 1956 500 p. illus. 24 cm. $6.50.* 4463

Contents (abridged) Part I: Control measures. The legal basis of communicable disease control. *Administrative agencies. Role of* the public health nurse. Care of communicable disease case at home. Epidemiological investigation of communicable diseases. Part [illegible] Typhoid and paratyphoid fever. Brucellosis. Food poisonings and infections. Undulant fever. Diphtheria. Hemolytic streptococcal infections. Rheumatic fever. Whooping cough. Measles. Smallpox. Poliomyelitis. Meningococcus meningitis. Pneumonia. Influenza. Common colds. Tuberculosis. Gonorrhea and syphilis. Rabies. Impetigo, pediculosis, scabies, and ringworm. Diseases spread through arthropods—plague, tularemia, Rocky Mountain spotted fever, typhus, yellow fever, encephalitis, malaria. Index.

Note. The first part of this volume, which accounts for about one-third of the book's length, deals with general aspects of the subject and is of interest not only to public health officers and nurses but to various community agencies. The second part is devoted to discussions of specific diseases from the public health standpoint and is of practical value to health officers and nurses. All of the chapters are supplemented by selected bibliographies. The second edition was published in 1948. In this third edition, revisions have been made in Part I, largely to reflect the increasing importance of infectious diseases in public health activities in the United States of America. One chapter has been added in this part, and two chapters have been added in the second part. A selection of literature published since the second edition was written has been added to the bibliographies in both parts.

BYRD OLIVER E. compiler

School health sourcebook. Stanford Stanford University Press, 1955 373 p. 24 cm. $7.50. 4464

Contents: Definitions, conclusions, and policies. Pupil health problems. Health instruction. School health services. Conservation of vision. Speech and hearing. Dental health in schools. The handicapped child. Communicable disease control. School nursing. Alcohol

and narcotics education. Mental health in schools. The school environment. School safety Fire prevention in schools. Nutrition in schools. Athletics and physical education. Health of the teacher Parent and community relationships. International experiences in school health. Bibliography Alphabetical list of sources. Author index. Subject index.

Note A reference book of contemporary opinion and information on health activities centered in schools. It consists of 400 abstracts of periodical articles, bulletins, special reports, etc., published in the United States of America in the decade 1945–1955. These abstracts, which have an average length of two-thirds of a page, are organized under the headings listed above. They are supplemented in each chapter by a prefatory survey written by the compiler of the book. Citations of the source publications are given in the bibliography The book is of interest to such readers as public health officers, school and public health nurses, advanced students preparing for careers in public health, social work, etc., and physicians and school administrators.

CAVINS, HAROLD M

National health agencies, a survey with especial reference to voluntary associations, including a detailed directory of major health organizations Washington, D C. Public Affairs Press, 1945 251 p 22 cm. $3 00 4465

Contents Basic characteristics. Backgrounds. Social awakening. American Psychiatric Association. American Medical Association. American Dental Association. American Public Health Association. National Tuberculosis Association. National Committee for Mental Hygiene. American Child Health Association. American Cancer Society National Safety Council. National Society for the Prevention of Blindness. American Society for the Hard of Hearing. American Heart Association. American Eugenics Society American Social Hygiene Association. Miscellaneous organizations. Index.

Note. The origin and growth of national voluntary health agencies in the United States of America are outlined in this work. The author recognizes two types of such agencies, the professional one organized by and for members of a medical group, and the promotional one created to "help solve medical socio-medical problems. N attempt is made to evaluate the work f these organizations, and the author bases his discussion on an examination of 10 typical agencies. The latter part of the volume serves as directory of national health agencies, and provides information concerning the organization and activities of each group.

CHENOWETH, LAURENCE BENJAMIN, AND WHITELAW REID MORRISON

Community health. Third edition. New York Appleton Century-Crofts, Inc., 1949 314 p illus. 22 cm. $3.25 4466

Contents Hygiene and health education. Health conditions in the United States. Types and causes of disease. Immunology Contact infection. Diseases spread by the human carrier Diseases usually contracted from the soil. The relation of air to health. Water and water-borne diseases. Diseases spread by animals. Diseases usually transmitted by food. Diseases spread by insects. Quarantine, isolation, and disinfection. Waste disposal. The accident problem. Public health administration. Vital statistics. Difficult health problems. Glossary Index.

Note A survey of typical community health problems and of methods of handling them, written for use in introductory college courses. Emphasis is placed on preventive measures, with some attention given to the historical background of the subject. Previous editions were entitled *Community hygiene* For this edition the work was not only re-titled, but there have been considerable rearrangement and revision.

COHN ALFRED EINSTEIN, AND CLAIRE LINGO

The burden of diseases in the United States New York Oxford University Press 1950 129 p illus (part col d) 31 cm $10 00 4467

Contents. The international list of causes of death—changes in nomenclature. On the alue of statistical statements. Population and the death rate. Leading causes of death. Race. Sex. The course of events in specified diseases. Shape of curves by diseases. Numerical changes in selected causes of death. Morbidity Summary Addenda. Notes. References.

Note. A valuable interpretive study of statistical data available in the publications of the United States Bureau of the Census and the World Health Organization. The statistical data have been used as a basis for series of graphs and charts, and these are supplemented by a commentary written by the authors. In the chapter on leading causes of deaths, the data and commentary are arranged by age groups, and in that on the course of events and specified diseases the arrangement is by specific diseases and groups of related diseases. Five charts reproduced in color suitable for wall mounting and on a large scale, are supplied in a separate slipcase. The book is basic reference tool in public health work, life and sickness insurance, and in other fields where data on disease, causes of death, and life expectancy are useful.

DACK, G M

Food poisoning. Third edition, revised and enlarged. Chicago University of Chicago Press 1956 251 p 24 cm. (The University of Chicago Committee on Publication in Biology and Medicine, Lester R. Dragstedt and others) $6 00 4468

Contents. Introduction. Chemical poisons in food. Poisonous plants and animals. Botulism. Staphylococcus food poisoning. *Salmonella. Streptococcus faecalis* in relation to food poisoning. Significance of other bacteria in food poisoning. Infections to be differentiated from food poisoning. Index.

Note. A compact survey written from the public health viewpoint. It describes the chief causative agents, their effects, cites typical outbreaks of public health interest, and refers to selected literature. The clinical manifestations of the various forms of food poisoning are usually mentioned, but the author has not attempted to cover these from the viewpoint of clinical medicine. The first edition appeared in 1943 and the second edition in 1949 In the third edition the book is nearly 70 pages longer and contains substantial amount of newly added material, particularly in the chapters on chemical poisons and on poisonous plants and animals. The discussion of bacterial food poisoning has been rather extensively revised and enlarged. Literature published since the second edition has been added to the bibliographies.

DAVENPORT, S J, AND G G MORGIS

Air pollution a bibliography Washington, D C Government Printing Office, 1954 448 p 26 cm (United States. Bureau of Mines. Bulletin 537) $1 75 4469

Contents. Introduction. General aspects of air pollution. Nature and origin of air pollution. Composition of air pollutants. Effects of air pollution On health. On structures and materials. On vegetation. Methods of determining air pollution. Control of air pollution. Legal aspects of air pollution. Cost of air pollution. Index of authors.

Note Compiled in the Health Branch, Health and Safety Division U S. Bureau of Mines, this bibliography of 3,902 references confined strictly to outdoor atmospheric pollution. The articles are not only listed but also abstracted. The arrangement under each subject is chronological by year of publication, within each year the arrangement being alphabetical by authors. Abstracts are partly original and partly adapted from identified bibliographical sources. Society publications as well as journals are represented, with dates of publication ranging from 1819 through 1952 Titles of articles in foreign languages are gi en in English translation.

EBERSON, FREDERICK

Microbes militant a challenge to man the story of modern preventive medicine and control of infectious diseases. A revision of "The microbe's challenge. New York The Ronald Press Company 1948 401 p illus. 24 cm. (Humanizing science series edited by Jaques Cattell) $5 00 4470

Contents The simple life. The times change. The [illegible] Chemistry parasite Changeable microbes. Jekyll and Hyde types. Microbial chil warfare—antibiotics. The border and behavior Microbial chil warfare—antibiotics. [illegible] animals or hidden. Virus riddles. Little microbe—what next?

Medicine

Public Health

cubes ten search. Epidemics to order. The charnage. Glossary. Suggested readings. Index of authors and personages. Subject index.

Note: A narrative account for general readers of the high-lights in the history of preventive medicine. There is some emphasis on the fundamental principles of modern bacteriology on which is based modern techniques of the control of infectious diseases. Although a popular book, it is not over simplified. In this edition the chapter on the antibiotics is new and there are significant changes in other portions of the text. The book is now about 50 pages longer.

GOLDMANN FRANZ
Public medical care principles and problems. New York Columbia University Press, 1945 226 p. 23 cm. $3.25 4471

Contents: Part I, Haphazard growth. The pattern of progress. The growth of public hospitals. From "free dispensary" to public medical center. The development of programs of public medical care for "persons in need." Administration of public medical care: its present framework. Part II, Directed growth. Planning for medical care. References. Index.

Note: The history of the development of public medical care in Great Britain and the United States of America, its status as of about 1944, and the requirements of an adequate program are outlined in this book. The author's main thesis is that adequate medical care is a fundamental human right, and that provision for it is as essential to the well-being of society as it is to the individual. In the final chapter he outlines various methods that have been tried or proposed for the support and control of public medical care.

—— Voluntary medical care insurance in the United States. New York Columbia University Press, 1948. 228 p. 22 cm. $3.25. 4472

Contents: The principle of medical care insurance. Trends of development in the United States. Attitudes of national voluntary organizations. Cash indemnity plans. Nonprofit hospital service plans—Blue Shield—Blue Cross plans. Nonprofit physicians' service plans—Blue Shield plans. Nonprofit plans covering professional and hospital services—individual practice plans. Group practice plans. Limitations and potentialities of voluntary plans. Bibliographical notes. Index.

Note: An analysis of voluntary medical care insurance that will be of considerable value to anyone who wishes to appraise the relative merits of voluntary and compulsory plans. It traces the development of voluntary plans and discusses the distinctive features, achievements and limitations of the programs in operation. Detailed information on the benefits and costs of plans now in operation is presented. The author reaches the conclusion that voluntary plans cannot be expected to provide for all of the nation.

GUNN SELSKAR MICHAEL, AND PHILIP S. PLATT
Voluntary health agencies, an interpretive study with a foreword by Louis I. Dublin. Under the auspices of the National Health Council. New York The Ronald Press Company 1945 364 p. 22 cm. $4.50. 4473

Contents (abridged): Definitions, scopes and types. Social values and functions of voluntary health agencies. Where the voluntary health agencies lag. The human factor. What voluntary health agencies can do to increase their effectiveness. The role of the state organizations. The role of the national organizations. The problem at the national level. Financing voluntary health work. The professional organizations. The American National Red Cross. Volunteers. Health activities of civic and welfare organizations. The future. Appendices. Statistical tables. Self-evaluation schedule for voluntary health agencies. Index.

Note: This volume comprises an excellent picture of problems confronting the myriad health agencies organized on a voluntary basis throughout the United States of America. That this kind of social enterprise, representing the widest range in size and purpose, is still contributing notably to national social betterment is not denied. At the same time, the agencies themselves, integration with governmental activities, and practical aspects of agency finance are subjected to the major problems to be solved. These, with the pertinent suggestions offered for individual agency evaluation, make the study of primary concern to persons actively concerned with social work involving health. There is no bibliography.

HANLON JOHN J
Principles of public health administration. With 47 illustrations. Second edition. St. Louis The C. V. Mosby Company 1955 693 p. illus. 25 cm. $8.50. 4474

Contents (abridged): Part I, Introduction. Philosophy of public health. Background and development of public health in the United States. Economic justification of public health activities. Sociological aspects of public health. Part II, Administrative considerations in public health: Organizational considerations in public health. Personnel factors in public health. Governmental aspects of public health. Public relations in the public health program. Part III, Pattern of public health activities in the United States: Present organization of official public health programs. Vital statistics. Laboratory services. Health education. Environmental health. The control of communicable diseases. Public health nursing. Maternal and child health activities. Chronic diseases and adult health. Public health nutrition. Occupational health and private enterprise. Accidents, a public health problem. Rehabilitation. Public health dentistry. Mental health. Voluntary health agencies. Part IV, Public health activities on the international level. World health problems. International health programs, their growth and activities. Author index. Subject index.

Note: An established textbook for college students and college graduates who are preparing for careers for administrative positions in the public health field. The subject is covered both broadly and specifically against the background of the current public health structure in the United States of America. Three chapters are devoted to a worldwide view of public health needs, activities and organizations. The material is organized in four parts, of which selected number are all titles are given, and 31 chapters, of which . . . as published in 1950. In the second edition, the length of the book has been increased by almost 200 pages. Most of the revision has consisted of adding material including the entire fourth part. However, some data have been revised, and references have been made to some literature published since the first edition was written.

HARDY MARTHA CRUMPTON AND CAROLYN H. HOEFER
Healthy growth a study of the influence of health education on growth and development of school children. Chicago The University of Chicago Press 1936 360 p. illus. 23 cm. $6.00. 4475

Contents (abridged): Introduction. Selection and comparison of the groups. Medical examinations. Physical growth and development. Mental growth. Educational achievement. School progress and success. Interests and attitudes. Behavior adjustment. Some influences of a health-education program during the elementary-school years. An appraisal of health of school children. The role of health in development during late childhood.

Note: Report of a study of 409 elementary-school pupils in Joliet, Illinois, during an 11-year period. Yearly records were kept on health, growth, accomplishment, habits, and social development as the children progressed from the third grade to the junior high school, and are here interpreted and summarized. The book won the 1939 award of the American Educational Research Association for outstanding research in the field of special methods and psychology of elementary-school subjects.

HEALTH YEARBOOK, 1954 Compiled by Oliver P. Byrd. Stanford Stanford University Press, 1955 325 p. 24 cm. $4.50. 4476

Contents: Health as a social accomplishment. Health as a social problem. Nutrition and health. Exercise and health. Exercise and body mechanics. Fatigue and rest. Mental health and disease. Heredity and eugenics. Infection and immunity. Chronic and degenerative disorders. Habit-forming substances. The care of special organs. Safety. Health and the physical environment. Health services and facilities. Family health. School health. Occupational health. Community health services. International health. Trends and predictions. Bibliography. Alphabetical list of sources. Author index. Subject index.

—— 1955 Compiled by Oliver P. Byrd. Stanford Stanford University Press, 1956. 339 p. 24 cm. $4.50. 4477

Contents. Health as a social accomplishment. Health as a social problem. Nutrition and health. Physical fitness. Mental health and disease. Heredity and eugenics. Infection and immunity. Chronic and degenerative disorders. Habit-forming substances. Sight, hearing, and speech. Dental health. Health and the physical environment. Health services and facilities. Family health. School health. Occupational health. Community health services. International health. Trends and possibilities. Bibliography. Alphabetical list of sources. Author index. Subject index.

Note. An annual series published since 1943. From the first volume in the series through the one for 1952 the title was *Health instruction yearbook.* Each of the annual volumes presents abstracts of a "statistical sample" of current health literature. The abstracts are classified under the headings given in the above contents and are written in a style that is easy to read. In later volumes in the series at least, they average more than one page in length. References to the source articles are given. Usually the headings under which the abstracts are classified are the same from year to year. However, there are some differences between the 1955 and 1956 volumes as noted above. Although the chapter headings are essentially the same, the material presented in them is new with each issue. In short, no abstract is repeated. The 1955 volume contains 261 abstracts, a typical number.

HISCOCK, IRA VAUGHAN

Community health organization. Fourth edition. Cambridge, Mass. Harvard University Press, 1950. 278 p. illus. 24 cm. $2.75 4478

Contents. The government and public health. The planning of community health work. Organization and administration. Public health education. Statistics and records. Preventable disease control; epidemiology. Venereal disease control. Tuberculosis control. The maternal and child health program. The school health program. Public health nursing. Environmental sanitation. Laboratory service. Hospital and health center facilities. Newer health problems. Medical care administration in relation to public health. Voluntary health service. The health survey. Financial aspects of community health work. Index.

Note. A standard work on community health services and organization. In comparison to the edition of 1939, many of the chapters have been rewritten, and new material has been added in order to furnish health officers, nurses, and teachers of public health with up-to-date practices for the protection and promotion of public health. The work is practical rather than theoretical, being based upon surveys of health administration in cities of varying sizes. The work may be used as a handbook by the health administrator and his staff, as an instruction manual for the training of health personnel, and also as a source of information for the layman interested in the health work of official and voluntary agencies.

HISCOCK, IRA VAUGHAN

Ways to community health education, with the collaboration of Mary P. Connolly, Marjorie Delavan, Raymond S. Patterson and William H. F. Warthen. Cambridge, Mass. Harvard University Press, 1939. 306 p. illus. (part col'd) 24 cm. $3.00 4479

Contents. Introduction. The basis for public health education. Participation of community groups. Meetings. The newspaper. Printed matter. The radio. Exhibits. Motion pictures. Some aids on the job. Promoting sanitation and safety. A campaign against an acute infectious disease: diphtheria. Campaigning against tuberculosis and syphilis. Teaching people how to live. Sources of material for public health education. Suggestions for the purchasing of printing. A pioneer health education leaflet: "Contagious consumption." A city health education program. Index.

Note. Techniques and devices which have proved effective in building community-wide understanding of health problems and stimulating individuals and groups of citizens to effort for their own and the community's health are discussed in this book. The author has had the collaboration of leaders in the field who have pooled their ideas on the objectives and principles of health education. The book is profusely illustrated with materials used successfully by official and voluntary agencies in different sections of the country, rural and urban.

JOINT COMMITTEE ON HEALTH PROBLEMS IN EDUCATION OF THE NATIONAL EDUCATION ASSOCIATION AND THE AMERICAN MEDICAL ASSOCIATION

Health education: a guide for teachers and a text for teacher education. Edited by Charles C. Wilson. Fourth edition, completely rewritten. Washington, D. C. National Education Association of the United States, 1948. 413 p. illus. 24 cm. $3.00 4480

Contents (abridged). Educating children for health. Health problems—past, present, and future. Solving school and community health problems. Healthful school living. Health education through health service. The psychology of teaching health. Health education in the elementary school. Secondary school health education. Health education of college students, prospective teachers and health educators. Adult health education. Evaluation in health education. Health education in action. Appendices. Index.

Note. In this volume leaders in the fields of education, medicine, and public health have collaborated to present the best in modern viewpoints concerning the responsibilities and opportunities in health education. Particular attention is given to those health problems which affect children and the discussions center about the means in which child knowledge and attitudes to health may be influenced by healthful living at school and by proper contact with health authorities. The book is designed primarily for use by teachers, physicians, and nurses, and each chapter includes questions for class discussion, suggestions for supplementary activity, and a brief bibliography. A thorough revision of the earlier editions.

MATHESON, ROBERT

Medical entomology. Second edition. Ithaca, Comstock Publishing Company, Inc., 1950. 612 p. illus. 24 cm. $7.50 4481

Contents (abridged). Arthropods and human disease. The order Acarina. The Hexapoda. The orders Orthoptera and Hemiptera. The order Anoplura—the biting and sucking lice. The Diptera—flies. Mosquitoes. The problem of mosquito control. Other bloodsucking nemocerous flies. The bloodsucking muscoid flies. The housefly and its allies. Myiasis in man and allied conditions. The Siphonaptera—fleas. Poisonous and urticating arthropods. Collecting, preserving, and mounting insects. Index.

Note. A survey which serves both as an introductory text for college students of medicine and public health and as a reference guide for graduate workers in the field. It is arranged by order and much morphological information is included. However, more attention is given to life cycles rather than the transmission of human diseases and their control. The extensive bibliographies contain largely literature on the medical and public health aspects, but the chief systematic descriptions are listed also. The first edition was published in 1932. This edition is a complete revision in which are incorporated the major advances in the field during World War II and the subsequent years. There are now 242 figures, of which 43 were added in this revision.

MAXCY, KENNETH F., editor

Rosenau preventive medicine and public health. With 27 contributing authors. Eighth edition. New York, Appleton-Century-Crofts, Inc., 1956. 1,465 p. illus. (part col'd) 25 cm. $15.00 4482

Contents. Section I, Prevention of communicable diseases. Contagious diseases spread largely from the mouth and nose. Air-borne infection, by A. D. Langmuir. Contagious diseases spread largely through fecal discharges. Contagious diseases spread by genital contact, by E. G. Clark. Contagious diseases unclassified as to principal mode of spread. Arthropod-borne diseases. Control of arthropod vectors and infestations, by L. E. Rozeboom. Control of rats and other rodents, by D. E. Davis. Diseases spread largely by contact with animal or other extrahuman sources. Section II. Nutrition and deficiency diseases, by W. H. Sebrell, Jr. General considerations of food elements. Malnutrition. Normal nutritional requirements. Nutrition in preventive medicine. Section III, Maintenance of health and prevention of disability. Historical development of maternal and child health, by P. A. Harper. Maternal health services, by J. Whitridge, Jr. Infant and preschool

by P. A. Harper. Health services for children of school age, by A. Frank. Services for the physically handicapped child, by E. Dorman. Economic, chronic disease and disability in adults, by L. Breslow. Mental hygiene, by P. V. Lemkau. Section IV. Food L. Breslow. Mental hygiene, by P. V. Lemkau. Section IV. Food sanitation. Food infections and their prevention. Milk and milk products. Meat, fish, eggs and plants. Food establishment sanitation, by W. Tiedeman. Section [illegible] Environmental medicine, by A. M. Baetjer. Temperature. Radiation. The effects of high and low barometric pressures. Noise. Atmospheric pollution. Ventilation. Section VI. Industrial hygiene. Diseases of occupation, by A. M. Baetjer. Introduction. Occupational diseases. General health of the working population. Work and fatigue. The promotion and regulation of industrial medicine and hygiene. Section VII. Sanitary control of water supplies, sewage and refuse disposal. Water, by E. W. Moore. Sanitary analysis of water, by E. W. Moore. Interpretation of sanitary water analysis, by E. W. Moore. The purification of water, by E. W. Moore. Water and its relation to disease, by E. W. Moore. Sewage, by G. M. Fair. Refuse disposal, by G. M. Fair. Section VIII. Methodology. Epidemiology. Statistical measures, by P. M. Densen. The health of the population, by P. M. Densen. Section IX. Public health organization and activities, by E. L. Stebbins. National health services. National health services in the United States. The provincial or state health organization. Local health services. International health organization. The voluntary health organization. Index.

Note: This cyclopedic work has long been recognized as standard, authoritative presentation for the instruction of students of medicine and public health, and the guidance of graduate practitioners in these fields. It provides an authoritative and comprehensive view of the field and includes some historical and statistical information. The original author was Dr. Milton J. Rosenau, and the first edition appeared in 1913. The seventh edition under the same editorship as the present one appeared in 1951. It was an extensive revision of the former text, and this eighth edition in turn is an extensive revision of the seventh with many changes in the text, the statistical data, and literature references.

Meyer, Karl F

The zoonoses in their relation to rural health. Berkeley and Los Angeles University of California Press 1955 49 p. illus. 23 cm. $1.00. 4483

Contents: Introduction. Persistence of zoonoses and the tendency of [illegible]. Major zoonoses. Zoonoses of increased importance. Organization of the control of zoonoses. Veterinarians and sanitary engineers in rural public health work. References.

Note: Published in this large pamphlet is a paper first presented at the Seventh General Assembly of the World Health Organization in May 1954. It deals with the public health aspects in rural areas of infections of animals which are incidentally contagious to man—such diseases as anthrax, brucellosis, leptospirosis, plague, [illegible], bovine tuberculosis, psittacosis, and jungle yellow fever. It outlines the public health significance of these diseases and others, and makes definite recommendations for the organization and administration of public health work for their prevention and control.

Milbank Memorial Fund

Research in public health papers presented at the 1951 annual conference of the Milbank Memorial Fund. New York Milbank Memorial Fund, 1952 279 p. illus. 23 cm. $1.00. 4484

Contents (abridged): Part [illegible] *Types of studies and methodology.* Role of basic research in elucidating etiology and prevention of major causes of disability and death, by L. A. Scheele. The longitudinal study of families as a method of research, by J. Downes. Ecological investigation of disease, by J. E. Gordon. Experimental studies of effects of changing environment, by D. G. Whal[illegible]. Evaluation of preventive health services in industry by L. J. Goldwater. Evaluation of special tests and procedures in public health, by H. F. Dorn. Research in public health administration, by E. L. Stebbins. Part II, *Family studies as a method of public health research.* A frame of reference for family research in problems of medical care, by L. W. Simmons. Longitudinal study of the health experience plan of greater New York, by N. R. Deardorff. The Cherokee Indians survey by F. W. Jackson. Family study of poliomyelitis, by A. D. Langmuir and others. Family studies of the common respiratory diseases, by G. F. Badger. Family studies in Pittsburgh, Pennsylvania, by A. Ciocco. The long-term study at Hagerstown, Maryland, by P. S. Lawrence.

Note: In this collection of original papers the main theme is the need for research that will develop knowledge upon which public health programs for the prevention and care of adult diseases, especially the chronic and degenerative diseases, may be based. Research methods are discussed, and some notable research studies are described. Transcripts of the discussion at the conference are included with most of the papers.

Mott Frederick Dodge, and Milton I Roemer

Rural health and medical care. New York McGraw Hill Book Company Inc., 1948. 608 p. illus. 24 cm. (McGraw Hill series in health science Amos Christie, consulting editor) $9.00 4485

Contents (abridged): Part I, Rural America. The population. The economy. Part II, Present-day levels and trends of rural health. Deaths and their causes. The burden of sickness. Diseases of rural life. Part III, Rural doctors and other health personnel. Part IV, Rural health facilities: General and allied hospitals. Mental and tuberculosis hospitals. *Auxiliary health facilities. Facilities for environmental sanitation.* Part [illegible] Medical services and expenditures. Part VI, Governmental efforts to improve rural health. Public health services. Special governmental programs affecting medical care. Rural health activities of the Department of Agriculture. Part VII, Voluntary health programs. Tackling the payment problem. Improving rural health resources. Part VIII, The road ahead: General social measures. Payment for medical care. Rural health facilities. Medical service of high quality. Public health organization. Name index. Subject index.

Note: A comprehensive, authoritative study of medical and health facilities in the rural areas of the United States of America. The inadequacies of these facilities are shown and are related to the economic background. The very serious shortage of physicians, dentists, and nurses is examined in detail and the reasons for it are analyzed. In the final parts of the book the authors argue for rural health service supported by the Federal Government under a program for national health insurance, but they also point out remedial measures which can be taken short of such a national scheme. The book is based on [illegible] literature review and original sources are cited freely in footnotes.

Mullett Charles F

The bubonic plague and England an essay in the history of preventive medicine. Lexington University of Kentucky Press, 1956 401 p. 24 cm. $9.00 4486

Contents: The plague in its historical setting. The Black Death and its aftermath. The first half of the sixteenth century. The reign of Elizabeth—first half, 1558–1580. The last two decades of Elizabeth. The plague of 1603 and its aftermath. The course of the plague, 1625–1633. Plague, war, and famine, 1634–1664. London's last dreadful visitation. The plague of 1665 in literature. England without plague, 1665–1720. The late dreadful plague at Marseilles. England and the plague, 1723–1815. Contagion vs. anticontagion, 1815–1825. Since 1825—new facts and old factors. Appendices. Index.

Note: A scholarly study based on a wide review of source literature. The various methods that were proposed or employed to control the epidemics of plague are a primary theme. However, the author has also included much on the social effects of the plague. The source literature is scrupulously cited. The index is a fully detailed one with many references under such headings as "Physicians," "Prevention," and "Quarantine."

Mustard Harry Stoll

Government in public health. Cambridge, Mass. Harvard University Press, 1945 233 p 21 cm. (New York Academy of Medicine. Committee on Medicine and the Changing Order Studies) $1.50. 4487

Contents: Preface, by J. A. Miller. The nature of the document. Acknowledgments. Certain preliminary considerations. Federal health services. State health departments. Local health departments. Adventures of government in public health programs. A summary of trends and [illegible] considerations of certain needs. Appendix: Two historical documents. Index.

Note. In this work the development of public health service in the *United States* is reviewed from the social and governmental standpoints. Much of the book deals with contemporary public health services and with the potential future developments.

MUSTARD, HARRY STOLL

An introduction to public health. Third edition. New York The Macmillan Company, 1953 315 p 24 cm $4 50 4488

Contents The backgrounds and associations of public health work. Vital statistics. Organization and administration of public health work. Health education and related activities. The acute communicable diseases. Tuberculosis as a public health problem. The venereal diseases. Mental health. Sanitation and industrial hygiene. The individual and his hygiene. Childbearing and its relation to the public health. The hygiene of infancy and young childhood. School health service. Public health aspects of certain noncommunicable diseases. Medical care. Index.

Note. A standard, widely used introduction to public health principles and practices. It serves primarily as a textbook in schools of nursing, social work, teachers colleges, liberal arts colleges, etc. It is concisely written in a lucid, factual style. The first edition was published in 1935 and the second edition in 1944. Comparing this third edition to the second, there is a new chapter on health education and one on mental health. Numerous revisions have been made in chapters carried over from the second edition.

NEW YORK ACADEMY OF MEDICINE. INSTITUTE ON PUBLIC HEALTH, 1947

Ecology of health Edited by E H. L Corwin Cambridge, Mass Harvard University Press, 1949 196 p 21 cm. $2 50 4489

Contents. Genetics and the public health. Maternal health and nutrition—a problem in preventive medicine Animal and insect reservoirs of disease. Climate, geography and disease. Realities in preventive psychiatry Trends in state and local health service. The hospital survey and construction act and a nation-wide health program, by H. Emerson The preparation of professional workers in the field of public health, by C. E. A. Winslow Education of the layman in health responsibilities, by F Bobbitt. Index.

Note Except for the three chapters for which particular authors are indicated in the above table of contents, the chapters of this book consist of facts and ideas gathered from various papers and discussions that occurred at the Institute. These composite chapters are described in the book's foreword as *distillates* of the discussions. The book as a whole presents a synthesis of thought in the United States of America on the aspects of public health named in the chapter titles. The presentation is largely nontechnical hence, the book may be read by anyone with serious interest in the field. The chapters are supplemented by selected lists of references.

NYSWANDER, DOROTHY BIRD

Solving school health problems, the Astoria demonstration study, sponsored by the Department of Health and the Board of Education of New York City Dorothy B Nyswander director of the study Cambridge Mass. Harvard University Press 1942 377 p. illus. 23 cm. $2 00 4490

Contents Problems of administration. Plan of the Astoria study The school physician and his job. Findings and follow-up for the entering group and the specially referred group. Teacher participation. Educational opportunities of the nurse. Daily tasks of the school nurse. Referrals by the teacher as part of the nurse's case load. Keeping school medical records alive. Testing visual acuity Testing for loss of hearing. Obtaining dental care. Care of the cardiac child. Private physicians and the school health program. Ventures in staff education. Serving the school child. Appendix. Publications relative to the Astoria school health study Index.

Note. The Astoria demonstration study was set up under the auspices of the Department of Health and the Board of Education of New York City aided by the American Child Health Association, the Milbank Memorial Fund, the Metropolitan Life Insurance Company the United States Children's Bureau, and the New York State Department of Health to find how within available means, the best health service could be given to children. Out of this experimental study has come a more effective program throughout which emphasis is placed upon the educational aspect. A simplified record system makes complete information about each child available to school physician, nurse, and teacher, enabling them to co-operate in giving the best health service.

SIMMONS, JAMES STEVENS, AND OTHERS

Global epidemiology, a geography of disease and sanitation. By James Stevens Simmons, Tom F Whayne, Gaylord West Anderson, Harold Maclachlan Horack and collaborators. Philadelphia J B Lippincott Company, 1944–54 3 v illus. 26 cm. vol. I, $10 00, vol. II, $15 00, vol. III, $12.00. 4491

Contents (abridged) Volume I, Part I, India and the Far East: Burma. Ceylon. China. Formosa. French Indo-China. India. Japan. Korea. British Malaya. Nampo Islands and Ryukyu Islands. Part II. The Pacific area: Australia. Cook Islands and Niue Island. Easter Island. Fiji Islands. French Oceania. Gilbert, Ellice, Ocean and Nauru Islands. Guam. Territory of Hawaii. Japanese mandated Islands. Johnston Island and Northern Line Islands. Netherlands East Indies. New Caledonia. New Hebrides. New Zealand. North Borneo, Sarawak and Brunei. Papua and New Guinea and the Bismarck Archipelago. Philippine Islands. Phoenix Islands. Pitcairn Island. Samoa Islands. British Solomon Islands. Tokelau or Union Islands. Tonga or Friendly Islands. Map showing world distribution of the principal tropical diseases. Index. Volume II. Section one, The Nile Valley: Egypt. Anglo-Egyptian Sudan. Section two, The Ethiopian Highlands: Eritrea. Ethiopia. British Somaliland. French Somaliland. Somalia. Section three East Africa. Kenya, Uganda. Tanganyika. Nyasaland. Northern Rhodesia. Southern Rhodesia. Mozambique. Section four The Islands of the Indian Ocean. Zanzibar protectorate. Madagascar and the Comoro Archipelago. Mauritius. Réunion. Section five, South Africa: Union of South Africa. South West Africa. The High Commission Territories of South Africa. Bechuanaland Protectorate. Swaziland. Section six, Equatorial Africa: Angola, Belgian Congo. Ruanda-Urundi. French Equatorial Africa. Spanish Guinea (Rio Muni and Fernando Póo) Cameroons—French—British. São Tomé and Principe. Section seven, West Africa: Nigeria. Gold Coast. Togoland—French—British. Liberia. Sierra Leone. Portuguese Guinea. The Gambia. French West Africa. Cape Verde Islands. Section eight, Northern Africa: Canary Islands. Spanish Sahara and Ifni. Morocco. Spanish Morocco. Tangier. Algeria. Tunisia. Libya. Appendix. Maps showing distribution of the principal tropical diseases. Health hints for the tropics. Bibliography. Index. Volume III. The Near and Middle East: Section one, The Near East: Cyprus. Iraq. Israel. The Hashemite Kingdom of the Jordan. Lebanon. Syria. Section two, Approaches to Eastern Asia and Europe: Afghanistan. Iran. Turkey. Section three, The Arabian Peninsula: Aden Colony and Protectorate. Bahrein. Kuwait. Muscat and Oman. Qatar. Saudi Arabia. Trucial Oman. Yemen. Appendix. Index.

Note. In this important survey of medical, health, and sanitary conditions throughout the world, information and statistical data are furnished under sub-heads such as the following for each of the geographical areas mentioned in the contents: Geography and climate Population and socio-economic conditions Environment and sanitation—water supply—waste disposal Fauna and flora; food sanitation Health services and medical facilities—health organizations Mental institutions, Personnel Diseases—diseases spread by contact chiefly through intestinal or urinary tract—diseases spread chiefly through respiratory tract—diseases spread chiefly through contact—diseases spread by arthropods—additional diseases. Finally, for each of the areas, there is a general summary and a bibliography. The first volume in the series was based on surveys made during World War II by the Medical Intelligence Division of the Preventive Medicine Service in the Office of the Surgeon General. The subsequent volumes have been based in part on these surveys and in part on a variety of other sources including official publications of local governments, scientific papers in journals and data obtained through correspondence and visits to some of the countries. Alida Thomas is an associate author of volumes two and three.

SINAI, NATHAN, AND OTHERS

Health insurance in the United States, by Nathan Sinai, Odin W Anderson and Melvin L. Dollar Cambridge Mass. Harvard University Press, 1946 115 p. 22 cm. $1.50 4492

Medicine

Public Health

Contents: Preface, by G. Baehr. Introduction. The health insurance movement during three periods. Attitudes of professional, government, and lay groups. Enabling legislation for voluntary plans. Characteristic features of voluntary plans. Problems before voluntary plans. The health insurance movement continues. References. Index.

Note: One of series of monographs prepared under the auspices of the New York Academy of Medicine. It traces the development of the movement of medical or health insurance from the beginning of the movement about 1915 up to 1944. It describes the basic features of Blue Cross and similar plans sponsored by hospitals and medical societies and outlines the problems involved in the administration of such plans. A five-page bibliography is included.

SMILEY DEAN FRANKLIN, AND ADRIAN GORDON GOULD

Your community's health. A revision of *Community hygiene.* New York The Macmillan Company 1952 454 p. illus. 22 cm. $5.50. 4493

Contents (abridged) Section I, A record of progress. Section II, Controlling health hazards in our environment. Combating infection. Controlling sources of infection in the from person to person. Controlling insect-borne diseases. Making indoor and outdoor air safer. The health significance of soil. A sanitary water supply. The communities' interest in housing. Food and restaurant sanitation. Section III, The community attack on specific diseases and disorders: Community problems in mental hygiene. Community problems in sex hygiene. The care of the chronically ill. Section IV, Meeting the needs of specific population groups: Health protection in infancy, childhood, and maternity. Better medical facilities for rural dwellers. Protecting the health of our urban dwellers. Making old age happier. Section V, Agencies for improving health and welfare: Your doctors, dentists, nurses, and hospitals. Your public health agencies. The drug industry. Your social and welfare agencies. Your community recreational agencies. A look ahead. Suggested list of sources of motion pictures on selected health subjects. Index.

Note: A textbook written at the college level, but organized so that it is useful also as an elementary reference book in public libraries, etc. The viewpoint is that of the educated citizen interested in public health rather than of students who are preparing to make their careers in this field. Contemporary problems in the United States of America and techniques useful in solving them are covered in lucid style. Selected references to professional literature are provided in the form of footnotes, and lists of suggested reading useful to the nonspecialist are given at the ends of chapters. The preceding edition was published in 1941. Extensive revision was made throughout the text in preparing this edition.

SMILLIE, WILSON GEORGE

Preventive medicine and public health. Second edition. New York The Macmillan Company 1952 603 p illus. 24 cm. $7.50 4494

Contents (abridged) Section I, Introduction. Population trends and the public health. Vital statistics. Section II, Environmental sanitation. Water supplies and swimming-pool sanitation. Excreta disposal. Vermin and their control. Food inspection. Diseases transmitted through food other than milk and milk products (food poisoning). Housing and its relation to health. Section III, Communicable disease control. Epidemiology. Control of the communicable diseases of childhood. Control of acute respiratory infections. Control of enteric infections. Control of tuberculosis and leprosy. Venereal diseases. Section IV, Child hygiene. Section V, Adult health protection and promotion. Mental hygiene. Malnutrition and its prevention. Industrial hygiene. Geriatrics. Section VI, Public health administration. Administration of local health services. Rural health administration. National health services. Voluntary health activities. The public health nurse. Medical social work. A nation-wide medical care program. Index.

Note. An outstanding text for use in schools of medicine. The author has stressed the fact that it is not designed for public health personnel. The major thesis is that the main obligation of the physician is to keep all people well not only by means of his contacts with patients but also by promotion of family and community health. Much attention is given to the social and economic factors involved in the maintenance of health. However there is also considerable information on specific clinical techniques. The present edition represents very substantial revision with added material on premature babies, child health in general, accident prevention, health protection of the young adults and many other topics. The references to literature have been revised.

SMILLIE, WILSON GEORGE

Public health administration in the United States. Third edition. New York The Macmillan Company 1947 637 p. illus. 24 cm. $7.00. 4495

Contents (abridged) Part I, Functions of health organization. Development of public health administration in the United States. Part II, Administrative control of communicable diseases: Administrative methods in control of diphtheria. Other communicable diseases of childhood. Administrative control of typhoid fever and allied diseases. Administrative methods in control of tuberculosis. Venereal disease control. Acute respiratory infections. Administrative control of smallpox. Malaria. Rabies. Poliomyelitis. Meningococcus meningitis. Intestinal parasites. Part III, Basic activities of health organization: Vital statistics. Epidemiology. The public health laboratory. Public health nursing. Sanitation and sanitary inspection. Public health education. Mental hygiene. Industrial hygiene. Child hygiene. Nutrition. Adult hygiene. Part IV, Organization of public health programs: Municipal health administration. Rural health administration. State health administration. Health administration in the Federal government. Voluntary health organizations. The practicing physician and the public health department. Training of public health personnel. Budgets and budget making. The national health program. Appendix. Index.

Note: A comprehensive treatment of public health techniques and activities. It is used both as textbook in schools of public health and as reference book of information on standard and current methods. This edition has been extensively revised to incorporate knowledge and techniques developed since 1940. The new material includes information on recent developments in the control of communicable diseases, the antibiotics, new procedures in sanitation, and recent contributions to such fields as nutrition and geriatrics. The appendix contains the standard minimum qualifications for key public health positions that have been set by the Committee on Professional Education of the American Public Health Association.

SMILLIE, WILSON GEORGE

Public health, its promise for the future a chronicle of the development of public health in the United States, 1607–1914 New York The Macmillan Company 1955 501 p. illus. 23 cm. $7.00. 4496

Contents (abridged) Section I, The Colonial period, 1600–1790: Colonial conceptions of public health. Communicable diseases during the colonial period. Medical care, medicine, curative and preventive, among the Indians. Section II, The pioneer period, 1790–1861: The period of great epidemics. Asiatic cholera. A story of malaria. General sanitation. Industrial hygiene—colonial days to the twentieth century. The diet of the early American. The medical care of slaves. An early prepayment plan for medical care—the Thomsonian system of botanical medicine. Child health. Mental health promotion. The American Medical Association—the pioneer days. Sanitary surveys. Section III, The period of development—the Civil War to World War I: The United States Sanitary Commission in the Civil War. City health departments. The American Public Health Association. State health departments. The National Board of Health, 1879–1883. Environmental sanitation—its development during the 19th century. Epidemiology and communicable disease control—from the Civil War through the end of the 19th century. Health education. Public health nursing. Infant hygiene. Voluntary health agencies. The development of federal health services. Appendix: The great pioneers of public health in America, 1610–1911. Proper-name index. Subject index.

Note: A well-documented history of the development of public health in the United States of America. In dealing with the early years, the story is primarily one of the lack of public health, or of public health efforts based on false premises. The gradual evolution of sound methods and of laws and organization to put them into effect is covered in considerable detail with frequent mentions of persons, organizations, and publications. Aspects such as the medical care of slaves and American Indians are covered as well as the more expected topics. The author's sources are cited in footnotes throughout the volume, and the names of the numerous individuals mentioned are brought together in the proper name index. Essentially reference book, nevertheless there are many passages that merit reading by anyone who is interested in the development of public health, or in the health aspects of civilization in the United States of America from colonial days to 1914.

Note In this work the development of public health service in the United States is reviewed from the social and governmental standpoints. Much of the book deals with contemporary public health services and with the potential future developments.

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NYSWANDER, DOROTHY BIRD

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SIMMONS, JAMES STEVENS, AND OTHERS

Global epidemiology, a geography of disease and sanitation By James Stevens Simmons, Tom F Whayne, Gaylord West Anderson, Harold Maclachlan Horack, and collaborators Philadelphia J B Lippincott Company, 1944–54 3 v illus. 26 cm vol. I, $10 00, vol. II, $15 00, vol. III, $12 00 4491

Contents (abridged): Volume I, Part I, India and the Far East: Burma. Ceylon. China. Formosa. French Indo-China. India. Japan. Korea. British Malaya. Nanpo Islands and Ryukyu Islands. *Part II, The Pacific area:* Australia. Cook Islands and Niue Island. Easter Island. Fiji Islands. French Oceania. Gilbert, Ellice, Ocean and Nauru Islands. Guam. Territory of Hawaii. Japanese mandated islands. Johnston Island and Northern Line Islands. Netherlands East Indies. New Caledonia. New Hebrides. New Zealand. North Borneo, Sarawak and Brunei. Papua and New Guinea and the Bismarck Archipelago. Philippine Islands. Phoenix Islands. Pitcairn Island. Samoa Islands. British Solomon Islands. Tokelau or Union Islands. Tonga or Friendly Islands. Map showing world distribution of the principal tropical diseases. Index. *Volume II. Section one, The Nile Valley* Egypt. Anglo-Egyptian Sudan. *Section two, The Ethiopian Highlands:* Eritrea. Ethiopia. British Somaliland. French Somaliland. Somalia. *Section three, East Africa:* Kenya, Uganda. Tanganyika. Nyasaland. Northern Rhodesia. Southern Rhodesia. Mozambique. *Section four, The Islands of the Indian Ocean:* Zanzibar protectorate. Madagascar and the Comoros Archipelago. Mauritius. Réunion. *Section five, South Africa:* Union of South Africa. South West Africa. The High Commission Territories of South Africa. Bechuanaland Protectorate. Swaziland. *Section six, Equatorial Africa:* Angola. Belgian Congo. Ruanda-Urundi. French Equatorial Africa. Spanish Guinea (Rio Muni and Fernando Póo) Cameroons —French—British. São Tomé and Príncipe. *Section seven, West Africa:* Nigeria. Gold Coast. Togoland—French—British. Liberia. Sierra Leone. Portuguese Guinea. The Gambia. French West Africa. Cape Verde Islands. *Section eight, Northern Africa:* Canary Islands. Spanish Sahara and Ifni. Morocco. Spanish Morocco. Tangier. Algeria. Tunisia. Libya. Appendix Maps showing distribution of the principal tropical diseases. Health hints for the tropics. Bibliography Index. *Volume III. The Near and Middle East Section one, The Near East:* Cyprus. Iraq. Israel. The Hashemite Kingdom of the Jordan. Lebanon. Syria. *Section two, Approaches to Eastern Asia and Europe* Afghanistan. Iran. Turkey *Section three, The Arabian Peninsula* Aden Colony and Protectorate. Bahrein. Kuwait. Muscat and Oman. Qatar Saudi Arabia. Trucial Oman. Yemen. Appendix. Index.

Note. In this important survey of medical, health, and sanitary conditions throughout the world, information and statistical data are furnished under sub-heads such as the following for each of the geographical areas mentioned in the contents Geography and climate Population and socio-economic conditions, Environment and sanitation—water supply—waste disposal Fauna and flora, Food sanitation Health services and medical facilities—health organizations Mental institutions Personnel Diseases—diseases spread or contracted chiefly through intestinal or urinary tract—diseases spread chiefly through respiratory tract—diseases spread chiefly through contact—diseases spread by arthropods—nutritional diseases. Finally for each of the areas, there is general summary and a bibliography The first volume in the series was based on surveys made during World War II by the Medical Intelligence Division of the Preventive Medicine Service in the Office of the Surgeon General. The subsequent volumes ha been based in part on these surveys and in part on variety of other sources including official publications of local governments, scientific papers in journals and data obtained through correspondence and visits to some of the countries. Ruth Alida Thomas is an associate author of volumes tw and three.

SINAI, NATHAN, AND OTHERS

Health insurance in the United States by Nathan Sinai, Odin W Anderson and Melvin L. Dollar Cambridge Mass. Harvard University Press, 1946 115 p. 22 cm. $1.50. 4492

[illegible] liquids, by J. L. York. Condensation techniques for dust detection and collection, by J. L. Talbott and A. Roslova. Role of activated carbon in practical control of atmospheric contamination, by A. B. Ray. Theory and basic principles of the [illegible] flocculator, by M. W. R. Clar. The place of tall stacks in air pollution control, by G. R. Hill. Design and use of smokeless hand-fired residential coal-burning equipment, by J. R. Garvey. Abatement of dust from power plant stacks, by O. Cruz. Part iv. Health panel: Skin effects of air pollutants, by M. B. Sulzberger. Effects of prolonged exposure to air pollutants, by R. A. Kehoe. Effects of industry emissions in air pollution, by A. Wolman. Effect of loss of sunlight on human health, by H. F. Blum. Respiratory tract allergic effects from chemical air pollution, by F. W. Wittich. Part v. Instrumentation panel. Atmospheric sampling by electrostatic precipitation, by E. C. Barnes. Direct photography of aerosol suspensions, by A. L. Cheney. The preparation, collection, and measurement of aerosols, by V. K. LaMer. New developments in instrumentation for air pollution studies, by C. Brunelli and others. A recording visibility meter, by A. L. Cheney. Part vi. Legislation panel. Problems in the drafting and administration of air pollution control legislation, by A. C. Stern. The legal aspects of the California air pollution control act, by H. W. Kennedy. The St. Louis code and its operation, by R. R. Tucker. Part vii. Meteorology panel. Meteorological aspects of atmospheric pollution, by E. W. Hewson. The problem of dispersion of hot gases in the atmosphere, by O. G. Sutton. The diffusion problem in hilly terrain, by I. Z. Holland. The application of meteorological control to atmospheric pollution problems, by M. E. Smith. Index.

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SMITH, GEDDES

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Medical services by government local state, and federal. Cambridge Mass. Harvard University Press 1946 222 p 21 cm. (New York Academy of Medicine Committee on Medicine and the Changing Order Studies) $1 50 4499

Contents. Preface, by W G. Smillie. Introduction. Medical services for the indigent by local government social and historical backgrounds. Medical services by local government recent developments. Medical services by state government. Expenditures for medical services by state and local governments. The nature and extent of hospital services by government. Federal grants-in-aid for medical care. Medical services by the federal government. Appendix. Statistical data relative to hospital service. Index.

Note. The sixth in a series of monograph studies. The author traces the growth of government responsibility for public health, and surveys the medical services administered or controlled by governmental agencies. The volume is well documented, and is intended as a source of information for those who are concerned with the subject of medical care in the United States of America.

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SYMPOSIUM ON NUTRITION FRONTS IN PUBLIC HEALTH

Nutrition fronts in public health, proceedings of the Nutrition Symposium held at Yale University, November 10, 1950 New York The National Vitamin Foundation, Incorporated, 1951 168 p illus. 23 cm. $1 50 4501

Contents (abridged) Nutrition and maternal health, by I. G. Macy Factors conditioning the development of malnutrition, by B H. Ershoff. Nutrition as factor in aging, by C. M. McCay Influence of nutrition on work performance, by E. Simonson. Nutrition and resistance—susceptibility to infection, by H. A. Schneider Nutritional factors and hormones in stress reactions, by L. T Samuels.

Note. This volume contains the original papers which were presented at a symposium attended by professional workers in the fields of nutrition research and public health. The public health aspect is stressed in all of them. Bibliographies and transcripts of discussions are included.

UNITED STATES TECHNICAL CONFERENCE ON AIR POLLUTION

Air pollution Sponsored by the Interdepartmental Committee on Air Pollution, Louis C McCabe chairman. New York McGraw Hill Book Company Inc., 1952 847 p. illus. 26 cm. $12 50 4502

Contents (abridged) Part I, Agriculture panel Air pollution in relation to economics, by V W Johnson. Some impurities in the air and their effects on plants, by M. D Thomas and others. Similarities between disease symptoms and chemically induced injury to plants, by L. M Massey The effects of air-borne fluorides on livestock, by K. J. Largent. Some effects of fluorine fumes on vegetation, by E. W Griffin and B. B Bayles. Fluorosis in livestock, by P H. Phillips. Part II, Analytical methods and properties panel The spectrum of particle size and its relation to air pollution, by H. P Munger. Physical properties of aerosols, by D Sinclair Chemical analysis of air pollutants, by A. J Haagen-Smit Method for identifying and estimating gases and vapors in air pollution, by M. Shepherd. Spectrographic analysis in air pollution studies, by R. F Scribner Part III, Equipment panel Odor control practices, by W H. Whiteridge. Viscous impingement filters, by J W May Spray towers, bubble towers, and packed towers using reactive and

non-reactive liquids, by J. L. York. Condensation techniques for dust detection and collection, by J. L. Yellott and A. Broadway. Role of activated carbon in practical control of atmospheric contamination, by A. R. Ray. Theory and basic principles of the sonic smoke flocculator, by H. W. St. Clair. The place of tall stacks in air pollution control, by G. R. Hill. Design and use of smokeless hand-fired residential coal-burning equipment, by J. R. Garvey. Abatement of dust from power plant stacks, by O. Craig. Part IV. Health panel. Skin effects of air pollutants, by M. B. Sulzberger. Effects of prolonged exposure to air pollutants, by R. A. Kehoe. Effects of ionizing radiation in air pollution, by A. Weiman. Effect of loss of sunlight on human health, by H. F. Blum. Respiratory tract allergic effects from chemical air pollution, by F. W. Wittich. Part V. Instrumentation panel. Atmospheric sampling by electrostatic precipitation, by E. C. Barnes. Direct photography of aerosol suspensions, by A. L. Cheney. The preparation, collection, and measurement of aerosols, by V. K. LaMer. New developments in instrumentation for air pollution studies, by C. Bramwell and others. A recording visibility meter by A. L. Cheney. Part VI. Legislation panel. Problems in the drafting and administration of air pollution control legislation, by A. C. Stern. The legal aspects of the California air pollution control act, by H. W. Kennedy. The St. Louis code and its operation, by R. R. Tucker. Part VII. Meteorology panel. Meteorological aspects of atmospheric pollution, by E. W. Hewson. The problem of dispersion of hot gases in the atmosphere, by O. G. Sutton. The diffusion problem in hilly terrain, by J. Z. Holland. The application of meteorological control to atmospheric pollution problems, by M. E. Smith. Index.

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Note. One of a series of studies on recent trends in medical practice sponsored by the New York Academy of Medicine. It outlines what preventive medicine is doing and what it can do for the nation's health. The author indicates that the practice of preventive medicine has notably decreased infant and childhood mortality and that now and for the future the chief problem is one of controlling the degenerative diseases of an individual's middle years and old age. The highest expression of preventive medicine according to the author is not merely the prevention of disease, but the establishment and maintenance of optimum health.

SYMPOSIUM ON NUTRITION FRONTS IN PUBLIC HEALTH

Nutrition fronts in public health proceedings of the Nutrition Symposium held at Yale University, November 10, 1950 New York The National Vitamin Foundation, Incorporated, 1951 168 p. illus. 23 cm. $1 50 4501

Contents (abridged) Nutrition and maternal health, by I. G. Macy. Factors conditioning the development of malnutrition, by B. H. Ershoff. Nutrition as a factor in aging, by C. M. McCay. Influence of nutrition on work performance, by E. Simonson. Nutrition and resistance—susceptibility to infection, by H. A. Schneider. Nutritional factors and hormones in stress reactions, by L. T. Samuels.

Note This volume contains the original papers which were presented at a symposium attended by professional workers in the fields of nutrition research and public health. The public health aspect is stressed in all of them. Bibliographies and transcripts of discussions are included.

UNITED STATES TECHNICAL CONFERENCE ON AIR POLLUTION

Air pollution Sponsored by the Inter departmental Committee on Air Pollution, Louis C McCabe chairman New York McGraw Hill Book Company, Inc., 1952 847 p. illus. 26 cm. $12.50 4502

Contents (abridged) Part I, Agriculture panel Air pollution in relation to economics, by V. W. Johnson. Some impurities in the air and their effects on plants, by M. D. Thomas and others. Similarities between disease symptoms and chemically induced injury to plants, by L. M. Massey. The effects of air-borne fluorides on livestock, by E. J. Largent. Some effects of fluorine fumes on vegetation, by S. W. Griffin and R. B. Bayles. Fluorosis in livestock, by P. H. Phillips. Part II, Analytical methods and properties panel. The spectrum of particle size and its relation to air pollution, by H. P. Munger. Physical properties of aerosols, by D. Sinclair. Chemical analysis of air pollutants, by A. J. Haagen-Smit. Method for identifying and estimating pollen and spores in air pollution, by M. Shepherd. Spectrographic analyses in air pollution studies, by R. F. Scribner. Part III, Equipment panel Dust control practices, by J. W. May. Viscous impingement filters, by W. H. Whiteridge. Spray towers, bubble towers, and packed towers using reactive and

edition was written was added to the bibliography. The author, a specialist in clinical psychology, is Head of the Department of Psychology of the University of New Hampshire.

CROW LESTER DONALD AND ALICE CROW

Mental hygiene. Second edition. New York McGraw Hill Book Company Inc., 1951 433 p. illus. 23 cm. (McGraw Hill series in education Harold Benjamin consulting editor) $5.50 4512

Contents (abridged) Part I. Mental hygiene and the individual. Mental hygiene—its nature and function. The emotions and behavior. Part II. Individual adjustment. Significance of adjustment mechanisms. Adjustment problems. Hygienic adjustment of the developing person. Adjustment problems of the preschool child. Adjustment problems of the elementary-school child. Adjustment problems of the secondary-school pupil. Adjustment problems of the adult. Adjustment problems of the physically handicapped and the mental deviate. Part III. Mental hygiene in relation to school functions and personnel. The educational needs of the individual. The teacher and his adjustments. Utilization of evaluating techniques. Guidance. Hygienic supervision. Part IV. Mental hygiene in relation to school function. Part V. Mental hygiene in general life areas. Achieving marital and family adjustment. Achieving occupational adjustment. Adjustment in community relations. Part VI. Mental illness and mental health. Name index. Subject index.

Note: A mature, well-rounded view of mental hygiene and personality development is presented in this book, which is used primarily as a text for student and graduate teachers. Mental disease and therapy for the mentally ill are discussed in two brief chapters, but aside from these, the book is devoted to the development and adjustment of normal persons in normal family and community living. Schools and colleges are treated as part of the normal environment. The first edition was published in 1941. It was extensively rewritten and reorganized for this second edition. Questions, study questions and suggestions for further reading are included at the end of each chapter.

DOLLARD JOHN AND NEAL E. MILLER

Personality and psychotherapy an analysis in terms of learning, thinking and culture. New York McGraw Hill Book Company Inc., 1950. 488 p. illus. 24 cm. (McGraw Hill publications in psychology Clifford T Morgan, consulting editor) $7.50 4513

Contents (abridged) Part I. Orientation. Part II. Basic principles of learning. Part III. The normal use of the mind in solving emotional problems. Introduction to higher mental processes. The role of words and sentences in arousing drives, mediating rewards, and producing foresight. Reasoning and planning. Social training in the use of higher mental processes. Part IV. How neurosis is learned. Social conditions for the learning of unconscious conflicts. How symptoms are learned. The unconscious—how repression is learned. Part V. The new conditions of therapeutic learning. Selecting patients who can learn. Fear reduction—permissiveness and the compulsion to utter. Transference—generalized responses to the therapeutic situation. Labeling—teaching the patient to think about new topics. Teaching the patient to discriminate—role of past and present. Part VI. Conflict. Why conflicts and misery can be relieved only in real life. The dynamics of conflict—their implications for therapy. A hypothesis concerning alcohol, barbiturates, and lobotomy. Part VII. Special aspects of therapy. Ways of getting rid of symptoms. Techniques of therapeutic intervention. How therapy can go wrong. Part VIII. Two applications to normal living. Self-study. Suppressing troublesome thoughts to get freedom for creative thinking. Bibliography. Name index. Subject index.

Note: An original and interesting presentation of the principles and presentation of psychotherapy as the resolving of neurosis. Both the formation of neuroses and their therapy are explained in terms of the learning process and of interactions between individuals and society. The point of view is a synthetic one based on the principles of Freud and his school, the findings of experimental psychology and on social psychology. The organization and style of the book are such that persons not trained in psychology or psychoanalysis can read it with profit. On the other hand, the main theme and the content will be of interest to persons who are professionally concerned with psychoanalysis and personality study. There is an extensive bibliography. The authors are members of the faculty of Yale University.

ENGLISH, OLIVER SPURGEON, AND GERALD H. J. PEARSON

Emotional problems of living avoiding the neurotic pattern. Revised and enlarged edition. New York W W Norton & Company Inc. 1955 592 p. 22 cm. $5.95 4514

Contents. Section A. The formative years—from birth to seven: Development of personality during the oral period. Emotional disturbances that occur during the oral period. Development of personality during the anal period. Emotional disturbances that occur during the anal period. Development of personality during the genital period. Emotional disturbances that occur during the genital period. Section B. The years between—the period of sexual latency: Development of personality during the latent period. Emotional disturbances that occur during the latent period. Section C. The approach to adulthood—adolescence: Development of personality during adolescence. Emotional disturbances that occur during adolescence. Section D. Emotional problems of living: Work and play. Marriage and sexual adjustment. Maturity and its problems. Mental illness. Treatment. Index.

Note: An elementary but detailed discussion of the common emotional problems and the milder types of neuroses. Its primary purpose is to explain the forces that mold personality and then to point out the genesis of neurotic behavior. It is addressed primarily to such groups as young physicians, clergymen, and social workers who have professional but non-specialist interests in the subject, and secondarily to interested laymen. The basic viewpoint is Freudian. The first edition was published in 1945. It was considerably expanded for this second edition. The senior author is Chairman of the Department of Psychiatry of Temple University School of Medicine, and the junior author is Dean of the Institute of the Philadelphia Association for Psychoanalysis.

EWALT, JACK R.

Mental health administration. Springfield Ill. Charles C Thomas 1956 168 p. 23 cm. $5.50. 4515

Contents: Concept of administration. Administrative organization of mental health departments. A community mental health program. Function of the professions in mental health center program. Institutional or hospital organization. Staffing. The business aspects. Special facilities within the mental hospital. Obtaining support. Volunteers. The chaplain. The hospital as special environment. Problems of employee morale. Psychiatric problems and the law. Bibliography and reading list. Appendices. Index.

Note: An authoritative and useful book on the organization and administration of governmental departments and other organizations of an official or quasi-official nature for the promotion of mental health. It covers the full range of the subject from organization at the top down to the daily management of mental hospitals. Information is included even on such details as the choice of flooring materials for institutions and hospitals devoted to the care of mental patients. Nevertheless, the book is not overloaded with detail, and is written so that it can be read in a few hours. The author is Commissioner of the Massachusetts Department of Mental Health and also Clinical Professor of Psychiatry in the Harvard Medical School.

GREENBLATT MILTON AND OTHERS

From custodial to therapeutic patient care in mental hospitals explorations in social treatment. By Milton Greenblatt, Richard H. York, Esther Lucile Brown in collaboration with Robert W Hyde. New York Russell Sage Foundation 1955 497 p. 24 cm. $5.00 4516

Contents (abridged) Introduction, by E. L. Brown. Part I. Toward a therapeutic community, by M. Greenblatt: Beginnings of growth. Eliminating major evils. Effect of somatic treatments. Remobilization. Patient government. Development of therapeutic potential of personnel. Improvement of patient care through teaching and research. Relation of the hospital to the community. Treatment results. Part II. Experiments in ward patient care at Bedford Veterans Administration Hospital, by R. H. York: History and postwar changes. Collaboration between Russell Sage Project and the hospital. A disturbed ward. Two programs for chronic patients. Part III. Motivating patients at chronic wards at Metropolitan State Hospital, by R. H. York: Characteristics and his-

scientists and technicians specializing in the control of airborne infection in food factories, hospitals, schools, etc.

WENSLEY, EDITH

The community and public health nursing, a handbook for and about boards and citizens committees. For the National Organization for Public Health Nursing New York The Macmillan Company, 1950 250 p illus 21 cm. $3 75 4506

Contents (abridged) Part I, Public health nursing—basic facts A bit of history Public health nursing today Trends. Part II, Boards and citizens committees—their responsibilities and organization A citizens committee for the public health nursing service of a health department or other governmental agency Responsibilities of a board of directors in a voluntary agency Schoolboards and school nursing. Officers and committees of a board of directors. Who shall be members? And how long? Part III, Boards and citizens committees—how their responsibilities are carried out Meetings—how to make them interesting and productive. Board-executive-staff relationships. Finances. Public relations. Interagency relationships. Appendixes. Index.

Note. Information about public health activities and about the functions and responsibilities of citizens serving on boards and committees of public health agencies is contained in this work, a successor to the National Organization for Public Health Nursing's *Board members' manual*, second edition, 1937 The particular purpose of the book is to inform members of advisory committees of official agencies and of boards of voluntary agencies, but it is useful also to public health personnel who work with members of such committees and boards. The book depicts public health practices and organization in the United States of America.

WILLIAMS, RALPH CHESTER

The United States Public Health Service 1798–1950 Washington, D C Commissioned Officers Association of the United States Public Health Service, 1951 890 p. illus 26 cm $10 00 4507

Contents Origin and background hospitals. On guard against disease from without. The evolution of public health. Public health laboratory research. Field studies and demonstrations in public health. Intragovernmental relationships. International health relations. Leadership and leaders. Those who carry on. When war came. World War II. Public health in the mid-twentieth century Source of material. Index.

Note. A factual history of the origin, evolution, organization, and activities of the U S. Public Health Service and of its predecessor the U S. Marine Hospital Service, written by the Assistant Surgeon General. It is based both upon manuscript and printed records and upon abstracts, statements, sketches, and other material submitted by large number of activ and retired officers and employees. The 195 illustrations include numerous portraits.

WINSLOW, CHARLES-EDWARD AMORY

Man and epidemics. Princeton Princeton University Press 1952 246 p. illus. 22 cm. $4 00 4508

Contents The evolution of the public health program. Objectives and approaches. The problem of pure water Disposal of human wastes. Milk supply Sanitary problems of food supply Insects and the transmission of disease. Scourges of the past. Challenges of the future. References. Index.

Note A narrative account of the public health movement, its techniques and some of its achievements. The style is factual and moderately technical. The book is suitable for reading and elementary reference by teachers, journalists, and the general public.

ZINSSER, HANS

Rats lice and history being a study in biography, which after twelve preliminary chapters indispensable for the preparation of the lay reader, deals with the life history of typhus fever Boston Little, Brown and Company, 1935 301 p 20 cm. $5.00. 4509

Contents (abridged) An explanation and apology The relationship bet een science and art. Bacteria and other parasites—the origin of life. Parasitism in general. The changing nature of infectious diseases. So-called new diseases, and some that have disappeared. Diseases of the ancient world—a consideration of the epidemic diseases which afflicted the ancient world. Epidemics and the fall of Rome. The influence of epidemic diseases on political and military history and the relative unimportance of generals. The louse—the environment which has helped form [illegible] character. Rats. Mice. The birth, childhood, and adolescence of typhus. Earliest epidemic exploits of our disease. Young manhood—the period of early vigor and wild oats. Appraisal of a contemporary and prospects of future education and discipline.

Note: This "biography of disease presents an informal though scientific account of the history of typhus fever and its influence upon the course of civilization. The style of the book is nontechnical, conversational, and at times dramatic and humorous. There are number of digressions into social and economic history literature, geography poetry and natural science, somewhat suggestive, as the author points out, of the discursive plan of Sterne's *Tristram Shandy* Written for the general reader, the work offers a wide ariety of miscellaneous information relating to the history of typhus, based on the uthor' extensive readings of the classical writers, such as Herodotus, Aristotle, Thucydides, Galen, Justinian, Procopius, Mommsen, Shakespeare, Gibbon, Brill, Murchison, and others. I spite of its achronological and desultory treatment, the work attains unity through its constant emphasis on the role of typhus in world history

MENTAL HYGIENE AND POPULAR PSYCHIATRY

BEERS, CLIFFORD WHITTINGHAM

A mind that found itself, an autobiography Fifth edition revised. Garden City Doubleday & Company, Inc., 1921 394 p. illus. 22 cm $3 95 4510

Note. A classic account of one man's experience in institutions for the care of the insane in the United States of America in the early years of the 20th century After suffering incredibly brutal and inhuman treatment, the author recovered his sanity and went on to found the National Committee for Mental Hygiene and otherwise to take leading part in worldwide movement for improved care of persons with mental disorders and better understanding of mental disease. The first edition was published in 1908, and the book has since gone through many printings. The last revised edition was issued in 1921 The copy of it examined for purposes of this review was printed in 1936 and contained on pages 1 352 the text of *A mind that found itself* and on pages 353–394 history of the mental hygiene movement and other matter pertaining to it.

CARROLL, HERBERT A

Mental hygiene the dynamics of adjustment. Third edition. Englewood Cliffs, N J Prentice-Hall, Inc., 1956 428 p. 22 cm. $5 50. 4511

Contents Introduction. Mainsprings of human behavior. The need for physical security The need for emotional security The need for achievement. The need for status. Some aspects of learning. Adjusting to frustration. Neurotic adjustments. Psychotic adjustments. The community The school. Exceptional children. The role of measurement. Regaining mental health. Questions for study and discussion. Selected bibliography Index.

Note While the central subject of this introductory college textbook is the prevention and treatment of behavior disorders, it includes also general introductory material on motivation, individual differences, learning, psychometrics, and related phases of psychology It is directed to two groups of students those who are intending to major in psychology and those who are interested in learning about mental hygiene as part of their general education The psychoses are treated in order that the student may better understand the relationships between normal and abnormal behavior The second edition was published in 1947 In preparing this third edition, the chapter entitled "The community" is newly added and new sections were added to several other chapters. Several chapters were rewritten, and a selection of literature published since the first

KOTINSKY, RUTH AND HELEN L WITMER editors

Community programs for mental health theory practice, evaluation. Contributors Barbara Biber and others. Cambridge, Mass. Published for The Commonwealth Fund by Harvard University Press, 1955 362 p. 21 cm. (Advisory committee Abraham Z. Barhash, and others) $5.00. 4523

Contents: Part I, Theory: The mental health movement, its theoretical assumptions, by S. W. Ginsburg. Part II, Practice: The field of mental promotion, by E. M. Tufts. Mass programs for the promotion of mental health, by R. L. Chamberlain and E. de Schweinitz. Schooling as an influence in developing healthy personality, by B. Biber. Part III, Evaluation: Problems in the evaluation of mental health programs, by L. P. Herma. Toward social psychology of mental health, by M. Jahoda. Appendix: Problems in the use of sample surveys, by R. R. Holt. The authors.

Note: Essentially a survey of mental hygiene or mental health programs in the United States of America since 1930. The chapters are essentially independent papers. However, all but one were written especially for this volume, and all emphasize the community approach to the promotion of mental health. Numerous specific programs and activities are described.

KRAINES SAMUEL HENRY AND E S THETFORD

Managing your mind you can change human nature. New York The Macmillan Company 1943 374 p. 22 cm. $3.50. 4524

Contents: Introduction. Man versus animal. Automatic habits in a changing world. Emotional thinking. Making allies of our attitudes. Tension. Heart symptoms. Stomach symptoms. Other symptoms. Psychologic mechanisms. Symbolic symptoms. Sex and marriage. A realistic philosophy of life. Intellectual objectivity and emotional stability. Achieving maturity. Self-reliance and courage. Energy expression. Changing social nature. Index.

Note: A nontechnical treatise on mental hygiene for the layman, and for physicians, nurses, and others dealing with emotional problems, tensions, and maladjustment. This book is psychosomatic in approach, and the discussion is augmented by down-to-earth philosophy. A practical technique is suggested whereby the reader can control his emotions and substitute mature and healthful attitudes for childish ones.

LEMKAU PAUL V

Mental hygiene in public health. Second edition. New York The Blakiston Division, McGraw Hill Book Company Inc., 1955 486 p. illus. 23 cm. (McGraw Hill series in health science Amos Christie, consulting editor) $9.00. 4525

Contents: Part I. The place of mental hygiene in public health. The field of mental hygiene. Mental hygiene as a public health responsibility. Techniques in mental hygiene—leadership personnel—methods. The attack on the problem—national mental health service—state organization—local administration. Part II, The development of the individual. The study of personality development. The pre-individual factors—eugenics. The prenatal and paranatal period. The period of infancy. The preschool period. The school period. The adolescent period. The young-adult period. The period of middle age. The period of old age. Summary and retrospect. Appendix: Review of psychopathological states. Visual aids. Author index. Subject index.

Note: An introductory but comprehensive textbook. It follows the organization of a course in mental hygiene given by the author at the School of Hygiene and Public Health of the Johns Hopkins University. The elements of mental hygiene in an overall program of public health and preventive medicine are discussed in detail. Approximately 130 pages are devoted to the first part which deals primarily with the governmental aspects of the subject, while two and one-half times as much space is devoted to mental hygiene in the development of the individual. Extensive bibliographies are included at the chapters of both parts. The first edition was published in 1949. This second edition represents a very extensive revision and considerable expansion of the book.

MCKINNEY, FRED

Psychology of personal adjustment students introduction to mental hygiene. Second edition. New York John Wiley & Sons, Inc. 1949 752 p. illus. 22 cm. (Wiley publications in psychology Herbert S. Langfeld advisory editor) $6.00. 4526

Contents: Introduction. Adjustment to college work. Concentration, learning, and thinking. Personal efficiency. Understanding oneself. Development of personality. Growth adjustment. Personal orientation. Vocational selection. Social adjustment. Social proficiency and leadership. Affections and convictions. Marital adjustment. Emotional stability. Self-confidence. The adjusted personality. Appendix. Name index. Subject index.

Note: A well-written and eminently practical discussion of the emotional and psychological problems which face the average college student. The book stresses the student's point of view and is designed for use as a text in introductory psychology courses and for individual reading. In this edition, it has been revised and enlarged to incorporate the latest trends and developments in the field of personal adjustment. A chapter on development of personality has been added, and new case studies have been included. The chapter bibliographies have also been brought up to date.

MENNINGER, KARL A.

The human mind. Third edition, corrected enlarged, & rewritten. New York Alfred A. Knopf Inc. 1945 531 p. 24 cm. $6.00. 4527

Contents: Principles. Personalities. Symptoms. Motives. Treatments. Applications. Bibliography. Index.

Note: Written by a leading American psychiatrist, this book is widely recognized as an outstanding elementary exposition of human behavior and its disorders from the point of view of psychiatry. It is intended for lay readers, but is not an extreme popularization. It is a bulky book, abounding in quotations from literature and case histories. In fact, it contains enough substance to make it useful to medical students and even graduate physicians as an introduction to psychiatry. The first edition was published in 1930 and the second edition in 1937. The book has passed through many printings, and the publisher states that more than 200,000 copies have been sold in the United States of America alone.

MENNINGER, WILLIAM CLAIRE, AND MUNRO LEAF

You and psychiatry New York Charles Scribner's Sons, 1948. 175 p. 21 cm. $2.50 4528

Contents: Our machinery. Our orientation. Our training. The development of our relationships. The struggle. Personality structure. Mental mechanisms. If you go to the psychiatrist. The application to you. Index.

Note: A straightforward and relatively brief exposition of the workings of the human mind, written in the light of modern psychoanalytic theory but not in its terminology. As is implied by the title, it is designed for lay reading. Mainly it deals with normal or slightly abnormal behavior but how normal behavior can become abnormal, and what can be done if this occurs, are discussed also.

MOORE, THOMAS VERNER

Personal mental hygiene. New York Grune & Stratton, 1944 331 p. 22 cm. $5.50 4529

Contents: Preface. The concept of mental hygiene and mental disorder. The mental hygiene of emotional life. Depression. Anxiety and scrupulosity. Anger. Hatred and race prejudice. Defect of guidance and control in emotional life. The play of intellect and emotion in the problems of life. Balanced and unbalanced personalities and their sense of values. The mental hygiene of the home. The overprotected child. The rejected child. Home [illegible] and the problem of dating. The ideal of family life. Mental hygiene and the school. Religious ideas in mental hygiene. [illegible] drives: lusts and insatiable cravings. Unwholesome drives: the lure of pleasure and its rationalization. Reinterpretations and religious ideals. Index of authors. Index of subjects.

torical development of the hospital. Social activities for chronic women patients. Motivation of a chronic men's ward. Conclusion by E. L. Brown and M. Greenblatt. Social treatment. Bibliography compiled by F. L. Wells. Index.

Note: An important contribution to the theory and practice of patient care in psychiatric hospitals. It is an account of an elaborate experimental investigation which had as its purpose a study of the extent to which principles and practice of patient care already evolved by certain small and relatively favored psychiatric hospitals in the United States of America could be applied to larger and less-well-favored institutions. The Boston Psychopathic Hospital which has for a number of years long been a leader in the development of sound and practical methods in the care of psychiatric patients. The large hospitals chosen for study were the Veterans Administration Hospital in Bedford, Massachusetts, and the Metropolitan State Hospital in Waltham, Massachusetts. The book is organized for reading by all interested persons. The graphs and tables that feature so many reports of scientific experiments are, for the most part, lacking. The bibliography is an extensive though selected one.

Hinsie, Leland Earl

Understandable psychiatry New York The Macmillan Company, 1948 359 p 22 cm. $5 00 4517

Contents: How feelings make us sick. Emotional pains. The oneness of mind and body. Regressive living. Troublesome character traits. Origin of types of personality. Instinctual impulses. Mental energy. The role of organic factors. Anxiety. Fear. Obsessions and compulsions. Mania and melancholia. Schizophrenia. Change of life. Epilepsy. Alcohol and other drugs. Antisocial people (psychopathic personalities). Emotions and intellect. Appendix: Official classification of mental disorders. Index.

Note. A well-organized discussion of psychiatric disorders and of the techniques of modern psychotherapy written for the lay reader. A good share of the text consists of rewritten excerpts from case histories, but these have been largely freed of technical terminology and so skillfully woven into the exposition that the reader is unconscious of their origin. Comprehension of the work requires more concentration than is required by some other popular works on the subject, but because the treatment has not been over-simplified, the reader may obtain a more helpful understanding of the meaning and methods of psychiatry. Although it is addressed particularly to patients who are undergoing psychiatric treatment, the book is meaty enough to be useful also to general practitioners of medicine. There are no references to other literature.

Horney, Karen, editor

Are you considering psychoanalysis? New York W W Norton & Company Inc. 1946 262 p 21 cm $1 49 4518

Contents: Introduction by K. Horney. Why psychoanalysis? by A. R. Martin. What schools of psychoanalysis? by V. Barbo. What is neurosis? by M. Ivimey. What are your doubts about analysis? by H. Kelman. Who should your analyst be? by H. Kelman. What do you do in analysis? by E. Kilpatrick. What does the analyst do? by K. Horney. How does analysis help? by M. Ivimey. How do you progress after analysis? by K. Horney. Index.

Note. A collection of lectures that were originally given under the auspices of the Auxiliary Council of the Association for the Advancement of Psychoanalysis. The purpose of the lecture series, and of this book, was to supply answers to the more common and significant questions that laymen ask about psychoanalysis. The two final lectures are of special value to the uninitiated, for they explain that psychoanalysis is no magic cure but a technique whose benefits depend upon the co-operative efforts of analyst and patient.

Horney Karen

Neurosis and human growth, the struggle toward self realization. New York W W Norton & Company Inc. 1950 391 p. 22 cm $5.50. 4519

Contents. Introduction—a morality of evolution. The search for glory. Neurotic claims. The tyranny of the should. Neurotic pride. Self-hate and self-contempt. Alienation from self. General measures to relieve tension. The expansive solutions—the appeal of mastery. The self-effacing solution—the appeal of love. Morbid dependency. Resignation—the appeal of freedom. Neurotic disturbances in human relationships. Neurotic disturbances in work. The road of psychoanalytic therapy. Theoretical considerations. Reference readings. Index.

Note: A penetrating study of neurosis viewed as a special and unfortunate form of human development. It is designed for lay readers primarily and is written in the same clear convincing style that has characterized this author's other books.

Horney, Karen

Our inner conflicts, a constructive theory of neurosis New York W W Norton & Company, Inc. 1945 250 p 21 cm. $4.50. 4520

Contents: Introduction. Part I, Neurotic conflicts and attempts at solution. The poignancy of neurotic conflicts. The basic conflict. Moving toward people. Moving against people. Moving away from people. The idealized image. Externalization. Auxiliary approaches to artificial harmony. Part II, Consequences of unresolved conflicts: Fears. Impoverishment of personality. Hopelessness. Sadistic trends. Conclusion: resolution of neurotic conflicts. Index.

Note: In the first part of this book, the author describes the four major attempts at solution of their conflicts made by most neurotic persons. In the second part, the consequences of these unresolved conflicts are described. The author's theory of neurotic development is constructive, in that it allows neurotic hopelessness to be tackled and resolved and steps to be taken toward an integration of personality. Freud's pessimism as regards neuroses and their treatment is not shared by the author of this book, who believes that man has the capacity and desire to develop his potentialities and become a decent human being, and that these deteriorate if his relationship to others and hence to himself is, and continues to be, disturbed." The book is scholarly and lucidly written. It ranks easily as one of the better books on psychoanalysis for the layman.

Katz, Barney, and Louis P Thorpe

Understanding people in distress emotional and mental disorders their cause care, and cure. New York The Ronald Press Company, 1955 357 p. 21 cm. $4 00 4521

Contents: What makes people act that way? The struggle for good adjustment. The times and signs of distress. Mild everyday distress. Delinquency and crime as personality disorders. Understanding sexual behavior. Unusual sexual behavior. How emotional distress makes your body sick. Neurotics in distress. More about neurotics. Alcohol drugs, and emotional distress. The distress of old age. Psychoses caused by emotional distress. Mental illnesses from disease and injury. Hope for people in distress. Recommended readings. Index.

Note: A fairly substantial book written for lay readers. The authors are clinical psychologists.

Klein, D B

Mental hygiene a survey of personality disorders and mental health. Revised edition New York Henry Holt and Company, 1956 654 p. illus. 21 cm. $6 75 4522

Contents (abridged): Part one, General introduction. Part two, The nature of mental disorders. Mental disorder and scientific understanding. An outline of psychopathology. Part three, Preventing mental disorder. Prophylactic aspects of structural disorders. Prophylactic aspects of functional psychoses. Prophylactic aspects of neurotic disorders. Part four, Promoting mental health. Home and the balanced personality. From the nurture of infants to the nature of adults. The dynamics of conscience. From fixations to functional autonomy. Coping with reality. Is repression a mental hygiene evil? Manners and morale. Education for mental health. Glossary. Index.

Note. Although introductory to the subject, this book contains more of the substance of professional thought on mental hygiene than some introductory works. It deals with basic principles and concepts, fundamental issues and scientific aspects of the promotion of mental health and the prevention of mental disease. It incorporates the history and philosophy of the mental hygiene movement in the United States of America. Primarily it is addressed to college students who are preparing for careers in clinical psychology but is suitable also for those who need a book somewhat more advanced than those written as personal guides to mental hygiene. The first edition was published in 1944. The book was somewhat reorganized and extensively rewritten for this second edition.

the [illegible] in mental hospitals to show how these institutions [illegible] to heal patients. The volume provides specific information [illegible] how to select a mental hospital to how to receive the [illegible] covered patient after his discharge. The appendix contains [illegible] of those states in the United States of America that license and [illegible] private mental hospitals. A new edition was published in 1957 95 p. 90 [illegible]

STRECKER, EDWARD ADAM

Basic psychiatry New York Random House, 1952 473 p. 21 cm. $3 95 4536

Contents Introduction. Causation. Classification or naming. Examination and symptoms. The organic psychoses. Toxic psychoses. "Functional" reactions. Manic-depressive and schizophrenic psychoses. Paranoia and paranoid conditions. Psychoneuroses. The psychosomatics and psychosomatics of pregnancy and childbirth. Pathological drinking. Mental defects. Constitutional psychopathic inferiority. Treatment. The silver cord. A design for childhood. The psychiatry of war. Postscript. Index.

Note: A book for laymen and other nonspecialists on the human problems which develop [illegible] need for psychiatric attention. The common psychiatric ailments are described with case studies to point up the descriptions and make them more concrete to the reader. The language is relatively simple, and the total work paints a broad picture of what the psychiatrists are currently able to do in discovering, combating and treating mental ailments. The author is Emeritus Professor of Psychiatry at the University of Pennsylvania.

THORPE, LOUIS PETER

The psychology of mental health. New York The Ronald Press Company 1950. 747 p. illus. 21 cm. $6.00 4537

Contents: Part I, The problem of mental health. Modern society and mental health. Part II, The psychodynamics of mental health. Basic needs and mental health. Psychoanalysis and mental health. Nature and evaluation of mental health. Adjustment mechanisms and mental health. Part III, Personality and mental health. Mental health and the organization of personality. Physiological factors in personality and mental health. Development of personality. Part IV Conditions marked by inadequate mental health. Minor personality maladjustments. Psychosomatic disorders. Hostile behavior. Deviant sexual behavior. The psychoneuroses. The functional psychoses. Part [illegible] Improving mental health. Mental health and the home. The school and mental health—teacher-pupil relationships—subject-matter and administrative aspects. The community and mental health. Diagnosing mental health and personality. Therapeutic methods and readjustment. Glossary of technical terms. Author index. Subject index.

Note. A comprehensive text, written at the college level and designed for use in courses on mental hygiene, dynamics of personality etc. Its wide scope makes [illegible] useful also as an orientation survey for such professional people as teachers and social workers. Particular attention is paid to the significance of home and school experiences in relation to mental health. Source articles and books are cited in footnotes throughout the book, and the chapters conclude with lists of recommended readings. The author is Professor of Education and Psychology at the University of Southern California.

UNITED STATES NATIONAL INSTITUTES OF HEALTH. SUBCOMMITTEE ON EVALUATION OF MENTAL HEALTH ACTIVITIES

Evaluation in mental health a review of the problem of evaluating mental health activities. Report. Washington, D C. Government Printing Office, 1955 292 p. 24 cm. (United States Public Health Service. Publication no. 413) $2.00. 4538

Contents Introduction. I, Theoretical and methodological considerations. Theoretical considerations. Identification of mental health activities. Levels of evaluation. Methodological considerations in scientific evaluation. II, Comments relating to mental health activity areas. Community organization. Administration. Professional personnel. Education and information. Preventive effects of programs. Factors influencing individual mental health. Diagnostic, prognostic and treatment procedures. III, General observations and recommendations. References: Theoretical and methodological considerations. Mental health activity areas. Appendix: Supplementary reference list. Author index.

Note The subcommittee [illegible] hich prepared this report was appointed to investigate evaluation studies in the field of mental health, to describe those already available and to report on studies underway. Four-fifths of the report is an annotated bibliography of 934 studies concerned with evaluating mental health activities. Introductory chapters present some observations, suggestions, and recommendations growing out of the collection and analysis of the material. The subcommittee, [illegible] hich worked for more than two years in the preparation of the report, looks upon it as [illegible] working tool for individuals, teams, and other groups, rather than as [illegible] manual or guide. A major goal of the report is to increase interest in evaluative activity in the field of mental health and to stimulate progress in both research and applications.

WALLIN JOHN EDWARD WALLACE

Minor mental maladjustments in normal people based on original autobiographies of personality maladjustments. A casebook for the use of students of mental hygiene psychology education, child development, sociology and the formation of personality traits. Durham Duke University Press, 1939 298 p 24 cm. (Duke University publications) $3.00 4539

Contents (abridged) Purpose and nature of the investigation of mental, educational, and social maladjustments, and the practical contributions [illegible] hich this book is expected to make. Fears and phobias. Dreads, anxieties, and worries. Bashfulness, timidity lack of self-confidence, and seclusiveness. Feelings of inferiority and inadequacy. Obsessions and compulsions. Dreams, nightmares, somnambulism, and somniloquism. Daydreaming. Emotional disturbances and maladjustments produced by specific processes of emotional conditioning. Difficulties produced by criticism, sarcasm, ridicule, nagging, and threats. Reactions to unfavorable comparisons. Effects of superstitious beliefs. Effects of parental behavior patterns and home treatment. Effects of the school situation and teacher attitudes and behavior patterns. Attitudes or behavior patterns induced by physical handicaps, defects, or appearance. Food fads, antipathies, caprices, and idiosyncrasies. Index.

Note: Designed for specialists, teachers, students, and laymen. It is based upon factual autobiographies gathered from intellectually normal and superior people. The ways in [illegible] hich various maladjustments arise from the process of early conditioning are demonstrated.

PERSONAL HYGIENE

DAVIS ARTHUR F AND WARREN H. SOUTHWORTH

Meredith's Hygiene a textbook for college students on physical mental and social health from personal and public aspects. Fifth edition. New York The McGraw Hill Book Company 1954 906 p. illus. 23 cm. $6.00 4540

Contents (abridged) Part I, Introduction. Part II, The body in health and disease. Part III, Forces for health. Part IV The problem of infection. Part [illegible] Some major health problems. Part VI, First aid in injury and illness. Part VII, The hygiene of everyday life. Part VIII, Familial hygiene. Part IX, Mental health. Supplement. List of 16-mm films. Directory of film sources. Sources and materials for teachers of college hygiene. Bibliography. Index.

Note: The original author of this book was *Florence Meredith* and it was first published in 1918, since when it has been extensively used in its various editions as [illegible] textbook for college students. It is especially suited to the instruction of student teachers and other students who are preparing for professions in which [illegible] broad and fairly substantial knowledge of personal hygiene is useful. This current edition is organized in the nine sections [illegible] hose titles are given above and in 37 chapters. It contains 170 figures.

Note A book intended primarily for the individual. It presents various attitudes, ideals, and principles which the author who is professor of psychology and psychiatry at the Catholic University of America, believes to be of value to the individual confronted with personal difficulties. The workings of the mind and its adjustments to life are illustrated by analyses not only of clinical material but also of historical and literary personalities. The book is written from the Roman Catholic standpoint and bears the *Nihil obstat* and imprimatur of the Archbishop of Baltimore.

MORGAN, JOHN JACOB BROOKE

How to keep a sound mind revised edition of *Keeping a sound mind* New York The Macmillan Company, 1946 404 p illus. 22 cm $4 90 4530

Contents. How to appraise yourself. How to make people like you. How to develop social poise. How to attain social security How to overcome handicaps. How to attain emotional maturity How to master your fears. How to overcome emotional depressions. How to fit into a working world. How to make your work count. How to think clearly How to solve mental conflicts. How to develop a wholesome pattern for living. How to be happily maladjusted. Index.

Note A matter-of-fact approach to mental hygiene. It is written primarily for use as a textbook in first year college courses but is also suitable for general reading. The evidences of mental ill-health are described, and means of developing good mental habits and wholesome emotional adjustments are discussed in simple language. This revised edition contains some new material and some of the older material has been rearranged in accordance with suggestions by instructors who have used the book as a text.

REDLICH, FRITZ, AND OTHERS

The inside story, psychiatry and everyday life. Compiled under the direction of Fritz Redlich. Text written by June Bingham with the collaboration of Jacob Levine. New York Alfred A. Knopf 1953 280 p illus 22 cm. $4 00 4531

Contents Prologue—the psychiatrist's prescription. The layman preface. The key to laughter—repression Basic urges and feelings. Anxiety Children. Normal and abnormal people. The psychiatrist. Will power and knowledge. Epilogue—a final prescription. Comparative glossary of some psychiatric terms—what they mean to the doctor—what they mean to the layman. Bibliography Books for the general reader books for the student pamphlets and movies. National agencies for mental health.

Note In this book for lay readers humor is combined with well written text. A large number of cartoons by some of the leading humorous cartoonists of contemporary United States of America are reprinted in the volume for the light they throw on human urges and foibles. There are few references in the text itself to the cartoons, but the relationships are obvious. The text explains in simple but interesting style some of the basic ideas of psychiatry about human behavior and about the conflicts that develop in the adjustment of individuals to the world. At the same time, it throws light on how and why the techniques of psychiatry are sometimes able to help people resolve their emotional and psychological difficulties. Dr Redlich, the senior author is Chairman of the Department of Psychiatry of the School of Medicine of Yale University

RENNIE THOMAS ALEXANDER CUMMING AND LUTHER E WOODWARD

Mental health in modern society Cambridge Mass Harvard University Press 1948 424 p illus. 24 cm. $4 00 4532

Contents Part I, Lessons from the war period Mental health services in the armed forces. Emergency measures for aiding veteran-civilian adjustment. The psychiatric disabilities of war—dynamics and motivation—principles, methods, and results of treatment. Part II, Post-emergency problems in mental health Continuing mental health problems and needs. Part III, Sources of help in treatment and prevention Contributions of the practicing physician. Contributions of social workers. Contributions of the psychologist. Pastoral counseling and church life. Mental hygiene in industry Practical considerations in interviewing and counseling. The mental hygiene of family living. Mental health in education. Summary and prospect—the individual and society Appendices. Index.

Note: During World War II great advances were made in knowledge of the causes and methods of treatment of mental illness. The present volume aims to show how this newly acquired knowledge can be applied in solving problems of mental health at the community level. The responsibilities of both individuals and agencies in psychiatric rehabilitation work are discussed.

SCHNEIDERS, ALEXANDER A.

Personal adjustment and mental health. New York Rinehart & Company, Inc., 1955 587 p 23 cm. $6 00 4533

Contents Part one, The study of adjustment: Introduction. The scientific study of adjustment. Part two, Nature and conditions of adjustment Basic concepts for adjustment psychology Criteria of adjustment and mental health. Personality and adjustment. Conditions and determinants of adjustment. The dynamics of adjustment. The process of adjustment. Part three, Patterns of adjustment: Normal adjustment patterns. Adjustment by defense reactions (flight from self) Adjustment by aggression and delinquency—by escape and withdrawal (flight from reality)—by flight into illness. Part four Varieties of adjustment Personal and social adjustment. Vocational and marital adjustment. Part five, Mental hygiene and treatment Nature and principles of mental hygiene. The treatment of adjustment problems. Glossary Appendixes. Index.

Note A textbook for college students. It is concerned primarily with the problems of personal adjustment to life in present-day society and secondarily with mental health or mental hygiene. Even though it is an introduction to the subject of personal adjustment, it is a rather substantial work, containing detailed discussions of most points of personal adjustment both normal and abnormal. The principles and methods of psychotherapy are surveyed in one chapter Literature references are printed as footnotes throughout the book, and there is a useful glossary. The author is Professor of Psychology and Director of Psychological Services in Fordham University and the book is written from the Roman Catholic viewpoint.

STECKLE, LYNDE CHARLES

Problems of human adjustment. New York Harper & Brothers 1949 351 p illus. 22 cm. 4534

Contents Introduction. Man the animal. Emotional living. Mind-body Realistic living. The road to neurosis. The main problems of life. Sanity in sex. Courtship and marriage. Happiness in work. The search for God. Maturity in old age. A realistic outlook on life. Bibliography Index.

Note. The author of this book states, "college students, professional persons, industrialists, factory or clerical workers,—in fact all mankind—must face and resolve certain fundamental issues of living. The thesis here presented is that these issues obtain problem status only when man attempts to meet them with inadequate preparation. The book is a nontechnical, commonsense discussion aimed at general readers and college students. It is well documented with references to more than 170 books and papers. The author is a professional psychologist. A revised edition was published in 1957 419 p., $5.00.

STERN, EDITH (MENDEL)

Mental illness a guide for the family with the collaboration of Samuel W Hamilton Revised edition. New York National Association for Mental Health 1945 124 p 20 cm. 4535

Contents Foreword, by S. W Hamilton. A healthy attitude toward mental illness. When mental illness strikes. Why hospitalize? Private or public hospital? Getting the patient admitted. Taking the patient to the hospital. Leaving the patient at the hospital. The hospital world Life in ... The first month in the hospital. Some treatments for mental illness. The family mental hospital. Letters and visits. Toward discharge When the ... and the hospital. The permanence of recovery Continued care ... patient comes home. The ... Appendices. Glossary

There's some you can do. Appendices. Glossary

Note A simple straightforward account of what to do when mental illness strikes a member of the family The author points out that mental disease is illness and they tell the reader behind

tion. Part [illegible] Community health. Communicable disease control. Community health organization. Appendices: Width-weight tables for college men and college women. First aid condensed. Index.

Note: A broad, elementary discussion of basic human physiology, reproduction, nutrition and exercise, with [illegible] modern emphasis on mental health and family living. The viewpoint and lucid style make the book easy to read, and its inclusiveness gives it some value as [illegible] personal reference book as well as [illegible] text.

SMILEY DEAN FRANKLIN, AND ADRIAN GORDON GOULD

Your health. New York The Macmillan Company 1951. 555 p. illus. 22 cm. $5.00. 4547

Contents: Good health is not just good luck. Building resistance—avoiding infection. Immunity by inoculation. Avoiding nose and throat disorders. Science conquering tuberculosis. Fresh air indoors. *Food and health.* Preventing intestinal infections. *Healthy teeth and gums.* Preventing nervousness. Some facts about sleep, play and muscles. Keeping [illegible] healthy mind. Keeping up appearances. Exercise—how much, how little? The hygiene of emotions. Combating heart disease. The hygiene of the genital system. Social hygiene problems. Safeguarding vision and hearing. Choosing your doctor and hospital. The proprietary remedies—yes or no? You and your health department. When you build that home. When that first baby comes. When your child enters school. *If you work in [illegible] factory.* If you live in the country. When you grow older. Sources of various pictures on health. Glossary of technical terms. Index.

Note: Although designed as [illegible] text for college freshman courses, this volume has value for the general reader as [illegible] guide in developing sensible habits of living. The book is based on the author [illegible] College textbook of hygiene, 2nd ed., 1940, but the material has been so extensively revised and rewritten as to constitute [illegible] new work. Less attention is now given to the structure and functions of the various parts of the body and more emphasis placed on community health problems. Chapter bibliographies are included.

STILES WILLIAM W

Individual and community health. New York McGraw Hill Book Company Inc., 1953 492 p. illus. 24 cm. $6.50. 4548

Contents: An introduction to individual and community health. Accidents and violence. Wound infections. Contact and air-borne diseases. General measures of disease control. Disorders of nutrition. Cancers and metabolism. Food sanitation. Food-borne diseases. Water, sewage and flies. Arthropod-borne diseases. Animal-borne diseases. Environmental and occupational diseases. Socio-sexual problems. Maternal and child care. Disorders of the nervous system. Problems relating to medical care. The challenge to control disease. Index.

Note: An introductory exposition of health problems and healthful principles of living in the framework of modern communities. The major part of the book is devoted to descriptions of the origin and control of various categories of disease. A summary style of presentation is followed and [illegible] wide range of information presented. The chapters are divided into typical sections, most of which have brief lists of "Suggested readings" appended. Where controls are discussed, no therapy is suggested. The book is useful primarily as [illegible] text in introductory college courses in health. The author is Associate Professor of Public Health at the University of California.

TURNER, C. E.

Personal and community health. Tenth edition. St. Louis The C. V Mosby Company 1956 660 p. illus. 23 cm. $4 75 4549

Contents (abridged): Part I, Personal health. Health values and motivation. Nutritional needs. Digestion and health. Oral hygiene. The health of the breathing structures. Hygiene of the circulation. Hygiene of the excretory system. The skin. Endocrines as factors in health and personality. The hygiene of the nervous system. Narcotics and stimulants. The hygiene of body activity. Preventing accidents. Heredity and health. Familial hygiene. Adult hygiene. Part II, Community health: Man [illegible] nature battle against disease. *Public health today.* *Essential facts of immunity.* Communicable disease control. Maternal and child health. Health protection through food control. Safe [illegible] water supplies. Waste disposal. School health. Health in industry. Appendix. Glossary. Index.

Note: An introductory college textbook [illegible] book has been widely used in its various editions since publication of the first edition in 1918. It is designed to give useful information and instruction on [illegible] wide variety of health problems [illegible] which [illegible] affect the life of the [illegible] average college student or graduate [illegible] whether or not he enters [illegible] scientific profession. The close relationship between personal and community health and the responsibility of the individual toward the community in health matters are stressed. However, much specific information on personal hygiene is also included. The book is written in [illegible] plain, factual style that is easy to read, and is attractively illustrated. Selected bibliographies are included.

VAN BUSKIRK EDGAR FLANDREAU

Principles of healthful living for the individual and the community Edited by Carl L. Kline. New York The Dryden Press 1948. 474 p. illus. 21 cm. $4.00. 4550

Contents: Part one, Basic concepts. Our environment. A survey of the human organism. Part II, Emphasizing the individual aspects of healthful living: Vision and hearing. The skin and the teeth. Bodily movement and posture. Activity and relaxation. Air and breathing. Diseases of the respiratory system. Foods. The digestive system. The circulatory system. The excretory system. Part III, Emphasizing health in human relationships. The continuation of life. Control and integration of the body. Mental health. Mental handicaps. The progress of medicine. *Family health. Disease control in family and community.* Public-health agencies. One hundred books named for supplementary reading. Index.

Note: An elementary but inclusive text [illegible] which is designed primarily for use in personal hygiene courses in colleges. The style is largely nontechnical, and the book is organized to facilitate reading. It is, therefore, suitable for lay readers also. Among the changes in this edition [illegible] addition of the chapters on family and community health.

DIEHL, HAROLD SHEELY, AND RUTH E BOYNTON

Personal health and community hygiene, a revision of *Healthful living for nurses* Second edition. New York McGraw Hill Book Company, Inc., 1951 469 p illus 24 cm. (McGraw Hill series in nursing, Lucile Petry, consulting editor) $5 00 4541

Contents (abridged) Safeguarding the health of nurses. Mental health. Nutrition and growth. Stimulants. Exercise—fatigue—rest. Sunlight and fresh air Specific disease prevention. Colds and influenza. Care of the nose, throat, ears, and teeth. The conservation of vision. Care of the skin and hair Care of the feet. Glands f internal secretion. Sex life and venereal diseases. Modern parenthood. Health problems of advancing years. Community health. Controlling communicable diseases. Animals, insects, and disease. Sanitation and health. Health in school and on the job. Government and health. Voluntary health services. Appendixes. Index.

Note. As textbook used in using schools and in nonprofessional courses in hygiene under its two previous titles, *Healthful living for nurses* and *Textbook f healthful living*, this book has been a standard tool of instruction for a decade. In line with its present title, new material (5 chapters) has been added on community health and health services. It is written in clear nontechnical language and gi es general understanding of the whole subject without including specific treatments. The ample references, charts, and tables have for the most part been brought up to date.

DIEHL, HAROLD SHEELY

Textbook of healthful living Fifth edition. New York McGraw Hill Book Company Inc., 1955 802 p illus (part col d) 23 cm. $6 50 4542

Contents (abridged) Possibilities of longer life and better health. Major health problems. Mental health. Nutrition and growth. Sound teeth. Care of the skin and hair. Glands of internal secretion. Sex life. Health problems of advancing years. Community health. Animals, insects, and disease. Sanitation and health. Government and health. Voluntary health services. Health in the future. Appendix. Index.

Note. A standard work on personal hygiene. It is used as textbook in introductory courses offered to college students and as a reference book for lay readers. A very wide range of topics is covered. It is organized in 30 chapters and an appendix which is almost 200 pages long. The common language is employed in the chapters, but the appendix contains a series of condensed summaries of specific diseases, and these are cast in medical terminology Also included in the appendix is a useful glossary in which technical terms are defined and their pronunciation indicated. Literature references and suggestions for further reading are included. The fourth edition was published in 1950. Although much material was carried over from it to this fifth edition, revisions ere made in number of chapters. These included the addition of information on lung cancer antibiotics, and rehabilitation of the disabled and other topics. An abridged version used primarily as a textbook in short courses, is available under the title, *Element of healthful living*, third edition, McGraw-Hill Book Company Inc., 1955 351 p., $4 50.

EMERSON, WILLIAM ROBIE PATTEN

Health for the having, a handbook for physical fitness. New York The Macmillan Company 1944 146 p illus. 19 cm. $2 00 4543

Contents How well are you? What is a physical fitness examination Is your weight right? How do you know? Underweight—its correction. Overweight—its correction. Is your blood pressure rising? How good are your health habits? Are you starving amidst plenty? Your day budget your time. Health questions and their answers. Does our school system make for health? How long do you expect to live? Save life your own. Appendix Tables of 100 calorie portions tables of height and weight individual weight charts. Index.

Note. A concise manual in nontechnical language, outlining the regimen needed for positive health, with emphasis on the elimination of faulty health habits. Written for the layman, and for physicians, teachers, health educators and others conducting physical fitness programs.

JOHNS, EDWARD B , AND OTHERS

Health for effective living, a basic health education text for college students. By Edward B Johns, Wilfred C Sutton Lloyd E. Webster Adviser and consultant Walter H. Brown. New York McGraw Hill Book Company, Inc., 1954 473 p illus. 24 cm. $5.00. 4544

Contents. Part one, Orientation in health education Understanding health—a point of view Appraising health needs and interests. Exploring the college health program. Part two, Developing a healthy personality: Appraising mental health. Making life adjustments. Part three, Preparing for effective family living: Choosing a life partner. Planning for marriage. Preparing for responsibilities of parenthood. Part four Developing and maintaining health Maintaining a healthy and attracti e body Utilizing opportunities for rest and recreation. Selecting and eating wholesome foods. Selecting health services and products. Part five, Building defenses for effective living Preventive and controlling communicable disease. Understanding chronic and degenerative diseases. Understanding depressants and stimulants. Part six, Effective living in the community Living safely in a community Participating in the community health program. Solving international health problems. Index.

Note. Written by present and former faculty members of the University of California at Los Angeles, this book is directed to undergraduate college students, and its purpose is to provide basic information on personal hygiene, family life, and public health for personal use and guidance. It is not designed as a text for students who are planning careers in such fields as public health. It is well organized, ritten in a style that is easy to read, and is adequately provided with guides to further reading.

MARVIN, H. M

You and your heart, a clinic for laymen on the heart and circulation. Foreword by Paul D White. New York Random House, 1950. 306 p illus. 22 cm. $3 00 4545

Contents The miracle of health, by H. M. Marvin. Blood and muscle (the circulatory system and how it works) by H. M. Marvin. Internal adventure (short history of man's exploration of his circulatory system) by H. M. Marvin. The heart at birth (congenital defects and their treatment) by H. M. Marvin. Road blocks of the heart (diseases of the coronary arteries) by H. M. Marvin. Hearts in trouble (diseases other than those of the coronaries) by H. M. Marvin. Rheumatic fever (the nature and treatment of rheumatic heart disease) by T D. Jones. High blood pressure (our commonest chronic complaint) by I. H. Page. Faulty supply lines (diseases of the blood vessels) by I. S. Wright. The ounce of prevention (public health aspects of heart disease) by D D Rutstein. Misapprehensions (some common fallacies about heart disease) by H. M. Marvin. Unanswered questions (the status and the need for research) by H. M. Marvin. Index.

Note. A book for lay readers written by physicians acti in the American Heart Association and the National Heart Institute. To insure clarity the technical papers of the medical men were put into everyday English by a nonmedical writer The book is reliable source of information for sufferers from heart disease and other nonphysicians interested in the subject. Its purpose is to inform and to allay fear rather than to encourage self-diagnosis and treatment.

SCHIFFERES, JUSTUS J

Healthier living a text in personal and community health New York John Wiley & Sons, Inc., 1954 928 p. illus 22 cm $6.25 4546

Content (abridged) Part I, Introduction and orientation An introduction to healthier living Part II, Education for family living: Family background. Development of the individual Human reproduction. Social aspects of sexual adjustment Part III, Mental health Mental health and normal emotional development Personality development—the unconscious mind Failures in lif adjustment—mental illness, alcoholism. Achieving mature philosophy of life. Part IV Personal health Food and nutrition Physical and motor activity Body care and grooming Sight and sound—vision, hearing, and speech. Obtaining good and escaping bad medical ad-

ment. Malocclusion. Etiology of malocclusion. Diagnosis. Measurement of dentofacial changes in relation to the cranium, by B. H. Broadbent. Extraction in relation to orthodontic treatment. Tissue changes incident to orthodontic tooth movement. The approach to treatment. Methods and aids to treatment. Myofunctional treatment of malocclusion, by A. P. Rogers. Mechanistic treatment of malocclusion. Orthodontic bands, by E. W. Swinehart. The labial arch. The edgewise arch mechanism, by C. F. Wright. The lingual arch and the removable lingual arch. Treatment of malocclusion. Retention. Plastic surgery of the jaws, by E. A. [illegible]. Practice management. Authors index. Subject index.

Note: A long-established work which is used both as a guide for practicing dentists and as a text for the instruction of advanced students of dentistry. The basic knowledge of the field including the history of orthodontics, the anatomy of occlusion and the etiology of malocclusion are covered in the early chapters. Most of the space is devoted to detailed descriptions of orthodontic techniques and related matters, including diagnosis and management of practice. In this edition there are 713 figures, representing a somewhat higher number of illustrations. Literature references are included as footnotes.

APPLEGATE, OLIVER C.

Essentials of removable partial denture prosthesis. *352 illustrations with 10 in color* Philadelphia W B Saunders Company 1954 323 p. illus. (part col'd) 29 cm. $10.00. 4556

Contents: Terminology. Classification. Component parts. Use of the surveyor. Abutment support. Impression registration. The study cast. The occlusal rest. The direct retainer. The indirect retainer. The minor connector. The major connector. The base. Preliminary examination. Mouth preparation. Class I design. Class II design. Class III design. Class IV design. Problems of design. Stress control. The functional impression. Registration of occlusal paths. Instruction of the partial denture patient. Clinical procedures in partial denture prosthesis. The hydrocolloid impression. Making the cast. Preparing the resin tray. The functional impression. Correcting the master cast. Survey of master cast. Duplication of master cast. Making a refractory cast. Penciled design on cast. The wax pattern. The sprue pattern. Investing the pattern. Preparation for the casting. Making the casting. Polishing a casting. Adjusting the cast structure. Wrought clasp adaptation. The temporary wax base. The appliance "try-in." The occlusal [illegible]—path pattern—template. Setting teeth to a template. Attaching teeth to metal base. Use of accessory items. Insertion of the partial denture. Index.

Note: An exceptionally detailed treatise on the type of partial denture prosthesis which depends upon [illegible] rather than upon vital teeth for major support in the mouth. There is emphasis on the necessity of a careful survey of the patient's mouth and on planning for the required prosthesis. Design and construction of removable partial prostheses are explained in full detail. Much of the exposition is cast in question-and-answer form, and extensive use is made of typographical devices for emphasis, such as the setting of phrases and even sentences in capitals. Text and illustrations are carefully correlated. The book is intended primarily for use as a textbook in advanced courses in dental colleges. However, it will be of value to graduate dentists, especially to those who have not yet accumulated extensive experience in partial prosthesis and to those who wish to keep abreast of all important writing on this subject.

APPLETON, JOSEPH LUKE TEASDALE

Bacterial infection with special reference to dental practice. Fourth edition, thoroughly revised with 108 illustrations and 5 plates, 4 in color Philadelphia Lea & Febiger 1950. 644 p. illus. (part col'd) 24 cm. $10.00. 4557

Contents (abridged): Part I, Bacteriology. Relation of bacterial growth to oxygen supply. Pure culture study of bacteria. Filtrable viruses. Chemoprophylaxis and chemotherapy. Part II, Infection. How bacteria produce disease. The natural defenses. The humoral defenses. The cellular defenses. Resistance or immunity. Artificial active immunization. Characteristics of infection. Types of infection. The control and prevention of infectious disease. Part III, Special infections of the oral cavity. Ecology of the oral cavity. The streptococcus-pneumococcus group. The spirochetes of the mouth. Dental caries. The bacteriology of the dental pulp. Periodontal disease and infection. Focal infection. "Vincent's" disease. Actinomycosis. Osteomyelitis. Oral manifestations of extra-oral infections, exclusive of syphilis and tuberculosis. Interrelations of tuberculosis and oral infections. Bacteriologic aspects of oral hygiene. Index.

Note. An inclusive, well-documented textbook and treatise. It is organized so as to convey a sound knowledge of the principles, [illegible], and causes of infection and to describe the oral and related infections which are of interest in the practice of dentistry. The text is compactly written, and much ground is covered. Literature references are given in the form of footnotes, and there are 10 or more citations on many of the pages. Both sides of controversial matters, such as the concept of focal infection, are presented. The third edition was published in 1944. In this edition new textual material and new illustrations amounting to about 140 pages have been added, and references to recent publications have been entered in the footnotes.

ARCHER, WILLIAM HARRY

A manual of dental anesthesia an illustrated guide for student and practitioner Philadelphia W B Saunders Company 1952 192 p. illus. 26 cm. $5.50. 4558

Contents: The history of anesthesia. Part I, Local anesthesia. Local anesthetic solutions. Local anesthesia. Anesthesia for operative dentistry and root canal therapy. Postinjection complications. Part II, General anesthesia. Preanesthetic examination. Preanesthetic and preoperative preparation of ambulatory patient. Free or patent airway. General anesthesia for oral surgery in the office. Analgesia in dentistry. General anesthesia for oral surgery in the hospital. Complications of general anesthesia for oral surgery—their prevention and treatment. Legal aspects of anesthesia. Index.

Note: Both anesthetic drugs and anesthetic techniques are covered in this well-written, fully illustrated work. Drugs are discussed in regard to chemical and physical properties, pharmacology and toxicity, uses, duration of anesthesia, etc. Techniques are described explicitly. The 146 figures are a special feature. They include reproductions of drawings, roentgenograms and photographs, and many are arranged in series that illustrate techniques in step-by-step fashion. The preliminary chapter on history runs to 34 pages and includes a long list of references.

ARCHER, WILLIAM HARRY

A manual of oral surgery: a step-by-step atlas of operative techniques. Second edition. Philadelphia W B Saunders Company 1956. 877 p. illus. 26 cm. $16.50. 4559

Contents: The extraction of teeth. The use of elevators in oral surgery. Impacted teeth. Apicoectomy. Oral surgery for dental prosthesis. Antibiotic therapy. Oral, face and neck infections. Cysts of the oral cavity. Surgical treatment of cysts of the oral cavity. Affections of the salivary glands. Surgical treatment of oral [illegible] tumors. Complications associated with oral surgery. Oral [illegible]—the dentist's responsibility—[illegible] of the primary lesions and their cervical metastases. Radiation therapy of carcinoma of the oral cavity. Cleft lip. Cleft palate. Oral prosthesis in rehabilitation of cleft palate patients. Surgical treatment of prognathism of the lower jaw. Fractures of the mandible, maxilla and facial bones. The use of cast splints in the treatment of fractures of the maxilla and mandible. [illegible] anatomy of the facial bones and jaws. Oral radiographic interpretation. Anatomic explanation of pain in and about the oral cavity. Treatment of pain in the oral cavity and vicinity. Oral surgery in the hospital. Sterilization, disinfection and [illegible]. Legal aspects of oral surgery and anesthesia. Hospital dental departments, internships and residencies. Index.

Note. An exceptionally inclusive and detailed textbook designed for students in dental colleges and for dental practitioners. For the latter it can serve both as a "refresher" and a presentation of new techniques. Included among the illustrations are many step-by-step sequences of drawings and photographs illustrating actual techniques. Textual discussions are explicit. Descriptions and illustrations of numerous interesting cases are included. The first edition was published in 1952. In the second edition, which is longer by 230 pages, many new illustrations and case reports have been added. The number of figures is now 1,400, and many of them include more than one illustration.

BERNIER, JOSEPH L.

The management of oral disease a treatise on the recognition, identification, and treat

DENTISTRY

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

Advances in experimental caries research. A symposium presented on December 29, 1953, at the Boston meeting of the American Association for the Advancement of Science. Reidar F Sognnaes, editor Washington, D C American Association for the Advancement of Science, 1955 236 p illus 23 cm $6 75 4551

Contents. Production and evaluation of experimental animal caries a review by R. Johansen and P H. Keyes. Location of experimental caries on different tooth surfaces in the Norway rat, by R. M. Stephan and M. R. Harris. Genetic factors in experimental rat caries, by H. R. Hunt and others. Developmental factors in experimental animal caries, by J H. Shaw and R. F Sognnaes. Dietary factors in experimental rat caries, by P J McClure Salivary factors in experimental animal caries, by A. Schwartz and D Weisberger Endocrine factors in experimental animal caries, by W G. Shafer and J C. Muhler. Intra-oral effects upon experimental hamster caries, by J. B Fine and others. Oral environmental factors in experimental rat caries, by F J Orland. Influence of antibiotics on experimental rat caries, by R. J Fitzgerald. Effect of various agents on experimental caries a résumé, by J W Hein. General summary by R. F Sognnaes. Author index. Subject index.

Note The 20 contributors to this monograph include specialists in anatomy bacteriology and zoology as well as dentistry The results of a number of significant experiments are presented. The suitability of various species of laboratory animals for experimental caries research variability among members of the same species in their susceptibility to dental caries the influence of diet during the period of tooth development and environmental factors in the mouth which influence the rate of caries incidence, are some of the topics on which data are presented. Literature references are included in each chapter

AMERICAN DENTAL ASSOCIATION

Accepted dental remedies including a list of accepted products together with other information compiled to promote rational therapeutics in dentistry Twenty first edition Chicago American Dental Association, 1956 206 p. illus. 21 cm. $2 00 4552

Contents Members of the Council. Council consultants. Provisions for acceptance of products. Official agencies and official standards relating t drug products. Prescription writing. Analgesics, sedatives and hypnotics. Anesthetics. Antiseptics and germicides for topical application. Antibiotics and other anti-infectives. Agents and methods for the sterilization or disinfection of dental instruments. Astringents, styptics, hemostatics and vasoconstrictors. Central nervous system stimulants. Dentifrices. Fluorine compounds. Mechanical aids. Miscellaneous preparations. Mouth washes. Nutritional factors. Zinc oxide preparations. Formulas and tables. Symptoms and treatment of acute poisoning. Bibliographic index to products not included in A.D R. Index to other current Council reports. Index to distributors General index

Note The standard reference book of acceptable drugs and medicines for use in dentistry It is published annually under the supervision of the American Dental Association's Council on Dental Therapeutics, and each new edition is intended for use only during the year of issue. In general, the information given about each drug covers the following points official name chemical group, chemical formula, molecular weight, substances from which prepared, properties, actions and uses, dosage and name of one or more American manufacturers. The bibliography of articles about products which were found not acceptable, also the bibliography of other reports which have been published from time to time in the *Journal of the American Dental Association*, are useful features which serve to guide readers t search additional material on dental remedies. Every new edition contains some important revisions.

AMERICAN DENTAL ASSOCIATION

Clinical testing of dental caries preventives report of a conference to develop uniform standards and procedures in clinical studies of dental caries Council on Dental Therapeutics, Council on Dental Research Council on Dental Health. Chicago American Dental Association 1955 67 p. illus, 24 cm 4553

Contents Introductory statement. Design of the study A, Type of index of caries experience. B, Standardization of dental examinations. C, Methods for the control of variables. D The use of laboratory tests in clinical study Conduct of the investigation. Analysis of data and evaluation of the results. Presentation of the data. Appendices. Index.

Note. An important contribution toward the solution of the problems of achieving useful, scientifically reliable results in clinical testing of drugs for the prevention of dental caries. Sponsored by three major units of the American Dental Association, it was developed by special committees which conducted many studies and analyses of the several facets of such testing. Presented here are the seven final reports of the committees together with some additional reports and comments. Clearly stated and fairly detailed recommendations are made in regard to units for caries measurement, standardized techniques for dental examinations made in the course of such studies, control of variables, evaluation of the results, publication, etc. Literature references are supplied.

AMERICAN DENTAL ASSOCIATION

Specifications for dental materials prepared by George C Paffenberger and W T Sweeney Second edition Chicago American Dental Association 1956 104 p. illus. 24 cm. $1 00 4554

Contents (abridged) Dental research at the National Bureau of Standards. Specifications for dental materials. List of certified dental materials. Bibliography of publications on dental research conducted at the National Bureau of Standards. Bibliographic index.

Note. Forty-tw pages of this pamphlet are devoted to fourteen specifications for specific dental materials The remainder of the space has been used for such things as list of dental materials certified as meeting the requirements of the specifications, discussion of the research ork on dental materials conducted at the National Bureau of Standards in cooperation with the Council on Dental Research of the American Dental Association, bibliography of publications that have resulted from this research, critical discussion of the status of ultrasonics in ca ity preparation, and various information on the Association procedures for formulating specifications and certifying materials.

ANDERSON, GEORGE M

Practical orthodontics (Original text by the late Martin Dewey) Fifth sixth, seventh and eighth editions revised by George M Anderson. Eighth edition. St Louis The C. V Mosby Company 1955 702 p illus. 26 cm $17.50 4555

Contents Orthodontics, Historical résumé of the evolution and growth of orthodontics, by W W Weinberger Occlusion of the

attempt to establish other Boston. Defeat of the Taggart patents. Part II. Professional and economic perplexities. An Englishman attacks American Dentistry. The modern Sisyphus. The business side of dentistry. Part III. The specialties. Fact, fad and fraud in the treatment of pyorrhea. Extraction specialists and oral surgeons. Orthodontia from Fauchard to Angle. Part VII. Miscellaneous. Women in dentistry. Mouth care through the ages. Some sidelights on the British scene. The versatile G. V. Black. Glasgow people Fauch—the man he revolutionized dentistry. Lord Spear Penny. The dental laboratories. Paper by B. F. Philbrook which helped defeat Taggart. Chronology. Epilogue. Bibliography. Index.

Note: An inclusive history of dentistry composed from many sources and written in popular style. As it is intended for American readers, the author has placed emphasis, as indicated in the subtitle, on progress and developments which originated in the United States of America. Included is a photographic section of portraits and brief biographies of 14 persons of importance in the history of dentistry.

BURKET, LESTER WILLIAM

Oral medicine: diagnosis and treatment. With a chapter on oral cancer by S. Gordon Castigliano. 372 illustrations including 40 subjects in color. Second edition. Philadelphia. J. B. Lippincott Company. 1952. 575 p. illus. (part col'd) 26 cm. 4565

Contents (abridged): Section I. General considerations. Medical-dental relations. Diagnosis in dentistry. Section II. Gingival enlargement. Temporomandibular disease, mucous membranes and epithelioma, leukemia. Section III. Diseases of the tongue and dermatologic diseases of dental interest. The dermatoses. Section IV. Diseases of the organ systems. The respiratory system. The cardiovascular system. The gastro-intestinal system. The urogenital system. The endocrine system. The blood and the blood-forming organs. The bones and the joints. The nerves, the nervous system and the muscles. Section V. Nutritional deficiencies and diseases of metabolism. Section VI. Specific infectious granulomata. Syphilis. Tuberculosis. Miscellaneous infectious granulomata. Section VII. Focal infection, dental pulpitis, and periodontia. Section VIII. Occupational hazards in dentistry and in industry. Section IX. Oral cancer. Section X. Laboratory aids in diagnosis. Laboratory procedures. Section XI. Color atlas. Section XII. Regional diagnostic index. Index.

Note: A treatise which is concerned not only with those diseases that originate in the oral cavity but also with the pathology, diagnosis, and treatment of various systemic diseases with oral manifestations. The principal theme is that the dentist often has an unusual opportunity to detect and diagnose diseases which are the direct concern of the physician, and that there should be therefore close cooperation between dentists and medical practitioners in the care of patients. Of course many of the diseases covered are wholly within the scope of the dentist. Discussions are laid rather than concise and clearly symptoms, and treatment are usually covered. Extensive bibliographies are included and the illustrations are numerous and well reproduced. The chapter on oral cancer has been added in this edition. Certain other chapters have been rewritten or expanded and recent literature has been added to the bibliographies. A third edition was published in 1957. $14.00.

CARR, MALCOLM WALLACE

Dentistry: an agency of health service. Cambridge, Mass. Harvard University Press, 1946. 219 p. 21 cm. $1.50. 4566

Contents: Preface, by Robert Whitney Bolwell. The present status of organized dentistry. Part I. History. Historical development of the autonomous dental profession. International dental relations. Part II. Education. Predental education, the dental curriculum, and graduate education. Hospital internships and residencies. Part III. Dental practice. The practice of dentistry. Hospital dental service. Dentistry in industry. Public health dentistry. Dental practice in rural areas. Dentistry by Negroes. Preventive dentistry. National dental legislation. Part IV. Research. General discussion of research. Problems for investigation and current progress. Research in dental materials. Part V. Dental socio-economics. Problems of dental socio-economics. Part VI. Summary and conclusions. Index.

Note: This monograph has been written for the dentist, doctor, public health worker, and layman, and is one of the series of medical studies sponsored by the New York Academy of Medicine. It provides a compact but inclusive discussion of dentistry from the standpoint of its place in public health service.

CHERASKIN, E., AND L. L. LANGLEY

Dynamics of oral diagnosis. Chicago. The Year Book Publishers Inc. 1956. 533 p. illus. 27 cm. $16.00 4567

Contents: Part I. Oral medicine: Diseases due to biologic agents. Diseases due to physical agents. Diseases due to chemical agents. Neoplasms. Cysts. Hormonal disturbances. Developmental disturbances. Nutritional disturbances. Reactions to stress and antigenic substances. Metabolic disorders. Miscellaneous disorders. Part II. Oral diagnosis: Gross appraisal of the patient. Examination of the head and neck. Examination of the oral cavity. Radiographic examination. Laboratory aids. Final diagnosis. Index.

Note: An unusually broad view of diagnosis in dentistry is presented in this textbook. Essentially it teaches that the practicing dentist has responsibilities in diagnosis parallel to those of practicing physicians. Diseases and abnormalities of the mouth and systemic diseases that have oral manifestations are, of course, emphasized. The first part—300 pages long—is devoted to descriptions of diseases of the classes noted in the above contents. Measles and poliomyelitis are among the many diseases described under "Diseases due to biologic agents." Pregnancy is included in the section entitled "Hormonal disturbances." Each disease considered is discussed as to pathologic physiology, clinical features, radiographic or laboratory findings, and treatment. The primary thesis of the book is the necessity for thorough and efficient plan of diagnosis consisting of gross appraisal of the patient, examination of the head and neck, examination of the oral cavity and use of radiography and clinical laboratory tests where these are appropriate. There are 314 figures. The authors are members of the faculty of the School of Dentistry of the University of Alabama.

COELHO, DAVID, AND JULIAN M. RIESER

A complete fixed bridge procedure. Second edition. New York. New York University Press, 1955. 140 p. illus. 23 cm. $5.50. 4568

Contents: Introduction. Treatment planning. Occlusal balance. Parallelism. Abutment preparation. Protection of prepared abutment teeth. Compound-copper band impressions, dies, transfers, and working models. Wax pattern technic. Investing and casting technic. Fitting the casting. Impressions, models, and shade matching. Pontic construction. Assembly. Finishing. Waxing, flasking, and packing of plastic facings and pontics. Cementation. Periodontal considerations. Completely indirect bridge construction using alginate hydrocolloid. Causes of failure. Index.

Note: A concise, straightforward presentation of techniques. It is designed as an introductory textbook for students in dental colleges. The second edition is the result of an extensive revision of the first edition and the addition of chapters and parts of chapters on new techniques and materials. It contains 137 figures, a majority of which are reproductions of photographs.

COMROE, BERNARD ISAAC, AND OTHERS

Internal medicine in dental practice, by Bernard I. Comroe, Leon H. Collins, jr., and Martin P. Crane. Illustrated with 76 engravings and 6 colored plates. Fourth edition, thoroughly revised with 86 illustrations and 6 colored plates. Philadelphia. Lea & Febiger. 1954. 563 p. illus. (part col'd) 24 cm. $7.50. 4569

Contents: Diseases of the heart and blood-vessels. Diseases of the respiratory tract. The gastro-intestinal tract. Diseases of the kidneys and urinary tract. Diseases of the nervous system. Endocrinology. Diseases of blood and blood-forming organs. Arthritis and allied conditions. The infections. The eye—nose—pharynx—mouth—salivary glands. Allergy—deficiency diseases—vitamins. Chemical poisoning—intoxication. Foci of infection. The sulfonamides. Antibiotics. Appendix. Index.

Note: A textbook of internal medicine which is written expressly for students of dentistry and graduate dentists. Its purpose is to facilitate the recognition of the symptoms of *systemic* diseases and to facilitate cooperation among dentists and physicians in the care of patients. It covers the *full* range of diseases that come within the scope of the internist but treats them in less detail than would be expected in a book designed for medical students. Literature references to far too treatments of specific topics are included.

ment of diseases of the oral regions With 1001 text illustrations and 5 color plates. St Louis The C V Mosby Company, 1955 825 p illus 26 cm. $15 00 4560

Contents The interpretation of signs and symptoms—biopsy Histology of the skin and oral mucous membrane. Anomalies of the teeth. The pathology of dental caries. Inflammation and repair Diseases of the pulp and periapical tissues. Physiologic pathology of the calcified dental tissues. The pathology of periodontal disease. Superficial lesions generally local in character Oral reactions in allergy and to drugs. Viral and viral-like lesions of the oral mucosa. Specific inflammatory lesions, including fungi. Oral lesions in diseases of the blood. Oral lesions in deficiency and metabolic diseases. Tumorlike proliferations. Superficial keratoses and dermatologic-like lesions of the oral mucosa. Cysts of the oral regions. Tumors of the odontogenic apparatus. Inflammation and tumors of the salivary glands. Disturbances of the maxillary and mandibular bones. Benign tumors of the soft oral structures. Malignant tumors of the oral regions. Index.

Note A treatise of broad scope designed primarily for use as text in dental colleges and containing features, particularly a high number of excellent illustrations and extensive bibliographies, that give it reference value for graduate practitioners. Pathology is emphasized however it is presented as essential background for treatment of patients. Etiology clinical features, and treatment are all discussed concisely The illustrations include many pictures of both gross and micropathology and are well reproduced. The author is Chief of the Oral Pathology Branch of the United States Armed Forces Institute of Pathology and member of the faculty of the Georgetown School of Medicine.

BOYLE, PAUL E , editor

Kronfeld's histopathology of the teeth and their surrounding structures Fourth edition, thoroughly revised and edited by Paul E Boyle. 497 illustrations and 2 color plates. Philadelphia Lea & Febiger, 1955 535 p. illus (part col'd) 24 cm $10 00 4561

Contents Anomalies in shape and number of teeth. Physiology and pathology of tooth formation and calcification. Enamel hypoplasia and hypocalcification—Hutchinson's teeth—mottled enamel. Regressive changes in dentin and pulp. Dental caries, by N B. Williams. Pulpitis. Acute apical periodontitis. Chronic apical periodontitis. Tissue changes following root canal therapy Cementum—changes with age, function and infection. Tooth resorption. The structure and function of the tooth supporting tissues. Influence of function upon teeth and surrounding structures. Periodontal diseases (gingivitis, periodontoclasia, pyorrhea alveolaris) Tissue changes due to excessive functional stress. Tissue changes in orthodontia. Embedded teeth—dentigerous (follicular) cysts—median anterior maxillary cysts. Tooth fracture. Healing of extraction wounds—histology of edentulous jaws. Vincent's disease—discolorations and stains—common diseases of the oral mucosa. Tumors of the oral cavity Addenda Differential diagnosis of toothache. Index.

Note. A well-written and fully illustrated treatise on tissue changes in the teeth and surrounding structures that correspond to certain well-defined clinical conditions. Both etiologic and reactive changes are covered, and there is also much supplementary information such as a summary of the evidence bearing on a supposed relationship between caries and pregnancy a discussion of stains on teeth, and discussion of the public health aspects of excessive amounts of fluorine in drinking water Extensive bibliographies are included The book is used by advanced students of dentistry and by graduate dental practitioners. The third edition was published in 1951 The greater part of its text and illustrations has been carried over to this fourth edition however important new matter on such topics as dental caries has been added. The number of illustrations and the length of the book were both increased.

BRAUER, JOHN CHARLES AND OTHERS

Dentistry for children By John Charles Brauer, William W Demeritt, L B Higley, Maury Massler Isaac Schour Third edition. New York The Blakiston Division McGraw Hill Book Company 1952 454 p. illus 24 cm. $10 00. 4562

Contents Part I, Fundamental considerations in the practice of dentistry for children: Practice of dentistry for children. Psychologic development of the child (parent and child management). Development of the teeth—normal and abnormal, by I. Schour and M. Massler Morphology and histology of the primary teeth, by I. Schour and M. Massler Preventive orthodontics, by L. B. Higley. Dental caries and the growing child, by M. Massler. Lesions and infections of the oral soft tissues, by M. Massler and I. Schour. Nutrition and oral disease—general considerations, the vitamins, by I. Schour and M. Massler Nutrition and oral disease—the minerals, nutriments, and clinical considerations, by I. Schour and M. Massler. The endocrine glands, by M. Massler and I. Schour. Part II, Technical procedures in the practice of dentistry for children: Dental examination for the child patient. Preventive dentistry Operative dentistry for children. Pulp and root canal therapy in primary and young permanent teeth. Space maintenance. Removable denture prosthesis, by W W Demeritt. Treatment and restoration of fractured and displaced permanent and primary anterior teeth. Oral surgery for children. Index.

Note. A comprehensive exposition of the special aspects of dentistry that are of importance in the dental care of children. As shown above, the book is divided in two parts, one on preventive dentistry and fundamental matters pertaining to children's teeth and their care the other to the actual technical procedures of dentistry for children. The book is used as a text in colleges of dentistry and is useful also to general practitioners of dentistry Both the basic topics and techniques are covered in detail. The literature of the subject is extensively cited. The second edition was published in 1947 The chapter on removable denture prosthesis is new in this edition, and a number of the other chapters have been extensively rewritten. There are now 263 figures. All of the authors are members of the faculties of colleges of dentistry in the United States of America.

BRECKER, SOL CHARLES

The porcelain jacket crown, a manual stressing the preparation of normal and abnormal teeth. With 290 illustrations and frontispiece in color St. Louis The C. V Mosby Company 1951 263 p illus. (part col'd) 26 cm. $5 00 4563

Contents: Classification of preparations for the porcelain crown. The preparation. Preparation of teeth influenced by their anatomy. Preparation of teeth influenced by their condition. Preparation of teeth influenced by their position. Procedures after the preparation is completed. Shortcomings of the porcelain jacket crown—how to prevent or minimize them. Porcelain bridges. References. Index.

Note: The aim of this very carefully prepared volume is to provide technical guide for dental students and graduate dental practitioners. By means of numerous photographs and drawings rather than by many words, the author explains the procedures and techniques involved in the construction of porcelain jacket crowns. There are selected references at the end of the volume.

BREMNER, M D K.

The story of dentistry from the dawn of civilization to the present, with special emphasis on the American scene Third edition revised. Brooklyn, N Y Dental Items of Interest Publishing Company Inc., 1954 462 p illus. 24 cm $7 50 4564

Contents: Part I, Anthropological facts and theories: From tubercles to teeth. Before Adam. Bad teeth and civilization. Magic in the treatment of toothache. Odd beliefs about the teeth. Part II, Dentistry among the early peoples of history The Egyptians, Near East and China. The Greeks, Etruscans and Romans. The Hebrews. Part III, After the fall of Rome and through the Middle Ages. Abulcasis of Cordova. The break of dawn in western Europe. The rebirth of scientific thought. Part IV The roots of modern dentistry Pierre Fauchard. The invention of porcelain teeth. Part V Development on this continent From the early colonial period to 1839 Professional journalism. Dental organizations. Separate school for the training of dentists. Part VI, Dentistry's contribution to the mastery of pain Horace Wells, the discoverer of anesthesia. The discovery of ether and other agents. Part VII, The effect of two great inventions—vulcanite and the dental engine False teeth for the millions. Crown and bridgework Part VIII, Fillings and filling materials. Gold foil. Amalgam, cement and porcelain Part IX, The casting process and the fight against commercialism Disclosure of the inlay technique. Development of the casting process. The

the root, with or without loss of crown structure. Class VII, Displacement of teeth, without fracture of crown or root. Partial displacement—extreme mobility but little displacement. Total or complete displacement. Class VIII, Fracture of the crown en masse and its replacement. Class IX, Traumatic injuries to deciduous teeth. Fracture of deciduous teeth, diagnosis. Displacement of deciduous teeth, diagnosis. Index.

Note: A compact and useful work written from the viewpoint of the graduate dental practitioner. Each of the chapters begins with "Prescription for treatment," in which all the steps are covered from the recording of the case history to a step-by-step notation of the treatment. Following this, various approaches to each problem are considered, and diagrams, pictures, and X-ray photographs are used where applicable. Bibliographies are included. The author is Professor of Operative Dentistry at the University of Toronto.

ENNIS LE ROY MASSEY

Dental roentgenology Fourth edition, thoroughly revised. With 1207 illustrations. Philadelphia Lea & Febiger 1949 538 p. illus. 24 cm. $10.00. 4575

Contents (abridged) The roentgen-ray tube. Roentgen-ray department. Intra-oral and extra-oral technique. Methods of localization. Dental roentgen-ray films. Normal anatomical landmarks of the teeth and jaws as seen in the roentgenogram. Dental pathology in relation to roentgenology. Index.

Note: A standard treatise, the first edition of which was published in 1931. It is addressed to advanced students in dental colleges and to dental practitioners. Although introductory to the field, it is an extensive treatment with both basic information and detailed descriptions of practical techniques. The chapter on pathology is nearly 230 pages in length. A majority of the illustrations are reproductions of roentgenograms.

FELDMAN MAX HILLEL

Exodontia. Fourth edition, thoroughly revised, with 322 illustrations. With a chapter on dental malpractice jurisprudence by Michael A. Hayes Philadelphia Lea & Febiger 1951 290 p. illus. 24 cm. $6.50 4576

Contents: The management of teeth in the presence of acute infection. Indications concerning the extraction of teeth. The significance of roentgenographic examinations of the teeth. Operative considerations. Manipulation of instruments. Exodontia technic for teeth in normal alignment. Exodontia technic for teeth in abnormal alignment. Exodontia technic for roots fractured during extraction. Exodontia technic for roots fractured some time in the past and wholly or partially embedded. Exodontia technic for morphologically abnormal teeth. Impacted teeth. Exodontia technic for pathologically abnormal teeth. Sutures and drainage. The management of deciduous teeth. Operative accidents. Postoperative considerations. Dental malpractice jurisprudence, by M. A. Hayes. Index.

Note: A detailed treatise on tooth removal. As much attention is given to pre- and post-operative techniques as to the actual techniques of removal, although the latter are covered in full detail also. Two tools invented by the author — "cross-bar pathelever" and a surgical drill used to make an opening in the tooth for the insertion of the pathelever, and the techniques dependent on these instruments, are given some emphasis, but other instruments and techniques are well covered also.

FISCHER, BERCU

Orthodontics diagnosis, prognosis, treatment. With 1180 illustrations on 212 figures. Philadelphia W B Saunders Company 1952 334 p. illus. 26 cm. $12.00. 4577

Contents: Elements of treatment. The individuality hypothesis. The meaning of the "normal." Case analysis. Inadequacy of intermaxillary and occipital orthodontic force. The basic treatment plan—sectional treatment. Specific cases. Technical procedure. Methods of recording. Index.

Note: A thoroughly detailed treatise on a system of orthodontic treatment which the author terms "sectional treatment" because a minimum number of teeth are subjected to orthodontic force at one time. The principal technique makes use of occipital force applied to the teeth through an edgewise arch and occipital bow the latter of which is supported by a headcap worn by the patient. Background matters, such as variation of response in individuals, are fully discussed. The illustrations include many "before and after" photographs of cases and many drawings of appliance details.

GABEL ARTHUR B editor

The American textbook of operative dentistry with contributions by eminent authorities. Ninth edition, thoroughly revised, with 472 illustrations. Philadelphia Lea & Febiger 1954 626 p. illus. 24 cm. $10.00. 4578

Contents. Examination and diagnosis, by P. E. Boyle. Caries, by P. Jay. Preventive dentistry, by R. W. Bunting. Mechanics, by A. B. Gabel. Operative procedure, by A. B. Gabel. Metal inlays, by E. B. Smyd. Porcelain inlays, by W. D. Vehe. Special operative procedures, by T. J. Hill. Restorative materials, by F. A. Peyton. Index.

Note. A critical presentation of techniques and materials which are currently useful in operative dentistry. Each chapter is a survey, with literature references, of the subject named in its title. Most of the authors are members of faculties of leading dental colleges in the United States of America. The book is used primarily as a textbook for advanced students of dentistry but it is of value also to graduate dentists. Extensive bibliographies are included in most of the chapters. The chapter on dentistry for children which appeared in it was omitted in preparing the ninth edition. There are no new chapters, but most of the chapters carried over were revised to some degree.

GLICKMAN IRVING

Clinical periodontology The periodontium in health and disease recognition diagnosis and treatment of periodontal disease in the practice of general dentistry Illustrated with 742 figures. Philadelphia W B Saunders Company 1953 1,019 p. illus. (part col'd) 25 cm. $15.00. 4579

Contents (abridged) Section I, The tissues of the periodontium. Gingiva. Periodontal membrane. Cementum. Alveolar bone. Section II, Periodontal disease—Part I, Gingival disease: Changes in the consistency, surface texture and position of the gingiva. Gingival bleeding. Gingival infections. Gingival changes in puberty, menstruation and pregnancy. The oral mucosa in dermatologic disease, by F. P. McCarthy and P. L. McCarthy. Part II, Chronic destructive periodontal disease: Periodontal pocket. Bone loss in periodontal disease. "Bifurcation" and "trifurcation" involvement. Periodontal abscess. Periodontal disease in childhood. Epidemiology of periodontal disease. Part III, The etiology of periodontal disease: Role of calculus and other deposits on the tooth surface in the etiology of periodontal disease. Role of bacteria in the etiology of periodontal disease. Role of traumatic occlusion in the etiology of periodontal disease. Nutritional influences in the etiology of periodontal disease. Hematologic and other systemic disturbances in the etiology of periodontal disease. Part IV The classification of periodontal disease. Part V, The principles of occlusion pertinent to the problem of periodontal disease. Section III, The clinical management of periodontal disease: Treatment planning. Rationale for periodontal treatment and principles of healing. General principles governing instrumentation. Pocket eradication. Scaling and curettage technique for the eradication of the periodontal pocket. Eradication of the infrabony type of pocket. Treatment of bifurcation and trifurcation involvement. Treatment of gingival enlargement. Treatment of acute gingival disease. Occlusal equilibration. Prosthetic and operative dentistry procedures in periodontal treatment. Orthodontic procedures in the management of periodontal disease. Occlusal rehabilitation and the periodontal problem, by L. A. Cohn. Drugs in periodontal therapy. Index.

Note: A very comprehensive text on that sector of dentistry which is concerned with the tissues that surround and support the teeth; in other words, the tissues named in the chapter titles of Section I as listed above. Approximately 70 pages are devoted to functional and histological description of these tissues. Diseases and their treatment occupy most of the rest of the volume. Here, the tissue changes that underlie the clinical manifestations are emphasized. Therapeutic techniques are described in much detail. The book is directed to general practitioners of dentistry rather than to specialists in periodontal care and is used both as a reference book by graduate dentists and as a textbook for advanced students in dental colleges. The author is Director of the

COOLIDGE, EDGAR D, AND MAYNARD K HINE

Periodontia, clinical pathology and treatment of the periodontal tissues. Second edition, thoroughly revised, 424 illustrations on 250 figures and 2 color plates Philadelphia Lea & Febiger, 1954 384 p illus. (part col'd) 24 cm $7 50 4570

Contents. Part I, Prevention and classification of periodontal diseases Oral and dental hygiene. Prevention of dental disease. Classification and outline of pathological changes in the periodontal structures. Part II, Treatment of inflammatory changes in the gingival and periodontal tissues: Gingivitis caused by chemical and mechanical irritation. Gingivitis caused by dental calculus. Gingivitis caused by infection. Gingivitis associated with systemic disturbances. Hyperplastic gingivitis and hyperplasia of the gingival tissues. Periodontitis. Part III, Treatment of retrogressive changes in the periodontal tissues Gingivosis and periodontosis. Atrophy of the periodontal tissues. Functional response to occlusal stress and the effect of traumatism. Part IV Correction of occlusal disharmony and care of the oral tissues Prevention and correction of occlusal disharmony (occlusal equilibration)—treatment for the prevention and correction of occlusal disharmony (occlusal equilibration) The use of the toothbrush in the care of the teeth and oral tissues. Index.

Note This book is essentially an advanced text for students in dental colleges, but it has some usefulness also as an office reference book for graduate dentists. The descriptions of diseases and therapeutic procedures are clear and specific. Most of the illustrations are reproductions of photographs (including some microphotographs) and they are well reproduced. Literature references are included. The first edition was published in 1951 The presentations of several major topics have been reorganized and revised, the number of illustrations increased, and the book lengthened by 67 pages in this second edition.

COOLIDGE, EDGAR D, AND ROBERT G KESEL

A textbook of endodontology including the clinical pathology and treatment of the dental pulp and pulpless teeth. Second edition thoroughly revised, 345 illustrations on 210 figures and a colored plate. Philadelphia Lea & Febiger 1956 366 p illus (part col d) 24 cm $7 50 4571

Contents Therapeutic principles. Dental caries. Dental pain, its source and characteristics. Treatment of the dentin. Treatment of the dental pulp in which vitality should be preserved. Partial pulp removal. Anatomy of root canals with relation to pulp removal and root-canal filling. Pathology and treatment of diseased pulps before their removal. Removal of the pulp and preparation of root canals for filling. Treatment of necrosis, gangrene and putrefaction of the pulp. Important principles in root-canal treatment. The treatment of infected root canals and pulpless teeth. Sulfonamide and antibiotic medication for infected root canals Bacteriology in endodontic treatment. Principles and technique of filling root canals. Healing and repair after pulp removal and root canal filling. Treatment of teeth with inflammatory disturbances of the apical periodontal tissues. Root resection. Focal infection. Pulpless teeth. Index.

Note A text on that branch of dentistry which aims at the conserving of rather than the extraction of teeth. The authors consider all phases of healing and repair of pulpless teeth, but place specific emphasis on root canal treatment. Each type of disease is considered separately and the proper treatment is described. Much attention is given to the problem of achieving sterility in root canals and to the germicides, sulfonamides, and antibiotics employed to achieve it. The subject is covered at an advanced level. The book is suitable for students in the upper classes of dental schools, graduate students of dentistry and graduate practitioners. The first edition, entitled *Endodontia*, was published in 1950 and was written by the senior author alone. The book was reorganized and considerably revised for this second edition. The chapter entitled Bacteriology in endodontic treatment is a new addition.

DIAMOND, MOSES

Dental anatomy, including anatomy of the head and neck. Third edition. New York The Macmillan Company, 1952 471 p. illus. 26 cm. $10 00 4572

Contents. Introduction and nomenclature. Comparative dental morphology The development of teeth. Formation and calcification of hard tissues. The tooth tissues. Eruption. Deciduous teeth. The maxillary teeth. The mandibular teeth. Technique for reproducing basic tooth forms. Variations and anomalies. Arrangement of teeth and occlusion. The supporting tissues of the teeth. Atlas: The pulp chamber and the pulp canals. The muscles of the head and neck. The oral cavity and its soft tissues. The vascular system. The nervous system. Temporomandibular articulation. The growth and development of the skull. Bibliography Index.

Note An outstanding text published in first edition in 1929 and in a second edition in 1935. The present third edition contains much new material of a fundamental nature derived from research studies made subsequently to the writing of the second edition. The whole book has been reorganized and its scope considerably extended. The Atlas noted in the table of contents contains 32 plates based on original drawings made from new dissections. The atlas is not included in the paging of the volume. The bibliography is an extensive one classified according to the chapter arrangement.

DOBBS, EDWARD C

Pharmacology and oral therapeutics a textbook for students and practitioners. Eleventh edition St. Louis The C. V Mosby Company, 1956 579 p illus 22 cm. $9.00 4573

Contents Part I, Pharmacology Introduction to pharmacology and oral therapeutics. Introduction to the study of drugs. Drugs which depress the central nervous system. Drugs which stimulate the central nervous system. Drugs which act on the autonomic nervous system. Regional analgesia. Drugs which act on the respiratory system. Drugs which act on the circulatory system. Drugs which affect the blood. Drugs which act on the gastrointestinal system. Drugs which affect the genitourinary system. Drugs which act on the skin and mucous membranes. Chemotherapy and antibiotics. Glandular texts, antibodies, and iodine therapy Dietary factors. Local anti-infectives. Astringents. Irritants and counterirritants. Caustics. Physical therapeutics. Part II, Therapeutics: Prescription writing. Coloring, flavoring, and sweetening agents. Dental and oral therapeutics. Index.

Note: A standard textbook and reference manual in which pharmacology is treated from the viewpoint of dentistry The first edition was published in 1909. For many years the senior author was Hermann Prinz, and the title was *Dental materia medica and therapeutics*. The ninth and 10th editions were entitled *Pharmacology and dental therapeutics*. These changes in title emphasize the enlargement of the book's scope to cover all of oral therapeutics. Some subjects and drugs are discussed which are not used directly in dentistry but are useful for background knowledge and full treatment is given to those topics and drugs that are of direct application to dentistry Many formulas are given for dental preparations. In this 11th edition, the book has been revised to bring the descriptive material on drugs into conformity with the *United States Pharmacopeia XV* and the *National Formulary X*

ELLIS, ROY GILMORE

The classification and treatment of injuries to the teeth of children a reference manual for the dental student and the general practitioner Third edition Chicago The Year Book Publishers Inc. 1952 247 p. illus. 19 cm $4.25 4574

Contents (abridged) Class I, Simple fracture of crown, involving little or no dentin. Class II, Extensive fracture of crown, involving considerable dentin but not the pulp. Class III, Extensive fracture of crown, involving considerable dentin and exposing the pulp Pulp capping. Pulpotomy Class IV Traumatized tooth which becomes non vital, with or without loss of crown structure Vital tooth. Non vital tooth, with pulp chamber opened by fracture Class Nonvital tooth, with pulp chamber not opened by fracture. Class Teeth lost as result of trauma: Placement of restoration. Repositioning to compensate for loss of tooth. Class VI, Fracture of

which the authors discuss the salient features of the case and treatment. The third and much shorter part is devoted to anesthesia, operative procedures, and the techniques of constructing prostheses.

KELSTEIN LOUIS B

Pedodontics for the general practitioner—a textbook of oral pediatrics. With 270 illustrations. Brooklyn, N. Y. Dental Items of Interest Publishing Company Inc., 1956 396 p. illus. 24 cm. $9.75 4585

Contents: Historical background. Psychologic development of children. Psychotherapy of oral habits. The role of parents in dental treatment for children. Training children to become dental patients. Administrative procedures in dentistry for children. Embryology of the jaws and related structures. Physical growth and development. Endocrines and growth. Nutrition. Systemic diseases in children. Periodontal and soft tissue diseases in children. Etiology and control of dental caries. The primary dentition. Roentgenograms for children. Dental materials. Oral health services for children. Silver amalgam restorations for children. Restoring severely carious primary teeth. Endodontics for children. The management of injuries to children's anterior teeth. Oral surgery and anesthesia for children. Prosthesis for children. Etiology and interception of potential dento-facial abnormalities. Index.

Note: As the title indicates, this is a book for the general dental practitioner rather than the specialist in children's dentistry. A basic knowledge of dentistry is assumed, and the entire book is devoted to dentistry for children in all its aspects, including relations with parents, psychological aspects of managing child patients, basic information on children's growth and development, and other topics of a background nature. Dental techniques are, of course, the primary subject, and approximately the latter half of the book is devoted to them. The chapters include literature references, and the volume is adequately illustrated. The author is Chief of the Pedodontic Section of the Dental Clinic of Beth Israel Hospital in Newark, New Jersey.

LANGLEY L. L., AND E. CHERASKIN

The physiological foundation of dental practice. With 192 illustrations. Second edition. St. Louis The C. V. Mosby Company 1956. 587 p. illus. 25 cm. $9.75 4586

Contents (abridged): Section I. The nervous system. Receptors. The senses. Skeletal muscle. Sensory functions. Motor systems. Cerebellum. Cranial nerves. Autonomic nervous system and the hypothalamus. Integration of the nervous system. Section II, Circulation: Cardiac muscle. Heart sounds and the pulse. Electrocardiography. Regulation of the heart action. Arterial blood pressure. The venous blood pressure. The capillaries and lymphatics. Blood. Section III, Respiration: Oxygen and carbon dioxide transportation. Control of respiration. Integration of the respiratory system. Section IV, Excretion: The kidney. Fluid and acid-base balance. Section V, Alimentation: Salivation. Mastication and deglutition. The stomach. The intestines. Food metabolism. Energy metabolism. Section VI, Endocrinology. Index.

Note: A textbook designed to meet the needs of dental students for a particular presentation of physiology different from that which suits the needs of students of medicine. To cite an example of the difference, about one third of the volume is devoted to the physiology of the nervous system because the dentist is more intimately concerned with the nervous system than with the other physiological systems. In comparison with standard textbooks designed for medical students, most other topics are treated briefly. Implications for dentistry are pointed out frequently. The first edition was published in 1951. In preparing this edition, the authors rewrote a number of chapters and sections of chapters and revised the bibliographies.

MCBRIDE, WATER CLAR

Juvenile dentistry Fifth edition, thoroughly revised, with 30 illustrations. With special chapters by James Nuckolls Dorothea Radusch, C. Taylor Hall and Harold V Dwyer Philadelphia. Lea & Febiger 1952 370 p. illus. 24 cm. $7.00. 4587

Contents: The management of the child. The management of the office. Growth and development of the teeth. Morphology of the deciduous teeth, with special reference to the pulp cavity and its relation to cavity preparation, by J. Nuckolls. Examination and diagnosis. Preventive dentistry. Operative procedures for vital deciduous teeth. Pulp management in both dentitions. Operative procedures for young permanent teeth. Root resection, by C. T. Hall. Filling materials and their application. Extraction and anesthesia. Preventive orthodontics. Teeth and the diet, by D. F. Radusch. Physical diagnosis, by H. V. Dwyer. Index.

Note: This book is both a text for use in dental colleges and a manual for graduate dentists whose practice includes child patients. Most of its content pertains to disorders of children's teeth and the techniques of treating and restoring them, but interspersed with the technical material is a good deal of advice on the management of the child patient (and his parents) so as to obtain cooperation. The fourth edition appeared in 1945. Although much of the contents of this edition is identical with the contents of that one, some revision has been made in most of the chapters, and the recent literature has been added to the reference lists.

MCCALL JOHN OPPIE AND SAMUEL STANLEY WALD

Clinical dental roentgenology—technic and interpretation, including roentgen studies of the child and the adolescent. Third edition, with 1277 illustrations on 475 figures. Philadelphia W. B. Saunders Company 1952 384 p. illus. 26 cm. 4588

Contents: Introduction. Electricity and roentgenology. The dental roentgenogram and the films used in dental roentgenography. Factors in dental roentgenography. Complete intra-oral roentgenographic survey—evaluation of roentgenograms. Stereoscopic roentgenography. Roentgenographic interpretation. Dental roentgenograms of the normal child. Differential diagnosis between anatomic landmarks and indications of pathologic conditions. Anomalies and abnormal development. Growth phenomena. Hypoplasia. Dental caries. Periapical lesions. Root resorption. Periodontal disease. Fractures of the teeth and jaws, and operative trauma. Osteomyelitis. Cysts. Bone dysplasias. Benign tumors of the jaws. Malignant tumors of the jaws. Involvement of the maxillary sinus. The temporomandibular articulation. Localization of unerupted teeth, cysts, salivary calculi and foreign bodies. Index.

Note: Intended for dental hygienists, students, and practitioners, this book covers in detail the use of X-rays in diagnostic techniques in dentistry. Almost as much space is given to the illustrations as is given to the text. As would be expected, a large proportion of the illustrations are reproductions of roentgenograms, but some are photographs that show correct positioning of patients. The second edition was published in 1947. In the third edition the scope and organization are the same; however, significant additions and revisions have been made. The additional material includes a description of the long cone technique. The number of pages has been increased by 43 and the number of illustrations by nearly 150. The fourth edition was published in 1957. 446 p. $12.00.

MCCOY JAMES DAVID

Applied orthodontics. In collaboration with Earl Emanuel Shepard. Seventh edition, thoroughly revised. 212 illustrations and 9 plates. Philadelphia. Lea & Febiger 1956 336 p. illus. 24 cm. $7.50. 4589

Contents: The object and scope of orthodontics. The growth of the masticatory apparatus. Dental and oral anomalies. The etiology of dental and oral anomalies. Pre-treatment requisites. Appliances for the correction of dental and oral anomalies. Elements of modern appliances. The operation of appliances. Orthodontic practice. Orthodontic practice—requirements of treatment. Post-treatment requisites. Index.

Note: An introduction to the basic principles and methods employed in the prevention and correction of dental and oral anomalies. In its various editions, it has been used as a textbook in dental colleges since the publication of the first edition in 1922. Considerable space is devoted to basic principles of growth and development of the oral structures and to the etiology of abnormalities. The sixth edition was published in 1946. This seventh edition is the first to bear the name of a collaborating author. Otherwise, the only major changes are in the illustrations. These have been extensively revised, so that many of them in the seventh edition are either re-drawn versions of illustrations from earlier editions or are entirely new.

Division of Graduate and Postgraduate Studies of Tufts College Dental School. Literature references are given. A second edition was scheduled for publication early in 1958.

GOLDMAN, HENRY M , AND OTHERS

Periodontal therapy By Henry M Goldman, Saul Schluger, Lewis Fox. With 190 text illustrations and 100 plates. St. Louis The C V Mosby Company, 1956 565 p illus. 26 cm $18 75 4580

Contents Diagnosis. The rationale for periodontal therapy Prognosis. Periodontal treatment planning. Instrumentation. Coronal and root surface scaling. Re-evaluation of gingival form and attachment after scaling. Gingival curettage. Gingivectomy Gingivoplasty osteoplasty and osteoectomy T eatment of the infrabony pocket. Special problems in periodontal therapy Temporary splinting. Occlusal adjustment. Orthodontics in periodontal therapy Oral habits and occlusal neuroses. Procedures in general dentistry as it pertains to periodontal therapy Periodontal prosthesis. Necrotizing ulcerative gingivitis. Oral physiotherapy Medicinal aids in periodontal disease. Physical health status affecting periodontal therapy The maintenance phase. Index.

Note The authors of this book purposely omitted discussion of basic anatomy and histology in order to have adequate space for explanation of therapeutic techniques and such closely related matters as prognosis. The volume is both a text and an atlas. The 100 plates mentioned in the title are full-page plates containing several illustrations each. Most of the text figures also contain more than one illustration. Both plates and text figures are of excellent quality The erbal text consists both of legends accompanying the illustrations and of chapters written in the usual style f verbal exposition. Extensive bibliographies are included. The book is suitable for use as a textbook offered to advanced students in dental colleges and as medium of self-instruction and reference by general practitioners of dentistry The senior author is Chairman of the Department f Periodontology of the Graduat School of Medicine of the University of Pennsylvania, and his collaborators are members of the faculty of the School of Dental and Oral Surgery of Columbia University

GROSSMAN, LOUIS IRWIN

Dental formulas and aids to dental practice. With 25 illustrations, 1 in color Philadelphia Lea & Febiger 1952 318 p illus. (part col d) 21 cm $5 00 4581

Contents (abridged) Section I, Operative dentistry Dentin desensitizers. Cavity sterilizing solutions. Dental cements. Self-curing acrylics. Silver alloys. Inlay gold. Dental ceramics. Coloring agents for porcelain. Section II, Prosthetic dentistry Impression materials. Waxes. Separating media. Investment material. Solders. Dental base materials. Dental adhesi powders. Denture cleansers. Section III, Therapeutics Anesthetics. Endodontics. Periodontics. Oral hygiene Oral surgery Prescription writing. Nutrition and itamins. Section IV Diagnosis X-ray processing. Bacteriology Histological methods for dental tissues. Biologic tests. Section V 101 helpful hints. Section VI, Cosmetics, home remedies, antidotes, conversion tables, etc. Index.

Note. A useful collection of formulas for drugs and materials currently used in dentistry For each formula, ingredients and their amounts are stated, and brief directions are given for compounding. At the beginning of each sub-section, there is usually discussion of the uses of the class of compound to which the sub-section is devoted for example, formulas for cavity aralishes are preceded by paragraph of discussion of their uses and limitations. Formulas for a few commercial compounds, particularly tooth powders and toothpaste are included. The uthor is member of the faculty of the University of Pennsylvania.

GROSSMAN, LOUIS IRWIN editor

Lippincott's Handbook of dental practice. Second edition with 388 illustrations, 4 color plates Philadelphia J B Lippincott Company, 1952 503 p. illus. (part col d) 26 cm $10 00 4582

Contents: Part I, Diagnosis and treatment The prevention of dental caries, by R. G. Bibby and J F Volker Control of dental caries, by L. I. Grossman. Oral diagnosis, by G. R. Winter and L. I. Grossman. Roentgenologic interpretation, by E. C. Stafne. Orthodontics, by A. G. Brodie. Periodontics, by B. Orban. Endodontics, by L. I. Grossman. Diseases of the mouth, by L. W Burket. Prescription writing, by E. C. Dobbs. Anesthesia, by W R. Archer Exodontics, by J R. Cameron and J. J. Stetzer jr. Part II, Restorative dentistry Gold inlay restorations, by E. M. Gorrell and H. K. Mathews. Amalgam, silicat and direct resinous restorations by B Kornfeld. Ceramic restorations, by C. C. Bastian. Pedodontics, by C. A. Sweet. Crown and bridge restoration, by A. O. Klaffenbach. Partial dentures, by V R. Trapozzano. Complete dentures, by V R. Trapozzano. Index.

Note: A reference guide for practicing dentists. The style of presentation is direct and concise. Much use is made of illustrations and of tabular and semi-tabular statements of data and reference information. Bibliographies are included, but the book is not a literature digest, and no effort has been made to make them complete. The first edition was published in 1948. The major change in the second edition is the addition of the chapter on oral diagnosis. A section has been added on the use of the self-curing acrylics, and numerous smaller revisions and additions ha e been made in other chapters. About 80 illustrations have been added.

GROSSMAN, LOUIS IRWIN

Root canal therapy Fourth edition, thoroughly revised, with 347 illustrations on 140 figures 1 in color Philadelphia Lea & Febiger, 1955 399 p. illus (part col d) 24 cm. $7 50 4583

Contents. Pulpless teeth and local infection. Diseases of the dental pulp. Diseases of the periapical tissues. Clinical diagnostic methods. Pulp capping. Pulpotomy Pulp mummification. Pulpectomy Rationale of endodontic treatment. Selection of cases for treatment. Principles of endodontic treatment. Anatomy of pulp cavity Preparation of the root canal. Irrigation of root canals. Sterilization of the root canal. Bacteriologic examination. Filling of the root canal. Root resection. Treatment of fractured and traumatized anterior teeth. Bleaching of discolored pulpless teeth. Index.

Note. A standard textbook for advanced dental students and guide for dental practitioners. The whole question of focal infection in relation to teeth is critically reviewed in the first chapter and diseases of the dental pulp and periapical tissues are described concisely in the second and third chapters. The remaining three-fourths of the book is devoted to the techniques of root canal therapy which are described in detail. References to the literature are included in all chapters. The third edition was published in 1950 In preparing this fourth edition, two chapters, one on history the other on treatment of deciduous teeth, were deleted, the material on sterilization of the root canal was reorganized and greatly expanded and other important additions ere made. Both the number of illustrations and the number of pages ere moderately increased.

KAZIS, HARRY, AND ALBERT J KAZIS

Complete mouth rehabilitation through crown and bridge prosthodontics. 551 illustrations on 332 engravings Philadelphia Lea & Febiger 1956 392 p illus. 26 cm $15 00 4584

Contents (abridged) Part I, Theoretical concepts basic to complete mouth rehabilitation The temporomandibular joint and its related structures. Functional occlusion. Periodontal considerations in crown and bridge prosthodontics Cephalometric appraisal of complete mouth rehabilitation, by R M Ricketts Attrition, abrasion and erosion. Part II, Practical case reports Overbites. Attrition bites. End-to-end bites. Prognathic bites. Temporomandibular joint complications. Part III, Operati and technical considerations in crown and bridge prosthodontics Anesthetic procedures for crown and bridge prosthodontics. Operative procedures for crown and bridge prosthodontics. Technical procedures in crown and bridge prosthodontics. Index.

Note. The senior author' *Planning and treatment for bite raising*, 1948 was pioneer work in the sector of dental therapy once known as "bite raising" or "bite opening, but now more generally known as "mouth rehabilitation The present book is successor to it rather than revision. It effects the development and maturation f the field in a decade and half The first part, hich presents basic theory and applied anatomy is 100 pages long. The second part—189 pages in length—is made up of detailed presentations of ariety of indi idual ases. Each case is fully described in text and pictures as to condition hen first seen, clinical and radiographic examination, diagnosis, treatment plan, and treatment. Some of the chapters end ith Critique in

students, it is useful also as a guide and reference book for graduate dental practitioners. It stresses the common disorders and [illegible] techniques in preference to rare or exotic [illegible] ones. The illustrations are of good quality. Extensive bibliographies are included in the chapters. The third edition was published in 1948. The fourth edition is the result of very extensive rewriting and some reorganization. Important revisions were made in both the textual text and illustrations without, however, changing the book's scope or purpose.

Miller, Samuel Charles and others

Oral diagnosis and treatment a textbook for *students and practitioners* of dentistry and medicine. With an introduction by Allen T Newman. Second edition. 574 illustrations in black and white and 39 color plates. Philadelphia The Blakiston Division McGraw Hill Book Company Inc., 1946 903 p illus. (part col'd) 24 cm. 4595

Contents (abridged) The science of oral diagnosis, by S. C. Miller. Diseases of the mouth and pharynx in children, by L. M. [illegible]. Diseases of the oral mucous membranes exclusive of neoplasms, by G. M. MacKee and A. C. Cipollaro. Roentgenographic interpretation, by L. M. Ennis. Diagnosis of the disturbances of the temporomandibular articulation, by [illegible]. Surgical conditions of the mouth, by T. Blum. Diagnosis of incipient periodontal disease, by [illegible] and J. L. Bloom. Rationale of treatment for periodontal disease, by S. C. Miller. Pulp testing and diagnosis of pulp abnormalities, by A. Walker and M. Brown. Lesions of the hard structures of the teeth and their treatment, by F. J. [illegible]. Partial denture design and planning, by C. H. Schuyler. Diagnosis for full denture prosthesis, by J. [illegible]. Diagnosis in orthodontics, by S. Hemley. Tumors of the oral mucous membrane, by G. M. MacKee and A. C. Cipollaro. Mouth infections and their relation to systemic disease, by [illegible] and L. [illegible]. Diagnosis and treatment of diseases of the salivary glands, by A. J. [illegible]. Oral manifestations of endocrine dysfunction, by W. Wolf. Oral and dental lesions of occupational origin, by J. A. Salzmann. Anodontia (ablative dentistry), by J. M. Mullin. Bacteriology of the oral cavity by D. C. Lyons. Index of proper names. Subject index.

Note. This composite volume, written by a group of specialists, presents systematized procedures for the diagnosis and treatment of oral diseases. Although dental problems and procedures are emphasized, the book, as the title indicates, will also be of value to physicians. This edition includes new chapters on [illegible] the diseases of the salivary glands, roentgenographic interpretation, the latest techniques for extra-oral fixation of mandibular fractures, and [illegible] of the chapters on [illegible] by subject specialists. These additions and other changes account for 140 extra pages. An author index to the extensive chapter bibliographies is included. A third edition was published in 1957 [illegible] p. $14.00

Muhler, Joseph C. and Maynard K. Hine, editors

A symposium on preventive dentistry with specific emphasis on dental caries and periodontal diseases. St. Louis The C. V Mosby Company 1956 266 p. illus. 22 cm. $6 75 4596

Contents Preventive dentistry—definition and scope, by P. E. Blackerby Changing concepts in epidemiology by [illegible]. Role of bacteriology in the etiology control and prevention of dental caries, by F. J. Orland. The role of carbohydrates in the control of dental caries, by P. Jay. The etiology control and prevention of dental caries—the role of fat, by J. F. Volker. Nutrition and dental caries, by J. H. Shaw. Saliva and dental caries, by R. G. Dilley. The role of [illegible] dental plaques in the etiology of caries, by R. M. Stephan. The role of heredity in the causation of dental caries in rats (caries resistance), by H. R. Hunt and others. The role of home care in dental caries control, by P. C. Kitchin. Public health methods in dental caries control, by [illegible]. Topical fluoride therapy by C. L. Howell. Enzymes and enzyme inhibitors in the etiology and control of dental caries, by L. S. Fosdick. Operative treatment as a method of dental caries control, by G. [illegible] Boyd. The clinical management of rampant dental caries, by R. E. McDonald. Periodontal disease—present status and interpretation of epidemiological research, by C. D. Marshall-Day. Nu-tritional aspects of the etiology prevention and treatment of periodontal disease, by I. Glickman. The role of bacteria in periodontal disease, by N. B. Williams. The role of calculus deposition in periodontal disease, by [illegible]. Prevention of periodontal disease—clinical aspects, by F. E. [illegible]. Detection of oral signs of systemic diseases, by D. F. Mitchell. Prevention of malocclusion, by J. W. Adams. Prevention of death and loss of teeth from cancer—the dentist's role, by H. R. G. Robinson. How should preventive dentistry be taught in the dental school? by J. C. Muhler. Author index. Subject index.

Note. A symposium in print rather than a collection of papers presented at a meeting, this work consists of articles written for it by biologists, teachers of dentistry and leaders in dental research. The purpose is to present an authoritative survey of current thought on the etiology of dental diseases in relation to preventive dentistry. The typical paper is brief and to the point, and includes a well selected list of references. The book is of interest to practicing dentists, public health workers, and to scientists engaged in research on dental caries and related problems.

National Research Council. Food and Nutrition Board

A survey of the literature of dental caries. Prepared for the Food and Nutrition Board, National Research Council, under the supervision of the Committee on Dental Health P C. Jeans chairman, C. A. Elvehjem and C. G. King by Guttorm Toverud, Gerald J Cox, Sidney B Finn, Charles F Bodecker James H. Shaw Washington D C National Academy of Sciences—National Research Council, 1952 567 p. illus. 26 cm. (National Academy of Sciences—National Research Council. Publication 225) $5.00. 4597

Contents. Introductory review by G. Toverud. Experimental dental caries in animals, by G. J. Cox. Prevalence of dental caries, by S. B. Finn. Pathology of dental caries by C. F. Bodecker. Oral environment and dental caries, by G. J. Cox. Fluorine and dental caries, by G. J. Cox. Nutrition and dental caries, by J. H. Shaw. Bibliography.

Note. The international literature pertaining to dental caries is critically surveyed in the seven lengthy chapters of this work. The chapters are composed, in large part, of abstracts of journal articles which are organized and run together in a narrative text designed for straightforward reading. However, each of the surveyors has added some critical interpretation, usually in a concluding section, but sometimes in the main part of his chapter. References to sources are embedded in the text, and the full citations are given in the [illegible]-page bibliography. There is no volume index.

Nevin Mendel and others

Conduction, infiltration and general anesthesia in dentistry by Mendel Nevin and P G Puterbaugh. Collaborators Fred R. Adams and Hillard R. Nevin. Fifth edition revised. Illustrated with 228 engravings and large trigeminal nerve chart. Brooklyn, N Y *Dental Items of Interest Publishing Co., Inc.,* 1948 428 p. illus. 25 cm. (Modern dentistry series) $7.50 4598

Contents (abridged) Conduction and infiltration anesthesia. Important anatomical structures and landmarks. The trigeminal nerve as related to dental surgery. Blocking the maxillary nerve and its branches. Pterygomandibular anesthesia. Infiltration anesthesia. Pharmacology of drugs used as local anesthetics. Preparation of the anesthetic solution from tablets. The physiology of local anesthesia. Local anesthesia with [illegible]. Preoperative and postoperative treatment of patients. [illegible]. General anesthesia and analgesia: Indications and methods of administration. General anesthesia in the dental office. General anesthesia in the hospital. Bibliography. Index.

Note. A text and reference book for dental students and practitioners wherein are described the safest and approved techniques and methods of administering local anesthetics. Each phase of

McGEHEE, WILLIAM H. O , AND MELVIN W GREEN

Pharmacology and pharmacotherapeutics for dentists. Fourth edition New York Mc Graw Hill Book Company, Inc., 1952 550 p. illus. 24 cm $7.50 4590

Contents: Basic principles of pharmacology and prescription writing. Drugs used by the dentist chiefly for their local effects on the mouth and teeth. Local drugs altering the inflammatory process. Drugs acting locally on the gastro-intestinal tract. Drugs acting on sensory nerves. Drugs acting chiefly after internal administration. Drugs acting on the autonomic nervous system and drugs acting on muscles. The pharmacology of the metals, specifics, vitamins and hormones. Appendix. Therapeutic index. Subject index.

Note: A standard text for college students of dentistry and reference book for use by practicing dentists. Property uses, dosages, and methods of application are given for a wide range of drugs and pharmaceuticals. Dental remedies whose value is still controversial are included if they have won some acceptance, but their current status is clearly indicated. The appendix includes among other information a tabulation of the solubility of important drugs and a dental formulary and prescription guide. The third edition appeared in 1947 Important changes have been made in the present edition. These include discussions of new products, such as the ammoniated dentifrices, and changes in terminology necessary to make the text conform with the *United States Pharmacopoeia XIV* the *National formulary IX* and Accepted dental remedies, 15th edition.

McGEHEE, WILLIAM H. O , AND OTHERS

A textbook of operative dentistry Fourth edition By William H. O McGehee, Harry A True, E Frank Inskipp, and contributors. New York The Blakiston Division, Mc Graw Hill Book Company, Inc., 1956 720 p illus 24 cm. $14 00 4591

Contents. Diagnosis in operative dentistry Routine methods of diagnosis. Instruments and instrumentation—chair and operating positions. The dental office—ideal arrangement and working conditions, hygiene, light, and asepsis. Role of the dental assistant in operative dentistry Exclusion of moisture from field of operation. Principles of cavity preparation in relation to pathology and clinical features of dental caries. Preparation of cavities—nomenclature—technical procedures. Instrumentation for cavity preparation—fundamental principles—preparation of class I, II, III, IV and V cavities. Accuracy with speed—diamond instruments and tungsten-carbide burs—washed-field dentistry and vacudent—airbrasive. Restoration of the contact point and separation of the teeth. Use of the matrix in restoring teeth. Restoration of tooth structure—classification of materials—cements. Tooth restoration with amalgam—properties and manipulation. Gold foil in tooth restoration—properties and preparation. Manipulation of gold foil in tooth restoration—class I, II, III, IV and cavities. The cast-gold inlay—indications for use—waxes—investments—golds. Construction of the cast-gold inlay—direct pattern—investing—casting. Indirect methods in constructing the gold inlay—hydrocolloid—Dietrich impression material—copper plated dies—casting—finishing, by M. J Thompson and A. Selberg. The porcelain inlay and the acrylic inlay Hyperesthetic dentin—erosion—abrasion—interproximal wear—senile caries. Operative dentistry for children, by C. A. Sweet, sr and I. I. Beechen. Diseases of the dental pulp—endodontics. Index.

Note A standard work used primarily as textbook in dental schools, but useful also for review and reference by graduate dentists. It covers the field broadly including not only descriptions of techniques but also some of the practical aspects of dental practice. Instruments used in operative dentistry and materials are covered with adequate thoroughness. Most of the space is, however devoted to descriptions and illustrations of techniques. The first edition was published in 1930 and the third edition in 1950. In this edition, the major revisions and additions are found in chapters dealing with areas in which important developments have occurred recently such as the one whose title begins Accuracy with speed. There are now 423 figures, many of which contain more than one illustration.

MANHOLD JOHN H

Introductory psychosomatic dentistry New York Appleton-Century-Crofts Inc 1956 193 p illus. 22 cm. $5 00 4592

Contents Part I, The psychosomatic concept. Introduction. Historical background of psychosomatics. Statistical methods. The research results. The psychosomatic concept. Part II, Practical applications. Practical applications for the dentist. Index.

Note: Although not the first book on psychosomatics for dentists, this book is certainly one of the first few The first two chapters are devoted to outlining the basic ideas and history of psychosomatic medicine. Following this background material, the reader is introduced to the elementary fundamentals of descriptive and inferential statistics. Then follows a detailed presentation of the results of studies carried out by the author and his associates to discover relationships between personality traits and dental disorders, particularly caries. This part of the book is the only one of value as a scientific contribution. The terminal chapter discusses implications of psychosomatics in practical dentistry and contains explicit examples of good handling of patients with personality difficulties. It could fairly be described as an essay on practical, applied psychology Literature references and lists of suggested readings are given in most of the chapters.

MASSLER, MAURY, AND ISAAC SCHOUR

Atlas of the mouth and adjacent parts in health and disease. Drawings by Carl T Linden 180 illustrations (19 in color) Chicago American Dental Association, 1951 unpaged. illus (part col'd) 29 cm. 4593

Contents The oral cavity The permanent arch. The deciduous arch. Relationships of enamel, dentin and pulp. Occlusion of the teeth (normal and abnormal) Life cycle of the tooth. Physiologic spacing of the anterior teeth. Dental caries. The progress of dental caries. Effects of the loss of a tooth. Dental erosion. Dental fluorosis. Chronology of tooth development. Growth and calcification patterns of enamel and dentin. Enamel hypoplasia. The teeth in congenital syphilis. Common lesions of the buccal mucosa. Common lesions of the lips. The progress of periodontal disease. Diseases of the tongue. Benign conditions of the tongue. The tongue in systemic disturbances. Oral diseases of occupational origin. The floor of the mouth. The salivary glands. The tonsils (Waldeyer's ring) Common ailments of the throat. The paranasal sinuses. The effects of mouth breathing. Frontal and horizontal sections through the face. Arteries of the head. Veins of the head. The trigeminal nerve. Anatomy of the temporomandibular joint. Action of the temporomandibular joint in mouth opening. Abnormal openings of the mouth. Abnormal closure of the temporomandibular joint. Deviation of the midline in mouth opening. Facial asymmetry and midline deviation. The temporal muscle. The masseter muscle. The internal pterygoid muscle. The external pterygoid muscle. Muscles of the mandible. Fractures of the neck of the condyle. Fractures of the angle of the mandible. Fractures of the body of the mandible. Multiple fractures of the mandible and fracture in the midline. Treatment of mandibular fractures.

Note. A compilation of large-scale illustrations of the teeth, the mouth, and related parts. As indicated by the plate titles—given above—the work has diagnostic value as well as anatomical. The book is made up so that each right-hand page is occupied by a plate while the facing left-hand page carries the verbal legend or description. A new edition was scheduled for 1957

MEAD, STERLING VERNON

Oral surgery Fourth edition With 872 text illustrations and 13 color plates. St. Louis The C V Mosby Company, 1954 1 478 p illus (part col'd) 26 cm $17.50. 4594

Contents (abridged) Diagnosis. Surgical procedures. Surgical anatomic relationships of the mouth. Selection of anesthetic. Chemotherapy and antibiotics. Inflammation. Nonspecific infections. Specific infectious diseases. Wounds, injuries and burns. Periapical diseases of the teeth. Periodontal disease Removal of teeth. Removal of foreign bodies. Surgical preparation of the oral tissues for restorations. Surgical correction of abnormal frenum labii. Fractures. Diseases and malformations of the maxillary bones Malocclusion and deformities of the jaws. Diseases and disorders of the salivary glands and their ducts. Diseases of the nerves Diseases of the lips and soft tissues of the mouth The tongue Hemorrhage Syncope shock and collapse, and emergency measures Tumors of the mouth and jaws. Cysts of the mouth and jaws. Physiotherapy Diet, vitamins, nutritional deficiencies and metabolic disorders related to oral surgery Index.

Note One of the leading comprehensive texts on oral surgery Although designed primarily for the instruction of dental college

graphs and 17 charts. Brooklyn, N Y *Dental Items of Interest* Publishing Company Inc. 1942 748 p. illus. 24 cm. $12.00 4603

Contents: General diagnostic survey. Specific diagnostic survey. Critical study of abutment possibilities. A survey of edentulous spans of mouth for the restoring of missing teeth and its influence in determining the selection of the type of restoration. Fixed bridgework—historical review. Precision slotted attachment removable bridgework. Partial dentures. Clasps. Posture. Model duplication. Methods and procedures for the making of duplicates of master models. Plastics in dentistry. Gold and its alloys for the construction of restorations. Some general remarks on impression methods and the materials used for them. Obtaining accurate dental registers or bites and articulators. Anterior fixed restorations. Construction of posterior fixed restorations. Removable bridge construction with the use of precision. Slotted attachments. Operative and prosthetic technic in partial denture construction.

Note: An advanced volume on prosthetic dentistry. All types of restorations are described and illustrated.

SELDIN HARRY MENDEL

Practical anesthesia for dental and oral surgery: local and general. Third edition, thoroughly revised, with 238 illustrations. Philadelphia Lea & Febiger 1947 562 p. illus. 24 cm. $8.50. 4604

Contents (abridged): Anatomical bases for local anesthesia. Anesthetic solutions. Field block or infiltration anesthesia of the maxilla and the mandible. Intraoral block anesthesia of the mandible. Extraoral block anesthesia of the maxilla and mandible. Operative dentistry and pulp canal therapy. Complications of local anesthesia and their treatment. Part II. General anesthesia: The selection of anesthetics for oral operations. Practical physical diagnosis for the dental anesthetist. The physiology of inhalation anesthesia. Premedication. The administration of nitrous oxide and its mixtures. Analgesia. The management of the recalcitrant patient. Accidents in anesthesia. Ethylene. Cyclopropane. Divinyl ether or vinethene. Ethyl chloride. Intravenous anesthesia. Resuscitation. Index.

Note: In this volume, the author has made a special effort to include material which will be of practical value to the dental surgeon. Detailed descriptions of the techniques utilized in administering local and general anesthetics are accompanied by many excellent diagrams and photographs of cadaver dissections. Each type of operation is preceded by a brief review of the anatomy of the area under consideration. This edition has been revised to incorporate the latest knowledge in the field.

SIMON WILLIAM JOHN editor

Clinical operative dentistry. 650 illustrations on 538 figures. Philadelphia W B Saunders Company 1956 381 p. illus. 24 cm. $9.50. 4605

Contents: Guides to operative dentistry. Amalgam restorations. Inlay restorations. Silicate cements. Acrylic resin fillings. Gold foil restorations. Index.

Note: The sector of dentistry covered in this textbook is that which is concerned with the restoration of carious teeth, or—in the vernacular—with the filling of teeth. Fillings, inlays and three-quarter crowns are included, but not full crowns or bridges. There is considerable description of the various materials, but the book is mainly devoted to the techniques of cavity preparation, filling, etc. As noted in the title, there is a large number of illustrations. Many of these are reproduced from drawings and show the teeth and the operations on them in larger than life size. There are 33 contributors to the volume, including both teachers of dentistry and practitioners. Apparently they furnished material to the editor who integrated and re-wrote it to form the chapters of the book. The names of the contributors are given in the front matter but no chapters or sections of chapters are signed. The editor is Dean and Professor of Operative Dentistry in the State University of Iowa.

SKINNER, EUGENE W

The science of dental materials. Fourth edition illustrated. Completely revised and rewritten. Philadelphia W B Saunders Company 1954 456 p. illus. 24 cm. $7.50 4606

Contents (abridged): Physical properties of dental materials. Gypsum products. Impression compound. Zinc oxide-eugenol impression pastes. Reversible hydrocolloid impression materials. Irreversible hydrocolloid impression materials. Chemistry of the synthetic resins. Denture base resins: acrylic resin teeth. Dental cements. Dental porcelain. Metals: solidification and structure. Wrought metal. Gold foil and its manipulation. Dental amalgam alloys. Dental casting gold alloys. Inlay casting wax. Gypsum investments for inlay casting procedures. Gold inlay casting procedures. Dental gold alloy wires. Gold alloy solders. Steel: its constitution and heat treatment. Wrought base metal alloys: orthodontic wires. Cobalt-chromium alloys for dental castings. Abrasion and polishing. *Appendix.* Index.

Note: A widely used textbook for first-year courses in dental colleges. Basic knowledge on such matters as the constitution of alloys is included, along with a wide range of descriptive information on specific materials, their properties, applications and manipulations in dentistry. The first edition was published in 1936 and the third edition in 1946. This fourth edition is a very thorough revision, with somewhat more emphasis on basic theory and generally a more mature approach to the subject. Selected literature references are included in the chapters. Although the book is an introduction, the coverage is thorough enough to make it useful to the graduate dentist in need of a review or a survey of the newer materials.

SOMMER, RALPH FREDERICK, AND OTHERS

Clinical endodontics: a manual of scientific endodontics. By Ralph Frederick Sommer, F Darl Ostrander and Mary C. Crowley. Philadelphia W B Saunders Company 1956 514 p. illus. 25 cm. $10.50 4607

Contents: A brief history of root canal therapy. Pulp cavity anatomy as applied to endodontics. Sterilization and disinfection of instruments. Clinical evaluation of diagnostic aids. Rubber dam technique for endodontics. Bacteriology in endodontic practice. The concept of pain and application in endodontics. Non-specific root canal antiseptics and miscellaneous drugs used in endodontics. The antibiotics and other chemotherapeutic agents in endodontics. Basic principles of endodontic procedures. Diseases and treatment of the dental pulp. Diseases of the periapical tissues and their treatment. Hermetical sealing of root canals in anterior teeth. Instrumentation and filling of canals of multirooted teeth. Root resection and apical curettage. Traumatic injuries to teeth. Detailed bacteriology of endodontics. Roentgenographic diagnosis of periapical lesions. The nonsurgical management of teeth with periapical pathosis. Bleaching the discolored pulpless tooth. Restorations for nonvital teeth. Prescriptions, formulas and supplies. Index.

Note: An authoritative and thorough work, designed for use as text by advanced students in dental colleges and as a working guide for practicing dentists. Up-to-date techniques of root canal therapy are fully described. Antisepsis and other methods of controlling infections, including the antibiotics, are given much emphasis. The 344 figures illustrate many aspects of the subject, including instruments, techniques, apparatus, and, of course, many photographs and radiographs of teeth in need of endodontic treatment, and of the results of such treatment. Well selected literature references are included in the chapters. The authors are all members of the faculty of the School of Dentistry of the University of Michigan.

SOUDER, WILMER, AND GEORGE C. PAFFENBARGER

Physical properties of dental materials. Washington, D C. Government Printing Office, 1942 222 p. illus. 24 cm. (United States National Bureau of Standards. Circular 433) $1.50. 4608

Contents: General introduction. Metals and alloys: Dental amalgam alloy. Dental mercury. Gold and its alloys in dentistry. Base metal alloys. Ceramic materials: Investments for gold alloys. Investments for base metal alloys. Cements. Organic materials: Impression materials. Inlay pattern waxes. Organic denture base materials. Dentifrices. Methods of purchasing: Certified products. Testing government purchases. Specifications. Federal specifications.

the subject is fully illustrated with diagrams and photographs, and the anatomical structures encountered in nerve blocking are described in detail. A much briefer account of the methods employed in general anesthesia is included. This edition is fundamentally the same as the 1938 revision however later techniques, such as co-medication, and new equipment, such as the aspirating syringe, are now described. A chapter on local anesthesia with penicillin has been added, and the section dealing with complications, post-operative treatment, pharmacology of drugs, and restorative measures have been revised and expanded. Some new references have been added to the bibliography

ORBAN, BALINT J, AND FRANK M WENTZ

Atlas of clinical pathology of the oral mucous membrane, a practical approach to diagnosis By Balint J Orban, Frank M Wentz and contributors. 72 colored illustrations, 142 black and white illustrations, 14 charts. St. Louis The C V Mosby Company, 1955 135 p illus (part col'd) 29 cm. $12 50 4599

Contents Part I Introduction to systematic diagnosis. The normal mucous membrane. Part II Diseases of the oral mucous membrane. Infectious diseases. Noninfectious diseases. Metabolic and endocrine disturbances. Nutritional and dietary disturbances. Chemical and physical injuries. Disturbances of the blood-forming organs. Index.

Note A pictorial reference book of the more common oral diseases and disorders. The introductory first part occupies only 20 pages. The balance of the volume is devoted to the atlas. In this part, 66 diseases and disorders of clinical interest in dentistry are pictured and concisely described. The matter on an individual condition occupies one page or two facing pages and includes one or more (usually more) illustrations, together with several concise paragraphs on etiology clinical features, differential diagnosis, treatment, etc. A colored illustration reproduced from a colored photograph, is always included. Although by no means exhaustive, the book is a useful compendium for students of dentistry and graduate practitioners.

SALZMANN, JACOB AMOS

Principles of orthodontics. Second edition. 533 illustrations Philadelphia J B Lippincott Company 1950 887 p illus (part col'd) 24 cm $15 00 4600

Contents Orthodontics in preventive dentistry and public health. Orthodontics and prophylactic orthodontics. Growth and development. Bone growth and the carpal index. Development and growth of the head. Developmental anatomy and physiology of the face and jaws. Development of the dentition. Anomalies of tooth formation and eruption. Ontogenetic development of the occlusion of the teeth. The endocrines in relation to dentofacial deformities. Nutrition in relation to dentofacial development. Etiologic factors in dentofacial deformities. Classification and diagnosis of dentofacial anomalies. Differential diagnosis and treatment planning. Orthodontic examination of the patient. The prevention and treatment of incipient malocclusion. Principles of mechanotherapy The Tweed method. The Johnson twin-wire appliance. The Norwegian system and bite plates. Dentofacial changes in orthodontics. Index of authors. Subject index.

Note A treatise of wide scope. The primary emphasis is on the necessity of understanding growth processes and other biological factors. However the latter 370 pages of the book are devoted to techniques. The book is used both as text in advanced and graduate courses and as reference manual in professional libraries. Very extensive bibliographies are included and the names of the authors of the cited papers are entered in the author index, thus forming guide to the currently important literature. The first edition appeared in 1943 Important additions and revisions are evident in this edition. The book is more than 200 pages longer the number of illustrations has been substantially increased and the significant literature published since 1943 has been added to the bibliographies.

SARNAT, BERNARD G, editor

The temporomandibular joint Springfield Ill Charles C Thomas 1951 148 p. illus. 23 cm. (American lecture series. Publication no 134 A monograph in American lectures in dentistry, edited by Edward J Ryan) $4 75 4601

Contents. Functional anatomy of the temporomandibular joint, by H. Sicher Histophysiology of the temporomandibular joint, by J P Weinmann and H. Sicher Contribution of the mandibular condyle to the growth of the face, by A. G. Brodie. Pathology of the temporomandibular joint, by J P Weinmann and H. Sicher. An evaluation of Costen's syndrome from an anatomic point of view by A. A. Zimmerman. Diagnosis of some abnormal temporomandibular joint conditions, by A. G. Brodie. Temporomandibular disorders. diagnosis and dental treatment, by J R. Thompson. References.

Note. A collection of original papers written to clarify certain segments of the knowledge of the temporomandibular joint and to relate this knowledge to clinical problems and treatment. The level of writing is postgraduate. The editor is Head of the Department of Oral and Maxillofacial Surgery of the College of Dentistry of the University of Illinois.

SCHLOSSER, RUDOLPH O, AND DANIEL H. GEHL

Complete denture prosthesis Third edition Illustrated with 292 figures. Philadelphia W B Saunders Company, 1953 511 p. illus. 25 cm. $8 50 4602

Contents: The objectives of complete denture prosthesis. Oral anatomy and physiology and their relation to body metabolism. The masticatory mechanism. Case history examination of the mouth, diagnosis and prognosis. Practical application of physics and other requisites for success in complete denture prosthesis. Primary impressions and study casts. Tooth selection. Individually prepared impression trays. A comparison of some of the impression materials commonly used in complete denture prosthesis. Anatomical and physiological factors in the taking of impressions for complete denture prosthesis. Secondary impressions. Casts, baseplates, mounting casts and occlusion contour rims. The denture space, its relation to the rest position of the mandible, when the latter is used as a position of reference in registering the vertical dimension of the former in compliance with the biological and physiological as well as the esthetic requirements. Registration of the positional relations of the jaws and transfer of the recorded denture space to the articulator. Arranging the teeth for complete denture prosthesis in compliance with the esthetic and functional requirements. Trying in the wax model dentures. Converting the wax models into finished dentures. Checking the fit of the completed dentures and establishing the occlusal balance preparatory to final insertion. Instructions to the patients receiving new dentures. Adjustment service for the denture patient during the initial period of use. Maintenance and correction of dentures. Immediate denture procedure. Technic for constructing single complete dentures and complete maxillary dentures in conjunction with partial mandibular dentures. Case reports and treatment of anomalies of jaw form and relations by means of complete denture prosthesis. Index.

Note: A comprehensive, practical manual used as textbook by undergraduate students of dentistry and as a reference book by dental practitioners. The principal subject is the making of complete denture prostheses. However other subjects, such as the related anatomy and physiology the mechanics of mastication, and the techniques of making single complete dentures for patients who have opposing natural teeth with or without partial dentures, are also covered. The importance of thorough understanding of mandibular movement is stressed, and considerable space is given to materials, techniques of impression-taking, articulating, and fitting. The first edition was published in 1939 and the second edition in 1946. Comparing the second edition to the third edition, the name of co-author appears on the title page for the first time and many revisions and augmentations have been made in both the verbal text, illustrations and literature lists. A fourth edition was scheduled for publication early in 1958

SCHWARTZ, JACOB R

Modern methods of tooth replacement a categoric treatise on the manifold methods by which one or more missing teeth may be replaced, employing any of the approved systems of construction. With 1881 original illustrations, executed and drawn by the author and comprising 1507 drawings 357 photo-

dental schools, the scope of the book is so wide that it is [illegible] useful reference treatise in both dentistry and medicine. Considerable attention [illegible] given to pre- and post-operative care of patients as well as to surgical techniques. Each volume is profusely illustrated and well supplied with extensive lists of the related literature. The first edition was published in 1948. In preparing this edition moderately extensive revisions were made in both the text and illustrations. The number of illustrations and the length of the text have both been increased, and recent literature has been added to the bibliographies.

TYLMAN, STANLEY DANIEL

Theory and practice of crown and bridge prosthesis. Third edition. With 1,364 text illustrations and 9 color plates. St. Louis The C. V. Mosby Company 1954 1,017 p. illus. (part col'd) 25 cm. $16.00. 4613

Contents (abridged) History of fixed partial prosthesis. Examination of patients. Facial factors. The maxillae and mandible. Planning the fixed partial denture. Oral anatomy and oral physiology in relation to crowns and fixed partial denture prosthesis. Histological structure of teeth and supporting tissues in relation to crown and fixed partial denture prosthesis. Some physical and engineering principles related to crown and fixed partial denture prosthesis. A biological interpretation of physical and mechanical principles. Classification and types of fixed partial dentures. Special problems and preliminary measures in the preparation of teeth for crowns and retainers. The construction of intracoronal and extracoronal retainers. The construction of complete veneer porcelain crowns. The construction of pontics for fixed partial dentures. The fabrication, testing, and adjustment of fixed partial dentures. The removal and repair of crowns and fixed partial dentures. The use of acrylic resins in crowns and fixed partial dentures. Color reproduction in synthetic resins. Oral rehabilitation. Index.

Note A comprehensive work which has been used in its several editions since 1940 as [illegible] textbook for dental college students and reference book for dental practitioners. In the current edition, it is organized in 37 chapters, of which [illegible] selection are listed by title above. The importance of analyzing the patient's needs and planning treatment to meet them is stressed. Detailed descriptions of the processes and techniques involved in the construction of crowns and fixed partial dentures are accompanied by numerous step-by-step drawings and reproductions of photographs. The second edition was published in 1947. In preparing the third edition, material was both deleted and added. The additions are scattered throughout the book and pertain to such matters as new materials and new developments in casting procedures, in pin-type attachments, etc. The index has been improved and references to more recent literature added.

UNITED STATES ARMY INSTITUTE OF PATHOLOGY

Atlas of dental and oral pathology prepared at The Army Institute of Pathology from material in The Registry of Dental and Oral Pathology of The American Dental Association by Joseph L. Bernier and J. E. Ash. Fourth edition, a complete revision and rewriting of the previous editions of James B Mann and Henry M Goldman. 484 illustrations 150 plates Washington, D C. American Registry of Pathology 1948. 230 p. illus. 28 cm. $7.00. 4614

Contents Embryology and histology. Pathology of the hard dental structures. Pathology of the soft dental structures. Odontogenic tumors. Odontogenic cysts. Hyperplastic, atrophic and inflammatory lesions. Oral lesions of specific etiology. Benign oral tumors. Malignant ectodermal tumors. Malignant mesenchymal tumors. Index.

Note In the present edition the well-known book has been completely reorganized and rewritten. The case method of organization employed in earlier editions has been abandoned. The text is now organized into chapters as indicated above. There are now 484 figures, and practically all of them are reproductions of photographs and photomicrographs which [illegible] with [illegible] of pathological conditions of the oral cavity and the surrounding tissues. Among the new features of this edition are the new format, the new text, and added plates on [illegible] effects.

UNITED STATES DEPARTMENT OF THE ARMY

Dental laboratory technicians. Washington, D C. Government Printing Office, 1954 319 p. illus. 23 cm. (United States. Department of the Army Technical manual TM 8–226) $1.25 4615

Contents Introduction. The dental laboratory. Dental materials. Anatomy and tooth carving. Technical procedures required for construction of full dentures. Partial dentures. Repair and correction of dentures. Inlays, crowns, and bridges. Dental splints. References.

Note This technical manual has [illegible] threefold purpose: first, as [illegible] textbook for [illegible] course of training for dental laboratory technicians; second, as [illegible] textbook for use in on-the-job training; and, third, as [illegible] ready reference manual for dental laboratory procedures commonly employed in the Army. Since it deals with techniques of importance to the initial training of dental laboratory technicians, emphasis is placed upon the reasons for the processes used in the various dental laboratory procedures. The manual covers the details of procedures requiring [illegible] considerable degree of skill and experience, as well as basic techniques, and contains more than 700 separate illustrations.

WEINBERGER, BERNHARD WOLF

An introduction to the history of dentistry with medical & dental chronology & bibliographic data. St. Louis The C. V Mosby Company 1948 2 v. 26 cm. $7.50. 4616

Contents (abridged) Volume [illegible] Introduction. First period, Antiquity. The teeth of prehistoric man and his descendants. Mesopotamian and Oriental dentistry. Ancient Egyptian medicine and dentistry. The dentistry of the people of Israel. The dental art of the Phoenicians, fifth century B. C. The golden age of Roman dentistry. Decorations and mutilations of teeth. Second period, Arabian, mediaeval and period of Renaissance information. Dentistry during the Middle Ages. Barber-surgeons, barbers and [illegible]—and dentists. Dentistry in the Renaissance—the revival of anatomy and physiology. Third period, Dentistry as an independent profession. The dawn of dental literature. The advent of scientific dentistry. Dentistry during the eighteenth century. Chronological table. General works of reference. Dental literature, 1530–1820. Bibliographies and biographies. Index of personal names. Subject index. Volume II. The first one hundred years of dentistry in America. Diseases and dentistry in America during the colonial period (1734–1800). John Baker, M.D. (1732–1796). Robert Woofendale (1742–1828). Paul Revere (1735–1818). Isaac Greenwood, Sr., of Boston (1730–1803). James (Jacques) Gardette (1756–1831). Isaac Greenwood, Jr. (1758–1829). Jean Pierre (John Peter) Le Mayeur, M.D. in America (1783–1806). Josiah Flagg (1763–1816). John Greenwood, pioneer American dental scientist (1760–1819). Richard Cort[illegible] Skinner. Charles Willson Peale (1741–1827). George Washington. General works of reference. Index of personal names. Subject index.

Note A valuable, though rather poorly organized, reference history [illegible] which has obviously been based on extended research. A number of quotations from early works, advertisements, etc. are incorporated in the text. There are numerous illustrations of not only documents but dentures. The author does not minimize the significance of the roles played by artisans, untrained "tooth-drawers," and quacks, at the same time he presents [illegible] strong case for his claim that dentistry has always been [illegible] specialized branch of medicine and that the truly guiding spirits of the profession have been medical scientists. In addition to bibliographies attached to each chapter, there are several general reference lists and historical bibliographies in both volumes. There is also [illegible] fairly detailed chronological table.

WHEELER, RUSSELL CHARLES

A textbook of dental anatomy and physiology. Second edition, illustrated. Philadelphia W. B Saunders Company 1950. 422 p. illus. 26 cm. $7.00 4617

Contents Nomenclature and general considerations. Development of the teeth, calcification and eruption. General considerations in the physiology of the permanent dentition. Physiologic tooth form protecting the periodontium. The deciduous teeth. The permanent teeth—the maxillary incisors. The mandibular incisors. The canines (cuspids) maxillary and mandibular. The maxillary premolars (bi-

American Dental Association specifications. Bibliography Appendix: Conversion tables. Index.

Note From 1919 to 1942 the National Bureau of Standards was responsible for an extensive dental research program centering around dental amalgams, restorative materials, and techniques. This circular is a compilation of scientific and technical information selected from the more than 100 separate publications (listed in the bibliography) on the various phases of dental research conducted as part of this program. The publication was undertaken as a permanent one-volume review of the results of the research.

SWENSON, MERRILL G

Complete dentures Third edition Eight hundred eighty two illustrations, ten in color St. Louis The C V Mosby Company, 1953 735 p illus (part col'd) 25 cm $13 50 4609

Contents (abridged) Part I, Related factors of complete denture construction Anatomy and physiology in relation to denture construction. Underlying principles and fundamentals of impression making. Vertical dimension. Methods of securing centric and protrusive relation. Arrangement of teeth. Occlusion. Face-bow Articulators. Surgery in relation to complete dentures. Selection of teeth. Part II, Construction of complete dentures: Preliminary maxillary impression. Preliminary mandibular impression. Zinc oxide-eugenol paste impressions. Mounting records. Mounting the casts on the articulator by means of face-bow and centric records. The setup. Post dam, check of esthetics. Waxing, flasking, and processing. Remounting finished dentures. Part III, Immediate denture construction Indications, advantages, and disadvantages. Impressions. Boxing, flowing of the cast, separation of the cast. Construction of bite rims, centric relation, face-bow and mounting. Setting of the teeth. Surgery and insertion of denture. Perfection of occlusion. Rebasing, duplicating, and subsequent service for immediate dentures. Part IV Supplemental procedures and materials—duplication of casts. All-compound preliminary impressions. Other immediate impression methods. Part V Single maxillary dentures and rebasing: Rebasing complete dentures. Complete maxillary denture opposing partial mandibular denture. Wax extension as applied to extremely resorbed maxillary and mandibular ridges. Complete maxillary denture against natural mandibular teeth. Bibliography Index.

Note A clearly written, detailed exposition of basic knowledge, procedures and techniques pertinent to the making of various kinds of complete dental prostheses. It is used as textbook for students in dental college and is also used as practical guide for graduate dental practitioners and dental mechanics. The verbal text is closely integrated with the hundreds of excellent photographs and diagrams. The second edition was published in 1947 This third edition is not an extensive revision however three chapters have been revised or extended.

THOMA, KURT HERMANN, AND HAMILTON B G ROBINSON

Oral and dental diagnosis with suggestions for treatment. Fourth edition. With 928 illustrations, 55 in color Philadelphia W B Saunders Company 1955 449 p illus. (part col'd) 25 cm. $10 50 4610

Contents. Part I, The dentist's responsibility in diagnosis and treatment-planning Examination. The case history Physical examination. Laboratory tests. Special examinations for dental and oral diseases. X-ray examination. Consultations. The process of diagnosis and treatment-planning. Final examination. Part II, Diagnosis of oral disease The head and face. The lips. The teeth. Dental caries Pulp and periapex. Periodontal disease. The tongue and floor of the mouth. The palate. The buccal, labial, and alveolar mucosa. Salivary glands. The jaws. Temporomandibular joint. Neurologic disturbances. Focal infection and extension of dental disease. Pain. Index.

Note In its first three editions this standard work was primarily reference book for practicing dentists and secondarily a text for the instruction of advanced students of dentistry In this fourth edition it has been extensively revised and reoriented so that it is primarily text for students. Considered from this standpoint it is an introduction to the diagnosis of diseases of the mouth and teeth The first part accounts for 108 pages and is devoted to general methods of diagnosis, record keeping and treatment planning. In the second and longer part, diseases are dealt with by class and site. A considerable range of diseases is covered, but the book is not a cyclopedia of oral disease. The number of illustrations—928—is high for a book of this length. The selected literature references now cover publications as recent as 1954.

THOMA, KURT HERMANN

Oral pathology, a histological, roentgenological and clinical study of the diseases of the teeth jaws, and mouth. Fourth edition. With 1,594 illustrations, including 92 in color St Louis The C V Mosby Company, 1954 1,536 p illus (part col'd) 26 cm. $22.50. 4611

Contents (abridged) Part I, Anomalies and diseases of the teeth: Abnormal occlusal relationship of the teeth. Pathology of the form and structure of the teeth. Physiologic pathology of the teeth. Changes in the teeth caused by general disease. Pathologic effects of dental restorations. Traumatic injuries of the teeth. Idiopathic resorption of the tooth with metaplasia. Part II, Odontitis. Dental caries. Dentoalveolar abscesses. Periodontal diseases, by H. M. Goldman. Facial abscesses and phlegmons resulting from odontogenic infections. Part III, Anomalies and diseases of the head and jaws. Congenital malformations of the head and face. Malformations of the skull and their effect on the jaws. Developmental anomalies of the jaws. Local diseases of the jaws. Cysts of the jaws. Part IV Abnormalities and diseases of the temporomandibular articulation Developmental anomalies. Traumatic injuries of the mandibular joint. Inflammatory arthropathies. Tumors of the mandibular joint. Part V Diseases of the nerves and muscles of the face and jaws. Part VI, Mouth diseases: Congenital and acquired anomalies. Infectious diseases of the mouth. Virus diseases of the oral cavity Oral lesions in dermatological diseases. Allergic manifestations and drug intolerance. Oral diseases of metabolic origin. Oral lesions in blood diseases. Part VII, Diseases of the salivary and mucous glands. Functional disorders of the salivary glands. Congenital abnormalities and inflammatory diseases of the salivary and mucous glands. Cysts and tumors of the salivary and mucous glands. Part VIII, Tumors of the jaws. Tumors of odontogenic origin. Tumors of osteogenic origin. Tumors of the soft tissues of the oral cavity Index.

Note. A treatise of exceptionally comprehensive scope. It covers both the gross pathology and the micropathology of all the common and most of the rare abnormalities and diseases of the teeth, jaws, and mouth. Clinical aspects are emphasized. It is used both as a textbook in dental colleges, and as a reference book by practitioners of dentistry and dental graduates engaged in research or teaching of dentistry The chapters are essentially critical surveys of the literature, and extensive references to the source articles are included. The first edition was published in 1941 and the third edition in 1950. The fourth edition is shorter by approximately 40 pages and contains about 70 fewer illustrations than the third edition. However the number of illustrations in color has been increased. Shortening of the book was accomplished by deleting the chapters devoted to the results of animal experimentation. Revisions and augmentations were made to most of the chapters, and the chapter on dental caries was extensively rewritten. This particular chapter now contains bibliography which is 16 pages long.

THOMA, KURT HERMANN

Oral surgery Second edition. With 1789 illustrations including 121 in color St Louis The C. V Mosby Company 1952 2 v illus. (part col d) 26 cm. $25 00 4612

Contents. Volume I, The principles of surgery The general care of the patient Anesthesiology Chemotherapeutics and antibiotics Dentoalveolar surgery The treatment of abnormalities of the jaws. edentulous mouth. The treatment of traumatic diseases of the jaws. The treatment of odontogenic diseases of the maxillary sinus. The treatment of osteomyelitis and necrosis of the jaws. Volume II, The treatment of diseases of the mandibular joint. The treatment of infections of the face and neck. The treatment of diseases of the salivary and mucous glands. The treatment of diseases of the fifth and seventh nerves. The treatment of cysts of the jaw The treatment of benign tumors of the mouth and jaw The treatment of malignant tumors. The treatment of developmental deformities of the jaw The treatment of acquired defects of the mandible The treatment of oral abnormalities and defects Index

Note An outstanding work which provides comprehensive and detailed description of surgical techniques used in the correction of diseases, injuries, and abnormalities of the oral cavity teeth, jaw and adjacent structures. Although addressed primarily to graduate dentists, especially those who are taking instruction in postgraduate

NURSING

GENERAL

BARRETT JEAN

Ward management and teaching. Second edition. New York Appleton-Century-Crofts, Inc., 1954 440 p. illus. 22 cm. $4 75 4619

Contents: Part I, The position of head nurse. The place of the head nurse in the hospital and the school of nursing. Preparation of the head nurse. Part II, The responsibility of the head nurse for the quality of patient care: The meaning of good nursing. Dietary service as it relates to quality nursing. Nursing care of the patient on admission to the hospital. Planning the patient' care. Supervision of patient care. Preparing the patient for discharge from the hospital. Factors which influence the quality of patient care. Part III, The responsibility of the head nurse for good ward management: The factors involved in good ward management. The responsibility of the head nurse for the physical environment. Providing supplies and equipment. Receiving and transmitting medical orders. Record keeping. Giving and receiving reports. Establishing good relationships. Delegating responsibility. Assigning duties and responsibilities. Planning time. Part IV, The educational responsibilities of the head nurse: Establishing desired outcomes of clinical experience. Planning clinical experience. Supervision of personnel. Essentials of ward teaching. The group conference. Bedside clinic, nursing care conference, teaching rounds. The demonstration. Nursing care study. Evaluation of teaching and supervision. Evaluation reports and conferences. Part V, The head nurse: responsibility to herself and her profession: The head nurse: personal growth and professional obligations. The head nurse as an administrator and teacher. Index.

Note: A standard textbook addressed primarily to nursing school graduates who are preparing to become head nurses in hospitals. It provides an authoritative and up-to-date view of the responsibilities and functions of head nurses in modern hospitals. The various aspects of the field named in the chapter titles are discussed in detail and, in addition, references are given to the more important literature on each topic. The first edition was published in 1949. Considerable reorganization and revision of the text are apparent in this second edition, and the lists of readings included in the chapters have been extensively revised. The author is Director of the Department of Nursing Education of the Syracuse University School of Nursing.

BROWN ESTHER LUCILE

Nursing for the future a report prepared for the National Nursing Council. New York Russell Sage Foundation, 1948. 198 p. 24 cm. $2.00. 4620

Contents: Extension of health services. Future demand for nursing care. Differentiation of nursing service according to function. Future role of the professional nurse. Education for practical and graduate bedside nurses. Education for the professional nurse. Resources for the future.

Note: A brilliantly written report whose chief purpose is to point out how nursing education may be best adapted to the present and future needs of society. The basic information was obtained in visits to hospitals and nursing schools and by interviews with public health leaders, doctors, and other interested parties. Two advisory committees assisted the author, and three regional conferences attended by directors of nursing schools and other persons connected with nursing education were held, in order to obtain information and opinions. The book contains important material for students of nursing and all persons interested in the education of nurses.

DAKIN FLORENCE, AND ELLA M THOMPSON

Simplified nursing. By Florence Dakin and Ella M Thompson with the assistance of Margaret LeBaron. Sixth edition. Philadelphia J B Lippincott Company 1956 800 p. illus. 21 cm. $4 75 4621

Contents (abridged): Part I, Getting your bearings: Practical nursing is a career. Part II, Health is everybody's business: Community and personal health. Part III, The human body in action. Tissues and membranes. The skeletal system. The muscular system. The circulatory system. The digestive system. The respiratory system. The reproductive system. The endocrine system. The nervous system. The special senses. Part IV, Family living: The patient is part of the family. What shall we eat? Special diets for special conditions. The child is a person, too. After 40—what? Mother and baby care. Part V, Illness conditions: Diseases of the skin. Diseases and conditions of the circulatory system. Cancer. Diseases of the digestive system. *Diseases of the respiratory system.* Diseases of the urinary system. Diseases of the reproductive system. Diseases of the endocrine system. Diseases of the nervous system. Diseases and conditions of the eye and the ear. Allergies. Mental disorders. Part VI, Nursing is an art: The patient in his surroundings. Health and comfort measures for the patient. Information the doctor needs. Nursing treatments. Drugs and their administration. Care in emergencies. List of national organizations distributing health information. Index.

Note: A standard textbook for the instruction of practical nurses. (In the United States of America practical nurses and professional nurses are distinguished by different educational preparation and duties, those of the practical nurse being much simpler.) It is also of value to women who feel the need of a book for guidance in the nursing care of their own families. It is written in simple style, covers a wide range of elementary and basic information, and has a fully detailed index and other features that suit it both to study and to reference use. The fifth edition was published in 1951. In this sixth edition, there have been some reorganization of the material and some expansion, the latter resulting in an increase of about 70 pages in the length of the book. Some illustrations appearing in the fourth edition were deleted, and many new ones added; the total number is now 114. A selection of recent literature has been added to the useful bibliography.

DEMING DOROTHY

The practical nurse. Cambridge Mass. Harvard University Press 1947 370 p. 23 cm. $3.00. 4622

Contents: The practical nurse and the care of the sick. Who is the practical nurse? The supply of practical nurses. The birthplace of practical nursing—the home. General hospitals. Mental hospitals. Tuberculosis hospitals. The chronically ill and the aged; convalescents. Industry. The newest field—public health. Uncle Sam needs practical nurses. Other opportunities for the practical nurse. The schools of practical nursing. The curriculum in schools of practical nursing. Supervision. Protection through legislation. Hiring suitable practical nurses. Next steps. Appendix. Annotated list of textbooks and instruction outlines. The approved schools of practical nursing. Practical nurses in visiting nurse associations. Practical nursing service through professional registries in Ontario, Canada. Past opinions regarding state licensure of practical nurses. Index.

Note: In the United States of America, the term "practical nurse" designates a person who has not pursued a full course of education and training that would entitle her to a license or registration as a professional nurse but who by virtue of experience, or a shorter course of instruction, is permitted to carry out simpler types of nursing activities. In this book, the author has described how practical nurses have functioned in the past and the many ways in which they are now serving in homes, hospitals, industry and public health. The need for this type of nursing service is pointed out, and ways of expanding it and improving it through effective choice, preparation, supervision, and legal control are suggested.

cuspids) The mandibular premolars (bicuspids) The maxillary molars. The mandibular molars. The pulp cavities of the permanent teeth. Dento-osseous structures. Temporomandibular articulation—muscles of mastication—analysis of mandibular movements. The arrangement of the teeth and occlusion. Index.

Note: A textbook for use in schools of dentistry It is introductory to dental anatomy but it is thorough enough and sufficiently detailed to make it of interest to graduate dentists as well as to students. Terminology embryology and physiology are considered in the first four chapters. The succeeding chapters are devoted to a detailed study of general anatomy as the chapter titles indicate. The first edition was published in 1940. No major changes were made in this edition, but the text has been revised and clarified in numerous places. Also, changes have been made in the illustrations. These include an entirely new series of illustrations in the chapter on pulp cavities. A selection of recent literature has been added to the bibliography

YEAR BOOK OF DENTISTRY (1955–1956 Year Book series) Editors Prosthetic dentistry, Stanley D Tylman, Operative dentistry, Donald A. Keys, Public health, John W Knutson Orthodontics, Harold J Noyes Oral pathology and oral medicine, Hamilton B G Robinson, Oral surgery, Carl W Waldron Chicago The Year Book Publishers, Inc. 1956 461 p illus. 20 cm. $6.00. 4618

Contents. Diagnosis. Pulpal and periodontal diseases and related pathology Caries. Public health. Orthodontics. Surgery and related pathology Restorative and prosthetic dentistry Subject index. Index to authors.

Note: An annual publication edited and organized similarly to the other annuals in this publisher's *Year Book* series. The chapters consist of abstracts in English of articles selected from the medical and dental journals of the world. The typical abstract is several hundred words in length, and in many instances is supplemented by a brief editorial note in which the author's results are evaluated or related to other published work. A reference to the original publication is always given. Illustrations are often reprinted from the original publication In this issue there are 317 such figures. Each annual issue covers the literature of approximately one year. In the case of the issue described here, the abstracts are of articles appearing in journals received by the editors from September, 1954, to August, 1955

Nursing

General

JAMIESON, ELIZABETH M., AND MARY F SEWALL

Trends in nursing history their relationships to world events. Fourth edition. Illustrated. Philadelphia W B Saunders Company 1954 577 p. illus. (part col d) 20 cm. $4 75 4628

Contents (abridged) Part one, Ancient civilizations: Life among [illegible] peoples. Beginnings of civilization. Early Christian era. Part two, The Middle Ages. Part three, The modern era—scientific, economic, and social evolution: Renaissance, Reformation, and decline in nursing, 1500-1840 A.D. Early hospitals and nursing in America. Sporadic efforts at social reform. Modern development of [illegible] agencies, 1840-1893. Group consciousness develops with growth of schools, 1893-1920. National surveys of nursing and medicine, 1920-1939. World War II, 1939-1945. Modern trends in nursing, 1945-1953. International relationships. Index.

Note A widely used nursing school textbook. It presents a panoramic view of the development of nursing with emphasis on the major events but including also much on persons who shaped them. In this edition, there are numerous portraits of leaders in nursing. The social status of women in the various nations and eras runs through the book as a secondary theme. The research activities and current state of organized nursing in the United States of America are outlined in the chapter entitled "Modern trends in nursing," which was newly added in this fourth edition.

JENSEN DEBORAH MACLURG

History and trends of professional nursing Third edition. St. Louis The C. V Mosby Company 1955 508 p. illus. 22 cm. $4 75 4629

Contents (abridged) Part I, Orientation. Unit I. The social and professional history of nursing. Part II, Historical background. Unit II, Pre-Florence Nightingale nursing. Unit III, Florence Nightingale—her life and influence on nursing. Unit IV Early American nursing. Unit V Expansion of professional nursing. Unit VI, Professional nursing between World War I and World War II. Unit VII, Nursing during World War II. Part III, Contemporary nursing in the United States. Unit VIII, Postwar development and trends. Unit IX, [illegible]. Unit X, [illegible] opportunities for the graduate nurse. Unit XI, Legal aspects, by J. F Spalding. Part IV Nursing in the world today. Unit XII, A survey of the development of nursing in other countries. Unit XIII, International relationships. Index.

Note A standard history of nursing and survey of trends in nursing, used as a textbook for student nurses. Although it includes biographical sketches of the persons who have made contributions to the art of nursing, the growth of nursing is pictured as an integral part of development of social structure. Many developments are necessarily only summarized, but good bibliographical lists are included for those students who wish to pursue a topic further. The second edition was published in 1950. This third edition is the result of much rearrangement and augmentation. The units on legal aspects and opportunities for graduate nurses are new additions, and revisions have been made in many of the chapters carried over from the preceding edition. A selection of the literature published since the second edition was written has been added to the bibliographies.

MONTAG MILDRED L., AND MARGARET FILSON

Nursing arts. Second edition. Illustrated. Philadelphia W B Saunders Company 1953 619 p. illus. 20 cm. $4.50. 4630

Contents Part I, Orientation to nursing: Health—a social accomplishment—a social responsibility. The education of nurses. Part II, Environment of the patient. The hospital. The patient's room. Care of the environment. Medical asepsis. Surgical asepsis. Part III, Admission and discharge of the patient: The patient's record. Part IV, The making of the diagnosis. Observation of signs and symptoms. The vital signs. The physical examination. Laboratory tests. Special diagnostic tests. Part V, General care and comfort of the patient. Planning the patient's care. Teaching the patient. The general care of the patient. Comfort, rest and sleep. Serving of food and fluids. Diversional therapy. Religious needs of the patient. The care of the surgical patient. The care of patients with long-term illness and the aged. The care of the gravely ill and the dying. The care of the dead. Part VI, Therapeutic treatments: Administration of medicines. Parenteral therapy. Treatments of the urinary bladder. Treatments of the colon. Irrigations. Treatments [illegible]. Applications of heat, cold and counterirritants. [illegible]. Oxygen, carbon dioxide and helium therapies. Application of bandages and binders. Appendix. Index.

Note The basic, everyday techniques of nursing are described explicitly in this textbook. Included are not only such procedures as making the beds of patients but also uncommon ones, such as correct procedure when it is necessary for a patient suffering from a communicable disease to sign a legal document. The illustrations include reproductions of some forms used in hospital records. In this edition, there are 129 figures. Short, selected bibliographies designed as guides to further reading are included in the chapters. The first edition was published in 1948. In preparing this edition, the authors both reorganized and revised, and in some of the chapters the revisions were substantial.

PERRODIN CECILIA M.

Supervision of nursing service personnel. New York The Macmillan Company 1954 622 p. illus. 22 cm. $6 00. 4631

Contents (abridged) Unit I, The nature and meaning of supervision: Administration, organization, supervision. Teaching, education, supervision. The language of supervision. Bibliography. Unit II, Basic concepts of importance in supervision: The philosophy of nursing supervision. Psychology the lifeblood of supervision. Sociology social insight, and supervision. [illegible]. Bibliography. Unit III, Principles of supervision and their relation to supervisory practices: General principles of clinical supervision. Specific principles of supervision. Area supervision—head nurse—patient—hospital—personnel. Public relations. Bibliography. Unit IV Analysis and evaluation of supervisory activities, requirements, and qualifications. Unit V Tools of supervision: Personnel policies. Staff education. [illegible]. The art of communication. Supervisory records. Facilities for operation and cooperation. Problem-solving and supervision. Bibliography. Unit VI, Contributions of education, business, and industry to supervision. Unit VII, The supervisory program. Unit VIII, The fruits of supervision: How supervision affects results. Bibliography. Index.

Note Although it is organized in short chapters and contains review questions and other standard devices to facilitate learning, this book is written at a level that makes it valuable to graduate nurses in supervisory positions as well as to students. It contains enough material to make it useful as a reference book on the organization of nursing supervision. Extensive references to the literature are a noteworthy feature.

PETRY LUCILE, editor

The encyclopedia of nursing. Prepared under the editorial supervision of Lucile Petry Philadelphia W B Saunders Company 1952 1,011 p. 21 cm. $4 75 4632

Note A reference work which is organized in alphabetical order. The majority of terms are followed by concise essays of one or more paragraphs in which the terms are not only defined, but additional information of interest to nursing students and graduate nurses is given. The matter under some main terms—for instance, heart—runs to several pages. Terms from medicine, physiology physics, chemistry and the social sciences are included—the criterion for inclusion having been pertinence to nursing. Also included are short biographical sketches of persons who have contributed to the advance of medicine and nursing. There are no illustrations.

PRICE, ALICE L.

The American nurses dictionary the definition and pronunciation of terms in the nursing vocabulary Philadelphia W B Saunders Company 1949 656 p. 20 cm. $4.25 4633

Note Although primarily a dictionary of terms peculiar to nursing, some terms from the common language that are frequently encountered in nursing literature are included also in this useful reference book. For each term, pronunciation, accent, and division into syllables are indicated, in addition to a well-phrased definition. The number of terms is approximately 21,000.

FINER, HERMAN

Administration and the nursing services New York The Macmillan Company, 1952 333 p illus. 22 cm. $4 50 4623

Contents (abridged) Part one, The nursing service's need for administrative skill. Part II, Compulsions to awareness of administrative skill The scarcity of personnel. Size of personnel in nursing service. Diverse departmental skills and nursing service. Multiplicity of skills within the nursing service itself. Nonmeasurability of quality of nursing care. Regional responsibilities and size of nursing unit. Part III, The content of administration The scope and principles of administration. Planning, organization, and budget. Personnel. Part IV Spirit of education for nurses. The place of administration in the nursing service curriculum. The spirit in which to teach administration to nurses. Summary research needs, and study advice. Appendixes. Index.

Note. This book is based largely on the findings of research project for which funds were furnished by the W K. Kellogg Foundation. The research project had as its purpose the study of such questions as, " Is the science of administration needed in the conduct of nursing service? If so, second, how seriously is it needed? Third, what inferences are to be drawn for the curriculums of schools of nursing and for the spread of knowledge of administration among nurses already on the job at various levels in nursing service departments? In the course of exploring these questions, the research project and the author studied various aspects of the nursing profession and nursing service, some of which are indicated by the chapter titles listed above. The book is of primary interest to directors of nursing schools and of nursing services in hospitals. It is also of interest to those who are concerned with the social aspects of nursing.

FUERST, ELINOR V , AND LU VERNE WOLFF

Fundamentals of nursing the humanities and the sciences in nursing Philadelphia J B Lippincott Company, 1956 592 p illus 21 cm $5 00 4624

Contents (abridged) Unit I, Nursing and its opportunities and responsibilities. Unit II, Principles serving as guides in the practice of nursing. Unit III, Practices of asepsis which help prevent illness. Unit IV Preparation of an environment for the care of a patient. Unit V Admission to a hospital. Unit VI, Teaching as an integral part of nursing. Unit VII, Practices concerned with hygiene and healthful living. Unit VIII, Meeting the needs of patients having modified or restricted activities in their daily living. Unit IX, Helping to meet the spiritual and the emotional needs of patients as part of the rehabilitative process. Unit X, Meeting the needs of patients having disturbances of elimination from the intestines. Unit XI, Meeting the needs of patients having disturbances of elimination from the urinary bladder Unit XII, Heat, cold and counterirritants as comfort and therapeutic agents. Unit XIII Routes and methods by which the nurse administers drugs and gases. Unit XIV Therapeutic and diagnostic measures for which the nurse usually assists. Unit XV Practices used in the care of wounds and the application of dressings. Unit XVI, Administering instillations and irrigations. Unit XVII, Controlling the spread of communicable disease. Unit XVIII, Care of the terminally ill patient and of the body after death. Index.

Note A well-organized basic text. It is designed primarily for the instruction of student nurses however it provides explicit descriptions of such a wide range of fundamental nursing techniques that it is useful for reference also. Literature references are included for each unit. The first-named author is Assistant Professor of Nursing in The Cornell University-New York Hospital School of Nursing, and her co-author is member of the staff of the Institute of Research and Service in Nursing Education of Teachers College, Columbia University

GELINAS AGNES

Nursing and nursing education Cambridge, Mass Harvard University Press 1946 85 p 21 cm. (New York Academy of Medicine Committee on Medicine and the Changing Order Studies) $1 00 4625

Contents Preface, by Mrs. A. Belmont. Introduction. The development of nursing as a profession. Nursing supply and demand before and during World War II. Personnel policies and the maintenance of standards. Nursing education—problems and recommendations. Estimated nursing supply and demand in the post war period. Building the future of nursing. Index.

Note. The volume is directed at present and prospective nurses and at all others who are concerned with medical care, whether from the standpoint of private nursing or public health. Reference lists of books and periodicals for further reading are given at the end of each chapter

GILL, HELEN Z

Basic nursing Fourth edition Revised by the teaching staff of the Household Nursing Association, Boston, Massachusetts. Third edition known as *Textbook of attendant or practical nursing* by Shepard. New York The Macmillan Company, 1955 729 p. illus. 21 cm. $4 50 4626

Contents (abridged) Part I, The practical nurse—her role in nursing. Part II, The normal body—its structure and functions. Part III, Foods—their function or use in the body Part IV, The practical nurse and her patient's environment. Part V The practical nurse gives care and comfort to the patient. Part VI, Some common drugs and their administration. Part VII, Care of the mother and child. Part VIII Medical, surgical and orthopedic patients—their nursing care. Glossary Index.

Note. A clearly written and exceptionally inclusive textbook covering topics in medicine, physiology nursing, etc., which are of practical interest to hospital attendants and practical nurses—that is, nurses not enrolled for full training. It is designed primarily for use in courses organized for these members of hospital staffs, but the style is simple and the explanations are sufficiently explicit to make the book useful for reference and self-instruction. The third and earlier editions were written by Katharine Shepard. The book was reorganized and extensively revised in preparing this edition. The material added has resulted in an increase of over 200 pages.

HARMER, BERTHA, AND VIRGINIA HENDERSON

Textbook of the principles and practice of nursing Fifth edition. Revised by Virginia Henderson New York The Macmillan Company 1955 1,250 p. illus. (part col d) 24 cm. $7 00 4627

Content (abridged) Part I, The place of nursing in health service The practice of nursing and preparation of the nurse. Health programs and nurse relationships. The hospital. Part II, Fundamentals of nursing care Organization and care of the environment. Admission and discharge of the patient. Controlling the spread of communicable disease by aseptic measures. Observing, reporting, and recording observations. The patient's record. Personal cleanliness. Nutritional needs and methods of feeding. Body mechanics—transportation, rest, sleep, and prevention of pressure sores. Rehabilitation and related therapies. Responsibility of the nurse for health teaching. Part III, The role of nursing in health evaluation and diagnostic techniques. Part IV The role of nurses in therapeutic measures Basis for the selection of method in therapeutic procedures. Baths and packs Massage, therapeutic exercise, and pressure. Radiation therapy and electrotherapy Administration of medicines. Aspirations and incisions of body cavities. Drainage, irrigation and medication. Part Common problems in nursing practice. Nursing in the care of the dying and the dead. Nursing care of patients with localized infections Care of wounds, including surgical dressings. Preoperative nursing care. Postoperative nursing care. Nursing care of patients with systemic infections. Nursing care of patients with skeletal injuries. Accidents and emergencies. Appendixes. Glossary Index.

Note A standard, comprehensive treatise of the fundamentals of general nursing care and the nursing care of the commoner types of medical and surgical disease. It is used both as textbook and as a reference book. The fourth edition was published in 1939. In preparing this fifth edition, the organization and scope of the volume were not essentially changed, but its text was very extensively rewritten. Many new illustrations were added, and the bibliographies were revised to include literature published since the fourth edition was written.

and child care. Nursing care in certain special cases. Bandages and slings. Index.

Note: An elementary and practical book designed for the instruction of students who are pursuing short courses to qualify as "practical" nurses and for the guidance of nurses not in school who are already engaged in such nursing. It is not intended for the instruction of nursing students enrolled in full courses that lead to academic degrees in nursing. Its broad scope is apparent from the titles of the sections and chapters listed above. A few pages are devoted to background knowledge, but most of the space is occupied by brief but explicit and detailed descriptions of nursing techniques. The style of exposition is as nontechnical as possible, and the verbal text is supplemented by 120 figures. Aside from its primary use, the book is useful also as a guide for mothers who nurse members of their own families.

WOLF, LULU KATHRYN

Nursing. New York: D. Appleton-Century Company, Inc., 1947. 534 p. illus. 22 cm. $4.00. 4640

Contents (abridged): Part I, Orientation to nursing: The origin and development of nursing. Twentieth century trends in nursing. The nation's health problems. The nurse in the nation-wide health program. Part II, Orientation to hospital nursing: The hospital—a community health agency. The individual patient in the hospital. Part III, Orientation to patient care: Investigating the patient's needs. Recording observations on the patient's record. Planning the patient's nursing care. Providing for the patient's personal cleanliness. Providing for the patient's nutritional needs. Providing for the patient's comfort, rest and relaxation. Protecting the patient and others from infection. Giving medications to the patient. Withdrawing fluid from the patient's body. Providing for the patient's best needs on discharge from the hospital. Index.

Note: A comprehensive and inspiring textbook for student nurses. The material on the background and the status of nursing is well condensed and effectively presented. More than two-thirds of the volume is given over to discussion and explanation of various nursing techniques, explicitly and in detail, emphasis being on hospital rather than home care. Throughout the text, stress is laid on the nurse's need to understand the patient's emotional and psychological problems, as well as his physical illness. The significance of nursing in public health is emphasized. Selected references follow each chapter, and there are numerous drawings which illustrate techniques.

YOUNG, HELEN, AND ELEANOR LEE

Lippincott's quick reference book for nurses. Seventh edition. Prepared under the direction of Eleanor Lee. Author panel: Mary E. Allanach, Elizabeth S. Gill, Helen F. Pettit, Dorothy E. Reilly, and Nelda Ross Larsson. Philadelphia: J. B. Lippincott Company, 1955. 727 p. illus. 18 cm. $4.00 4641

Contents (abridged): Pharmacology. Medical and surgical. Nursing technics. Diet therapy. Maternity nursing, including child care. Appendices: Tables of measurement. Apothecaries' system. Metric system. Solution table with domestic measures. Table of capacity. Thermometer scales. Table of temperature equivalents. Poisons—symptoms and treatment. Pressure points in control of bleeding. Index.

Note: A widely used handbook of information pertaining to nursing. Helen Young was the principal author of the first five editions. A sixth edition was prepared by an editorial board under her direction, and the present edition was prepared under Eleanor Lee with the assistance of an author panel, as noted following the title above. The book provides a wide range of information on drugs, diseases, nursing techniques, etc. The information is presented as compactly as possible in tables, short definitions, concise essays, and lists. It is arranged in five parts and appendices whose titles are given above. The index is thoroughly detailed.

WORKS ON SPECIAL TOPICS

ANTHONY, CATHERINE PARKER

Textbook of anatomy and physiology. Fourth edition. With 240 illustrations, including 17 color plates. St. Louis: The C. V. Mosby Company, 1955. 671 p. illus. (part col'd) 22 cm. $4.75 4642

Contents (abridged): Unit I, The body as an integrated whole. Unit II, The erect and moving body: The skeletal system. The muscular system. Unit III, Integration and control of the body. Unit IV, Maintaining the metabolism of the body: The circulatory system. The respiratory system. The digestive system. The urinary system. Unit V, Reproduction of the human being. Unit VI, Glandular control of body functioning. Suggested supplementary reading. Index.

Note: A successful introductory text for students of nursing. By the use of tables, outline summaries, and a high number of illustrations the author has succeeded in presenting more information than the number of pages would indicate. However, fundamental information rather than variant details is emphasized. The illustrations are higher in quality than is often seen in this kind of text. The preceding edition was published in 1950. In this edition, the treatment of physiology has been further amplified and information has been added on a number of topics. The number of illustrations was substantially increased.

AVERILL, LAWRENCE AUGUSTUS, AND FLORENCE C. KEMPF

Psychology applied to nursing. Fifth edition. Illustrated. Philadelphia: W. B. Saunders Company, 1956. 417 p. illus. 21 cm. $4.25 4643

Contents: Unit I, The dramatic role of psychology in all major human enterprises: Psychology, adjustment, and the student nurse. Psychology at work in today's world. Psychology in nursing. Unit II, How to study effectively: Self guidance in study. Unit III, Why people behave as they do: The original foundations of behavior. Habits, attitudes, and other determiners of behavior. The neuromuscular mechanism in motivation. How we learn. Learning—stages and procedures—some comparisons and principles. The individual learner. Unit IV, The process of growing up: Psychology of childhood and adolescence. Achieving adulthood. Unit V, Conflicts and tensions: Conflict, tension and frustration. Emotional states and tensions. Unit VI, In pursuit of mental health: Mental hygiene of the family. Mental health in succeeding life stages. Unit VII, Special problems of adjustment: The psychology of the aging and aged. Nursing the physically handicapped. Bibliography. Index.

Note: An elementary and practical introduction to psychology designed for the instruction of student nurses. It provides a fund of psychological knowledge that is useful to such students both in understanding their own personalities and behavior and in understanding those of patients. The first edition was published in 1943 and the fourth edition in 1951. In this fifth edition, the material in the book has been rearranged and revised rather extensively.

BIDDLE, HARRY CLARENCE

Chemistry in health and disease. Fourth edition. Philadelphia: F. A. Davis Company, 1955. 797 p. illus. 22 cm. $5.75 4644

Contents (abridged): Part I, Inorganic chemistry: Atoms, molecules, and the electron theory. Solutions—liquids of everyday use. Ionization—the explanation of chemical action in solution. Acids. Bases. Salts. Nonmetals and metals. X-rays, radioactivity and nuclear chemistry. Part II, Organic chemistry: Substitution products of hydrocarbons. Carbohydrates. Fats. Proteins. Part III, Biochemistry: Chemistry of digestion. Chemistry of blood and lymph. Urinary excretion. Hormones. Vitamins and milk. Part IV, Appendix: Antidotes for some common poisons. Antiseptics and disinfectants. Tests for textile fibers. Chemical composition of some food materials. Table of physical constants of the elements. Part V, Laboratory chemistry. Index.

Note: An introductory textbook directed particularly to students of nursing, but sometimes used in courses offered to other students whose interest in chemistry is primarily in its applications in health and medical work. It is longer and covers more topics than is the author's *Chemistry for nurses*, described below. It is written in a straightforward, elementary style and is organized and equipped with chapter outlines, self-testing questions, reviews of new terms, etc., to facilitate learning on the part of the reader. The fifth part, which concludes the book, contains directions for 22 laboratory exercises or experiments. This fourth edition contains a large number of revised and rewritten sections, some of which were made to incorporate new developments and others to improve the effectiveness of the exposition.

PRICE, ALICE L

The art, science and spirit of nursing Illustrated. Philadelphia W B Saunders Company, 1954 882 p illus 20 cm. $5.50 4634

Contents (abridged) Part I, Introduction. Effective study methods. Interpersonal relationships in nursing. Part II, The hospital environment Hospital housekeeping. The patient's hospital environment. Safety measures. Part III, Basic procedures for preclinical study Cleansing baths—personal hygiene—routine care. Comfort measures. Admission of the patient. Observation of patient—the hospital record. Food requirements and food service. Elimination. Collection of specimens. Diagnostic tests. Part IV Procedures for advanced preclinical study: Preoperative care. Postoperative care. Surgical dressings. Irrigations. Part V Procedures for clinical study Catheterization. Administration of medicines. Administration of fluids. Inhalation therapy Part VI, Procedures for advanced clinical study: Spiritual needs of the patient. Care of the dying patient. Care of patient with a communicable disease. The chronically ill—the aged. Radiation. Bandaging. Index.

Note. A comprehensive, modern textbook on general nursing techniques, designed as a basic book for undergraduate students in nursing schools. Its contents and organization were determined in part by the responses to a questionnaire circulated by the author among 650 instructors of nursing arts and 200 students of nursing. It contains a large amount of material even though the author has not included step-by-step outlines of procedures. Most of the 375 illustrations are reproductions of photographs of nursing procedures.

ROTHWEILER, ELLA L, AND OTHERS

The art and science of nursing By Ella L Rothweiler, Jean Martin White, and Doris A. Geitgey With a section on bandaging by Felix Jansey, and a section on first aid by Dorothy M Richards With 180 illustrations Fifth edition. Philadelphia F A Davis Company, 1954 805 p. illus (part col'd) 23 cm. $5 00 4635

Contents (abridged) Unit I, Introduction. Unit II, Organization and care of the patient's environment. Unit III, General care of the patient. Unit IV Assisting with examinations and observing symptoms. Unit Measures to aid elimination and maintain cleanliness. Unit VI, Supplying fluids. Unit VII, Administration of medicines. Unit VIII, Therapeutic uses f heat, cold, and counter irritants. Unit IX, Other nursing skills. Care f the unconscious patient. Oxygen therapy Care of patient in respirator. Care of the chronically ill patient. Anesthesia. Gastrointestinal decompression and drainage. Surgical dressings. Bandaging. Unit X, First aid treatment. Index.

Note An outstanding textbook on the basic techniques of nursing. It is organized in the 10 units whose titles are given above and in 58 chapters. Chapters in the first unit deal with such topics as "The profession of nursing," "The nurse and health conservation, "Personality and personal appearance, and "The nurse and her patient. Chapters in other units deal with specific techniques, such as bed-making, serving food, routines of admission and discharge of patients, observations of pulse, temperature and respiration, care of patients who are unconscious, and bandaging. All such procedures are described in specific detail and the descriptions are supplemented by illustrations. The first edition of the book was published in 1935 and the fourth edition in 1950. In this fifth edition Doris A. Geitgey appears for the first time as collaborating author.

SELLEW GLADYS, AND M E EBEL

A history of nursing Third edition. Illustrated St. Louis The C. V Mosby Company 1955 432 p illus 22 cm. $4 50 4636

Contents (abridged) Nursing practices among primitive peoples. Nursing in the ancient civilizations. Nursing at the beginning of the Christian era. Influence of social lif on health in early estern Europe. Medicine and nursing in the Middle Ages. The origins of modern health problems. Health problems of the industrial city Scientific progress in medicine. Organized charities in nursing. The foundation of the nursing profession by Florence Nightingale in England. The background of professional nursing in the United States. Advance in nursing care—the Red Cross, nursing in the Spanish-American War nursing in World War I. Nursing, social work, and public health. Nursing in World War II and in the postwar period. A summary of recent nursing trends outside the United States. Professional nursing today Bibliography Periodicals Index.

Note. A nursing school textbook in hich the history of nursing is related as a facet of social history The evolution of nurses practices from earliest cultural periods to the present day is traced, and it is shown how the practices of any period are interwoven ith religion, laws, economic system, and cultural pattern prevailing. The second edition was published in 1951. In this third edition, the book has a new co-author who is Associate Professor on the faculty of the College of Nursing of Marquette University The scope and general plan are unchanged in this third edition, but some sections have been revised to bring them into accord ith recent developments and trends in nursing.

SPALDING, EUGENIA KENNEDY

Professional nursing, trends and relationships. Fifth edition, revised and reset. 51 illustrations. Philadelphia J B Lippincott Company, 1954 636 p illus 21 cm. $5.25 4637

Contents (abridged) Problem sol ing, an essential in making professional adjustments: Problem solving—technique and general sources. Evaluating, collecting, and organizing reference materials. Unit one, The social and professional outlook of the nurse: Nurses in the present situation. Nursing as a profession. Unit two, Choosing field of ork and succeeding in it: A survey of occupational opportunities for nurses. Nurses in public service. Continued education and growth. Securing, filling, and resigning from a position. Unit three, Professional organizations and activities: The alumnae association. The American Nurses' Association. International nursing relationships. The National League for Nursing. Other national nursing and allied organizations. Professional nursing journals in the United States. The American National Red Cross. Nursing and related legislation. Public relations in nursing. Organization principles and practices which aid in professional activities. Unit four, Other phases—personal and professional Legal relationships, responsibilities, and problems. Economic security Relationships and personal growth. Appendix. Index.

Note. A comprehensive, detailed view of the profession of nursing in contemporary United States of America is presented in this book, which is addressed to nursing students in their last year of undergraduate study and graduate nurses. The many facets of the nursing profession, its opportunities, organizations, and community relationships are described in some detail, and the nurse-reader is offered a wide range of useful information and advice on professional and personal progress. Very extensive reading lists are included. The fourth edition was published in 1950. Extensive revisions were made in preparing this fifth edition, which has been printed from re-set type.

TABER, CLARENCE WILBUR

Taber's vocabulary of medical terms. Fourth edition. Philadelphia F A Davis Company 1953 771 p 18 cm. $3 50 4638

Note. A briefer version of the author's *Cyclopedic medical dictionary* It contains fewer terms than the larger dictionaries and lacks supplementary features, such as illustrations and tables. Nevertheless, many thousands of terms are defined, and pronunciations are given for most of them. It is useful dictionary for students of nursing, graduate nurses, biologists, and others ho encounter medical terms in their reading, but do not need full-scale compendium.

WHITE, JEAN MARTIN

Practical nursing. 120 illustrations. Philadelphia F A. Davis Company 1953 447 p. illus. (part col d) 22 cm $3 50 4639

Contents Section Qualifications and conduct of the nurse. Personal hygiene. Care of your patient surroundings and property Section II Infection, disinfection, and sterilization. The isolated patient. Section III, Anatomy and physiology Introduction. Skin. Bones. Muscles. Digestion. Circulation Respiration Excretion. Brain and nerves. Special senses. Glands. Reproductive systems. Section IV: Admitting the hospital patient. Assisting the doctor—symptoms. The care and comfort of your patient Section Treatments. Section VI Food for your patient. Buying, caring for and cooking food. Section VII Medicines. Section III Maternity care. Baby

the general characteristics of bacteria, factors in the growth of bacteria, disinfection and sterilization, the role of bacteria in the causation of disease, and the classes of bacteria. A considerable part of the second section is devoted to descriptions of diseases of the various systems of the body. The book is well organized to facilitate study and the illustrations are of good quality. In comparison to the fifth edition, there has been some reorganization and [illegible] considerable amount of revision of both text and illustrations.

COURCHAINE, ARMAND JOSEPH
Chemistry visualized and applied. Edited by M. Cordelia Cowan. Drawings by Richard Albany New York G. P Putnam's Sons, 1950. 687 p. illus. 22 cm. $4.90 4650

Contents (abridged) Part 1, Fundamentals and applications of inorganic chemistry: Chemistry and physics. Matter. Energy. Elements and metals. Oxides—compounds of oxygen. Solutions. Acids. Bases. Salts. Ionization and its applications. *Part II*, Fundamentals and applications of organic chemistry: Hydrocarbons. Alcohols and ethers. Aldehydes and ketones. Organic acids, esters, amines and amides. Nitrogen derivatives—urea and uric acid. Alkaloids and chemotherapeutic drugs. Part III, Introduction to biological chemistry: Carbohydrates. Fats and related compounds. Amino acids and proteins. Sterols and vitamins. The chemistry of hormones. Enzymes. Digestion. Metabolism. The chemistry of blood and milk. Urine. Appendixes. Index.

Note: An inclusive survey designed primarily for student nurses but useful also to students in other fields where [illegible] knowledge of chemistry and biochemistry is important but is subordinate to other sciences. The essentials not only of general chemistry but also of biochemistry are covered descriptively. Comprehension on the part of the reader is facilitated by the liberal use of structural diagrams, graphic illustrations, and references to applications of the chemical knowledge in the understanding of life processes. The second edition was published in 1937 683 p. $3.50.

CRUZE, WENDELL W
Psychology in nursing. New York The Blakiston Division McGraw Hill Book Company Inc., 1955 494 p illus. 23 cm. (Mc Graw Hill series in nursing Lucile Petry consulting editor) $5.50 4651

Contents: Psychology and the student nurse. Psychology of efficiency. Origin of an individual. Development of an individual. Receptors and their functions. Nervous system. Effectors—muscles and glands. Motivation of human behavior. Emotions and health. Personality. Development of personality. Conflict, frustration, and adjustment. The psychoneuroses and the psychoses. Intelligence and aptitudes. Observation. Thinking. Psychological aspects of nursing children and adolescents—chronic and aged patients. Glossary. Visual aids. Index.

Note: A well-written introductory textbook, designed for the instruction of student nurses. A broad, basic view of psychology is presented, and some topics are included—for example, [illegible] discussion of genetics—that are not always discussed in introductory texts on psychology. The psychological aspects of these topics is, of course, stressed. The implications of psychology for nursing, both in the nurse [illegible] understanding of her own personality and in her understanding of the personality problems of patients, are made clear. The author is [illegible] teacher of psychology.

CULBERTSON JAMES T AND M CORDELIA COWAN
Living agents of disease. New York G. P Putnam's Sons, 1952 624 p. illus. 22 cm. $4.90. 4652

Contents (abridged) Unit 1, Introduction: Ways by [illegible] which organisms produce disease. Social significance of living agents of disease. Unit II, The nature of living agents of disease: Bacteria. Spirochetes. Yeasts and molds. Rickettsiae and allied organisms. Viruses. Protozoa. Arthropods. Organizations participating in the study of organisms. Unit III, Methods in the study of living agents of disease. The laboratory. Disinfection and sterilization. The study of bacteria. The study of spirochetes and yeasts and molds. The study of rickettsiae and viruses. The study of protozoa, helminths and arthropods. Collection of specimens and use of experimental animals. Unit IV, The human body in relation to other organisms: Natural bacterial flora of the body. Infestment of the human body. Resistance to organisms and factors [illegible] which determine infectivity of organisms. Response of the body to antigens of other living human beings. Unit [illegible] The control and eradication of living agents of disease. Prevention of spread of disease. Increment of resistance of potential hosts. Organizations for the control and eradication of infectious diseases. Some of the laws concerned [illegible] with or relating to infectious diseases. Unit [illegible], Bacterial organisms and the diseases they cause. Unit VII, Other organisms and the diseases they cause: Pathogenic spirochetes and spirochetal infections. Pathogenic yeasts and molds and mycotic infections. Pathogenic rickettsiae and allied organisms and their infections. Pathogenic viruses and viral infections. Parasitic protozoa and protozoal infections. Parasitic helminths and helminthiasis. Primary arthropodal pathogens and arthropodal disease conditions. Man's potential ability for survival. Index.

Note: An introductory treatment that gives [illegible] broad view of the role of microorganisms and some larger organisms in disease. The book is organized so that it may be used as [illegible] text in nursing schools and other educational institutions. Some information is included on diagnosis and treatment of specific diseases caused by living organisms, but the book is not intended as [illegible] clinical manual.

DOOLEY, MARION SYLVESTER, AND JOSEPHINE RAPPAPORT
Pharmacology and therapeutics in nursing. Second edition. New York McGraw Hill Book Company, Inc., 1953 486 p. illus. 23 cm. $4.50. 4653

Contents: History of drug therapy. General features of drugs. Measurements and computations. Drug administration. General analgesics. Special analgesics and other drugs in the prevention and cure of acute and chronic arthritis and gout. Hypnotics and sedatives. General anesthetics. Antiemetics and sedatives. Drugs as respiratory depressants and stimulants. Antiseptics and disinfectants. Local anesthetics. Drugs acting on the peripheral nervous system—on the heart and coronary diseases—on the peripheral vascular diseases. Endocrines. Antihistamines (antiallergenic). Vitamins. Blood, blood products, and blood substitutes. Drugs acting on blood and blood-forming organs. Stomachics and carminatives. Antacids. Evacuants (laxatives, cathartics, drastics, emetics). Anthelmintics, taeniacides, and other parasiticides. Drugs acting as diuretics and antidiuretics. Antimalarials. Sulfonamides. Antibiotics as cures of infectious diseases. Antibiotic antisyphilitic drugs. Serums. Vaccines. Drugs in emergencies. Reference reading suggestions. List of [illegible] materials. Index.

Note: A textbook designed for use in schools of nursing organized at the collegiate level. It affords [illegible] correlation of basic pharmacologic and therapeutic knowledge with the techniques of [illegible] nursing. Techniques of the administration of drugs are explicitly described from the nurse standpoint. However, most of the volume is devoted to descriptions of individual drugs. These descriptions are organized in the chapters [illegible] here titles are given above, and they cover for each drug information on its properties, actions, uses, toxicity, dangers, and techniques of administration. The first edition was published in 1948. For the second edition, the book was somewhat reorganized and extensively rewritten. Chapters were added on the antihistamines and the antibiotics.

FRANCIS CHARLOTTE A., AND EDNA C. MORSE
Fundamentals of chemistry and applications chosen from inorganic, organic, and biochemistry with applications in physiology microbiology nutrition and everyday concerns. Fourth edition. New York The Macmillan Company 1956 543 p. illus. 22 cm. $6.00. 4654

Contents (abridged) Substances and how they are recognized. Mixtures. Physical and chemical change. Oxygen. Catalytic agents. Chemical changes involve energy transformations. Radioactive elements. Introduction to bases, acids, and salts. A study of water. Solutions. Colloidal solutions. Emulsions. Ions and ionization. Oxidation-reduction. An introduction to organic chemistry. Carbohydrates. Proteins. Enzymes and their functioning. Chemistry of digestion. Function and fate of glucose, fats, and proteins in the body. The blood and its functions. Index.

Note: An introductory text for students of nursing, home economics, and other fields where some knowledge of basic chemistry is essential because of its application to life processes. The treat-

BIDDLE, HARRY CLARENCE

Chemistry for nurses, a combined text and laboratory manual, including essential principles from inorganic organic, and biochemistry Fourth edition. Consultant Vaughn W Floutz. With 212 illustrations. Philadelphia F A. Davis Company, 1951 351 p illus. 22 cm. $4 00 4645

Contents (abridged) Part I Inorganic chemistry Structure and behavior of atoms. Oxygen—the breath of life. Water Solutions—liquids of everyday use. Ionization—facts explaining chemical and electrochemical reactions in solution. Salts—compounds having no common ion. Metals and nonmetals—base-forming and acid-forming elements. Part II, Organic chemistry Compounds that make life possible. Important classes of organic compounds—substitution products of hydrocarbons. Carbohydrates—aldehyde or ketone derivatives of complex alcohols. Fats—our most important body-storage foods. Proteins—tissue builders. Digestion—chemical change in alimentary canal. Part III, Appendix Vitamins and milk. Blood and urine. Foods. Part IV Glossary Part Laboratory experiments. Index.

Note. A long-established introductory text. Although it includes material from various branches of chemistry and also a considerable range of reference data, it is not one of those texts which overwhelms the student with detail. The matter included has been carefully selected from the standpoint of its usefulness to nurses. Comprehension is facilitated by chapter outlines, summaries, "self-testing questions," etc.

BOGERT, L JEAN

Fundamentals of chemistry Seventh edition Philadelphia W B Saunders Company, 1953 648 p illus 21 cm. $4 50 4646

Contents (abridged) Fundamental facts regarding science, energy and matter Chemical elements and the atomic theory Valence and chemical formulas. Classification of compounds and discussion of acids, bases, and salts. System of naming compounds. The most important of all compounds—water. Energy in chemical changes. Combustion and oxidation—reduction. Nitrogen and the atmosphere. Solutions. The halogens and other nonmetals. Uses of inorganic salts in the body Radioactivity nuclear reactions, and atomic energy Hydrocarbons and halogen derivatives. Ethers, alcohols, aldehydes, and ketones. Organic acids and salts, esters, amines, and amino acids. Cyclic compounds. Carbohydrates. Fats and related substances. Proteins and amino acids. The vitamins. Digestion and the digestive enzymes. Metabolism—chemical changes in the tissues. Endocrine glands and their hormones. Appendix. Index.

Note. A long-established and widely used textbook. It is designed for students pursuing courses in home economics, nursing and other fields where the need of a background knowledge in chemistry is recognized but the student will probably not pursue his studies beyond the introductory course. It is widely used in nursing schools, but its use is not limited to these schools. The first edition was published in 1924 The eighth edition was scheduled for publication early in 1958.

BOGERT, L JEAN

Nutrition and physical fitness Sixth edition Philadelphia W B Saunders Company 1954 664 p illus. 21 cm. $4 50 4646A

Contents Part I, Body needs Functions of food and its relation to health. Carbohydrates, fats, proteins. Energy needs—basal metabolism and regulation of body temperature. Total energy requirement of adults. Fuel value of foods and control of body weight. The protein requirement. Why the body needs mineral elements, water and fiber Calcium and phosphorus. Iron copper and iodine. General information about vitamins. Ascorbic acid (vitamin C) B-complex vitamins. Fat-soluble vitamins. Different food groups and their place in the diet. Adequate diets for normal adults. Part II, Body processes The body as whole in its relations to food. Digestion and absorption of food Metabolism and the influence of ductless glands. Excretion and the factors affecting it. Part III, Meal planning How to build menus—for day—for week. Family food budgets. Food fads and fantasies. Recent trends in American dietary habits. Part IV Diet for special conditions Diet for pregnant and nursing mothers. Diet for children and teenagers. Diet for after forty Overweight—its significance and treatment. Malnutrition—how to detect and overcome it. Appendix. Index

Note: A basic practical text for students of nursing, students of home economics, and even for laymen who want an elementary but substantial book. The fundamentals of nutrition are covered in an elementary manner and much practical information on menu planning, calorie calculations, etc., is included. Good lists of supplementary reading are furnished for each chapter. The fifth edition was published in 1949 This sixth edition represents very extensive revision in which more than half of the text is new

BOYD, WILLIAM

An introduction to medical science, an elementary text on pathology Fourth edition, thoroughly revised, with 124 illustrations and 3 colored plates. Philadelphia Lea and Febiger, 1952 304 p illus. (part col'd) 24 cm. $4 50 4647

Contents (abridged) Part I, Some general principles. The evolution of medical science. The nature and causes of disease. Inflammation, immunity and allergy Some bacterial infections. Tumors. Part II, The organs and their diseases. Part III, Practical applications The principles of treatment. The collection of material for the laboratory Index.

Note A standard introduction for student nurses. Concise descriptions of common diseases are provided, together with discussions of causes, manifestations and symptoms, and principles of treatment. In this edition, revisions have been made to cover recent developments in the fields of treatment and therapy and new sections have been added dealing with such topics as congenital heart disease, edema, shock, fluid balance, iron pneumonia, and dust diseases of the lungs. The author is a member of the faculty of the University of Toronto.

BURDON, KENNETH LIVINGSTON

Textbook of microbiology Third edition, revised. New York The Macmillan Company, 1947 728 p illus 22 cm. $4 75 4648

Contents (abridged) Part I, Elements of microbiology Scope and character of microbiology History of microbiology Outstanding properties of the principal kinds of microbes. Microscopes and microscopical methods. Morphology of bacteria. General physiology of bacteria. Activities of nonpathogenic, saprophytic bacteria. Cultivation of bacteria—culture media and methods. Isolation and identification of bacteria. Growth characteristics of bacteria in laboratory cultures. Part II, Methods of destroying microorganisms and of controlling the spread of communicable diseases—sources and modes of infection. Part III, Infection and resistance. Microbes and disease. Reaction of the body to infection—cellular defense. Natural and acquired immunity Anaphylaxis or hypersensitiveness. Part IV Microbiology of important infectious diseases. Appendix. Index.

Note. An introductory textbook designed primarily for use in nurses' training schools. It offers concise but fairly comprehensive presentation of the fundamentals of general and medical microbiology and the elementary phases of immunology and public health. This edition has been somewhat rewritten in parts and also rearranged so as to increase its effectiveness as text. There are several new illustrations and the reference lists have been revised.

CARTER CHARLES F , AND ALICE LORRAINE SMITH

Microbiology and pathology Sixth edition. With 313 illustrations. St. Louis The C. V Mosby Company 1956 970 p illus. 22 cm. $6.50 4649

Contents (abridged) Part I, Microbiology Section 1, General principles of microbiology Section 2 Relation of bacteria to disease. Section 3 Bacteriology of water and milk Section 4, Special bacteriology Part II, Pathology The hospital pathologist and his work. The nature and causes of disease. Defenses of the body against disease. Disturbances of circulation. Inflammation, repair and regeneration. Infectious diseases. The vitamin deficiencies. Tumors. Defects of body development. Diseases of the heart and blood vessels —The lymph nodes and spleen—the respiratory system—nervous system—the digestive system—the urinary system—the endocrine glands—the bones and joints. Part III, Glossary Index

Note An elementary textbook, which is used in the instruction of student nurses. In this edition it is organized in 55 chapters of which a selected few are listed by title above In the first part the chapters are devoted to general aspects of microbiology such as

Planning the adequate diet. Food habits and customs of various nationality groups. Pregnancy and lactation. Infant feeding. Feeding of children. Nutrition for the aged. Part ii. Diet therapy. Modifications of the normal diet—in selection of food—in consistency—in energy value—in protein content—in fat content—in carbohydrate—in mineral content. Part iii. Introduction to the study of cookery. Food hygiene. Beverages. Eggs. Cereals. Soups. Vegetables. Fruits. Salads and salad dressings. Desserts. Cheese. Meat, fish and poultry. Part iv. Appendix: Calculation of food values. General references. Index.

Note: An inclusive, introductory text in which the fundamentals of nutrition, normal and special dietary requirements, the principal foods, and diet-planning are all discussed. There is somewhat more emphasis on general aspects of dietetics even though the book was planned primarily for student nurses. There are 45 tables of reference data and many typical menus.

JUNG, FREDERIC THEODORE AND ELIZABETH CARPENTER EARLE

Anatomy and physiology. With 339 illustrations. Third edition. Philadelphia F. A. Davis Company 1955 829 p. illus. 23 cm. $5.50. 4661

Contents (abridged): Unit i. An introduction to anatomy and physiology. Introduction—a brief history of anatomy and physiology. Unit ii. The osseous system—the erect body. Unit iii. The muscular system—the moving body. Unit iv. The nervous system—integration and control of the body. Unit v. Sensory receptors—guardians of the body. Unit vi. The circulatory system—maintenance of cellular metabolism. Unit vii. The respiratory system—the air line of the body. Unit viii. The alimentary system—maintenance of nutritional needs of the body. Unit ix. The excretory system—waste disposal of the body. Unit x. The integumentary system—the covering of the body. Unit xi. The endocrine system—the chemical regulator of the body. Unit xii. The reproductive system—perpetuation of the species. Unit xiii. Conclusion. Individual differences. Common reactions to environmental changes. Appendix. Index.

Note: An elementary textbook designed mainly for the instruction of nurses. A wide range of basic and useful information is included. The book is well organized, written in a simple, direct style, and adequately illustrated.

KIMBER, DIANA CLIFFORD AND CAROLYN E. GRAY

Textbook of anatomy & physiology. Thirteenth edition. Revised by Caroline E. Stackpole and Lutie C. Leavell. New York The Macmillan Company 1955 850 p. illus. (part col'd) 22 cm. $5.75 4662

Contents (abridged): Unit i. The body as a whole—structural and functional relationships and organization. Unit ii. The structural and functional relationships for correlation and co-ordination of external activities. Unit iii. The structural and functional relationships for correlation and co-ordination of internal activities—metabolism. Unit iv. Adaptive responses and the special senses. Unit v. The structural and functional relationships for human reproduction and development. Reference books and books for further study. Glossary. Index.

Note: The first edition of this book was published in 1893, and in its various editions it has been a standard textbook since that year. It is designed for student nurses and is used chiefly in schools of nursing, but it is suitable for use in any course where it is desired to give a fairly inclusive but not exhaustive exposition of human anatomy and physiology and their interrelationships. The 12th edition was published in 1944. In this 13th edition there are 2 chapters, including a new one on water and electrolyte balance. A number of the chapters carried over from the preceding edition have been revised and some of them have been enlarged. The number of illustrations has been increased to 388.

KRUG, ELSIE E. AND HUGH ALISTER McGUIGAN

Pharmacology in nursing. With 41 text illustrations and 18 color plates. Seventh edition. St. Louis The C. V. Mosby Company, 1955 703 p. illus. (part col'd) 22 cm. $4.75 4663

Contents (abridged): How to study pharmacology. Pharmaceutic preparations. Arithmetic review. The administration of medicines. The action of drugs. Dosage. Common poisons and antidotes. Common active principles of plant drugs. Antiseptics and disinfectants. Antibiotics. Drugs that affect the central nervous system. Autonomic drugs. Skeletal muscle relaxants. Drugs that affect the digestive system—The circulatory system—the respiratory system—the skin and mucous membranes—the urinary system—the eye—the reproductive system. Chemotherapeutic agents. Drugs used in disorders of metabolism and nutrition. Serums and vaccines. History of materia medica. General references. Glossary. Index.

Note. A standard textbook for student nurses. Its purpose is to supply a background of knowledge that will enable graduate nurses to work cooperatively with physicians in the administration of medicines. It describes in an elementary, straightforward manner the specific drugs, antibiotics, etc., in regard to their physiological actions, dosages, and methods of administration. The fifth edition was published in 1951. In preparing this seventh edition, revisions were made to bring the book into accordance with the *Pharmacopoeia of the United States of America XV* and the *National Formulary X*, and to include new drugs from *New and nonofficial remedies.*

MILLARD, NELLIE D., AND OTHERS

Human anatomy and physiology by Nellie D. Millard, Barry G. King and Mary Jane Showers. Fourth edition. 315 illustrations with 55 in color, 225 by Lucille Cassell Innes. Philadelphia W. B. Saunders Company 1956. 593 p. illus. (part col'd) 21 cm. $5.00. 4664

Contents: Unit i. The body as an integrated whole: The body as a whole. The whole body and its component parts. Epithelial and connective tissues. Unit ii. Integration and control of the body by the nervous system. Nervous tissue. Initiation and propagation of the nerve impulse. The spinal cord and the spinal nerves. The brain and cranial nerves. The special senses. The autonomic nervous system. Unit iii. The erect and moving body: The skeletal system. Articulations. Muscular tissue. The physiology of muscle. The skeletal muscles. Unit iv. Maintaining the metabolism of the body: Blood. The circulatory system. The heart—blood vessels and circulation. Some physical aspects of circulation—measurement of blood pressure. The maintenance and regulation of blood pressure. The lymphatic system. The respiratory system. The physiology of respiration. The digestive system. The physiology of digestion. Absorption and metabolism. Structure and function of the urinary system. Regulation of body temperature. The endocrine system. Unit v. Reproduction of the human being: *Female reproductive system. Male reproductive system.* Prenatal development of the human body. Index.

Note: A standard introductory work which is used primarily as a text in schools of nursing but also finds use in courses offered in undergraduate liberal arts colleges. It covers the fundamentals of human anatomy and physiology without attempting the detail of full-scale texts such as are used in medical schools. There are over 300 illustrations; nevertheless, the greater part of the description is in the form of narrative text. The first edition was published in 1941 and the third edition in 1951. For this fourth edition the arrangement was changed so that the nervous system is now the subject of the second unit. Other changes of a pedagogical interest were made and numerous small revisions and augmentations were made in many of the chapters. The number of illustrations was slightly increased.

MITCHELL, KATHERINE, AND MARGARET COWDEN BERNARD

Food in health and disease: preparation, physiological action, and therapeutic value. Fifth edition. Philadelphia F. A. Davis Company 1955 688 p. illus. (part col'd) 23 cm. $4.25 4665

Contents (abridged): Part i. Food and nutrition. Food elements and their uses. Further food elements. Normal diets. Part ii. Diet in disease. Diets which are modifications in consistency. Diets which are modifications in energy value. Diets in which there is

ment is simple and largely descriptive. However more ground is covered than in some introductory texts for students of nursing. The third edition was published in 1950. Chapters on radioactive elements and on enzymes were added among other changes.

FRANCIS, CARL C, AND G CLINTON KNOWLTON

Textbook of anatomy and physiology Second edition With 365 text illustrations and 31 color plates St. Louis The C. V Mosby Company, 1950 624 p illus (part col'd) 22 cm 4655

Contents (abridged) Unit I, The body body tissues, environment. Unit II, Posture and movement. Unit III, Integrative mechanisms. Unit IV Maintenance of the body tissues. Unit V Reproduction Glossary Index.

Note A standard text for use in nursing schools. Anatomy and physiology are correlated rather than presented as separate subjects. The illustrations are of high quality The first edition was published in 1943 The original book was extensively rearranged and revised for this edition. A third edition was published in 1957 under the title *Integrated Anatomy and Physiology* 641 p., $5.85

FROBISHER, MARTIN, AND OTHERS

Microbiology and pathology for nurses Fourth edition. By Martin Frobisher, jr Lucille Sommermeyer, Raymond H Goodale. Philadelphia W B Saunders Company 1956 845 p illus. (part col'd) 21 cm. $6 50 4656

Contents (abridged) Unit I, General principles. Morphology and structure of bacteria. The relation of bacteria to their environment. The role of microorganisms in everyday life. Unit II, Inhibition, destruction and removal of microorganisms Methods of inhibition and destruction of microorganisms. Principles of sterilization and disinfection applied to nursing. Unit III, Infection, immunity and allergy Unit IV Special microbiology: The gram-positive cocci. Genus Neisseria. The family Enterobacteriaceae. The viruses (dermotropic and pneumotropic) The rickettsiae and rickettsioses. Table of general references. Unit V General pathology: Degenerative processes and necrosis. Inflammation and repair Infections. Ulceration. Obstructions. Neoplasms. Malignant tumors. Diseases of the circulatory system—respiratory system—gastrointestinal system—Urinary tract—Integumentary system—Endocrine glands—Nervous system—eye and ear—musculoskeletal system—reproductive system. Unit VII, Clinical pathology: Nurses' responsibilities in clinical tests. Examinations of blood—urine—cerebrospinal fluid—transudates and exudates—gastric contents—feces. Index.

Note A standard textbook for the instruction of student nurses. Its scope is wide however the topics included are covered in an elementary fashion appropriate to the book's purpose. Most of the book is devoted to background information but such techniques as sterilization, disinfection, and the collection of specimens for diagnostic laboratory tests, which are the responsibility of nurses, are fully described from the standpoint of practice. The first edition was published in 1943 and the third edition in 1951 In preparing this fourth edition many chapters were extensively revised and parts of the book were reorganized. Some of the illustrations which appeared in preceding editions were deleted, and many new ones added. The total number of figures is now 281 The microbiology units are also published in a separate book under the title *Microbiology for nurses*, ninth edition, 1956, Philadelphia, W B. Saunders Company 551 p., $5.00.

GOODALE, RAYMOND H

Nursing pathology Second edition. Philadelphia W B Saunders Company 1956 384 p. illus 21 cm. $4.50 4657

Contents (abridged) Unit I, General pathology Causes of disease. Body defenses against disease. Degenerative processes and necrosis. Inflammation and repair Infectious diseases. Ulceration. Obstructions. Neoplasms. Benign tumors. Malignant tumors. Unit II, Applied pathology Diseases of the circulatory system. Respiratory system. Gastrointestinal system. Spleen and lymph nodes. Urinary tract. Integumentary system. Endocrine glands. Nervous system. Eye and ear Musculoskeletal system. Reproductive system. Unit III, Clinical pathology Nurse's responsibilities in clinical tests. Examinations of blood. Of urine. Of cerebrospinal fluid. Of transudates and exudates. Of gastric contents. Of feces. Appendix. Glossary Index.

Note Basic knowledge on pathology and on clinical laboratory tests for pathologic conditions is presented in this textbook, which is designed for the instruction of student nurses. The pathology of diseases is described in an elementary manner and the technical terms of pathology are described in a 49-page glossary The diagnostic procedures are described in relatively more detail. The first edition was published in 1948. The major change made in preparing this second edition was the deletion of most of the discussion of microscopic pathology One chapter was added, and sections of others revised.

GOOSTRAY, STELLA, AND J RAE SCHWENCK

A textbook of chemistry Seventh edition. New York The Macmillan Company, 1954 426 p illus. 22 cm $4 75 4658

Contents Introduction—a chemist looks at nursing. We live in a changing world. Our complex world is made of simple things. Chemical shorthand and weight relationships. From chemical activity to nuclear research. Types of chemical changes and their control. How the states of matter are explained. Preserver of life—supporter of combustion. Redox. The compound most important to life. Behavior of substances in water The chemical opposites and their reaction products. Electrically charged particles in solution. T typical families of elements. The most versatile element. The field of organic chemistry Simple derivatives of the hydrocarbons. Cyclic organic compounds. The chemical nature and functions of food. Chemical changes within the body Chemicals that control body processes. The vital fluid in health and disease. Who's who among chemicals in physiology Bibliography Appendix. Index.

Note A long-established textbook used in schools of nursing. It contains selection of basic information from general chemistry inorganic chemistry and biochemistry of interest in nursing. Topics such as water solutions, the chemistry of food, and the chemistry of the blood are discussed more fully than topics less directly related to nursing. Each chapter is prefaced by an outline and concludes with summary both being devices to facilitate comprehension on the part of the reader. The sixth edition was published in 1950. Addition of the chapter "Who's who among chemicals in physiology" is the major change in this edition.

GREISHEIMER, ESTHER M

Physiology and anatomy with practical considerations By Esther M Greisheimer, with the assistance of Ann A Miraldo, Seventh edition rewritten and reset. 430 illustrations, including 48 in color Philadelphia J B Lippincott Company, 1955 868 p. illus. (part col'd) 21 cm. $5 75 4659

Content (abridged) Unit I, The body as an integrated whole. Unit II, The erect and moving body The skeletal system. Anatomy of the muscular system. Physiology of muscular tissue. Unit III, Integration and control of the body by the nervous system. Unit IV Maintaining the metabolism of the body Blood, tissue fluid and lymph. Physiology of the circulatory system. Physiology of the respiratory system. Physiology of the digestive system. Physiology of the excretory system and water and salt balance. Regulation of body temperature. Anatomy and physiology of the endocrine system. Unit The reproductive system. References. Glossary Index.

Note. A standard textbook for the instruction of student nurses. It affords an elementary but broad and fairly detailed survey of human physiology and anatomy It is written in simple, descriptive style and is well organized for study This seventh edition is the result of extensive revision. Most chapters have been revised to some extent, and several of them widely rewritten. The former Unit VI has been deleted. Many new illustrations have been added, however the total number of illustrations is lower due to the deletion of many dated ones.

JOHNSON DORIS

Modern dietetics. Edited by Hazel E Munsell. New York G P Putnam's Sons 1951 529 p. illus. (part col'd) 21 cm. $4 50 4660

Content (abridged) Part I: Nutrition and health. Proteins. Carbohydrates. Energy metabolism. Vitamins. Water and cellulose.

The fat-soluble vitamins. Water-soluble vitamins. Meal planning for the family. Food patterns of various cultural groups. Section II, Normal nutrition in special conditions: Diet during pregnancy and lactation. Feeding during infancy. Nutrition of older children. Section III, Diet therapy: Deficiency diseases. Overweight and underweight. Nutrition and surgical conditions. Fevers and infections. Diseases of the intestinal tract. Disturbances of the liver and gallbladder. Diabetes mellitus. Glandular disturbances. Diseases of the cardiovascular system. Anemias. Allergic and skin disturbances—elimination diets. Diets and tests for diagnostic purposes. Section IV, Practical applications of nutrition, elementary cookery. Recipes. Recipe index. Appendix. Bibliography. Additional references. Recipe index. Index.

Note: A long-established (the first edition was published in 1918) textbook for instruction in schools of nursing. It is useful also to nurses, physicians, and others who are concerned in a professional or semi-professional way with the planning of diets in the course of caring for the young, aged, or ill. In it are covered the basic knowledge of food and nutrition and a wide range of specific information on standard and special diets, cookery and recipes. The tenth edition was published in 1950. Numerous revisions were made in preparing this 11th edition, but the most important were those made in the dietary calculations, charts, tables, etc., to bring them into accordance with the 1953 revision of the National Research Council's Recommended dietary allowances. A selection of literature published since the 10th edition was written has been added to the bibliography.

SHERMAN MANDEL

Psychology for nurses. New York Longmans, Green and Company 1947 237 p. illus. 21 cm. $2 75 4672

Contents: The problems of psychology. Perception. Learning and memory. Thinking and reasoning. Work and mental efficiency. Intelligence. Mental tests. Motives. The emotions. Emotions and attitudes. Personality. The abnormal. Index.

Note: This rather severely condensed work is designed to give the student nurse the elementary concepts of general psychology. Physiological aspects of psychology are largely omitted, the emphasis being on clinical application. The fullest chapters are on those subjects which will most directly concern the nurse in her career—emotion, personality and the abnormal. The presentation is simple and direct. Questions for discussion and suggested supplementary reading lists follow each chapter.

SOLOMON CHARLES AND ELIZABETH S GILL

Pharmacology and therapeutics. Seventh edition. Philadelphia J B Lippincott Company 1956. 628 p. illus. (part col d) 21 cm. $5.50. 4673

Contents: Introduction. Pharmacy (drugs and solutions). Drugs acting on the skin and the mucous membranes. Antiseptics and disinfectants (anti-infectives). Drugs acting on the nervous system. Central nervous stimulants—depressants. Drugs affecting the peripheral nervous system. Drugs acting on the autonomic nervous system. Drugs used for their effect upon the respiratory tract. Drugs which affect the heart and blood vessels. Drugs affecting the blood and blood-forming organs. Drugs acting on the alimentary tract. Drugs acting on the urinary tract. Drugs acting chiefly on the reproductive system. Drugs affecting the temperature of the body. Specific and so-called specific drugs. Substances affecting metabolism, nutrition and growth. Endocrine products. Allergens. Hormones. Enzymes and enzyme systems. Toxicology. Nonmedicinal therapeutics. Treatment of emergencies. Bibliography. Glossary of the terms used in the text. Approximate equivalents. Index.

Note: A standard text and reference book, the first edition of which was published in 1934 and the second edition in 1937. It is directed to student and graduate nurses and its purpose is to provide the general and specific knowledge of drugs and their uses that is necessary to nurses in co-operating with physicians, and in prescribing and administering in emergencies when no physician is available. Approximately the first 100 pages are devoted to basic matters such as nursing ethics and etiquette, general techniques of administration of drugs, classification of drugs, weights, measures and dosages. Most of the remainder of the volume is devoted to descriptions of drugs classified as indicated in the above chapter titles. In this seventh edition the book has been revised to bring it up to date with the *United States Pharmacopoeia XV*, *National Formulary X*, and the 1956 edition of *New and nonofficial remedies*. Other changes, most of them being expansions of chapters to include the descriptions of new drugs, have been made.

STERN, FRANCES

Stern's applied dietetics the planning and teaching of normal and therapeutic diets. Revised by Helen Rosenthal, Pearl C. Baker and Wilma A. McVey Third edition. Baltimore The Williams & Wilkins Company 1949 293 p. illus. 26 cm. $5.00. 4674

Contents: Part I, The daily food requirements of the body. The construction of the normal diet. The construction of the therapeutic diet. Environmental factors that influence the effectiveness of the diet. The education of the patient on the normal diet. The education of the patient on the therapeutic diet. Part II, Tables to simplify the computation of the diet. Part III, Dietary outlines. Part IV, Typical diets and menus.

Note: A standard book for nursing students, graduate nurses, public health workers, and others with professional interests in dietetics. It is based on a long career in dietetics in the department of the Boston Dispensary that was eventually named the Frances Stern Food Clinic in honor of the author. The present edition was prepared after the author's death by the present chief of the Frances Stern Food Clinic and two other of her former associates. In comparison to the preceding edition, Part I is not significantly changed, but the tables, dietary outlines and diets in the subsequent parts have been revised to bring them in line with present knowledge of food composition, nutritive requirements, etc. Part II now contains 62 tables.

THOMPSON, LAVERNE RUTH

Introduction to microorganisms. Third edition—illustrated. Philadelphia W B Saunders Company 1954 552 p. illus. 20 cm. $5.25 4675

Contents (abridged): Unit I, Fundamentals of microbiology. Unit II, Bacteria and environment. Favorable environment. Unfavorable environment. Unit III, Parasites and the host: Parasites as disease agents. Immunity. Anaerobes. Chemotherapy. Hospital sanitation. Unit IV, The pathogens. The detection and recognition of pathogens. Bacteria transmitted by food and water. Viruses transmitted by person-to-person contact or by blood. Animal parasites transmitted by food and water or contact. Bacteria transmitted by respiratory secretions. Viruses transmitted by respiratory secretions. Organisms transmitted by contact with mucous membranes. Fungi transmitted by contact with spores. Organisms transmitted by contact with animals. Organisms transmitted by mosquitoes. Unit V, Man against parasites: Organization for public health. Appendix. Index.

Note: A standard textbook for student nurses. It deals with microorganisms from the standpoint of human health and disease and contains little on their classification or morphology. Somewhat more space is given to general aspects of the subject such as immunity and sanitation than to the descriptions of diseases. The style is straightforward and simpler than in some textbooks written for college students. Lists of supplementary readings are included. In this edition, there are 83 illustrations.

UNIVERSITY OF KANSAS. SCHOOL OF MEDICINE

Therapeutic meal plans a new diet manual. Prepared by The Department of Dietetics and Nutrition, University of Kansas School of Medicine. Edited by Virginia Toews, Berdena Rosenow and Ruth Gordon. Lawrence University of Kansas Press, 1952 111 p. 22 cm. $3.00. 4676

Contents (abridged): Routine hospital meal plans. Liquid variations. Carbohydrate, protein, fat variations. Salt variations. Mineral variations. Ash variations. Fiber variations. Mechanical and chemical variations. Miscellaneous. Calorie variations. Glucose-value variations. Pregnancy and lactation. Infant and child feeding. Test diets. Additional tables. Index.

Note: This manual is intended to provide the medical and nursing staffs of hospitals with examples of meals which can be readily adapted to meet specific requirements of patients. Each type of diet includes a listing of necessary and additional foods, foods to omit, special rules, suggested menus, and the total vitamin and mineral content of each meal plan.

modification of one or more constituents. Part III, Laboratory outlines. Part IV Outline of the course in dietetics for student nurses. Part V Appendix Recommended daily dietary allowances. Composition of foods. Food value of average servings. Short method of dietary analysis. Cholesterol content of foods. Sodium and potassium content of foods. Sodium and potassium content of public water supplies. Index.

Note. A standard textbook used primarily in the instruction of student nurses and student dietitians. It is organized in five parts and 12 teaching units. In addition, the appendix which is more than 60 pages long contains a variety of reference data useful in the daily work of dietitians and nurses in charge of diets. The importance of a normal diet as part of the general health program and as the basis of diet in disease is stressed throughout. Nevertheless, special diets for various diseases are explicitly described and numerous typical menus are given in full. The section of laboratory outlines includes typical recipes for a variety of dishes. The first edition was published in 1933 and the fourth edition in 1951.

MULLER, THERESA GRACE

The foundations of human behavior dynamic psychology in nursing Foreword by William A Hunt. New York G P Putnam's Sons, 1956 254 p 21 cm $4 50 4666

Contents (abridged) Part I, Study of psychodynamics Evolution of dynamic psychology Mental health goals in nursing. Personality perspectives. Part II, Driving forces of human nature Dynamics of motivation. Concern with discipline. Achievement of integration. Part III, Understanding the dynamics. Part IV Dynamics of human relationships The affects. Conflict and anxiety Stress and fear Possessiveness and jealousy Self-realization and religion. Psychological growth and maturity Appendixes: Annotated bibliography on fiction, biography and poetry Bibliography Index.

Note. An introductory textbook written specifically for student nurses. It is organized on an unconventional pattern. Selected principles from psychology and psychiatry are introduced and related directly to human behavior problems encountered in nursing. Case histories, quotations from literature, etc., are used in place of formal exposition in some sections of the book. The author is Professor of Nursing and Educational Director of Graduate Studies in Psychiatric Nursing of the University of Nebraska.

NEAL, RAYMOND ELWOOD

Chemistry in nursing New York Mc Graw Hill Book Company, Inc., 1948 564 p illus. 24 cm. (McGraw Hill series in nursing, Lucile Petry, consulting editor) $5.50 4667

Contents (abridged) Unit I Physical and chemical changes. Unit II Some fundamental concepts. Unit III Oxygen. Unit IV The physics of water. The chemistry of water. Unit Nitrogen and its oxides. Unit VI, Acids, metal hydroxides, and salts. Unit VII Reactions of ions. Unit VIII Chlorine and its compounds. Unit IX Carbon, its oxides, and carbonates. Unit X Organic chemistry Unit XI Alcohols. Unit XII Aldehydes, ketones, and acids. Unit XIII Carbohydrates. Unit XIV Esters. Unit XV Proteins. Unit XVI Aromatic chemistry Appendix. Index.

Note. The author of this text has made a special effort to adapt his subject to meet the special needs of student nurses and to present the material in a clear and readable style. Practical applications are emphasized, and the sections on physiological chemistry are integrated with the discussions of the chemistry of foods and digestion. Review exercises and experiments to be prepared by the students are printed on perforated pages to facilitate correction by the instructor Other aids for instructors, such as suggested demonstrations for lectures, lists of materials required for experiments, and visual aid material, are included in the appendix.

NETER ERWIN, AND DOROTHA RAE EDGEWORTH

Medical microbiology for nurses. Third edition revised With 112 illustrations 9 in color Philadelphia F A. Davis Company 1956 549 p illus (part col d) 23 cm $5 00 4668

Contents (abridged): Section I, General bacteriology Section II, Immunology: Antigens and antibodies. Immunity Immunization, and serum therapy Blood groups, blood-transfusion reactions and hemolytic disease of the newborn. Section III, General microbiological aspects of infectious diseases. Section IV Special bacteriology Section V Rickettsiae and rickettsial diseases (rickettsiology) Section VI, Virology Section VII, Medical mycology Section VIII, Medical protozoology Section IX, Medical helminthology helminthic diseases. Section X, History of microbiology Section XI, Summary of certain microbiological aspects of infectious diseases. Section XII, The place of micro-organisms in the world of living things. Section XIII, Laboratory guide. General bibliography Glossary Index.

Note. A concise survey of those aspects of microbiology which are of particular interest in nursing is provided by this standard textbook. The role of microorganisms in disease, their identification and their control by disinfection and sterilization are the aspects emphasized. In this current edition, the book is organized in 13 sections, the titles of which are given above, and in 43 chapters. Most of the chapters are short for example, the one on rickettsiae and rickettsial diseases runs to only 10 pages, but in it this class of organism is identified, the diseases due to it are briefly described, the vectors are named, the diagnostic tests are described, control methods are outlined, and 15 references are given to the literature. The second edition was published in 1951 This third edition is the first to bear the name of a co-author The major changes are the addition of chapter on medical helminthology and a laboratory guide however some revisions are made in most chapters.

O'HARA, FRANK J

Psychology and the nurse. Fourth edition. Philadelphia W B Saunders Company, 1954 313 p illus. 20 cm. $3.50 4669

Contents Psychology The art of study The mind and the reacting mechanism. Effect of sensation on the mind. Imagination and dreams. Memory The art of thinking. Attention and the laws of learning. Intelligence tests and educational measurements. Feelings and emotions. Inclinations, choice and motivation. Conflicts and adjustments. Formation of habit. Personality Mental disorders. Index.

Note A standard introductory textbook for student nurses. It presents the basic and elementary concepts and principles from general psychology that are useful as background in practical nursing. In most of the chapters, implications for nursing are implied rather than explicitly pointed out. However there are some sections, such as one entitled Motivation and the nurse in which direct applications in nursing are discussed. The third edition was published in 1949 In this edition, there are two new chapters. One chapter has been deleted, and sections of other chapters have been rewritten. The review questions at the ends of chapters have been improved. The author is Professor of Psychology on the staff of Mercy Hospital School of Nursing, Wilkes-Barre, Pa.

PEPLAU, HILDEGARD E

Interpersonal relations in nursing a conceptual frame of reference for psychodynamic nursing Foreword by R. Louise McManus. New York G P Putnam s Sons, 1952 330 p. illus. 21 cm. $4 50 4670

Contents. Part I, Phases and roles in nursing situations. A definition of nursing. Phases of nurse-patient relationships. Roles in nursing. Part II, Influences in nursing situations Human needs. Interferences to achievement of goals. Opposing goals. Unexplained discomfort. Part III, Psychological tasks Learning to count on others. Learning to delay satisfaction. Identifying oneself Developing skills in participation. Part IV Methods for studying nursing as an interpersonal process. Observation, communication, and recording. Selected bibliography (by topics) Index.

Note A well-written book on applied psychology in nursing. It is written throughout in the terms of nurse-patient relationships. As a background to the discussion of these, the author delineates the principles of behavior in terms that will enable the student nurse to relate them to her work.

PROUDFIT, FAIRFAX THROCKMORTON, AND CORINNE HOGDEN ROBINSON

Nutrition & diet therapy Eleventh edition. New York The Macmillan Company 1955 859 p. illus (part col d) 22 cm $5 25 4671

Contents (abridged) Section I, Normal nutrition Food and its relation to health. Proteins. Carbohydrates. Fats. Mineral elements.

by Frank Netter With a section on the new born by Harry Bakwin. Philadelphia W B Saunders Company 1954 768 p. illus. 20 cm. $5.50. 4682

Contents (abridged) Unit i, History of obstetric care The history of obstetrics and obstetric nursing. Maternity care in hospitals. Unit ii, Human reproduction. Reproduction anatomy Female physiology in relation to reproduction. Development of the fetus. Unit iii, Nursing and pregnancy Physiologic changes in pregnancy Diagnosis of pregnancy Prenatal care. Environmental conditions influencing prenatal development. Complications of pregnancy Unit iv, Nursing during labor and delivery: Mechanism of labor. Nursing care in labor. Management of labor in the home. Precipitate delivery and emergency delivery by the nurse. Analgesia and anesthesia in obstetrics. Complicated labor and delivery Accidents and injuries of labor. Complications of labor. Operative obstetrics. Unit v, Nursing during the puerperium. Normal puerperium. Complications of the puerperium. Unit vi, Nursing in the neonatal period. Care of the newborn. Feeding during the newborn period. Disorders of the newborn. Infant care in the home. Glossary Index.

Note A nursing school textbook of excellent quality More than the usual proportion of space is devoted to the background knowledge of the subject. However, techniques of nursing care also are well covered. The text is written in a direct style that is easy to comprehend, and it is supplemented by 346 figures. The authors, one of whom is a specialist in nursing and the other a specialist in obstetrics and gynecology are members of the faculty of the New York University College of Medicine. The third edition is scheduled for publication early in 1958.

BRADY LEO, AND OTHERS

Essentials of gynecology Second edition. By Leo Brady Ethna Louise Kurtz, and Eileen McLaughlin. New York The Macmillan Company 1950. 256 p. illus. 21 cm. $3.50. 4683

Contents. Anatomy Physiology of the female reproductive organs. The gynecological history and examination. Gynecological symptoms and their importance. The gynecological infections. Uterine displacements and obstetrical injuries. Ectopic or extra-uterine pregnancy Sterility. Gynecological cysts and tumors. Gynecological surgery The equipment and supplies in the gynecological operating room. The student nurse in the operating room. Postoperative treatment. Postoperative complications. Female urology Radiation therapy in gynecology Index.

Note An authoritative and useful outline for student nurses. It is based primarily on requirements and practices at Johns Hopkins Hospital. The chapter on radiation therapy in gynecology is newly added, and other chapters and passages—particularly that on equipment and supplies in the gynecological operating room—have been rewritten.

BROWN MARY LOUISE

Occupational health nursing. In association with John Wister Meigs. New York Springer Publishing Company Inc., 1956. 276 p. 22 cm. $4.50. 4684

Contents (abridged) Part i The field and scope of occupational health nursing. Part ii, The two functions of occupational health nursing Occupational injuries and diseases. Non-occupational injuries and illnesses. Health evaluation program. Health counseling. Records and reports. Health education. Environmental sanitation. Official and voluntary agencies. Nursing organizations. Part iii, Participation of the nurse in occupational health programs Industrial hygiene. Industrial safety Workmen's compensation. Labor unions and union health services. Special programs. Occupational health nursing policy and procedure manual. Index.

Note The specialized field of nursing to which this book pertains is also known as industrial nursing. Occupational or industrial nurses carry on their profession in industry as members of corporation staffs or as members of nursing organizations maintained by employers' groups or workers' groups. The book is both an introductory text in the field and a reference manual of principles and procedures. The topics covered in it are treated at a professional level in recognition of the fact that many occupational health nurses have considerable administrative responsibility The author and her associate are both members of the faculty of the Yale University School of Medicine.

BROWNELL KATHRYN OSMOND

A textbook of practical nursing. Fourth edition. Illustrated. Philadelphia W B Saunders Company 1954 512 p. illus. 20 cm. $4.25 4685

Contents. Some history The health of the nurse. Getting the most from life. Your patient's body Your patient's [illegible]. The patient's environment. Nursing care. A convalescent patient. Diagnostic procedures. Treatment ordered for the patient. Diagnostic symptoms. Drugs and their use. The expectant mother. Formulas and protective foods. Child care. Older folks. Mental health. [illegible] Emergency care for the patient. Nutrition. Appendix. Professional word list. Index.

Note. A book widely used in the United States of America for the instruction of practical nurses as distinguished from student nurses enrolled in full-length courses leading to graduation as registered nurses. It is elementary written in a simple style, and deals primarily with the routine techniques of patient care. However, wide range of these is covered, and there is also considerable attention to background knowledge, such as an elementary description of human anatomy The third edition was published in 1949 In preparing this edition, many revisions, scattered throughout the book, were made without changing the over-all scope or plan.

COULTER, PEARL PARVIN

The nurse in the public health program. New York G P Putnam's Sons, 1954 309 p. 21 cm. $4.75 4686

Contents: Team relationships. The family team. The nurse-family team. The nurse-doctor team. The nurse-hospital team. The nurse-social-worker team. The nurse-citizen team. The nurse-teacher team. Teamwork through organization. Teamwork through professional competence. Teamwork through professional status. Index.

Note A well-written introductory textbook designed for the instruction of student nurses who are preparing for the specialty of public health nursing. Because it expresses [illegible] modern viewpoint and describes from the nurse's standpoint the organization of public health work in contemporary United States of America, it is useful also as a "refresher" and guide for graduate nurses who are turning to public health work from other fields of nursing. Appropriately it emphasizes the team approach in which the nurse cooperates with other welfare workers and agencies and with the patient's family Skillful use is made of case histories in illustrating important principles. The author is Director and Professor of Public Health Nursing of the School of Nursing of the University of Colorado.

CROSSEN ROBERT JAMES AND ANN JONES CAMPBELL

Gynecologic nursing. Fifth edition. With 171 illustrations, including three in color St. Louis The C V Mosby Company 1956. 769 p. illus. (part col'd) 22 cm. $4.25 4687

Contents Points in anatomy Points in physiology Gynecologic symptoms and their significance. Gynecologic history and examination. Pelvic infections. Uterine displacements, injury to the pelvic floor, fistulas. Extrauterine pregnancy Tumors of the uterus. Ovarian tumors. Malformations. Disturbances of function. Psychosomatic aspects of nursing. Gynecologic treatment methods. Nursing procedures. Public health aspects of gynecologic nursing. Glossary Index.

Note A standard textbook for student nurses. Obstetric nursing is not covered; instead the book is limited to nursing techniques in relation to diseases of women. Much space is devoted to the illustrations, the number of which is exceptionally high for a volume of this length. The first edition was published in 1937 and the fourth edition in 1951. Comparing the fourth edition with the fifth edition, the number of illustrations has been increased slightly even though some of the older ones were deleted. A short chapter on psychosomatic aspects of gynecologic nursing has been added, and sections of some other chapters have been revised. Some new terms have been added to the glossary

DAVIS DAVID M., AND GEORGE M STRONG

Urological nursing. Fifth edition illustrated. Philadelphia W B. Saunders Company 1953 196 p. illus. 20 cm. $3.25 4688

WALKER, BURNHAM S, AND OTHERS

Chemistry and human health. By Burnham S Walker, Isaac Asimov and M Kolaya Nicholas New York The Blakiston Division, McGraw Hill Book Company, Inc., 1956 445 p. illus 24 cm (McGraw Hill series in nursing, Lucile Petry, consulting editor) $5 75 4677

Contents. The experimental method. Matter and energy Oxygen, hydrogen, and water Metals and nonmetals. Solutions and ions. Acids and bases. Organic chemistry Proteins and enzymes. Carbohydrates and their metabolism. Lipids and their metabolism. Protein metabolism. Tissues and body fluids. Diseases of metabolism. Chemical defense against infection. Appendix. Index.

Note An introduction to chemistry written for the instruction of students of nursing. The level is somewhat higher than that of some nursing texts in chemistry in other words, it includes more chemical theory and less description. However no previous course in chemistry on the part of the students has been assumed. Appropriately there is a clear emphasis on biochemistry Two of the authors are biochemists on the faculty of Western University's School of Medicine, and the third is Instructor in Chemistry and Pharmacology in the Jersey City Hospital School of Nursing.

WITTON, CATHERINE JONES

Microbiology with applications to nursing Second edition New York The Blakiston Division, McGraw Hill Book Company, Inc., 1956 620 p illus. 23 cm. $6 00 4678

Contents (abridged) The basic structure and activities of microorganisms. The control of microorganisms. Sources and modes of infection. Infection and immunity Introduction to the study of pathogens. The pathogenic bacteria. Pathogenic organisms other than bacteria. Appendixes. Literature of microbiology Classification of medically important schizomycetes. Index.

Note: In this introductory book there is presented both general and specific information on bacteria and other microorganisms (together with a few that are not microscopic) of pathogenic interest. The book is addressed particularly to nurses. The information presented is of background nature that is to say no attempt is made to cover fully such matters as the specific techniques of nursing patients with communicable diseases. More space is devoted to general control matters which are of interest in such fields as public health than to descriptions of specific organisms. The illustrations include many diagrams of life cycles of microorganisms. The first edition was published in 1950. The second edition is organized in seven parts, of which the titles of all are listed above, and 38 chapters. Revisions and additions have been made in many parts of the text and many new illustrations have been added. The appendix section on laboratory methods that appeared in the first edition has been deleted. The bibliography has been revised. The author is Associate Professor of Biology in Simmons College.

WRIGHT HAROLD N, AND MILDRED MONTAG

A textbook of pharmacology and therapeutics. Sixth edition Illustrated Philadelphia W B Saunders Company 1955 557 p illus 20 cm $4 75 4679

Contents (abridged) Unit I, Orientation to pharmacology and therapeutics The administration of drugs. The pharmacologic basis of drug action and the classification of drugs. Unit II, Drugs used for their effects on skin and mucous membrane. Unit III, Anti-infective drugs Drugs used against bacterial and virus infections. Drugs used in treatment of malaria, amebiasis and other protozoal infections. Serums, vaccines and allergenic preparations. Unit IV Drugs acting on the nervous system Drugs producing stimulation of the central nervous system (respiratory stimulants) Hypnotic and anticonvulsant drugs. The narcotic drugs. Antipyretic and analgesic drugs. General anesthetics. Oxygen therapy and other forms of gas therapy Alcohols. Drugs acting on the autonomic nervous system. Unit V Drugs acting on the cardiovascular system and blood. Unit VI, Drugs acting chiefly on the smooth muscle of the gastrointestinal, urinary and respiratory tracts and reproductive organs. Cathartic drugs. Anthelmintic drugs. Diuretics. Drugs acting chiefly upon the uterus. Drugs used as X-ray contrast media, and other diagnostic aids. Unit VII, Vitamins and hormones. Unit VIII, Therapy of neoplastic diseases. Unit IX, Domestic and industrial poisoning. Unit X, Legislation in regard to drugs. Unit XI, History of pharmacology Appendix: Canadian drug legislation, by C. W Nash. Glossary Index.

Note: A textbook designed primarily for the instruction of student nurses. The first-named author is Professor of Pharmacology in the University of Minnesota and the co-author is Associate Professor of Nursing Education in Teachers College of Columbia University The first edition was published in 1937 Four new chapters are added and important changes made in other chapters in preparing the sixth edition.

SPECIAL TYPES OF NURSING

BENZ, GLADYS S

Pediatric nursing With 114 illustrations. Third edition St. Louis The C. V Mosby Company 1956 634 p illus. (part col d) 22 cm. $5.25 4680

Contents (abridged) Unit I, Developing skills in child care: Mental health and its contribution to child care. General principles of child care. Nursing care in special therapies. Nursing care in the home. Rehabilitation. Unit II, Growth and development: Heredity and environment. Teeth and dental care. Nutrition. Play and recreation for children. Unit III, The newborn infant Some diseases of the newborn. Vital statistics and infant mortality Infant feeding. The premature infant. Unit IV Diseases affecting the body systems: The ear and the respiratory system. The digestive system. The blood, lymphatics, and cardiovascular system. The skin. The genitourinary system. The eye. Nutritional metabolic, and endocrine disturbances. Unit V The communicable diseases. Unit VI, The child in the community The changing attitude toward child care. Today's approach to child care. Index.

Note. A standard textbook on the nursing care of children. Although there is considerable discussion of home influences on the physical and psychological development of children, and one chapter deals with nursing care in the home, most of the topics are discussed from the viewpoint of hospital care. The book is not strictly limited to topics usually classified as nursing but includes allied ones too, such as the evolution of society's attitude toward the care of children, the sex education of children, and play and recreation for children. The first edition was published in 1948 and the second edition in 1952.

BERRY, EDNA CORNELIA, AND MARY LOUISE KOHN

Introduction to operating room technique. New York The Blakiston Division, McGraw Hill Book Company Inc. 1955 154 p. illus. 28 cm. $4 00 4681

Contents The students and surgery Construction of the operating room. Organization of the operating room Sterilization. Asepsis and the principles of sterile technique The surgical scrub gowning and gloving. Positions. Preparation of the patient's skin; draping. Room and table setup procedure of case. Methods of hemostasis. Sutures. Needles. Radium. Plastic surgery Orthopedics. Urology Ophthalmology and otolaryngology Wound healing. Surgical equipment and routines. Economy in the operating room. Anesthesia. Medicolegal aspects. References. Index.

Note. A well-organized textbook and manual of basic nursing techniques in connection with surgical operations. Such techniques as gloving and draping are described step by step and are illustrated. The general features of special kinds of surgery for example, orthopedic surgery and the special requirements for instruments and other equipment are outlined from the viewpoint of nurses. In recognition of the fact that operating-room procedures vary from hospital to hospital, the volume has a format suitable for insertion in a standard ring binder and interleaving with notes on variations in procedures. The senior author is Head Nurse of Operating Rooms in the University Hospitals of Cleveland, Ohio.

BOOKMILLER MAE M, AND GEORGE LOVERIDGE BOWEN

Textbook of obstetrics and obstetric nursing Second edition With original drawings

described from the nurse's standpoint. In general, for each disease there is an outline of the basic anatomy and physiology, some discussion of pathology, etiology and description of signs and symptoms. However, the main emphasis is on pre- and post-operative care. The 5th edition was published in 1944. It was extensively revised for this edition. Many changes were made in the text, and more than 100 of the illustrations are new.

FITZSIMMONS LAURA W

Textbook for psychiatric attendants. New York The Macmillan Company 1947 332 p. illus. 21 cm. $4.00. 4694

Contents: Division I: An introduction to psychiatric nursing. Special problems associated with mental patients. Emergencies and first aid. Ward housekeeping. Hygiene and health. Special therapies. Nursing care of patients according to group classifications. Division II: Treatment and procedures. Definitions and explanations. Suggested list for reference reading. Index.

Note: A text for training attendants in mental hospitals in the care and welfare of patients which supplements the manual for instruction published by the Nursing Committee of the American Psychiatric Association, *A manual for training attendants in mental hospitals*, New York, 1945. It is arranged in units dealing with the various phases of hospital work, which customarily come within the scope of an attendant's duties. Basic principles and procedures of caring for mental patients are included, but there is no discussion of symptoms, classification, diagnosis, or therapy of mental diseases. The text could be used by persons studying by themselves in hospitals where no course for attendants is given.

GAGE, NINA D., AND OTHERS

Communicable diseases, by Nina D Gage, John Fitch Landon and Helen T Sider With the collaboration of Grace M. Longhurst and George F Hoch. 56 illustrations, including 15 color plates. Sixth edition. Philadelphia. F A. Davis Company 1955 520 p. illus. (part col d) 23 cm. $4 75 4695

Contents (abridged): Unit I, General principles and care. Unit II, Common communicable diseases. Unit III, Rarer communicable diseases. Unit IV, Diseases less readily communicated. Unit V, Additional services and technics: United States Public Health Service. The nonhospitalized communicable-disease patient. Administration of antitoxins and antisera. The antibiotics. Unit VI, Appendix: Glossary for Units II, III, and IV. Reference readings. Index.

Note: A standard textbook widely used in schools of nursing. Its purpose is to teach the special aspects of the nursing of patients with communicable diseases. Simplified medical descriptions of individual diseases are followed by discussions of the nursing care that they require. In this sixth edition, the purpose and general plan of the book are unchanged, but useful additions and revisions have been made. The chapter on antibiotics has been added, and the discussions of diseases, such as tuberculosis, where new developments in therapy have brought about changes in requirements for nursing, have been revised.

GILBERT RUTH

The public health nurse and her patient. Cambridge, Mass. *Harvard University Press*, 1951 348 p. 24 cm. $3 75 4696

Contents: Mental hygiene in public health nursing. Teaching health. Nurse and maternity patient. The child in his family. Nursing the sick patient. Relationships with co-workers. Bibliography. Index.

Note: An illuminating presentation of attitudes and relationships among patients and nurses engaged in public health nursing. The book is addressed to the public health nurse, but it is devoted mainly to the patients. Family situations and typical problems of individual patients are both discussed thoroughly together with indications of the nurse's part in helping to solve them. The first edition appeared in 1940. This edition represents an extensive revision based on larger experience and upon the literature published since 1940.

GOTTEN, NICHOLAS, AND LETITIA WILSON

Neurologic nursing Philadelphia F A. Davis Company 1940. 195 p. illus. 22 cm. 4697

Contents (abridged): Unit I, Anatomy and physiology: The nervous system; peripheral nerves; *cranial nerves*, sympathetic nerves; cerebrospinal fluid. Unit II, Neurologic signs and symptoms. Unit III, Neurologic disorders: The paralyses. Birth trauma. Mental deficiency. Spina bifida. Degenerative diseases of the spinal cord. Muscular disorders. Neuritis. Meningitis. Anterior poliomyelitis. Syphilis. Encephalitis. Encephalitis lethargica. Chorea. Cerebral vascular diseases. Epilepsy. Migraine. Alcoholism. Brain tumors. Spinal cord tumors. Trigeminal neuralgia. Head injuries. Spinal cord injuries. Diagnostic tests. Bibliography. References. Index.

Note. A concise and simple description of the etiology, pathology, symptoms, and methods of treatment of neurologic diseases for nurses. Much of the material contained in this specialized text is not available in general nursing textbooks. A second edition was published in 1949 and a third edition was published in 1957 312 p. The latter edition is priced at $4.40.

GUTIÉRREZ MAHONEY C G DE AND ESTA CARINI

Neurological and neurosurgical nursing Illustrated. Second edition St. Louis The C. V Mosby Company 1956 565 p. illus. (part col d) 22 cm. $6.25 4698

Contents (abridged): Historical introduction. Anatomy and physiology of the nervous system. Diagnostic study of the patient. Medical therapy. Introduction to the nursing care of the overactive, underactive, and maladjusted patient on the neurological or neurosurgical service. Care of the unconscious patient. Convulsive disorders. Developmental diseases. Degenerative diseases. Infectious diseases. Vascular diseases. Intracranial tumors. Injuries of the nervous system. Intravertebral tumors. Surgical therapy. Neurosurgical treatment for selected psychiatric patients. The treatment of pain. Medications most frequently used. Appendix: Supplementary references. Periodicals. Glossary. Index.

Note: An authoritative and thorough textbook containing both background knowledge and descriptions of the specialized techniques of neurological and neurosurgical nursing. Appropriately it is written at a more advanced level than the textbooks written for freshman students in nursing schools. The level of treatment assumes that the student will have acquired a knowledge of not only basic nursing procedures but also of basic anatomy. Neuroanatomy, diseases of the nervous system, and medical and surgical techniques are all described in an elementary and practical manner, and are related to nursing procedures. Well-selected literature references are given, and the book is adequately illustrated. The first edition was published in 1949. Revisions are apparent in many of the chapters in this second edition, and there is one new chapter.

HAMBY WALLACE BERNARD

The hospital care of neurosurgical patients. Second edition. Springfield Ill. Charles C Thomas, 1948. 156 p. illus. 22 cm. $3.00 *4699*

Contents: General considerations. Review of the anatomy of the structures surrounding the central nervous system. Physical aids in the diagnosis of disease of the central nervous system. Special minor surgical procedures. Head injuries. Disorders of the cranial nerves. Intracranial neoplasms. Prefrontal lobotomy. Spinal cord lesions. Post-operative drainage. Index.

Note: A brief but adequate manual for hospital nurses and house officers of hospitals, who are responsible for the care of neurosurgical patients. The author's aim has been to cover basic procedures in examination and care and to indicate danger signals which should be reported to the attending physician. The new edition is nearly 30 per cent longer than the previous work. The chapter on prefrontal lobotomy is new and there are numerous new or revised passages which show details of instruments, surgical drainage, etc. References to other literature are not provided.

Content Anatomy and physiology of the urogenital tract. Diseases of the urogenital tract. Urinary obstruction and principles of urinary drainage. Nursing care. Urological equipment—procedures. Operations nomenclature. Index.

Note. A standard textbook for student nurses. It describes in an elementary and brief manner neurological anatomy and physiology and the common diseases of the urogenital tract. However the primary subject is nursing in urological cases. Nursing care in urological cases, instruments, and other equipment used in urological diagnosis, surgery and nursing, and surgical and other procedures are described more fully and from the nurse's viewpoint. The book is adequately illustrated. The fourth edition was published in 1946. The organization and purpose are the same in this fifth edition. The chapter titles are the same, but the discussion of such matters as the control of infection has been rewritten to include new drugs and new procedures.

DENISON, ABBY HELEN

A textbook of eye, ear, nose and throat nursing, completely revised by Lyyli Eklund. Second edition New York The Macmillan Company 1937 367 p. illus (part col'd) 22 cm $4 00 4689

Contents Anatomy and physiology of the eye. Diseases of the eye and special points in their nursing care. Hygiene of the eyes. Drugs and solutions used in treatment. Technique of nursing procedures in relation to diseases of the eye. Preparation of supplies and appliances used in eye treatments. The eye operating room. The out-patient department eye clinic. Anatomy and physiology of the ear Diseases of the ear and special points in nursing care. Drugs and solutions used in ear treatment. Technique of nursing procedures in relation to diseases of the ear Anatomy and physiology of the nose and accessory sinuses. Diseases of the nose and accessory sinuses and nursing care. Anatomy of the mouth, pharynx, larynx, trachea and esophagus. Drugs and solutions used in the treatment of nose and throat diseases. Technique of nursing procedures. Ear nose and throat operating room. The function of a social service department in a specialized hospital. Index.

Note For graduate and undergraduate students of nursing, this concise text emphasizes nursing care and gives detailed instruction on specific techniques of various therapeutic measures and nursing procedures.

ELMAN ROBERT

Surgical care a practical physiologic guide New York Appleton Century Crofts Inc, 1951 586 p illus. (part col'd) 25 cm $10 00 4690

Contents Introduction. Systemic reaction to trauma. Psychogenic factors in surgery Nutrition in surgery Physical factors in surgery Basic preoperative care. Anesthesia, by M. Saklad. Inhalation therapy and resuscitation, by M. Saklad. Routine postoperative care. Chemotherapy in surgery Postoperative pain. Pulmonary complications. Thromboembolic disease. Postoperative renal dysfunction. Surgical shock. Wound complications. Abdominal complications. Postoperative fever Thermal burns. Author index. Subject index.

Note A textbook on convalescent care of surgical patients. It covers care, both before and after operations, and there are also discussions of anesthesia and resuscitation which are, of course, related to the operation itself. All of the material is written from the standpoint of the basic physiological principles. Nevertheless, much of the exposition is specific and directly related to the daily work of house physicians and nurses. For example, formulas for the tube feeding of patients are included. The author is Professor of Clinical Surgery of the School of Medicine of Washington University

EMERSON CHARLES PHILLIPS JR, AND JANE SHERBURN BRAGDON

Essentials of medicine the art and science of medical nursing. Seventeenth edition. 268 illustrations, including 19 subjects in full color Philadelphia J B Lippincott Company, 1955 922 p. illus (part col d) 21 cm $5 00 4691

Contents (abridged) Unit one, Introduction to nursing care. Unit two, The respiratory system. Unit three, The circulatory system. Unit four The digestive system. Unit five, The renal system. Unit six, The integumentary system. Unit seven, Allergic disorders. Unit eight, The endocrine glands and metabolism. Unit nine, The nervous system. Unit ten The musculoskeletal system. Unit eleven, The reproductive system. Unit twelve, The communicable diseases. Unit thirteen, Nursing in disaster Index.

Note. A very successful text, the first edition of which was published in 1908. It provides a comprehensive though elementary survey of the diseases and disorders that come within the scope of internal medicine In short, those which are treated without surgery It is used for the instruction of student nurses and for reference by practicing nurses. Simplified descriptions of diseases are combined with specific and fairly detailed information on medical and physical therapy and nursing care. Selected literature references are included. The sixteenth edition was published in 1950. The unit on disaster nursing was added in this seventeenth edition. Numerous revisions and additions have been made in other units, but the overall plan of the book is unchanged. The new joint author is Associate Director of the School of Nursing of Massachusetts Memorial Hospitals.

FADDIS, MARGENE O, AND JOSEPH M HAYMAN, JR.

Care of the medical patient a textbook for nurses. New York McGraw Hill Book Company, Inc., 1952 654 p. illus. 23 cm. (Mc Graw Hill series in nursing, Lucile Petry consulting editor) $5 50 4692

Contents (abridged) Part I Introduction What are the qualifications for good medical nursing? The importance of understanding the patient. The examination of the patient. Some important reactions to injury Part II, The patient's needs are the nurse's problems The nature and importance of special needs. The patient with severe, acute illness. The patient with long-term illness. The aged patient. The patient with disturbances of consciousness and of muscle movements. Part III, Special treatments and diagnostic procedures The administration of oxygen. The aspiration of fluids from body cavities. Part IV Nursing patients with particular diseases. Visual aids. Index.

Note In writing this book, the authors took into account (1) the increasing number of patients with chronic illnesses such as the aged, (2) the importance of psychological rapprochement between nurse and patient and (3) the nurse's part in the education of the patient and his family to care for himself and to live with his illness. An understanding of these new factors in successful nursing is stressed as an important adjunct to technical knowledge and skills. The greater part of the volume (478 pages) is devoted to discussions of particular diseases, written from the nurse's standpoint. This part has considerable reference value for graduate nurses.

FELTER ROBERT KENNETH AND OTHERS

Surgical nursing By Robert K. Felter Frances West, and Lydia M Zetzsche and associates Sixth edition With 363 illustrations 7 in color Philadelphia F A. Davis Company 1952 768 p. illus. (part col d) 23 cm. $4.50 4693

Contents (abridged) Unit I, Introductory and basal pathological states Inflammation and infection Unit II, Surgical skills and nursing Preoperative nursing care. Anesthesia. General postoperative nursing care (during normal convalescence) Unit III, The respiratory system: Surgical treatment of pulmonary tuberculosis and nursing care. Unit IV Diseases of the cardiovascular and the lymphatic systems. Unit V Diseases of the gastrointestinal system Surgery of the stomach and duodenum and nursing care. Hernia and nursing care. Unit VI, Genitourinary surgery Surgical procedures and postoperative nursing care. Unit VII, Surgery of the osseous and muscular systems Diseases of the osseous system. Tuberculosis of the osseous system. Sprains, dislocations, and transportation of the injured. Fractures. Unit VIII, Endocrine diseases. Unit IX, Surgery of the nervous system. Unit X, Eye, ear nose and throat. Unit XI, Integumentary system Burns. Unit XII, The female reproductive system. Unit XIII, Plastic and reconstructive surgery Unit XIV The nurse in the operating room. Index.

Note A textbook for use in schools of nursing Classes of diseases and individual diseases which are treated by surgery are

ses. Part [illegible] Suggestions for the nursing care of various types of psychiatric patients: The nurse and psychiatric nursing patients—hyperactive and hypoactive states. Autistic, acute, and chronic [illegible] reactions. Paranoid, panic, and anxiety states. Hysterical and obsessive reactions and personality disorders. The psychiatric nursing care of the individual patient. Index.

Note: A clearly written book addressed to student nurses and graduate nurses who are acquainted with basic nursing techniques. Practically all of the space is devoted to psychological and psychiatric topics which are directly important in psychiatric nursing or are useful as background. Little is included on general nursing procedures. Extensive lists of the related literature are included. The book [illegible] based on the author's extensive experience in psychiatric nursing and in the teaching of psychiatric nursing to others.

KNOCKE, FREDERICK JOHN AND LAZELLE S. KNOCKE

Orthopaedic nursing 312 illustrations. Philadelphia F. A. Davis Company 1951 682 p. illus. 23 cm. $5.50. 4706

Contents (abridged): Unit II, Psychology: Psychology of orthopedically handicapped, by H. R. Meledash. Unit III, Rehabilitation: Rehabilitation—a composite science, by Col. J. M. Smith. IV, Role of nurse in rehabilitation. Unit [illegible] Bed patients: Care of bedfast orthopedic patient. Orthopaedic surgical patient. Care of cast patient. Care of traction patient. Patient on frame. Unit VI, Up patients: Care of semiambulatory and ambulatory patients. Unit VII, Home care: Orthopaedic implications in community nursing, by M. Kee. Unit VIII, Special therapies. Physical therapy by E. C. Addison. Occupational therapy by E. H. Becker. Daily-activity teaching, by M. E. Brown. Unit IX, Applying fundamentals of orthopedic nursing. The poliomyelitis patient. Appendix. Index.

Note: A textbook that is introductory to this specialized field of nursing but which nevertheless provides full and explicit discussions of present-day techniques, including the psychological and occupational therapy aspects. Selected bibliographies and lists of visual aids accompany the chapters.

LARSON CARROLL B AND MARJORIE GOULD

Calderwood's orthopedic nursing. Revised by Carroll B Larson and Marjorie Gould. With 284 illustrations. Third edition. St. Louis The C. V Mosby Company 1953 687 p. illus. 23 cm. $5 75 4707

Contents (abridged): Unit I, Introduction for the teacher and the student. Unit II, General features of orthopedic nursing: Nursing care of cast patients. Nursing care of the orthopedic surgical patient. Orthopedic braces and apparatus. Unit III, Congenital deformities. Unit IV Developmental diseases of bone. Unit [illegible] Infections of bones and joints: Nursing care of patients with osteomyelitis and septic conditions of the joints. Nursing care of patients with skeletal tuberculosis. Unit VI, Metabolic disorders of bone. Unit VII, Arthritis. Unit VIII, Poliomyelitis: Nursing care of patients with poliomyelitis. Unit IX, Cerebral palsy. Unit X, Common painful affections in adults. Nursing care of patients with conditions of the low back. Bursitis. Disabilities of the feet. Unit XI, Special operative procedures: Nursing care following amputation. Unit XII, Fractures and dislocations, sprains, and other joint injuries. Compound fractures and first aid. Nursing care of the fracture patient. Nursing care of the patient in traction. Unit XIV Bone tumors. Unit XV Neuromuscular affections. Progressive muscular dystrophy. Birth palsy (Erb paralysis). Charcot joints and other neuromuscular affections (neuropathies). Glossary. Index.

Note: An outstanding textbook on the nursing of orthopedic patients. It is used mainly in courses offered to nursing school students who are preparing for this specialty but it is useful also to graduate nurses in general nursing who occasionally care for orthopedic patients. The specialized techniques of orthopedic nursing are covered in full detail, and the necessary background of medical information on diseases that cause deformities is included also. The authors of the first two editions were Robert V. Funsten and Carmelita Calderwood. The authors, or revisers, of this third edition are respectively the Chairman of the Department of Orthopedic Surgery of the State University of Iowa and the Supervisor of Orthopedic Nursing in the same institution. The second edition was published in 1949. In this third edition, the material has been considerably reorganized so that there are now 14 units of instruction instead of 11, new information has been added to the text, and the number of illustrations has been substantially increased.

LESSER MARION S AND VERA R KEANE

Nurse-patient relationships in a hospital maternity service. St. Louis The C. V Mosby Company 1956 301 p. illus. 22 cm. $4.25 4708

Contents: The study design—goals and methods. The setting for the study. The pregnant woman reveals her needs and the role of the nurse during pregnancy. The nurse describes antepartal needs and her role in antepartal care. The laboring woman reveals her needs and the role of the nurse during labor and delivery. The nurse describes intrapartal needs and her role during labor and delivery. The new mother reveals her needs and the role of the nurse following delivery. The nurse describes postpartal needs and her role in maternal and infant care. Conclusions, implications, and some suggestions for improving nursing practice in maternity care. Appendix.

Note: This book is the report of a study carried out at New York Hospital under a grant from the American Nurses Association. The research was directed toward finding ways in which nurse-patient relationships could be improved in the maternity service of the hospital in which it was carried out. However, the findings of the study are applicable to the maternity services of other hospitals as well. The study was conducted largely by interviewing nurses and patients. The book contains many excerpts from the interviews and full transcripts of the interviews in several cases. The researchers found, among other things, that the needs of patients for emotional support and information on child-bearing and child care were not being met. Suggestions are made for the teaching of nurses to meet these needs.

LYNCH THERESA INEZ

Communicable disease nursing Second edition. With 131 text illustrations and 4 color plates. St. Louis The C. V Mosby Company 1949 776 p. illus. (part col'd) 22 cm. $4 75 4709

Contents (abridged): Part I, Orientation to communicable disease nursing: Preparation for communicable disease nursing. Prevention and control of communicable diseases. Vaccines, immune sera, and serum reactions. Sulfonamides and antibiotics. Medical aseptis. Part II, Medical aspects and nursing care of communicable diseases: A, Diseases spread mainly by discharges from the nose and mouth. B, Diseases spread mainly through discharges from the skin and mucous membranes. C, Diseases spread mainly through discharges from the gastrointestinal tract. D, Diseases transmitted mainly by infected animals. E, Diseases transmitted mainly by infected insects. Part III, Tuberculosis. Part IV The venereal diseases. Part [illegible] Communicable diseases and the community. Appendices. Morbidity reporting requirements. Precaution technics suggested for general hospitals. Nursing procedures. Glossary. Index.

Note: A textbook for use in nursing schools. In it, the special techniques of communicable disease nursing are described fully and, in addition, enough information is included on medical aspects, such as etiology, sources of infection, course of the disease, complications and treatment to give the nurse an adequate background for informed and sympathetic nursing. There is a special chapter on home care which is of interest both to the public health nurse and to nurses practicing privately. The first edition was published in 1942. For this edition, three chapters were added, and numerous revisions were made in those carried over. Many of the changes were [illegible] reflection of the advances in the control of communicable diseases made during World War II.

MCGRATH BETHEL J

Nursing in commerce and industry Cambridge, Mass. Harvard University Press, 1946. 356 p. illus. 23 cm. $3.00. 4710

Contents: History of industrial nursing in the United States. Industrial organizations and the nurse. Relationships with employers and employee organizations. The nurse's duties and responsibilities. Physical facilities of the industrial health service. A healthful working environment. A health program for every worker. Occupational accidents and hazards. Occupational disease hazards. Nonoccupational illness and accidents. Mental hygiene. Sight conservation, by E. Mumford. Orthopedic nursing, by K. Ott. Nutrition. Problems peculiar to women in industry. Communicable disease control. Records and reports, by H. L. Brockson. Rehabilitation. Workmen's compensation. Industrial welfare activities. Hourly nursing service by an outside agency by L. M. Harmon. Con-

HEADLEE, RAYMOND, AND BONNIE WELLS COREY

Psychiatry in nursing New York Rinehart & Company, Inc., 1948 308 p 22 cm $5 00 4700

Contents Part I, Normal variations in human behavior Normal variations. Sexual adjustment. Pain. Sleep. Part II, The varieties of mental illness Mental diseases having structural pathology—infectious states—toxic psychoses—disorders resulting in seizures—senile reaction patterns—new growths—miscellaneous disorders. The affective disturbances—depressions—excitements—schizophrenia and paranoia—psychoneuroses—amoral behavior Part III, The practice of psychiatric nursing Historical developments. The attitude of the modern nurse. Observing and recording the patient's behavior Underlying principles. Special procedures. Appendices. Index.

Note. A practical and well-written text for the guidance of student and practicing nurses who are specializing in the field of mental illnesses. The treatment is particularly adapted to meet the needs of nurses working in mental institutions. Various types of mental illnesses are described, together with outlines of special nursing procedures. A 14-page bibliography is included.

HETHERINGTON, HUBERT WILLOWS, AND FANNIE W ESHLEMAN

Nursing in prevention and control of tuberculosis Revised third edition. Illustrated with photographs and charts New York G P Putnam's Sons, 1950 361 p illus. 21 cm. $4 50 4701

Contents Pulmonary tuberculosis—history epidemiology etiology pathology symptoms. The diagnosis of tuberculosis. Treatment of pulmonary tuberculosis. The management of pulmonary tuberculosis and its complications. Tuberculosis and pregnancy Collapse therapy in pulmonary tuberculosis. Tuberculosis in infants and children. Tuberculosis case-finding. Prevention of tuberculosis among nurses. Nursing in the treatment of tuberculosis. The prevention of tuberculosis. Tuberculosis dispensary or chest clinic. Family health service. Family case studies. Rehabilitation. Appendix. Index.

Note A nursing college textbook in which information on the special nursing techniques of tuberculosis nursing is combined with general and public health on this disease. There is a long chapter on the prevention of tuberculosis and related information in other chapters. The book thus has potential value for social case workers and other persons outside the nursing profession who have professional interest in the tuberculosis problem. However its main purpose is the information and instruction of student and graduate nurses. Selected literature references are included. The first named author is Chief of Clinic of the Henry Phipps Institute of the University of Pennsylvania.

HULL, EDGAR, AND CECILIA M PERRODIN

Medical nursing With 172 illustrations, 12 in color Fifth edition Philadelphia F A Davis Company, 1954 830 p illus. (part col d) 23 cm. $5 50 4702

Contents (abridged) Unit I, Basic principles Causes and classifications of disease. The recognition of disease. The treatment of disease. The prevention of disease. The diet for the medical patient. Social and health aspects in medical nursing. Nursing care of special phases of disease Unit II, The respiratory system. Unit III, The cardiovascular system. Unit IV The blood and blood-forming organs Unit V The digestive system. Unit VI, Urinary system. Unit VII Diseases of the locomotor and cutaneous systems. Unit VIII, Ductless glands and metabolism. Unit IX, The nervous system. Unit X, Nutrition. Unit XI, Allergy physical agents, chemical agents. Unit XII, Infectious diseases. Index.

Note A comprehensive, introductory textbook used for instruction in undergraduate schools of nursing It deals with the principles and techniques of nursing care of patients who are being treated medically rather than surgically In short, its subject is the nursing aspects of internal medicine. General principles and other basic topics are covered in the first section, which is 93 pages long. Most of the sections that follow are devoted to the diseases of specific systems of the body The clinical picture of each disease is concisely sketched. In the last chapter of each unit, the nursing care of the group of diseases described in the unit is discussed. The fourth edition was published in 1950. In preparing this fifth edition, one chapter was deleted, two were added, and changes were made in many of the chapters carried over.

INGRAM, MADELENE ELLIOTT

Principles and techniques of psychiatric nursing Fourth edition. Illustrated. Philadelphia W B Saunders Company, 1955 529 p illus. 20 cm $4 75 4703

Contents I, Historical background of treatment of the mentally ill History and development of the care of the mentally ill. II, Patient, nurse and the immediate situation Approach. Personal hygiene. Personal property Feeding problems. Suicides; escapes; hazards accidents. Admission, transfer discharge. Management of active patients. Group management. Increasing patients' self-direction. Treatments. III, Psychiatric theory and treatment Behavior Mental disorders. Specific psychiatric treatments IV Therapeutic techniques for relating the patient to the culture The arts, education and physical activities in treatment. Occupational therapy Drama in treatment. Music in treatment. Recreation as treatment. Bibliotherapy Hydrotherapy V Nursing adaptations for psychiatric situations. Charting. Night duty Nursing in the services. Legal aspects. Traveling with patients. VI, Brief discussion of social guidance and counseling techniques. Mental hygiene. Glossary Index.

Note: A standard textbook used for instruction in both undergraduate and postgraduate nursing courses. It offers a broad and at the same time a detailed introduction to the principles and techniques of nursing care of patients with mental disorders. Elementary descriptions of these disorders and of their treatment are included as essential background information. The first edition was published in 1939 and the third edition in 1949 For this fourth edition the book was reorganized and extensively rewritten.

JENSEN, JULIUS, AND DEBORAH MACLURG JENSEN

Nursing in clinical medicine 4th edition of *Clinical nursing in medicine* New York The Macmillan Company 1954 889 p. illus. 21 cm. $4 00 4704

Contents (abridged) Part I, Background data: Unit I, General introduction. Unit II, Fundamental principles. Part II, Discussion of general conditions Unit III, General disease conditions. Part III, Discussion of specific conditions (organ systems): Unit IV Diseases of the cardiovascular system. Unit V Diseases of the blood and blood-forming organs. Unit VI, Diseases of the respiratory system. Unit VII, Diseases of the gastrointestinal system. Unit VIII, Diseases of the urinary system. Unit IX, Diseases of the musculoskeletal or locomotor system. Unit X, Diseases of the endocrine system. Unit XI, Diseases of the nervous system. Unit XII, Diseases due to poisons, chemical and physical agents. Unit XIII, The infectious diseases. Unit XIV Diseases of the skin. Appendices. Index.

Note. Internal or clinical medicine is covered from the nursing viewpoint in this standard book. Most of the space is devoted to elementary descriptions of the diseases and disorders which are treated by medical therapy The descriptions cover etiology symptoms, treatment, etc. However background knowledge and nursing care also are covered. The third edition was published in 1945. In preparing this edition, the book was completely reorganized, several chapters were added, and chapters carried over were revised. One of the appendices contains lists of books, journals and films pertinent to clinical nursing.

KALKMAN, MARION E

Introduction to psychiatric nursing New York McGraw-Hill Book Company Inc., 1950 336 p. illus. 24 cm. (McGraw-Hill series in nursing Lucile Petry consulting editor) $5 00. 4705

Contents (abridged) Part one, Preliminary considerations Learning to observe the psychiatric patient. Part II, Understanding the patient. Part III, What can be done for the patient Patient history Physical methods of treatment. Psychological and social methods of treatment. Teamwork in psychiatric treatment. Part IV How the psychiatric nurse works. Discussion of some general concepts of psychiatric nursing. The problem of restraint. The problem of suicide. Psychiatric nursing orders and attitudes. The nurse's first experiences on psychiatric service. Talking to psychiatric pa-

who are responsible for curricula in nursing schools. Also, there is much for the graduate nurse who is considering entering the field of psychiatric nursing or who is generally interested in the social contributions of nursing. Lengthy bibliographies are included in each chapter.

NATIONAL ORGANIZATION FOR PUBLIC HEALTH NURSING

Manual of public health nursing. Third edition. New York The Macmillan Company 1939 529 p. 19 cm. $3.50. 4716

Contents: What is public health nursing? Relationships to health and social agencies. Plan of work. Administrative responsibilities. Office administration. Education of the public health nurse. Reports and records. Family health service. The home visit. Health conferences, classes, clubs, and clinics. Standing orders. Maternity nursing service. Child health service. School nursing service. Industrial nursing service. Morbidity nursing service. Tuberculosis nursing service. Service for the control of syphilis and gonorrhea. Orthopedic nursing service. Appendix: Minimum qualifications for those appointed to positions in public health nursing. Acute communicable diseases for which care is frequently given by the public health nurse. Index.

Note: Written as a guide for the field worker in public health nursing, whether in country, small-community state, or large-city service. It does not dictate programs, but guides the reader rather to an understanding of general underlying principles which will help her to evolve a program suitable for her community.

NEWTON KATHLEEN

Geriatric nursing. Second edition. St. Louis The C. V. Mosby Company 1954 424 p. illus. 23 cm. $4.75 4717

Contents: Unit I, General background. Introduction. The nurse and the patient. Basic personal-psychologic needs. Employment and economic security. Housing in health and during illness. Unit II, Therapeutic considerations. General hygiene. Nutrition. Unit III, Clinical nursing. Special treatments. Anesthesia and operative care. Nursing in diseases of the gastrointestinal tract. Nursing in cardiovascular renal diseases. Nursing in diseases of the ear, nose, and throat. Nursing in diseases of the chest. Nursing in diabetes mellitus. Nursing in diseases of the skin. Nursing in diseases of the eye. Neurologic nursing. Psychiatric nursing. Orthopedic nursing. Urologic nursing. Gynecologic nursing. Index.

Note: Both the general aspects and specific techniques associated with the nursing care of aged people are covered in this book. Much attention is given to the importance of viewing the patient as a person and to extending sympathetic understanding to him. Diseases of the aged are described from the nurse's viewpoint. The book is designed for use as a text in nursing schools, and also as a self-instruction manual for graduate nurses. Literature references are included. The first edition was published in 1950. In preparing this second edition no changes were made in the book's organization or scope, but sentences and paragraphs were rewritten in many chapters to bring them up to date, and a selection of literature published since the first edition was written was added to the chapter bibliographies.

NORLIN ELINOR E. AND BESSIE M. DONALDSON

Everyday nursing for the everyday home. Illustrations by Mary Simms. New York The Macmillan Company 1942 306 p. illus. 22 cm. $3.00 4718

Contents: Nursing—what is it? What the home should know about its nursing responsibilities. Fundamental principles of nursing for maintaining health. The right to be well born and born well. Keeping baby well and happy (first year). When the baby walks and talks (second year). The child's first schooling (second to sixth year). Life at school (beginning sixth year). The needs and desires of the teen age. Honor thy father and thy mother. A place for the aged person in his own home. Forestalling illness in the home. Making the home a place of safety. Modern aseptic attitude versus pseudo-scientific beliefs and practices. Illness always creates problems. Making room in the home for the needs of sickness. The home bed and its correct use for the sick person. Alert watchfulness for signs and symptoms. Bedside notes for the physician. Everyday care of the patient. Therapeutic measures commonly prescribed. Providing for the nutritional needs of the patient. Significance and importance of the convalescent period. When a chronic condition develops. Special devices and procedures used to obtain rest and comfort. Special nursing procedures necessary when disease is communicable. What to do in emergencies arising in the home. Suggested readings. Glossary. Index.

Note: Written for persons without professional training. It is designed to teach them how to keep illness away from the home, but to do if illness comes, how to adapt home facilities to the situation, and how to co-operate with the physician. It distinguishes between procedures safe for the layman to carry out and those requiring professional skill.

NOYES ARTHUR PERCY, AND EDITH M HAYDON

Textbook of psychiatric nursing. Fourth edition. New York The Macmillan Company 1946. 396 p. illus. 22 cm. $4.50. 4719

Contents (abridged): Psychiatry and psychiatric nursing. Mental mechanisms and motives. Personality types. The causes and nature of mental disorders. Symptoms of mental disease. General paresis and cerebral syphilis. Psychoses with epidemic encephalitis. Psychoses with other infectious diseases. Alcoholic psychoses. Psychoses due to drugs or other exogenous toxins. Traumatic psychoses. Psychoses due to circulatory disturbances. Psychoses with convulsive disorders (epilepsy). Senile psychoses. Psychoses with metabolic and other somatic diseases. Psychoses with tumor and other diseases of the brain. Psychoneuroses. Manic-depressive psychoses. Schizophrenia (dementia praecox). Paranoia and paranoid conditions. Psychopathic personalities. Principles of psychiatric nursing. Nursing procedures and treatments. Psychoanalysis. The nurse and her profession. History of psychiatry and of psychiatric nursing. Glossary. Index.

Note: An established textbook for nurses who are preparing for this specialized kind of nursing. In this edition the title has been changed to indicate the increased emphasis on nursing techniques. However, there is approximately the same amount of material about the nature of mental disease.

O'NEILL ANNA M

Operating room technic. Third edition. Philadelphia F. A. Davis Company 1953 379 p. illus. 23 cm. $3.75 4720

Contents (abridged): Part I, General technic: History of surgery. Teaching program. Duties of surgical aids. Operating room personnel. Preparation of patients for operation. Positions used in the operating room. Sterilizing. Ligatures, sutures, and drains. Anesthesia. Surgical nomenclature. Blood transfusion. Fractures. Part II, Operations: Instruments, sutures, surgical accessories. Index.

Note: An established textbook for the instruction of student nurses. It is written in a simple, explicit style, and is well organized for both instruction and reference. Practically the whole of the second part is devoted to lists of instruments, accessories, and sutures required for specific operations. The first edition was published in 1941 and the second edition in 1944. In this third edition, there are numerous small revisions and also several added topics including a new section on oral surgery.

RENDER HELENA WILLIS

Nurse-patient relationships in psychiatry. New York McGraw-Hill Book Company Inc. 1947 346 p. illus. 24 cm. (McGraw-Hill series in nursing; Lucile Petry consulting editor) $4.50. 4721

Contents: Psychiatric nursing—meaning—objectives. Behavior—observing—recording—understanding—modifying. Nursing care: Remedial approach. Primary personality disorders. Special problems. Rehabilitation. Secondary personality changes. The use of art, literature, music. Appendix. Index.

Note: The main subject of this book is the psychology of nursing psychiatric patients. It is written for student nurses and graduate nurses who are preparing for this specialty, and its purpose is to orient the nurse so that her attitude as well as her techniques will be conducive to her patients' recovery. Most topics are treated in detail from the viewpoint of the nurse on the job, and there are copious references to further reading.

clusion. Appendix. Suggestions for the nurse's library Sources of information. Equipment for the health service. Standing orders for nurses in industry Outline for manual of policies and procedures. Formula for an industrial cleanser Standards for maternity care and employment of mothers in industry Equipment and technique for eye examinations. Formula for computing cost of part-time nursing service. Index.

Note Sponsored by the National Organization for Public Health Nursing, this handbook presents a comprehensive discussion of the policies, procedures, and problems of an expanding industrial health program and of the duties and responsibilities of nurses in the development of the program. The volume is intended for present and prospective industrial nurses and for company executives.

MANHATTAN EYE, EAR, AND THROAT HOSPITAL

Nursing in diseases of the ear, nose and throat. Ninth edition. Edited by David H. Webster and others Philadelphia W B Saunders Company, 1953 317 p. illus. 20 cm. 4711

Contents (abridged): I, The eye Anatomy and physiology Diseases. Common remedies used in treatments. Eversion of lids. Retractors. Drops, solutions, ointments, and salves. Contagious diseases. The nurse's duties at operations. Postoperative care. Instruments and appliances. Orthoptic training. II, The ear Anatomy and physiology Examination general methods and instruments commonly employed. Diseases of the auricle and the internal ear III, The nose: Anatomy of the nose and para-nasal sinuses. Diseases. IV The pharynx and larynx. Anatomic description of the pharynx. Diseases of the pharynx. The larynx. V General Clinical pathology in ophthalmology and otorhinolaryngology Vitamins. Allergy The sulfonamide drugs. Use of tuberculin in ophthalmology Treatment of syphilis. Preparation of surgical dressings. The nurse's duties in emergencies. Management of troublesome children. The care and feeding of children. Index.

Note A text for student nurses, based on the methods practiced at the Manhattan Eye, Ear and Throat Hospital, New York City It covers general principles and outlines the specific duties of the nurse in the care of the patients and the nursing procedures necessary A tenth edition, much revised, was published early in 1958, 349 p.

MILLER, NORMAN F, AND HAZEL AVERY

Gynecology and gynecologic nursing With a chapter on the gynecology operating room, by Molly Kowal, and a chapter on the psychosomatic approach in gynecology by Sprague Gardiner Third edition Illustrated with 272 diagrammatic drawings. Philadelphia W B Saunders Company 1954 525 p illus 20 cm. $4 75 4712

Content (abridged) Part I, Anatomy and physiology Part II, Psychologic aspects of gynecology Part III, Functional disturbances. Menstrual dysfunctions. Infertility Part IV Mechanical disturbances Childbirth injuries. Uterine displacements. Body mechanics. Part Pelvic infections. Part V, Benign tumors and other benign lesions of the vulva, vagina, urethra and uterus. Part VII, Malignant tumors of the vulva, vagina and uterus. Part VIII, Tumors of the ovary Part IX, Gynecologic complications of pregnancy Part X, Irradiation in gynecology Part XI, Gynecologic nursing procedures Preparation of the examining room. The gynecologic examination, diagnostic tests, and remedial procedures. Preparation of the patient for a gynecologic operation The gynecology operating room. Postoperative care of gynecologic patients. Appendix. Index.

Note. A basic text for this nursing specialty It is used in the instruction of student nurses and is concerned primarily with diseases of the female reproductive organs. However at the front of the volume 100 pages are devoted to normal anatomy physiology and psychology and the terminal part on gynecologic nursing procedure is about 140 pages long. The disease descriptions are elementary and the volume is thoroughly and clearly illustrated. The senior author is Professor of Obstetrics and Gynecology in the Medical School of the University of Michigan and the junior author is Supervisor of Nursing in the Woman Hospital of the University of Michigan.

MORRISSEY, ALICE B

Rehabilitation nursing Foreword by Howard A. Rusk New York G P Putnam's Sons, 1951 299 p 21 cm. $4 50. 4713

Contents. Part I, The meaning of rehabilitation Historical survey of rehabilitation. Incidence of disability in the United States. Integration of personality in disability The nurse role in rehabilitation. Part II, Nursing principles and procedures in rehabilitation. Fundamentals of nursing care in rehabilitation. Nursing measures to prevent physical deformities. Procedures for bladder and bowel rehabilitation. Measures for the prevention and care of decubitus ulcers. Teaching the activities of daily living. Techniques of crutch walking. Care and use of mechanical leg braces. Wheel chairs. The voice and speech rehabilitation, by E. E. Baker, jr. Part III, Nursing practice in rehabilitation: The care of the amputee. The care of the hemiplegic patient. The care of paraplegic and quadriplegic patients. Index.

Note. In this book, current techniques in the rehabilitation of physically handicapped persons are presented for nurses. Most of the discussion pertains to the care and teaching of such patients. However this material is presented against the background of the modern viewpoint of full rehabilitation. Thus, there is a long discussion of the psychological aspects. Lists of references accompany the chapters, and there are 54 figures.

MULLER, GULLI LINDH, AND DOROTHY E. DAWES

Introduction to medical science Third edition. Illustrated Philadelphia W B Saunders Company 1953 610 p. illus. (part col d) 20 cm. $4 75 4714

Contents (abridged): Unit I, The development of medical science. A historical review of the progress of medicine. Unit II, The causes of disease. Unit III, How disease manifests itself in the body Inflammation, a reaction of the body to injury Circulatory disturbances. Tumors. Examination of tissues. Unit IV How the doctor makes the diagnosis: Examination of the patient. Urine. Blood. Examination of other body fluids. Bacteriologic diagnostic tests. Immunologic diagnostic tests. Gastro-intestinal studies and tests. Collection and handling of specimens. Unit How disease is treated. Forms of therapy Physiotherapy Unit VI, How disease is controlled and prevented The Federal health program. The health program of the state. The health of the community Sanitary conditions in the home. The dairy industry and its control. Other food products. Water supply Disposal of sewage and refuse. Industrial sanitation. Health control in disaster situations. Glossary Prefixes and suffixes. Index.

Note. A general introduction to the scope and basic techniques of medicine in public health. It is directed to student nurses, and its purpose is to provide a background that will enable the nurse to understand the significance of the work she will do in hospital clinics and wards. The style is elementary and the chapters cover only the high points of the topics named in their titles. On the other hand, unexpectedly extensive bibliographies are included. A useful feature is the long glossary which is printed on pages of distinctive color so that the reader can locate it easily The fourth edition was scheduled for publication early in 1958.

MULLER, THERESA GRACE

The nature and direction of psychiatric nursing, the dynamics of human relationships in nursing Philadelphia J B Lippincott Company, 1950 379 p. 21 cm $3 00 4715

Contents Part I, Status of psychiatric nursing Introduction. Mental illness. Mental institutions. Psychiatric nursing and nursing education. Psychiatry and medical education. Psychiatric social work and clinical psychology Therapeutic and preventive measures. Part II, Nature of psychiatric nursing Role of the nurse in psychotherapy Psychodynamics of behavior deviations. Underactive behavior Overactive behavior Psychosomatic viewpoint. Community health aspects. Part III, Direction of psychiatric nursing Personal qualifications. Inservice education. Psychiatric nursing in the basic curriculum. Psychiatric nursing in advanced professional curricula. Evaluation and research. Bibliography Index.

Note. Rather than a beginner's text, this work is a source book of information on the current status of psychiatric nursing in the United States of America, the special nature of psychiatric nursing as distinguished from other types of nursing, and on the teaching of psychiatric nursing. There is much in it of interest to persons

[illegible] patient. Psychiatric nursing in public-health work. Glossary. Index.

Note: A standard text for student and graduate nurses [illegible] for the specialty of psychiatric nursing. It presents [illegible] range of information on the subject, and is outstanding for its full descriptions of nursing procedures in the care of mentally disturbed patients. The fourth edition was published in 1953. In the fifth edition the book was extensively revised and enlarged. Several chapters were rewritten and five new ones added. The length was increased by almost 140 pages and the number of illustrations by 14. A selection of literature published since the fourth edition was added to the bibliographies.

WALES, MARGUERITE

The public health nurse in action. With a foreword by Lillian D Wald. New York The Macmillan Company 1941 437 p. illus. 22 cm. $3 75 4728

Contents: Better care for mothers and babies. Infant and preschool health. The school child. Communicable disease. Tuberculosis [illegible] program. Orthopedic nursing. The public health nurse in the control of syphilis and gonorrhea. The chronically ill patient. Industrial nursing service. The public health nurse marches on. Appendix. Index.

Note: An unusual presentation of public health principles through the description of [illegible] public health nurse's activities, day by day, in certain types of situations. The principles are set off in special [illegible] through the informal case histories. This is written primarily for field workers in public health, but is also suitable as text for the teaching of student nurses.

WEST, JOHN PETTIT, AND OTHERS

Nursing care of the surgical patient, by John Pettit West, Manelva Wylie Keller and Elizabeth Harmon. Fifth edition. Formerly *Textbook of surgical nursing* 4th ed., by MacFee and Keller New York The Macmillan Company 1951 500 p. illus. 22 cm. $4.25. 4729

Contents: Unit I, Introduction to surgical nursing. Unit II, Fundamental considerations. Unit III, Nursing care. Index.

Note: A standard textbook for use in schools of nursing. Contains information on diseases treated by surgery accompanied [illegible] descriptions of nursing techniques. The style is simple and direct. The section on the operating room which appears in earlier editions has been dropped. The book is consequently shorter. In the [illegible] extensive revisions have been made. There are new [illegible] figures, good selected bibliographies and [illegible] detailed index.

WOODWARD, HENRY L., AND BERNICE GARDNER

Obstetric management and nursing. Fifth edition. Revised by *Richard D Bryant* and Anna E. Overland. 520 illustrations on 351 plates. 4 color plates. Philadelphia F A. Davis Company 1955 836 p. illus. (part col d) *23 cm.* $5 75 4730

Contents (abridged): Unit I, The background of obstetric nursing. Unit II, Anatomy and physiology correlation. Unit III, Normal pregnancy and prenatal care. Unit IV, Normal labor management and nursing care. Unit [illegible] Home delivery and public health obstetric nursing, by W. P. [illegible] and F. K. Harder. Unit VI, Abnormalities of pregnancy and their nursing care. Unit VII, Abnormalities and complications of labor. Unit VIII, Obstetric injuries and operative obstetrics. Unit IX, Puerperal complications and their nursing care. Unit X, The abnormal infant and its care, by D. Y. Jones and H. F. Downing. Appendix: The place for practical [illegible] in obstetrical nursing, by N. M. Stevenson. Standards for maternity care and employment of mothers in industry. Glossary. Index.

Note: One of the standard textbooks widely used in schools of nursing as an introduction to the specialty of obstetric nursing. The range of information presented in the text proper is unusually inclusive. Furthermore, the text is supplemented by [illegible] high number of illustrations. The inclusion of [illegible] section on home delivery as distinguished from delivery in [illegible] hospital is also noteworthy. The first edition was published in 1936 and the fourth edition in 1951. Although the book has been shortened by [illegible] few pages in this fifth edition, many sections have been rewritten, and one new chapter has been added. Illustrations have been revised, and the several glossaries of the preceding editions have been combined in one Glossary.

ZABRISKIE, LOUISE, AND NICHOLSON J EASTMAN

Nurses handbook of obstetrics. 377 illustrations including 8 color plates. Ninth edition, completely revised. Philadelphia J B Lippincott Company 1952 695 p. illus. (part col d) 21 cm. $5 00. 4731

Contents (abridged): Unit I, Human reproduction. Aims of obstetric nursing. Anatomy in [illegible] basis for obstetrics. Physiology in relation to obstetrics. Development and physiology of the fetus. Presentations and positions. Unit II, Nursing in pregnancy. Normal pregnancy. Prenatal care. Complications of pregnancy. The mental hygiene of pregnancy. Preparations for labor and delivery. Unit III, Nursing during labor and delivery. Anesthesia and analgesia in labor. Conduct of normal labor. Operative obstetrics. Unit IV, Nursing during the puerperium. Normal puerperium. Complications of the puerperium. Unit [illegible] The neonatal period. The nursing care of the new baby. Nursing care of the premature baby. After-care of the baby. Unit VI, Additional maternity information. History of obstetrics. Practical aids. Glossary. Index.

Note: A long-established textbook, outstanding for comprehensiveness, the clarity of the presentation, and the number and quality of the illustrations. Although intended primarily for use in organized classes, it is useful also as [illegible] reference book by graduate and public health nurses, etc. The first-named author was formerly Night Supervisor in the *Lying-In Hospital*, New York. The second-named author is Obstetrician-in-chief at the Johns Hopkins University. The eighth edition was published in 1948. *For this ninth edition* the book was reorganized and the type reset. A new chapter has been added, and many revisions have been made in other chapters. The *sections* relating to such important topics as prenatal care, the Rh factor, new analgesics and anesthetics, care of premature babies, etc. Many illustrations have been added.

RODEMAN, CHARLOTTE R.

A guide for psychiatric aides New York The Macmillan Company, 1956 234 p 21 cm. $3 75 4722

Contents History of the care of psychiatric patients. The psychiatric aide and the psychiatric team. Attitudes. Aide-patient relationships. Observation and reporting. *Protection of the patient.* Physical care of patients. Care of patients in relation to their symptoms. Special procedures in the care of the psychiatric patient. Ward management. Basic nursing procedures. Words you should know Bibliography Index.

Note The staffs of present-day psychiatric hospitals in the United States of America usually include a number of "aides" who attend to the routine care of patients. These staff members have not been formally educated in nursing, but work under the supervision of the medical and nursing staff. This is a practical book designed for the instruction and guidance of this group of personnel. It was written by a trained nurse, and it describes those techniques of patient care which are performed by psychiatric aides alone or in cooperation with nurses and physicians, such as bedmaking, bathing, and administration of medicines. In addition it discusses background information on the protection of psychiatric patients against self-injury on behavior patterns of psychiatric patients, etc. There is a useful glossary of nursing and medical terms and a selected bibliography

SCHWARTZ, MORRIS S, AND EMMY LANNING SHOCKLEY

The nurse and the mental patient, a study in interpersonal relations. By Morris S Schwartz and Emmy Lanning Shockley with the assistance of Charlotte Green Schwartz New York Russell Sage Foundation, 1956 289 p 24 cm. $3 50 4723

Contents Part I, Recurring problem situations. Fear and patient assaultiveness. The patient is demanding. The patient is withdrawn. The patient is hallucinating, delusional, or self-preoccupied. The patient has eating difficulties. The patient is incontinent. The patient's behavior has a sexual connotation. The patient is suicidal. The patient is extremely anxious. Part II, Interpersonal processes common to problem situations The nurse and the patient—an illustration. Understanding the patient. Communicating with the patient. Relating to the patient. Conclusion. Index.

Note An important addition to the literature of psychiatric nursing. It is a product of a research project carried out in a small, private mental hospital. This project was concerned with a study of relationships between nurses and mental patients and had as its object the finding of ways to alter the directions of these relationships so that the mental health of patients would be improved. Although many incidents that occurred in the course of the study are described, and transcripts of discussions of them among members of the research team, nurses and other members of the staff of the institution are included, the book is not a report of the research project. Essentially it is a textbook of the interpersonal psychological aspects of psychiatric nursing. It is written at a mature level and is perhaps the best treatment yet published of nurse-patient relationships in institutions for the care of the mentally ill.

SELLEW GLADYS AND MARY F PEPPER

Nursing of children Seventh edition Illustrated Philadelphia W B Saunders Company 1953 349 p illus. 20 cm. $3 75 4724

Contents Part I, Social psychology of childhood History of pediatric nursing. The child in the family and the community Growth and development—signs of good health. The infant—neonate and baby The child from two to six Middle childhood—six to twelve years—the grade school child. Adolescence (sometimes called later childhood) Part II, Illness in infancy and childhood The nursing care of the child Health supervision of the school child The sick infant and young child. The older child in illness Communicable diseases Appendix. Index

Note An established text used in its various editions since the publication of the first edition in 1926 It covers child growth and development, child psychology children diseases, and the nursing care of children, in an elementary practical style. It is designed primarily for the instruction of student nurses There is considerable emphasis on the social and psychological aspects of nursing as well as on the techniques of physical care Selected but rather extensive reference lists designed as guides to further reading are included.

SELTZER, ALBERT PINCUS

Diseases of the eye, ear, nose, and throat, a textbook for nurses. With the technical assistance of Bernard C Gettes. New York McGraw Hill Book Company, Inc., 1950. 347 p. illus. 24 cm. $5 00 4725

Contents (abridged) Part one, General considerations. Part II, The eye. Part III, The nose. Part IV The mouth. Part V The throat and the esophagus. Part VI, The larynx and its diseases; the trachea. Part VII, The ear Part VIII, Special subjects. Visual aids. Index.

Note An inclusive work which covers the basic anatomy embryology and physiology insofar as these are of concern to nurses but is devoted chiefly to nursing techniques. Techniques are described explicitly The author's style is lucid. There are short lists of literature references and 28 figures.

STAFFORD, EDWARD S, AND DORIS DILLER

A textbook of surgery for nurses. Second edition—illustrated Philadelphia W B. Saunders Company, 1954 651 p. illus. 20 cm $4 25 4726

Contents (abridged) Unit I, The fundamentals of surgical nursing. Unit II, Nursing in thoracic surgery Unit III, Nursing in vascular surgery Unit IV Nursing in surgery of the alimentary tract. Unit V Surgery of the urinary tract. Unit VI, Surgery of the integumentary system. Unit VII Diseases due to allergy Unit VIII, Surgery of the endocrine glands. Unit IX, Nursing in neurologic surgery Unit X, Surgery of the eye, ear nose and throat. Unit XI, Nursing in orthopedic surgery Unit XII, Nursing in surgery of the reproductive organs. Unit XIII, Communicable disease. Index.

Note. Written by a surgeon on the staff of the Johns Hopkins Hospital and by a graduate nurse who is a specialist in surgical nursing, this book is designed for the instruction of advanced students in nursing schools. Its principal subject is the nursing care of surgical patients. However it includes as essential background for surgical nurses a wide range of information on diseases treated by surgery and on surgical techniques. It does not cover anesthesia or the duties of nurses in operating rooms. It is well organized and the current edition is illustrated with 168 figures. There are 13 units and 51 chapters, of which only the unit titles are listed above. The first edition was published in 1947 The third edition was scheduled for publication early in 1958.

STEELE, KATHARINE MCLEAN, AND MARGUERITE LUCY MANFREDA

Psychiatric nursing Fifth edition. 115 illustrations. Philadelphia F A Davis Company Publishers 1954 684 p. illus. 23 cm. $4 75 4727

Content Unit I, Historical background Psychiatry and its heritage. The psychiatric institution and its organization. Pioneers in mental hygiene. Unit II, Introduction to psychiatric nursing Psychiatry nursing. Orientation. Legal aspects of psychiatric nursing. Mental hygiene and prevention. Unit III, Studying the psychiatric patient Personality development. Observation of symptomatic behavior Observation of neurologic symptoms. Case study Staff conferences. Unit IV Fundamental nursing care Environmental management. Hygiene. Nutrition. Treatment of physical complaints. Night nursing. Unit V Overactive underactive and antisocial patients Care of overactive patients Psychophysical control of patients Care of underactive patients Care of convalescent patients. Unit VI, Practical procedures Charting. Routine procedures. Special procedures Prevention and treatment of hazards. Unit VII, Specific mental disorders Psychoses with mental deficiency Psychopathic personality Psychoneuroses Organic psychoses. Toxic psychoses Affective disorders Involutional melancholia. Paranoia and paranoid types Schizophrenia (dementia praecox) Postpartum psychoses and neuroses Unit VIII, Therapeutic technics. Psychotherapy Shock therapies Therapeutic activities. Hydrotherapy Psychosurgery Unit IX, Psychiatric nursing outside the psychiatric hospital Care of mental patient in the home. Care of mental patient in the general hospital Application of psychiatric principles in general hospital T[illegible]ing with the men-

BURLING, TEMPLE, AND OTHERS

The give and take in hospitals a study of human organization. By Temple Burling, Edith M Lentz, and Robert N Wilson. A study conducted by the New York State School of Industrial and Labor Relations, a unit of the State University of New York at Cornell University with the support and cooperation of the American Hospital Association. Foreword by George Bugbee. New York G P Putnam's Sons, 1956 355 p. 21 cm. $4 75 4736

Contents: Part I, Hospitals and the American scene: The hospital in its historical setting. The individual hospital and its local community. The patient and his family in the hospital. Part II, The hospital power structure: The board of trustees. The administrator. The medical staff. Part III, A study of some hospital occupational groups: The nursing profession—a study of change. The head nurse and her role in hospital organization. Social service workers. Clerical employees in the hospital. The new nursing auxiliaries. Men at work—a study of male employees in the hospital. Laundry and housekeeping employees. Part IV, Hospital departments in action: The admissions office. The obstetric department. A comparison of medical and surgical floors. The operating room. Some aspects of an outpatient clinic. The laboratories. The dietary department. Communication needs in growing institution. Bibliography. Index.

Note: Six community hospitals offering general medical and surgical care and chosen as representative of such hospitals in the United States of America were studied in the course of the research program upon which this book is based. The investigators who conducted the research studied hospital records, interviewed staff members, even took on hospital chores, in order to become thoroughly familiar with the organization and personnel problems of the hospitals. The findings are presented in considerable detail and in readable style. Numerous excerpts from interviews are included, but there are no tables or graphs such as are usually found. The book probably represents the most thorough study ever undertaken of personnel problems in modern hospitals.

COMMISSION ON HOSPITAL CARE

Hospital care in the United States a study of the function of the general hospital its role in the care of all types of illness, and the conduct of activities related to patient service, with recommendations for its extension and integration for more adequate care of the American public. Cambridge Mass. Harvard University Press, 1947 631 p. illus. 24 cm. $4.50. 4737

Contents (abridged): Foreword, by T. S. Gates. Section I, The organization, objectives, purposes, and method of study of the Commission on Hospital Care. Section II, Summary of conclusions and recommendations. Section III, Influences and trends in administrative relationships and organizational patterns that underlie the future development of hospital service. Factors that have influenced the growth of hospitals. Functions of the general hospital. Hospitals and public health departments. Maintenance of standards of service. Licensure of hospitals. Hospital service for rural people. Provision of hospital service and quality of care for Negroes. Financing hospital service. Section IV, Factors affecting the size, use, and need for hospital facilities: Population factors. Socio-economic factors. Geographic and transportation factors. Population density and the size of hospital communities. Measuring need for hospital facilities. Section V, An analysis of the physical, service, and financial aspects of existing hospitals. Section VI, Suggestions for the integration of hospital service and an estimate of additional facilities necessary to serve the public needs adequately. Illustrated by the planning program of one state. Section VII, The history of hospitals in the United States. Section VIII, Methods of financing hospital care, legal status, and interrelationships of hospitals with governmental and voluntary health agencies. Index.

Note: A detailed report based on comprehensive survey of hospital service and general hospitals throughout the United States of America. The Commission on Hospital Care which conducted the survey was an independent, nongovernmental body composed of representative leaders from many fields, including education, industry, agriculture, journalism, and labor as well as medicine and hospital management.

CORWIN EDWARD HENRY LEWINSKI

The American hospital. Cambridge Mass. The Harvard University Press, 1946 241 p. illus. 21 cm. (New York Academy of Medicine. Committee on Medicine and the Changing Order Studies) $1.50. 4738

Contents: Preface, by Claude W. Munger. Sources of information about hospitals. The hospital domain. Hospital finance. Distribution and utilization of hospital facilities. The hospital as an employer and as training ground. Medical service. The outpatient department. Housing of hospitals. Retrospect and prospect. Index.

Note: The ninth volume in series of books dealing with medicine and the changing order by the New York Academy of Medicine. The present monograph is intended as an orientation for doctors, nurses, medical administrators, and students to the problems now confronting American hospitals. The author traces the principal trends in the development of the hospital as part of the social structure, describes the various services offered, discusses many problems of plant, administration, and finance, and considers the social and organizational patterns foreshadowed for the future.

FAXON NATHANIEL WALES editor

The hospital in contemporary life. Cambridge Mass. Harvard University Press 1949 288 p. illus. 22 cm. $5 00 4739

Contents: The development of the hospital, by E. D. Churchill. The relief of suffering, by H. K. Beecher. Human nature and the understanding of disease, by S. Cobb. The care of the patient, by L. S. McKittrick. The education of the doctor, by O. Cope. How medicine grows and its relation to science, by E. M. Landis. Unsolved problems, by J. C. Aub. The place of the hospital in the social order by N. W. Faxon. Index.

Note: The primary purpose of this book—composed of the revised texts of lectures originally delivered under the sponsorship of the Lowell Institute—is to promote on the part of the general public an informed and sympathetic understanding of the social importance of the hospital. However, only the author of the final lecture has addressed himself specifically to the hospital as social institution. Several other chapters are devoted to highlights in the history of medicine and of hospitals.

LAMB ALBERT R.

The Presbyterian Hospital and the Columbia-Presbyterian Medical Center 1868–1943 A history of a great medical adventure New York Columbia University Press 1955 495 p. illus. 24 cm. $8.75 4740

Contents: 1868–1890 Founding and early years of Presbyterian Hospital. 1890–1910: Early years in the rebuilt hospital. 1910–1916 The first agreement between Presbyterian and Columbia. 1917–1918 Presbyterian Hospital in World War I. 1919–1921 The second agreement with Columbia and the Medical Center accord. 1922–1924 Planning the medical center and modifying the full-time plan. 1925–1927 The construction of the medical center. 1928–1930 Opening of the medical center. 1930–1934 The center during the depression years. 1935–1938 Expanding at the center and planning the future. 1939–1941 Plans for more expansion and the advent of war. 1942–1943 Early years of the war and new regime. Afterword. Appendices. Index.

Note: An "official" history of great private hospital and medical center in the City of New York. About one-third of the space is devoted to the history of Presbyterian Hospital before the affiliation with Columbia University and the organization of the Medical Center. The rest is given to the negotiations, planning and construction of the Medical Center and to its history from the opening to 1943. This part of the book is particularly valuable record of the factors in the creation of this great medical center and of the personalities who brought it into being and managed it during its early years.

HOSPITALS

AMERICAN COLLEGE OF RADIOLOGY

Planning guide for radiologic installations By the Committee on Planning of Radiologic Installations of the Commission on Public Relations of the American College of Radiology Wendell G Scott, Chairman Chicago The Year Book Publishers, Inc., 1953 336 p illus (part col'd) 26 cm. $8 00 4732

Contents. Introduction and purposes of planning guide, by W G. Scott. Hospital radiologic practice, by S. W Donaldson. Viewpoint of the hospital administration in the planning of the radiology department, by J J Golub. Architectural problems and procedures in planning the radiology department or office, by S. Kingsbury Compilation of items to be considered in the planning of radiology departments and offices, by W G. Scott and others. Pertinent "don't" in the construction or the remodeling of radiologic installations, by W G. Scott and others. The design and arrangement of rooms for fluoroscopy by R. Golden and others. Construction and arrangement of dressing booths and lockers, by R. Golden. Film illuminators—film viewing and interpretation rooms, by E. Pendergrass and R. H. Chamberlain. Walls, windows, floors and ceilings—functional and decorative features—lighting, by B. R. Young. Ventilation and air conditioning, by A. H. Dowdy and G. A. Rogers. The darkroom and film processing facilities, by R. P Ball and others. Identification, sorting and distribution of roentgenograms, by P J Hodes and others. Active and permanent radiographic filing—microfilming, by H. F Hare and others. Photofluorographic installations for routine chest and gastric examinations, by R. H. Morgan and others. Requirements for radiographic equipment in operating rooms and for rooms for special diagnostic examinations, by P C. Swenson and others. Mobile -ray equipment—accessory wiring and storage facilities, by W W Furey and M. DeBear Dental radiographic installations, by E. R. Miller and G. M. Fitzgerald. Radiation protection, by H. O. Wyckoff and others. Design and recommendations for the radioisotope laboratory by C. B. Braestrup and E. H. Quimby Facilities for radium storage, preparation and transportation, by A. N Arneson and W M. Holm. Problems of establishing private office for the practice of radiology by W Bailey Appendixes. Medical x-ray protection up to two million volts. X-ray protection design. Protection against radiations from radium, cobalt-60 and cesium-137 (Encapsulated sources) Index.

Not An authoritative and useful manual. It as developed by committee of the American College of Radiology in cooperation ith other professional groups, including the American Hospital Association and the American Institute of Architects. It spells out in considerable detail the principles of planning facilities for radiography in hospitals, medical centers, and offices of private practitioners of radiology In addition, much specific information is given on equipment for film processing, sorting, etc. As indicated in the chapter titles, the special requirements for the use of radioisotopes and radium are considered, although most of the book deals with x-ray installations and equipment. In addition to the chapter on protection from radiation, the appendix is devoted to the complete reprinting of three National Bureau of Standards *Handbooks* on radiation protection. Literature references are included in some of the chapters.

BACHMEYER ARTHUR CHARLES, AND GERHARD HARTMAN, editor

Hospital trends and developments 1940–1946 Cambridge Mass. Harvard University Press 1948 819 p 24 cm. $5 50 4733

Content (abridged) Current trends. Hospital service. Rural hospital and health facilities. Hospital developments in foreign countries. The trustee. Hospital organization and management. The hospital administrator Medical staff organization and relationships. Nursing education and ursing service. Operating room. Obstetrical service. X-ray service. Outpatient department. Special services. Medical social service. Admitting and discharge. Financial control. Legal aspects. Hospital construction. Plant maintenance. Purchasing. Food service. Housekeeping. Laundry management and linen control. Personnel management. Public relations. Volunteers and volunteer service. Group hospital and health insurance. Public health. Regional planning of hospital services and facilities.

Note A complementary volume to the editors' *The hospital in modern society* New York, 1943 which, like the earlier compilation, contains a selection of articles from a wide range of periodicals. In the present volume, there are 143 articles classified under the headings listed above. They have been selected from the periodical literature of 1940–1946. The book is designed for hospital administrative personnel and for students preparing for this field.

BELKNAP, IVAN

Human problems of a state mental hospital. New York The Blakiston Division, McGraw Hill Book Company, Inc., 1956. 277 p. illus. 24 cm. $5 50 4734

Contents. How the study began. Mental hospitals in the United States. Mental hospitals in South State. The organization of Southern State Hospital. The hospital at work—the patients and the organization of treatment. The executive system and its problems (level I) The physicians, departments, and services (level II). The classification and assignment of patients (level III). Relationships of the ward system with the upper levels. The ward control system in action—Ward 30. Getting out of the hospital. Conclusions. Appendixes References. Theory and methods. Index.

Note Written by sociologist, this book is a detailed study of a specific, but unidentified, state hospital charged with the care of patients with mental disorders. The hospital chosen was typical of such hospitals in the United States of America, its problems common to most of them. The internal organization and the routines in caring for patients in this hospital are described in detail. The book's thesis is that the social organization of such hospitals is fundamentally wrong and a hindrance to effectiv treatment of patients. Finally the author makes recommendations for the reform of both the pattern f care f mental patients by governmental agencies and the internal organization of state mental hospitals.

BIGLEY, LORETTA I

Community clinics the hospital outpatient department and nonhospital clinics setting up and maintaining the clinic workshop. 86 illustrations. Philadelphia J B Lippincott Company 1947 276 p. illus 21 cm. $5.00. 4735

Contents Part I, Organization, administration, general considerations Introduction—development of the modern clinic. Standards of organization and administration. The outpatient department. The patient. Medical social service. Research, records, reference libraries. Nutrition. Relation of the public-health urse to the outpatient department. X-ray department. General conduct of the clinics. Part II, Classification of clinics, treatment of individual and integrated units Classifications of clinics. The cardiac clinic. Emergency department. Surgical clinics. Cancer and tumor clinics. Genito-urinary clinics. Maternity and child-health clinics. Pediatric clinics. Eye, ear nose and throat clinics. Dental clinics. Clinics in industry Rehabilitation clinics. Part III, Clinics as an educational medium An integrated program.

Note: The author broadly surveys the modern clinic and its work in the community Both the independent welfare clinic and those operating as the out-patient departments of hospitals are thoroughly described and discussed from the standpoint of basic planning, layout, equipment supplies, operation, management personnel, types of patients, clinic-patient relationships, and health education for the public. The book is designed as a textbook and reference manual for the orientation of hospital interns, urses, and public health workers. Photographs of typical equipment are reproduced, and lists of selected references are provided.

PHARMACY

AMERICAN MEDICAL ASSOCIATION COUNCIL ON PHARMACY AND CHEMISTRY

Epitome of the Pharmacopeia of the United States and the National Formulary with comments. Issued under the direction and supervision of the Council on Pharmacy and Chemistry of the American Medical Association. Tenth edition. Philadelphia J B Lippincott Company 1955 322 p. 20 cm. $3.00. 4744

Note: A standard compendium of information on drugs selected from the standpoint of their usefulness to practicing physicians. It is based on the *U. S. Pharmacopeia* and the *National Formulary*, but the technical information concerning tests for purity, etc., that appears in those compendia is omitted. For each of the drugs listed, the information is included on the following points: official title, synonyms, brief definitions, concise descriptions of physical properties, actions, uses, and dosage. Drugs of doubtful therapeutic usefulness are included and described but comments such as the following indicate their current status: "Dental hydrargyrum cathartic, formerly used as diuretic, but now considered too irritating." The present edition is based on *U.S.P. XV* and *N.F. X.*

AMERICAN MEDICAL ASSOCIATION COUNCIL ON PHARMACY AND CHEMISTRY

New and nonofficial remedies 1956. Philadelphia J B Lippincott Company 1956. 540 p. illus. 20 cm. $3.35 4745

Note: An annual publication in which drugs submitted by pharmaceutical manufacturers to the Council are described and critically reviewed. The information on each drug covers the following: trade name, chemical name, structural formula (in most cases), actions and uses, dosage, names of manufacturers, and forms (i.e. tablets, capsules, solutions) and types and sizes of packages in which the product is currently marketed. Although much of the text of any particular edition is carried over to the succeeding edition, all of [illegible] carefully reviewed and no product is retained in the list that is no longer considered useful.

AMERICAN PHARMACEUTICAL ASSOCIATION

The National Formulary Tenth edition. Official from December 15 1955 Washington, D C. The American Pharmaceutical Association distributed for the Association by J B Lippincott Company Philadelphia, 1955 867 p. illus. 24 cm. $9.00. 4746

Contents (abridged): Committee on National Formulary. History of the National Formulary. Articles added to the National Formulary X. Articles official in N.F. [illegible] but not admitted to N.F. X. General principles of revision. Complete list of all admissions to N.F. X. Monographs on drugs, chemicals and preparations. General tests, processes and apparatus. Reagents and test solutions. General information. Index.

Note: This latest edition of the *National Formulary*, like the preceding editions, [illegible] designed to supply definite formulas for preparations that are sufficiently used in the medical practice within the United States of America or its possessions, and for which formulas are not included in the *Pharmacopeia of the United States*, and to provide standards and tests for the identity, quality, and purity of the ingredients used in these formulas and in other drugs so that uniformity in the physical properties and therapeutic action of these preparations [illegible] be assured. Articles deleted from the *Pharmacopeia of the United States* are often added to the *National Formulary* and vice versa. The standards of the *National Formulary* are recognized as official by the terms of the Federal Food, Drug and Cosmetic Act. The number of new articles in this edition is 239 while 2 2 articles official in the preceding edition were not admitted to this one.

COOK ERNEST FULLERTON, AND ERIC W MARTIN editors

Remington's practice of pharmacy a treatise on the manufacturing, standardizing and dispensing of pharmaceutical products with biological and chemical properties, tests for purity assays uses and doses also a guide to the legal obligations of the pharmacist and the professional services rendered in helping to maintain community health. A textbook and reference guide for pharmacists physicians, and other medical scientists. Associate editors E. Emerson Leuallen, Arthur Osol Linwood F Tice Clarence T Van-Meter With the cooperation of more than 200 assistant editors and contributors. Over 1,000 illustrations. Eleventh edition. Easton, Pa. The Mack Publishing Company 1956 1 707 p. illus. 29 cm. $20.00 4747

Contents (abridged): Introduction to pharmacy. Physical pharmacy. Preparations of pharmacy. Inorganic pharmacy. Organic pharmacy. Biological pharmacy. Analytical pharmacy. Professional services of pharmacy. Appendix. Pharmaceutical manufacturers. Index.

Note: The first edition of this comprehensive and authoritative work was published in 1885, and the tenth edition was published in 1951. Used both as textbook in courses of pharmacy and as reference book in the profession, it is widely recognized as standard authority. In this edition, it is composed of the parts whose titles are listed above and 120 chapters. It has been revised to bring it into conformity with the *United States Pharmacopeia XV*, the *National Formulary X* and *New and Nonofficial Remedies 1955*. As is customary in each new edition, antiquated remedies and obsolete processes have been deleted and much new information has been added.

THE DISPENSATORY OF THE UNITED STATES OF AMERICA. 25TH EDITION By Arthur Osol and George E. Farrar jr., with Karl H. Beyer jr., John H. Brown, David K. Detweiler Robertson Pratt, and Heber W Youngken. Editor emeritus Horatio C. Wood, jr Based on the fifteenth revision of The United States Pharmacopeia, the tenth edition of The National formulary The British pharmacopoeia, 1953 the first edition of the International pharmacopoeia, Volumes I and II. Philadelphia J B Lippincott Company 1955 2 139 p. 27 cm. $25.00. 4748

Contents: Part I. Drugs recognized by *The United States Pharmacopeia, British Pharmacopoeia, International Pharmacopoeia,* or *The National Formulary.* Part II. Drugs not official in *The United*

NICHOLSON, EDNA E

Planning new institutional facilities for long term care. Forewords by Leonard A Scheele, Edwin Crosby, G Warfield Hobbs, III, Edwin B Morris, jr New York G P Putnam's Sons, 1956 358 p 20 cm. $4 50 4741

Contents Part I, The need for long-term care in institutions and how the care can be provided The need for long-term care in institutions. Planning new services to fit the need. Long-term care as part of the community's health program. Chronic-disease hospitals and rehabilitation centers. Nursing homes, homes for the aged, and some advantages and disadvantages of specialization. Part II, Planning the organization and program of a new unit for long term care Preliminary planning for the establishment of new facilities. Organizing for ownership and operation of new facilities. Services the institution must provide. Personnel. Part III, The building, equipment, and furnishings Selection of the architect and choice of the location. The building—how to plan it. What makes a good building. Patient areas. The service units and general requirements. Equipment, furnishings, and supplies. Part IV The costs The costs and how to meet them. Some earmarks of good facilities for long-term care. Index.

Note A manual of information and recommendations pertaining to the planning and design of hospitals, nursing homes, homes for the aged, and other institutions for the care of the aged and chronically ill. The subject is covered from a broad, social point of view At the same time the discussion is a detailed one that includes discussions of such matters as taxation as well as the more expected facets of planning. The author is Executive Director of the Institute of Medicine of Chicago, and the book is based in part on the experience of this organization's Central Service for the Chronically Ill in supplying advice and recommendations over a period of more than two decades to persons interested in the establishment of nursing homes, hospitals, etc.

PERKINS, JOHN J

Principles and methods of sterilization Springfield, Ill. Charles C Thomas, 1956 340 p illus. 25 cm $8 00 4742

Contents Historical introduction Thermal destruction of microorganisms. Principles of steam sterilization. Minimum standards for sterilization. The modern surgical supply sterilizer Preparation and sterilization of dressings and dry goods—Rubber goods—Surgical instruments. Water sterilizers. Dry heat sterilization. Sterilization and care of syringes and needles. Disinfection of instruments and utensils by boiling water. Chemical disinfection. Terminal sterilization of instruments and supplies following septic cases. Sterilizer controls, sterilization indicators and culture tests. The central (supply) service department. The rectangular (bulk supply) sterilizer Preparation of parenteral solutions. Preparation and terminal heating of infant formulas. The laboratory sterilizer (autoclave). Gaseous sterilization with ethylene oxide. Index.

Note A comprehensive and detailed treatise on sterilization, disinfection, and other measures for the control of microorganisms in hospitals. It begins with a 32-page chapter on the history of antiseptic measures in hospitals. All of the remainder of the volume is devoted to present-day equipment and techniques, with the emphasis on the latter Techniques of preparing of linen, instruments, gloves, etc. for sterilization are described explicitly The 174 figures include both photographs of equipment and photographic demonstrations of techniques. Included is a chapter on the infant formula room in which both the necessary equipment and good techniques of preparing milk mixtures for new-born infants are noteworthy Literature references are included in the various chapters.

WRIGHT, MARION J

Improvement of patient care, a study at Harper Hospital. This book is published in co-operation with and under the sponsorship of the American Hospital Association. New York G P Putnam's Sons, 1954 236 p. illus. 24 cm. $5 50 4743

Contents Do something!—but what? The study is organized. How did the patients and medical staff feel about us? What did people who did the work think? How many patients for how long, and how seriously ill? How much and what kinds of care must we give? We undertake a brand-new development. Could personnel time be conserved? We apply industrial practice to hospital work. We put our theories to the test. Application to the hospital as a whole. Closing the circle. List of appendices.

Note The methods and results of a comprehensive study of organization, services and personnel of Harper Hospital, a large hospital in Detroit, Michigan, are presented in this book. The study was remarkable not only for its thoroughness, but also because it introduced the concepts of industrial engineering to hospital management and tentatively applied them to some hospital activities. In the course of the study a large mass of data on hospital management and daily routines was collected not only from Harper Hospital but from a group of other hospitals by questionnaire. For the most part, these data are summarized in readable form in the main chapters of the book. However some use has been made of tables. In addition to tables, there are 22 appendices in which questionnaires and forms used in the study lists of staff duties and bibliographies are included, among other matter

Pharmacy

ever from the first edition have been revised, and the chapters on packaging, labeling and pricing that appeared in the first edition have been deleted. A selection of literature published since the first edition was written has been added to the chapter bibliographies. The book is complementary to the same editors' American pharmacy, fourth edition, described above.

MERCK & COMPANY INC.

The Merck index of chemicals and drugs an encyclopedia for the chemist pharmacist, physician, and allied professions. Sixth edition. Rahway N J Merck & Co., Inc. 1952 1,167 p. illus. 24 cm. $8.00 thumb index edition, $7.50, plain edition. 4753

Contents (abridged) Abbreviations. Chemicals and drugs. Organic name reactions. Radioactive isotopes used in medical therapy and diagnosis. Coal-tar colors (dyes) for foods, drugs, and cosmetics. Mixed indicators for volumetric work and pH determinations. Mixed indicators. Oxidation-reduction. Universal indicators. Absorption indicators. pH test indicators. Standard buffers for calibration of pH meters. pH values of standard solutions. Equivalents of the metric and U. S. systems of measures and weights. Comparison of United States, British imperial, and metric systems of liquid measures. Concentration of acids and bases. Thermometric equivalents. Specific gravity. Constant humidity compositions. Anti-freeze mixtures. Cooling mixtures. Constant humidity solutions. Boiling temperatures of liquids. Melting points of some aqueous liquids. Refractive index (nD) of liquids. Specific gravity of liquids. Specific gravity of solids. Weight of liquids per gallon. Alchemical symbols. Percentage solution tables. Alchemical symbols used in biology and botany. Weights and logs of elements and groups and their multiples.

Note A widely-used encyclopedic reference book of chemicals and drugs primarily of interest to medical practitioners and pharmacists. Most of the space (1025 pages in this edition) is occupied by a dictionary of terms. Here are entered in one alphabet short statements of information about specific chemicals and drugs together with cross references from synonyms. Data given in typical listings include the chemical formula, synonyms, molecular weight, color, odor, specific gravity, boiling point, solubility, medical uses, dosage, and industrial uses. If a chemical is commercially available there is a statement to this effect. The remaining pages are devoted to useful tables, formulas and other data frequently used in working with and dispensing drugs. The fifth edition appeared in 1940. The present edition is an extensive revision in which matter carried over from the previous edition has been thoroughly revised and 1900 new compounds have been added. Among the material added to the supplementary lists and tabulations is a useful compendium of standard organic reactions known by name such as Amadori rearrangement.

MODERN DRUG ENCYCLOPEDIA AND THERAPEUTIC INDEX. Edited by Marion E Howard. Sixth edition. New York Drug Publications, Inc., 1955 1 477 p. 24 cm. $15.00 4754

Contents Glossary. Pharmaceuticals. Biologicals. Allergens. Addenda. Therapeutic index. Generic name index. Manufacturers and distributors index. General index.

Note A standard reference book of information on drug products manufactured in the United States of America. Products are entered under the names under which they are sold, whether this is a generic name or a trade name. For example, there is a description of "Cevalin" as well as one of Vitamin C. Generally speaking, the following information is given for each drug: the trade name and its pronunciation, manufacturer's name, general description, action and uses, methods of administration, dosages, and forms (i.e. tablet, liquid, etc.) in which it is supplied. The volume is thoroughly indexed. Supplements issued every two months by the same publisher serve to keep the information up to date.

THE PHARMACOPEIA OF THE UNITED STATES OF AMERICA (THE UNITED STATES PHARMACOPEIA) Fifteenth revision U.S.P xv By authority of the United States Pharmacopoeial Convention, Inc., meeting at Washington, D C., May 9 and 10 1950 Prepared by the Committee of Revision and Published by the Board of Trustees. Official from December 15 1955 Easton Pa. Mack Publishing Company 1955 1 178 p. illus. 23 cm. $10.00. 4755

Contents (abridged) General Committee of Revision. History of the Pharmacopeia of the United States. New admissions to the U.S.P xv Articles official in the U.S.P xiv but not admitted to the U.S.P xv Changes in official titles. Monographs. General tests, processes, and apparatus. Reagents, indicators, and solutions. Tables. Index.

Note The official description of medicinal drugs for the pharmacy profession of the United States of America. In comparison to *U.S.P XIV U.S.P XV* represents an even greater revision than usual, reflecting fundamental changes in the organization of the work of revision. The revision covered the deletion and addition of drugs, revisions of many procedures, changes in nomenclature and official titles. Latin subtitles of drugs have been dropped, and the same is true of the apothecary equivalents in the statements of dosages and sizes. A short statement entitled "Category" which indicates the kind or class of preparation, has been added to each monograph. The following is an example from the monograph on Wool Fat. "Water-absorbable ointment base." The number of monographs added in this revision was 241; while 162 of those appearing in *U.S.P XIV* were deleted.

STOCKING CHARLES HOWARD AND ELMON L. CATALINE

Arithmetic of pharmacy Based on the original text by Alviso B Stevens. Eighth edition. New York D Van Nostrand Company Inc., 1952 148 p. illus. 24 cm. $3.00. 4756

Contents: Weights and measures. Specific gravity and specific volume. Weight—volume. Percentage solutions. Dilution and concentration. Reducing and enlarging formulas. Additional calculations pertaining to prescriptions. Conversion of temperatures. Commercial calculations. Chemical calculations. Appendix. Index.

Note. A long-established introductory textbook for students and reference book for beginning pharmacists. It covers chiefly the mathematical calculations that are used in connection with the compounding of medicines on prescription. Many worked examples are included, and there are also problems for the student to solve. The work has been considerably revised and reorganized in the present edition.

WILSON CHARLES O AND OLE GISVOLD, editors

Textbook of organic medicinal and pharmaceutical chemistry Third edition. Philadelphia J B Lippincott Company 1956 823 p. illus. 26 cm. $11.00 4757

Contents: Introduction, by O. Gisvold and C. O. Wilson. Physicochemical properties in relation to biologic action, by T C. Daniels and W D. Kumler. Metabolic changes of drugs and related organic compounds in the body (detoxication) by T C. Daniels and W D. Kumler. Hydrocarbons, by A. Taub and C. O. Wilson. Halogenated hydrocarbons, by A. Taub and C. O. Wilson. Alcohols, by C. O. Wilson. Ethers, by C. O. Wilson. Aldehydes and ketones, by E. V Lynn. Aliphatic carboxylic acids and their derivatives, by C. O. Wilson. Aromatic carboxylic acids, their salts and esters, by C. O. Wilson. Various nitrogenous compounds, by C. O. Wilson. Quaternary ammonium compounds, by T O Soine. Heterocyclic compounds, by C. O. Wilson. Phenols and their derivatives, by O. Gisvold. Amines having sympathomimetic activity by R. F Doerge. Amines having adrenergic blocking action, by O. L. Webster. Amines having parasympathomimetic activity by C. O. Wilson. Amines having parasympatholytic action, by T O. Soine. Histamine and antihistaminic agents, by R. F Doerge. Antimalarials, by O. Gisvold. Amines and amides having local anesthetic activity by C. O. Wilson. Amines and amides with analgesic action, by T O. Soine. Sulfur and phosphorus compounds, by T C. Daniels and W D. Kumler. Surface-active agents, by A. Taub. Compounds containing metals, by T C. Daniels and W D. Kumler. Dyes, by T C. Daniels and W D. Kumler. Steroids, by O. Gisvold. Carbohydrates or saccharides, by O. Gisvold. Glycosides, by O. Gisvold. Antibiotics, by R. F Doerge. Vitamins, by O. Gisvold. Proteins, by E. V Lynn. Diagnostic agents, by C. O. Wilson. Terpenes and related compounds, by C. O. Wilson. Index.

States Pharmacopeia, British Pharmacopoeia, International Pharmacopoeia, or The National Formulary Part III, Veterinary uses and doses of drugs. Index.

Note. As in its previous editions, this standard compendium includes both descriptions of individual drugs and survey articles on groups of drugs. The descriptions of individual drugs are organized, in most instances, according to the following pattern Definition chemical structure and history physical description and properties techniques of assay uses former uses, toxicology; dosage and methods of storage. The survey articles are devoted to classes of drugs, such as Anticoagulant drugs, Barbiturates, and Local anesthetic agents. In this edition the drug descriptions have been revised as necessary to bring them into conformity with the *United States Pharmacopeia XV* and other authorities mentioned in the title above and to include new advances in the knowledge of the drugs. Also the information given in them on dosage has been expanded. Several new survey articles have been added, and the one on antibiotics has been rewritten. The number of pages in the three principal parts is now Part I, 1,521; part II, 411 part III, 123

JENKINS, GLENN L , AND OTHERS

Quantitative pharmaceutical chemistry By Glenn L Jenkins John E Christian and George P Hager Fourth edition. New York McGraw Hill Book Company, Inc., 1953 534 p illus 21 cm 4749

Contents (abridged) Part 1 General methods used in official pharmaceutical analyses Gravimetric analysis. Principles of titrimetric (volumetric) analysis. Alkalimetry Acidimetry Precipitation methods. Oxidation-reduction methods. Gasometric methods. Part 2 Special methods used in official pharmaceutical analyses: Ash and moisture determinations. Extractive and crude fiber content. Assay of volatile oils. Alkaloidal assaying. Official type methods. Alkaloidal assays by special methods. Assay of enzyme-containing substances. Part 3 Physicochemical methods used in official pharmaceutical analyses Specific gravity and density Melting, congealing, and boiling temperatures. Colorimetry spectrophotometry fluorophotometry nephelometry and turbidimetry Refractometric measurements. Rotatory power Solubility Viscosity measurements. Electrolytic methods. Appendix. Index.

Note. A long established textbook and laboratory manual used for instruction in schools of pharmacy Its broad scope gives it some value as a reference book of analytical methods useful in pharmacy It includes both methods which are official in the *United States Pharmacopeia* and *National Formulary*, and also nonofficial methods that are widely used in the profession. The fifth edition was published in 1957 532 p., $8.50.

JENKINS, GLENN L , AND OTHERS

Scoville s The art of compounding By Glenn L Jenkins, Don E Francke, E A. Brecht and Glen J Sperandio Eighth edition New York The Blakiston Division, McGraw Hill Book Company Inc., 1951 515 p illus 26 cm. 4750

Contents The prescription. Nomenclature and vocabulary Powders, capsules, and effervescent salts. Pills. Tablets. Lozenges and similar preparations. Simple, compound, and stock solutions. Percentage, saturated, and gaseous solutions. Adjusted solutions. Parenteral solutions. Solutions for special application. Colloidal solutions Allergenic solutions. Liquids containing insoluble substances. Emulsions. Ointments and ointment-type preparations. Suppositories. Miscellaneous external preparations. Sterilization and disinfection. Homeopathic pharmacy Therapeutic and physical incompatibilities. Chemical incompatibilities. Incompatibilities of organic substances. Index.

Note A standard reference manual and textbook for practicing pharmacists and pharmacy students first published in 1895 Emphasis is placed on the practical aspects of the subject with detailed descriptions of techniques and equipment employed in the preparation of powders, pills, capsules, tablets, etc. Basic principles underlying each operation are also discussed. Numerous prescriptions and standard formulas are included to illustrate the range of application. This edition has been extensively revised and the subject matter rearranged. New chapters on solutions for special purposes and allergenic solutions have been added, and the chapters on tablets, parenteral solutions, sterilization, and incompatibilities have been expanded. A ninth edition was published in 1957 551 p., $11.00.

LYMAN, RUFUS A., AND JOSEPH B SPROWLS, editors

American pharmacy textbook of pharmaceutical principles processes and preparations George Urdang, consulting editor Fourth edition Philadelphia J B Lippincott Company, 1955 478 p illus. 26 cm. $9 75 4751

Contents The field of pharmacy by G. Urdang. Part I, Fundamental principles and processes. Metrology by E. A. Brecht, Jr. Specific gravity and specific volume, by E. L. Cataline. Heat and refrigeration by J W Jones. Purification and clarification, by W R. Lloyd. The mechanical subdivision of drugs, by J. W Jones. Solutions, by K. J. Goldner. Colloids, emulsions and suspensions, by M. F W Dunker Extraction, by N E. Foss. Part II, Pharmaceutical preparations: Waters, by R. A. Bowers. Syrups and juices, by R. A. Brecht. Solutions, injections and sterile suspensions, by J. B. Sprowls. Infusions and decoctions, by W A. Purdum. Mucilages, creams, glycerogelatins, glycerites and collodions, by E. M. Piela. Mixtures, suspensions, magmas, gels and jellies, by A. N Martin. Emulsions, by A. N. Martin. Soaps, liniments, lotions, oleates and sprays, by A. L White. Ointments, cerates, plasters and cataplasms, by L. C. Zopf. Suppositories, by S. Riegelman. Spirits and elixirs, by T D. Rowe. Vinegars, tinctures, fluidextracts, fluidglycerates and extracts, by W A. Purdum. Resins and oleoresins, by N E. Foss. Masses, pills, troches and tablets, by L. M. Ohmart. Powders, capsules, cachets, dragees, candy medication and triturations, by P A. Foote. Effervescent salts, by H. G. DeKay Radioactive pharmaceuticals, by D. M. Skauen. Index.

Note. In this book, the chapters are the work of professors of pharmacy associated with leading colleges of pharmacy in the United States of America. It is especially designed as a textbook for use in undergraduate colleges of pharmacy and it has enjoyed wide use since the first edition was published in 1945. It is concerned both with the basic principles of pharmacy and with methods for compounding broad groups of pharmaceuticals. No attempt is made to cover the business aspects of pharmacy or the details of pharmaceutical dispensing. The third edition was published in 1951. The terminal chapter on radioactive pharmaceuticals is new in this fourth edition. Other changes made from the third edition include a rearrangement of some of the chapters, revisions of many of them to bring them into accord with the *United States Pharmacopeia XV* and *National Formulary X* A new fully detailed index has been substituted for the index that appeared in former editions.

LYMAN, RUFUS A , AND JOSEPH B SPROWLS, editors

Textbook of pharmaceutical compounding and dispensing George Urdang, consulting editor Second edition Philadelphia J B Lippincott Company 1955 477 p illus. 26 cm $9 75 4752

Contents Dispensing through the ages, by G. Urdang. The prescription, by E. M. Piela. Accuracy in dispensing, by L. M. Ohmart. Dosage forms, by L. M. Ohmart. Flavors and odors and their pharmaceutical application, by C. H. Waldon. Coloring agents, by L. F Worrell. Solvents and solubility by H. M. Burlage. Some properties of aqueous solutions and their application to pharmacy by F M. Goyan. Solutions, by J. B. Sprowls. Parenteral preparations, by P J Jannke. Colloids, emulsions and suspensions, by M Barr. Dermatologic pharmaceuticals, by L. C Zopf. Incompatibility and the incompatibilities of inorganic compounds, by L. W Busse. Incompatibilities of organic compounds, by D. E. Wurster. The manufacture of tablets, by H. G. DeKay. Dental pharmacy by S. J Provenza and E. C. Dobbs. Hospital pharmacy by G. F Archambault. Index.

Note Although a good deal of specific information on the ingredients of standard prescriptions, solubilities of various compounds and incompatibilities, is presented, this work is essentially a presentation of basic scientific principles and standard techniques. It is designed for use primarily as a textbook in undergraduate courses in schools of pharmacy and its main purpose is the development of a general understanding of pharmaceutical dispensing. Most of the authors of the chapters are members of faculties of colleges of pharmacy in the United States of America. The first edition was published in 1949 The book was extensively revised for the second edition. There are several new chapters, chapters carried [illegible]

PSYCHOLOGY

GENERAL

ALLPORT, FLOYD H

Theories of perception and the concept of structure a review and critical analysis with an introduction to a dynamic-structural theory of behavior New York John Wiley & Sons Inc., 1955 709 p. illus. 23 cm. $8.50 4760

Contents (abridged) An orientation to psychological theories. The problem of perception—its place in the methodology of science. The classical theories and their legacy. The configurational approach—Gestalt theory of perception. Topological field theory and its relation to perception. The association approach—cell assembly and phase sequence. Motor aspects—sensory-tonic field theory—set and motor adjustments, their relation to perceptual theory. The Gestalt-state theory of perception. Directive-state school—hypothesis-theory and the [illegible] of [illegible]. Perception and theories of learning—the behavior-theory approach. The system viewpoints—cybernetics—its psychological implications and contributions to perceptual theory. Outline of a general theory of event-structure—a tentative statement with applications to the problems of perception. Bibliography. Index of names. Index of subjects.

Note A distinguished book in which the important modern theories of perception are critically reviewed. Finally the author proposes a new general theory of perception which he calls event-structure. The book is written at a level that makes it useful to students by graduate students of psychology and teachers of psychology. It is primarily of interest also to members of allied professions, particularly psychiatry and sociology.

ANNUAL REVIEW OF PSYCHOLOGY Volume 7 Paul R. Farnsworth, *editor* Quinn McNemar associate editor Stanford Annual Reviews, Inc., 1956 448 p. 23 cm. $7.00. 4761

Contents Learning, by W. K. Estes. Personality, by D. C. McClelland. Social psychology and group processes, by R. L. French. Abnormalities of behavior, by W. Schofield. Clinical methods—psychotherapy, by R. R. Harris. Counseling, by E. J. Shoben, Jr. Assessment of individual differences, by L. J. Cronbach. Industrial psychology, by W. K. Kendall. Statistical theory and research design, by L. E. Moses. Child psychology, by A. L. Baldwin. Educational psychology, by F. T. Tyler. Comparative psychology, by E. H. Hess. Physiological psychology, by D. B. Lindsley. Gerontology (later maturity), by I. Lorge. Vision, by C. G. Mueller and E. Reiter. Taste and smell, by C. Pfaffmann. Author index. Subject index.

Note Primarily a survey of the literature in English, both journal articles and books, although there are some citations of literature in other languages. The chapter titles listed above illustrate typical contents. Many of the chapters are repeated each year, each review covering the literature of a different period of time. Others appear in alternate years, and still others less frequently. The typical chapter is composed of abstracts run together in narrative text, with references to the original publications. The review is addressed to graduate psychologists and to other scientists with an interest in psychology and serves both as a review of progress and as a guide to the recent literature. The names and authors of all the cited papers are entered in the author index, and a detailed subject index covers the contents from the subject viewpoint.

BORING EDWIN GARRIGUES

A history of experimental psychology Second edition. New York Appleton-Century Crofts, Inc., 1950. 777 p. illus. 24 cm. (The Century psychology series Richard M Elliott, editor) $6.00 4762

Contents (abridged) Orientation: The rise of modern science. Origin of modern psychology within science. Psychophysiology in the first half of the nineteenth century. Phrenology and the mind-body problem. Physiology of the brain, 1800–1870. Specific energies of nerves. Physiological psychology of sensation, 1800–1850. Hypnotism. The personal equation. Origin of modern psychology within philosophy. Beginning of modern psychology—Descartes, Leibnitz and Locke. British empiricism—Berkeley, Hume and Hartley. British associationism—the Mills and Bain. German psychology before 1850—Kant, Herbart and Lotze. The founding of experimental psychology: Gustav Theodor Fechner. Hermann von Helmholtz. Wilhelm Wundt. Establishment of modern psychology in Germany. Establishment of modern psychology in Great Britain. Establishment of modern psychology in America. Later trends in modern psychology: Gestalt psychology. Behaviorism. Brain function. Dynamic psychology. Index of names. Index of subjects.

Note The first edition of this scholarly work appeared in 1929 and rapidly attained the status of a classic. The original text was rather extensively rewritten for the present edition. The author has stated that about half of the new edition is new writing. The scope is still [illegible] the psychology of the general, human, normal, adult mind as revealed in the psychological laboratory [illegible] and the range in time is now from about 1600 to about 1940. In spite of much subdivision by nation, school, and other groups, the effect of the book is that of a panoramic sweep of the subject. The narrative is studded with names, dates, and titles of works. However these are integrated in a balanced narrative in which the author clearly and authoritatively determines the contribution of each school and movement, and evaluates the significant work of each psychologist mentioned.

BORING EDWIN GARRIGUES

Sensation and perception in the history of experimental psychology New York D Appleton-Century Company Inc., 1942 644 p. illus. 23 cm. (The Century psychology series R. M Elliott, editor) $6.00. 4763

Contents Sensation and perception. Physiology of sensation. Visual sensation. Brightness. Color and its stimulus. Visual phenomena. Color theory. Visual perception of bidimensional space. Visual perception of depth and distance. Psychophysics of tone. Auditory perception. Auditory theory. Smell and taste. Tactual sensibility. Organic sensibility. The perception of time and movement. Concerning scientific progress. Indexes.

Note The background and evolution of modern psychology of sensation and perception is the subject of this study which traces chronologically the history of researches in the field from 1600 to 1930 and records the gradual development of present fact and opinion, describing the difficulties encountered by investigators and the factors which aided the progress of their experimentation. The work is intended more for the specialist than the layman and is based on a study of original source material which is summarized but not simplified. There are numerous reference notes and cross-references after each chapter.

BRENNAN ROBERT EDWARD

Thomistic psychology a philosophic analysis of the nature of man. New York The Macmillan Company 1941 401 p. illus. 22 cm. $5.50. 4764

Contents. Book I, Aristotle: The psychology of Aristotle. Book II, Aquinas: The psychology of Aquinas. Man the integer. The vegetative life of man. The [illegible]. Knowledge of [illegible]. The passions and actions of man. The intellectual knowledge of man. The volitional life of man. The powers of man. The habits of man. Man the person. The soul of man. Book III, The modernist

Note. Designed for undergraduate students in colleges of pharmacy this book is both a text and reference book on compounds used in medicine. The editors state that they "have attempted to include a discussion of all products described in the U.S.P xv N.F x, New and nonofficial remedies 1955 and Accepted dental remedies 1955 as well as the most important pharmaceuticals reported in the periodical literature. In the typical chapter the class of compounds under consideration is first discussed generally with particular reference to chemical structure and properties then the compounds of pharmaceutical interest are described individually In the descriptions of the individual drugs, preparation, physical properties, medical uses and usage dosages are covered. The bibliographies at the ends of the chapters are rather extensive and consist of (1) a list of references cited in the text of the chapter and (2) a list of suggested reading. The first edition was published in 1949 under the title *Organic chemistry and pharmacy* In the third edition some changes in the organization of the book and some revisions were made in order to keep the book up to date with the *United States Pharmacopeia*, the *National Formulary* and the other reference books mentioned in the quotation in this note. Also new literature has been added to the bibliography

WRIGHT, HAROLD N

Prescription writing and medical jurisprudence. Fifth edition, revised Minneapolis Burgess Publishing Company, 1956 118 p illus. 27 cm $2 75 4758

Contents (abridged) Section I, Prescription writing: Historical development of the prescription. Drug forms and preparations. Factors modifying the dosage of drugs rules for calculating dosages for children the preparation of quantitative solutions and dilution of stock solutions. Prescriptions for ointments, cerates and pastes. Prescriptions for suspensions, lotions, liniments and sprays. The coloring and flavoring of medications prescriptions for liquid medications. Prescriptions for tablets, capsules, pills, powders and suppositories. Incompatibilities and errors in prescriptions. Section II, Medical jurisprudence Medico-legal aspects of prescriptions. Procedures and precautions in toxicological examinations. Section III, Prescription Latin. Appendices. Important drugs having widely different Latin and English titles. Important official preparations often called by common names. Latin-English vocabulary. English-Latin vocabulary

Note An introduction to prescription writing which is used in the instruction of students of medicine and pharmacy In the first section it explains the conventions, terms and abbreviations of prescriptions describes the forms of drugs gives typical formulas for common medicines illustrates and interprets typical prescriptions as written by doctors and lists incompatibilities. The second section outlines points of law of interest in the practice of pharmacy in the United States of America, and the third section is an outline of Latin grammar as it is used in prescriptions, together with a discussion of how to write prescriptions in Latin. The volume is produced in inexpensive format with a spiral wire binding and paper covers.

YOUNGKEN, HEBER WILKINSON

Textbook of pharmacognosy 521 illustrations. Sixth edition New York McGraw Hill Book Company, Inc., 1948 1,063 p. illus. 23 cm $8 50 4759

Contents Part I, Fundamental and morphological considerations of drugs Fundamental considerations. Morphological classification of crude drugs. Therapeutic classes of drugs. Part II, Taxonomic consideration of drugs: Drugs of vegetable origin. Drugs of animal origin. Antibiotics and bacterial biological products. Microanalytical methods. Bibliography Index.

Note A long-established textbook, used in American colleges of pharmacy since the publication of the first edition in 1921 It is also used as a reference manual in the crude drug trade. The chapter on drugs of vegetable origin accounts for 840 of the book's pages and provides full descriptions, which are usually accompanied by illustrations, of all the useful drugs of this class. This edition exhibits numerous revisions, many of which were made to bring the text into harmony with the 13th revision of the *United States Pharmacopeia* and the 8th edition of the *National Formulary* The chapter on antibiotics is new as are substantial parts of several other chapters.

gest that by use of the technique, associative learning and creative thought can be facilitated. In the second part of the book, written by Dr. Erickson, possible applications of the technique in psychotherapy are discussed together with six case reports in which these directions under hypnosis was used by the author.

CURRENT TRENDS IN PSYCHOLOGICAL THEORY by Wayne Dennis and others. Pittsburgh University of Pittsburgh Press 1951 213 p. 22 cm. $4.00. 4770

Contents: Developmental theories, by W. Dennis. Theories of personality by R. Leeper. Learning theories, by H. F. Harlow. Theories of perception, by J. J. Gibson. Cognition and motivation in psychological theory by D. Krech. Theories of psychotherapy by D. McK. Rioch. Brain and behavior, by W. S. McCulloch. Principles and problems of theory construction in psychology by H. Feigl.

Note: A collection of lectures originally delivered at the University of Pittsburgh in February 1951, under the auspices of the Department of Psychology. The authors include professors of psychology and psychiatry from leading American universities. Each of the authors has outlined the current status of a specific area of psychology and has indicated the probable direction of further developments. A list of literature references accompanies each lecture. Although addressed to advanced college students majoring in psychology and graduate psychologists, the book is a handy and authoritative survey for anyone with professional interests in the field.

DENNIS WAYNE, AND OTHERS

Current trends in psychology Pittsburgh University of Pittsburgh Press, 1947 225 p. illus. 22 cm. $4.00. 4771

Contents: Psychology as a profession, by W. Dennis. Experimental psychology by B. F. Skinner. Child psychology by R. R. Sears. Clinical psychology by E. L. Kelly. Psychotherapy by C. Rogers. Personnel psychology by J. C. Flanagan. Human engineering, by C. T. Morgan. The sample interview survey by R. Likert.

Note: The papers in this volume were presented originally as lectures at a conference sponsored by the University of Pittsburgh in March, 1947. Each paper was prepared by a leader in the field, and each presents a survey of the current status, problems, and future development of various branches of psychology. Although written by specialists, and addressed mainly to advanced students and graduate workers in the field, technical phraseology has been kept to a minimum, hence, the book can be useful to mature general readers also. The chapters on psychotherapy and the sample interview survey contain bibliographies.

DENNIS WAYNE, editor

Readings in the history of psychology New York. Appleton-Century-Crofts, Inc., 1948 585 p. 25 cm. (The Century psychology series Richard M. Elliott, editor) $5.00 4772

Note: A chronologically arranged selection of 60 readings taken from classic works including papers, monographs, and books in psychology with the purpose of tracing the growth and development of the science. The selections range in time from the 4th century B. C. to recent times. The volume is intended chiefly for the orientation of college students who are majoring in psychology.

DEUTSCH, HELENE

The psychology of women, a psychoanalytic interpretation. Foreword by Stanley Cobb. New York Grune & Stratton, 1944 405 p. 22 cm. $5.00. 4773

Contents: Prepuberty. Early puberty. Puberty and adolescence. Menstruation. Eroticism—the feminine woman. Feminine passivity. Feminine masochism. The "active" woman—the masculinity complex. Homosexuality. Influence of the environment. Bibliography. Index.

—— Volume two Motherhood. New York Grune & Stratton, 1945 498 p. 22 cm. $5.50. 4774

Contents: Social and biologic aspects. Motherhood, motherliness and sexuality. The prematernity phases. The psychology of the sexual act. Problems of conception—psychologic prerequisites of pregnancy. Pregnancy. Delivery. Confinement and lactation—first relations with the child. The mother-child relation. Unmarried mothers. Adoptive mothers. Stepmothers. Epilogue. The climacterium. Bibliography. Index.

Note: A noted study of the normal psychic development of women and their normal conflicts. Aberrant behavior is referred to only as needed in clarification of the norm. The first volume covers from girlhood through early maturity with special emphasis on the problems of pre-adolescence and on the psychological importance of the formative period. The second volume deals with normal, adult womanhood. The work is addressed to educated lay readers as well as to psychologists and physicians. The viewpoint is Freudian.

DEWEY, JOHN

How we think a restatement of the relation of reflective thinking to the educative process. Boston D. C. Heath and Company 1933 301 p. 20 cm. $4.50. 4775

Contents: Part I, The problem of training thought. What is thinking? Why reflective thinking must be an educational aim. Native resources in training thought. School conditions and the training of thought. Part II, Logical considerations: The process and product of reflective activity—psychological process and logical form. Examples of inference and testing. Analysis of reflective thinking. The place of judgment in reflective activity. Understanding—ideas and meanings—conceptions and definitions. Systematic method—control of data and evidence—control of reasoning and concepts. Empirical and scientific thought. Part III, The training of thought. Activity and the training of thought. From the concrete to the abstract. Language and the training of thought. Observation and information in the training of mind. The recitation and the training of thought. Some general conclusions. Index.

Note: A classic description of the processes of reflective thought and how they may be efficiently used in education. It was written originally for use as a text in the training of teachers, but it is of interest to any educated person who is curious about the nature of the thinking process.

DOLLARD JOHN AND OTHERS

Frustration and aggression, by John Dollard, Leonard W Doob, Neal E. Miller O H. Mowrer Robert R. Sears in collaboration with Clellan S Ford Carl Iver Hovland, Richard T Sollenberger New Haven Published for the Institute of Human Relations by Yale University Press 1939 209 p. 23 cm. $3.00. 4776

Contents: Definitions. Psychological principles. Socialization in America. Adolescence. Criminality. Democracy, fascism, and communism. A primitive society: the Ashanti. References. Index.

Note: A monograph which attempts to explain aggressive behavior in terms of prior frustrations and in this manner to interpret some of the findings of the clinician, the experimentalist, and the field worker. An analysis in terms of the frustration-aggression hypothesis is made of child training, adolescence, criminology, race prejudice, democracy, fascism, communism, and a primitive African society. The problems posed and the illustrative material are of interest not only to the psychologist, sociologist, criminologist, and educator but to the educated layman as well. The list of references contains 189 books and publications.

GARRETT HENRY EDWARD

Great experiments in psychology Third edition. New York Appleton-Century-Crofts, Inc., 1951. 358 p. illus. 24 cm. (The Century psychology series edited by Richard M. Elliott) $3 75 4777

Contents: Pavlov and the conditioned reflex. Franz' and Lashley's studies of the role of the brain in learning. Thorndike's laws of learning. Köhler's experiments in perception and learning and their importance for Gestalt psychology. Thorndike's and Woodworth's experiments on the transfer of training and their influence upon the

Modern psychology and the Thomistic synthesis. Bibliography Index.

Note: The author analyzes Aristotle's and Aquinas' conceptions of the nature of man and shows how these conceptions pro- and Aquinas and his commentaries on them, give the reader an relationships and differences between modern scientific psychology and traditional philosophic psychology are shown, while the author's generous citations from the original writings of Aristotle insight into the thought of these two great students of man.

BROWN, CLARENCE W, AND EDWIN E GHISELLI

Scientific method in psychology New York McGraw Hill Book Company Inc., 1955 368 p illus. 24 cm. (McGraw Hill series in psychology Clifford T Morgan, consulting editor) $6 00 4765

Contents. Part I, Some general concepts about the scientific method Some characteristics of science. Presuppositions of the scientific method. The general aims and methods of science. Functional organization among natural phenomena. The control of psychological variables. Some facts and principles of psychological measurements. Part II, Steps of the scientific method. The definition and delimitation of a scientific problem. The use of hypotheses in formulating a problem. Collecting the facts. The organization, analysis, and interpretation of facts. Generalizing from scientific data. Part III, Some individual scientific procedures. Physical variables in psychological experiments. The subject in psychological experiments. Some procedures for quantifying behavior. Scientific method in field-type studies. Index.

Note. Addressed to college students who are majoring in psychology this book is substantial introduction to the methods and techniques of experimental science. Although textbook, it is written in a full style that many readers can comprehend without the assistance of an instructor Clear and convincing discussions of the aims and general methods of science are included in the early chapters, but from the fifth chapter onwards the exposition is directly related to scientific investigation in psychology The authors are psychologists on the faculty of the University of California.

BRUNER, JEROME S, AND OTHERS

A study of thinking, by Jerome S Bruner, Jacqueline J Goodnow, and the late George A Austin A publication of the Harvard Cognition Project. New York John Wiley & Sons Inc., 1956 330 p illus. 23 cm (A Wiley publication in psychology Herbert S. Langfeld, advisory editor) $6 00 4766

Contents Introduction. On attributes and concepts. The process of concept attainment. Selection strategies in concept attainment. Reception strategies in concept attainment. On disjunctive concepts and their attainment. On categorizing with probabilistic cues. An overview Appendix Language and categories, by R. W Brown. Bibliography Index of authors. Index of subjects.

Note. An original study of the nature of thinking The book is a product of an extended program of research conducted in the Laboratory of Social Relations at Harvard University A conclusion reached by the authors is that virtually all cognitive activity involves and is dependent on the process of categorizing. Categorizing is examined in detail, especially in the first chapter under such subheadings as "The invention of categories, "The generality of categorizing, "Language culture and categorizing, "The achievements of categorizing, "The motive to categorize "On the validation of categorizing, and "Learning to categorize. The fourth to seventh chapters describe the techniques and results of empirical experiments carried out in connection with the study In the appendix, the process of language learning is interpreted in the light of the authors' theories of categorizing, by Professor Roger W Brown of Harvard University

BRUNSWIK, EGON

Perception and the representative design of psychological experiments. Second edition revised and enlarged Berkeley University of California Press, 1956 154 p. illus. 27 cm. $5 00 4767

Contents Part I Systematic and representative design of psychological experiments, with results in physical and social perception: The variables entering objective psychological research. Fundamental aspects of design in psychological research. The classical psychophysical experiment and its relationship to mere statistics. Proximal multidimensional psychophysics of "Gestalt problems—intraorganismic field dynamics. Distal multidimensional psychophysics of the "thing-constancies"—stabilization of relations with the remote environment. Forced representativeness of stimuli in experiments on social perception. Ecological vs. populational generality Convergence of experiment and statistics in the methodology of a probabilistic functionalism. Ecological validity of potential cues and their utilization in perception. Ecological representativeness of experimental results in the history of psychology Development toward greater representativeness in experiments on learning. Part II, Perception—the ecological generality of its distal aim: Visual, auditory and tactile-kinesthetic constancies. The extended constancy problem. Developmental aspects of the constancy problem. Perception and thinking. The study of physiognomic perception by systematic-representative hybrid designs. Textural ecology as propaedeutic to functional psychology Acquisition and extinction of perceptual cues. Problems of stimulus representativeness in clinical psychology Conclusion functional theory and a definition of perception. Bibliography

Note A book on psychological research, the contents of which will interest professional psychologists, especially those concerned with the development of modern experimental psychology The book is divided into two parts, the first treating the development of representative design in psychology the second dealing with the functional study of perception. The first part appeared previously as contribution to the Berkeley Symposium on Mathematical Statistics and Probability (1949) while the second part is new. Experimental data are presented in tabular and graphic form throughout the volume. The bibliography extends to eight pages.

COOMBS, C H, AND R. C KAO

Nonmetric factor analysis. Ann Arbor University of Michigan Press 1955 63 p. illus 23 cm. (University of Michigan. Engineering Research Institute Bulletin no. 38.) $2 00 4768

Contents Introduction. Mathematical basis. Some general theorems. Theorems on the conjunctive-disjunctive model. The compensatory model. Discussion. Summary List of symbols. References.

Note A complementary work to C. H. Coombs, *A theory of psychological scaling*, Ann Arbor 1952. It presents new methods appropriate to data collected by the Method of Single Stimuli (monotone items) the type of data to which Guttman scalogram analysis is commonly applied. The methods are not alternatives to Guttman scalogram analysis but are multidimensional models which might be appropriate when the conditions for a unidimensional solution are not satisfied.

COOPER, LINN F, AND MILTON H. ERICKSON

Time distortion in hypnosis an experimental and clinical investigation. With a foreword by Harold Rosen. Baltimore The Williams & Wilkins Company 1954 191 p. illus 24 cm. $4 00 4769

Contents. Part I, Experimental studies Introduction. Time. Definitions. Subjects. Methods. Training Experimental basis of this report. Miscellaneous activities. Counting Sound signals. Metronome. Review and practice. Coincidental happenings. Special inquiry Association. Thought. Creative mental activity Motor learning. Nonmotor learning. Mathematical mental activity Polygraph studies. A semantic interpretation of verbal suggestion. Conclusions. Part II, The clinical and therapeutic applications of time distortion References. Index.

Note. "Time distortion as defined in this book designates substantial difference between the seeming duration of an interval of time and the clock reading of the identical interval. In short, it designates that class of human experiences in which short interval of time seems like many minutes or even hours. In the first and major part of this book, written by the senior author, series of experiments pertaining to time distortion under hypnosis are described, and the other points of that some of the findings are

Hypnosis and the dissociation hypothesis. Hypnosis considered as sleep. Hypnotic suggestibility and the transcendence of voluntary capacity. Hypnosis as a state of heightened suggestibility. Hypnosis regarded as habit. Hypnosis and non-prestige suggestion. Interpretation. Indexes.

Note: A discussion of the nature of hypnosis from the experimental viewpoint, intended for psychologists and students but understandable by the general reader. The persons employed as subjects in the research are normal rather than pathological, and the underlying principles are sought rather than treatments or cures. Important techniques are described in detail for research workers. Bibliographies follow each chapter.

JEFFRESS LLOYD A. editor

Cerebral mechanisms in behavior: the Hixon Symposium. New York John Wiley & Sons, Inc., 1951 311 p. illus. (part col'd) 23 cm. $8.00. 4784

Contents: The general and logical theory of automata, by J. von Neumann. Why the mind is in the head, by W. S. McCulloch. General discussion. The problem of serial order in behavior, by K. S. Lashley. Functional differences between the occipital and temporal lobes with special reference to the interrelations of behavior and extracerebral mechanisms, by H. Klüver. Relational determination in perception, by W. Köhler. Brain and intelligence, by W. C. Halstead. General discussion. The symposium from the viewpoint of a chemist, by R. W. Brown. Name index. Subject index.

Note: The edited transcript of lectures and discussions presented at a symposium held September 20–25 at the California Institute of Technology under the auspices of the Hixon Fund Commission. The symposium was planned as a step in the integration of experimental results and knowledge from several fields of science which impinge on the relations between behavior and brain. The level of discussion is advanced, and the book is addressed to such readers as graduate psychologists, neurologists, and biologists.

JOHNSON DONALD M

The psychology of thought and judgment. New York Harper & Brothers, 1955 515 p. illus. 21 cm. (Under the editorship of Gardner Murphy) $6.00 4785

Contents: Introduction. The thought processes—methods for analysis and classification. The dynamics of thought. Perception and thought. Learning and thinking. Preparation for thought and judgment. The production process—motor responses—complex patterns and problems. Judgment—scaling—variables—responses—validation. Individual differences in thought and judgment. Intellectual differences of social groups. The improvement of thinking. Index of names. Index of subjects.

Note: An important contribution to an area of psychology in which there has been less research and less synthesis than in most fields of the science. It is a critical survey of historical development and current status to which the author has added, in some of the chapters, suggestions for further research to such passages in the literature. "The studies by Welch and Long on higher levels of abstraction suggest a way to secure an empirical identification of abstract thinking. The ability to form second-order concepts perhaps be compared with ability to form first-order concepts." The book is directed primarily to graduate students of psychology and graduate psychologists, and is of interest also to educators and psychiatrists. Extensive references to the literature are included.

KOFFKA, K.

Principles of gestalt psychology New York. Harcourt Brace and Company 1935 720 p. illus. 22 cm. $7.50 4786

Contents *(abridged)*: Why psychology. Behavior and its field—the task of psychology. The environmental field—the problem, selection of four solutions, general formulation of the true solution—visual organization and its laws—figure and ground—the framework—the constancies—tri-dimensional space and motion. Action—the ego, the executive—adjusted behavior, attitudes, emotions, and the will. Memory—foundation of a trace theory, theoretical section—foundation of a trace theory, experimental section and completion of the theory. Learning and other memory functions. Society and personality. Conclusion. Bibliography. Index.

Note: This book is one of the basic presentations of gestalt psychology. In it the author sought to present a theoretically consistent psychology constructed on the concept of organization. The presentation has somewhat philosophical overtones. It was written when the author was a member of the faculty of Smith College.

LECRON LESLIE M editor

Experimental hypnosis. A symposium of articles on research by many of the world's leading authorities. New York The Macmillan Company 1952 483 p. illus. 21 cm. $6.00. 4787

Contents: Introduction, by L. M. LeCron. Hypnosis in perspective, by C. W. Williams. Dynamics in hypnotic induction, by J. A. Christenson, Jr. A rapid method for the induction of hypnosis, by J. E. Whalen. Deep hypnosis and its induction, by M. H. Erickson. Hypnotic susceptibility as a function of waking suggestibility by W. D. Furneaux. Auditory hypnosis, by J. S. Horsley. A study of age regression under hypnosis, by L. M. LeCron. Rorschach psychodiagnosis in hypnotic regression, by R. A. Norgarb. Time distortion in hypnosis, by L. F. Cooper and M. H. Erickson. The influence of hypnosis on somatic fields of function, by P. J. Reiter. The control of the heart rate by hypnotic suggestion, by S. J. Van Pelt. Hypnosis in obstetrics, by W. T. Heron and M. Abramson. Hypnodontics, by A. A. Moss. Hypnosis in dentistry by T. O. Burgess. Extrasensory perception and hypnosis, by J. B. Rhine. Antisocial uses of hypnosis, by P. C. Young. Hypnosis and depressive states, by G. Odencrantz. Automatic writing and hypnosis, by A. M. Mühl. Projective hypnoanalysis, by J. G. Watkins. The hypnoanalysis of phobic reactions, by J. M. Schneck. Index of names. Index of subjects.

Note: A collection of independent papers reporting on research in hypnosis itself rather than on practical applications. Most of the articles are here published for the first time, having been prepared at the invitation of the editor who has furnished the introduction, the connecting material between chapters, and one of the articles. The editor and 14 of the contributors are from the United States of America, of those from other countries, three are English, one is Danish, one is Swedish, and one is South African. The papers deal with the experiments of their authors, and report the techniques, results, and related research. Most of the papers are accompanied by bibliographies.

LECRON LESLIE M., AND JEAN BORDEAUX

Hypnotism today Foreword by Milton H. Erickson. New York Grune & Stratton, 1947 278 p. 21 cm. $4.50. 4788

Contents: Part I, Hypnotism and suggestion. Hypnotism today. The background of hypnotism. Inducing hypnosis. Suggestibility. Principles of suggestion. Hypnotic phenomena. Posthypnotic suggestion, autohypnosis and heterohypnosis. Theories of hypnosis. Hypnotism and the psychic sciences. Part II, Hypnotherapy. Abnormal psychology—functional diseases. Psychotherapeutic methods. Functional hypnotherapy. A system of brief hypnoanalysis. Psychosomatic hypnotherapy. Research in hypnotism. References. Index.

Note: Most of the extensive literature dealing with hypnotism was produced during the years 1880–1920 and therefore is considerably out of date today. The present volume aims to present the modern aspects of hypnotism and to place it on a scientific basis, free of the misconceptions and misrepresentations with which it is usually surrounded. Actual details of how to hypnotize are described, along with results of the more important experimental work carried out in psychological laboratories. Because the authors are both experienced consulting psychologists, they have stressed the psychotherapeutic possibilities of the subject. Although the book is phrased in popular language, it is intended as a textbook for students and workers interested in psychology and psychotherapy.

LEHMAN HARVEY C

Age and achievement. Princeton Published for the American Philosophical Society by Princeton University Press 1953 359 p. illus. 24 cm. $7.50. 4789

Contents: I, Age and achievement. In science. In medicine, surgery and related fields. In philosophy. In music. In art. In literature. II, Quality versus quantity. Of literary output. Best books. In other fields. III, The nature of the creative years. Age and maximum income. Age and leadership. Early achievement and total output. Young thinkers and great achievements. Older thinkers and great achievements. Achievement by decades. Peak performance of

doctrine of formal discipline. Ebbinghaus's studies in memory and forgetting. Watson's studies of the behavior of the human infant Cannon and experimental studies of the emotions. Experimental approaches to personality study McDougall and social psychology Binet and the individual intelligence test. The Army tests—Alpha, Beta, and AGCT Galton and the measurement of individual differences. Visual and auditory perception—the work of Helmholtz and others. Cattell's studies of reaction time. Weber's and Fechner' laws and the development of psychophysics. Index.

Note. The plan of organization in most of the chapters of this book is first to describe a classical experiment, then to show what has followed it. The author's interpretation of these significant experiments and his evaluations of the theory built upon them are in themselves contributions to psychology The book is used mainly by college students of psychology However some chapters as those on intelligence testing are useful to laymen and to persons in professions other than psychology The second edition was published in 1941 In this edition, the scope and purpose of the book are unchanged, but considerable rewriting is evident in most of the chapters. Revisions and additions have been made in the text, and new literature has been added to the bibliographies now printed at the ends of the chapters. The chapter on "McDougall and social psychology" has been added. The order of the chapters has been rearranged, and the order of topics within the chapters has also been revised.

GESELL, ARNOLD

The embryology of behavior, the beginnings of the human mind. By Arnold Gesell, in collaboration with Catherine S Amatruda. New York Harper & Brothers 1945 289 p illus (part col'd) 23 cm. $7 50 4778

Contents The search for beginnings. Birth and age. Zygote and embryo. The genesis of behavior The archaic motor system. The growth of fetal behavior Breathing behavior. Muscle tonus. Electrotonic integration. The fetal-infant. The circumnatal infant. The diurnal cycle of sleep and wakeness. Species and individual. The dynamic morphology of behavior The hierarchical continuum. A photographic delineation of behavior patterns and growth sequences. Appendix. Selected references. Index.

Note. The evolution of behavior patterns in the human being is traced in this book from embryo to infant. Included is the report of the reaction of fetus only eight and one-half weeks old to fine hair stroked across its cheek. However most of the data presented were obtained in a study of premature infants. The primary emphasis is on the growth in organization of behavior Reaction and behavior patterns at various embryonic fetal and infant ages are analyzed in detail and correlated with somatic development. A 46-page section contains reproductions of photographs in series which show behavior associated with various stages of fetal and infant development. The methods of the study upon which the book was based in part are concisely described in an appendix.

HARRIMAN PHILIP LAWRENCE

The new dictionary of psychology New York Philosophical Library 1947 364 p. 24 cm. $5 00 4779

Note About 2,500 terms which are well established in modern psychological literature are defined in this reference book. The definitions are concise, but a fair number are one-quarter page length, and some are longer Thumbnail sketches of the contributions of outstanding authorities in the field of psychology are included. The work is intended for the use of student and graduate psychologists.

HARTMANN GEORGE WILFRIED

Gestalt psychology a survey of facts and principles New York The Ronald Press Company 1935 325 p illus 21 cm (Psychology series A T Poffenberger editor) $4 00 4780

Contents Part I, Historical Antecedents and development of the doctrine. Part II, Theoretical Physical basis of the Gestalt theory Physiological foundations. Philosophical foundations. Varieties of Gestalt theory Part III, Empirical Phenomena of visual perception. Studies in audition and the skin senses. The unity of the senses. Memory processes. Learning data and interpretations. Thinking and reasoning. Researches on insight. Action, emotion, and will. Part IV Educational problems. Part V Critical. Criticisms of Gestalt theory by other schools of thought. Conclusion, the present status of the Gestalt school. A note on bibliographies. Biographies. Chronology of significant dates and events in development of Gestalt psychology Glossary

Note. A compact survey based on a liberal use of quotations, both direct and condensed. It is designed to include the gist of the most important writing, both American and foreign, on configurative psychology up to the time of the book's publication.

HARVARD UNIVERSITY

The Harvard list of books in psychology Compiled and annotated by the psychologists in Harvard University Second edition. Cambridge Mass Harvard University Press, 1955 84 p 21 cm. $1 25 4781

Contents. Reference works and basic handbooks. General handbooks and textbooks. Theories and systems of psychology History of psychology Psychological methods—statistics and measurement—tests and individual differences. Physiological psychology Psychological inheritance and evolution. Constitutional psychology Comparative animal psychology Sensation and perception. Learning and conditioning. Thinking, imagination, and language. Motivation and psychological dynamics. Feeling and emotion. Psychological aesthetics. Personality General social psychology Attitudes and opinions. Cultures, customs, and institutions. Behavior disorders. Clinical practice and psychotherapy Developmental and child psychology Educational psychology Applied psychology and human engineering. Industrial and personnel psychology Psychology of religion. Psychic research and parapsychology Non-technical books. Index.

Note. A useful guide to standard and recent books designed particularly for the guidance of undergraduate and graduate students. It is used also by librarians and others in need of a well-chosen list. The number of books included in this second edition is 69 The annotations are brief.

HERRICK, C JUDSON

The evolution of human nature. Austin University of Texas Press, 1956 506 p. illus. 24 cm. $7 50 4782

Contents (abridged) Part I, The evolution of behavior Biological factors of psychobiology Factors of behavior The world in which we live. Mechanisms of living. Analytic and integrative factors of behavior Trends in evolution. Evolution of mind. Evolution of experience. Social factors in evolution. The self Part II, The evolution of brains neurological factors of psychobiology The origin and general properties of the nervous system. Psychophysics. A biological analysis of mental processes. Evolution of mind. Sensation. Perception. Learning and intelligence. The origin and evolution of the cerebral cortex. The structure of the cortex. Localization of cerebral functions. The mechanics of mentation. Epilogue The unknown God. Bibliography Index.

Note. This book is an exploration of the psychological foundations of human behavior The author Professor Emeritus of Neurology at the University of Chicago, is a distinguished neuroanatomist and the second part of the volume—which accounts for approximately half of the length—is a well-written survey, cast in the common language, of what is known about the biological mechanics of man's mind. The first part is written from a broader viewpoint. In it, the author casts a biologist's eye on human behavior in general and concludes, among other things, "the survival of civilization is dependent far more upon our ability to understand the biological requirements of successful living ... than upon any military or other power ..." The bibliography is 22 pages long.

HULL CLARK LEONARD

Hypnosis and suggestibility an experimental approach New York D Appleton-Century Company Inc 1933 416 p. illus. 23 cm (The Century psychology series R. M Elliott, editor) $6 00 4783

Contents Hypnotism in scientific perspective Elementary phenomena of hypnosis and suggestibility Experimental phenomena of direct waking suggestion. Some relationships of experimental hypnosis and suggestibility The recovery of lost memories in the hypnotic trance. Experimental aspects of post-hypnotic phenomena.

Hypnosis and the dissociation hypothesis. Hypnosis conceived as sleep. Hypnotic suggestibility and the transcendence of voluntary capacity. Hypnosis as a state of heightened suggestibility. Hypnosis regarded as habit. Hypnosis and non-prestige suggestion. Interpretations. Indexes.

Note: A discussion of the nature of hypnosis from the experimental viewpoint, intended for psychologists and students but understandable by the general reader. The persons employed as subjects in the research are normal rather than pathological, and the underlying principles are sought rather than treatments or cures. Important techniques are described in detail for research workers. Bibliographies follow each chapter.

JEFFRESS, LLOYD A. editor

Cerebral mechanisms in behavior the Hixon Symposium. New York John Wiley & Sons, Inc. 1951 311 p. illus (part col d) 23 cm. $3.00. 4784

Contents: The general and logical theory of automata, by J. von Neumann. Why the mind is in the head, by W. S. McCulloch. General discussion. The problem of serial order in behavior, by K. S. Lashley. Functional differences between the occipital and temporal lobes with special reference to the interrelations of behavior and extracerebral mechanisms, by H. Klüver. Relational determination in perception, by W. Köhler. Brain and intelligence, by W. C. Halstead. General discussion. The symposium from the viewpoint of a clinician, by H. W. Brosin. Name index. Subject index.

Note: The edited transcripts of lectures and discussions presented at a symposium held September 20-25 at the California Institute of Technology under the auspices of the Hixon Fund Committee. The symposium was planned as a step in the integration of experimental results and knowledge from several fields of science which impinge on the relations between behavior and brain. The level of discussion is advanced, and the book is addressed to such readers as graduate psychologists, neurologists, and biologists.

JOHNSON DONALD M

The psychology of thought and judgment. New York Harper & Brothers, 1955 515 p. illus. 21 cm. (Under the editorship of Gardner Murphy) $6 00 4785

Contents: Introduction. The thought processes—methods for analysis and classification. The dynamics of thought. Perception and thought. Learning and thinking. Preparation for thought and judgment. The productive process—simple responses—complex outlines and problems. Judgment—stimulus, problem—response variables. Individual differences in thought and judgment. Intellectual activities of social groups. The improvement of thinking. Index of names. Index of subjects.

Note: An important contribution to an area of psychology in which there has been less research and less synthesis than in most fields of the science. It is a critical survey of historical development and current status to which the author has added, in some of the chapters, suggestions for further research in such passages as the following: "The studies by Welch and Long ... on higher levels of abstraction suggest a way to secure an empirical identification of abstract thinking. The ability to form second-order concepts could perhaps be compared with ability to form first-order concepts." The book is directed primarily to graduate students of psychology and graduate psychologists, and it is of interest also to educators and psychiatrists. Extensive references to the literature are included.

KOFFKA, K.

Principles of gestalt psychology New York Harcourt, Brace and Company 1935 720 p. illus. 22 cm. $7.50 4786

Contents (abridged): Why psychology? Behaviour and its field—the task of psychology. The environmental field—the problem; solutions of false solutions; general formulation of the true solution—visual organization and its laws—figure and ground—the framework—the constancies—tri-dimensional space and motion. The action—the ego, the executive—adjusted behaviour, attitudes, emotions, and the will. Memory—foundation of a trace theory; theoretical section—foundation of a trace theory; experimental section and completion of the theory. Learning and other memory functions. Society and personality. Conclusion. Bibliography. Index.

Note: This book is one of the basic presentations of gestalt psychology. In it the author sought to present a theoretically completed psychology constructed on the concept of organization. The presentation has somewhat philosophical overtones. At the time of writing the author was a member of the faculty of Smith College.

LECRON, LESLIE M editor

Experimental hypnosis. A symposium of articles on research by many of the world's leading authorities. New York The Macmillan Company 1952 483 p. illus. 21 cm $6.00 4787

Contents: Introduction, by L. M. LeCron. Hypnosis in perspective, by G. W. Williams. Dynamics in hypnotic induction, by J. A. Christenson, Jr. A rapid method for the induction of hypnosis, by J. E. Whitlow. Deep hypnosis and its induction, by M. H. Erickson. Hypnotic susceptibility as a function of waking suggestibility, by W. D. Furneaux. Narcotic hypnosis, by J. S. Horsley. A study of age regression under hypnosis, by L. M. LeCron. Rorschach psychodiagnosis in hypnotic regression, by R. A. Margach. Time distortion in hypnosis, by L. F. Cooper and M. H. Erickson. The influence of hypnosis on somatic fields of function, by P. J. Reiter. The control of the heart rate by hypnotic suggestion, by S. J. Van Pelt. Hypnosis in obstetrics, by W. T. Heron and M. Abramson. Hypnodontics, by A. A. Moss. Hypnosis in dentistry, by T. O. Burgess. Extrasensory perception and hypnosis, by J. B. Rhine. Antisocial uses of hypnosis, by P. C. Young. Hypnosis and dissociated states, by G. Odencrantz. Automatic writing and hypnosis, by A. M. Muhl. Projective hypnoanalysis, by J. G. Watkins. The hypnoanalysis of phobic reactions, by J. M. Schneck. Index of names. Index of subjects.

Note: A collection of independent papers reporting on research in hypnosis itself rather than on practical applications. Most of the articles are here published for the first time, having been prepared at the invitation of the editor; he has furnished the introduction, the connecting material between chapters, and one of the articles. The editor and 14 of the contributors are from the United States of America; of those from other countries, three are English, one is Danish, one is Swedish, and one is South African. The papers deal with the experiments of their authors, and report the techniques, results, and allied research. Most of the papers are accompanied by bibliographies.

LECRON LESLIE M AND JEAN BORDEAUX

Hypnotism today Foreword by Milton H. Erickson. New York Grune & Stratton 1947 278 p. 21 cm. $4 50 4788

Contents: Part I, Hypnotism and suggestion: Hypnotism today. The background of hypnotism. Inducing hypnosis. Suggestibility. Principles of suggestion. Hypnotic phenomena. Posthypnotic suggestion. Autohypnosis and autosuggestion. Theories of hypnosis. Hypnotism and the psychic sciences. Part II, Hypnotherapy: Abnormal psychology—functional disease. Psychotherapeutic methods. Functional hypnotherapy. A system of brief hypnoanalysis. Psychosomatic hypnotherapy. Research in hypnotism. References. Index.

Note: Most of the extensive literature dealing with hypnotism was produced during the years 1880-1920 and therefore is considerably out of date today. The present volume aims to present the modern aspects of hypnotism and to place it on a scientific basis, free of the misconceptions and misrepresentations with which it is usually surrounded. Actual details of how to hypnotize are described, along with results of the more important experimental work carried out in psychological laboratories. Because the authors are both experienced consulting psychologists, they have stressed the psychotherapeutic possibilities of the subject. Although the book is phrased in popular language, it is intended as a textbook for students and workers interested in psychology and psychotherapy.

LEHMAN HARVEY C

Age and achievement. Princeton Published for the American Philosophical Society by Princeton University Press, 1953 359 p. illus. 24 cm. $7.50 4789

Contents: I, Age and achievement: In science. In medicine, surgery and related fields. In philosophy. In music. In art. In literature. In other fields. II, Quality versus quantity: Of literary output. Best books. III, The range of the creative years: Age and maximum income. Age and leadership. Early achievement and total output. Young thinkers and great achievements. Older thinkers and great achievements. Achievement by decades. Peak performance of

doctrine of formal discipline. Ebbinghaus' studies in memory and forgetting. Watson's studies of the behavior of the human infant. Cannon and experimental studies of the emotions. Experimental approaches to personality study. McDougall and social psychology. Binet and the individual intelligence test. The Army tests—Alpha, Beta, and AGCT. Galton and the measurement of individual differences. Visual and auditory perception—the work of Helmholtz and others. Cattell's studies of reaction time. Weber's and Fechner's laws and the development of psychophysics. Index.

Note The plan of organization in most of the chapters of this book is first to describe a classical experiment, then to show what has followed it. The author's interpretation of those significant experiments and his evaluations of the theory built upon them are in themselves contributions to psychology. The book is used mainly by college students of psychology. However some chapters as those on intelligence testing are useful to laymen and to persons in professions other than psychology. The second edition was published in 1941. In this edition, the scope and purpose of the book are unchanged, but considerable rewriting is evident in most of the chapters. Revisions and additions have been made in the text, and new literature has been added to the bibliographies now printed at the ends of the chapters. The chapter on "McDougall and social psychology" has been added. The order of the chapters has been rearranged, and the order of topics within the chapters has also been revised.

GESELL, ARNOLD

The embryology of behavior, the beginnings of the human mind. By Arnold Gesell, in collaboration with Catherine S Amatruda. New York Harper & Brothers, 1945 289 p illus (part col'd) 23 cm $7 50 4778

Contents The search for beginnings. Birth and age. Zygote and embryo. The genesis of behavior. The archaic motor system. The growth of fetal behavior. Breathing behavior. Muscle tonus. Electrotonic integration. The fetal-infant. The circumnatal infant. The diurnal cycle of sleep and wakeness. Species and individual. The dynamic morphology of behavior. The hierarchical continuum. A photographic delineation of behavior patterns and growth sequences. Appendix. Selected references. Index.

Note The evolution of behavior patterns in the human being is traced in this book from embryo to infant. Included is the report of the reaction of a fetus only eight and one-half weeks old to a fine hair stroked across its cheek. However most of the data presented were obtained in a study of premature infants. The primary emphasis is on the growth in organization of behavior. Reaction and behavior patterns at various embryonic fetal and infant ages are analyzed in detail and correlated with somatic development. A 46-page section contains reproductions of photographs in series which show behavior associated with various stages of fetal and infant development. The methods of the study upon which the book was based in part are concisely described in an appendix.

HARRIMAN, PHILIP LAWRENCE

The new dictionary of psychology New York Philosophical Library 1947 364 p. 24 cm $5 00 4779

Note About 2,500 terms which are well established in modern psychological literature are defined in this reference book. The definitions are concise, but a fair number are one-quarter page length, and some are longer. Thumbnail sketches of the contributions of outstanding authorities in the field of psychology are included. The work is intended for the use of student and graduate psychologists.

HARTMANN GEORGE WILFRIED

Gestalt psychology a survey of facts and principles New York The Ronald Press Company 1935 325 p illus 21 cm (Psychology series A T Poffenberger editor) $4 00 4780

Contents Part I, Historical Antecedents and development of the doctrine. Part II, Theoretical Physical basis of the Gestalt theory. Physiological foundations. Philosophical foundations. Varieties of Gestalt theory. Part III, Empirical Phenomena of visual perception. Studies in audition and the skin senses. The unity of the senses. Memory processes. Learning, data and interpretations. Thinking and reasoning. Researches on insight. Action, emotion, and will. Part IV Educational problems. Part V Critical. Criticisms of Gestalt theory by other schools of thought. Conclusion, the present status of the Gestalt school. A note on bibliographies. Biographies. Chronology of significant dates and events in development of Gestalt psychology. Glossary.

Note: A compact survey based on a liberal use of quotations, both direct and condensed. It is designed to include the gist of the most important writing, both American and foreign, on configurative psychology up to the time of the book's publication.

HARVARD UNIVERSITY

The Harvard list of books in psychology Compiled and annotated by the psychologists in Harvard University Second edition. Cambridge, Mass Harvard University Press, 1955 84 p 21 cm $1.25 4781

Contents. Reference works and basic handbooks. General textbooks and textbooks. Theories and systems of psychology. History of psychology. Psychological methods—statistics and measurement—tests and individual differences. Physiological psychology. Psychological inheritance and evolution. Constitutional psychology. Comparative animal psychology. Sensation and perception. Learning and conditioning. Thinking, imagination, and language. Motivation and psychological dynamics. Feeling and emotion. Psychological aesthetics. Personality. General social psychology. Attitudes and opinions. Cultures, customs, and institutions. Behavior disorders. Clinical practice and psychotherapy. Developmental and child psychology. Educational psychology. Applied psychology and human engineering. Industrial and personnel psychology. Psychology of religion. Psychic research and parapsychology. Non-technical books. Index.

Note. A useful guide to standard and recent books designed particularly for the guidance of undergraduate and graduate students. It is used also by librarians and others in need of a select list. The number of books included in this second edition is 607. The annotations are brief.

HERRICK, C JUDSON

The evolution of human nature. Austin. University of Texas Press 1956 506 p. illus. 24 cm $7.50 4782

Contents (abridged) Part I, The evolution of behavior. Historical factors of psychobiology. Factors of behavior. The world in which we live. Mechanisms of living. Analytic and integrative factors of behavior. Trends in evolution. Evolution of mind. Emotions of experience. Social factors in evolution. The self. Part II, The evolution of brains. Neurological factors of psychobiology. The origin and general properties of the nervous system. Psychophysics. A biological analysis of mental processes. Evolution of mind. Sensation. Perception. Learning and intelligence. The origin and evolution of the cerebral cortex. The structure of the cortex. Localization of cerebral functions. The mechanics of mentation. Epilogue. The unknown God. Bibliography. Index.

Note This book is an exploration of the psychological foundations of human behavior. The author, Professor Emeritus of Neurology at the University of Chicago, is a distinguished neuroanatomist, and the second part of the volume—which accounts for approximately half of the length—is a well-written survey, cast in the common language, of what is known about the biological mechanics of man's mind. The first part is written from a broader viewpoint. In it, the author casts a biological eye on human behavior in general and concludes, among other things, "the survival of civilization is dependent far more upon our ability to understand the biological requirements of successful living ... than upon any military or other power ..." The bibliography is 12 pages long.

HULL, CLARK LEONARD

Hypnosis and suggestibility an experimental approach New York D Appleton-Century Company Inc 1933 416 p. illus. 23 cm. (The Century psychology series R. M Elliott, editor) $6 00 4783

Contents. Hypnotism in scientific perspective. Elementary phenomena of hypnosis and suggestibility. Experimental phenomena of direct waking suggestion. Some relationships of experimental hypnosis and suggestibility. The recovery of lost memories in the hypnotic trance. Experimental aspects of post-hypnotic phenomena.

of scaling. Inferences—continuous variables. Small samples or t technique. Correlation—introduction and computation—interpretation and assumptions. Factors which affect the correlation ratio and assumptions. Multiple correlation. Other correlation methods. Frequency diagrams. Multiple correlation. Other correlation methods. Frequency comparisons—chi square. Comparison of variabilities. Analysis of variance—simple—complex—covariance method. Distribution-free methods. Remarks on error selection. Exercises. Appendix (tables) Index.

Note: A concise, well-written textbook on statistical methods. Although addressed to students preparing for careers in psychology [illegible] primarily concerned with the assumptions and limitations of the various techniques rather than with computations. The first edition was published in 1949. In this second edition, there are expanded and revised treatments of several topics. The author is Professor of Psychology, Statistics, and Education at Stanford University.

MARCUSE, F. L., editor

Areas of psychology. New York. Harper & Brothers. 1954. 532 p. 21 cm. (Under the editorship of Gardner Murphy) $5.00 4795

Contents: Vocational guidance, by A. G. Nelson. Industrial psychology—selection and placement of workers, by P. Smith. Industrial psychology—efficiency in work, by T. A. Ryan. Legal psychology—the psychology of testimony, by H. F. Wold. Counseling and personnel psychology, by R. Cronan. Social psychology, by R. B. MacLeod. Child psychology, by L. B. Murphy and M. Kahn. Educational psychology, by F. S. Freeman. Abnormal psychology, by B. Mittelmann and L. Malamud. Clinical psychology, by E. Simmons. Physiological psychology, by R. F. Rose. Comparative psychology, by H. G. Birch. Psychology and aesthetics, by R. H. Goodrich. Index.

Note: A textbook designed for use by college students who have completed introductory courses in general psychology. It contains the thirteen chapters whose titles and authors are listed above. These chapters are not reprints, but were written for the volume. Generally speaking, each one of them contains information on the basic principles, the important experimental work, and the applications of the area of psychology named in its title. Suggested readings are included in each of the chapters. Inasmuch as the chapters are essentially independent, the book is useful as a reference volume to readers outside of colleges who find themselves in need of an introductory discussion of one or more of the specialized fields of psychology.

MURPHY, GARDNER

Historical introduction to modern psychology. Revised edition. New York. Harcourt, Brace and Company. 1949. 466 p. illus. 22 cm. $6.75 4796

Contents (abridged): Part one, *The antecedents of modern psychology:* The intellectual background. The seventeenth century. The eighteenth century. The early nineteenth century. Part II, *The rise of the research spirit:* Some intellectual antecedents of experimental psychology. Social psychology in the mid-nineteenth century. The theory of evolution. Psychiatry from Mesmer and Charcot to Charcot. German physiological psychology in the age of Helmholtz. Wundt and experimental psychology. Early studies of memory. The influence of psychology, 1860-1910. The Würzburg school. Experiments on the acquisition of skill. Part III, *Contemporary psychological systems:* Behaviorism. Modern conceptions of association. Gestalt. Field theory. Sigmund Freud. The responses to Freud. Part IV, *Some representative research areas:* The measurement of intelligence. Physiological psychology. Child psychology. Social psychology. Personality. An interpretation. Bibliography. Index of names. Index of subjects.

Note: Concentrating upon the 19th and 20th centuries, the author traces the course of developments which transformed psychology from a discipline reflecting upon the nature and the activities of the mind to a science akin to other biological sciences relying upon experimental and mathematical methods. Emphasis is upon the results of research work, rather than upon the progress of psychological theory. In the new edition several new chapters have been added and every chapter dealing with the modern period (i.e., after Wundt and James) has been entirely rewritten in order to bring the picture up to date.

NATIONAL SOCIETY FOR THE STUDY OF EDUCATION

Intelligence: its nature and nurture. Prepared by the Society's Committee: George D. Stoddard, chairman, assisted by members of the Society and others. Edited by Guy Montrose Whipple. Chicago. University of Chicago Press. 1940. 2 v. illus. 23 cm. (National Society for the Study of Education. Thirty-ninth yearbook) $3.00 per vol. 4797

Contents (abridged): Part I, Comparative and critical exposition: Introduction, by G. D. Stoddard. Section I, Definition of concepts: The meaning of intelligence, by F. N. Freeman. The meaning of environment, by B. L. Wellman. Section II, Deviations in intelligence: The significance of deviation, by L. S. Hollingworth and [illegible]. L. M. Terman. Section III, The physiology of intelligence: The physiological correlates of intelligence, by L. Carmichael. Section IV, The problems of nature-nurture research—the relation between intelligence and such factors as sex, race, personality, socio-economic status, and the environment in general: Intelligence as related to socio-economic factors, by J. Loevinger. Sex differences in intelligence-test scores, by Q. McNemar and D. McNemar. Effects of human fertility trends upon the distribution of intelligence and culture, by R. B. Cattell. Ten years of research on twins—contributions to the nature-nurture problem, by H. D. Carter. Intelligence as related to race, by L. S. Hollingworth and P. Witty. Personality and adjustment as determiners and correlates of intelligence, by L. S. Hollingworth. New evidence on environmental influences on intelligence, by F. L. Goodenough. Some special problems of nature-nurture research, by F. L. Goodenough. The prediction of terminal intelligence from infant and preschool tests, by J. E. Anderson. Environment and the IQ, by G. D. Stoddard and B. L. Wellman. Section [illegible]. Comments upon the yearbook as a whole by members of the Yearbook Committee. Personal comments of the Yearbook Committee. Part II, Original studies and experiments: Introduction, by G. D. Stoddard. A longitudinal study of the effects of nursery-school training on successive intelligence-test ratings, by L. D. Anderson. Mental growth in young children, by N. Bayley. Mental and physical development patterns of identical twins in relation to organismic growth theory, by B. S. Burks. Influence of the nursery school on mental growth, by A. Frandsen and F. P. Barlow. The stability of mental-growth careers, by A. Gesell. The mental development of nursery-school children compared with that of non-nursery-school children, by F. L. Goodenough and K. M. Maurer. Age changes in the relationship between certain environmental variables and children's intelligence, by M. P. Honzik. Mental growth as related to nursery-school attendance, by H. E. Jones and A. P. Jorgensen. Influencing the rate of mental growth in retarded children through environmental stimulation, by K. G. Kephart. Subsequent growth of children with and without nursery-school experience, by W. C. Olson and B. O. Hughes. The effect of a change to a relatively superior environment upon the IQ of one hundred children, by M. L. Reymert and R. T. Hinton, Jr. The intelligence of Scottish children, by R. R. Rusk. Some Iowa studies of the mental growth of children in relation to differentials of the environment—a summary, by H. M. Skeels. The mental development of children of feebleminded mothers—a preliminary report, by M. R. Skippich. Recent changes in the IQ in certain superior schools, by R. L. Thorndike and others. Iowa studies on the effects of schooling, by B. L. Wellman. A genetic study of fifty gifted children, by P. Witty.

Note: A cross section of the thought of psychologists and educators and of the research work characteristic of the decade 1930-1940. This Yearbook is one of several by the Society pertaining to the study of intelligence.

OSGOOD, CHARLES E.

Method and theory in experimental psychology. New York. Oxford University Press. 1953. 800 p. illus. 24 cm. $10.00 4798

Contents: Part I, Sensory processes: Sensory quality. Sensory intensity. Audition. Vision. Part II, Perceptual processes: The nature of perceptual organization. Frequency dynamics in perception. Organization and dynamics in perception. Part III, Learning: Fundamental operations in learning. Theories of learning. Certain controversial issues in learning theory. Neurophysiology of learning. Serial and transfer phenomena. Retention. Part IV, Symbolic processes: Problem-solving and insight. Thinking. Language behavior. Bibliography and author index. Subject index.

Note: A systematic, critical survey of the principal facts and theories designed for the use of graduate and advanced undergraduate students of psychology and professional psychologists. It presents clearly and at some length the results of important experiments and relates them to basic physiology and to psychological theory. The first two parts on sensory processes and perceptual processes occupy 297 pages in contrast to the 479 pages of the

athlete and thinker IV Past, present, and future achievement: Attainment of leadership—then and now Man's most creative years—then and now Increasing longevity and future achievement. V General conclusions Summary and interpretation. Bibliography of references. Index.

Note. A thorough study of the problem that can be succinctly though inexactly stated by the question At what age does a genius produce his best work? For designations of best works, the author utilized various sources: lists of major contributions to chemistry lists of best books, histories of art, etc. Then he related the dates of production to the ages of the geniuses when the contributions were published or the works of art produced. He studied also the correlations between age and athletic prowess between age and the attainment of high income and between age and the attainment of leadership. The results are presented in such detail that the book is useful not only as a study of the most productive ages of man but also as a reference book on the achievements of the very young, the very old, etc. There are 61 tables, 170 figures (most of which are graphs) and a long bibliography

LEWIN, KURT

Principles of topological psychology *translated by* Fritz Heider and Grace M Heider New York McGraw Hill Book Company, Inc., 1936 231 p illus. 23 cm (McGraw Hill publications in psychology J F Dashiell, consulting editor) $5 00 4790

Contents. Part I, The task of psychology and the foundations of topological and vector psychology: The present state of psychology Formulation of law and representation of situation. General considerations about representing life space. Content and extent of the psychological life space. Causal interconnections in psychology The psychological life space as space in the sense of mathematics. Psychological space and psychological dynamics. The psychological worlds and the physical world. Mathematical representation and psychological theory Part II, Topological psychology Concepts of topology which are fundamental for psychology Concepts of topology fundamental for psychology Topology of the psychological environment. Psychological regions, locomotions, and communications. Boundaries of psychological regions. The relative position of two regions. Structural changes. The life space as finitely structured space. Topology of the person. The person as a differentiated region in the life space. Fundamental concepts and coordinated definitions for the representation of the person. Dimensions of the life space. Bibliography Glossary Indexes.

Note Planned to be of aid for the integrating tendencies in psychology by developing a group of concepts useful as a framework in all branches of psychology These concepts are both mathematically strict and fitted for the special needs of psychology They are based on a decade of experimental investigation. They are basic for the psychology of actions, emotions, motivation, for child psychology social psychology and abnormal psychology This book was not previously published in German, the translation being made from the manuscript.

LEWIS, DON

Quantitative methods in psychology Iowa City The Gordon Bookshop 1948 290 p illus. 28 cm 4791

Content Variables, constants, and functional relationships. Fitting curves to empirical data—I, Linear functions. Logarithms. Fitting curves to empirical data—II, Complex functions. Differentiation. Integration. The normal curve Distribution functions. Applications of equations. Goodness of fit. Index.

Note A graduate-level text developed in a course given by the author at the University of Iowa. It presents a selection of mathematical and statistical techniques useful in the interpretation of experimental results and illustrates their application to a variety of problems in psychology Numerous solved examples are included as part of the exposition. The book is designed for study after completion of a basic course in statistical methods.

LINDNER, ROBERT

Prescription for rebellion New York Rinehart & Co Inc. 1952 305 p. 22 cm $2 75 4792

Contents (abridged) Book I, Diagnosis: The lie that binds. Shamans and shibboleths. The eleventh commandment. Rebel's fate Adjustment causes and consequences—history from a new dimension—the antagonist. Book II, Prescription: The revolutionist's handbook. Epilogue. Notes. Additional bibliography

Note. In this work a professional clinical psychologist argues against the acceptance on the part of psychologists and psychiatrists of the idea of adjustment as a sound principle of human conduct. He states, this concept enjoins men to conform, to adopt an attitude of passivity and a philosophy of resignation. He believes that the concept should be replaced by one that will sustain man's instinct to avoid conformity He is particularly critical of some of the current methods of psychoanalysis and psychiatry Even though he purports to be addressing professional psychologists and psychiatrists, the book is written so as to appeal also to lay readers. The style is forceful and intentionally provocative.

LINDQUIST, E F

Design and analysis of experiments in psychology and education Boston Houghton Mifflin Company, 1953 393 p illus. 24 cm. $7 00 4792A

Contents Introduction Fundamental concepts and basic design. The chi-square, *t*, and *F* distributions. The simple-randomized design. Analysis of variance in double-entry tables. Treatments X levels designs. The treatments X subject design. The groups-within-treatments design. The random replications design. Factorial designs (two factors) Three-dimensional designs. Higher-dimensional designs. Latin square and graeco-latin square designs. Controlling individual differences in factorial experiments through the use of "mixed" designs. Analysis of covariance. Tests concerned with trends. Estimation of variance components in reliability studies. Index.

Note. A successful textbook in which the emphasis is on the mathematical and statistical principles of the design of experiments and analysis of their results rather than on the description of a wide range of models. The importance of the assumptions underlying tests of significance, and of effects of failure to satisfy them is given some emphasis. Most of the chapters are devoted to testing of significance however the terminal chapter introduces the reader to the estimation of population parameters.

MCCLELLAND, DAVID C, AND OTHERS

The achievement motive. By David C. McClelland John W Atkinson Russell A. Clark and Edgar L Lowell. New York Appleton Century-Crofts, Inc., 1953 384 p. illus. 22 cm (The Century psychology series, Richard M Elliott editor Kenneth Mac Corquodale assistant editor) $6 00 4793

Contents Introduction. Toward a theory of motivation. Arousing the achievement motive and obtaining imaginative stories. Analysis of imaginative stories for motivational content. Effects on fantasy of arousing achievement motivation. General applicability of the *N* achievement scoring system. The measuring instrument. Relation of *N* achievement score to behavior Origins of achievement motivation. Review Appendices Illustrative four-story records from thirty subjects. Scoring for the illustrative stories. Pictures and verbal cues used to elicit stories. Bibliography of achievement titles. References and author index.

Note Research conducted mainly at Wesleyan University in the period 1947–51 under the support of the Office of Naval Research, was the basis of this contribution to motivation theory The authors sought to measure and evaluate the effects of achievement motivation through its appearance in fantasy Motivation was experimentally aroused and its intensity controlled by the manipulation of arousal conditions. Experiments first dealt with hunger and then primarily with the achievement motive aroused by procedures creating ego-level control and experimentally induced experiences of success and failure. The experimental techniques are fully described and the results are presented in considerable detail.

MCNEMAR, QUINN

Psychological statistics. Second edition. New York John Wiley & Sons Inc. 1955 408 p. illus. 22 cm. (Wiley publications in psychology Herbert S Langfeld advisory editor) $6 00 4794

Contents Introduction. Tabular and graphic methods. Describing frequency distributions. Distribution curves. Probability and hypothe-

ment and genius. Effect of heredity and environment on the individual. Individual development. Physiological bases of behavior. Motivation. Emotions. Measuring personality. How personality [illegible]. Mental disease. Conflicts and the [illegible]. Learning. Remembering and forgetting. Perceiving. Thinking. Imagery. Imagination and dreams. Man social behavior. Psychology in everyday living. Biographical notes. Index.

Note: An introductory study of psychology for general readers and for future students who want [illegible]. The material in each chapter is arranged approximately in chronological order from the early discoveries to our own times. Viewpoints of the various schools of psychological thought are outlined and contrasted. A biographical appendix gives brief sketches of about 230 men and women whose work is dealt with in the book.

SHELDON, W. H.

The varieties of temperament: a psychology of constitutional differences. By W. H. Sheldon with the collaboration of S. S. Stevens. New York: Harper & Brothers, 1942. 520 p. 24 cm. $5.00 4803

Contents: Introduction and summary. The identification of the primary components of temperament. The scale for temperament. Constitutional differences as shown in the life history. Additional notes on the primary components of temperament. Relation of temperament to achievement and adjustment. Statistical relations among temperamental and morphological variables. Some theoretical considerations. Appendices: Basic data for 200 cases. The Wenger scale of [illegible] and [illegible]. The Chicago scale of [illegible] growth. Intercorrelations among the 60 traits. Index.

Note: A complementary volume to the author's *The varieties of human physique*, 1940. It is a study of relationships between variations in somatotypes and variations in temperament. It was based largely on original studies, and one of the features of the [illegible] is the inclusion of studies of 200 individual cases. A considerable part of the volume, however, is devoted to the author's interpretation of the data derived from measurements and observations.

SNYGG, DONALD, AND ARTHUR W. COMBS

Individual behavior: a new frame of reference for psychology. New York: Harper & Brothers, 1949. 386 p. 22 cm. $4.00. 4804

Contents: Part I. The personal approach to behavior: The challenge to psychology. *The personal frame of reference.* How behavior changes. What people strive for. The way we see ourselves. The phenomenal self in action. People under threat—the anatomy of maladjustment. Techniques of dealing with threat. Part II. The personal approach applied: *Social structure and action—the individual approach.* The goals of education. The task of the teacher. Diagnosis and research in a phenomenological system. The personal approach to therapy—selective methods—self-directive methods. Part III. The personal approach as a method of science: The place of a phenomenological approach in psychology. Appendices. Bibliography. Index.

Note: The heart of this distinctive book is a phenomenological system for the study of individual behavior, a system in which the field of observation is shifted from the experience of the observer to the experience of the behaver. The authors show that the basic human need is [illegible] the preservation and enhancement of the phenomenal self, and they define the phenomenal self in the following terms: "The phenomenal self includes all those parts of the phenomenal field which the individual experiences as part of characteristic of himself." The first part of the book is a carefully stated and fairly detailed outline of the proposed system. The second part illustrates the application of the system in various fields of psychology and the third part is a short discussion of the inadequacies of other approaches to the study of behavior. The bibliography runs to more than 300 references.

STEPHENSON, WILLIAM

The study of behavior: Q-technique and its methodology. Chicago: University of Chicago Press, 1953. 376 p. 24 cm. $7.50. 4805

Contents: Part I. Basic formulations: Prolegomena to Q. Dependency factor analysis. Differentiation of R and Q. Samples and their structure. Psychological principles. Some statistical and experimental principles. Some examples. Part II. Practical applications: Applications to type psychology. The prior analysis of questionnaires. Application to social psychology. Q-methodology and self-psychology. Q-methodology and personality. Q-technique and the projective tests. Application to clinical psychology. Review and conclusion. References. Index.

Note: "Q-technique [illegible] form of dependency analysis, is well known to scientists familiar with developments in statistics. The author of this book proposes a methodology based on it for psychology. He has said: 'We call it "Q-methodology." This is a set of statistical, philosophy-of-science, and psychological principles, which, we believe, is such as is demanded by the present scientific situation in the psychological and social sciences.' Basic formulations are described and examples are given in the first part. Specific applications are discussed and illustrated in the second part. The book is of special interest to graduate social scientists and psychologists who are interested in statistical techniques, including factor analysis.

STEVENS, STANLEY SMITH, editor

Handbook of experimental psychology. New York: John Wiley & Sons, Inc., 1951. 1436 p. illus. 23 cm. (A Wiley publication in psychology. Herbert S. Langfeld, advisory editor) $15.00 4806

Contents: Mathematics, measurement, and psychophysics, by S. S. Stevens. Physiological mechanisms: Excitation and conduction in the neuron, by F. Brink, Jr. Synaptic mechanisms, by F. Brink, Jr. Sensory mechanisms, by T. C. Ruch. Motor systems, by T. C. Ruch. Homeostasis, by E. W. Dempsey. Growth and development: Mechanisms of neural maturation, by R. W. Sperry. Ontogenetic development, by L. Carmichael. The genetics of behavior, by C. S. Hall. Growth curves, by N. W. Shock. Phylogenetic comparison, by H. W. Nissen. Motivation: Instinctive behavior: reproductive activities, by F. A. Beach. Learnable drives and rewards, by N. E. Miller. Emotion, by D. B. Lindsley. Learning and adjustment: Methods and procedures in the study of learning, by E. R. Hilgard. Animal studies of learning, by W. J. Brogden. Human learning and retention, by C. I. Hovland. Theoretical interpretations of learning, by K. W. Spence. Cognitive processes, by R. Leeper. The psychophysiology of learning, by C. T. Morgan. Speech and language, by G. A. Miller. Sensory processes: Basic correlates of the visual stimulus, by D. B. Judd. Visual perception, by C. H. Graham. The psychophysiology of vision, by S. H. Bartley. Basic correlates of the auditory stimulus, by J. C. R. Licklider. The perception of speech, by J. C. R. Licklider and G. A. Miller. The mechanical properties of the ear, by G. von Békésy and W. A. Rosenblith. Psychophysiology of hearing and deafness, by H. Davis. Taste and smell, by C. Pfaffmann. Somesthesis, by W. L. Jenkins. Vestibular functions, by G. R. Wendt. Time perception, by H. Woodrow. Human performance: Selection, by H. P. Bechtoldt. Training, by D. Wolfle. Engineering psychology and equipment design, by P. M. Fitts. Work and motor performance, by R. H. Seashore. Name index. Subject index.

Note: A technical survey of most of the field of experimental psychology written by 34 eminent United States of America psychologists. Each of the chapters depicts the contemporary state of its phase of the subject in some detail with frequent references to the literature, and some of these appraise the immediate present and near future of the subject at hand. The work is generously illustrated with drawings, charts, and diagrams. Each chapter has its own bibliography. The volume is an important reference book for graduate students and research workers in psychology.

TERMAN, LEWIS M., AND OTHERS

Genetic studies of genius. Volume I, Mental and physical traits of a thousand gifted children. Second edition. By Lewis M. Terman assisted by Bird T. Baldwin and others. Stanford: Stanford University Press, 1926. 648 p. illus. 23 cm. (Genetic studies of genius edited by Lewis M. Terman. Vol. I) $7.50 set of 4 vols., $25.00. 4807

Contents: History and description of the investigation. Methods and results of the search for subjects. Composition of the gifted group. Racial and social origin. Intellectually superior relatives. Vital statistics. Anthropometric measurements, by B. T. Baldwin. Health and physical history. Medical examinations, by A. H. Moore and E. Bronson. School progress and educational history. Tests of school accomplishment and general information. Specialization of the abilities of gifted children, by J. C. De Voss. Scholastic, occupational, and other interests. Play interests, knowledge, and

parts on learning and symbolic processes. There are 1 290 references in the "bibliography and author index.

QUASTLER, HENRY, editor

Information theory in psychology, problems and methods Proceedings of a conference on the estimation of information flow, Monticello, Illinois, July 5–9, 1954, and related papers Glencoe, Ill The Free Press, 1955 436 p illus 22 cm. $6 00 4799

Contents. Section I, Concluding review Section II, Information measures Foundations On the non-rational application of information measures in psychology by L. J Cronbach. A method for technological predictions, by D G. Elson. Isomorphism in statistical analysis, by W J McGill. Comments on McGill's paper by K. A. Brownlee. Tables for computing informational measures, by E. T Klemmer Standardized nomenclature—an attempt, by W J McGill and H. Quastler. Sampling distributions of information functions Note on the bias of information estimates, by G. A. Miller The moments of sample information when the alternatives are equally likely by M. S. Rogers and B F Green. The use of ILLIAC in determining distributions for information functionals, by L. G. Augenstine. Structured channels The estimation of transmitted information when conditional probabilities are interdependent, by F Attneave. Approximate estimation of information measures, by H. Quastler Section III, Information theory in psychology Basic considerations. Information theory terms and their psychological correlates, by H. Quastler Units The fine structure of psychological time, by J M. Stroud. Evidence of periodicities in human task performance, by L. G. Augenstine. Pragmatic communication, by E. L. Fritz and G W Grier jr Categories and classifications. A note on the concept of "Channel capacity" in psychology by H. W Hake. Probabilities and redundancy The perception of frequency of occurrence and the development of expectancy" in human experimental subjects, by H. W Hake. The effects of sequential dependencies on instrument reading performance, by V L. Senders and J Cohen. Verbal learning and memory variables related to amount of information, by M. Adelson and others. Channels and channel capacity Factors which influence channel capacity by A. Leonard. Stimulus-response compatibility information theory and perceptual-motor performance, by R. L. Deininger and P M. Fitts. Information measurement and reaction time, by P D Bricker Man's capacity to use information from complex displays, by J W Senders. Some observations on a delayed-feedback self-tracking task, by M. Adelson. The effect of number of subjects on the estimate of transmitted information, by V L. Senders. Fidelity and reliability by C. E. Osgood. Section IV The utilization of information The theory of signal detectability by T G. Birdsall. On the design of psychophysical experiments, by W P Tanner jr A basic experiment in detection, by T H. Schafer Appendixes. Name index. Subject index.

Note This volume, which contains the papers whose authors and titles are given above, is kind of landmark in psychology Held near the beginning of the use of information theory in psychology the conference (and the papers) was concerned primarily with the best ways of using information theory in psychology

RAPAPORT, DAVID

Organization and pathology of thought selected sources Translation and commentary by David Rapaport. New York Columbia University Press 1951 786 p 24 cm. $10 00 4800

Contents Part I, Introduction. Part II, Directed thinking: Determining tendencies awareness, by N Ach. On thought connections, by K. Buehler Recognition and "me-ness, by E. Claparède. Comments concerning psychological forces and energies, and the structure of the psyche, by K. Lewin. Intention, will and need, by K. Lewin. Principal factors determining intellectual evolution from childhood to adult life, by J. Piaget. The biological problem of intelligence, by J. Piaget. Part III, Symbolism Report on method of eliciting and observing certain symbolic hallucination-phenomena, by H. Silberer On symbol-formation, by H. Silberer Experimental dreams, by K. Schroetter. Experiments on symbolization in dreams, by G. Roffenstein. Concerning experimentally produced dreams, by M. Nachmansohn. On paraphrases in the Korsakow psychosis, by S. Betlheim and H. Hartmann. Part IV Motivation of thinking: The polyphony of thought, by W Stekel. Formulations regarding the two principles in mental functioning, by S. Freud. A note upon the "mystic writing-pad," by S. Freud. Negation by S. Freud. On the psychology of boredom, by O. Fenichel. Ego psychology and the problem of adaptation, by H. Hartmann. Part V Fantasy-thinking: Autistic thinking, by E. Bleuler Autistic-undisciplined thinking, by E. Bleuler. The psychology of daydreams, by J Varendonck. On preconscious mental processes, by E. Kris. Part VI, Pathology of thinking. On the development of thoughts, by P Schilder Studies concerning the psychology and symptomatology of general paresis, by P Schilder. The basic symptoms of schizophrenia, by E. Bleuler. On the structure of the amnesic syndrome, by H. Buerger-Prinz and M. Kaila. Part VII, Conclusion Toward a theory of thinking, by D. Rapaport. Bibliography Name index. Subject index.

Note. A well-chosen collection of papers on cognitive processes. Papers originally written in languages other than English have been translated into English, in most instances by the volume editor The editor also contributed the introduction, extensive commentaries on each paper and the final chapter In the last he co-ordinates some of the concepts and patterns that appear in the preceding papers and makes some suggestions toward their eventual organization into a psychoanalytically oriented theory of thinking.

ROBACK, A. A , editor

Present-day psychology an original survey of departments branches, methods, and phases, including clinical and dynamic psychology Edited by A. A Roback. With the collaboration of forty experts in the various fields. New York Philosophical Library, 1955 995 p 21 cm. $12 00 4801

Contents Part I, Topical departments Dedication. Introduction. Recent findings in general neurology by J G. Keegan. Issues and results in sensory psychology by P Ratoosh. Current theoretical approaches to perception, by P Bakan. The cognitive processes by T P Karwoski. Recent views on attention, by W E. Galt. Trends in the study of memory by W E. Galt. The status of emotion in contemporary psychology by M. Arnold. Personality study at crossroads, by A. A. Roback. The character aspects in recent psychology and psychiatry by A. A. Roback. Child psychology by J E. Anderson. Adolescence, by K. C. Garrison. Educational psychology by G C. Hanson. Psychometry by J. P Guilford. Animal and comparative psychology by S. Ross and W L Smith. Abnormal psychology by P L. Harriman. Social psychology by E. L. Oaler Applied psychology by C. W Hill. Military psychology by E. W Hill. Introduction to experimental parapsychology by J. B. Rhine. Contemporary histories of psychology by R. W Erickson. Part III, Dynamic and clinical psychology Some recent experimental work in psychodiagnostics, by W. Wolff. Projective techniques in contemporary psychology by L. Bellak. Milestones in psychoanalysis, by L. J Saul and A. S. Watson. Elementary psychosomatics, by J W D Hartman. Clinical psychology by W G. Ellisberg. Recent developments in psychotherapy by E. A. Gutheil. Psychodrama and sociatry by J L. Moreno. The present status of knowledge of abnormal psychology of the child, by E. Harms. Individual psychology by R. Dreikurs. Interpersonalism and sociodynamics, by J C. Moloney Present-day psychology of speech, by E. Froeschels. Hypnotherapy by M. V Kline. Part IV Methods. Trends in statistics and probability in psychology by H. Solomon. International psychology by C. Leuba. Part Psychological borderlands and humanistics The psychology of literature, by A. A. Roback. Glossodynamics and the present status of psycholinguistics, by A. A. Roback. Factorial studies of aesthetic judgments, by R. W Pickford. Psychology of art, by H. G. Schrickel. Recent trends in the psychology of values, by R. F Creegan. The psychology of religion by V Ferm. Index.

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SARGENT, STEPHEN STANSFELD

The basic teachings of the great psychologists. New York Barnes & Noble Inc. 1944 346 p illus. 21 cm $1.35 4802

Contents (abridged): The science of psychology Intelligence and intelligence testing. Measuring special abilities. Feeble-minded

ment and genius. Effect of heredity and environment on the individual. Individual development. Physiological bases of behavior. Motivation. Emotions. Measuring personality. How personality develops. Mental Cases. Conflicts and the unconscious. Learning. Remembering and forgetting. Perceiving. Thinking. Imagery, imagination and dreams. Man ... social behavior. Psychology in everyday living. Biographical notes. Index.

Note. An introductory study of psychology for general readers and for former students who want ... refresher. The material in each chapter is arranged approximately in chronological order, from the early discoveries to our own times. Viewpoints of the various schools of psychological thought are outlined and contrasted. A biographical appendix gives brief sketches of about 250 men and women whose work is dealt with in the book.

SHELDON W H.

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STEVENS, STANLEY SMITH editor

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RAPAPORT, DAVID

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ROBACK, A A., editor

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Contents (abridged) The science of psychology Intelligence and intelligence testing. Measuring special abilities. Feeble-minded-

Note: This volume contains a selection of papers, together with complete bibliography of the publications, of one of America's outstanding psychologists whose best known book is *Purposive behavior in animals and men*, New York, 1932, and Berkeley 1951. It is a commemorative volume sponsored by colleagues and former students of Professor Tolman. However, the papers printed in it were selected by Tolman himself as representative of significant steps in the development of his psychological theory.

TOWNSEND, JOHN C.

Introduction to experimental method for psychology and the social sciences. New York McGraw Hill Book Company Inc., 1953. 220 p. illus. 23 cm. (McGraw Hill series in psychology Clifford T Morgan consulting editor) $4 75 4814

Contents: Part I, Theory of experimentation: Psychology and science. Causal sequences and the meaning of explanation. Armchair experimentation. Locating and simplifying problems. Part II, Design and conduct of experiments: Formation of hypotheses. Independent and dependent variables. Control of the experiment. Procedures for experimentation. Methods of inference. Apparatus. Conducting the experiment. Part III, Interpretation and conclusions. Central tendency and variability. Reliability of measures. Computing significance of differences. Testing for the significance of relationships. The construction of graphs. Part IV, Application of the experimental method: Report of two well-written experiments. Appendix (tables). Index.

Note: A short, well-written book intended for the instruction and guidance of undergraduate college students. It is potentially useful also to persons outside of colleges who find themselves in need of basic understanding of the general and statistical principles of scientific experimentation.

TYLER, LEONA E.

The psychology of human differences. Second edition. New York Appleton-Century-Crofts, Inc., 1956 562 p. illus. 24 cm. (The Century psychology series Richard M. Elliott, editor) $6.00. 4815

Contents: Part I, The field of differential psychology. Historical introduction. General principles. Wresting meaning from measurements. Part II, Varieties of individual differences. In intelligence. In school achievement. In vocational aptitudes. In personality. In interests and attitudes. In perception. Part III, Varieties of group differences: Sex differences. Race and nationality differences. Class differences. Age differences. The mentally deficient. The unusually gifted. Part IV, Factors producing differences. The relationship of mental to physical characteristics. The influence of the environment on individual psychological traits. The hereditary basis of individual differences. Toward a science of human differences—achievements and challenges. Bibliography. Index.

Note: An introduction to the psychology of variability among human beings and among various groups selected according to sex, age, etc. It is addressed primarily to advanced college students, including graduate students, who are majoring in psychology. It is useful also to graduate social and personnel workers, counselors, and even to lay readers with an interest in and some previous introduction to psychology. It integrates and interprets a very wide range of research and cites the source publications in a 37-page bibliography. The first edition was published in 1947. In this second edition, the level of the book is the same as in the first edition, but there has been much reorganization and rewriting. Among other changes the emphasis has been shifted to quantitative studies and measurements.

VINACKE, WILLIAM EDGAR

The psychology of thinking. New York McGraw Hill Book Company Inc., 1952 392 p. 24 cm. (McGraw Hill publications in psychology Clifford T Morgan, consulting editor) $6.50. 4816

Contents: Introduction. Historical background. Consciousness and the field of attention. Ideas, imagery and imageless thought. The mechanisms of thinking. Logic in relation to the psychology of thinking. Concept formation. The transfer-orientation sequence. Problem solving. Imagination. Autistic thinking. Creative thinking. The internalization of experience. General aspects of personalized thinking. Attitudes. Public aspects of personalized thinking. Conclusions. Name index. Subject index.

Note: A survey in which knowledge from various areas of psychology that bears on the thinking process in human beings has been assembled and organized. It is addressed primarily to intermediate-level college students, hence, familiarity with accepted psychological terminology and some acquaintance with the methods of experimental psychology have been assumed. The book was based on an extensive literature survey and statements in the text are keyed to literature citations in the bibliographies appended to each chapter. The author is a faculty member of the University of Hawaii.

WOODWORTH, ROBERT SESSIONS

Contemporary schools of psychology. Revised edition. New York The Ronald Press Company 1948 279 p. illus. 21 cm. $4.25 4817

Contents: Our schools and their background. Functional and structural psychology. Associationism old and new. Behaviorism. Gestalt psychology. Psychoanalysis and related schools. Hormic and holistic psychologies. The middle of the road. Bibliography. Author index. Subject index.

Note: Outlines of the theories of the major schools of psychology and brief biographical sketches of the psychologists who contributed to them are provided in this book. It was first published in 1931. The author points out that the schools of thought discussed in the first edition still flourish today, and furthermore, no new ones of major significance have developed in the interval. However, the teachings of some of the schools have undergone considerable modification, and a number of important new studies have appeared. These form the subjects of the considerable amount of material that has been added in this extensively revised edition. The revision has also entailed the removal of much obsolete material.

WOODWORTH, ROBERT SESSIONS, AND HAROLD SCHLOSBERG

Experimental psychology. Revised edition. New York Henry Holt and Company 1954 948 p. illus. 24 cm. $8.95 4818

Contents: Introduction. Reaction time. Association. Attention. Emotion—expressive movements—energetics—other bodily changes. Psychophysics—the determination of thresholds—scaling methods. The cutaneous senses. The chemical senses. Audition. Vision. The perception of form. Perception of color. Visual depth perception. Eye movements in relation to perception. Learning—introductory survey. Conditioning. Discrimination learning. Maze learning. Motivation in learning and performance. Memory. Transfer and interference. Economy in learning and performance. Problem solving—thinking. Bibliographical index of authors. Subject index.

Note: A standard work, the first edition of which was published in 1938. It presents under the chapter titles which are listed above a critical synthesis of the pertinent research studies with references to the source publications. There is about 20 per cent more text in this revised edition, and the bibliography contains about 2,480 titles in comparison to 1,710 of the first edition. Since some old material was deleted in order to make room for new without unduly increasing the length of the book, larger percentages of both text and bibliography were added than these figures indicate.

GENERAL TEXTBOOKS

ANASTASI, ANNE, AND JOHN P. FOLEY, JR.

Differential psychology: individual and group differences in behavior. Revised edition. New York The Macmillan Company 1949 894 p. illus. 22 cm. $6.75 4819

Contents: Part I, Historical and methodological orientation: Historical introduction. Basic concepts of psychological testing. Nature and extent of individual differences. Heredity and environment. Part II, Analysis of individual differences: Biological factors in simple behavior development. Psychological factors in simple behavior development. The effects of practice. Schooling and intelligence. Age differences. Family resemblance. Twins and foster children. Bodily conditions and behavior. The quest for constitutional types. Variability within the individual. Trait organization. Part III, Major group differences: The subnormal. Genius. Sex differences—basic problems

practice. Reading interests. Tests of intellectual, social, and activity interests, by J H Wyman. Tests of character and personality traits. Trait ratings. Summary of data on 309 gifted high school pupils. Two years after. Conclusions and problems. Index.

—— Volume II, The early mental traits of three hundred geniuses. By Catherine Morris Cox, assisted by Lela O Gillan and others. Stanford Stanford University Press, 1926 842 p illus. 23 cm (Genetic studies of genius, edited by Lewis M Terman. Vol. II) $7 50 4808

Contents (abridged) Part I, Methods and results. Introduction. Earlier studies and a new method. Subjects and data. The IQ estimate. Treatment of the IQ. Discussion and analysis of the IQ ratings. Character ratings. Analysis of character ratings. Conclusions. Part II, Case studies. Appendixes. A case study in full. Excerpts from the early writings of young geniuses. Index of geniuses. General index.

—— Volume III, The promise of youth, follow up studies of a thousand gifted children, by Barbara Stoddard Burks, Dortha Williams Jensen, Lewis M Terman assisted by Alice M Leahy and others Stanford Stanford University Press, 1930 522 p. 22 cm. (Genetic studies of genius edited by Lewis M Terman Vol. III) $7 50 4809

Contents (abridged) Part I, Methods and results: Purpose, methods, and personnel. Follow-up procedures. Educational progress. Tests of scholastic achievement. Scholastic and other interests. Vocational plans and vocational achievement. Social and personality traits. Health history and vital statistics. Family statistics and sibling tests. Part II, Case studies. School acceleration and social adjustment. Deterioration of IQ or achievement. The conquest of obstacles. Some twins and other siblings. Behavior and personality problems. Youthful zealots. The promise of babyhood and the fulfillment of youth. Part III, A study of literary juvenilia. Derivation of a tentative scale for rating literary juvenilia. Results or ratings, with illustrations. Case notes on gifted juvenile writers. The prediction of literary achievement. Part IV Summary. Retrospect, prospect, and summary. Index.

—— Volume IV, The gifted child grows up twenty five years' follow up of a superior group, by Lewis M Terman, and M H Oden, in association with N Bayley and others Stanford Stanford University Press, 1947 448 p illus 23 cm. (Genetic studies of genius edited by Lewis M Terman Vol. IV) $7 50 4810

Contents (abridged) Composition and social origin of the gifted group. Characteristic traits of the gifted child—physique, health, and educational achievement—interests and preoccupations—character tests and trait ratings. Six years later—the promise of youth. Later follow-up—1936, 1940 and 1945. General health and physique. Mental health, nervous disorders, and general adjustment. Intellectual status of the gifted subjects as adults, by Q McNemar. Educational histories. Avocational and other interests. Political and social attitudes. Marriage, divorce, marital selection, and offspring. Marital adjustment. Subjects of IQ 170 or above. Subjects of Jewish descent. Factors in the achievement of gifted men. War records. Appraisal of achievement. References cited. Appendix. Index.

Note These volumes constitute the full report of a famous study of a group of children who were selected for the experiment because of their superior intelligence. In the first volume, the techniques of selection are explained and data on such characteristics of the selected group as racial origins, occupations of parents, health, physical measurements, achievements in school and interests outside of school are tabulated and analyzed. This volume contains also the results of a study of the progress of the children two years after the group was selected. The second volume, although part of the same study is a survey and analysis of the mental traits manifested in early childhood and youth of 300 persons whom the world recognizes as geniuses—such persons as Benjamin Franklin, Denis Diderot and Johann Wolfgang Goethe. The third volume is a further study after six years of the group studied in the first volume. The fourth volume is a study of the same group after 25 years. It presents the early adult achievements of 97 per cent of the original group and effectively lays to rest the timeworn notion that child prodigies are usually adult failures. The series presents in detail the results of the most thorough study of the kind yet made and is of interest not only to psychologists but to educators and sociologists as well.

THORNDIKE, EDWARD LEE

Selected writings from a connectionist's psychology New York Appleton-Century Crofts, Inc., 1949 370 p illus. 22 cm. (The Century psychology series, Richard M Elliott, editor) $3 50 4811

Contents. The law of effect. The spread or scatter phenomenon. The influence of punishments. The influence of the repetition of a connection. The influence of mental systems. The influence of the impressiveness of the first member of a related pair. Analytic and selective processes. The psychology of thinking in the case of reading. Ideo-motor action. The influence of primacy. Mental abilities. The constitution of arithmetical abilities. Heredity and environment. Mental fatigue. Valuations of certain pains, deprivations, and frustrations. Valuations of achievements, acts, and persons. Personality. The origin of language. The psychology of semantics. The psychology of labor. Science and values. Darwin's contribution to psychology. Index.

Note: A selection made by the author himself, of his writings published over a considerable span of years. On his criteria for selection he has stated: "I have, in fact, had in mind especially the needs of teachers who wish their students to know something of connectionist psychology at first hand, but find *H man learning* and *Man and his works* far too superficial, and my books of recent date far too long and too burdened with evidential matter." The book includes a number of papers in which were reported important advances in the psychology of learning, together with miscellaneous essays on language, science, etc.

THURSTONE, LOUIS LEON

Multiple-factor analysis, a development and expansion of *The vectors of mind* Chicago The University of Chicago Press, 1947 535 p. illus. 23 cm. $7.50 4812

Contents. Mathematical introduction. The factor problem. Fundamental equations. Geometrical models. A factor problem in two dimensions. The grouping method of factoring. Factors as explanatory concepts. The spherical model. The centroid method of factoring. Configurations and factor patterns. Rotation of axes. The method of extended vectors. The special case of unit rank. The unknown communalities. The simple-structure concept. Oblique structure. Factorial invariance. Alternative methods of rotation. Second-order factors. The effects of selection. The principal axes. The appraisal of individual abilities. Index.

Note. The concepts and techniques of multiple-factor analysis which were explained and demonstrated in the author's *The vectors of mind*, Chicago, 1935, are the subject of this successor to the 1935 work. A much fuller exposition is now presented, some of the criticisms made of the original work are answered, new material is presented on many topics that were not fully developed before, and new simpler factorial methods are explained. The book represents 10 years, additional work and is approximately twice as long.

TOLMAN, EDWARD CHACE

Collected papers in psychology Berkeley University of California Press, 1951 269 p. illus. 25 cm $4 50 4813

Contents. A new formula for behaviorism. Can instincts be given up in psychology? A behavioristic account of the emotions. Behaviorism and purpose. Purpose and cognition. A behavioristic theory of ideas. A behaviorist's definition of consciousness. Sign Gestalt or conditioned reflex? Gestalt and sign Gestalt. Psychology versus immediate experience. Operational behaviorism and current trends in psychology. The acquisition of string pulling by rats. Determiners of behavior at a choice point. Physiology, psychology and sociology. Prediction of vicarious trial and error by means of the schematic sowbug. Psychological man. A drive-conversion diagram. A stimulus-expectancy need-cathexis psychology. Cognitive maps in rats and men. Bibliography

Note: A textbook designed for introductory courses in colleges. In psychology viewed as the study of the growing and changing nature of human beings throughout the life span. This edition has been expanded and revised to cover pertinent advances in psychology between 1944 and 1948. The number of pages in the volume has been increased by more than one hundred.

GUILFORD JOY PAUL editor

Fields of psychology basic and applied. Second edition. New York D Van Nostrand Company Inc., 1950 779 p. illus. 24 cm. (The Van Nostrand series in psychology J P Guilford, editor) $6.50. 4825

Contents (abridged): Animal psychology—its point and purposes—methods and results, by C. J. Warden. Child psychology by H. B. English. Educational psychology by H. B. English. The concepts and methods of social psychology by D. Katz. The psychology of the crowd, by D. Katz. Abnormal psychology: the significance and forms of abnormal behavior—the salient abnormalities—the major [illegible], by L. F. Shaffer. The nature of individual differences, by A. Anastasi. Major group differences, by A. Anastasi. Clinical psychology by R. I. Watson. Individual mental efficiency by D. H. Fryer. Vocational psychology by M. S. Viteles. Professional psychology by D. H. Fryer. Physiological psychology by G. L. Freeman. Aesthetics, by K. Harrower. Points of view by M. Heidbreder. [illegible] Index of subject matter.

Note: A book planned to give a broad view of the fields or subareas of contemporary psychology. Under each heading, the field is defined, its subject matter outlined, some of the basic knowledge pertinent to it is discussed, and a selected list of references is added. The book is designed primarily for college students who completed an introductory course and need additional information to round out their knowledge of psychology or to enable them to select a field in which to specialize. In this edition several [illegible] are new and several others have been revised.

[GUIL]FORD JOY PAUL

[G]eneral psychology Second edition. New [Yor]k D Van Nostrand Company Inc., [illegible] 587 p. illus. 24 cm. (The Van Nostrand [serie]s in psychology J P Guilford, general [edito]r) $5.95 4826

[Conte]nts: What psychologists do. Psychology and its methods. [illegible] develops. An organism has needs. Complex motives. Conflicts of motives. Emotional responses. Vision, hearing, taste, [illegible]. [illegible] space, and movement. The [illegible]. Observing. Conditioned responses. [illegible] of learning. Memorizing. Remembering. Thinking. Reasoning. Human abilities. Human personality. Index.

A standard introductory textbook for use in college courses. [illegible] and fairly inclusive picture of the nature and [illegible] contemporary psychology. It is especially suited to the students who take a course in psychology for its cultural [value. T]he first edition was published in 1939. For this edition, [the] work was extensively reorganized and rewritten. The [illegible]. Several of the chapters that appeared in [the first e]dition have been dropped entirely or their content has [been incor]porated in other chapters. Some recent literature has been [added to] the bibliographies, but the references are still predominantly [to lit]erature published before 1940.

[HELSON], HARRY *editor*

[Th]eoretical foundations of psychology [New Y]ork D Van Nostrand Company Inc. [illegible] 787 p. illus. 24 cm. (Textbooks on [psychol]ogy J P Guilford, general editor) 4827

Methodological considerations, by M. O. Frenkel. [illegible] functions, by J. M. Oppenheimer. Some [illegible] of behavior, by E. Gellhorn. Development and [illegible] N. Bayley. Motivation, by P. W. Irwin. Feeling and [illegible] J. G. Beebe-Center. Fatigue and efficiency by S. H. [Bartley illegible], by H. Helson. Learning, by E. B. Newman. [illegible] H. F. Harlow. Measurement in psychology by J. P. [illegible] A. L. Comrey. Intelligence, by J. Loevinger. Personality [illegible] MacKinnon and A. H. Maslow. Psychological theory

and social psychology by D. Krech. Abnormal psychology by D. B. Klein.

Note. A textbook for advanced undergraduate and graduate college students. It is organized in the form of a symposium on the fundamental ideas, concepts, theories, and problems of modern psychology. Each chapter is a detailed presentation, containing discussion of facts, techniques, methods, and experimental data, as well as references to history and schools of psychology and to the work of individual psychologists. Bibliographies appear at the ends of the chapters.

HILGARD, ERNEST R.

Introduction to psychology New York Harcourt, Brace and Company 1953 659 p. illus. 24 cm. $7.50 4828

Contents (abridged): Introduction: Problems of psychology. Growth and development: Infancy and childhood. Adolescence and adulthood. Principles of growth and development. *Motivation, emotion, and adjustment:* Emotion and motivation. Social motives. Conflict and frustration. *Learning, perception, and thinking:* The management of learning. Remembering and forgetting. Perception. Thinking. *Individuality:* Individual differences and their testing. Testing intelligence. Group differences in tested intelligence. Personality and the self. Psychology applied to personal and social problems: Mental health and readjustment techniques. Vocational adjustment. Psychology in industry. Public opinion and propaganda. Problems of social groups. Psychology as a science and as a profession. Glossary. References and index to authors of works cited. Index.

Note: An introductory textbook which presents a broad and basic view of psychology. It is directed to college students who are taking their first course in the subject. Hence, in addition to elementary expositions of the basic principles, it contains many discussions of applications. The short chapter on psychology as a profession provides a view of the scope of contemporary professional psychology. The author is Professor of Psychology on the faculty of Stanford University. A second edition was published in 1957 653 p., $8.75.

HURLOCK ELIZABETH B

Developmental psychology New York McGraw Hill Book Company Inc., 1953 556 p. illus. 23 cm. (McGraw Hill series in psychology Clifford T Morgan, consulting editor) $6.50. 4829

Contents: Growth and decline. How life begins. Infancy. Babyhood (two weeks to two years). Early childhood (two to six years). Late childhood (six to twelve years). Puberty. *Early adolescence* (thirteen to sixteen years). Late adolescence (seventeen to twenty-one years). The "mature" adult. Adulthood (twenty-one to sixty years). Old age (sixty years to death). Bibliography. List of visual aids. Index.

Note: Based on the literature, this college textbook presents a broad survey of the fundamental studies and of work published in the years preceding the writing of the book. In short, the emphasis is on the classic literature and on studies published 1940–1952. The entire span of human life is covered with 304 pages being given to infancy, childhood and adolescence and 219 pages to adulthood and old age. Psychological aspects of development are definitely emphasized, but some information is included on physical aspects, especially in the chapters on infancy and childhood.

JOHNSON DONALD MCEWEN

Essentials of psychology an introductory textbook. New York McGraw Hill Book Company Inc., 1948. 491 p. illus. 24 cm. (McGraw Hill publications in psychology J F Dashiell consulting editor) $5.50 4830

Contents: Introduction. The history of motives and emotions. Motivation and emotion in social life. Sensory functions. Attention. Perception. Learning. Thought and judgment. The individual and society. Abilities and tests. Personality—the climax of the story. Abnormal personalities. References. Glossary. Audio-visual aids. Index.

Note: Selected contributions from experimental psychology, clinical psychology, psychoanalysis, and factor analysis have been synthesized in this book, so as to give the reader a general view of psychological principles, methods, and applications. The work is

—major results. Racial comparisons—problems of grouping—problems of measurement. Racial versus cultural differences. Socio-economic differences. The individual as member of multiple groups. Index.

Note A textbook in which differential psychology is presented as one approach to the understanding of behavior and in which the experimental knowledge upon which differential psychology is based is organized and summarized. The book is designed primarily for upperclass undergraduate college students who are majoring in psychology. Long lists of literature references are included. In addition to their usefulness in connection with the study of the book, these have some utility as guides to the knowledge and the literature of such subjects as psychological differences between the sexes. In this edition the book has been extensively revised and much enlarged.

ANDERSON, JOHN E

The psychology of development and personal adjustment. New York Henry Holt and Company 1951 720 p illus. 22 cm $5 50 4820

Contents (abridged) Why study human adjustment? Section I, Equipment for living. The body and the nervous system. Life space and the development of the infant. Section II, Learning skills. How skills are acquired. The development of language and symbolic skill. Problem solving and thinking. Section III Motivation emotions, and attitudes. Section IV Social behavior Section V Adjustment. Personality underlies adjustment. Stress, maturity and adjustment. Inadequate adjustment Section VI, Orientation to adult life. Adjustment in college. Maturity and old age. Adjustment to vocation. Section II Adjustment to family life. Courtship and betrothal. the home. Adjustment in marriage. References. Index.

Note This book is an example of texts in which findings in various fields of psychology are drawn on and reinterpreted for the benefit of freshmen and sophomore college students who are not primarily interested in psychology. In other words, it is a cultural type of text designed to give the general student some idea of the scope of psychology and its problems, fuller idea of its potential applications to himself and his life.

ANDREWS, T G, editor

Methods of psychology New York John Wiley and Sons, Inc., 1948 716 p illus. 23 cm $6 75 4821

Contents. An introduction to psychological methodology by T. G. Andrews. Conditioning and motor learning, by W N Kellogg. Studying memory and transfer by C. E. Buxton. Studying human thinking, by E. Heidbreder Psychophysical methods, by L. L. Thurstone. Studying perceptual phenomena, by J J Gibson. Studying vision, by S. H. Bartley Studying hearing, by E. G. Wever Studying the skin senses, by W L. Jenkins. Studying the senses of taste and smell, by C. Pfaffmann. Studying proprioception, by W D Neff. Studying animal behavior by H. F Harlow Motivation feeling, and emotion by P T Young. Methods of measuring and recording action, by R. C. Davis. Studying neuropsychology and bodily functions, by D B Lindsley Studying motor functions and efficiency by A. G Bills. Investigating and appraising intelligence and other aptitudes, by H. S. Conrad. Investigating and appraising personality by S. Rosenzweig. Methods and techniques in clinical psychology by the late A. W Brown. Objective studies of disordered persons, by J Zubin. Methods of studying the behavior and development of young children, by H. L. Koch. Studying social behavior by T M. Newcomb. Index of names. Index of subjects.

Note A manual of laboratory techniques and of experimental and testing methods. It is intended chiefly for use in courses offered to students who are preparing to become professional workers in psychology Each paper is accompanied by a selected list of the related literature.

COLE, LAWRENCE E

Human behavior psychology as a bio-social science. Yonkers N Y World Book Company 1953 884 p illus. 23 cm $6.25 4822

Content (abridged) Part I, The nature of the psychological problem Organism and environment. The individual and his social matrix. Part II, Growth and development The inheritance of capacities and susceptibilities. The maturing of the individual. Chemical aspects of the growth process. Part III, Motivation and the affective processes The style of life—a bio-social view of needs and purposes. The emotions. Part IV The modification of behavior Part Attending and perceiving: The perceiver and his needs. The influence of preparatory set. Localizing objects in a field. Organizing, recalling—a configurational approach. Part VI, The reasoning, thinking, and problem-solving. Reflections on the art of everyday thinking. Part IX, The structure and dynamics of the self-system The hypnotic state and the divided self. Freud and the psychoanalytic movement. Psychoanalytic theory of development. The superego—social and psychobiological considerations. The theory of repression and the divided self. The normal personality Index of names. Index of subject matter

Note Psychology is presented as a science in this introduction. The author who is a member of the faculty of Oberlin College, takes an eclectic view of the field and draws from biology, sociology medicine, anthropology and philosophy in addition to the area of knowledge commonly recognized as psychology. The book is designed for the instruction of students who have more than passing interest in the field.

CRAFTS, LELAND WHITNEY, AND OTHERS

Recent experiments in psychology By Leland W Crafts, Theodore C. Schneirla, Elsa E Robinson, and Ralph W Gilbert. Second edition. New York McGraw Hill Book Company, Inc. 1950 503 p. illus. 24 cm. (McGraw Hill publications in psychology; Clifford T Morgan, consulting editor) $4.75 4823

Contents (abridged) A study of attitudes toward religion among college students. The origin of the cat's responses to rats and mice. Migration and the "instinct" problem. Cooperation and competition. The physiology of emotional behavior. Facial expression in emotion. The duplicity theory of vision. The perception of obstacles by the blind. The function of the brain in relation to intelligence. Organic nervous diseases in relation to behavior The electrophysiology of the nervous system. The effect of distraction upon the performance of certain tasks. A comparison of the intelligence of "racial" and national groups in Europe. The conditioning of ... The importance of organization for retention and transfer. Methods of breaking undesirable habits. Conflict and experimental neurosis in cats. Problems in the perception of the vertical in space. Perception and memory as influenced by attitude and experience. Implicit muscular activities during thinking. Projection and the thematic apperception test. The opinion-polling technique as used in a study of the effects of bombing on Japanese morale. Index.

Note A college textbook that serves as an introduction to the methods of current experimental psychology and to some of the results of modern experiments. In general, in each of the chapters several experiments are specifically described, then the methods and findings are both discussed. Although some technical terminology is employed, the book is easy to read, and most of it can be grasped by the average educated reader without the aid of an instructor. In this final edition, and there are other important changes in the ...

GOODENOUGH, FLORENCE L.

Developmental psychology an introduction to the study of human behavior Second edition. New York D Appleton-Century Company 1945 723 p. illus. 22 cm. (The Century psychology series R. M. Elliott, editor) 4824

Contents (abridged) Part I, Principles and methods of modern psychology Part II, The child's equipment for living. Our hereditary background. Prenatal development. The child at birth. The normal course of human development. Speech. The beginnings of speech activity in pattern development during early childhood. Social development The ... of young children. The growth of personality. Physical growth. Understanding in childhood. General intellectual and emotional development in early childhood. Developmental perception, Judgment ... middle childhood. Adolescence. The college ... ligence and its ... and decline of abilities. Old age ... during the ... Common handicaps of normal persons ... years. Maturity ... delinquency and adult crime. Part V, Part IV ... development. Bringing up children. Incomplete. Mental ... in the adult. A backward look at ... The mental h... ing happiness ... thoughts for ... Index of names. Index of subjects.

perception. Psychological measurement. Part II, Personality and adjustment: Frustration and conflict. Mental health and psychotherapy. Part III, Social processes. Attitudes and beliefs. Prejudice and social conflict. Part IV Abilities and performance. Intellectual abilities. Aptitudes and vocational adjustment. Part Knowing the world: Vision. Hearing and lower senses. Language and speech. Part VI, Biological background: The brain and nervous system. The internal environment. Animal behavior. Bibliography. Glossary. Name index. Subject index.

Note: A well-written work published in an attractive format. It is designed for use as text in college courses. Fourteen other psychologists collaborated with the author in the book's writing, but the collaboration was carried out in an unusual way. The collaborating authors submitted drafts of their chapters which the principal author re-wrote, thus giving the book uniform style and at the same time more authority than could be given by single author. A broad, up-to-date view of the science of psychology presented. Photographs, well-conceived diagrams and other types of illustrations have been used in abundance.

MUNN, NORMAN L.

The evolution and growth of human behavior A revision of *Psychological development* Boston Houghton Mifflin Company 1955 525 p. illus. 25 cm. $6.50. 4837

Contents: The nature of genetic or developmental psychology. Foundations of development. Unlearned behavior. Evolution of intelligent behavior—basic processes. Evolution of intelligent behavior—learning and higher processes. Prenatal behavior. Basic factors in the behavioral development of children. Development of sensory processes. Development of spatially coordinated behavior. Motor development. Symbolic processes in children. Language. The growth of intelligence. Emotional development. Development of social behavior. The growth of personality in children. Changes in personality from adolescence until senescence. Index of authors. Index of subjects.

Note: This publication surveys the entire psychological development of human beings, emphasizing the relative importance of heredity and environment in the development not only of the human mind but also of other personal qualities, such as habits and attitudes. The author accomplishes this by summarizing important and representative experimental and observational studies which contribute to an understanding of human behavior from birth to maturity and beyond. While the over-all plan of the book remains the same as in the previous edition, the revised edition contains changes throughout, in some cases extensive changes, as the result of the progress of research during the 17-year period between 1938 and 1955. The book is appropriate for use as textbook by beginning students in psychology, both for those who intend to continue the study of psychology and those whose primary interests may be in other fields, such as education and the social sciences. Bibliographical references and suggestions for further reading appear at the ends of the chapters. There are 144 illustrations.

MURPHY GARDNER

An introduction to psychology by Gardner Murphy with the assistance of Herbert Spohn. New York Harper & Brothers, 1951 583 p. illus. (part col d) 24 cm. $4.50 4838

Contents: The study of persons. The biological significance of individuality. Heredity. Environment. Individuality in development. The endocrine system. Some elementary motives. Emotions. Conflict. Sensing and perceiving. Seeing. Hearing. Tasting, smelling, and the general senses. Learning. Remembering. Imagining and dreaming. Thinking. Creating. Intelligence and its measurement. The patterns of situation. The self. Assertion of the self. Defenses of the self. Personality measurement. Projective methods. Social attitudes and their setting. Personality patterns. Culture and the individual: ethnological evidence. Culture and the individual: our own tradition. Oneself and others: mapping one's own situation, understanding others. Glossary and index.

Note: Utilizing viewpoint, developed primarily in the study of personality, that every psychological act is the act of whole person and that the first task of psychology is to focus upon the nature of persons, the author presents an introductory textbook in psychology in new terms. Motives, percepts, thoughts, attitudes are seen as activities of persons. Since biographers, novelists, and other imaginative writers are concerned with persons and their inter-actions, the works of such authors as Walt Whitman, Walter de la Mare, Thomas Wolfe, and Truman Capote are drawn upon to help portray clearly what persons are. Similarly photographs are used as illustrative material to help make clear the relations of individual human beings to certain situations. The book deals with the subject of individual differences more fully than do other types of introductions to psychology but emphasis is rather upon the description of the nature of persons in terms of what all persons have in common. The author acknowledges his indebtedness to William Stern and Gordon W Allport in his thinking and writing, and at the end of the chapters presents brief lists of suggested readings.

POSTMAN LEO AND JAMES P EGAN

Experimental psychology an introduction. Under the editorship of Gardner Murphy New York Harper & Brothers, 1949 520 p. illus. 21 cm. $4.50. 4839

Contents: The scope of experimental psychology. The psychophysical methods. Cutaneous sensitivity. Audition. Smell and taste. Vision. Perception of color. Perception of form. Perception of space. Perception of movement. Experimental analysis of judgment. Reaction time and association. Measurement of learning. Conditioning. Experimental study of human learning. Retention and forgetting. Transfer of training. Emotional behavior. Behavior in social situations. Name index. Subject index.

Note: This is well-organized and well-illustrated textbook for students who have studied general psychology and are ready for study of experimental methods and laboratory procedures. In it is presented survey of the main empirical findings and functional relationships in selected areas of experimental psychology with special emphasis on the control, manipulation, and measurement of variables. Thirty experimental exercises are described; these are included as concrete illustrations to supplement the text. References are given at the ends of the chapters.

PRONKO N H. AND OTHERS

Empirical foundations of psychology by N H. Pronko and J W Bowles, jr., with the collaboration of D T Herman Harris Hill, and John Bucklew jr New York Rinehart & Company Inc., 1951 464 p. illus. 22 cm. $5.00 4840

Contents: Introduction. Heredity and psychology. The reactional biography: the psychological life history of organisms. Biological characteristics of the organism and early acquisition of behavior. Basic patterns of behavior. Social behavior. Personality. Intelligence. Attention. Perception and factors which affect it. Implicit or "thinking" behavior. Feelings. Emotion. Failure of stimulus-response coordination. Remembering. Learning. Interrelationships between physiology and psychology. Name index. Subject index.

Note: A book of selections or "readings" in modern psychology suited for use in connection with general introductory textbook of psychology. Many of the articles are reprinted from journals dated between 1941 and 1948, with few inclusions from earlier years. The remainder, over half the contents of the book, was written especially for the book by the five authors whose names are on the title page.

RUCH, FLOYD L.

Psychology and life including an illustrated reference manual The brain and nervous system. Fourth edition. Chicago Scott, Foresman and Company 1953 492 p. illus. 26 cm. $6.00. 4841

Contents: Part I, Foundations: Psychology as science. Personality and individuality. Nature and nurture. Human capacities and abilities. Part II, The dynamics of adjustment. Motivation. Emotions—inner springs of action. Frustration and stress. Mental health and psychotherapy. Part III, Knowing the world: The special senses. Observation. The learning process. Learning and remembering. Thinking, communication, and persuasion. Part IV Psychology at work: Personal adjustment problems in group living. Psychology and work. Psychology and social problems. Part Reference manual: The brain and nervous system. Careers in psychology. Recommended readings. References. Name index. Subject index.

Note: An attractive and readable textbook designed for use in first courses in psychology offered to college students. It provides broad introduction to psychology with some emphasis on the development of personality and the dynamics of adjustment. There

designed for use by freshman and sophomore college students and is equipped with such apparatus as chapter summaries and work lists to facilitate study The author is a professor at Michigan State College.

KELLER, FRED SIMMONS, AND WILLIAM N SCHOENFELD

Principles of psychology, a systematic text in the science of behavior New York Appleton Century Crofts, Inc., 1950 431 p illus 22 cm. (The Century psychology series Richard M Elliott, editor) $4 50 4831

Contents Psychology and the reflex. Respondent conditioning. Operant conditioning. Extinction and reconditioning. Generalization and discrimination. Response variability and differentiation. Chaining. Secondary reinforcement. Motivation. Emotion. Social behavior A last word. References and author index. Subject index.

Note. A college text for introductory courses, but an unusual one, in that it is limited to the knowledge of fundamental principles of behavior which has been gained from experimental psychology It is unusual also in its attempt to present even introductory materials in psychology (Skinnerean) from systematic and coherent theoretical points of view Much of the space is given to descriptions of experimental techniques and to the results of noted experiments, most of which were performed on rats and other small animals. However applications to the understanding of human behavior are discussed. The book is suited to use by college students and also by educated lay readers who wish a dependable survey of the scientific bases of psychology The list of references runs to 306 citations. The authors are members of the faculty of the Department of Psychology of Columbia University

KIMBLE, GREGORY A.

Principles of general psychology New York The Ronald Press Company 1956 400 p. illus. 26 cm $5 50 4832

Contents I, Basic methodology· Introduction. Psychology as a science. Methods for describing data. Intelligence and aptitude testing. Functions of intelligence. II, Sensation and perception. The sensory processes in general. Vision and audition. Perception. III, The modification of behavior Psychological development. Conditioning and simple learning. Selective learning. Verbal and motor learning. Extinction, habit breaking, and forgetting. IV Behavior dynamics. The primary drives. Secondary motivation. Frustration, stress, and conflict. Personality and adjustment. Behavior pathology Index of names. Index of subjects.

Note. A textbook for use in first courses in psychology offered to college students. It provides an adequate view of the general content of modern psychology and good descriptions of experimental techniques. The author is a member of the faculty of Duke University

KUHLEN, RAYMOND G, AND GEORGE G THOMPSON, editors

Psychological studies of human development. New York Appleton Century-Crofts, Inc 1952 533 p illus. 24 cm. (The Century psychology series, edited by R. M. Elliott) $3 75 4833

Contents (abridged) Foreword to students. Physical factors in psychological development. Processes of learning and adjustment. Psychological growth under different social-cultural conditions. Intellectual changes with age. Intelligence and psychological adjustment. Patterns of language-conceptual growth. Interest patterns and their implications. Growth of social values and attitudes. Social development—interpersonal relations. Home and family relations. Adjustments in school. Vocational orientation and adjustment. Some factors in personal and emotional adjustment. Index.

Note. An anthology of selections or "readings" chosen for college students who are majoring in developmental psychology child psychology or in other fields where knowledge of the psychological aspects of human development is essential. There are 71 papers or selections, classified under the headings given above. Most of these are abridged, but the abridgments were skillfully done and reference is always given to the original publication. As to the criteria for selection, the editors state "The present papers have been selected to provide a sampling both with respect to important areas of research in the psychology of human development and with respect to broad age-bands of the life span. An effort has been made to provide papers which utilize a great variety of research procedures or which summarize a group of studies as a means of arriving at broader generalizations which extend theory

LINDGREN, HENRY CLAY

Psychology of personal and social adjustment. New York American Book Company 1953 481 p. illus. 21 cm. $5 00 4834

Contents Introduction to the study of human behavior. The development of personality the self. The functioning of the unconscious processes. Emotion: threat, anxiety and hostility—patterns of defense and escape. The struggle against shyness and feelings of inferiority—to become independent and self-reliant. The forces that mold us determinants of personality—social class and status. What happens in groups. Communication, the process of social interaction. Adjustment factors in employment. Choosing a vocation, self-appraisal—the study of an occupation. Getting an education background—learning. Building sound relationships between the sexes. Patterns of deviation antisocial and abnormal. Integrative and disintegrative factors in mental health. Toward better mental health. Index.

Note. An elementary practical exposition of the psychology of normal individuals. It explains the factors that influence personal development and social interaction and emphasizes topics of immediate interest to college students. It is written in a palatable style and is fully supplied with literature references for the guidance of those students who wish to read the more technical literature. Although designed primarily for use as a text in college courses on personal adjustment, mental hygiene, etc., it is also of value as practical guide for young adults who are not enrolled in college courses.

MARX, MELVIN HERMAN, editor

Psychological theory contemporary readings. Arranged and edited by Melvin H. Marx. New York The Macmillan Company 1951 585 p. illus. 22 cm. $5.50 4835

Contents (abridged) Part I, Theory construction The general nature of theory construction, by M. H. Marx. Psychology and the science of science, by S. S. Stevens. Operationism and theory construction, by G. Bergmann and K. W Spence. Types of constructs in psychology by K. W Spence. The intervening variable, by E. C. Tolman. The conceptual focus of systems, by E. Brunswik. The molar-molecular distinction, by R. A. Littman and E. Rosen. The emphasis on molar problems, by G. W Allport. The probability point of view by E. Brunswik. The uniformity point of view, by C. L. Hull. Topology and hodological space, by J F Brown. Factor analysis, by L. L. Thurstone. Operational analysis, by D. G. Ellson. The nature of field theory by K. Lewin. Psychoanalytic propositions, by E. Kris. Part II, Theory foundations. The Gestalt interpretation of perception, by K. Koffka. The psychology of objective relations, by E. Brunswik. Connectionism, by E. L. Thorndike. Contiguity theory by E. R. Guthrie. Descriptive behaviorism, by B. F Skinner The Freudian theory of anxiety by S. Freud. Principles of psychosomatic research, by F Alexander. Social theory of neurotic conflict, by K. Horney The frustration-aggression hypothesis, by N E. Miller Stimulus-response theory of anxiety by O. H. Mowrer Approaches to personality by G. Murphy Stimulus-response theory in social psychology by N. E. Miller and J Dollard. The basic personality structure, by A. Kardiner Index.

Note. A collection of short papers and excerpts, most of which are reprinted from previously published work. The value of the book lies in the assembly of authoritative writings on psychological theory

MORGAN, CLIFFORD T

Introduction to psychology With the collaboration of Lawrence T Alexander and others. New York McGraw Hill Book Company, Inc. 1956 676 p illus. (part col d) 24 cm. $6.50 4836

Contents (abridged) I, The science of psychology Part I, Principles of behavior: Maturation and development. Motivation. Learning and remembering. Imagination and thinking Attention and

velopment and change of interests. Beliefs, values, and attitudes. Personality. Visual aids. Bibliography and author index. Subject index.

Note: A distinguishing feature of this book is that it presents information on the physiological and psychological development of all ages of human development from birth to senescence. However because full treatments of development during infancy and childhood were already available in book form, the authors give more attention to the changes of maturity and old age. The information has been gathered from the literature, and it is organized in the chapters whose titles are listed above. As the chapter titles indicate, the arrangement is one of physical and psychological attributes. Within the chapters the arrangement is more or less chronological. The combined bibliography and author index is 30 pages long. The book is primarily [illegible] college textbook, but has some use [illegible] as [illegible] reference book and guide to the literature.

PHYSIOLOGICAL PSYCHOLOGY

Bartley S Howard and Eloise Chute

Fatigue and impairment in man. New York. McGraw Hill Book Company 1947 429 p. illus. 23 cm. $6.00 4848

Contents: Introduction. Various views on fatigue. Fatigue and allied concepts. Electrophysiological studies. Anoxia and related [illegible] conditions. Lack of [illegible] in the body [illegible]. [illegible] conditions. Temperature extremes and water and salt lacks. Metabolism and nutrition. Conventional visual-fatigue studies. Hours and conditions of work in industry. Drug action in relation to fatigue and impairment. Orientation in neuromuscular activity. Sleep and other procedures. The long-term changes in the individual. Mental [illegible]. Personal factors in the work situation. Visual performance and fatigue. Conflict and frustration. Chronic fatigue and related syndromes. Conclusions. List of visual aids. Author index. Subject index.

Note: A comprehensive treatise based on the literature and on the authors' own researches. It reviews the experimental results and theories pertinent to the field and presents [illegible] new theory, the essence of which [illegible] that fatigue is seen as an expression of the whole person. The literature is cited in footnotes, and the names of the authors of the chief publications are brought together in the seven-page author index. The presentation [illegible] is technical, but the scope of the book [illegible] so wide that [illegible] is of interest in many fields, including industrial management, teaching, physiology and medicine.

Ford Clellan Stearns and Frank A. Beach

Patterns of sexual behavior With a foreword by Robert Latou Dickinson M.D New York Harper & Brothers and Paul B Hoeber Inc., 1951 307 p. illus. 24 cm. $5 75 4849

Contents: Foreword, by R. L. Dickinson. The task and the methods. The nature of coitus. Types of sexual stimulation. Circumstances for coitus. Attracting [illegible] sex partner. Sexual partnerships. Homosexual behavior. Relations between different species. Self-stimulation. Development in the individual. Feminine fertility cycles. Other physiological factors in sex behavior. Human sexual behavior in perspective. Glossary. Bibliography. Authors [illegible]. Index of [illegible]. Index of topics.

Note: A comparative study of the sexual behavior of human beings of various present-day cultures and the sexual behavior of various lower animals. The human beings belong to 190 different societies scattered from the Arctic circle through five continents to the tip of Australia. The animals range from rats and mice to the great apes. The authors, respectively professors of anthropology and psychology at Yale University, present the volume as [illegible] step toward the development of [illegible] sound understanding of the sexual behavior of human beings as [illegible] is affected by their evolutionary heritage and by the conditions imposed upon them by their social environment.

Freeman Graydon La Verne

Physiological psychology New York D Van Nostrand Company Inc., 1948. 530 p. illus. 23 cm. $6.00 4850

Contents (abridged): Part I, Basic mechanisms in behavior: The field of physiological psychology. Basic relations in neural theory. Gross features of neuromuscular action. Receptor mechanisms. Effector mechanisms. Adjustor mechanisms. Part II, The structure-functional organization of bodily mechanisms: Stratification of reaction patterns. The spinal cord and nerves. The sympathetic ganglia and nerves. Medulla oblongata and cranial nerves. The cerebellum. The midbrain and thalamic regions. The cerebral hemispheres. Afferent and efferent conduction systems. Part III, The integrative action of bodily mechanisms: Spinal integration. Integration at the subcortical level. Integration at the cortical level. Equilibrium, competition, and dominance. Facilitation and inhibition. Part IV, Bodily mechanisms and variable behavior: Motivation. Neuromuscular sets and postures. Learning. Decrement—fatigue and oscillation. Personality. Author index. Subject index.

Note: Although this volume is essentially [illegible] revision of the author's earlier book, *Introduction to physiological psychology* New York, The Ronald Press Co., 1934, the original material has been so revised and reworked in the light of recent knowledge as to constitute [illegible] new work. The purpose of the text is to provide psychologists with [illegible] review of physiological facts and theories pertinent to their field, and to present in systematic form [illegible] study of "the relationship between integrated behavior and bodily processes of the intact organism." The book will be of value as [illegible] text for students of psychology, medicine, education, and sociology.

Geldard Frank A.

The human senses. New York John Wiley & Sons, Inc., 1953 365 p. illus. 23 cm. $6.00 4851

Contents: Introduction. The visual stimulus and the eye. Basic visual phenomena. Color vision and color blindness. Visual acuity, contrast, and interaction. Sound energy and the ear. Auditory phenomena. Electrophysiology and auditory theory. The skin and its stimuli. Pressure and pain. Temperature sensitivity. Kinesthetic and organic sensibilities. Labyrinthine sensitivity. The sense of smell. The sense of taste. References. Index.

Note: Carrying out the belief of the author that "the highroad to the understanding of human nature is by way of an appreciation of man's senses and of the fundamental role they play in the attainment of knowledge and the regulation of behavior," this volume takes up each of the five senses in turn and describes their separate natures from the viewpoint of modern experimental psychology. It is [illegible] text book for students of psychology and for general readers. The author is Professor of Psychology, University of Virginia.

Hayek, Friedrich August von

The sensory order an inquiry into the foundations of theoretical psychology. With an introduction by Heinrich Klüver Chicago The University of Chicago Press, 1952 209 p. 22 cm. $5.00 4852

Contents: The nature of the problem. An outline of the theory. The nervous system as an instrument of classification. Sensation and behavior. The structure of the mental order. Consciousness and conceptual thought. Confirmations and verifications of the theory. Philosophical consequences. Bibliography. Index.

Note: This book is [illegible] presentation of an original theory of sensory order and the relations between physical and sensory phenomena. It is the author's thesis that "sensory perception must be regarded as an act of classification." He approaches the problem of classification to determine the relationships between experience and the relationship to the conditions [illegible] which makes experience possible. The work is philosophical and theoretical and is designed to pose problems for future consideration as well as to stabilize some of the material already known and available.

Hebb, Donald Olding

The organization of behavior a neuropsychological theory New York John Wiley & Sons. Inc., 1949 335 p. illus. 22 cm. $5.50 4853

Contents: The problem and the line of attack. Summation and learning in perception. Field theory and equipotentiality. The first stage of perceptual growth of the assembly. Perception of [illegible] complex: the phase sequence. Development of the learning capacity. Higher and lower processes related to learning. Problems of motivation: pain and hunger. The problem of motivational drift. Emotional disturbances. The growth and decline of intelligence. Bibliography. Index.

are numerous illustrations, many of which are reproduced photographs. A list of literature references in support of the text and a separate list of books for supplementary reading are included. The third edition was published in 1948. In this fourth edition, the book has been considerably reorganized and shortened. The chapter on careers in psychology is newly added. A new edition was scheduled early in 1958.

RUJA, HARRY

Psychology for life New York McGraw Hill Book Company, Inc., 1955 427 p illus. 23 cm $4 75 4842

Contents. Part I, Introduction The values of psychology Psychology as science. Part II, Learning and remembering Efficient college learning. Motivating learning. Learning through practice. Meaningful learning. Remembering. Part III, Vocational choice and intelligence Choosing a vocation. Intelligence and vocational success. Intelligence—its nature and measurement. The shaping of intelligence by heredity—by environment. Part IV Thinking and perceiving Thinking. Attending, observing, and perceiving. Part V Personality and motivation Personality factors in friendship and marriage. What is personality? Character culture, and physique. Motivation in daily life. Part VI, Emotions and mental health Living with our emotions. Controlling fear and anger The sick mind. Reactions to frustration. The healthy mind. Becoming mature. References. Index with glossary

Note An introductory textbook for short courses. It is well written, adequately illustrated, and fully supplied with literature references that may lead interested students to further study. The author did not attempt a broad view of psychology but selected topics which he considered important and of interest to beginning college students. Even though many areas of psychology are not mentioned, the reader is given a view of contemporary psychology as a vital science with many implications for daily living.

STAGNER, ROSS, AND T F KARWOSKI

Psychology New York McGraw Hill Book Company, Inc., 1952 582 p illus. 26 cm $5 75 4843

Contents Orientation Part one, Dynamics Biological drives. Emotions. Social motives. Part II, Cognition Sensing. Perceiving. Association. Conditioning. Problem solving. Remembering. Thinking. Intelligence. Part III, Personality Foundations. Conflict. Maturity Bibliography Name index. Subject index.

Note An introductory textbook for use in college courses. Psychology is presented as the scientific study of man's nature and behavior The treatment is unified by emphasizing the principle of homeostasis. The authors have been exceptionally skillful in relating psychological principles and facts to the background of experiences such as a beginning college student is likely to possess. The following passage illustrates this point "A persisting mental set ... interferes with attention to objects outside its scope. ... The last class before a vacation is ... inattentive to the lecture. Although written in a style obviously designed to hold the interest of the beginning student, the book has a substantial content. Perceptual processes, conditioning, and other difficult topics are presented without sidestepping difficult ideas and with frequent references to the experiments on which the knowledge is based. The book is well illustrated. The chapters include lists of recommended readings, and there is a 16-page bibliography of source material.

UNDERWOOD, BENTON J

Experimental psychology an introduction New York Appleton Century-Crofts Inc. 1949 638 p 22 cm (The Century psychology series edited by Richard M Elliott) $5 00 4844

Contents (abridged) Introduction. Discriminal processes. Motivation. Frustration. Conflict. Transfer of training. Learning. Forgetting—retention. Work. References. Author index. Glossary and subject index.

Note The methods and techniques of experimental psychology and the relationships between stimuli and behavior which have been demonstrated by experiment are given about equal emphasis in this college textbook The author has tried to avoid the sterility which can arise from an overemphasis on methodological sophistication (with little awareness of the sophistication necessary to evaluate the origins and quality of that content) The essential details of experimental procedures and apparatus set-ups are given, but the author has excluded technical details of apparatus. Also, he has not included quantitative data derived from experiments but has stated results in generalized terms. However a fair picture is given of contemporary methods. The bibliography contains 427 items and includes reference to original descriptions of many landmark experiments. The author is Associate Professor of Psychology in Northwestern University.

VALENTINE, WILLARD LEE, AND DELOS D WICKENS

Experimental foundations of general psychology Third edition. New York Rinehart & Company, Inc., 1949 472 p illus. 22 cm. $5 00 4845

Contents Magic and science. Psychology and the methods of science. The principle of control. Aptitudes. Inheritance. Maturation and growth. Intelligence. The meaning of intelligence-test scores. Physiological conditions. Drives and motives. Motives and incentives. The development of emotional behavior. Emotion in adults. Suggestibility and hypnosis. Perception. Conditioning. Learning. Remembering. Reasoning. Learning, thinking, imagining, dreaming. Personality Index of authors. Index of subjects.

Note. An elementary text in which accepted psychological principles are developed by examining a large variety of experimental work. These principles are then applied to practical situations in the lives of average people. The book does more than most introductory works to give the student and the layman an understanding of scientific method in general and of experimental procedure in psychology This revision of the 1941 edition presents new material on popular misconceptions about the nature of psychology on social behavior and on personality Experiments have been added which are more precise or thought to be of more interest to the reader. Eighty-five photographs and diagrams and a large number of tables contribute to the book's usefulness. The book is intended to be used together with some standard text which would systematize the facts here presented. Professor Valentine died in 1947 Professor Wickens is on the faculty of Ohio State University. This is the first edition on which his name appears as co-author

WOLFF, WERNER

Essentials of psychology Second revised and enlarged edition of *What is psychology* New York Grune & Stratton, 1956 385 p. illus. 22 cm. $6 50 4846

Contents (abridged) Part I, The scope of psychology Origins of psychology Three major psychological standpoints. Methods of psychological research. Is psychology a science? Part II, The physiology of behavior Origin of the individual. Brain and the nervous system. Electro-chemical basis of psychological activity Part III, Perception Part IV Retention Memory and its measurement The learning process. Learning theories. Part V Thinking Origins of thinking. The organization and mechanism of thought. Theories of thinking. Part VI, Intelligence The influence of heredity and environment. Intelligence and aptitude tests. Part VII, Emotion Theories of emotion. The physiology of emotion. Reactions to interference. Emotion and expression. Part VIII, Personality Definitions of personality Psycho-somatic theories of personality Psychological theories of personality Diagnosis of personality Part IX, Attitudes. Part X, Motivation The structure of motivation. Sigmund Freud. Alfred Adler Carl Gustav Jung The application of psychology Bibliography Author index. Subject index.

Note: A well-planned introductory text which is designed to impart a realistic view of the scope and content of present-day psychology It is suitable for students who have a serious interest in the science. There is a bibliography of 411 references.

ZUBEK, JOHN P, AND P A. SOLBERG

Human development New York McGraw Hill Book Company Inc., 1954 476 p. illus. 24 cm. (McGraw Hill series in psychology Clifford T Morgan consulting editor) $6.25 4847

Contents Introduction. Genetic foundations of behavior Neural development. Glandular development. Physical development. Motor development. Sensory development—vision and hearing—chemical and cutaneous senses. Learning and symbolic processes. Intellectual development. Emotional development. Social development. De-

the United States of America. Statistics taken from the case histories are given in 173 tables and about 150 graphs. The bibliography covers 41 pages. This book and its companion volume comprise ... known scientific description and analysis of human sexual phenomena as they were found in the United States during the 1940's.

KINSEY ALFRED CHARLES AND OTHERS

Sexual behavior in the human male, by Alfred C. Kinsey Wardell B Pomeroy and Clyde E. Martin. Philadelphia W B Saunders Company 1948. 804 p. illus. 24 cm. $7.50. 4859

Contents: Part I. History and method: Historical introduction. Interviewing. Statistical problems. Validity of the data. Part II. Factors affecting sexual outlet: Early sexual growth and activity. Total sexual outlet. Age and sexual outlet. Marital status and sexual outlet. Age of adolescence and sexual outlet. Social level and sexual outlet. Stability of sexual patterns. Rural-urban background and sexual outlet. Religious background and sexual outlet. Part III. Sources of sexual outlet: Masturbation. Nocturnal emissions. Heterosexual petting. Pre-marital intercourse. Marital intercourse. Extra-marital intercourse. Intercourse with prostitutes. Homosexual outlet. Animal contacts. Clinical tables. Appendix on sample size. Bibliography. Index.

Note: Since its publication in January 1948, this work has become known throughout the literate world. Many more copies have been sold than are usually sold of important literary works during the entire lifetime of the author. Nevertheless, it is not intended popularization but ... factual report and interpretation of data collected in ... carefully planned interviews whose sole object is to collect information. The authors are members of the faculty of Indiana University and the study has been supported by the National Research Council's Committee for Research on Problems of Sex. The present volume is based on interviews with 5,300 ... white males. Volumes planned for subsequent publication will present data on specialized topics such as legal aspects of sex behavior and prostitution.

MORGAN CLIFFORD THOMAS, AND ELIOT STELLAR

Physiological psychology Second edition. New York McGraw Hill Book Company Inc., 1950. 609 p. illus. 24 cm. (McGraw Hill publications in psychology Clifford T Morgan, consulting editor) $7.00. 4860

Contents: Introduction. The peripheral response mechanism. The central nervous system. Nerve physiology. The internal environment. The chemical senses. Spatial vision. Brightness vision. Color vision. Hearing. The skin senses. Somesthetic mechanisms. The motor systems. Reflexes. Coordination. Emotion. Sleep and activity. Bodily needs. Instinctive behavior. Mating behavior. Conditioning. Sensory learning. Problem solving. Brain lesions in man. Behavior disorders. Electrical activity and behavior. Bibliography and author index. Subject index.

Note: An introductory survey that is comprehensive enough to make it useful as a ... reference book as well as text for undergraduate college students. The emphasis is on the physiological mechanisms of normal behavior. Considerably more information ... included on animal than on human psychology. Select lists of references for further reading are appended to the individual chapters, and the "Bibliography and author index" serves as an extensive list of the related periodical literature. The work was extensively rewritten in this edition. It is intended for the same groups of readers as the original edition.

OLIVEN JOHN F

Sexual hygiene and pathology a manual for the physician. Philadelphia J B Lippincott Company 1955 481 p. 24 cm $10.00. 4861

Contents: Part I. Sexuality in childhood: Normal and abnormal sexual development of the child. Sex education of the child. Common sex problems of childhood. The child as victim of sexual aggression. Abnormal sex behavior in children. Part II. Sexuality in the second decade: Normal and abnormal pubertal development. Adolescent sex education. Some common sex problems of the second decade. Deviated sex behavior in juveniles. Part III. Sexuality of the normal adult: Review of sexual organs and functions. Premarital consultation. The sexual act. Marital difficulties and marriage counseling. Principles of contraception. Sexuality in later life. Part IV. Sexual pathology: Somatic disorders and conditions. Sexual impotence. Frigidity. Syndromes of hypersexuality. Sexual deviations. Homosexuality. Name index. Subject index.

Note: Written by a professional psychiatrist and addressed to such readers as medical students and practicing physicians, this book deals in a practical manner with sex behavior in humans. It supplies the knowledge needed by practicing physicians in answering patients' questions and in aiding patients to overcome common sexual difficulties. At the same time, it describes pathologic sex behavior, thus enabling the physician to judge when a patient needs more than simple guidance and treatment.

REYMERT MARTIN LUTHER, editor

Feelings and emotions. The Mooseheart Symposium in cooperation with the University of Chicago. Anton J Carlson, president of honor Martin L. Reymert, general chairman, James G Miller cochairman. Edited by Martin L. Reymert. New York McGraw Hill Book Company Inc., 1950. 603 p. illus. 23 cm. (McGraw Hill publications in psychology Clifford T Morgan consulting editor) $8.00. 4862

Contents: Why feelings and emotions? by M. L. Reymert. I. Theory: psychophysiological approaches: Emotion as visceral action—an extension of Lange's theory, by M. A. Wenger. An excitatory theory of emotion, by M. B. Arnold. The conditioning of emotions, by R. P. [illegible]. A biodynamic psychoanalytic approach to the problems of feeling and emotion, by J. H. Masserman. Sensory affectivity, by H. Pieron. Theory of emotions in Soviet dialectic psychology, by I. D. London. II. Theory—psychological approaches: Emotional excitement as a necessary constituent in learning, by [illegible]. Study of the integrative process—its importance for psychiatric theory, by T. M. French. The emotions regarded as functional connections, by A. E. Michotte. The phenomenological approach to the problem of feelings and emotions, by F. J. J. Buytendijk. Emotions and sentiments in recent psychology, by J. [illegible]. A differential concept of feelings and emotions, by E. Harms. III. Reports of recent experiments: The study of patterns of emotional expression, by H. E. Jones. Experimental studies of mental patterns under stress, by R. B. Malmo. Animal origins of anxiety, by H. S. Liddell. Psychotic behavior produced in the Norway and Alexandrine rats apparently by fear of food poisoning, by C. P. Richter. Connective inhibitions during thought processes, by D. Katz. IV. Reviews integrating current experimental approaches: Central nervous mechanisms for the expression of anger in animals, by P. Bard. Emotions and the electroencephalogram, by D. B. Lindsley. A new frontier—neurophysiological effects of emotion on the brain, by C. W. Darrow. The experimental study of psychosomatic processes, by J. G. Miller. Some implications of physiological individuality, by R. J. Williams. V. Emotions and psychosomatics: Physiological manifestations of chronic emotional states, by N. W. Shock. Life situations, emotions, and bodily disease, by H. G. Wolff. VI. Emotions in the study of personality dynamics and clinical psychology: Nature and the individual in the psychologist's perspective, by S. Rosenzweig. The use of clinical diagnostic techniques in research ... emotions, by A. Roe. Intimacy and shyness in the dynamic structure of personality, by J. Nuttin. Guilt feelings—their function and dysfunction, by R. L. Jenkins. Some anthropological considerations concerning guilt, by M. Mead. The significance of the self-regarding attitudes and perceptions, by C. R. Rogers. Some psychological features of schizophrenia, by D. Shakow. VII. Emotions in human development: Emotion from the standpoint of a developmental morphology, by A. Gesell. Affect, expression, and symbolic function in the drawing of children, by L. van der Horst. Changes in emotional responses with age, by J. E. Anderson. Meeting the emotional needs of older persons, by G. Lawton. VIII. Emotions in social behavior: Emotional dimensions of group life, by D. Cartwright. Group behavior and the concept of emotion, by F. Fearing. On the psychology of social groups as illustrated by their incidence of mental disorder, by O. Ødegaard. Emotion and the social crisis: a problem in phylobiology, by T. Burrow. The irrational in the international picture, by G. Murphy. IX. Emotions in applied fields: Emotions in the factory, by W. V. Bingham. The emotional stress of the American in present-day industry, by C. R. [illegible]. The affective function of language, by [illegible]. Feeling and emotion in art, by H. S. Langfeld. X,

Note In this book, a theory of behavior "that is based as far as possible on the physiology of the nervous system" is presented. The gist of the theory is that no single nerve cell or pathway is essential to any habit of perception but that responses to stimuli are made by means of a diffuse "cell-assembly" The author's interest in the subject developed from observations by him and others that human beings suffered little loss of intelligence as a consequence of the removal of substantial amounts of brain tissue.

HOLT, EDWIN BISSELL

Animal drive and the learning process, an essay toward radical empiricism. With a supplementary essay on This material world, by Harold Chapman Brown. New York Henry Holt and Company, 1931 307 p. 21 cm. $3 50 4854

Contents Physiology versus verbal magic. Growth and learning. The pattern of organism. The pattern of the nervous system. The conditioned reflex. Random movements. The reflex-circle (Bok) Circular reflexes and progression; inhibition. Equilibration and postural tones. The education of sensory surfaces. The chain reflex. Avoidance responses—trial, error and success. Echo and imitation. Instinctive and appetitive drives. Response to mild annoyers—abience with adience. Obstacles—trial-and-error learning. Reflex conduction and integration—the objective reference of reflexes—motor half centres, reenforcement and inhibition—synaptic charge, partial and complete overcrowding. Further factors in integration—sustained responses and the locus of freedom, cross-conditioning. Motor block. The organism as a whole. This material world, by H. C. Brown. Bibliography Index.

Note. An important presentation of psychology in terms of physical and, primarily physiological processes. It was based on an extensive study of the literature, and is in essence an integration of vast number of research studies, not hitherto related to one another It is written at a level that suits it t reading by advanced students of psychology and graduate psychologists. The subtitle expresses the author's approach that is to say he has employed the way of thinking designated as "radical empiricism by William James.

HULL, CLARK LEONARD

A behavior system, an introduction to behavior theory concerning the individual organism New Haven Yale University Press, 1952 372 p illus. 25 cm $6 00 4855

Contents Introductory considerations. Simple trial-and-error learning. Discrimination learning. Behavior and the molar stimulus trace (s') Fractional antedating goal reactions. Simple behavior chains. Learning within the individual behavior link. Behavior in relation to objects in space. Multidirectional maze learning. The problem-solving assembly f behavior segments. Value, valuation, and behavior theory Concluding considerations. Glossary of symbols. Index of names. Index of subjects.

Note In the uthor' *Principles of behavior* New York, 1943 and his *Essentials of behavior* New Haven, 1951 he stated systematically the primary behavior principles. In this book he has shown "the applications of the principles to the deductions of the simpler phenomena characterizing the behavior of single organisms. These works are aimed toward the systematic quantitative description of both individual and social behavior although because of Professor Hull' death, the planned volume on social behavior was not written. In the present book, the content is cast largely in the form of theorems and of critical discussions of the experimental evidence on which the theorems are based. The book is addressed to graduate psychologists.

HULL CLARK LEONARD

Principles of behavior an introduction to behavior theory New York D Appleton Century Company Inc 1943 422 p. illus. 21 cm. (The Century psychology series R. M Elliott, editor) $5 50 4856

Contents. The nature of scientific theory Introduction to an objective theory of behavior Stimulus reception and organism survival. The biological problem of action and its coordination. Characteristics of innate behavior under conditions of need. The acquisition of receptor-effector connections—primary reinforcement. The acquisition of receptor-effector connections—secondary reinforcement. The symbolic construct sHr as function of the number of reinforcements. Habit strength as function of the nature and amount of the reinforcing agent. Habit strength and the time interval separating reaction from reinforcement. Habit strength as a function of the temporal relation of the conditioned stimulus to the reaction. Stimulus generalization. Some functional dynamics of compound conditioned stimuli. Primary motivation and reaction potential. Unadaptive habits and experimental extinction. Inhibition and effective reaction potential. Behavioral oscillation. The reaction threshold and response evocation. The patterning of stimulus compounds. General summary and conclusions. Glossary of symbols. Index of names. Index of subjects.

Note An objective, systematic presentation of the fundamental principles of behavior. Technical considerations are omitted from the text but are gathered at the end of the volume. Statements of primary principles are presented at the ends of the chapters, and each chapter has a list of references.

KANTOR, JACOB ROBERT

Problems of physiological psychology Bloomington Indiana Principia Press, Inc., 1947 398 p illus 24 cm. $6 00 4857

Contents. Section I The historical background of physiological psychology Problems and paradoxes of physiological psychology. Philosophical and scientific backgrounds of physiological psychology The British traditions of physical investigation and biological evolution of mind. The Continental tradition of laboratory physiology The historical rise and division of physiological psychology Philosophy and psychological science. The brain in the history of science. The biology and psychology of the nervous system. Section II. Analytic survey of the data and constructions of physiological psychology: Analysis of scientific physiological psychology General physiological psychology Sensory physiopsychology Psychophysiology Psychoneurology Experimental psychoneurology Clinical psychosurgery Psychochemistry Psychobiology Psychosomatic medicine. Section III. Suggestions for the emendation of physiological psychology Toward an authentic physiological psychology Bibliography and author index. Subject and name index.

Note In this work, the author's purpose is to define the scope of physiological psychology and to describe the types of problems with which this branch of psychology is concerned. He traces the development f the science from its earliest beginnings and discusses the methods and techniques which hav been evolved and which are now generally employed. Although the book serves as an introduction to the subject, the treatment is such that it will be of interest primarily to professional psychologists and advanced students. A 35-page bibliography is keyed to the textual material.

KINSEY, ALFRED CHARLES *AND OTHERS*

Sexual behavior in the human female by the staff of the Institute for Sex Research, Indiana University Alfred C Kinsey, and others Consulting editors Jerome Cornfield, statistics Harold Dorn, statistics Robert Laidlaw, psychiatry Karl Lashley psychology neurophysiology Emily Mudd, marriage counseling Philadelphia W B Saunders Company 1953 842 p illus 24 cm. $8 00. 4858

Contents. Foreword, by R. M. Yerkes and G. W Corner. Part I, History and method Scope of the study The sample and its statistical analysis. Sources of data. Part II Types of sexual activity among females: Pre-adolescent sexual development. Masturbation. Nocturnal sex dreams. Pre-marital petting. Pre-marital coitus. Marital coitus. Extra-marital coitus. Homosexual responses and contacts. Animal contacts. Total sexual outlet. Part III, Comparisons of female and male Anatomy of sexual response and orgasm. Physiology of sexual response and orgasm. Psychologic factors in sexual response. Neural mechanisms of sexual response. Hormonal factors in sexual response. Bibliography Index.

Note: A notable study carried out under the sponsorship of the Committee for Research on Problems of Sex, Medical Division, National Research Council. The publication presents for the human female the same types of social, statistical, anatomical, physiological, and psychological data as are presented for the human male in the complementary volume described in the next entry The analyses are based upon statistics gathered before 1950 from 5,940 white, nonprison females residing in all states of

population, and what can be learned from the study of co-operation among animals that could lead to better international co-operation are some of the topics discussed in the "applied" portion of the book. Aside from the discussion of implications from human society the book is a useful and interesting account of observations and experiments on animals, the results of which indicate considerable degree of automatic co-operation among non-human animals.

KLÜVER, *HEINRICH*

Behavior mechanisms in monkeys. With an introduction by K. S. Lashley Chicago University of Chicago Press, 1933 387 p. illus. 23 cm. (Behavior Research Fund monographs) $6.50. 4869

Contents (abridged) The general problem of behavior mechanisms. Animals used in this study Methods and general procedure. *First group of experiments:* Reactions to weight relations. Reactions to auditory relations. Reactions to visual relations. Reactions to motion changes. *Second group of experiments:* Visual acuity Tactual acuity Anisotropy Handedness. Strain functions. Instrumentation. Lesions. Chronological sequence of experiments. Discussion of results in the light of various problems. Summary Bibliography Index.

Note A monograph presenting the description and the results of the author's experiments in the study of sub-human primates, particularly the analysis of their behavior. Theoretical matters have been excluded so far as possible. The study of behavior is approached from a biological point of view although the author points out that there is difficulty in drawing a sharp line of demarcation between a biological and a sociological approach. The work deals not only in behavior mechanisms *per se* but also in behavior data which may be of use in connection with neurophysiological and related problems, since the brain of the lower primates is a simplified replica of the human brain. There are numerous tables of data and photographs, and the bibliography contains 509 references to the world literature.

MCCLELLAND DAVID C editor

Studies in motivation. Selected and edited by David C. McClelland. New York Appleton-Century-Crofts, Inc. 1955 552 p. illus. 24 cm. (The Century psychology series Richard M Elliott, editor) $6 00 4870

Contents (abridged) Part I. Psychodynamics A. Unconscious motives. B. The clinical study of human motivation C. Conscious motives. Part II, Biological origins of motives A. Instinctive bases for behavior B. Acquisition of motives. C. Theoretical considerations *Part III, Social origins of motives and values* A. Economic conditions as sources of values. B. The origins of motives and values in the family structure. C. Culture patterns as sources of values. D. Religion as a source of values. Part IV The effects of motivation on behavior A. Measuring human motivation B. Motivation and performance. C. Motivation and cognitive processes. D. Conflict. Index.

Note A well-selected anthology of writings pertaining to motivation in both lower animals and man Altogether it contains 50 papers. Some were originally journal articles, and others have been adapted from chapters in books. In the volume, the names of the authors and the original places of publication are all given. The book is suitable for use as a text or supplementary readings in advanced undergraduate college courses, and as a cross section of the work in this field, it is useful also to graduate psychologists and other scientists who feel the need for a representative collection.

MAIER, NORMAN RAYMOND FREDERICK, AND T C SCHNEIRLA

Principles of animal psychology New York McGraw Hill Book Company Inc. 1935 529 p. illus. 23 cm. (McGraw Hill publications in psychology J F Dashiell, consulting editor) $7.00 4871

Contents (abridged) Part I, Principles discernible in the behavior of infrahuman animals Fundamental characteristics of behavior First problems in the behavior of multicellular animals. New and significant advances in adaptation—the worms. Basic activities in the phylum Arthropoda. Basic features of vertebrate behavior. Modifiability and the partial alteration of directly determined behavior Part II, Prerequisites to behavior dominated by modifiability The differential reaction to stimuli. Neural mechanisms in behavior. Part III, The nature of modification in behavior—class Mammalia: Introduction to the problem of learning. Factors determining performance in learning situations. Higher mental processes. Bibliography Subject index. Author index.

Note. This book reinterprets and systematizes the varied behavior data of animals below man in an attempt to organize the evidence into a consistent psychological theory In addition, the book offers an analytical discussion of certain special problems, particularly learning and its nature, in connection with the behavior of higher animals. Each chapter contains a list of suggested readings and in addition there is an extensive bibliography of books and periodical articles.

MINER, ROY WALDO, editor

Comparative conditioned neuroses. Consulting editor Edward J Kempf New York Published by the Academy 1953 141–380 p. illus. 21 cm. (New York Academy of Sciences. Annals. Vol. 56 art. 2) $3.50 4872

Contents. Principles of nervous breakdown in schizokinesis and autokinesis, by W. H. Gantt. A comprehensive approach to the dynamics of conditioning neuroses, by H. S. Liddell. Morphological and constitutional factors in conditioning, by W. T. James. Neuroendocrine components in the physiological response to stress, by R. F. Graham. Factors modifying conditioned reactions and their relations to the autonomic nervous system, by E. Gellhorn. Cross-sectional and longitudinal studies of adjustive behavior in dogs, by J. L. Fuller. Experimentally produced behavior reactions to food poisoning in wild and domesticated rats, by C. P. Richter. Physiological changes during chronic fear, by G. F. Mahl. Neuroses in monkeys—a preliminary report of experimental observations, by J. H. Masserman and C. Pechtel. Human conditioning and anxiety by L. Welch. Neurosis—a disorder of conditioning or problem solving? by O. H. Mowrer. The relation of cerebral to autonomic activity in the conditioned emotional reactions of children, by C. W. Darrow. Neuroses as conditioned, conflicting, holistic, attitudinal, acquisitive-avoidant reactions, by E. J. Kempf. Certain aspects of conditioning in the human, by W. G. Reese. Vigilance (orienting behavior), conditional reactions, and adjustment patterns in schizophrenic and compulsive patients, by S. Fisch.

Note. Papers with titles and authors as listed above are contained in this publication. All were first presented at a conference on comparative conditioned neuroses in humans and other animals held by the Section of Psychology of The New York Academy of Sciences in February 1952. A majority of the papers report the results of research on animals other than human beings. Literature references are included in the papers.

MUNN NORMAN LESLIE

Handbook of psychological research on the rat an introduction to animal psychology Boston Houghton Mifflin Company 1950 598 p illus. 25 cm. $7.50. 4873

Contents. Introduction. Unlearned behavior. General activity Motives, emotions, and hoarding. Sensory processes. The role of sensory processes in maze behavior. The learning process. Some aspects and conditions of learning. Systematic psychology Abnormal and social behavior. Appendices: Books on comparative psychology Some additional references on comparative psychology Bibliography Index of authors. Index of subjects.

Note. This work supersedes the author's *An introduction to animal psychology: the behavior of the rat,* published in 1933. The new work includes extensive revisions of former conclusions made necessary by investigations and research in the intervening years. It also includes certain fields of animal psychology not covered in the earlier book, behavior disorders, social behavior, emotional behavior, and systematic psychology Illustrative material consists of 180 figures, many of them picturing mazes and other apparatus used in psychological testing, and 13 tables showing data resulting from experiments. The bibliography of more than 2,300 entries covers publications in all languages on rat behavior

Methodology: The sample interview as a research tool to study motivation, by R. Likert. The factorial study of emotions, by Sir C. Burt. The significance of Q-technique for the study of personality by W Stephenson. Epilogue, by A. J Carlson. Name index. Subject index.

Note An important volume which contains the papers originally presented at the second International Symposium on Feelings and Emotions held at Mooseheart and Chicago, Illinois, October 28–30, 1948. The contributors include scientists from several nations and from several branches of science, notably physiology biochemistry anthropology and neurology as well as psychology

SKINNER, BURRHUS FREDERIC

The behavior of organisms an experimental analysis New York D Appleton Century Company, Inc. 1938 457 p illus 23 cm (The Century psychology series, R. M Elliott, editor) $5 00 4863

Contents A system of behavior Scope and method. Conditioning and extinction. Periodic reconditioning The discrimination of a stimulus. Some functions of stimuli. Temporal discrimination of the stimulus. The differentiation of a response. Drive. Drive and conditioning. The interaction of two variables. Other variables affecting reflex strength. Behavior and the nervous system. Conclusion.

Note This book explains an original method of investigating behavior which makes it possible to identify and to treat experimentally a considerable number of fundamental behavior variables. It emphasizes that kind of behavior ("operant behavior") which is not elicited in response to stimulation but may be said to be "emitted" by the organism. It gives special attention to the processes of discrimination and advances a new interpretation. It develops an important concept of the reflex "reserve" and presents fresh and simple treatment of the problem of motivation.

SNYDER, FREDERIC WINKLER, AND N H. PRONKO

Vision with spatial inversion Wichita University of Wichita Press 1952 144 p illus 21 cm $2 50 4864

Contents Studies in perception. The problem and general plan of the present study The card-sorting task. The Minnesota rate of manipulation test. The Purdue pegboard test. The mirror-tracing task. Observations on extra-experimental activities. Theoretical discussion and summary Bibliography Appendix Experimental diary

Note Reported in this book are the results of an experiment planned to obtain answers to the following questions What occurs in perception when the visual field is inverted? What is the influence of past-experience on performance during disorientation and following removal of the inverting lenses? During considerable part of the experiment the field of vision of the subject was both inverted and considerably restricted. Restriction and inversion of the visual field were accomplished by system of lenses set into pair of tubes so as to constitute binocular unit-power telescope. The effects of the disruption of established visuo-motor habits were studied by various tests of learning, some of which are named in the chapter titles. The diary printed in the appendix was kept by the subject himself and states the effects as they appeared to him. In the first chapter of the book previous studies which resemble the purpose and methodology of this study are discussed.

WENGER, M A. AND OTHERS

Physiological psychology By M A Wenger F N Jones and M H Jones. New York Henry Holt and Company 1956 472 p. illus (part col d) 24 cm $6 00 4865

Contents Introduction. The organism. Conducting cells and nerve action. Introduction to the central nervous system. Contracting cells and muscle action. Irritable cells—sensation and perception. Pressure and temperature. Pain. The proprioceptive senses. The chemical senses. Audition. Vision. Secreting cells and chemical integration. Reflexive behavior Autonomic functions. The organization of movement. Cortical dynamics and integrated behavior Motivation. Emotional behavior Psychosomatic problems. Somatopsychological problems. Some problems in physiological psychology Appendix—references. Glossary Index.

Note. A textbook for college courses written by three members of the University of California at Los Angeles. It presents primarily for students who are majoring in psychology an introduction to the structure and functions of the systems of the body which are of psychologic interest, namely the nervous system, the senses, and the endocrine system. In addition, it includes discussions of psychosomatics, the somatopsychological effects of fatigue, diet, narcotics, etc. It is written from a psychobiological point of view, and there is emphasis on the fact that physiology as well as psychology must be taken into account in the study of behavior. The terminal chapter includes, among other things, a short discussion of the physiological factors in abnormal behavior

WORTIS, SAMUEL BERNARD, AND OTHERS

Physiological and psychological factors in sex behavior New York The New York Academy of Sciences, 1947 62 p. 23 cm. (New York Academy of Sciences. Annals Vol 47, p 603–664, 1947) $1.25 4866

Contents Introduction to the conference, by S. B. Wortis. Part I Animal sex behavior: Animal endocrines in relation to sexual behavior by W C. Young. Sex behavior in primates, by W R. Gab. Part II, Human sex behavior Sex behavior in the human animal, by A. C. Kinsey Aberrant sex behavior in humans, by M. Herman. Sex and culture, by G. Bateson.

Note. The purpose of these papers, presented originally at conference held in March, 1946, under the auspices of the New York Academy of Sciences, is to demonstrate, on the basis of scientific fact, the need for change in man's attitude toward sex behavior and, eventually in the law concerned with sex matters. Problems of animal and human sex behavior are discussed separately in the light of recent psychological and physiological findings.

YOUNG, PAUL THOMAS

Emotion in man and animal, its nature and relation to attitude and motive. New York John Wiley and Sons Inc., 1943 422 p. illus. 23 cm. $5 50 4867

Contents. The nature of emotion. Attitudes and motives, determinants of emotion. Needs and appetites. Emotional development. Bodily changes in emotion. Patterns of organic response in emotional excitement. Feeling and emotion as conscious processes. Direct determinants of emotion. Predisposing conditions of emotional disturbance. Attitudes and motives in relation to emotion. General conclusion. Index of authors. Index of subjects.

Note An important book on emotions in relation to attitudes and motives. These topics are considered in the light of scientific investigations and in relation to practical human problems of development and adjustment. The material is of interest to students of child psychology education, anthropology physiology, social and experimental psychology and allied fields. The book takes account of clinical material and case studies as well as the findings of the laboratory A generous number of plates and figures illustrate the text. Bibliographies, notes, and suggestions for further study amplify the presentation.

COMPARATIVE PSYCHOLOGY

ALLEE, W C

Cooperation among animals with human implications A revised and amplified edition of *The social life of animals* New York Abelard Schuman 1951 233 p illus. 21 cm. $3 50 4868

Contents The approach. History Natural history Beginnings of cooperation. Aggregations of higher animals. Population size and evolution. Group behavior Group organization Social transitions. Some human implications. The peck order and international relations. Summary Literature cited. Index.

Note As noted in the title, this book is revision of the author's *The social life of animals*, 1938. In the chapters devoted to co-operation among animals, new information and new evidence from experiments has been added. In the discussions of implications for mankind, there are broader and more forceful extensions of the experimental findings to the realm of co-operation among men and, more particularly co-operation among nations. Whether biological relationships make war necessary whether war is justified by the biological results such as the reduction of the

Psychology

Social Psychology

... In Soviet psychology. Modern Soviet psychology. Psychology and the Soviet system. Notes. Index.

Note This book is both a study of the effects of the Soviet political system upon psychology in Russia and a study of the concept of human nature as it is presented in the new Soviet psychology. It is penetrating and well documented. Although of primary interest to psychologists, it is written in a style that makes it available also to educated people outside this profession.

BERRIEN FREDERICK KENNETH

Comments and cases on human relations. New York Harper & Brothers, 1951 500 p. illus. 22 cm. $4.50 4881

Contents (abridged) Part one: The setting. Words and things. Observing and thinking. Motivation and behavior. Social skills and group codes. Attitude, prejudice, and rumor. Rebuilding attitudes. Part ... Organization, control, and personality. Society and self. Part III Appendix. Index of names. Index of subjects.

Note A "case method" text designed for use in undergraduate college courses and adult education groups where considerable use is made of group discussion in teaching. In the first part—which occupies about one-half of the space—the social processes of contemporary society are described and analyzed, and successful methods of adjusting conflicts due to them are outlined. The second part of the book is devoted to narrative descriptions of 28 individual and group situations ranging from problems in the maladjustments of adolescents to complex problems in labor-management relations. These "cases" are intended for discussion by the classes and other groups making use of the book, and they constitute its unique features. The author is Professorial Lecturer at George Washington University

BETTELHEIM BRUNO AND MORRIS JANOWITZ

Dynamics of prejudice. A psychological and sociological study of veterans. New York Harper & Brothers, 1950 227 p. illus. 24 cm. (Studies in prejudice edited by Max Horkheimer and Samuel H. Flowerman. Sponsored by The American Jewish Committee. Social studies series. Publication no. IV) $4.00. 4882

Contents Dynamic approach to intolerance. Patterns of ethnic intolerance. Stereotyping the minority. Social status. The war experience. Anxiety and intolerance. Tolerance: ... function of control. Continuing tendencies, anti-Negro attitudes. Reflections, and applications for social action. Appendix: The interview. Sampling procedure. Comments on the interview situation. Defining the patterns of intolerance. Reliability of analytic procedures. Schedule of interview questions. Supplementary tables. Index.

Note One of a series of volumes of which the aim is not merely to describe prejudice but to explain it in order to help in its eradication. In the view of the editors eradication of prejudice means re-education on the basis of scientific understanding. In this volume the connection between personality traits and prejudice among war veterans ... concerned with the purpose of discovering what there is in the psychology of the individual that renders him "prejudiced" or "unprejudiced." The group selected for intensive study was a random sample of 150 male veterans of World War II who were residents of Chicago, excluding those who were officers and members of ethnic groups toward which hostility is most frequently directed, i.e., Negroes, Jews, Chinese, Japanese, Mexicans. The work is of interest to psychologists and sociologists.

CANTRIL, HADLEY

The psychology of social movements. New York John Wiley & Sons, Inc., 1941 274 p. 23 cm. (Wiley books in psychology H. L. Langfeld, advisory editor) $4 25 4883

Contents Part I, Basic concepts: Mental context. Motivation in social life. The individual's pursuit of meaning. Part II, Social movements: The lynching mob. The kingdom of Father Divine. The Oxford group. The Townsend plan. The Nazi party. Index.

Note A readable and informative volume. The author has made a penetrating analysis of the complex reasons behind the rise of social movements—their social context, the psychology of the leaders and the followers, the special appeals. Consideration is given to economic and political factors. The book appeals alike to students of social psychology and laymen.

CARTWRIGHT, DORWIN, AND ALVIN ZANDER, editors

Group dynamics research and theory Evanston Row, Peterson and Company 1953 642 p. illus. 24 cm. $6.00 4884

Contents (abridged) Part I, Approaches to the study of groups. Part II, Group cohesiveness. Part III, Group pressures and group standards. Part IV Group goals and group locomotion. Part ... The structural properties of groups. Part VI, Leadership. Index.

Note A collection of 41 papers from previously published books, chapters (and shorter passages) from periodical journals, and ... The selections represent some of the most important modern contributions by Americans to the psychology of groups. Each of the six parts is prefaced by a chapter written by the editors, in which the selections in the particular part are correlated and interpreted. The volume is well indexed.

CENTERS RICHARD

The psychology of social classes a study of class consciousness. Princeton Princeton University Press, 1949 244 p illus 22 cm. (Studies in public opinion, a series under the editorial sponsorship of *The public opinion quarterly* and directed by a committee consisting of Gordon W Allport, Hadley Cantril, W Phillips Davison) $3.50. 4885

Contents Introduction—the social context. Theoretical context—some key concepts and the interest group theory of class structure. Some prior research and the tasks of the present enquiry. Technique and procedure. Politico-economic orientations of occupational strata. Class consciousness and class structure. The interest group theory of class structure—a critical appraisal. Other psychological differences between social classes. Sociological and psychological correlates of class consciousness—the problem of determinants. Summary and conclusions. Appendixes: Some comparative data—class consciousness in Sweden and France. A note on the relation of class and status—a critique of some recent social anthropological research. Supplementary tables. Interview schedule. References. Index.

Note The results of original research on the socio-economic stratification of classes in the United States of America are presented and analyzed in this volume. The investigation was carried out by the Field Staff of the Office of Public Opinion Research of Princeton University and the principal technique used was person-to-person interviews with individuals deemed to represent a cross section of the adult white male population of the United States. The data obtained in the study are presented in 94 tables and a smaller number of graphs. They are discussed and conclusions are drawn in the accompanying text, which is written in a semi-technical but readable style.

DEWEY RICHARD AND W J HUMBER

The development of human behavior New York The Macmillan Company 1951 762 p. illus. 24 cm. $6.25 4886

Contents Part I, A note on the function of theory: What is social psychology? Human nature's interactive variables. Mechanisms of biological inheritance. Potentialities for human nature. Environment. The interactive process. Motivation in social behavior. Personality. Part II, The social psychology of age groups: Infancy and the preschool years. Childhood. Adolescence. Adulthood. Old age. Part III, Abnormal status, deviant roles, and personality: Who's normal? The social psychology of minority status. Physiological-anatomical minorities. Cultural minorities. Personal-social minorities. Those outside of the law. Those outside our world. Part IV Institutions, organizations, and personality: The school and personality. Religion and human nature. The job, the economic system, and the individual. Riots, mobs, and panics. Part ... Social psychology and ethics. The good society. Appendix. Index of names. Index of subjects.

Note An introductory but substantial presentation of the principles of social psychology and of the behavior of groups in society interpreted in terms of social psychology. Much emphasis is placed

RIESEN, AUSTIN HERBERT, AND ELAINE F KINDER

Postural development of infant chimpanzees, a comparative and normative study based on the Gesell behavior examination. With a foreword by Henry W Nissen New Haven Yale University Press, 1952 204 p illus 24 cm $5 00 4874

Contents Introduction. Posture as behavior. General postural characteristics of the chimpanzee. Subjects and procedures. Treatment of data and methods of presentation. Comparative data—postural development of chimpanzee and man. Postural schedule for chimpanzee infants. Individual differences in postural development among the chimpanzee subjects. Discussion. Summary Bibliography Index.

Note. This book contains a detailed report of a comparative behavior study of chimpanzee infants and human infants during their first year of life. Both groups of infants were tested on 202 items of the Gesell and Thompson behavior examination, and the data obtained are carefully tabulated and analyzed to indicate differences in postural development of each species. The material, which is primarily of interest to students of psychology is part of larger study conducted at the Yerkes Laboratories of Primate Biology regarding the physical, psychological and behavioral development in chimpanzees.

STONE, CALVIN PERRY, editor

Comparative psychology Third edition New York Prentice Hall, Inc , 1951 525 p illus. 24 cm. $6 75 4875

Contents Introduction, by C. P Stone. Historical background of comparative psychology by R. H. Waters. Maturation and "instinctive" functions, by C. P Stone. Motivation of animal behavior by P T Young. Internal secretions and behavior by W C. Young. Learning: general introduction, by W T Heron. Primate learning, by H. F Harlow Theoretical interpretations of learning, by K. W Spence. The neurology of learning, by D G. Marquis. Discriminative behavior in animals, by K. U Smith. Individual differences, by C. S. Hall. Problems and principles of animal sociology by N E. Collias. Social behavior in primates, by H. W Nissen. Abnormal behavior in animals, by R. A. Patton. Author index. Subject index.

Note. A college textbook designed for use in first courses in comparative (or animal) psychology It was formerly edited by F A. Moss. The pattern of the preceding edition, published in 1942 has been followed, and each of the chapters is monographic summary with references to the source literature. The authors of five of the chapters which appeared in the 1942 edition have rewritten their monographs for the present edition All of the other chapters are the work of new contributors. All of the bibliographies have been revised.

WASHBURN, MARGARET FLOY

The animal mind a text book of comparative psychology Fourth edition. Westport, Conn. Associated Booksellers, 1936 536 p. illus 20 cm $7 50 4876

Contents The difficulties and methods of comparative psychology The evidence of mind. The mind of the simplest animals. Sensory discrimination—methods of investigating it—the chemical sense—hearing—vision. Spatially determined reactions. Space perception and the perception of things. The modification of conscious processes by individual experience. Higher mental processes. The affective factors in the animal mind—drives, incentives and emotions. Some aspects of attention. References. Index of subjects. Index of names.

Note. One of the earliest objective interpretations of animal behavior now rated as classic of comparative psychology The first edition was published in 1908 and the fourth in 1936, all by the Macmillan Company The edition listed here is reprint of the last Macmillan edition.

YERKES, ROBERT MEARNS

Chimpanzees a laboratory colony New Haven Yale University Press 1943 321 p. illus. 24 cm. $6 75 4877

Contents Prologue. Servant of science. Part I, General descriptions: From jungle to laboratory Good tempers and bad. Social behavior. Life's cycles. Male and female. Part II, Mentality The world of the chimpanzee. Looking toward intelligence. Experience the teacher Memory foresight, and insight. Language and symbolism. Part III, Care and handling House and home. Feeding chimpanzees. Breeding and rearing. An ounce of prevention. Epilogue. The story of an idea. References and selected bibliography Subject-author index.

Note. Professor Yerkes organized and for many years directed the Yale Laboratories of Primate Biology at Orange Park, Florida. He experimented with the great apes in an effort to discover in their lives the springs of action that motivate living creatures, among them man himself For some 35 years, both in the United States of America and in Africa, he and his staff have conducted pioneer studies of the habits and social life of chimpanzees, devising tests for them, using them as experimental subjects, measuring and photographing them, understanding them with respect and affection. In this volume Dr. Yerkes has summed up his knowledge of the chimpanzee for both scientist and layman.

YOUNG, PAUL THOMAS

Motivation of behavior, the fundamental determinants of human and animal activity New York John Wiley and Sons, Inc., 1936. 562 p. illus. 23 cm. $6 75 4878

Contents. The problem. The energetics of activity Animal drives. Drive and purpose. Direction and regulation. Positive and negative behavior. Psychological hedonism. Social motivation. Emotion and motivation. The dynamic interplay of motives. Questions and exercises. Index.

Note. A general psychology study going beyond beginning or introductory psychology The author gives great deal of space to descriptions of experiments and cases so as to present impartially the points of view of a great many schools ranging from animal psychology to psychoanalysis. He has illustrated his theories by reference to numerous experiments, both his own and those of others, and has concisely estimated the importance of their results as bearing upon his problem.

SOCIAL PSYCHOLOGY

ASCH, SOLOMON E

Social psychology New York Prentice-Hall, Inc. 1952 646 p 24 cm. $6.25 4879

Contents. Part I, Introduction: Doctrines of man. Part II, Organization in psychological events: Structured properties of experience and action. Psychological invariance and change. Part III, Human interaction The transformation of man in society The problem of human interaction. Social facts—the products of interaction. The expression of emotions. Knowledge of persons and groups. An introduction to group theory Part IV Social needs. The ego. Social interest. Rules and values. The fact of culture and the problem of relativism. Part Effects of group conditions on judgments and attitudes. The doctrine of suggestion. Structural factors in the understanding of assertions. Group forces in the modification and distortion of judgments. The study of small groups. Opinion and attitude—their sociological shape. Sentiments and attitudes. Some remarks on propaganda. Name index. Subject index.

Note. A re-examination and evaluation of the fundamental concepts and assumptions regarding the social nature of man, in terms of Gestalt theory Rather than providing an exhaustive or historical review of the subject, the discussion centers around these aspects of behaviorism and psychoanalysis which relate directly to social psychology The chapters dealing with the expression of emotion, the understanding of assertions, and the distortion of judgments are based largely on the author's experimental studies in these fields. The author is Professor of Psychology at Swarthmore College.

BAUER, RAYMOND A

The new man in Soviet psychology Cambridge, Mass. Harvard University Press, 1952 229 p. 22 cm $4 00 4880

Contents Foreword, by J S. Bruner The relationship of psychology to society Two kinds of Marxism The pattern of social change. The behavioral psychologies of the twenties. The mechanistic model of personality Consciousness comes to man The turning point in applied psychology The decree against pedology The "new

... in Soviet psychology. Modern Soviet psychology. Psychology and the Soviet system. Notes. Index.

Note: This book is both a study of the effects of the Soviet political system upon psychology in Russia and a study of the concept of human nature as it is presented in the new Soviet psychology. It is penetrating and well documented. Although of primary interest to psychologists, it is written in a style that makes it available also to educated people outside this profession.

BERRIEN, FREDERICK KENNETH

Comments and cases on human relations. New York Harper & Brothers, 1951 500 p. illus. 22 cm. $4.50. 4881

Contents (abridged) Part one: The setting. Words and things. Observing and thinking. Motivation and behavior. Social skills and group codes. Attitudes, prejudice, and rumor. Rehabilitating attitudes. Organization, control, and personality. Society and self. Part II. Appendix. Index of names. Index of subjects.

Note: A "case method" text designed for use in undergraduate college courses and adult education groups where considerable use is made of group discussion in teaching. In the first part—which occupies about one-half of the space—the social pressures of contemporary society are described and analyzed, and successful methods of adjusting conflicts due to them are outlined. The second part of the book is devoted to narrative descriptions of 28 individual and group situations ranging from problems in the maladjustments of adolescents to complex problems in labor-management relations. These "cases" are intended for discussion by the classes and other groups making use of the book, and they constitute its unique feature. The author is Professorial Lecturer at George Washington University.

BETTELHEIM, BRUNO, AND MORRIS JANOWITZ

Dynamics of prejudice. A psychological and sociological study of veterans. New York Harper & Brothers, 1950. 227 p. illus. 24 cm. (Studies in prejudice, edited by Max Horkheimer and Samuel H. Flowerman. Sponsored by The American Jewish Committee. Social studies series. Publication no. IV) $4.00. 4882

Contents: Dynamic approach to intolerance. Patterns of ethnic intolerance. Stereotyping the minority. Social status. The war experience. Anxiety and intolerance. Tolerance a function of control. Combating intolerance: anti-Negro attitudes. Reductions, and applications for social action. Appendix. The interview. Sampling procedure. Comments on the interview situation. Defining the patterns of intolerance. Reliability of analytic procedures. Schedule of interview questions. Supplementary tables. Index.

Note: One of a series of volumes of which the aim is not merely to describe prejudice but to explain it in order to help in its eradication. In the view of the editors eradication of prejudice means re-education on the basis of scientific understanding. In this volume the connection between personality traits and prejudice among war veterans is examined with the purpose of discovering what there is in the psychology of the individual that renders him "prejudiced" or "unprejudiced." The group selected for intensive study was a random sample of 150 male veterans of World War II who were residents of Chicago, excluding those who were officers and members of ethnic groups toward which hostility is most frequently directed, i.e. Negroes, Jews, Chinese, Japanese, Mexicans. The work is of interest to psychologists and sociologists.

CANTRIL, HADLEY

The psychology of social movements. New York John Wiley & Sons, Inc. 1941 274 p. 23 cm. (Wiley books in psychology, H. L. Langfeld, advisory editor) $4.25 4883

Contents: Part I, Basic concepts: Mental context. Motivation in social life. The individual's pursuit of meaning. Part II, Social movements: The lynching mob. The kingdom of Father Divine. The Oxford Group. The Townsend plan. The Nazi party. Index.

Note: A readable and informative volume. The author has made a penetrating analysis of the complex reasons behind the rise of social movements—their social context, the psychology of the leaders and the followers, the special appeals. Consideration is given to economic and political factors. The book appeals alike to students of social psychology and laymen.

CARTWRIGHT, DORWIN, AND ALVIN ZANDER, editors

Group dynamics: research and theory. Evanston Row, Peterson and Company 1953 642 p. illus. 24 cm. $6.00 4884

Contents (abridged) Part I, Approaches to the study of groups. Part II, Group cohesiveness. Part III, Group pressures and group standards. Part IV, Group goals and group locomotion. Part V, The structural properties of groups. Part VI, Leadership. Index.

Note: A collection of 41 papers from professional journals, and chapters (and shorter passages) from previously published books. The selections represent some of the most important modern contributions by Americans to the psychology of groups. Each of the six parts is prefaced by a chapter written by the editors, in which the selections in the particular part are correlated and interpreted. The volume is well indexed.

CENTERS, RICHARD

The psychology of social classes: a study of class consciousness. Princeton Princeton University Press, 1949 244 p. illus. 22 cm. (Studies in public opinion, a series under the editorial sponsorship of *The public opinion quarterly* and directed by a committee consisting of Gordon W. Allport, Hadley Cantril, W. Phillips Davison) $3.50. 4885

Contents: Introduction—the social context. Theoretical context—some key concepts and the interest group theory of class structure. Some prior research and the tasks of the present enquiry. Techniques and procedures. Politico-economic orientations of occupational strata. Class consciousness and class structure. The interest group theory of class structure—a critical appraisal. Other psychological differences between social classes. Sociological and psychological correlates of class consciousness—the problem of determinants. Summary and conclusions. Appendices. Some comparative data—class consciousness in Sweden and France. A note on the relation of class and status—a critique of some recent social anthropological research. Supplementary tables. Interview schedule. References. Index.

Note: The results of original research on the socio-economic stratification of classes in the United States of America are presented and analyzed in this volume. The investigation was carried out by the Field Staff of the Office of Public Opinion Research of Princeton University and the principal technique used was person-to-person interviews with individuals deemed to represent a cross section of the adult white male population of the United States. The data obtained in the study are presented in 16 tables and a smaller number of graphs. They are discussed and conclusions are drawn in the accompanying text, which is written in a semi-technical but readable style.

DEWEY, RICHARD, AND W. J. HUMBER

The development of human behavior. New York The Macmillan Company 1951 762 p. illus. 24 cm. $6.25 4886

Contents: Part I, A note on the function of theory. What is social psychology? Human nature's interaction variables. Mechanisms of biological inheritance. Potentialities for human nature. Environment. The interactive processes. Motivation in social behavior. Personality. Part II, The social psychology of age groups: Infancy and the preschool years. Childhood. Adolescence. Adulthood. Old age. Part III, Abnormal status, deviant roles, and personality: Who's normal? The social psychology of minority status. Physiological-anatomical minorities. Cultural minorities. Personal-social minorities. Those outside of the law. Those outside our world. Part IV, Institutions, organizations, and personality: The school and personality. Religion and human nature. The job, the economic system, and the individual. Fads, mobs, and panics. Part V, Social psychology and ethics: The good society. Appendix. Index of names. Index of subjects.

Note: An introductory but substantial presentation of the principles of social psychology and of the behavior of groups in society interpreted in terms of social psychology. Much emphasis is placed

on th importance of the scientific attitude and on the information so far accumulated by the techniques of scientific investigations. In the first part, basic information on such pertinent topics as genetics, the structure of the nervous system, the influence of the social environment on human nature and human motivation is presented. In the remainder of the book, the phenomena of behavior evidenced within groups and as interactions among groups are analytically discussed. The text is well documented with literature references, and the names of the authors of cited papers are brought out in the index of names. The book is suited to use as a text in college courses offered to students who have completed basic courses in psychology. It has value also as a reference and orientation book for teachers, journalists, etc.

DOOB, LEONARD WILLIAM

Public opinion and propaganda. New York Henry Holt and Co, 1948 600 p il lus 22 cm $8 75 4887

Contents The importance of people. Social beha ior The nature of public opinion. The cultural background of public opinion. The behavior of public opinion. Sampling public opinion. The mechanics of polling. The evaluation of polls. Intensive measures of public opinion. The importance of public opinion. The nature of propaganda. The propagandist. The content of propaganda. The perception f propaganda. Personality and propaganda. The learning of propaganda. Propaganda and action. The printed media. Radio. The media of sight and sound. The value of analysis. References. Index.

Not A searching analysis of the interrelations of public opinion and propaganda, written from the viewpoint of modern social science. The techniques of modern propaganda, their effectiveness and limitations are described at length. Polls based on the questioning f selected samples of a community as a means of estimating public opinion are discussed from the same viewpoint and with equal thoroughness. The list of references is extensive. The work is suited to advanced students in sociology and to persons with professional interests in the subject.

DOOB, LEONARD WILLIAM

Social psychology an analysis of human behavior New York Henry Holt and Company, 1952 583 p 24 cm $8 75 4888

Contents Part I, The individual in society the social setting. The bases of behavior Socialization and learning. Actions and reactions. Language. The methods of research. Part II, The behavior of groups. Ethnic groups. The individual and his group. Organized groups. Group laws Leaders. Group prejudice. Delinquency and crime. Part III, Social change Vogues. Communication and the mass media. Education and re-education. Social conflict. The diffusion of change. The problems and scope of social psychology Index.

Note Mainly this book is a survey of the problems with which social psychology must deal. There is considerable emphasis on unsolved problems. So many quotations from significant surveys, reports, and other basic materials of social psychology are included that the book can be used as an introductory guide to such literature. The author has made good use of important research studies of World War II and the years immediately after Each of the three main parts contains a selected bibliography The book is useful chiefly as an introductory text at the college level for students with serious interests in social psychology and sociology

FARIS, ROBERT E LEE

Social psychology New York The Ronald Press Company, 1952 420 p 23 cm $5 50 4889

Content Human natur and the social order Inadequacy of biological motivation. Motivation—the individual aspect—social sources. The emergence of consciousness. The concept of unconscious mind. The emergence of self-consciousness in social interaction. Social determination of learning, perception and memory Social determination of attitudes and beliefs. The social factor in ability The ch acter of primary interaction. The differentiation of persons by variations of mind. The neurotic role. Personality disorganization. Trends and problems in social psychology Index of names. Index f subjects.

Note A well-written introduction, in which the main emphasis is on the significant results of the outstanding scientific investigations in recent decades of the ph nomena of social behavior and of personality development in human society No particular school of psychological thought is favored however the author is critical of the Freudian school. Frequent quotations from the writings of other authors are incorporated in the text, and there are numerous footnote citations of other writings. Although primarily a text for college courses, the book is so written that it can be read with profit by mature lay readers not enrolled in formal courses.

FRANK, LAWERENCE KELSO

Society as the patient, essays on culture and personality New Brunswick Rutgers University Press, 1948 395 p 22 cm. $6.00. 4890

Content (abridged) Society as the patient. The cost of competition. The principle of disorder and incongruity The significance of industrial integration. Social planning and individual ideals. Social change and the family The management of tensions. Social order and psychiatry Freud' influence on Western thinking and culture. Freedom for the personality Mental security Mental health in schools. Art and living. Science and culture. The historian as therapist. Dilemmas of leadership. Man's multidimensional environment. The arts in reconstruction. World order and cultural diversity

Not The contributions [illegible] the author of this book to social psychology and the study of society are widely recognized. He terms his special iewpoint "the psychocultural approach, and points out that it utilizes the concepts and findings of psychiatry psychoanalysis, and psychology along with those of anthropology and sociology The essence of his viewpoint is that the psychology of society is not a separate entity but is manifestation of the psychology of indi iduals. The essays in this book ha appeared over period of many years in numerous periodicals and are reprinted for the most part without textual changes.

GERTH, HANS, AND C WRIGHT MILLS

Character and social structure the psychology of social institutions. New York Harcourt, Brace and Company Inc., 1953 490 p illus. 22 cm $6 75 4891

Contents. Part I, Introductory Perspectives. Character and social structure. Part II, Character structure Organism and psychic structure. The person. The sociology of motivation. Biography and types of childhood. Part III, Social structure. Institutions and persons. Institutional orders and social controls. Symbol spheres. Stratification & institutional orders. The unity of social structures. Part IV Dynamics Social-historical change. The sociology of leadership. Collective beha ior Master trends. Bibliographical notes. Index.

Note The sub-title is key to this book. The authors are concerned not with traditional social psychology but with the psychology of social structures—institutions which in the present world not only control man's destiny—but also mold individual personalities. The following passage illustrates the iewpoint "When the roles composing social structure are specialized into more or less autonomous institutions, the traits of men are likely to be segregated and specific. A man may cheat his wife, but not his business partner or ice versa. On the field of sport the football player may be a ruthless tackler but on the dance floor an awkward partner and timid competitor. From this iewpoint the authors analyze the psychological aspects of social institutions and, in the terminal chapter assess the current trends toward totalitarianism and ca cellation.

HARTLEY EUGENE L , AND RUTH E HARTLEY

Fundamentals of social psychology New York Alfred A. Knopf 1952 756 p. illus. 24 cm. $5 50 4892

Contents (abridged) Part I, Communication—the basic social process The importance and nature of communication. Communication barriers and facilitation of communication. Mass communications, by G. D. Wiebe. Part II, Socialization—the group and the individual Socialization is learning Perception and socialization. The cultural control of behavior and emotion. Delinquency, by F L. Rouke. Part III, The individual and the group Groups and group processes. The individual in the group. Adjustment of the individual to social role Status. Leadership-followership. Attitudes and opinions (ith C. W Hart) Ethnic attitudes. Modifying ethnic attitudes. Index of names. Index of subjects

Note. A college textbook in which broad and substantial iew of social psychology is presented. Throughout the book, there is extensive citation of research studies, but the text is not collection of abstracts of such works. The authors ha e done much in the

way of synthesis and interpretation. The section on communication is potentially of value to students of advertising and journalism as well as to students of social psychology. The third part in which the dynamics of the individual functioning in society is discussed in terms of his psychology of loyalties to groups, his participation in groups, and his acceptance of social roles, is the longest of the three parts by considerable margin.

HOVLAND CARL I., AND OTHERS

Communication and persuasion psychological studies of opinion change. By Carl I. Hovland, Irving L. Janis and Harold H. Kelley New Haven Yale University Press 1953. 315 p. illus. 24 cm. $4.50. 4893

Contents: Introduction. Credibility of the communicator. Fear-arousing appeals. Organization of persuasive arguments. Group membership and resistance to influence. Personality and susceptibility to persuasion. Acquiring conviction through active participation. Retention of opinion change. Summary and emerging problems. Index.

Note: A book based on coordinated program of basic research into the factors of opinion change. In the popular language it is study of "how people's minds are changed, be changed, and by Controlled experiments were made, largely on captive audiences such as high school and college students. Much was learned about the effectiveness of various types of persuasiveness. Many essentially independent studies were carried out under the program, then the results were co-ordinated and some tentative generalizations made. Also, there has been some coordination of the results of investigators outside the program. Literature references are included in the chapters.

KARDINER, ABRAM

The individual and his society the psychodynamics of primitive social organization. With a foreword and two ethnological reports by Ralph Linton. New York Columbia University Press, 1939 503 p 23 cm. $5.50. 4894

Contents: Part I, Methodological Introduction. Basic orientations. Preliminary studies in primitive cultures. Security systems and basic personality structure. Part II, Descriptive. Marquesan culture, by R. Linton. Analysis of Marquesan culture. The Tanala of Madagascar by R. Linton. Analysis of Tanala culture. Part III, Theoretical. Psychology and sociology methodological review. Psychological principles and techniques. Index.

Note: This book represents an exploratory attempt to forge technique for synthesizing with psychology the knowledge accumulated by the social sciences. The author, psychiatrist, utilizes psychological techniques grounded in Freudian principles with some modification.

KARDINER, ABRAM

The psychological frontiers of society By Abram Kardiner with the collaboration of Ralph Linton, Cora Du Bois, and James West. New York Columbia University Press, 1945 475 p. 23 cm. $5 50. 4895

Contents: Foreword, by R. Linton. Preface. Psychology and the science of society. The techniques of psychodynamic analysis. The Comanche, compiled from information supplied by R. Linton. Analysis of Comanche culture. The Alorese, compiled by the author from summary notes and from the book *The people of Alor* by C. Du Bois. Analysis of Alorese culture. Personality studies. Basic personality character, value systems. New material, synthesis, and general conclusions to Alorese culture. Plainville, U. S. A., by J. West. Analysis of Plainville. The personalities of Plainville. Conclusions to Plainville. Basic personality and history. Index.

Note: The volume is an attempt to work out the technical problems originally outlined in the author's *The individual and his society* New York, 1939. Three varied societies, that of the Comanche Indians, that of the Alor Islanders in the Dutch East Indies, and that of Plainville, United States of America, contemporary American rural community are used as clinical demonstrations of principles set forth in the earlier volume. The part of the author was to work out the psychological technique employed and to select the cultures giving the best opportunity for refining and perfecting the technique, the data being presented by three ethnographers, specialists in their fields.

KILPATRICK WILLIAM HEARD, AND WILLIAM VAN TIL, editors

Intercultural attitudes in the making parents, youth leaders, and teachers at work. New York Harper & Brothers, 1947 246 p. 21 cm. (Ninth Yearbook of the John Dewey Society) $3.00 4896

Contents: Preface, by W. H. Kilpatrick. Basic principles in intercultural education, by W. H. Kilpatrick. Working with young children. Parents, by J. L. Hymes, Jr. The primary teacher, by H. Trager. Working with young adolescents: Adult-sponsored youth groups, by R. Bridges. The junior high school teacher, by F. Bostwick and M. F. Seguriason. Working with youth. Gangs, by C. E. Hendry and others. The high school teacher, by W. Van Til. The school as whole, by C. O. Arndt.

Note. Though addressed primarily to teachers and school officials, this book is also intended for any persons dealing actively with children and youth. The aim of the book is to describe the processes through which the attitudes of children and adolescents toward other groups are actually shaped. It examines the working of family of community and adult-sponsored groups, such as the Boy Scouts and the Y. M. C. A., and especially of the school in relation to children and youth, assuming that the intercultural attitudes of the child are in the making day by day through all the varied experiences that his life brings.

KLINEBERG OTTO

Social psychology New York Henry Holt & Company 1954 578 p. 24 cm. $7 75 4897

Contents. Part one, Introductory: Background and history. The social behavior of animals. Language. Part two, Social factors in human nature: The concept of human nature. Motivation. Emotional behavior. Social factors in perception and memory. Part three: Individual and class differences. Sex differences. Ethnic differences. Part four: Social and cultural factors in personality: The development of personality. Culture and personality—status, role and the individual—The study of national characteristics. Social factors in abnormality. Social factors in delinquency and crime. Part five, Social interaction: The individual in the group. Attitudes and opinions. Prejudice. Psychology and international relations. Index of names. Index of subjects.

Note: An introductory text for college students, first published in 1940. It provides broad view of the field, and includes more material from ethnology than is common in such books. There is extensive citation of related literature, and the names of the authors of the cited publications are brought together in the index of names. In preparing this second edition, the author revised and added to most of the chapters that are listed above under Parts four and five. The chapter on national characteristics and the terminal chapter were added.

KLINEBERG OTTO

Tensions affecting international understanding a survey of research. New York. Social Science Research Council, 1950. 227 p. 22 cm. (Social Science Research Council. Bulletin 62) $2.25 4898

Contents: Introduction. Personality in relation to nationality. National stereotypes. Attitudes and their modification. Influences making for aggression. Summary and conclusions. Index of names. Index of subjects.

Note: This work owes its existence to the Unesco Tensions Project whose official title is "Tensions Affecting International Understanding." It presents in skillfully written text the substance of wide range of research publications by psychologists and sociologists which are pertinent to those factors of international tension named in the principal titles above. References to the source publications are included.

KRECH, DAVID, AND RICHARD S CRUTCHFIELD

Theory and problems of social psychology New York McGraw Hill Book Company, Inc., 1948 639 p 24 cm. (McGraw Hill publications in psychology, J F Dashiell, consulting editor) $6 25 4899

Contents Part I, Basic principles The field and problems of social psychology The dynamics of behavior Perceiving the world. Reorganizing our perceptions. Part II, Social processes Beliefs and attitudes of men. Development and change of beliefs and attitudes. The measurement of beliefs and attitudes. Public opinion research. Persuasion through propaganda. The structure and function of social groups. Group morale and leadership. Part III, Applications Racial prejudice in the United States. Controlling racial prejudice. Industrial conflict. International tensions. Name index. Subject index.

Note. An interesting, well-organized textbook. The authors hold that the only sound basis for an understanding of social behavior is knowledge of individual perception and motivation, or in other words, that social psychology should and can be based on the experimentally-derived and widely-accepted knowledge of the behavior of individuals. However their treatment assumes that the student will have the basic knowledge, and therefore the work is devoted mainly to discussions of social behavior in the light of this knowledge. There are good reading lists appended to the chapters.

LAPIERE, RICHARD TRACY, AND PAUL R. FARNSWORTH

Social psychology Third edition. New York McGraw Hill Book Company, Inc. 1949 626 p 24 cm. $6 50 4900

Contents Part I, The nature of the individual and of society Social psychology The psychobiological bases of human behavior The sociocultural bases of human behavior Part II, The processes of socialization Socialization. Types of human behavior Overt symbolic behavior—gesture—speech. Overt nonsymbolic behavior Overt nonsymbolic behavior—symbolic sources. The covert behaviors. Part III, The human personality: Personality Personality stereotyping Personality norms. Personality deviations. Personality and social controls. Part IV Personality and social adjustment: The dynamics of social adjustment. Social disorganization and malpreparation for modern life. Social change and maladjustment. Socially atypical patterns of adjustment. Psychologically abnormal modes of adjustment. Part V Social interaction The interactional situation. Cultural situations. Interpersonal situations. Publics. Abnormal situations. Appendix. Bibliography and author index. Subject index.

Note A standard introductory textbook for use in college courses. In the present edition, three new chapters have been added, and most parts that have been carried over from the second edition have been extensively revised. The first-named author is Professor of Sociology and the second is Professor of Psychology in Stanford University

LEIGHTON, ALEXANDER HAMILTON

The governing of men general principles and recommendations based on experience at a Japanese relocation camp Princeton Princeton University Press 1946 404 p 23 cm $5 00 4901

Contents. Introduction The problem. Part I, The story of Poston. Evacuation. Beginning of Poston. Intake. Early days Community planning Self-government. Social organization. Social disorganization. First. Beginning of the strike. Deadlock End of the strike. Self-management after the strike. Reconsideration. Part II Principles and recommendations Fundamental postulate. Individuals under stress. Systems of belief under stress. Social organization under stress. Conclusion. List of references. Appendix Applied anthropology in a dislocated community by A. H. Leighton and E. H. Spicer Index.

Note. The first part of this outstanding contribution to social psychology is a detailed study of events and the social factors that determined them at Poston, Arizona, one of the inland relocation centers to which persons of Japanese origin were removed from the Pacific coastal regions of the U.S.A. during World War II The center was the scene of a "strike" against military authority which attracted wide attention. The sources of unrest which culminated in the strike are fairly analysed and without attempt to gloss over mistakes made by U.S.A. authorities. In the second part, the principles of social psychology which operate in communities organized under stress are stated and discussed from the viewpoint of just and efficient administration. The author is a psychiatrist and social anthropologist who was assigned to the relocation center to conduct research in its social phenomena and problems.

LEMERT, EDWIN MCCARTHY

Social pathology, a systematic approach to the theory of sociopathic behavior New York McGraw Hill Book Company, Inc., 1951 459 p illus. 24 cm (McGraw Hill series in sociology and anthropology, Richard T LaPiere, consulting editor) $6 00 4902

Contents Part I, Theory: Introduction. Deviation and differentiation. The societal reaction. Sociopathic individuation. Part II, Deviation and deviants. Blindness and the blind. Speech defects and the speech defective. Radicalism and radicals. Prostitution and the prostitute. Crime and the criminal. Drunkenness and the chronic alcoholic. Mental disorders. Appendix: Suggested outline to be followed in studying and writing the life history of a deviant. Glossary Index.

Note: In this book an original theoretical structure for the study of sociopathic phenomena is presented, and its applications to specific sociopathological types, such as radicals and alcoholics, are discussed. Since the author's main purpose is to advance a theory which will facilitate the integration of the study of social deviants with sociology rather than with the abnormal psychology textbooks, the book is potentially of greater interest to sociologists than to psychologists. However it presents a point of view about which the specialist in abnormal psychology should be informed. The level of treatment implies previous study of psychology and sociology on the part of the reader.

LEWIN, KURT

Field theory in social science selected theoretical papers. Edited by Dorwin Cartwright. A publication of the Research Center for Group Dynamics, University of Michigan. New York Harper & Brothers, 1951 346 p. illus 22 cm. $5 00 4903

Contents. Formalization and progress in psychology. Constructs in field theory Defining the "field at a given time." Field theory and learning. Regression, retrogression, and development. Field theory and experiment in social psychology Problems of research in social psychology Psychological ecology Frontiers in group dynamics. Behavior and development as a function of the total situation. Appendix Analysis of the concepts whole, differentiation, and unity Index.

Note. All of the papers in this volume were previously published elsewhere. Though written and published separately they now form a reasonably coherent whole. The editor has modified them slightly by omitting duplicate passages and occasionally writing a transitional paragraph. The book is a basic work both in social psychology and in sociology

LINDNER, ROBERT

Must you conform? New York Rinehart & Company, Inc. 1956 210 p 21 cm. $3 00. 4904

Contents The mutiny of the young. Homosexuality and the contemporary scene. Political creed and character The instinct of rebellion. Must you conform? Education for maturity

Note In this collection of lectures and journal articles, the author of *Prescription for rebellion*, described above, continues his exploration of the problem of conformity The first piece in the volume—originally one of four lectures constituting the Hackett Foundation Lectures for 1954—discusses the current rebellion of young people as manifested in juvenile delinquency in not only the United States of America but in other countries as well. The pieces that follow are devoted to other facets of the theme that conformity or adjustment to social pressures, is a dangerous precept.

Lindzey, Gardner, editor

Handbook of social psychology. Reading, Mass., Addison-Wesley Publishing Company, Inc., 1954. 2 v. illus. $8.50 per vol., set, $17.00. 4905

Contents: [illegible]

Note: [illegible]

Mead, George Herbert

Mind, self & society from the standpoint of a social behaviorist. Edited, with introduction, by Charles W. Morris. Chicago, The University of Chicago Press, 1934. 401 p. 23 cm. $5.00. 4906

Contents: [illegible]

Note: [illegible]

Mead, George Herbert

The social psychology of George Herbert Mead. Edited with an introduction by Anselm Strauss. Chicago, The University of Chicago Press, 1956. 2[illegible] p. 2[illegible] cm. $1.50. 4907

Contents: [illegible]

Note: [illegible]

Miller, James Grier, editor

Experiments in social process: a symposium on social psychology. New York, McGraw-Hill Book Company, Inc., 1950. 205 p. illus. 24 cm. (McGraw-Hill publications in psychology. Clifford T. Morgan, consulting editor) $4.00. 4908

Contents: [illegible]

Note: [illegible]

Murphy, Gardner

In the minds of men; the study of human behavior and social tensions in India. Based on the UNESCO studies by social scientists conducted at the request of the government of India. New York, Basic Books, Inc., 1953. 306 p. 2[illegible] cm. $4.50. 4909

Contents: [illegible]

Note: [illegible]

Newcomb, Theodore Mead

Social psychology, by Theodore M. Newcomb, with the assistance of [illegible] Charters. New York, The Dryden Press, 1950. 690 p. illus. 24 cm. (The Dryden Press publications in sociopsychological series, general editor Theodore M. Newcomb) $[illegible]. 4910

Contents: [illegible]

KRECH, DAVID, AND RICHARD S CRUTCHFIELD

Theory and problems of social psychology New York McGraw Hill Book Company, Inc., 1948 639 p 24 cm (McGraw Hill publications in psychology, J F Dashiell, consulting editor) $6 25 4899

Contents Part I, Basic principles: The field and problems of social psychology The dynamics of behavior Perceiving the world. Reorganizing our perceptions. Part II, Social processes. Beliefs and attitudes of men. Development and change of beliefs and attitudes. The measurement of beliefs and attitudes. Public opinion research. Persuasion through propaganda. The structure and function of social groups. Group morale and leadership. Part III, Applications. Racial prejudice in the United States. Controlling racial prejudice. Industrial conflict. International tensions. Name index. Subject index.

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Social psychology Third edition New York McGraw Hill Book Company Inc. 1949 626 p 24 cm. $6 50 4900

Contents Part I, The nature of the individual and of society- Social psychology The psychobiological bases of human behavior The sociocultural bases of human behavior Part II, The processes of socialization Socialization. Types of human behavior Overt symbolic behavior—gesture—speech. Overt nonsymbolic behavior Overt nonsymbolic behavior—symbolic sources. The covert behaviors. Part III, The human personality Personality Personality stereotyping. Personality norms. Personality deviations. Personality and social controls. Part IV Personality and social adjustment. The dynamics of social adjustment. Social disorganization and malpreparation for modern life. Social change and maladjustment. Socially atypical patterns of adjustment. Psychologically abnormal modes of adjustment. Part V Social interaction The interactional situation. Cultural situations. Interpersonal situations. Publics. Abnormal situations. Appendix. Bibliography and author index. Subject index.

Note. A standard introductory textbook for use in college courses. In the present edition, three new chapters have been added, and most parts that ha e been carried over from the second edition have been extensively revised. The first-named author is Professor of Sociology and the second is Professor of Psychology in Stanford University

LEIGHTON, ALEXANDER HAMILTON

The governing of men general principles and recommendations based on experience at a Japanese relocation camp Princeton Princeton University Press 1946 404 p. 23 cm $5 00 4901

Content Introduction The problem. Part I, The story of Poston. Evacuation. Beginning of Poston. Intake. Early days. Community planning Self-government. Social organization Social disorganization. Fires. Beginning of the strike Deadlock. End of the strike. Self-management after the strike. Reconsideration. Part II, Principles and recommendations Fundamental postulate Individuals under stress. Systems f belief under stress. Social organization under stress. Conclusion. List of references. Appendix Applied anthropology in dislocated community by A. H. Leighton and E. H. Spicer Index.

Note. The first part of this outstanding contribution to social psychology is a detailed study f events and the social factors that determined them at Poston Arizona, one of the inland relocation centers to which persons of Japanese origin were removed from the Pacific coastal regions of the U.S.A. during World War II. The center was the scene of a "strike" against military authority which attracted wide attention. The sources of unrest which culminated in the strike are fairly analysed and without attempt to gloss over mistakes made by U.S.A. authorities. In the second part, the principles of social psychology which operate in communities equalized under stress are stated and discussed from the viewpoint of just and efficient administration. The author is a psychiatrist and social anthropologist who was assigned to the relocation center to conduct research in its social phenomena and problems.

LEMERT, EDWIN MCCARTHY

Social pathology a systematic approach to the theory of sociopathic behavior New York McGraw Hill Book Company, Inc., 1951 459 p illus 24 cm. (McGraw Hill series in sociology and anthropology, Richard T LaPiere, consulting editor) $6 00 4902

Contents Part I, Theory- Introduction. Deviation and differentiation. The societal reaction. Sociopathic individuation. Part II, Deviation and deviants: Blindness and the blind. Speech defects and the speech defective. Radicalism and radicals. Prostitution and the prostitute. Crime and the criminal. Drunkenness and the chronic alcoholic. Mental disorders. Appendix: Suggested outline to be followed in studying and writing the life history of deviant. Glossary Index.

Note. In this book an original theoretical structure for the study of sociopathic phenomena is presented, and its applications to specific sociopathological types, such as radicals and alcoholics, are discussed. Since the author's main purpose is to advance a theory hich will facilitate the integration of the study of social deviants with sociology rather than with the abnormal psychology individuals, the book is potentially of greater interest to sociologists than to psychologists. However it presents point of view about which the specialist in abnormal psychology should be informed. The level of treatment implies previous study of psychology and sociology on the part of the reader

LEWIN, KURT

Field theory in social science selected theoretical papers. Edited by Dorwin Cartwright. A publication of the Research Center for Group Dynamics University of Michigan. New York Harper & Brothers 1951 346 p. illus 22 cm $5 00 4903

Contents. Formalization and progress in psychology Constructs in field theory Defining the "field at given time. Field theory and learning. Regression, retrogression, and development. Field theory and experiment in social psychology Problems of research in social psychology Psychological ecology Frontiers in group dynamics. Behavior and development as function of the total situation. Appendix Analysis of the concepts whole, differentiation, and unity Index.

Note. All of the papers in this volume were previously published elsewhere. Though written and published separately they now form reasonably coherent whole. The editor has modified them slightly by omitting duplicate passages and occasionally writing transitional paragraph. The book is basic work both in social psychology and in sociology

LINDNER, ROBERT

Must you conform? New York Rinehart & Company Inc., 1956 210 p. 21 cm. $3 00 4904

Contents The mutiny of the young. Homosexuality and the contemporary scene Political creed and character The instinct of rebellion. Must you conform? Education for maturity

Note. In this collection of lectures and journal articles, the author of *Prescription for rebellion*, described abov continues his exploration of the problem of conformity The first piece in the volume—originally one of four lectures constituting the Hacker Foundation Lectures for 1954—discusses the current rebellion of young people as manifested in juvenile delinquency in not only the United States of America but in other countries as ell. The pieces that follow are devoted to other facets of he theme that conformity or adjustment to social pressures is dangerous precept.

ment. Part IV Understanding social phenomena: Public opinion. Propaganda. Mass behavior. Social change and social movements. Group tensions and prejudice. Applications in the area of social [illegible]. Social psychology today and tomorrow. Name index. Subject index.

Note: An introductory text for use in college courses developed from a course in social psychology given at Barnard College, a course in which the author (a psychologist) and a sociologist, Willard W. Waller, collaborated. In presenting the relationships between individual and group behavior the author has integrated techniques and studies from the fields of psychology, sociology, anthropology and psychiatry. The extensive bibliographical material includes both citations of source articles and annotated lists of supplementary reading.

Sherif, Muzafer, and Carolyn W. Sherif

An outline of social psychology. Revised edition. With a new introduction by Gardner Murphy. New York, Harper & Brothers 1956. 792 p. illus. 24 cm. $6.00. 4915

Contents: Introduction: I. Introduction to social psychology. II. Basic facts and principles. III. Human interactions and its products. Group structure and norms (IV–VIII). Experience and behavior in social situations. Laboratory studies. Properties of groups. Formation and functioning of group structures. The formation of social norms. Intergroup relations. Collective behavior. IV. Motives of man: Motives in relation to social psychology. Motives and the socialization process. Motives and deprivations in human behavior. V. Man and products of his interaction. Man and his words. Social attitudes. Attitude formation and change. Ego-involvements. Ego-involvements and reference groups. Group prejudice. VI. Individuals and social change. Effects of technology. Man in cultural situations. VII. Present-day social psychology. A glance at social psychology: its backgrounds and present trends. Index of names. Index of subjects.

Note. Designed primarily for use as a college text, this book is a statement of major importance of the main principles and techniques of contemporary social psychology. The senior author has been one of the leading contributors to this field in the United States of America. The first edition, written by the senior author alone, was published in 1948. In this second edition, the book has been very extensively revised so as to reflect not only the content of a larger body of pertinent literature but also major advances in research techniques, particularly in the study of natural social groups in their natural surroundings. The length of the volume has been increased by more than 100 pages. Literature references are included in all of the chapters, and the names of authors of the cited literature are included in the index of names at the end of the volume.

Sherif, Muzafer, and Hadley Cantril

The psychology of ego-involvements: social attitudes & identifications. New York John Wiley & Sons Inc., 1947. 525 p. illus. 24 cm. $7.25 4916

Contents: Introduction. The problem of attitudes—studied. Some experimental facts concerning the basis of attitudes. The attitude formation extended to concrete situations. The problem and general characteristics of ego-involvements. Experiments on ego-involvements. The genetic formation of the ego. Re-formation of the ego in adolescence. Ego-involvements and identifications in group situations. Ego-involvements in concrete social situations. Breakdowns of the ego. Some illustrations from literature. The ego in psychoanalysis. Name index. Subject index.

Note: A broad study written from the standpoint of social psychology. It is based on a large variety of information and examples drawn from the fields of anthropology, sociology, psychology, child study literature, and public opinion surveys. The final chapter points out the inadequacies of Freudian psychoanalysis in the psychology of the ego.

Social Science Research Council

The American soldier. Volume I, Adjustment during Army life. By Samuel A. Stouffer, Edward A. Suchman, Leland C. DeVinney, Shirley A. Star, Robin M. Williams, jr. Princeton, Princeton University Press, 1949. 599 p. illus. 24 cm. (Social Science Research Council. Studies in social psychology in World War II. Vol. I) $9.00 4917

Contents: How these volumes came to be produced. The old Army and the new. How personal adjustment varied in the Army—general military considerations—by background characteristics—by type of Army experience in the Army. Social mobility in the Army. Job assignment and job satisfaction. Attitudes toward leadership and social control. The orientation of soldiers toward the war. Negro soldiers.

—— Volume II. Combat and its aftermath. By Samuel A. Stouffer, Arthur A. Lumsdaine, Marion Harper Lumsdaine, Robin M. Williams, jr., M. Brewster Smith, Irving L. Janis, Shirley A. Star, Leonard S. Cottrell, jr. Princeton, Princeton University Press, 1949. 675 p. illus. 24 cm. (Social Science Research Council. Studies in social psychology in World War II. Vol. II) $9.00 4918

Contents: Attitudes before combat and behavior in combat. General characteristics of ground combat. Combat motivations among ground troops. Problems related to the control of fear in combat. The combat replacement. Attitudes of ground combat troops toward rear echelons and the home front. Morale attitudes of combat flying personnel in the Air Corps. Objective factors related to morale attitudes in the aerial combat situation. Psychoneurotic symptoms in the Army. Problems of rotation and reconversion. The point system for redeployment and discharge. The aftermath of hostilities. The soldier becomes a veteran. Appendix. Consolidated index for volumes I and II.

—— Experiments on mass communication. By Carl I. Hovland, Arthur A. Lumsdaine, Fred D. Sheffield. Princeton, Princeton University Press, 1949. 345 p. illus. 24 cm. (Social Science Research Council. Studies in social psychology in World War II. Vol. III) $6.00 4919

Contents: Introduction. Part I, Film evaluation studies: The orientation film, "The battle of Britain." General implications derived from the orientation film experiments. The audience evaluation of films. Experimental comparison of alternative presentations. Effects of films as related to intellectual ability. Part II, Studies employing controlled variation. Short-time and long-time effects of an orientation film. The effects of presenting "one side" versus "both sides" in changing opinions on a controversial subject. The effect of an audience-participation technique in film-strip presentation. Summary and evaluation. Appendices. Measurement problems encountered. Index.

—— Measurement and prediction. By Samuel A. Stouffer, Louis Guttman, Edward A. Suchman, Paul F. Lazarsfeld, Shirley A. Star, John A. Clausen. Princeton, Princeton University Press, 1950. 756 p. illus. 24 cm. (Social Science Research Council. Studies in social psychology in World War II. Vol. IV) $10.00 4920

Contents: An overview of the contributions to scaling and scale theory. The problem of attitude and opinion measurement. The basis for scalogram analysis. The scalogram board technique for scale analysis. The utility of scalogram analysis. Relation of scalogram analysis to other techniques. The intensity component in attitude and opinion research. Problems of reliability. The principal components of scale analysis. The logical and mathematical foundation of latent structure analysis. The interpretation and computation of some latent structures. Two case studies in prediction—introductory comments. The screening of psychoneurotics in the Army—technical development of tests. The screening of psychoneurotics—comparison of psychiatric diagnoses and test scores at all induction stations. Studies of the postwar plans of soldiers—a problem in prediction. Some notes on sampling and questionnaire administration by the Research Branch. Index.

Note. A college textbook written from a new standpoint by a professor who has made use of the text in preliminary form in his teaching at the University of Michigan. Stressed is the reciprocal influences among human beings who interact with one another. The author shows that individual persons come to act, perceive, think, and feel in certain preferred ways in relation to their environments. The total organization of a person's predispositions to relate himself to his environment is held to represent his personality Throughout the book, the author emphasizes the human part of the individual's environment, stating that many of the most important conditions which account for individual behavior are group conditions.

POWELL, NORMAN JOHN

Anatomy of public opinion New York Prentice Hall, Inc , 1951 619 p illus. 22 cm. $5 65 4911

Contents Meaning and conceptualization of public opinion and propaganda. Measurement of public opinion. Groups and individuals as public opinion and propaganda instruments. Press. Motion pictures. Radio. Television. Propaganda—bases, propositions, and applications. The role of public opinion in democracy Appendices Selected bibliography projects and questions. References. Index.

Note. An informative book on the principles and media whereby public opinion is formed and manipulated. In a nontechnical style, it provides a broad introductory survey of the subject with particular reference to the situation in the United States of America. It is suited to use as a college textbook and as a manual of orientation for discussion groups. Also, it provides fairly detailed information on the methods of opinion polls and other techniques of assessing public opinion. It is out of date on some aspects of the field, such as the relative importance of radio and television in the United States of America.

RIESMAN, DAVID

The lonely crowd, a study of the changing American character In collaboration with Reuel Denney and Nathan Glazer New Haven Yale University Press 1950 386 p 24 cm (Studies in national policy editorial committee, V O Key and others) $5 00 4912

Contents Part I Character Some types of character and society From morality to morale—changes in the agents of character formation. A jury of their peers. Storytellers as tutors in technique. The inner-directed round of life. The other-directed round of life—from invisible hand to glad hand—the night shift. Part II, Politics. Recognizing the political. Tradition-directed, and other directed political styles—indifferents, moralizers, inside-dopesters. Political persuasions—indignation and tolerance. Images of power The conversation of the classes, and other dialogues. Americans and Kwakiutls Part III, Autonomy Adjustment or autonomy? False personalization—obstacles of autonomy in work. Enforced privatization—obstacles to autonomy in play The problem of competence. Autonomy and utopia. Index.

Note When it first appeared in 1950, this book was immediately recognized as an original and vital study of the "social character" of present-day Americans. The authors distinguish between "inner directed" and "other-directed" persons, the latter being those whose social behavior is molded by "peer-groups" or in other words, groups of one's peers such as the children in a school or co-workers in a unit of a business organization. Although they admit the existence in the American social structure of many persons who are still inner-directed, they contend that the modern American is other-directed The book is devoted to an examination of the forces that mold him in this pattern and the forces that operate upon him once the pattern has been accepted The book abounds in penetrating observations and provocative comment. Much of it is essentially a sociological study however the early chapters in which new concepts are introduced and the social processes of character formation are examined are contributions to social psychology

ROHRER, JOHN H , AND MUZAFER SHERIF, editors

Social psychology at the crossroads the University of Oklahoma lectures in social psychology New York Harper & Brothers 1951 437 p 22 cm $4 00 4912A

Contents Part one, Social psychology integrating individual and social approaches. Social psychological theory: integrating individual and social approaches, by T M. Newcomb. Part two, Biological factors and human behavior Genetic variability and human behavior, by P R. David and L. H. Snyder The "levels" concept in the study of social organization in animals, by T C. Schneirla. Levels of integration along the phylogenetic scale: learning aspect, by H. F Harlow Part three, Interaction in the cultural setting On cultural and psychological reality by M. J Herskovits. Cultural factors in the structuralization of perception, by A. I. Hallowell. The psychological habitat of Raymond Birch, by R. C. Barker and H. F Wright. Part four, Basic psychological functions. The place of phenomenological analysis in social psychological theory by R. B. MacLeod. Toward a general theory of cognition, by L. Postman. Scales of judgment and their implications for social psychology by J Volkmann. Part five, Group structures and individual roles: Small groups and large organizations, by W F Whyte. Work and the self, by E. C. Hughes. Behavior and organization: industrial studies, by C. H. Arensberg. Part six, Human behavior in the social psychological frame of reference: Conceptions of roles and ego in contemporary psychology by S. S. Sargent. Psychological problems of multiple group membership, by E. Hartley A preliminary experimental study of inter-group relations, by M. Sherif. Name index. Subject index.

Note. This book contains series of papers written by invitation and delivered at a conference held in April, 1950. Together, the papers give not only an account of the present status of social psychology but indicate the direction it must take if it is to make significant contribution to the understanding and improvement of human relations. A principal theme is that a unified scheme of social psychology must consider and integrate biological and psychological factors stemming from the individual with the factors from his sociocultural surroundings. Areas where the need for research is crucial are indicated.

RUESCH, JURGEN, AND WELDON KEES

Nonverbal communication notes on the visual perception of human relations. Berkeley University of California Press, 1956 205 p illus 29 cm. $7 50 4913

Contents. I, The frame of reference Modern theories and methods. Biology and culture as two determinants of nonverbal communication. The varieties of nonverbal languages. II, Messages through nonverbal action Nonverbal expression. The informative value of movement. People alone. The role of context in the interpretation of action. People together III, Messages through object and picture Codification in material terms. Object, word, and number The language of identification and recognition. Appeal and social control through material things. The organization of the material environment as personal expression. The syntax of object language. IV The language of disturbed interaction Social conflict and stress. Language and psychopathology Disturbances of motion and their communicative effects. Disturbances of perception and evaluation. Art, communication, and mental illness. Summary Toward theory of nonverbal communication. References. Index.

Note The work upon which this systematic study of nonverbal communication is based was done in the Division of Psychiatry of the University of California School of Medicine and the Langley Porter Clinic, San Francisco, and was supported in part by grant from the National Institute of Mental Health, United States Public Health Service. It is pioneering report upon the principles that apply to the nonverbal ways in which people communicate with one another in western civilization—akin to the logic, syntax, and grammar which govern verbal communication. In their presentation the authors are assisted by numbers of still photographs reproduced on 78 pages, some of them taken expressly for this book. While of interest to the general reader the work will be of especial interest to sociologists, psychologists, and psychiatrists.

SARGENT, STEPHEN STANSFELD

Social psychology an integrative interpretation. New York The Ronald Press Company, 1950 519 p. illus. 21 cm. $5 00 4914

Contents. Part I, Socialization of the individual Biological and social backgrounds. Culture and personality Social influences on personality Social learning—processes and products. Part II. The dynamics of social behavior Motives. Frustration and mechanisms. Ego-development and ego-involvement Part III, The patterning of social behavior Communicating and symbolizing. Social interaction and social groups. Social roles. Leadership. The person in social situ-

patterns: Specific disasters for which the most useful descriptive bibliographies were compiled. References cited.

Note: Presented in this pamphlet is an evaluatory summary of the types of published literature available on human behavior in disasters and other extreme situations. The summary is based on a bibliography amounting to more than 10,000 items coded on "Keysort" cards and maintained by the Committee on Disaster Studies of the National Research Council. The summary is followed by suggestions on techniques for further research on disaster psychology. The list of references pertains to the problems of disaster study not to the card bibliography already mentioned.

WALLACE ANTHONY F C.

Tornado in Worcester an exploratory study of individual and community behavior in an extreme situation. Washington, D C. National Academy of Sciences—National Research Council, 1956 166 p. illus. 28 cm. (National Academy of Sciences—National Research Council. Publication 392 Disaster study number 3 Committee on Disaster Studies, Division of Anthropology and Psychology) $2.50. 4927

Contents: Introduction. time-space model of disaster as type of behavioral event. Steady state—the city before impact. Warning—the city learns of impending impact. Impact—the tornado strikes. Isolation—the impact area goes it alone. Rescue—extrication, first aid, treatment, and evacuation. Rehabilitation—the attempt to restore the steady state. Irreversible change—the city achieves new equilibrium. Special topics—the disaster syndrome, the counter-disaster syndrome, the length of the isolation period, the cornucopia theory. Bibliography. List of interviews and field notes.

Note: A description and analysis of the human reactions due to the destructive tornado which passed through Worcester, Massachusetts, and several nearby towns June 9 1953, leaving death toll of 94 lives (56 in Worcester) and property damage estimated at $52,000,000 ($33,000,000 in Worcester). The author develops and applies concepts of time phases and spatial zones in disaster. His formulation of various explanatory hypotheses of interest to persons concerned with the theoretical and practical sides of human behavior in disaster: psychologists, sociologists, social workers, medical personnel, police officials, and civil defense authorities.

WILLIAMS, ROBIN MURPHY JR.

The reduction of intergroup tensions a survey of research on problems of ethnic, racial, and religious group relations. Prepared under the direction of the Committee on Techniques for Reducing Group Hostility New York Social Science Research Council, 1947 153 p. 23 cm. (Social Science Research Council. Bulletin 57) $1 75 4928

Contents: Introduction. Appraisal of programs in intergroup relations. Propositions on intergroup hostility and conflict. Selected possibilities for research. Summary and prospect. Appendix: Research approaches and techniques. Selected bibliography. Index.

Note: An outline of research problems issuing from the increasing awareness of racial, ethnic, and religious conflicts and from the existence of various agencies aimed at reducing the conflicts. A survey of the existing programs in the United States of America shows the need for clarification of their underlying assumptions, their specific goals, and the methods used to achieve the desired effects. While the basic propositions are subjected to critical analysis by the author himself, the chapters on possibilities for research and on research techniques point the way to the badly needed cumulative and systematic examination of the bases and effects of practical action in the field. The book contains an extensive bibliography. addition, those studies which deal with changes in intergroup attitudes are also presented in the form of table in the text.

YOUNG KIMBALL

Social psychology Third edition. New York Appleton-Century-Crofts, Inc., 1956 632 p. 23 cm. $5 75 4929

Contents (abridged): The nature and scope of social psychology. Part I, Social interaction and basic interrelations of individual, society and culture. Basic characteristics, motivation and emotion. Social learning and interaction. *Foundations of personality*. Language—basis of symbolic interaction. Personality and culture. Subcultures and personality. The nature and function of belief systems. Part II, Collective behavior. Leaders and followers. Behavior of crowds. Fashion. Public opinion. Media of mass communication—the printed page—motion pictures—radio and television. Measurement of opinion and attitude. Propaganda and censorship. The nature of race prejudice. The psychology of revolution. The psychology of war. Index of names. Index of subjects.

Note: An introductory textbook which is widely used in college courses in the United States of America. Approximately one-third of the space is devoted to the development of individual personality in the social matrix, while the chapters listed above under "Collective behavior" account for the remaining two-thirds of the volume. In this second part, broad view of the psychology of crowds, mass media, race prejudice, etc. is provided. A selection of pertinent literature is cited in both parts, and the names of authors of these publications are brought together in the index of names. The second edition was published in 1944. Extensive revisions and augmentations were made in preparing this third edition, although the level of the book and its general scope are unchanged.

PSYCHOLOGY OF PERSONALITY

ADORNO THEODOR W , AND OTHERS

The authoritarian personality by T W Adorno, Else Frenkel-Brunswik, Daniel J Levinson R. Nevitt Sanford in collaboration with Betty Aron Maria Hertz Levinson and William Morrow New York Harper and Brothers, 1950 990 p. illus. 24 cm. (Studies in prejudice edited by Max Horkheimer and Samuel H. Flowerman) $7.50 4930

Contents (abridged): Part I, The measurement of ideological trends. The contrasting ideologies of two college men—a preliminary view. The study of anti-Semitic ideology. The study of ethnocentric ideology. The measurement of implicit antidemocratic trends. Ethnocentrism in relation to intelligence and education. Part II, Personality as revealed through clinical interviews. Part III, Personality as revealed through projective material. Part IV, Qualitative studies of ideology: Prejudice in the interview material. Politics and economics in the interview material. Types and syndromes. Part Applications to individuals and to special groups: Genetic aspects of the authoritarian personality. Criminality and antidemocratic trends—a study of prison inmates. Psychological ill health in relation to potential fascism—a study of psychiatric clinic patients. References. Index.

Note: In this work based on an intensive, original study experts in the fields of social theory and depth psychology, content analysis, political sociology, and projective testing have developed the conception of an "authoritarian type" of personality common to most of the nations of the West. While conceding that only small proportion of people fit this type in detail, the authors hold that the general conception is valuable for an understanding of minority group prejudice, socio-economic conservatism, and acceptance of totalitarian ideologies. The "type" is defined in terms of pattern of characteristics isolated from group pencil-and-paper tests, projective devices and clinical interviews. It is explained largely in terms of family background (insecurity in relation to parents) and cultural norms. Insufficient attention is given to some of the economic and other factors which are also relevant. The book is designed for graduate students in the field of psychology and graduate psychologists and sociologists.

ALLPORT GORDON WILLARD

Becoming basic considerations for a psychology of personality New Haven Yale University Press, 1955 106 p. 20 cm. (Yale University The Terry lectures) $2 75 4931

Contents: The case for and against psychology. The Lockean tradition. The Leibnitzian tradition. The goal of psychology. The dilemma of uniqueness. Disposition. On social beginnings. The importance of early affiliation. Tribalism and individuation. Is the concept of self necessary? A proprium. *The fusion of proprium* functions. Critique. Chance, opportunistic, and oriented becoming. Motivation. Intention. Conscience. Schemata of value. Anxiety and

Note. These volumes present the techniques and the findings of a comprehensive, detailed study of the attitudes and adjustments of American soldiers to army life, training, and combat duty They are the work of group of sociologists and psychologists, and are based on data assembled between 1941 and 1945 by the Research Branch, Information and Education Division of the United States Army Volumes I and II are largely reports of the findings of the Council regarding soldiers' attitudes. Volume III contains an evaluation of various training programs used by the Army including educational films. Volume IV is devoted to descriptions and analyses of the techniques used by the Research Branch in collecting the data. The series is a monumental contribution to the literature of social psychology It is of value not only to psychologists who are concerned with military training and morale but also to social and applied psychologists in general.

SOCIETY FOR THE PSYCHOLOGICAL STUDY OF SOCIAL ISSUES

Readings in social psychology Revised edition. Prepared for the Committee on the Teaching of Social Psychology of the Society for the Psychological Study of Social Issues. Editorial committee, Guy E Swanson and others New York Henry Holt and Company, 1952 680 p illus 24 cm $6 50 4921

Contents. Part I, Approaches to the study of interaction: Some forms of interpersonal influence. Signs, symbols, and language in interpersonal communication. Transmitting influence through mass communications. Part II, The social patterning of interaction—collective problem-solving Collective problem-solving in small groups. Public opinion as collective problem-solving. Behavior in the absence of collective solutions. Part III, Recurring interaction patterns Social norms. Social roles. Stratified role structures. Leader follower roles. Part IV Some effects of interaction patterns on individual participants Social influences on individual psychological processes. Attitudes and judgments as influenced by reference groups. Social influences on persistence and change of attitudes. The continuous socialization of the individual. Part V Some social psychological approaches to public issues. Index.

Note A carefully selected anthology of papers and selections from books and papers illustrative of the empirical foundations upon which social psychology rests. It is used in conjunction with college courses in social psychology and is an excellent introduction to methods of investigation in the field. About half of the material in the present edition was added since the first edition was published in 1947

SYMONDS, PERCIVAL MALLON

The dynamics of human adjustment New York D Appleton Century Company, 1946 666 p 24 cm. (The Century psychology series Richard M Elliott, editor) $5 75 4922

Contents. Adjustment. Drives. Frustration. Aggression. Punishment. Anxiety Defenses against anxiety Fixation. Regression. Repression and the unconscious. Displacement. Introjection and the superego. Projection. Identification. Conflict. Guilt and self-punishment. Sublimation. Reaction formation—reversal formation. Compensation. Rationalization. Miscellaneous mechanisms. Fantasy Love and self-love. Normality Bibliography Index.

Note. A treatment from the psychoanalytical viewpoint of the dynamic or motivating factors that determine the adjustments of the human individual to mental and environmental situations It is comparatively detailed, and familiarity with the basic principles and terminology of psychology has been assumed. The work is suitable for use as textbook in advanced undergraduate and graduate courses, and is useful also as informative reading by professional workers in such fields as social work where an understanding of the motivation of people is essential. The bibliography contains 883 entries, most of which are annotated.

THOMAS, WILLIAM ISAAC

Social behavior and personality Contributions of W I. Thomas to theory and social research Edited by Edmund H Volkart. New York Social Science Research Council 1951 338 p. illus 24 cm. $3 00 4923

Contents Introduction: Social behavior and the defined situation, by E. H. Volkart. Part I, Social science and social behavior: The need for a social science. Methodological note. The behavior pattern and the situation. The methodology of behavior study The role of methodology in the development of science. Research and the social process. The comparative study of cultures. Part II, Social behavior and personal dynamics: The four wishes. A theory of social personality Personality and the content of the family The configurations of personality Part III, Social behavior and cultural dynamics: The psychology of culture change. The primary group and the definition of the situation. Social disorganization and reconstruction. The individualization of behavior. Reconciliation of the heritage. Part IV Personality and culture Outline of program for the study of personality and culture. Bibliography of W I. Thomas, compiled by A. P Hare. Biographical note. Index of names. Index of subjects.

Note A posthumous volume reviewing and integrating the major contributions to sociological and social-psychological theory and method of W I. Thomas (1863–1947) and making available a selection of his out-of-print and unpublished materials. Thomas was former president of the American Sociological Society Two features of his position in social science are summarized by the editor as follows: "The goal of social science is to obtain verifiable generalizations about human behavior. [The end] is to make available the kind of knowledge necessary and useful for the rational control of behavior

THURSTONE, L L, AND E J CHAVE

The measurement of attitude, a psychophysical method and some experiments with a scale for measuring attitude toward the church. Chicago University of Chicago Press, 1929 97 p illus 20 cm $2 00 4924

Contents Theory of attitude measurement. Construction of an attitude scale. The scale-values. The experimental attitude scale. Application of the experimental scale. Further studies of validity Some further problems in the measurement of attitude. Index.

Note. This pamphlet, first published in 1929 and reprinted six times up to 1934, is the first publication outside of journals on attitude measurement. In it, the basic theory is expounded and the construction of an experimental scale is described in detail.

UNIVERSITY OF PITTSBURGH

Current trends in social psychology Pittsburgh University of Pittsburgh Press, 1948. 299 p. illus. 21 cm. $4 00 4925

Contents. The new social psychology by W Dennis. A program of experimentation on group functioning and group productivity by R. Lippitt. Cultural diversity and world peace, by K T Behanan. An approach to social perception, by J. S. Bruner Experimental sociometry and the experimental method in science, by J L. Moreno. The social psychology of housing, by R. K. Merton. Communication research and the social psychologist, by P F Lazarsfeld. Psychological approaches to the prevention of war by J. G. Miller.

Note A collection of papers which were presented at the second of series of conferences held under the auspices of the Department of Psychology in the College of the University of Pittsburgh. Each lecture was prepared by an active worker in the field, and the discussions of the techniques, methods, and fields of study of social psychology are addressed both to professional psychologists and students. All but two of the papers are accompanied by bibliographies.

WALLACE, ANTHONY F C

Human behavior in extreme situations a study of the literature and suggestions for further research Washington D C. National Academy of Sciences—National Research Council 1956 35 p illus. 28 cm. (National Academy of Sciences—National Research Council Publication no 390. Committee on Disaster Studies. Disaster study no 1) $0 75 4926

Contents: Introduction. The major types of literature. Specific weaknesses of the existing literature. Desiderata of an organized approach to disaster studies. Limitations on disaster research. Ap-

Note: Edited and (in some instances) expanded versions of papers originally presented at a symposium entitled "Workshop in Personality" held at Barat College in June, 1951, comprise this volume. The authors are members of faculties of Catholic colleges, and the theory of personality presented is based on Christian concept of human nature. The book is designed for use as text [illegible] course in the psychology of personality. Literature references are included in each chapter.

BARKER, ROGER GARLOCK AND OTHERS

Adjustment to physical handicap and illness a survey of the social psychology of physique and disability by Roger G. Barker in collaboration with Beatrice A. Wright, Lee Meyerson, Mollie R. Gonick. Revised. New York Social Science Research Council, 1953 440 p. illus. 23 cm. (Social Science Research Council. Bulletin 55) $2.00. 4937

Contents: Introduction. Somatopsychological aspects of differences in physical size, strength, and attractiveness. Somatopsychological significance of crippling. Psychology of the tuberculous. Somatopsychological significance of impaired hearing. Somatopsychological significance of impaired vision. Social psychology of acute illness. Employment of the disabled. Bibliographies of literature on the somatopsychological significance of physique and disability. Index of names. Index of subjects.

Note: The authors of this study view the social psychology of physique as a fundamental area of psychology. They did not attempt to cover the whole of it in this book, but they do present [illegible] of the literature on the psychological effects of [illegible] physical size, muscular strength and motor ability, orthopedic disabilities, tuberculosis, auditory impairment, visual impairments, acute illness. The presentation is critical one and the authors point out many gaps in the available knowledge—gaps that need filling by adequate research. The literature is adequately cited, furthermore, selected research studies are analyzed individually. The first edition was published in 1946. This revised edition reflects the considerable progress made in the field since the first edition was written. The results of recent research have been incorporated, and the presentation [illegible] in part.

BELL, JOHN ELDERKIN

Projective techniques, a dynamic approach to the study of the personality New York Longmans, Green and Company 1948. 533 p. illus. 21 cm. $5.00. 4938

Contents (abridged): An introduction to projective techniques. Part I, Word-association and related techniques: The incomplete sentence test. The [illegible] test. Storytelling and completion. Part II, Visual stimulus techniques: The Rorschach technique. Cloud pictures. The thematic apperception test. Rosenzweig picture-frustration study. The Szondi test. Part III, Expressive movement and related techniques: The analysis of handwriting. Mira myokinetic psychodiagnosis. Visual-motor tests. Drawing, painting, and other arts. Finger painting. The mosaic test. Voice and speech. Part IV, Play, drama, and related techniques. The world test. The psychodrama. Part V, The field of projective techniques. Subject index. Name index.

Note: This work is an excellent review of the major techniques in psychological testing based on projection, and a [illegible] critical but generally sympathetic [illegible] of the work done in the field to date [illegible] serves as a valuable guide and reference book to advanced students, research workers, and professional psychologists. The techniques included are discussed historically, descriptively and critically [illegible] of methods of administration, interpretation, and application is adequate. Evaluation of these aspects of the tests is not limited to the author's own point of view but includes a careful summary in each instance of others' critical opinions. In addition, [illegible] list of references follows each method studied. The final chapter is a summary of achievements and failures in the use of projective techniques generally and a thoughtful statement of the kind of research needed to make present practices more effective and meaningful.

BLAKE, ROBERT R., AND OTHERS

Perception an approach to personality By Robert R. Blake and Glenn V. Ramsey in collaboration with Frank A. Beach and others. New York The Ronald Press Company 1951 442 p. illus. 23 cm. $6.50. 4939

Contents: Perceptual processes as basic to an understanding of complex behavior, by R. R. Blake and others. Some structural factors in perception, by C. T. Morgan. Body chemistry and perception, by F. A. Beach. The role of learning in perception, by E. R. Hilgard. Personality dynamics and the process of perceiving, by J. S. Bruner. Cultural and developmental factors in perception, by W. Dennis. The role of language in the perceptual processes, by A. Korzybski. Toward an integrated theory of personality, by U. Bronfenbrenner. Unconscious processes and perception, by J. G. Miller. Perceptual organization and behavior pathology, by N. Cameron. Perceptual reorganization in client-centered therapy, by C. R. Rogers. The personal world through perception, by G. S. Klein. Personality theory and perception, by E. Frenkel-Brunswik. Index of names. Index of subjects.

Note: The advances being made in the perceptual approach to personality at a dozen different research centers are combined in organized form in this work, which is constructed around the view that the study of perceptual activity provides a basic approach to an understanding of personality and interpersonal relations. The papers were delivered in substance at the 1949-1950 clinical psychology symposium held at the University of Texas. The editors have achieved better integration than is commonly true for such volumes. Stimulating reports of new research on perceptual tests indicating significant personality variables are accompanied by valuable theoretical articles, e.g. on the rapprochement of psychoanalytic and Gestalt theory in terms of perception. For graduate students of psychology and professional psychologists and psychiatrists.

BLUM, GERALD S

Psychoanalytic theories of personality New York McGraw Hill Book Company Inc., 1953 219 p 24 cm. (McGraw Hill series in psychology Clifford T Morgan, consulting editor) $4.50. 4940

Contents: Prenatal and birth influences. The neonates' personality potential. The first year of life. Ages one to three years. From three to five. The latency period (age five to prepuberty and adolescence) Prepuberty and adolescence. Adult character structure. Pathogenesis. Bibliography. Name index. Subject index.

Note: A concise survey of the psychoanalytic theories of personality of the Freudian and related schools of psychoanalytic thought. The author summarizes the pertinent ideas from the works of leading writers on psychoanalysis and gives literature references to the original works. Freudian theory is presented first in each chapter, then the views of earlier and later authorities who deviated in greater or less degree from orthodox thought. There are many critical notes by the author and some suggestions for experiments to test the validity of the [illegible] presented. The book is directed to advanced students of psychiatry, social work, psychology, etc. It is potentially useful to anyone familiar with psychoanalytic concepts who is in need of a guide to the views of psychoanalysis on personality. The bibliography lists 293 references.

BRUNER, JEROME SEYMOUR, AND DAVID KRECH editors

Perception and personality a symposium. Durham Duke University Press, 1950. 266 p. illus. 24 cm. $3.50. 4941

Contents: Some considerations concerning the relation between perception and cognition, by H. Wallach. Perception, cognition, and behavior, by J. Bruner and L. Postman. Where is the perceiver in perceptual theory? by G. S. Klein and H. Schlesinger. Discussion, by E. C. Tolman. Discussion, by G. Murphy. Remarks on functionalism in perception, by E. Brunswik. Notes toward a psychological theory, by D. Krech. Sensory-tonic field theory of perception, by H. Werner and S. Wapner. Intolerance of ambiguity as an emotional and perceptual personality variable, by E. Frenkel-Brunswik. The nature and importance of individual differences in perception, by H. A. Witkin. Autonomic discriminations without awareness, an interim report, by R. A. McCleary and R. S. Lazarus. Towards a reformulation of the perception-motivation dichotomy, by J. E. Hochberg and H. Gleitman. Task completion as a function of [illegible] factors, by J. W. Tuvey. On the perception of incongruity a paradigm, by J. S. Bruner and L. Postman. Personal values as determinants of perceptual fixation, by E. McGinnies and W. Bowles. The effect of need for achievement on recognition of need-related words, by D. C. McClelland and A. M. Liberman. Selective sensitization in auditory perception, by J. M. Vanderplas and R. R. Blake.

culture. Freedom. Structure of personality Religious sentiment. Epilogue. Psychology and democracy Index.

Note An expert, somewhat philosophical appraisal of the psychology of personality The author argues for "conceptual openmindedness and a reasoned eclecticism while he attempts to lay a groundwork for a psychology of personality outside the usual conceptual compartments of conditioning, id, ego, superego relationships, and other theories. The lectures (and the book) were addressed both to psychologists and non-psychologists and accordingly are couched in a semi-technical style that makes their content available to educated lay readers as well as to specialists in personality psychology

ALLPORT, GORDON WILLARD

The nature of personality selected papers. Reading, Mass. Addison Wesley Publishing Company, Inc., 1950 220 p illus 24 cm. $4 00 4932

Contents Attitudes Chapter 17 in *A handbook of social psychology* (edited by C. C. Murchison) 1935. The psychologist's frame of reference *Psychological bulletin*, 1940, 37 1 28. The functional autonomy of motives *American journal of psychology* 1937 50, 141 156. Motivation in personality: reply to Mr. Bertocci *Psychological review* 1940 47 533–554 The ego in contemporary psychology· *Psychological review* 1943 50 451–478. The psychology of participation *Psychological review* 1945 53 117 132 Geneticism *versus* ego-structure in theories of personality *British journal of educational psychology* 1946 16, 57–68. Effect a secondary principle of learning *Psychological review* 1946, 53 335–347 Personalistic psychology as science reply *Psychological review* 1946 53 132 133 Scientific models and human morals, *Psychological review* 1947 54 182 192 Personality· a problem for science or a problem for art? *Revista de psihologie*, 1938, vol. 1 no. 4 1 15 Bibliography

Note. This book is made up of photographic reproductions of articles written by the author and published in various books and periodicals as noted in the table of contents. All of the articles pertain to the theory of personality hich was present in the author's *Personality* New York, 1937 Some of them were written explicitly in answer to critics who expressed disagreements and misgivings in print, and others represent expansions in theory or application provoked by the author's own dissatisfaction with his previously stated position.

ALLPORT, GORDON WILLARD

Personality a psychological interpretation New York . Henry Holt and Company 1937 588 p. illus 24 cm. $6 95 4933

Contents Part I, The approach to personality Psychology *and* the study of individuality Defining personality A brief history of characterology Part II, The development of personality Foundations of personality Basic aspects of growth. The self and its constraints. The transformation of motives. The mature personality Part III, The structure of personality The search for elements. The theory of identical elements. The theory of traits. The nature of traits. The unity of personality Part IV The analysis of personality A survey of methods. Common traits, psychography Analysis by ratings, tests, experiments. Expressive behavior Part V Understanding personality The ability t judge people. Inference and intuition. The person in psychology Index of subjects. Index of names.

Note The purpose of this book is to co-ordinate the results of previous studies concerning personality and to provide new co-ordinating concepts and theories which will serve as a basis for further study Doctrines from various schools of psychology are borrowed and adapted in an effort to cover the many sides of the subject. Results of research in the subject are presented in the text, rather than in statistical charts and graphs.

ANDERSON HAROLD HOMER, AND GLADYS L ANDERSON, editors

An introduction to projective techniques & other devices for understanding the dynamics of human behavior New York Prentice-Hall, Inc., 1951 720 p illus. 22 cm. $7 25 4934

Contents. Part I, Introduction: Human behavior and personality growth, by H. H. Anderson. Problems in the validation of projective techniques, by J W Macfarlane and R. D Tuddenham. Principles of design in "projective or misperceptive tests of personality by R. B. Cattell. Part II, The Rorschach test: The Rorschach test. multidimensional test of personality by S. J. Beck. Validating and experimental studies with the Rorschach method, by A. I. Rabin. Part III, Varieties of tests of personality mechanisms: The four picture test, by D J Van Lennep. The thematic apperception test, by R. R. Holt. The thematic apperception technique in the study of group and cultural problems, by W E. Henry Word association and sentence completion methods, by J. B. Rotter. The Rosenzweig picture-frustration study by H. J Clarke. The Bender visual motor Gestalt test, by F Halpern. Drawing of the human figure. method of personality investigation, by K. Machover Spontaneous drawings of the human form in childhood schizophrenia, by J. A. Montague. Finger painting, by P J. Napoli. Graphology by R. Wolfson. Expressive movement and the methods of experimental depth psychology by W Wolff and J A. Precker. The Szondi test, by A. I. Rabin. Other projective methods, by W W Morris. Part IV General intelligence tests in personality appraisal Interpretation of the Wechsler Bellevue intelligence scale in personality appraisal, by M. Mayman and others. Qualitative aspects of the Stanford-Binet, by G. L. Anderson. Part Projective techniques in therapy: The use of puppetry as projective method in therapy by A. G. Woltmann. Therapeutic use of play by J C. Solomon. Psychodrama as a projective technique, by R. B. Haas and J. L. Moreno. The use of projective techniques in the interpretation of hostility patterns, by D M. Levy Author index. Subject index.

Note. This book offers unusually complete coverage of all the various projective and quasi-projective devices currently being employed in some aspect of personality appraisal. Each chapter is written by one or more experts in the use of the particular device under consideration. Theoretical, research, and applied interests are represented in varying degrees by the different contributions. Primarily for graduate students in psychology and practicing psychologists and psychiatrists.

ANGYAL, ANDRAS

Foundations for a science of personality Cambridge, Mass. Harvard University Press, 1941 398 p illus. 21 cm $2.25 4935

Contents. The idea of a science of personality The trend toward increased autonomy The psychological functions. Organism and environment. Biospheric dynamics. The trend toward homonomy. Specific dynamic trends. The problem of integration. Disturbances of integration. The course of life as a Gestalt. Epitome. Index.

Note. Human nature has long been studied in its many phases, but broad theoretical frame of reference for the integration of its manifold aspects has been wanting. Dr Angyal has constructed such a frame for science of personality His dynamic conception of personality is in harmony with the modern trend in the study of the human being, but he goes beyond the principle of personality as a unitary process, and embodies the basic laws of psychobiological processes in a closely knit and self-consistent system. The volume is addressed to all who are concerned with the problems of personality· psychiatrists, psychologists, biologists, sociologists, anthropologists, and others.

ARNOLD, MAGDA B , AND JOHN A. GASSON

The human person an approach to an integral theory of personality New York The Ronald Press Company, 1954 593 p. 21 cm. $6 00 4936

Contents Part I, The science of psychology· Basic assumptions in psychology by M. B. Arnold. The concept of "theory" in science and in psychology by J A. Gasson. Existentialism and scientific systematization, by W Smet. Part II, Personality structure: Contemporary personality theory by A. Walters. Personality theories based on physical and biological models, by J. A. Gasson. Personality theory—a formulation of general principles, by J. A. Gasson. A research method validating self-determination, by L. B. Snider Psychic determinism, freedom, and personality development, by N Mailloux. Part III, Personality integration Integration and the self-ideal, by V V Herr Feelings and emotions as dynamic factors in personality integration, by M. B. Arnold. Contemporary learning theory and human learning, by F J Kobler A theory of human and animal learning, by M. B. Arnold. Part IV Psychotherapy and self-integration Psychology as research, science, by A. A. Schneiders. Free association and free imagination, by M. B. Arnold. Counseling as therapy and self-integration, by C. A. Curran. Logotherapy and existential analysis, by M B. Arnold. The theory of psychotherapy by M. B. Arnold. Part Self-integration through religion Religious experience in client-centered therapy by W Smet. Religion and personality integration, by J A. Gasson. Index of names. Index of subjects.

of separate disciplines. Corroboration of earlier judgments through follow-up information. Appendixes: Psychiatric data—distribution of personality traits of Grant Study participants. Selected socio-economic data. Selected morphological data. Selected physiological data. Selected medical data. Scores of Grant Study participants in selected tests of mental function. Personality summary. Tables.

Note: A condensed preliminary report on a study carried out at Harvard University from 1938 to 1942 relating to the nature and needs of normal young men. For the purposes of the study "normal" is defined as the "balanced person whose combination of traits of all sorts allows him to function effectively in a variety of ways." The book describes the methods used, and summarizes the findings regarding the physical and mental development, behavior, aptitudes, interests, and other vital characteristics of the 268 students examined during the period. Even though the investigation is limited to a rather small, select group, the report is an important contribution to the knowledge of personality. The study is not yet complete and further publications will report on the careers of these 268 participants for at least another 15 or 20 years.

HUNT, JOSEPH MCVICKER, editor

Personality and the behavior disorders a handbook based on experimental and clinical research. New York The Ronald Press Company 1944 2 v illus. 24 cm. $12.50. 4947

Contents: Volume I. Part I, Theoretical approaches to personality: The structure of personality, by D. W. MacKinnon. Personality in terms of associative learning, by E. R. Guthrie. Dynamic theory of personality, by O. H. Mowrer and C. Kluckhohn. Part II, Cross-sectional methods of assessing personality: Subjective evaluations of personality, by E. S. Jones. Personality tests, by J. R. Miller. Interpretation of imaginative productions, by R. W. White. Part III, Behavior dynamics, experimental behavior disorders, and hypotheses: Clinical approach to the dynamics of behavior, by T. M. French. Physiological effects of emotional tension, by L. J. Saul. Experimental analysis of psychoanalytic phenomena, by R. R. Sears. Level of aspiration, by K. Lewin and others. An outline of frustration theory, by S. Rosenzweig. Conditioned reflex method and experimental neurosis, by H. S. Liddell. Experimental behavior disorders in the rat, by N. W. Fraser. Experimental studies of conflict, by N. E. Miller. Hypnotism, by A. Jenness. Part IV, Determinants of personality—biological and organic: Heredity, by L. S. Penrose. Constitutional factors in personality, by W. H. Sheldon. Personality as affected by lesions of the brain, by S. Cobb. Physiological factors in behavior, by M. W. Slack. Volume II. Part V, Determinants of personality—experiential and sociological: Infantile experience in relation to personality development, by M. A. Ribble. Childhood experience in relation to personality development, by L. B. Murphy. Adolescent experience in relation to personality and behavior, by P. Blanchard. Cultural determinants of personality, by G. Bateson. Ecological factors in human behavior, by R. E. L. Faris. Part VI, Some outstanding patterns of behavior disorder: Behavior disorders in childhood, by L. Kanner. Delinquent and criminal personalities, by L. G. Lowrey. Us[illegible] personalities in the military services, by A. W. Rowland. The psychoneuroses, by W. Malamud. The functional psychoses, by N. Cameron. The concept of psychopathic personality, by P. W. Preu. Seizure states, by W. G. Lennox. Part VII, Some investigated correlates of behavior disorders: Psychological deficit, by J. McV. Hunt and C. N. Cofer. Electroencephalography, by D. B. Lindsley. Part VIII, Therapy and the prevention of behavior disorders: Psychiatric therapy, by K. E. Appel. The prevention of personality disorders, by G. S. Stevenson. Author index. Subject index.

Note: The aim of this compilation is to present the major portion of theory, investigative fact, and clinical practice from various life sciences that bear on the study of personality. The 40 contributors represent the fields of psychology, sociology, anthropology, education, physiology and other sciences. Behavior disorders are analyzed in detail, while primary emphasis is placed on the whole organism or person. Extensive bibliographies follow each chapter.

JENNINGS, HELEN HALL

Leadership and isolation a study of personality in inter personal relations. Second edition. New York Longmans Green and Company 1950 349 p. illus. 21 cm. $4.00 4948

Contents: Foreword by Gardner Murphy. Part I, The problem of inter-personal choice: The significance of choice in human behavior. The choosing process—its study and analysis. Part II, Emotional and social expansiveness: Character of the choice process. Spread and focus of choice and rejection. The patterning of interrelations. The internal structure of the individual's social atom. Choice and choice-status as affected by high opportunity for contacts and other factors. Behavior characteristics of underchosen, average chosen, and overchosen. *Leadership and isolation.* Part III, The nature of emotional and social expansiveness: Personality and inter-personal relationships. The relation of criteria to living-working situations. Part IV, *Sociometric differentiation of groups:* The choosing process in inter-personal relations in leisure-time. Structural differences in groups—the psychegroup and the sociogroup. New directions. Glossary. *Bibliography.* Index.

Note: An important study conducted from the point of view of sociometry. It presents analyses of the personality traits of 450 individuals that affected their choice or rejection by other members of their groups. Although selected case histories are presented in detail and there are some tabulations of data, most of the book is devoted to generalized discussions and interpretations of the findings. The first edition was published in 1943. This second edition is an expansion of the original work. Part IV, which is devoted chiefly to the choosing process in leisure-time inter-personal relations, is new addition.

KENTUCKY UNIVERSITY COLLEGE OF ARTS AND SCIENCES

Learning theory personality theory and clinical research the Kentucky symposium. New York John Wiley & Sons, Inc. 1954 164 p. illus. 24 cm. $3 50 4949

Contents: Current interpretations of learning data and some recent developments in stimulus-response theory, by K. W. Spence. Stimulus-response theory as applied to perception, by D. D. Wickens. Motivational forces underlying learning, by H. F. Harlow. The premature crystallization of learning theory, by N. R. F. Maier. Learning and explanation, by D. K. Adams. Ego psychology, cybernetics, and learning theory, by O. H. Mowrer. Personality structures as learning and motivation patterns—theme for the integration of methodologies, by R. B. Cattell. Prospects and perspectives in psychotherapeutic theory and research, by J. M. Butler. Learning—an aspect of personality development, by D. Snygg. "Error"—theory and measurement, by R. B. Ammons. Some current research issues in clinical psychology, by J. R. Wittenborn. Index.

Note: Papers presented at a symposium held under the auspices of the University of Kentucky in March, 1953 are published in this volume. The meeting was held to facilitate integration of research and thought in three areas of psychology which, though related, have developed independently: learning theory, personality theory and clinical psychology. The majority of the papers deal with learning theory and together they throw much light on the current state of this area of psychology.

KLUCKHOHN, CLYDE, AND HENRY A. MURRAY, editors

Personality in nature, society and culture. Second edition, revised and enlarged. With the collaboration of David M. Schneider New York Alfred A. Knopf 1953 716 p. 25 cm. $8.00 4950

Contents: Introduction, by H. A. Murray and C. Kluckhohn. Part I, A conception of personality, by H. A. Murray and C. Kluckhohn. Part II, The formation of personality: Section I, The determinants of personality formation: Personality formation—the determinants, by C. Kluckhohn and H. A. Murray. Section II, Constitutional determinants: The genetic factor in autonomic nervous-system function, by H. Jost and L. W. Sontag. The genetic theory of schizophrenia, by F. J. Kallmann. Physical and physiological correlates of personality structure, by R. N. Sanford. Psychosomatic studies of some aspects of maternal behavior, by D. M. Levy. Section III, Interrelations between constitutional and group-membership determinants: Anthropological data on the problem of instinct, by M. Mead. Cultural control and physiological autonomy, by L. K. Frank. Social technique, social status, and social change in illness, by J. Ruesch. The frustration complex in Kwoma society, by J. W. M. Whiting. Breast-feeding and character formation, by F. Goldman-Eisler. Growth and crises of the "healthy personality," by E. H. Erikson. Biography and history, by A. M. Tozzer. Section IV, Group-membership determinants: The concept of national character, by G. Gorer. Aggression in Ifaluk society, by A. I. Hallowell. The general problem of Hopi adjustment, by D. Eggan. Doll play of Pilaga Indian children, by J. Henry and Z. Henry. Social class and color differences in child-rearing, by

Note. The importance of the field of perception as the area where general experimental and clinical-social psychology meet is the main point around which this book has been constructed. The papers are written on graduate level, and the book as a whole is addressed to graduate students and professional psychologists. It provides an authoritative survey of current trends in research, and offers theoretical structure for further advances. The papers were published originally in *Journal of personality* Volume 18.

CATTELL, RAYMOND BERNARD

Description and measurement of personality Yonkers World Book Company, 1946 602 p illus 21 cm. (Measurement and adjustment series edited by Lewis M Terman) $4 20 4942

Contents. Editor's introduction. The enterprise of describing, diagnosing, and measuring personality The nature and varieties of clinically distinguishable personality forms. Description of the principal pathological syndromes, neurotic and psychotic. The nature of traits. Basic methods for delimiting and measuring common and unique traits. Systematization of description and measurement scales. The predictive convenience of conditional modalities and other trait subdivisions. The principal surface traits discovered through behavior ratings. The principal source traits discovered through behavior ratings. The principal source traits based on self-inventories. The principal source traits discovered through objective test measurements. The established primary traits: their measurement and use in personality predictions. Bibliography Subject index. Index of names.

Note The author deplores the unsystematic and unscientific manner in which many studies of personality have been undertaken; and on the basis of his own research and a review of the literature of the subject outlines methods and techniques for more scientific personality description. The final chapters constitute a catalogue of syndromes, factors, and traits which may be applied in the measurement and prediction of personality The author leans heavily upon mathematical techniques, especially factor analysis. Criticisms of poor descriptive and measurement studies are based particularly on this approach. While highly technical the book is of interest to professional psychologists, psychiatrists and advanced graduate students.

CATTELL, RAYMOND BERNARD

Personality a systematic theoretical and factual study New York McGraw Hill Book Company, Inc. 1950 689 p illus 23 cm (McGraw Hill publications in psychology Clifford T Morgan, consulting editor) $7.50 4943

Contents Describing personality through types or syndromes. Describing personality through traits. Measuring personality by the life-record method. Measuring personality by self-rating and objective tests. Inherited, constitutional influences in personality Psychodynamics The intrinsic structure of dynamic traits. The structure of innate drives. The structures formed in the adjustment process. The self—its integration, adaptation, and adjustment. Psychosomatics Known functional patterns. Methodological venues to further evidence. Personality and the cultural matrix. The family its structure and setting. The family its relation to child personality Group dynamics and personality Personality and specific social organs. The abnormal and maladapted personality Evidence from the school misfit, the delinquent, and the criminal The neurotic. The psychotic. Life stages in personality Conception to puberty Adolescence, maturity old age. Principles of personality formation. Name index. Subject index.

Note The initial definition of personality is given as that which permits a prediction of what a person will do in given situation The concluding summary indicates that the principles of personality formation and operation may be incorporated in 17 given laws. From outset to conclusion this volume treats personality study by scientific standards, such as apply in experimental psychology and integrates personality study with psychological concepts in systematic manner. The treatment of motivation leans heavily upon McDougall, and the methodology upon Thurstone's factor analysis. The emphasis is upon experiment and research rather than on clinical views of personality The book may be used as text for graduate or an undergraduate course in personality study and is especially intended for the student majoring in psychology or expecting to follow psychology as profession. It covers the subject of personality study in detail, considering it as the natural hub upon which all more specialized sectors of psychology turn. A bibliography accompanies each chapter.

GILBERT, G M

The psychology of dictatorship, based on an examination of the leaders of Nazi Germany New York The Ronald Press Company, 1950 327 p illus. 22 cm $5 00 4944

Contents Part I, The genesis of dictatorship The emergent pattern of dictatorship—a psychocultural view Adolf Hitler and the Nazi movement. Part II, Selected case studies. The revolutionists. The diplomats. The militarists. The state police. Part III, Psychological implications Clinical and psychodynamic aspects. Some social relationships. Dictatorship and adaptive social behavior. References and bibliography Name index. Subject index.

Note. The author of this unique work served as prison psychologist at the Nuremberg trial of the Nazi war criminals in 1945-46, and thus was able to make a thorough first-hand study of such German leaders as Goering, Hess, von Ribbentrop and Keitel. This report of his findings, based on almost daily contact with the prisoners, offers a revealing picture of the character development, emotional conflicts, and social values of Hitler's chief lieutenants, and indirectly of Hitler himself The author has also attempted to integrate some of the data of economics, sociology politics and history as they throw light upon the rise of Nazism. Although written primarily for psychologists, the subject matter and the semi-technical style of the book make it of interest to readers outside this field.

HARSH, CHARLES MAXFIELD, AND H G SCHRICKEL

Personality development and assessment. New York The Ronald Press Company, 1950 518 p illus 24 cm. $6 00 4945

Contents Part I, Nature and development of personality: Introduction. Beginnings of personality Infancy—the first two years. Infancy—sources of personal differences. Progress in early childhood. Childhood learning and acculturation. Middle childhood—six to twelve. Middle childhood—expansion of personality Adolescence. Adolescent personality Early adulthood. Adjustments to love and marriage in early adulthood. Middle and old age. Part II, Personality study in theory and practice Theories of personality The psychoanalytic movement. Cultural approach and synthesis. Assessment of personality Questionnaires and trait organization. Interpretive assessment. Integration in personality Appendix. Theories of trait organization. References. Index of names. Index of subjects.

Note. A general study of personality from the standpoint of psychology organized for use as a textbook. In the first part are traced the typical stages of personality development from infancy to old age. For each period, there is discussion of (1) factors influencing personality (2) major problems and mechanisms of adjustment, (3) changes in motivation, (4) changes in ability and learned adjustment patterns, (5) significance of the phase for later developments, and (6) characteristic individual variations. The second part of the book is survey of theories about personality and methods of assessing it. By cross references in Part II the reader is reminded that theory and method must be related to the phenomena discussed in Part I. References are made throughout the text to the 22-page bibliography

HEATH, CLARK WRIGHT

What people are a study of normal young men, by Clark W Health in collaboration with Lucien Brouha Lewise W Gregory Carl C Seltzer Frederic L. Wells and William L. Woods The Grant Study Department of Hygiene, Harvard University Cambridge, Mass. Harvard University Press, 1945 141 p. illus. 21 cm. $2 00 4946

Contents (abridged) Section I, Introductory Grant Study concept of "normal. Aims and purposes. Nature of approach. Organization and general plan of work. Selection of participants. Methods of examining participants. Section II, Description of normal young men from the point of view of different disciplines: Description of normal personality Description of manner of adjustment to certain conditions. Discussion of certain adjustment phenomena primarily intrapersonal. Description of the group by socio-economic findings. The morphological approach. Physiological considerations. Medical considerations. Considerations from the field of mental measurement. Section III, Miscellaneous considerations and further discussion of nature of work: General considerations from combined observations

of sports [illegible]. Consideration of earlier judgments through [illegible] information. Appendices. Psychiatric data—distribution of personality traits of Grant Study participants. Selected socio-economic data. Selected morphological data. Selected physiological data. Selected medical data. Scores of Grant Study participants in selected tests of mental function. Personality summary. Tables.

Note: A condensed preliminary report on a study carried out at Harvard University from 1938 to 1942 relating to the nature and needs of normal young men. For the purposes of the study "normal" is defined as the "balanced person" whose combination of traits allows him to function effectively in a variety of ways. The book describes the methods used, and summarizes the findings regarding the physical and mental development, behavior, aptitudes, interests, and other vital characteristics of the 268 students examined during this period. Even though the investigation is limited to a rather small, select group, the report is an important contribution to the knowledge of personality. The study is not yet complete and further publications will report on the careers of these 268 participants for at least another 15 or 20 years.

HUNT, JOSEPH MCVICKER, editor

Personality and the behavior disorders: a handbook based on experimental and clinical research. New York: The Ronald Press Company, 1944. 2 v. illus. 24 cm. $12.50. 4947

Contents: Volume I. Part I, Theoretical approaches to personality: The structure of personality, by D. W. MacKinnon. Personality in terms of associative learning, by E. R. Guthrie. Dynamic theory of personality, by O. H. Mowrer and C. Kluckhohn. Part II, Cross-sectional methods of assessing personality: Subjective evaluation of personality, by E. L. Jones. Personality tests, by J. B. Maller. Interpretation of imaginative productions, by R. W. White. Part III, Behavior dynamics, experimental behavior disorders, and hypnosis: Clinical approach to the dynamics of behavior, by T. M. French. Physiological effects of emotional tension, by L. J. Saul. Experimental analysis of psychoanalytic phenomena, by R. R. Sears. Level of aspiration, by K. Lewin and others. An outline of frustration theory, by S. Rosenzweig. Conditioned reflex method and experimental neurosis, by H. S. Liddell. Experimental behavior disorders in the rat, by F. W. Finger. Experimental studies of conflict, by N. E. Miller. Hypnotism, by A. Jenness. Part IV, Determinants of personality—biological and organic: Heredity, by L. S. Penrose. Constitutional factors in personality, by W. H. Sheldon. Personality as affected by lesions of the brain, by S. Cobb. Physiological factors in behavior, by N. W. Shock. Volume II. Part V, Determinants of personality—experiential and sociological: Infantile experience in relation to personality development, by M. A. Ribble. Childhood experience in relation to personality development, by L. B. Murphy. Adolescent experience in relation to personality and behavior, by P. [illegible]. Cultural determinants of personality, by G. Bateson. Ecological factors in human behavior, by R. E. L. Faris. Part VI, Some outstanding patterns of behavior disorder: Behavior disorders in childhood, by L. Kanner. Delinquent and criminal personalities, by L. G. Lowrey. [illegible] personalities in the military services, by A. W. Stearns. The psychoneuroses, by W. Malamud. The functional psychoses, by N. Cameron. The concept of psychopathic personality, by P. W. Preu. Seizure states, by W. G. Lennox. Part VII, Some investigated correlates of behavior disorders: Psychological deficit, by J. McV. Hunt and C. N. Cofer. Electroencephalography, by D. B. Lindsley. Part VIII, Therapy and the prevention of behavior disorders: Psychiatric therapy, by K. E. Appel. The prevention of personality disorders, by G. S. Stevenson. Author index. Subject index.

Note: The aim of this compilation is to present the major portion of theory, investigative fact, and clinical practice from various life sciences that bear on the study of personality. The 40 contributors represent the fields of psychology, sociology, anthropology, education, physiology and other sciences. Behavior disorders are analyzed in detail, while primary emphasis is placed on the whole organism or person. Extensive bibliographies follow each chapter.

JENNINGS, HELEN HALL

Leadership and isolation: a study of personality in inter-personal relations. Second edition. New York: Longmans, Green and Company, 1950. 349 p. illus. 21 cm. $4.00. 4948

Contents: Foreword by Gardner Murphy. Part I, The problem of inter-personal choice: The significance of choice in human behavior. The choosing process—its study and analysis. Part II, Emotional and social expansiveness: Character of the choice process. Spread and focus of choice and rejection. The patterning of interrelations. Choice and the internal structure of the individual's social atom. Choice-status as affected by high opportunity for contacts and other factors. Behavior characteristics of underchosen, average citizens, and overchosen. Leadership and isolation. Part III, The nature of emotional and social expansiveness: Personality and inter-personal relationships. The relation of criteria to living-working situations. Part IV, Sociometric differentiation of groups: The choosing process in leisure-time. Structural differences in inter-personal relations in leisure-time. New directions in groups—the psychegroup and the sociogroup. Glossary. Bibliography. Index.

Note: An important study conducted from the point of view of sociometry. It presents analyses of the personality traits of 400 individuals that affected their choice or rejection by other members of these groups. Although selected case histories are presented in detail and there are some tabulations of data, most of the book is devoted to generalized discussions and interpretations of the findings. The first edition was published in 1943. This second edition is an expansion of the original work. Part IV, which is devoted chiefly to the choosing process in leisure-time inter-personal relations, is new addition.

KENTUCKY UNIVERSITY. COLLEGE OF ARTS AND SCIENCES

Learning theory, personality theory, and clinical research: the Kentucky symposium. New York: John Wiley & Sons, Inc., 1954. 164 p. illus. 24 cm. $3.50. 4949

Contents: Current interpretations of learning data and some recent developments in stimulus-response theory, by K. W. Spence. Stimulus-response theory as applied to perception, by D. D. Wickens. Motivational forces underlying learning, by H. F. Harlow. The premature crystallization of learning theory, by N. R. F. Maier. Learning and explanation, by D. K. Adams. Ego psychology, cybernetics, and learning theory, by O. H. Mowrer. Personality structure as learning and motivation patterns—theme for the integration of methodologies, by R. B. Cattell. Prospects and perspectives in psychotherapeutic theory and research, by J. M. Butler. Learning—an aspect of personality development, by D. Snygg. "Errors"—theory and measurement, by R. B. Ammons. Some current research issues in clinical psychology, by J. R. Wittenborn. Index.

Note: Papers presented at a symposium held under the auspices of the University of Kentucky in March, 1953 are published in this volume. The meeting was held to facilitate integration of research and thought in three areas of psychology which, though related, have developed independently: learning theory, personality theory and clinical psychology. The majority of the papers deal with learning theory and together they throw much light on the current state of this area of psychology.

KLUCKHOHN, CLYDE, AND HENRY A. MURRAY, editors

Personality in nature, society, and culture. Second edition, revised and enlarged. With the collaboration of David M. Schneider. New York: Alfred A. Knopf, 1953. 716 p. 25 cm. $8.00. 4950

Contents: Introduction, by H. A. Murray and C. Kluckhohn. Part I, A conception of personality, by H. A. Murray and C. Kluckhohn. Part II, The formation of personality: Section I, The determinants of personality formation: Personality formation—the determinants, by C. Kluckhohn and H. A. Murray. Section II, Constitutional determinants: The genetic factor in autonomic nervous-system function, by H. Jost and L. W. Sontag. The genetic theory of schizophrenia, by F. J. Kallmann. Physical and physiological correlates of personality structure, by R. N. Sanford. Psychosomatic studies of some aspects of maternal behavior, by D. M. Levy. Section III, Interrelations between constitutional and group-membership determinants: Anthropological data on the problem of instinct, by M. Mead. Cultural control and physiological autonomy, by L. K. Frank. Social technique, social status, and social change in illness, by J. Ruesch. The frustration complex in Kwoma society, by J. W. M. Whiting. Breast-feeding and character formation, by F. Goldman-Eisler. Growth and crises of the "healthy personality", by E. H. Erikson. Biography and biology, by A. M. Tozzer. Section IV, Group-membership determinants: The concept of national character, by G. Gorer. Aggression in Saulteaux society, by A. I. Hallowell. The general problem of Hopi adjustment, by D. Eggan. Doll play of Pilaga Indian children, by J. Henry and Z. Henry. Social class and color differences in child-rearing, by

Note. The importance of the field of perception as the area where general experimental and clinical-social psychology meet is the main point around which this book has been constructed. The papers are ritten on a graduate level, and the book as whole is addressed t graduate students and professional psychologists. It provides an authoritative survey of current trends in research, and offers a theoretical structure for further advances. The papers were published originally in *Journal of Personality* Volume 18.

CATTELL, RAYMOND BERNARD

Description and measurement of personality Yonkers World Book Company *1946* 602 p illus. 21 cm. (Measurement and adjustment series, edited by Lewis M Terman) $4.20 4942

Contents Editor's introduction. The enterprise of describing, diagnosing, and measuring personality The nature and varieties of clinically distinguishable personality forms. Description of the principal pathological syndromes, neurotic and psychotic. The nature of traits. Basic methods for delimiting and measuring common and unique traits. Systematization of description and measurement scales. The predictive convenience of conditional modalities and other trait subdivisions. The principal surface traits discovered through behavior ratings. The principal source traits discovered through behavior ratings. The principal source traits based on self-inventories. The principal source traits discovered through objective test measurements. The established primary traits: their measurement and use in personality predictions. Bibliography Subject index. Index of names.

Note. The author deplores the unsystematic and unscientific manner in which many studies of personality have been undertaken and on the basis of his own research and a review of the literature of the subject outlines methods and techniques for more scientific personality description. The final chapters constitute a catalogue of syndromes, factors, and traits which may be applied in the measurement and prediction of personality The author leans heavily upon mathematical techniques, especially factor analysis. Criticisms of poor descriptive and measurement studies are based particularly on this approach. While highly technical, the book is of interest to professional psychologists, psychiatrists and advanced graduate students.

CATTELL, RAYMOND BERNARD

Personality a systematic theoretical and factual study New York McGraw Hill Book Company, Inc., *1950* 689 p illus. 23 cm. (McGraw Hill publications in psychology, Clifford T Morgan, consulting editor) $7.50 4943

Contents Describing personality through types or syndromes. Describing personality through traits. Measuring personality by the life-record method. Measuring personality by self-rating and objective tests. Inherited, constitutional influences in personality Psychodynamics The intrinsic structure of dynamic traits. The structure of innate drives. The structures formed in the adjustment process. The self—its integration, adaptation, and adjustment. Psychosomatics Known functional patterns. Methodological avenues to further evidence. Personality and the cultural matrix The family its structure and setting The family its relation to child personality Group dynamics and personality Personality and specific social organs. The abnormal and unadapted personality Evidence from the school misfit, the delinquent, and the criminal. The neurotic. The psychotic. Life stages in personality Conception to puberty Adolescence, maturity old age. Principles of personality formation. Name index. Subject index.

Note The initial definition of personality is given as "that which permits prediction of what a person will do in a given situation. The concluding summary indicates that the principles of personality formation and operation may be incorporated in 17 given laws. From outset to conclusion this volume treats personality study by scientific standards, such as apply in experimental psychology and integrates personality study with psychological concepts in systematic manner The treatment of motivation leans heavily upon McDougall, and the methodology upon Thurstone's factor analysis. The emphasis is upon experiment and research rather than on clinical views of personality The book may be used as text for graduate or an undergraduate course in personality study and is especially intended for the student majoring in psychology or expecting to follow psychology as profession. It covers the subject of personality study in detail, considering it as the natural hub upon which all more specialized sectors of psychology turn. A bibliography accompanies each chapter

GILBERT, G M

The psychology of dictatorship, based on an examination of the leaders of Nazi Germany New York The Ronald Press Company, 1950 327 p illus 22 cm. $5 00 4944

Contents: Part I, The genesis of dictatorship: The emergent pattern of dictatorship—a psychocultural view *Adolf Hitler* and the Nazi movement. Part II, Selected case studies. The revolutionists. The diplomats. The militarists. The state police. Part III, Psychological implications *Clinical and psychodynamic aspects. Some social relationships.* Dictatorship and adaptive social behavior. References and bibliography Name index. Subject index.

Note The author of this unique work served as prison psychologist at the Nuremberg trial of the Nazi war criminals in 1945-46, and thus was able to make a thorough first-hand study of such German leaders as Goering, Hess, von Ribbentrop and Keitel. The report of his findings, based on almost daily contact with the prisoners, offers a revealing picture of the character development, emotional conflicts, and social values of Hitler's chief lieutenants, and indirectly of Hitler himself. The author has also attempted to integrate some of the data of economics, sociology politics and history as they throw light upon the rise of Nazism. Although written primarily for psychologists, the subject matter and the nontechnical style of the book make it of interest to readers outside this field.

HARSH, CHARLES MAXFIELD, AND H. G. SCHRICKEL

Personality development and assessment. New York The Ronald Press Company 1950 518 p. illus 24 cm $6 00 4945

Contents Part I, Nature and development of personality: Introduction. Beginnings of personality Infancy—the first two years. Infancy—sources of personal differences. Progress in early childhood. Childhood learning and acculturation. Middle childhood—six to twelve. Middle childhood—expansion of personality Adolescence. Adolescent personality Early adulthood. Adjustments to job and marriage in early adulthood. Middle and old age. Part II, Personality study in theory and practice Theories of personality The psychoanalytic movement. Cultural approach and synthesis. Assessment of personality Questionnaires and trait organization. Interpretive assessment. Integration in personality Appendix Theories of trait organization. References. Index of names. Index of subjects.

Note A general study of personality from the standpoint of psychology organized for use as textbook. In the first part are traced the typical stages of personality development from infancy to old age. For each period, there is discussion of (1) factors influencing personality (2) major problems and mechanisms of adjustment, (3) changes in motivation, (4) changes in ability and learned adjustment patterns, (5) significance of the phase for later developments, and (6) characteristic individual variations. The second part of the book is a survey of theories about personality and methods of assessing it. By cross references in Part II the reader is reminded that theory and method must be related to the phenomena discussed in Part I. References are made throughout the text to the 23-page bibliography

HEATH, CLARK WRIGHT

What people are a study of normal young men by Clark W Health in collaboration with Lucien Brouha, Lewise W Gregory, Carl C. Seltzer Frederic L. Wells and William L. Woods The Grant Study Department of Hygiene Harvard University Cambridge, Mass. Harvard University Press, 1945 141 p illus 21 cm. $2 00 4946

Contents (abridged) Section I, Introductory Grant Study concept of "normal. Aims and purposes. Nature of approach Organization and general plan of work. Selection of participants. Methods of examining participants. Section II, Description of normal young men from the point of iew of different disciplines Description of normal personality Description of manner of adjustment to certain conditions. Discussion of certain adjustment phenomena primarily intrapersonal. Description of the group by socio-economic findings. The morphological approach. Physiological considerations Medical considerations. Considerations from the field of mental measurement. Section III, Miscellaneous considerations and further discussion of nature of work General considerations from combined observations

[illegible] Discipline and mental health. An experimental analogue of [illegible] Learning theory and the neurotic [illegible] The problem of security. Biological vs. moral "frustration [illegible]" ... the concept of personality disturbance. Identification—a link between learning theory and psychotherapy. On the psychology of [illegible] "talking back"—a contribution to language and personality theory. Bibliography. Index of names. Index of subjects.

Note: [illegible]

MURPHY, GARDNER

Personality a biosocial approach to origins and structure. New York Harper & Brothers, 1947 999 p. 24 cm. $7.50. 4956

Contents (abridged): Part one, Organic foundations. [illegible]

Note: [illegible]

MURRAY, HENRY ALEXANDER, AND OTHERS

Explorations in personality A clinical and experimental study of fifty men of college age. By the workers at the Harvard Psychological Clinic. New York Oxford University Press, 1938. 761 p. illus. 24 cm. $10.00. 4957

Contents: Preface. Introduction. Proposals for a theory of personality. Variables of personality. Judgments of personality. [illegible] Procedures: Conference. Autobiography. Family relations and childhood memories. Sexual development. Present dilemmas. Conversations. [illegible] Questionnaires. Abilities test. Aesthetic appreciation test. Hypnotic test. Level of aspiration test. [illegible] Rorschach test. Miscellaneous procedures. Reactions to frustration. Social interaction. Case history [illegible] Conclusions. Glossary. Index.

Note: The point of view adopted in this book is that personalities constitute the subject matter of psychology [illegible] The intentions of the authors were (1) to construct [illegible] theory of personality (2) to devise techniques for getting at some of the more important attributes of personality and (3) by study of the lives of many individuals to discover basic facts of personality. In order to make the book an integrated whole rather than a collection of articles on special topics, its authors adopted the following procedure: to have all experimenters study the same series of individuals with the same concepts actively in mind, and then in assembly—a meeting being devoted to each case—to report their findings and collaborate in accomplishing a common purpose: the formulation of the personality of every subject.

SLOTKIN, JAMES SYDNEY

Personality development. New York Harper & Brothers, 1952 401 p. illus. 22 cm. (Harper's social science series under the editorship of F Stuart Chapin) $4.50 4958

Contents: Part one, Inheritance. The concept of inheritance. Biological aspects of the individual. Traits resulting from inheritance. Part two, Socialization. The concept of socialization. Social aspects of the individual. Traits acquired through socialization. Part three, Culturalization. The concept of culturalization. Cultural aspects of the individual. Traits acquired through culturalization. Part four, Individualization. The concept of individualization. Particular aspects of the individual. Traits developed through individualization. Name index. Subject index.

Note: In this work, Dr. Slotkin develops the theory that "personality is the product of the responses made by an individual with particular heredity to the specific sequence of situations confronting him during his life history." [illegible]

SMITH, M BREWSTER, AND OTHERS

Opinions and personality By M. Brewster Smith, Jerome S Bruner and Robert W White. With the collaboration of David F Aberle, Stanley G. Estes, Eugenia Hanfmann, and Sheldon J Korchin. New York John Wiley & Sons Inc., 1956. 294 p. 23 cm. $6.00. 4959

Contents: Introduction. Converging approaches. On understanding an opinion. [illegible] John Chatwell. Charles Lanlin. Hilary Sullivan. The other seven. Opinions and personalities. Index.

Note: Developed from a project of the Psychological Clinic of Harvard University with support from the Laboratory of Social Relations, this book is a study of the psychological bases of opinions and their relationship to the total personality. How opinions are formed [illegible] functions they serve, how they relate to other factors such as intelligence, and how they fit into the structure of the individual personality are the main questions asked. The opinions held by 10 men about Russia and communism form the framework for the study. Chapters which generalize about opinion forming are placed before and after three case histories to highlight the psychological principles brought to light in the study. This work differs from most of the published literature on opinions, which tends to stress public opinion and the measurement of opinion, rather than the psychological development of opinion in the individual personality.

SOLOMON, JOSEPH C.

A synthesis of human behavior an integration of thought processes and ego growth. New York Grune & Stratton, 1954 265 p. 22 cm. $6.50. 4960

Contents: Introduction. The infant. The toddler. The oedipal age. Latency. Adolescence. The adult years. The middle years. Old age. Bibliography. Index.

Note: A psychoanalytic study of human behavior in the various stages of development from infancy to senescence. It correlates the principal features of behavior and personality with the development of the ego. Early in the book the author provides a table of ego organization, in which the personalities and behavior associated with the various stages of physical development and age are arranged under the following headings: Psychosexual stage, Principal external objects, "Mature ego, "[illegible]" and

A. Davis and R. J. Havighurst. Symbolic sibling rivalry in a Guatemalan Indian village, by B. D. Paul. Are basic needs ultimate? by D. Lee. Dominant and variant value orientations, by F. Rockwood Kluckhohn. Section v, Role determinants. Age and sex in the social structure of the United States, by T. Parsons. Bureaucratic structure and personality, by R. K. Merton. Social dynamics of physical disability in army basic training, by D. M. Schneider. Section vi, Situational determinants: The relation of birth to behavior, by I. S. Wile and R. Davis. Educative influence of personality factors in the environment, by F. Alexander. Personality under social catastrophe—ninety life-histories of the Nazi revolution, by G. W. Allport and others. An instance of the social origin of conflict resulting in psychoses, by J. McV. Hunt. The ghost of Henry James—a study in thematic apperception, by S. Rosenzweig. Section vii, Interrelations between the determinants: Some psychosomatic aspects of childhood, by L. W. Sontag. Infant reactions to restraint—problems in the fate of infantile aggression, by P. Greenacre. Individual and social origins of neurosis, by E. Fromm. Continuities and discontinuities in cultural conditioning, by R. Benedict. The life history in community studies, by J. Dollard. Some problems of personality development among Negro children, by B. Dai. American status systems and the socialization of the child, by A. Davis. Some sociological observations on culture and personality studies, by A. Inkeles. Part iii, Some applications to modern problems: The channeling of Negro aggression by the cultural process, by H. Powdermaker. Illness and the role of the physician—a sociological perspective, by T. Parsons. Trends in affectlessness, by N. Leites. The psychology of the Soviet middle elite—two case histories, by R. A. Bauer. Social change and cultural surrogates, by M. Mead. Administrative contributions to democratic character formation at the adolescent level, by M. Mead. The scientific approach to case work—with special emphasis on psychoanalysis, by R. Waelder. The functions of alcohol in primitive societies—a cross-cultural study, by D. Horton. A critique of cultural and statistical concepts of abnormality, by H. J. Wegrocki. Index.

Note. A well-selected anthology of periodical articles, book chapters, and original contributions pertaining to the development of human personality within society. It is used as supplementary reading by college students majoring in psychology or sociology and to a lesser extent by members of such professions as teaching and medicine who feel the need of a substantial collection of modern writings on personality. The first edition was published in 1948. Some of the papers in the original edition were revised for the second edition and several papers were added.

LEWIN, KURT

A dynamic theory of personality selected papers. Translated by Donald K. Adams and Karl E. Zener. New York McGraw-Hill Book Company Inc. 1935 286 p illus 23 cm. (McGraw-Hill publications in psychology) $6 00 4951

Contents The conflict between Aristotelian and Galileian modes of thought in contemporary psychology. On the structure of the mind. Environmental forces in child behavior and development. The psychological situations of reward and punishment. Education for reality. Substitute activity and substitute value. A dynamic theory of the feeble-minded. Survey of the experimental investigations. Index of names. Index of subjects.

Note. A collection of originally independent articles written at different times, but demonstrating the author's experimental approach to the problems of will, emotion, and character. The selection was made in order to give a picture of the author's investigations in these fields and their connections with various applied fields, especially child psychology, pedagogy, psychopathology, characterology and social psychology. Bibliographical references are given in footnotes. The final chapter gives a synopsis of the author's experimental investigations which is designed to orient those interested in closer acquaintance with his work.

LINTON, RALPH

The cultural background of personality. New York Appleton-Century-Crofts, Inc. 1945 157 p. 19 cm $2 00 4952

Contents The individual, culture and society. The concept of culture. Social structure and culture participation. Personality. The role of culture in personality formation. Index.

Note The five essays in this volume reflect the author's belief that environmental factors, and particularly those that may be classified as cultural, are of great importance in shaping personality. The book is strictly neither a study of the psychology of personality nor a study of social psychology. In fact, a principal theme is that personality psychology, social psychology and cultural psychology all have much to contribute toward the understanding of personality. The book had its origin in a series of lectures delivered at Swarthmore College in February 1943 but the essays in it are revisions of the lectures rather than the lectures themselves. The lecture style has persisted, however, and the volume is suitable for reading by any educated person who is interested in the subject; in other words, it is not addressed to specialists.

McCLELLAND, DAVID CLARENCE

Personality. New York Dryden Press, Inc., 1951 654 p illus. 22 cm. $5.50 4953

Contents Part i, Methodology: How personality is studied. The scientific approach to personality: the history of a belief. Obtaining the facts. Interpreting the facts. Relating the facts to one another. Part ii, Trait as a personality variable. Expressive traits. Performance traits. Trait theory. Part iii, Schema as a personality variable. Ideas and values. Roles and role models. Socialization: The source of schemata and motives. Part iv, Motive as a personality variable. Motivation: clinical approach. Motivation: experimental approach. The effects of motivation on behavior. Part v, Summary and integration: Conceptions of the self. Interrelation among the basic personality variables: predicting the concrete act. References and author index. Subject index.

Note. Using mainly the motivational scheme of H. A. Murray but combining methodological resources of many kinds, this author has attempted to develop a psychology of the individual personality somewhat along the lines long advocated by Gordon Allport. The diverse discussions of theoretical and research problems are tied together by constant reference to a single case who has been studied with extraordinary thoroughness. Intended for the advanced undergraduate student of psychology, it will be more useful at the graduate level.

MIKESELL, WILLIAM HENRY, AND GORDON HANSON

Psychology of adjustment. New York D. Van Nostrand Company, Inc., 1952 406 p. 24 cm (The Van Nostrand series in psychology, J. P. Guilford general editor) $4 75 4954

Contents. Frustration and maladjustment. Conflict. Our important wants. Indirect living. Arrested development. The aggressive mechanism. The withdrawal mechanism. The regressive mechanism. Our fantasy life. Illness as a mechanism. The problems of sex. The place of learning in educational adjustment. Social responsibility and work. Adjustment in the family. Various forms of therapy. Better choice of defense mechanisms. Building confidence. Function and goal-centered behavior. Index.

Note An introductory college text in which the individual personality is viewed as the product of adjustment to the pressures of the society in which the individual lives. Considerably more space is given to maladjustment than to adjustments that build up the normal personality, but the authors' purpose behind this emphasis appears to be to enable college students and other readers to avoid the maladjustments. No previous introduction to psychology is required, and the book is written in a style that makes it available to lay readers as well as to those who study the subject under an instructor. Literature references are included.

MOWRER, ORVAL HOBART

Learning theory and personality dynamics selected papers. New York The Ronald Press Company 1950 776 p illus. 24 cm. $9 00 4955

Contents (abridged) Part i, Learning theory: A stimulus-response analysis of anxiety and its role as a reinforcing agent. Preparatory set (expectancy)—some methods of measurement. Fear as an intervening variable in avoidance conditioning. Extinction and behavior variability as functions of effortfulness of task. Habit strength as a function of the pattern of reinforcement. The law of effect and ego psychology. On the dual nature of learning—a reinterpretation of "conditioning" and "problem solving." An experiment exemplifying "learning" as induction and insight as deduction. Part ii, Personality dynamics: An experimental analogue of "regression" with incidental observations on "reaction formation." Enuresis—a method for its study and treatment. Time as a determinant in integrative

[illegible] arousal and schizophrenia in children, by J. L. Despert. Experience with therapy of psychosomatic problems in [illegible], by R. S. Lourie. Adolescent frustrations and evasions, by L. G. Lowrey. Discussion of Chapters 13–16, by M. S. Mahler. Appendix. Index.

Note: The papers and discussions in this volume represent [illegible] section of the recent and current research in the United States of America and Canada pertinent to abnormal psychology of children.

BAKWIN HARRY, AND RUTH MORRIS BAKWIN

Clinical management of behavior disorders in children. Illustrated. Philadelphia W B Saunders Company 1953 495 p. illus. 24 cm. $10.00. 4966

Contents (abridged). Growth and development. Psychologic care of the physically ill and handicapped child. Etiologic factors in behavior disorders of children. Diagnosis and treatment of behavior disorders in children. Problems related to mental functioning. Developmental abnormalities. Problems related to emotional development. Problems of habit and training. Organic disturbances with a large psychic component. Antisocial behavior. Specific syndromes. General reference texts. Author index. Subject index.

Note: Written by two specialists in pediatrics, this book is addressed primarily to physicians and secondarily to social workers, child psychologists, etc. It presents a considerable body of literature on both normal and abnormal behavior in children, with the latter predominating. It is written in a straightforward style that is largely free of the technical terminology of psychoanalysis and clinical psychology. The title notwithstanding, more space is devoted to basic information and descriptions of disorders than to treatment. Selected literature references are included.

BETTELHEIM BRUNO

Truants from life the rehabilitation of emotionally disturbed children. Glencoe, Ill. The Free Press, 1955 511 p. 21 cm. $6.00. 4967

Contents (abridged). Part I, Introduction. The school. Part II, "Little things and time"—Paul, a case of "[illegible]." Part III, Emotional death and rebirth: Mary, a schizophrenic girl. Part IV, "Ten cowboys better than God"—John, [illegible] life and rehabilitation of a boy with anorexia. Part V, "I never knew you cared so much"—Harry, a delinquent boy. Appendix. Index.

Note: A companion to the author's *Love is not enough*, described above. It is largely devoted to four case histories of children who were treated by the author and his colleagues at the Sonia Shankman Orthogenic School of the University of Chicago. The case histories are very well written and they illustrate dramatically the methods of the School and their effects upon extremely disturbed children. When received at the School their maladjustments were so severe that they were unable to function in normal society; however, all were rehabilitated.

CAPLAN GERALD editor

Emotional problems of early childhood. Editorial advisory committee Frederick H. Allen, George E. Gardner Marian C. Putnam. New York Basic Books Inc., 1955 544 p. 24 cm. $7.50. 4968

Contents. Section I. Preventive aspects of child psychiatry. Clinical cases and discussions. Preventive intervention in a four-year-old child whose father committed suicide, by E. Lindemann and others. A mother whose child would not eat—psychiatric casework in a well-baby clinic, by J. M. Rosenfeld and M. Brandt. Disturbance in mother-infant relationship leading to apathy, extrapyramidal rocking and hair ball, by W. S. Langford. Research reports: A follow-up study of a predictive test of social adaptation in preschool children, by E. B. Lindemann and Ann Ross. A critical survey of a current program of research into mother-child relationship, by F. H. Stone. Measuring changes in the family of a five-year-old during treatment, by E. Chance. Commentary: Recent trends in preventive child psychiatry, by G. Caplan. Section II. The relations of physical and emotional factors, and problems of hospitalization. Clinical cases and discussions. Ulcerative colitis in a four-year-old boy, by G. E. Gross. Interrelationship of a preschool child, by J. C. Lubbock. Maternal deprivation, psychogenic deafness, and pseudo-retardation, by M. C. Ostow-Ortiguez and J. Aubry. Research reports: A program for the study of children with psychosomatic disorders, by G. J. Mohr and others. A psychiatric study of fifty preschool children referred to hospital for suspected deafness, by A. Heiferman. The effects of lack of mother care—methods of studying children aged one to three years, placed in institutions, by J. Aubry. Investigations dealing with the reactions of children and families to hospitalization and illness—problems and potentialities, by D. G. Prugh. Commentary: Mother child separation—process or event, by F. H. Allen. Section III, Problems of psychosis in early childhood. Clinical cases and discussions: Symbiotic aspects of a seven-year-old psychotic, by T. Morrow and E. A. Loomis, Jr. A case of psychosis of allergic etiology in a young child, by G. Heuyer. History of a child with an atypical development, and some vicissitudes of his treatment, by E. Rosenstock. The development of a schizophrenic child treated with electric convulsions at three years of age, by L. Bender. A special technique of psychotherapy with an autistic child, by N. Ward. Treatment of a borderline psychotic five-year-old girl, by F. Knowlton and M. Burg. Research reports: Intensive study and treatment of preschool children who show marked personality deviations, or "atypical development," and their parents, by B. Rank. Twenty years of clinical research on schizophrenic children, with special reference to those under six years of age, by L. Bender. Commentary: Some observations on psychosis in early childhood, by M. C. Putnam. Appendix. Index.

Note: The contents of this volume were selected from a much larger volume of papers presented to the International Institute of Child Psychiatry held in Toronto in August, 1954. Included are 12 case histories, nine reports of research, and four commentaries. Three of the contributors are from France, two from Israel, one from Canada, and one from Norway. The remainder are from the United States of America. The volume presents an international cross section of current thinking and experience. Literature references are included in most of the papers.

COLEMAN JAMES C.

Abnormal psychology and modern life. Second edition. Chicago Scott, Foresman and Company 1956 676 p. illus. 25 cm. $6.50 4969

Contents (abridged). Part I, Introduction. Abnormal behavior in our times. Development of our modern views of abnormal behavior. Part II, Dynamics of normal and abnormal behavior: Personality development and adjustment. Causes of abnormal behavior. Part III, Disorders of psychogenic origin: Transient personality reactions to acute or special stress. Psychoneurotic disorders. The functional psychoses. Character disorders (personality disorders). Alcoholism and drug addiction. Part IV, Disorders associated with brain pathology. Part V, Modern methods of diagnosis, understanding, treatment, and prevention: Diagnosis. Therapy. The prevention of abnormal behavior. Psychiatry in the modern world. Abnormal psychology in literature. Glossary. Name index. Subject index.

Note: A college textbook designed for use in advanced courses offered to students who have completed courses in general psychology. For such a book, it includes a relatively large number of case histories and relatively full accounts of mental disorders, methods of diagnosis and therapy. The principal changes in the second edition are the reorganization of the chapters on mental disorders to bring them into conformity with the new classification of mental disorders promulgated by the American Psychiatric Association, and the addition of a short chapter on psychosomatic disorders.

FOOTE ESTELLE J

Six children. Springfield, Ill. Charles C Thomas, 1956. 317 p. illus. 24 cm. $5.50. 4970

Contents: Introduction. The quick thinking child. The slow thinking child. The child whose brain has been injured. The child maladjusted emotionally. The child of unusual cultural background. The child of unusual training. Two additional children. Figures and charts. Conclusion. Bibliography. Index.

Note: The author of this book, a physician specializing in psychiatry, has had an extensive experience in the examination and study of mentally retarded children. The "six children" of the title were not individuals but are types derived from the study of more than 1,400 cases. The material on each type is organized according to the following pattern: general, history, school, psychometrics, psychiatric, differential diagnoses, discussion and advice, and comments. Despite the formal arrangement, the book is readable and interesting. The "two additional children" are types also: the child with an unusual physical defect and the child called "delinquent." Sixty-four pages of the book are devoted to discus-

"Neurotic ego traits. The book is essentially an elaboration of this table. It is persuasively and clearly written and contains bibliography of the related modern literature.

STAGNER, ROSS

Psychology of personality Second edition New York McGraw Hill Book Company, Inc. 1948 485 p illus 24 cm (McGraw Hill publications in psychology, J F Dashiell, consulting editor) $6 50 4961

Contents (abridged) Introduction The scientific study of personality Methods in the study of personality Description of personality The nature of personality structure. Development of personality basic patterns—simple learning—complex forms of learning. The organization of personality traits—the self Character. Attitudes and values. Type theories of personality Dynamics of personality The biological basis of motivation. Contemporary theories of dynamics. A cultural interpretation of motivation. Determinants of personality: Biological factors. Social determinants. The school system. Economic factors. Personality and social values. Bibliography and author index. Subject index.

Note A thorough and convincing study of normal personality The underlying theme is that the most important factor in the shaping of the personality is the social environment, but all of the outstanding theories bearing on the subject are examined in some detail and evaluated from the author's viewpoint. Only the normal personality is considered. The second edition, the writing of which was started in 1941 but not completed until 1947 incorporates some material relating to the effects of World War II upon individual personalities. The original text, largely behavioristic in orientation, has been extensively rewritten in order to take full advantage of recent developments in such aspects of the field as perception and projection testing, and to incorporate new experimental studies. The bibliography also has been revised to include references to the later literature. The book is written for undergraduates and beginning graduate students, but is not too difficult for other readers with a background in social science.

SYMONDS, PERCIVAL MALLON

The ego and the self New York Appleton Century-Crofts, Inc., 1951 229 p. 21 cm. (The Century psychology series Richard M Elliott, editor) $2 50 4962

Contents Introduction. The structure of the ego. Functions of the ego. Development of the ego. Development of the self Self feeling and self-valuation. Ego strength and ego weakness. The rôle of the affects in the ego. Ego, superego, and self-ideals. Ego breakdown and depersonalization. The rôle of the ego in pathological states. The place of the ego and the self in psychotherapy Education for ego and self development. Bibliography Index.

Note In this book the author views the ego as "the objective self as it might be observed by behaviorist, and the self as "the subjective self as it is perceived, conceived, valued and responded to by the individual himself. After defining the concepts, he presents in concise style the current knowledge of the ego and the self from the viewpoint of psychology In most parts, the text is well organized and smoothly written digest of relevant literature. Statements in the text are cross-referenced to the source articles and books. Included among the source materials are numerous ritings of psychoanalysts as ell as the writings of experimental psychologists. The book is useful as text in advanced college courses and as reading guide for graduate psychologists who wish to explore this area of psychology

WITKIN, H A., AND OTHERS

Personality through perception an experimental and clinical study By H A. Witkin H B Lewis, M Hertzman, K. Machover P Bretnall Meissner and S Wapner Under the editorship of Gardner Murphy New York Harper & Brothers, 1954 571 p illus 21 cm. $7 50 4963

Contents Introduction. Design of the study The space-orientation tests. Modes of space orientation. Self-consistency in mode of orientation. Relation between performance in the space-orientation tests and performance in other related tests. Developmental changes in perception. Sex differences in perception. Procedures for study of perception-personality relationships in the basic adult group. The interview The Rorschach test. The figure-drawing test. The thematic apperception test. Case histories. Perceptual results and diagnostic data for the hospital group. Perception-personality relationships in the hospital group. Perceptual results and composition of groups of children used in perception-personality study The miniature-toy play situation. Further studies of perception-personality relationships in children. Interrelations among personality tests and applicability of the personality measures. The nature of perception-personality relationships. Some problems of theory and method. Appendixes. Bibliography Index.

Note. Over period of 10 years, the author of this book carried out intensive investigations of relations between perception and personality The research was centered on tests of the ability of individual persons in orienting to the vertical plane despite misleading features f the prevailing visual field. Large differences in individual ability were discovered. The tests of orientation in space were supplemented by other tests most of which are named in the above chapter titles. The results of the study indicate beyond doubt that "particular modes of perceiving are consistently related to particular ways of adjusting" in life situations.

YOUNG, KIMBALL

Personality and problems of adjustment. Second edition New York Appleton-Century-Crofts, Inc., 1952 716 p illus. 24 cm. $5 75 4964

Contents (abridged): Part I, The foundations of personality: Constitutional foundations of personality Motivation and affective processes. Internal organization and interactional processes. The development of language in the individual. The rise and function of the self. Symbolic behavior and the self Typology—facts and theories. Theories of personality Part II, Selected problems of personal adjustment: Infancy and childhood. Adolescence and problems of physical and social maturation. Pupil adjustment in school. Mental health of college students. Some problems of marriage and divorce. Psychology of modern woman. Psychological problems associated with occupation. The psychology of later maturity and old age. Constitutional deficiencies and adjustment. Some personality characteristics of delinquents and criminals. Neurotic and psychotic manifestations of personality Glossary Index of names. Index of subjects.

Note. This is revision, without major changes, of idely used and valued textbook utilizing sociological approach to personality While some new material has been added and some attention given to changes in the field of theoretical psychology the orientation is still toward groups, social roles, and institutional patterns as the major determinants of personality Can be used by advanced undergraduates in psychology and sociology

ABNORMAL PSYCHOLOGY

AMERICAN PSYCHOPATHOLOGICAL ASSOCIATION

Psychopathology of childhood. Edited by Paul H Hoch and Joseph Zubin The proceedings of the forty fourth annual meeting of the American Psychopathological Association held in New York City June, 1954 New York Grune & Stratton 1955 303 p. 23 cm. $6 00 4965

Contents. Normal growth and development, by N. Bayley Scientific models for the investigation f child development, by W Dennis. Current trends of research in child development, by A. L. Baldwin. The development of time concepts in the child, by J. Piaget. Discussion of Chapters 1–4 by D McCarthy Psychopathology of mental deficiency in children, by C. E. Benda and M. J Farrell. Organic factors in the psychopathology of childhood, by C. Bradley Emotional and intellectual consequences of psychologic deprivation in infancy—a revaluation, by W Goldfarb. Early environment—its importance for later behavior by W R. Thompson. Discussion of Chapters 5–8, by L. R Angus. Presidential address Problems of preventive psychiatry in war by D McK. Rioch. Cultural pressures and achievement motivation, by I. L. Child and M. K. Bacon Child and family psychopathy—problems of correlation, by N. W Ackerman and M. L. Behrens. Discussion of Chapters 10–11 by L. Bender & R. Hamilton award. Oppositional syndromes and oppositional behavior by D M. Levy Notes on the follow-up studies of autistic children, by L. Kanner and L. Eisenberg. Differential diagnosis between character

[illegible]. The studies themselves are preceded in the volume by an introduction, written by Professor Wendell Johnson, of the University of Iowa, [illegible] research in this field. They are followed by [illegible] bibliography of graduate theses and publications produced through 1954.

KUGELMASS, I. NEWTON

The management of mental deficiency in children. New York. Grune & Stratton, 1954. 312 p. illus. 23 cm. $7.25 4975

Contents: Part I, Diagnosis: An introduction to mental deficiency in children. The complete examination of the retarded child. Part II, *Syndromes: Developmental varieties of mental deficiency*. Metabolic varieties of mental deficiency. Neuromotor varieties of mental deficiency. Psychological varieties of mental deficiency. Part III, Management: Management of the retarded child. Index.

Note: A concise treatise written by an eminent authority on the [illegible] of children who has pointed out that: "Children with I.Q. 25 to 50 are trainable, while those with I.Q. over 50 are both trainable and educable. The world's work can be done by individuals attaining I.Q. 75 or over." The book is directed primarily to graduate physicians and secondarily to psychologists who see children. The important subject of diagnosis is thoroughly discussed in the [illegible]-page first part. The second part is the heart of the volume, and accounts for most of its length. Here, the various syndromes are described in terms of their clinical features, pathologic changes, diagnostic criteria, treatment procedures, etc. The third part is devoted to training, education, and general principles of treatment, including both psychotherapy and drug therapy. Literature references are given throughout the volume.

LIPPMAN, HYMAN S.

Treatment of the child in emotional conflict. New York. The Blakiston Division, McGraw-Hill Book Company, Inc., 1956. 298 p. 22 cm. $6.00. 4976

Contents: Section I, Approaching therapy. Treatment of the child in emotional conflict. Methods of therapy. Involving the parents in the child's therapy. Introducing the child to therapy. Section II, The neurotic child. General characteristics of neurotic children. The child in acute anxiety states. The child with school phobia. The child with depression. The child with obsessional neurosis. Section III, The child with personality problems. The withdrawn child. The overprotected child. The effeminate boy. The [illegible] child. The child with neurotic character. Section IV, The child who acts out. The unsocialized child. The neurotic character. The neurotic delinquent. The "psychopath." Section V, The child with [illegible] hold on reality. The psychotic child. The mentally retarded child. The child with organic brain damage. The child who withdraws into [illegible]. Section VI, The problem of prevention. Section VII, Some principles of therapy. Index.

Note: A well-written, nontechnical book on the treatment of emotionally disturbed children. It is based in large part on the author's very extensive experience at the Amherst H. Wilder Child Guidance Clinic in St. Paul, of which he is now Director. The methods of therapy described have their roots in psychoanalysis, but the book is not addressed to psychoanalysts, nor is there much emphasis on the basic concepts of that field. Its primary topic is methods of therapy. Interwoven with the discussion of therapy are numerous case histories chosen to illustrate therapeutic techniques and their effectiveness. The prevention of emotional maladjustment on the part of children is discussed in a short but valuable paragraph. The book is addressed to such readers as general practitioners of medicine and social workers.

MCCORD, WILLIAM, AND JOAN MCCORD

Psychopathy and delinquency. New York. Grune & Stratton, 1956. 230 p. 23 cm. $6.50. 4977

Contents: Who is the psychopath? From moral insanity to psychopathy. The problem of diagnosis. The causes of psychopathy. The treatment of psychopathy. Milieu therapy—an evaluation. The psychopath, the law, and society. Appendix. Index.

Note: A valuable study of the psychopath, described by the authors of this volume as an "asocial, aggressive, highly impulsive person, who feels little or no guilt and is unable to form lasting bonds of affection with other human beings." It is concerned primarily with causes and treatment. It includes an extensive study of [illegible] example of the milieu therapy approach to the cure of psychopaths, namely the Wiltwyck School for Boys maintained by New York State. The boys in that institution were studied with all the techniques of clinical psychology in order to determine the effects of its methods upon them. The results of the studies are presented both in statistical form and in evaluatory discussions by the authors. The book is of interest both to criminologists and to psychologists.

MALZBERG, BENJAMIN, AND EVERETT S. LEE

Migration and mental disease: a study of first admissions to hospitals for mental disease, New York, 1939–1941. With an introduction by Dorothy S. Thomas. New York. Social Science Research Council, 1956. 142 p. illus. 23 cm. $1.50. 4978

Contents: Introduction, by D. S. Thomas. Scope and method. Nativity differentials. Differentials by state of birth. Five-year migration differentials. Recency of migration. Summary and conclusions. Appendices: Sources and methods. Some possible effects of "unknowns" upon observed differentials. Index.

Note: A study designed to provide data pertinent to the following questions. "Do migrants have higher incidence of mental disease than non-migrants in the area of destination? Are the differentials consistent when the definition of migration is varied? Do the differentials hold over the age range between the sexes, among groups defined in terms of color or race? Are the patterns of differentials consistent with respect to the 'functional' psychoses and other types of mental disease?" First admissions to hospitals for mental disease in the state of New York for [illegible] three-year period were analyzed and the results are presented in [illegible] of statistical tables. The tables are supplemented by discussions and by [illegible] summary and conclusions written by the authors.

SARASON, SEYMOUR B.

Psychological problems in mental deficiency. Second edition. New York. Harper & Brothers, 1953. 402 p. illus. (part col'd) 21 cm. (Under the editorship of Gardner Murphy.) $5.00. 4979

Contents: Criteria of mental deficiency. Problems in classification. Problems in the diagnosis of brain injury. Problems in test interpretation. Garden-variety mental deficiency. Cultural factors in the etiology of garden-variety deficiency. Cerebral palsy. Other forms of mental deficiency. Projective techniques. Psychotherapy. Interpretation of mental deficiency to parents. The problem of institutionalization. The problem of professional training. Bibliography. Author index. Subject index.

Note: An important critical study of potentialities and applications of psychological and psychiatric theories and techniques in the diagnosis and therapy of mental deficiencies. The author has stated that [illegible] this book is evidence of my own belief that the psychological problems in mental deficiency are as intriguing, puzzling, and promising as those found in any other clinical group." The first edition was published in 1949. The last three chapters in this second edition are newly added. They serve to extend the scope of the book in the direction of practice in the management and therapy of mentally defective persons. They contain among other things, some helpful advice to therapists on dealing with parents of mentally defective children. The bibliography, which is a list of the literature on which the book is based, now contains 319 references. The author is Professor of Psychology in Yale University.

TOMKINS, SILVAN S., editor

Contemporary psychopathology: a source book. With an introduction by Henry A. Murray. Cambridge, Mass. Harvard University Press, 1943. 600 p. illus. 24 cm. $5.00. 4980

Contents (abridged): I, Mental disease in childhood: Distorting factors of infant personality, by M. A. Ribble. The predisposition to anxiety, by P. Greenacre. The child's response to coercive bowel training, by M. Huschka. Studies in the interpretation of play, by E. H. Erikson. II, Psychosomatic and psychosomatic medicine: The influence of psychologic factors upon gastro-intestinal disturbances, by F. Alexander. [illegible]

sions and reproductions of forms and charts used by the author and her associates in the clinical work that formed the basis of the book.

GLUECK, SHELDON, AND ELEANOR GLUECK

Physique and delinquency New York Harper & Brothers, 1956 339 p 22 cm $6 00 4971

Contents General orientation. Aims, design, method. Physical and neurological traits. Aspects of intelligence—character structure. Personality and temperament. Traits, delinquency and physique types. Effect of family and home environment on the delinquency of four physique types. Common ground of criminogenesis. Mesomorphs and delinquency Endomorphs and delinquency Ectomorphs and delinquency Balanced type and delinquency Physique and the management of juvenile delinquency Hypotheses regarding physique in the etiology of delinquency Appendixes. Index.

Note In this book, two eminent authorities on juvenile delinquency and criminology report the results of their analysis of the role of body structure in juvenile delinquency Employing the somatotype terminology of William H. Sheldon, they investigated endomorphy mesomorphy and ectomorphy as factors in deviation from normal behavior by young people. The findings are presented in a compactly written text and in an extensive series of tables. Among the authors' conclusions "It has been established, for example, that the predominantly mesomorphic constitution has greatest strength and a different rhythm of energy discharge and control of impulse than the obese endomorphic, or the fragile ectomorphic types. It has also been shown that the delinquency of ectomorphs would seem to stem largely from their over-sensitiveness and over-responsiveness to the unwholesome influences of home and family life. Consequently though an essentially genetic explanation of varying behavioral inclinations may be criticized as onesided, essentially psychoanalytic or sociocultural explanations are open to like criticism." Included among a series of appendixes is an explanation of the statistical method used of the method of somatotyping and various concise summaries, such as a "Summary of significant variations in trait incidence by physique types.

GOLDSTEIN, KURT

Human nature in the light of psychopathology Cambridge Mass. Harvard University Press 1940 258 p illus. 19 cm (The William James lectures delivered at Harvard University 1937–38) $3 50 4972

Contents. The holistic approach and the analytic method in science. Pathology and the nature of man. The abstract attitude and speech. Ordered and catastrophic behavior anxiety and fear Coming to terms with the world. On the motives actuating human behavior On the structure of personality The individual and others. The fallacy of "isolation in social philosophy Notes. Index.

Note A book treating the reactions of the individual to his social surroundings with reference to mental and physical diagnosis and therapy The lectures upon hich it is based were intended especially for educators and physicians.

HATHAWAY, STARKE R, AND ELIO D MONACHESI, editors

Analyzing and predicting juvenile delinquency with the MMPI. Minneapolis University of Minnesota Press 1953 153 p illus. 23 cm $3 50 4973

Contents Part I, Juvenile delinquency and the MMPI. Personality patterns of adolescent girls Delinquents and nondelinquents, by D F Capwell. The personality patterns of juvenile delinquents as indicated by the MMPI, by E. D Monachesi. Personality patterns of juvenile delinquents in an area of small population, by J H. Ashbaugh. MMPI findings in the rehabilitation of delinquent girls, by M. Lauber and W G. Dahlstrom. The relationship between MMPI profiles and later careers of juvenile delinquent girls, by S. R. Hathaway and others. Personality characteristics of adolescents as related to their later careers Part I, Introduction and general findings, by S. R. Hathaway and E. D Monachesi. Part II, Two-year follow-up on delinquency by S. R. Hathaway and E. D Monachesi. Significance of findings. References. Index.

Note. The studies published in this volume all bear on the application of the Minnesota Multiphasic Personality Inventory in analyzing the personalities of juvenile delinquents and in predicting delinquency by analyzing the personality of adolescents before delinquency occurs. Included are some studies made on groups of children younger than the age in which delinquency usually develops and follow-up studies of the same groups some years later hen the delinquent behavior of some members had emerged. The book is intended for psychologists ho are familiar with the principles and terminology of the MMPI.

JOHNSON, WENDELL, editor

Stuttering in children and adults. Thirty years of research at the University of Iowa. Edited by Wendell Johnson, assisted by Ralph R. Leutenegger Minneapolis University of Minnesota Press, 1955 472 p. illus. 23 cm. $5 75 4974

Contents. Part I, General orientation The time the place, and the problem, by W Johnson. A systematic approach to the psychology of stuttering, by W Johnson and J R. Knott. Part II, The onset f stuttering: A study of the onset and development of stuttering, by W Johnson. The relationship of parental attitudes and adjustments to the development of stuttering, by F L. Darley Part III, Nonfluency in the speech of early childhood. Studies of nonfluency in the speech of preschool children, by M. E Branscom and others. Repetitions and prolongations in the speech f stuttering and nonstuttering children, by G. G. Egland. Nonfluencies in the oral reading of stutterers and nonstutterers of elementary school age, by M. B. Mann. Part IV Variations in amount of stuttering: The quantitative measurement of the effect of certain situations on stuttering, by C. Van Riper and C. J Hull. Factors influencing the variability f stuttering, by E. Shulman. Frequency of stuttering in relation to induced modifications following expectancy of stuttering, by E. T Oxtoby Explorations of experimental extinction and spontaneous recovery in stuttering, by E. L. Jones. Stuttering adaptation in relation to assessed level of anxiety by C. C. Dixon. The cumulati effect of constant and varying reading material on stuttering adaptation, by A. Golden. Spontaneous recovery of the stuttering response as function of the time following adaptation, by D J. Jamison. Spontaneous recovery of the stuttering response as a function f the degree of adaptation, by J V Frick. The role of cues in stuttering adaptation, by E. Y Fierman. Stuttering adaptation during three hours of continuous oral reading, by L R. Donohue. Experimentally induced changes in the relative frequency f stuttering on specified speech sound, by M. H. Connett. Stuttering in response to photographs of selected listeners, by N H. Berwick. Correlation in frequency of types of stuttering reactions, by J W Chotlos. The effect of instructions concerning mode of stuttering on the breathing of stutterers by W Downton. Effect on stuttering of alteration in auditory feedback, by M. L. S. Shane. The effect of pentobarbital sodium (nembutal) and amphetamine sulphate (benzedrine) on the severity of stuttering, by W R. Love. Part V Certain aspects of the personal adjustments of stutterers. Sense of humor in stutterers and nonstutterers, by L. C. Staats, Jr A test of attitude toward stuttering, by G. M. Friedman. An exploration of stuttering by J Frasier A study of the role of inhibition in the moment of stuttering, by M. C Tenberg. A speech situation rating sheet for stutterers, by L. C. Shumak. A study of educational adjustments of stuttering and nonstuttering children, by M. D Schindler. Part VI, Explorations of certain physical approaches to stuttering: A comparati study of stutterers and nonstutterers on psychometer discrimination task, by F L. Ross. A study f the motor integration of stutterers and nonstutterers, by J B Rotter. Tension and facial appearance in stuttering, by J C. Saldecor Incidence of stuttering among twins, by O. L Graf Part VII, For the record": A comparison of the free associations of stutterers and nonstutterers, by M. McK. Faust. The effect of negative instruction on the motor control of stutterers, by M. B. Hemenstreit. A study of the speech difficulties of thirteen stutterers, by B. Bryngelson. A study of tonal intensity and duration in the nonstuttered speech of stutterers and nonstutterers, by S. S. Shaw A comparison of certain sound wav characteristics of stutterers and nonstutterers, by L. H. Adams. Part VIII, Approaches to stuttering therapy Intensive clinical case studies of stuttering therapy by D. E. Williams. Bibliotherapy for stutterers, by E. McK. Lynch. A stutterer's experiences in using an electrolarynx, by F A. McKenzie. Courses in speech pathology in the college transcripts of fifty teachers, by F A. McKenna. The descriptional principle and the principle of static analysis, by W Johnson. Appendix: A bibliography of University of Iow studies of stuttering through 1954. Index.

Note. Over period of three decades, much important research on the causes and treatment of stuttering has been done at the University of Iowa. Collected in this volume are all of the research studies not previously published, including both papers and

Lowered vitality. Miscellaneous physical conditions. Part III, Mental growth and development. The nature of intelligence. The slow-learning. The rapid-learning. The mentally gifted. Part IV Neurological and psychogenic disorders: Epilepsy. Psychotic conditions. Miscellaneous neurological conditions. Part V Behavior adjustments: Mechanisms of behavior. Behavior causes and methods of diagnosis. Remedial and preventive measures. Part VI, Educational retardation. Part VII, General problems, summary and conclusions: General scope of the problem. Desirable attitudes toward the exceptional. Appendix. Index.

Note: An established textbook for courses offered in schools of education and in teachers' colleges. As the chapter titles indicate, it covers all kinds of exceptional children, including the physically handicapped, the mentally gifted and the mentally subnormal. It provides a general view of the subject with emphasis on those aspects that are of particular interest to teachers. However, its scope is broad enough to make it useful also to educational administrators and supervisors and citizens generally. The first edition was published in 1944. Most of the text of the first edition has been carried over to the second edition. However, revisions have been made in a number of the chapters, and literature published since the first edition was written has been added to the bibliographies.

BARKER, ROGER G., AND OTHERS editors

Child behavior and development, a course of representative studies edited by Roger G. Barker Jacob S Kounin, and Herbert F Wright. New York McGraw Hill Book Company Inc., 1943 652 p. illus. 23 cm. (McGraw Hill publications in psychology J F Dashiell, consulting editor) $6 75 4986

Contents: Research in child psychology: history and prospect, by L. K. Frank. Reflex activities in the human fetus, by D. Hooker. The activities of newborn infants, by O. C. Irwin. The development of prehension in infants, by H. M. Halverson. Conditioned responses in human infants, by M. A. Wenger. Mental growth during the first three years, by N. Bayley. Language development in the preschool child, by D. McCarthy. The development of children's concepts of causal relations, by J. M. Deutsche. Growth in intellectual ability, by F. N. Freeman and C. D. Flory. The Stanford-Binet scales for measuring intelligence, by L. M. Terman and M. A. Merrill. Intellectual development and rigidity, by J. S. Kounin. Growth of the child as a whole, by W. C. Olson and B. O. Hughes. Learning and maturation in identical infant twins, by A. Gesell and H. Thompson. The effects of preschool attendance upon intellectual development, by B. L. Wellman. Foster-family resemblances in intelligence, by B. S. Burks. Intellectual growth of children in foster homes, by M. Skodak. Mental and physical traits of a thousand gifted children, by L. M. Terman. Study of personality development, by J. W. Macfarlane. Studies of children's fears, by A. T. Jersild. Social behavior and child personality, by L. B. Murphy. Play and substitute satisfaction, by S. Escalona. The effect of barriers upon strength of motivation, by H. F. Wright. Experiments in sibling rivalry, by D. M. Levy. Clinical studies in childhood play, by E. H. Erikson. The behavior of young children in failure, by M. E. Keister. Frustration and regression, by R. G. Barker and others. Domination and socially integrative behavior, by H. H. Anderson. The "social climate" of children's groups, by R. Lippitt and R. K. White. Social behavior of preschool children, by M. Parten and S. M. Newhall. A sociometric study of emotional and social expansiveness, by H. H. Jennings. Evaluations of adolescent personality by adolescents, by C. McC. Tryon. Personality patterns in school children, by R. N. Sanford. Development in adolescence: a case study, by H. E. Jones. Child training and social class, by A. Davis. The Hopi child, by W. Dennis. Index.

Note: Each of the papers in this volume, intended for college students, is an account of the procedures, results, and conclusions of a particular investigation. Bibliographies accompany the papers.

BARKER, ROGER G., AND HERBERT F WRIGHT

Midwest and its children the psychological ecology in an American town. Evanston Row Peterson and Company 1954 532 p. illus. 24 cm. $7.50. 4987

Contents: The general problem and methods of psychologic ecology. Midwest and the U. S. A. The behavior setting survey—methods—results. Behavior and psychological habitat as targets of description. Recording behavior and psychological habitat. Dividing the behavior stream. Behavior structure. The behavior objects of Midwest. Social action and interaction—a descriptive instrument—an episode exhibit—quantitative findings. Psychological ecology of Midwest—a summary. References. Appendix. Index.

Note. A minutely detailed study of factors molding the personalities of the 119 children under 11 years of age residing in a town of 707 residents in a midwestern region of the United States of America. The research was conducted over a period of seven years and was supported by the National Institute of Mental Health and by private organizations such as the Carnegie Corporation. In studying the influences on the children, the investigators necessarily took into account a great variety of psychological, sociological, and economic factors; consequently the book is also a sociological study of the town concerned. The emphasis is, however, on the psychological aspects. Both the results of the study and their interpretation are presented in terms that suit the book to advanced students and professional social psychologists and sociologists rather than to general readers.

BETTELHEIM, BRUNO

Love is not enough the treatment of emotionally disturbed children. Glencoe, Ill. The Free Press, 1950 386 p. illus. 22 cm. $4.50 4988

Contents: The children. First encounter. Events in sequence. From dreams to waking. The in-between times. The challenge of learning. Food: the great socializer. Rest and play. Alone and in the group. The world outside. In the bathroom. Bedtime. Reflections on the school. Index.

Note: An informal account of the work and methods of the Sonia Shankman Orthogenic School at the University of Chicago. Although it deals with child psychiatry, the style is nontechnical, and the organization of the material is informal. The book can be read by anyone interested in the problems presented by delinquent, schizophrenic, or neurotic children. On the other hand, its content is substantial enough to make it valuable to child psychiatrists and others who work professionally with emotionally disturbed children.

BLAIR, ARTHUR WITT AND WILLIAM H. BURTON

Growth and development of the preadolescent. New York Appleton-Century-Crofts, Inc., 1951 221 p. 22 cm. $2 75 4989

Contents: The preadolescent—a neglected group. The changing social insights of the preadolescent. The preadolescent is subjected to strong cultural impositions. Physical growth and its relation to behavior. Intellectual development and its relation to behavior. The general characteristics of preadolescence. Guiding the development of the preadolescent. Exceptional problems. Index.

Note: A general introductory survey of the psychology of children in the age group of approximately nine through 12 years. It surveys and integrates the literature available since 1930 on this age group and organizes it for use as a textbook in college courses and other organized groups. The chapters are equipped with suggestions for reports and discussion, and with references to related literature. The book is of interest to teachers and parents as well as to students. It is written in a style that is fairly free of technical terminology.

BRECKENRIDGE MARIAN EDGAR, AND E. LEE VINCENT

Child development physical and psychologic growth through the school years. Third edition. Philadelphia W B Saunders Company 1955 497 p. illus. 24 cm. $5.00. 4990

Contents: Some general principles of development. Influences on growth—physical—emotional—nutrition and routines—home—school—church—camps—further community factors. Growth in use of the body—physical growth—motor control. Growth of sense perceptions and judgments. Development of memory, imagination, creative ability. Growth of language, thinking and reasoning. Social and personality development—general personality trends—conflict and agreement; cooperation and friendship—moral judgment and psychosexual development. Summary of growth achievements. List of films and film strips. Bibliography. Index.

Note: A successful textbook which is used in courses offered to college students preparing for such professions as psychology, teaching, medicine, nursing, and social work. Although the main emphasis is on the physical and psychologic development of children during

raphic and personality correlates in peptic ulcer by S. Rubin and K. M. Bowman. Hostility in cases of essential hypertension, by L. J Saul. III, The schizophrenic psychoses: Physiologic aspects of schizophrenic withdrawal, by A. Angyal and others. The insulin shock and metrazol treatments of schizophrenia, with emphasis on psychological aspects, by W C. Shipley and F Kant. The significance of psychological research in schizophrenia, by K. Goldstein. The Rorschach test in psychopathology by S. J Beck. Intelligence in mental disorder by A. Roe and D Shakow Transference problems in schizophrenics, by F Fromm-Reichmann. Evidences of homosexuality in one hundred and twenty unanalyzed cases with paranoid content, by G R. Gardner IV Experimental psychopathology The dynamics of the selective inhibition of specific functions in neurosis, by A. Wolf. The alteration of instinctual processes through the influence of conditioned reflexes, by H. S. Liddell. A preface to the theory of hypnotism, by R. W White. Hypnosis and the alpha activity of the electroencephalogram, by H. Lundholm and H. Löwenbach. Experimental demonstrations of the psychopathology of everyday life, by M. H. Erickson. The effect of fear upon estimates of the maliciousness of other personalities, by H. A. Murray The contributions of topological and vector psychology to psychiatry by J D Frank. Freudian mechanisms and frustration experiments, by D Rapaport. Conflict, frustration and the theory of threat, by A. H. Maslow Index.

Note. An anthology of 45 journal articles and other writings illustrative of American thought and research trends in abnormal psychology and psychosomatic medicine in the late 1930's and early 1940's. It contains 45 chapters or papers, of which a selection is listed by author and title above. For the most part the selections have been taken from contemporary professional journals and are reprinted in full.

WHITE, ROBERT W

The abnormal personality a textbook. Second edition New York The Ronald Press Company 1956 644 p 23 cm $6 50 4981

Contents Historical introduction—origins of abnormal psychology Clinical introduction—examples of disordered personalities. Development of personality Integration of personality Anxiety and defense. Neurotic conflict and its effect on personality Symptom syndromes of neurosis. Psychotherapy—basic methods and principles. —technical aids and variations. Conduct disorders. Psychosomatic disorders. Effects of injuries and abnormal conditions. Common symptom syndromes of cerebral disorder Depressive and manic disorders. Depressive and manic disorders. Schizophrenia. The problem for society Name index. Subject index.

Note A broad, well-written introduction directed to college students taking first courses in abnormal psychology The exposition is clear and the discussions of specific topics are relatively full. The author made special efforts to make the book interesting, and one of his techniques was to integrate the case histories with the exposition instead of setting them off separately in smaller type as is often done. The first edition was published in 1948. It was rather widely revised for this edition so as to incorporate advances in psychotherapy and other areas. Literature references are given to support the text and suggestions for further reading are included in the chapters. The author is a member of the faculty of Harvard University

CHILD STUDY

AMERICAN ASSOCIATION FOR GIFTED CHILDREN

The gifted child Edited by Paul Witty Boston D C Heath and Company 1951 338 p illus 23 cm $4 50 4982

Contents Progress in the education of the gifted, by P Witty Identifying gifted children, by W H. Bristow and others. The Stanford studies of the gifted, by L. M. Terman and M H. Oden. The contributions of Leta S. Hollingworth to the study of gifted children, by M. C. Pritchard. Some observations of highly gifted children, by H. Zorbaugh and others. The teacher of gifted children, by W C. Ryan and others. Mental hygiene of gifted children, by R. Strang. Community recognition of the gifted, by N Hobbs. Nature and extent of educational provisions for the gifted pupil, by P Witty A high school of science for gifted students, by M. Meister Search for talent in science, by W Davis Experiences with children talented in the arts, by A. Lally and L. Le Brant. Administrative problems in educating gifted children, by L. Krueger and others. The education of gifted children and youth—summary and recommendations, by P Witty Annotated bibliography on gifted children by E. H. Martens. Index.

Note. A book designed to inform nonspecialists such as parents, beginning teachers, and members of school boards, about current thought and problems in connection with specially gifted children. The various chapters are written for the book by recognized leaders in this field of education. The book is a nontechnical or semitechnical presentation rather than a popularization. It includes some statistical data and numerous literature references. The bibliography comprehensive.

AMES, LOUISE BATES, AND OTHERS

Child Rorschach responses developmental trends from two to ten years. By Louise Bates Ames, Janet Learned, Ruth W Métraux and Richard N Walker New York Paul B Hoeber, Inc., Medical Book Department of Harper & Brothers, 1952 310 p illus. 24 cm. $7 50 4983

Contents Part one: Review of literature. Subjects and methodology Scoring. Statistical analysis. Area. Determinants. Content. Additional test factors. Part two Two years. Two and a half years. Three years. Three and a half years. Four years. Four and a half years. Five years. Five and a half years. Six years. Seven years. Eight years. Nine years. Ten years. Normal adult record. Clinical considerations. Summary Bibliography Index.

Note: In this work, findings based upon studies of 650 children ranging in age from two to 10 years of age show the changes which occur in normal responses at each age level to the Rorschach test. It is shown also that many types of Rorschach responses which suggest disturbances in the adult may be quite characteristic in the child. The system of scoring used by the authors in evaluating the Rorschach tests is given in some detail. Methods of administering the tests to young children are mentioned, but the reader who is looking for specific instructions in testing procedure is referred to a standard text on the subject. This book is not an introductory manual on Rorschach procedure; familiarity on the part of the reader with one or more of the scoring systems is assumed. The authors are members of the staff of the Gesell Institute of Child Development.

AXLINE, VIRGINIA MAE

Play therapy, the inner dynamics of childhood, with an introduction by Carl R. Rogers. Boston Houghton Mifflin Company, 1947 379 p illus. 22 cm $4.25 4984

Contents (abridged) Part one, Introduction. Part two, The non-directive play-therapy situation and participants: The playroom and suggested materials. The child. The therapist. An indirect participant—the parent or parent-substitute. Part three, The principles of non-directive play therapy Establishing rapport. Establishing a feeling of permissiveness. Maintaining respect for the child. Therapy cannot be hurried. The value of limitations. Part four Implications for education Practical schoolroom application. Application to parent-teacher relationships. Part five, Annotated therapy records. Index.

Note A student of Carl Rogers at Chicago University the author here describes the procedures followed in the Rogers plan of play therapy to restore maladjusted children to social normalcy giving full explanations of techniques and some evaluation of successes and failures. Two basic tenets underlie the system (1) attempt should be made, not to try to correct all the forces which have caused a child's maladjustment, but to have the child accept his situation and himself and (2) in the play periods themselves, the child must be allowed to plan and execute his own activities, with supervision but not direction from the therapist. There are practical explanations of how the therapist may work to accomplish the desired ends and several fully recorded reports of play periods conducted for specific cases.

BAKER, HARRY J

Introduction to exceptional children Revised edition. New York The Macmillan Company, 1953 500 p. illus. 21 cm. $5 75 4985

Content (abridged) Part I, Introduction to the field Problems in general education. Problems of exceptional children. Part II, The physically handicapped. Defective vision. The partially seeing. The blind. Defective hearing. Defective speech. Orthopedic handicaps.

ENGLISH, HORACE BIDWELL

Child psychology New York Henry Holt and Company 1951 561 p. illus. 24 cm. $5.75 4996

Contents: Part I, Introduction. Part II, Discipline and authority. Part III, Emotion. Part IV, Motivation. Part V, The importance of physical development. Part VI, The child's intellectual life. Part VII, Social development. Part VIII, The individual child. Appendixes. Bibliography and index of authors. Index of subjects.

Note: An introductory text addressed to college students but useful also to educated parents and others with mature interests in the psychology of children. It is written in [illegible] lucid, direct style and although introductory to this branch of psychology it includes fair amount of professional grade material. There is [illegible] bibliography of over 500 references. The author is [illegible] member of the faculty of Ohio State University.

ERIKSON, ERIK HOMBURGER

Childhood and society New York W W Norton & Company Inc., 1950. 397 p. illus. 22 cm. $5.50. 4997

Contents: Part one, Childhood and the modalities of social life: Relevance and relativity in the case history. The theory of infantile sexuality. Part two, Childhood in two American Indian tribes: Hunters across the prairie. Fishermen along [illegible] salmon river. Part three, The growth of the ego: Early ego failure—Jean. Toys and reasons. Eight stages of man. Part four, Youth and the evolution of identity: Reflections on the American identity. The legend of Hitler's childhood. The legend of Maxim Gorky's youth. Conclusion—The fear of anxiety. Appendix. Index.

Note: A collection of studies in which the social significance of childhood is interpreted in the terms of psychoanalysis. They range from detailed discussions of cases from the author's practice—in some of which the role of society is not too apparent—to anthropological studies of child training in certain American Indian tribes. Relations between values and developmental stages are brought out. The book is of about equal interest to students of cultural anthropology and to psychoanalysts interested in the psychiatric difficulties of children.

FAEGRE, MARION LYON AND JOHN E. ANDERSON

Child care and training. Seventh edition revised. Minneapolis The University of Minnesota Press, 1947 310 p. illus. 21 cm. 4998

Contents: The young child. How children grow. General care, including diet and clothing. Children's diseases. How children develop mentally. How children learn. Emotional behavior. Learning good eating habits. Learning good sleeping habits. Elimination and other early habits. Constructive discipline. Curiosity, questioning, and sex education. Imagination, truth, and falsehood. Play. Social development. Books and reading. The family. Books dealing with the development and training of children. Index.

Note: A guide for parents in the care and training of children from the age of one to 1[illegible] years. The material is based on the extension courses and study groups sponsored by the University of Minnesota and upon the questions asked by parents in these courses. Psychological matters rather than physical care are emphasized, although there [illegible] considerable material on the latter. An [illegible] edition was published in 1938, 320 p., $2.00.

FAEGRE, MARION LYON

Your child from 6 to 12 Washington, D C. Government Printing Office, 1949 141 p. illus. 23 cm. (United States. Federal Security Agency Social Security Administration. Children's Bureau. Publication number 324) $0.20. 4999

Contents: What 6- to 12-year olds are like. How family life is changing today. What successful parenthood involves. How families influence their children. Social adjustment. What play means in the life of [illegible] child. Home life as preparation for independent living. Helping children to make the most of their mental ability. When home and school get together. Everyday problems. Fears, worries, frustrations, and their outlets. Some special times. [illegible] concerns. Fun, pets and hobbies. Children and money. Developing [illegible] behavior [illegible]

attitudes. Growth in middle childhood. Keeping your child healthy. The sick child. The community [illegible] services for your children.

Note: A useful, nontechnical guide for parents.

FIELDER MIRIAM FORSTER

Deaf children in a hearing world their education and adjustment. With a foreword by Mary Fisher Langmuir New York The Ronald Press Company 1952 320 p. illus. 21 cm. $5.00. 5000

Contents (abridged): Part I, Education of deaf and hard-of-hearing children. The Vassar staff asks some questions. The research program. Part II, The children. Introduction: how we studied children. Part III, The parents discuss their problems. Social relations with other children. What problems arise with siblings? Reactions of parents to their deaf children. Helping the child understand his handicap. Who is [illegible] handicapped child? Parents as teachers of their children. What does [illegible] child's hearing loss mean? Should [illegible] child wear [illegible] hearing aid? Part IV, Reports of mothers and teachers on the children's experiences. Part [illegible] Conclusions: Summary remarks. Appendix: Sources of help and information for parents of deaf and hard-of-hearing children. Index of names. Index of subjects.

Note: A discussion of the problem whether it is advisable to include deaf and hard-of-hearing children in schools and educational programs planned for boys and girls of normal hearing. It is [illegible] report of research conducted by the Vassar Summer Institute for Family and Community Living as part of [illegible] five-year program for the study of children with hearing difficulties. The author tells how [illegible] group of deaf children were received into groups with no hearing handicaps. The first of the five parts of the book explains the background of the study [illegible] its definite objects were, and how and by [illegible] it was conducted. Part II tells about the children individually; charts are included to show the hearing ability of each child. Seven mothers of the children were in residence at the Institute [illegible] while the investigation was in progress, and Part III records some of the discussions between parents and teachers of these children. The fourth and fifth parts give the reports of the mothers and teachers and the conclusion of the study.

FORD MARY

The application of the Rorschach test to young children. Minneapolis The University of Minnesota Press, 1946. 114 p. illus. 23 cm. (University of Minnesota. The Institute of Child Welfare. Monograph series. No. XXIII) $2.00 5001

Contents: Introduction. Review of the literature. The problem. Procedure. Scoring and interpretation. The subjects. The use of the Rorschach test with young children. Means of the Rorschach test determinants. Sex differences in test determinants. Reliabilities of the test determinants. Validity of the determinants of intelligence. Validity of some of the determinants of personality. Summary and conclusions. Appendices. Glossary. Bibliography. Index.

Note: An analysis for child psychologists of the responses obtained from 123 boys and girls, ages three to eight, to the Rorschach inkblots. Up to the time of its writing, very little Rorschach testing of this age group had been accomplished, due to the lack of standards for correctly interpreting results. The present book is [illegible] useful contribution towards the establishment of these standards.

GESELL, ARNOLD

Infant development the embryology of early human behavior New York Harper & Brothers 1952 108 p. illus. 24 cm. $3.50. 5002

Contents: Introduction—the concept of growth. Charting the normal growth cycle. The embryology of human behavior. The human action system in evolution. Eyes, hands, and brain. The total action system. The growth process. Individual differences and deviations. The diagnosis and supervision of development. A developmental philosophy. Appendices: General references. Collateral readings. Correlated edited films. Illustrations of principles and methods of developmental diagnosis at 28 weeks level of maturity. Index.

Note: The theme of this short book is "that there is [illegible] fundamental continuity in the prenatal and postnatal phases of human growth." It is in effect an outline, brought down to date, of the findings of the extensive researches of Dr. Gesell and his colleagues at the

the years when they normally attend elementary and secondary schools in the United States of America, development before the school years is outlined. The school years are covered in much detail. A large body of literature is cited In fact, the bibliography in this third edition contains 1021 references. The second edition was published in 1949 New matter was added to most of the chapters in preparing this third edition.

BROOKS, FOWLER DELL, AND LAURANCE F SHAFFER

Child psychology Boston Houghton Mifflin Company, 1937 600 p illus 22 cm. $5 00 4991

Contents Problems and methods of child psychology The origins of child behavior. The principles of learning. The behavior of infants. Growth in bodily size. The development of physical and motor capacities. Language. The developments of mental functions. The growth of intelligence. Emotional behavior Problems of emotional behavior among children. Motivation during childhood. Social development of children. Children's character and children's religion. Personality traits: their measurement and development. Personality adjustments of children. Child hygiene. The organization of traits. The prediction, guidance, and control of child behavior Additional references. Glossary Index.

Note. A textbook on child psychology prepared as a companion volume to Brooks' *Psychology of adolescence* Boston, 1929 and covering the first 12 years of the child's life. The literature of the subject has been organized and evaluated in an effort to produce coherent picture of the subject. The mechanisms of heredity and the prenatal and postnatal development of structure and function are treated, and those forms of activity of the child which are result of his contact with his social system are considered. Selected references are given at the end of each chapter in addition to the list at the end of the volume.

CARDWELL, VIOLA E.

Cerebral palsy, advances in understanding and care New York Association for the Aid of Crippled Children, 1956 625 p illus 24 cm. $5 00 4992

Contents (abridged) Part I, Medical background and diagnosis of cerebral palsy Etiology Central nervous system—basic concepts as related to cerebral palsy Diagnosis of cerebral palsy Part II, The individual with cerebral palsy and his total habilitation The child with cerebral palsy and his family Habilitation and the team approach. General health supervision and guidance. Orthopedic, neurological, and neurosurgical treatment. Physical medicine in the evaluation and treatment of the neuromuscular defects. Rehabilitation therapies and the neuromuscular defects—evaluation and treatment techniques. Communicative disorders—speech, hearing, and vision—evaluation and treatment. Psychological aspects of cerebral palsy Personality development of the child with cerebral palsy Special education for the child and youth with cerebral palsy Part III, Community aspects of cerebral palsy Planning a community program for the cerebral palsied. Case finding and registering. Research in the attack on cerebral palsy Programs of prevention. Appendix. References. Index.

Note. An authoritative and well-sponsored book. The material in it has been drawn from many sources, and it is designed to be useful to all who are concerned with the care and education of children suffering from cerebral palsy It is organized in the three parts whose titles are given above and in 26 chapters, the majority of which also are listed by title above. The broad scope is obvious in these titles. The "team approach, that is to say method of attack that utilizes the interests and skills of several professions, is emphasized. The book is suitable for use as a graduate-level text in courses offered to students who are preparing for professional work with cerebral palsied children, and as a reference work for educators, public health officials, physicians, nurses, and social workers. A 48-page bibliography is included. Also included is a directory of manufacturers and other sources of therapeutic equipment.

CARMICHAEL, LEONARD editor

Manual of child psychology Second edition New York John Wiley & Sons Inc. 1954 1,295 p illus. 22 cm (A Wiley publication in psychology advisory editor Herbert S Langfeld) $14 00 4993

Contents Methods of child psychology by J E. Anderson. The onset and early development of behavior by L. Carmichael. Animal infancy by R. M. Cruikshank. The neonate, by K. C. Pratt. Physical growth, by H. Thompson The ontogenesis of infant behavior by A. Gesell. Learning in children, by N L. Munn. The measurement of mental growth in childhood, by F L. Goodenough. Language development in children, by D. McCarthy The environment and mental development, by H. E. Jones. The adolescent, by J E. Horrocks. Research on primitive children, by M. Mead. Character development in children—an objective approach, by V Jones. Emotional development, by A. T Jersild. Behavior and development as function of the total situation, by K. Lewin. An addendum—the influence of topological and vector psychology upon current research in child development, by S. Escalona. Gifted children, by C. C. Miles. Psychological sex differences, by L. M. Terman and L. E. Tyler Psychopathology of childhood, by C. P. Bradley. Social development, by H. H. Anderson and G. L. Anderson. Index.

Note. In the second edition of this established work, there are the 19 comprehensive accounts of the more significant aspects of child psychology whose authors and titles are listed above. Each chapter follows, largely the pattern of delineating past researches in its own area and summarizing present points of view Particular attention is given to the experiments and investigations upon which the accumulated knowledge is based. The source articles are cited and an extensive bibliography is included in each chapter. Described by the editor as an advanced-level textbook, the book is actually a kind of cyclopedic reference tool, useful to advanced students and beginning research workers in such fields as psychology education, psychiatry and pediatrics. The first edition was published in 1946. In this second edition a former chapter on the adolescent has been replaced by new one written by new author an addendum to Lewin's chapter has been inserted, and the two terminal chapters are new Some of the chapters carried over have been extensively revised and others only slightly

COLE, LUELLA, AND JOHN J B MORGAN

Psychology of childhood and adolescence. New York Rinehart & Company, Inc., 1947 416 p. illus. 22 cm. $5 00 4994

Contents. Physical growth. Motor development. Emotional growth. Motivation. Social growth. Homes for children and adolescents. Play and interests. Intellectual growth. Bright and dull children. Language. Growth in attitudes and behavior. Personality Readings. Index.

Note. This volume is a reshaped and integrated version of two earlier books: John J B. Morgan's *Child psychology* New York, Farrar & Rinehart, 1942 and Luella Cole's *Psychology of adolescence*, New York, 1942 In its present form the book is designed for use primarily in teachers' colleges. The material is well organized and physical, emotional, social, and intellectual growth from infancy to maturity is explained in simple nontechnical language. Brief chapter summaries and selected bibliography are included.

DAVIS, W ALLISON, AND ROBERT J HAVIGHURST

Father of the man how your child gets his personality With a chapter by Helen Ross. Boston Houghton Mifflin Company 1947 245 p. 21 cm $4 00 4995

Contents (abridged) Whose temper? You'd never think they were sisters! The psychology of young child. How brothers learn to be different. How important is heredity? How much can training do? What the middle-class child is up against. The happiest days of life. The battle of cleanliness. The mystery of language. The first child against the second. Like mother like daughter? by Helen Ross. A moral child in moral society The roots of character. How to understand a child. Appendixes Social-class and color differences in practices of child-rearing. Note on psychoanalytic technique. A guide to the intensive study of a child. Index.

Note. Although addressed to parents, this book is more closely related to basic psychological and sociological research than are most popular books on child training and guidance. It was based in large part on study of child rearing as practiced by 200 mothers in Chicago, one-quarter of whom were of the white middle class, one-quarter of the white working class, one-quarter of the negro middle class, and one-quarter of the negro working class. The presentation is in style that makes it available to all literate parents. There are no tables of data or any of the other customary features of sociological studies.

[illegible] schoolmates, and society [illegible] the mentally gifted, the mentally handicapped, and the physically handicapped. Also covered are the special provisions essential for the education and training of each type. The importance [illegible] emphasized of the attitudes of those who are concerned with the upbringing of such children towards the superiority or the defect. References for further reading appear at the ends of the chapters.

GRUENBERG, SIDONIE MATSNER, AND OTHERS, editors

Our children today: a guide to their needs from infancy through adolescence. Edited by Sidonie Matsner Gruenberg and the staff of the Child Study Association of America. With an introduction by Dorothy Canfield Fisher New York The Viking Press, 1955 366 p. 22 cm. $3.95 5008

Contents: I, Our children today: Changing patterns of family living, by S. M. Gruenberg. A look at children in the U.S.A., by L. [illegible]. What [illegible] child is born with, by B. C. Gruenberg. II, The early years: The child as [illegible] growing organism, by A. Gesell. Emotional needs of the young child, by H. Ross. The beginning of education, by J. L. Hymes, Jr. Nursery-school education—its uses and dangers, by A. Freud. Healthy attitudes toward health, by S. M. Wishik. III, The meaning of discipline: Character building in children, by A. Gesell. Punishment in the early years, by M. J. E. Senn. Discipline—means and ends, by M. F. [illegible]. The child's [illegible] freedom, by L. S. Kubie. Shall we [illegible]? IV, Growing up: Problems the parents? by A. W. M. Wolf. Growing to [illegible]—what makes them tick? by F. Redl. Growing to adulthood, by I. M. Josselyn. Youth in the world tomorrow, by G. Vincent. The concept of maturity, by C. Kluger. When children need special help with emotional problems, by A. R. Auerbach. Sex education today, by the staff of the Child Study Association of America. V, Changing goals of education: Families and schools, by L. K. Frank. What can we tell? by M. Krugman. Social and economic factors in learning, by W. A. Davis. The changing role of education, by E. O. McCoy. VI, The impact of our world: [illegible] are exposed, by D. Krech. The toll of [illegible] upon the intellect, by D. M. Levy. New era of communication, by J. Frank. Childhood and spiritual values, by A. L. Smith, Jr. At home in the world, by P. S. Buck. For further reading. Index.

Note: An authoritative compendium addressed to parents. Several of its chapters have appeared in periodicals and other books, but the majority of them were written especially for it. As the chapter titles show, background information on emotional needs, discipline, child psychology, education and living in [illegible] community is presented rather than advice on day-to-day care.

HAMILTON, GORDON

Psychotherapy in child guidance. New York Columbia University Press 1947 340 p. 22 cm. $4.25 5009

Contents: Clinically oriented social casework. The diagnostic process in child guidance. The child who acts out his impulses. The anxious child. The severely disturbed child. Direct treatment in the therapeutic process. The therapeutically conditioned environment. Treatment of young children. Treatment of the older child. Treatment of adolescents. Treatment of the family. Preparation for psychotherapy in social work. Bibliography. Index.

Note: For [illegible] number of years the Jewish Board of Guardians of New York has conducted [illegible] child guidance program in which social workers participate in the role of psychotherapists. This book is [illegible] study of the program from the standpoint of its procedures and general applicability. Attempt is made to state in what way psychotherapy is related to social casework and to determine [illegible] whether it may be practiced appropriately in [illegible] social work rather than [illegible] medical setting.

HARMS, ERNEST, editor

Handbook of child guidance. New York Child Care Publications, 1947 751 p. 24 cm. $8.60. 5010

Contents (abridged): Part one, The development of child guidance in the United States, by B. Glueck. Part two, Guidance of the normal child. Guidance of the nursery age child, by L. F. Woodcock. Guidance of the elementary school age, by E. R. Wiring. Guidance in secondary schools, by C. E. Erickson. Guidance of the superior child and the prodigy, by E. Harms. Part three, Guidance of the physically handicapped child, by H. W. McCormick and L. C. Dunyon. Part four, Guidance of the problem and subnormal child: First section—the medical aspects of guidance of the problem and subnormal child. Second section—the methods of guidance of the problem and subnormal child. Part five, Training for child guidance: The training of the medical man in child psychiatry, by G. H. J. Pearson. The training of the psychiatrist in child guidance, by L. Kanner. The training of the social worker for child guidance, by C. Towle. Part six, The social aspects of child guidance. Parents and child guidance, by J. E. Bentley. City and rural guidance, by M. M. Chambers. Sex guidance, by F. McKinney. Delinquency and guidance, by J. Punke. Vocational guidance, by F. J. Keller. Camping and guidance, by P. S. DeQ. Cabot. The guidance problems of Negro youth, by C. S. Johnson. Special guidance problems [illegible] migrant children, by L. C. Wagner. Part seven, Religious aspects of guidance. Part eight, Special viewpoints for guidance. Freud's psychoanalytic viewpoint for child guidance, by M. M. Schmideberg. Alfred Adler's viewpoint on child guidance, by A. Adler. Index.

Note: Including forty-odd papers by as many different authors, this volume constitutes [illegible] comprehensive survey of the many phases of child guidance recognized by present-day specialists. With [illegible] very few exceptions, the papers are representative, primarily of points of view, and are not outlines of procedural techniques; unfortunately the contributors are identified by name only with no indication of professional status. The volume should be of interest to many parents, although it will be of service primarily to such professional groups as educators, pediatricians, and all social and religious workers associated with children. A list of selected references follows most of the chapters.

HURLOCK, ELIZABETH B

Child development. Third edition. New York McGraw Hill Book Company Inc., 1956 703 p. illus. 23 cm. (McGraw Hill series in psychology Clifford T Morgan, consulting editor) $6.50 5011

Contents: Principles of development. Prenatal development. The newborn infant. Physical growth. Motor development. Development of speech. Emotional development. Social development—adjustments. Play. Development of understanding. Moral development. Some childhood interests. Family relationships. Personality. Bibliography. Visual bibliography. Name index. Subject index.

Note: A well-organized, inclusive study of the physical and psychological growth of children from conception to puberty. It is designed for use as [illegible] textbook in college courses, and its wide scope makes it useful also to groups of parents, pediatricians, and others who need [illegible] broad survey of the high points and [illegible] guide to the important research literature. The second edition was published in 1950. In this third edition, although the chapter titles are essentially the same, the book has been completely rewritten. It is now based largely on the research literature of the decade 1945–1955, although references to the older basic studies have been retained. The bibliography runs to 103 closely printed pages. The name index includes the names of authors of cited literature.

HURLOCK, ELIZABETH B

Child growth and development. Second edition. New York McGraw Hill Book Company Inc. 1956 384 p. illus. 21 cm. $5.56. 5012

Contents: Introduction: How to be [illegible] good baby sitter. Part I, How life begins. Preparing for the baby. The newborn baby. Facts about children. Part II, The child's growth: How [illegible] child grows. Feeding and clothing the child. Physical care of the child. Learning body control. Learning to talk. The child and his emotions. Part III, The child's problems and habits: Mealtime and bedtime problems. The child in the family. Common behavior problems. Discipline, good and bad. Tests for toddlers. Play and playthings. Part IV, The child as [illegible] person. The child's companions. A place of his own. The child and his clothes. Personality building. Getting ready for school. Bibliography for students—for teachers—for tests in Chapter 14. List of visual aids. Index.

Note: An elementary and practical book addressed to high school students and to parents. It describes in some detail the pattern of growth and psychological development in young children and correlates this knowledge with techniques of child care in the home. It [illegible] illustrated with [illegible] large number of attractive photographs. The three bibliographies are unusual features in [illegible] book at this level.

former Clinic of Child Development of Yale University and the currently active Gesell Institute of Child Development. The human child is shown to be continuously developing organism in long and precise cycle of physical, mental, and functional growth. A series of outstanding photographs of infant behavior—taken from the film "The embryology of development"—which show distinct points in the growth cycle are included. The book can be read as preparation for viewing the film or independently as an orientation toward the current knowledge of the field.

GESELL, ARNOLD

Studies in child development. New York Harper & Brothers, 1948 234 p illus. 25 cm $4 00 5003

Contents (abridged): Part one, Methods of approach Charles Darwin and the study of child development. A biological psychology The method of co-twin control. The conditioned reflex and the psychiatry of infancy The documentation of infant behavior in relation to cultural anthropology Cinemanalysis—a behavior research technique. One-way-vision. Part two, Patterns of growth: The predictiveness of infant behavior. Some observations of developmental stability Early evidences of individuality Genius, giftedness and growth. Part three, Clinical and social applications: The changing status of the pre-school child. A guidance program for the handicapped pre-school child. A method of developmental diagnosis and supervision. The differential diagnosis of developmental defects. Developmental pediatrics its task and possibilities. The cultural significance of a science of child development.

Note A collection of papers originally prepared by the author for various special occasions. As the titles indicate, they deal with the characteristics and conditions of child development in both its scientific and humanitarian aspects. Although of principal importance to child psychologists and pediatricians, the volume contains much of interest for enlightened parents also. Selected references accompany some of the chapters. The author is widely known both for his writings in this field and for his work as Research Consultant of the Clinic of Child Development, School of Medicine, Yale University

GESELL, ARNOLD, AND FRANCES L ILG

The child from five to ten New York Harper & Brothers, 1946 475 p. illus. 24 cm. $4 50 5004

Contents. Part one, Growth: The cycle of development. The growing mind. The parent-child-teacher relationship. Part two, The growing child The first four years. Five years old. Six years old. Seven years old. Eight years old. Nine years old. Ten. Part three, The growth complex Orientation. Motor characteristics. Personal hygiene. Emotional expression. Fears and dreams. Self and sex. Interpersonal relations. Play and pastimes. School life. Ethical sense. Philosophic outlook. A philosophic postscript. References and readings. Index.

Note This companion volume to the authors' *Infant and child in the culture of today* New York, 1943 is written primarily for parents, teachers, physicians, and others responsible for the training of children. Based on an intensive study of more than 50 children, ranging in age from five to 10 years, it presents an over-all picture of their traits and growth patterns. Ten fields of behavior have been chosen within which the child is described or characterized, first from the standpoint of age, and secondly from the standpoint of the behavior itself Although the method of approach is strictly clinical, the statistical data are interpreted in such a manner as to make the work readily intelligible to nonspecialists. A four-page bibliography is included.

GESELL, ARNOLD, AND FRANCES L ILG

Infant and child in the culture of today, the guidance of development in home and nursery school (from the former Clinic of Child Development School of Medicine at Yale University) In collaboration with Louise B Ames Jeanette Learned New York Harper & Brothers 1953 403 p 24 cm. illus $4 50 5005

Contents Part I, Growth and culture The family in democratic culture. How the mind grows. Personality and acculturation. Infants are individuals. Self-regulation and cultural guidance. The cycle of child development. Part II, The growing child: Before the baby is born. A good start. Four weeks old. Sixteen weeks old. Twenty-eight weeks old. Forty weeks old. One year old. Fifteen months old. Eighteen months old. T years old. Two-and-a-half years old. Three years old. Four years old. Fi and the years after five. The nursery school as guidance center Part three The guidance of growth. A developmental philosophy The growth complex. Child development and the culture of tomorrow Appendix. Index.

Note Addressed both to nursery school teachers and parents, the book provides basic information on the development of infants and young children. It is primarily a description of but the young child is like at various ages and how he develops. However, specific recommendations on management are included also. Much of the space is devoted to the "behavior profiles of the various ages hich are named in the chapter titles of the second part. The book was based in large part on the researches of the authors at Yale University

GESELL, ARNOLD, AND OTHERS

Youth, the years from ten to sixteen. By Arnold Gesell, Frances L. Ilg, Louise Bates Ames From the Gesell Institute of Child Development and from the Yale Clinic of Child Development. New York Harper and Brothers, 1956 542 p 24 cm. $5 95 5006

Contents. Part I, The study in outline: Orientation. Development—a key concept. Individuality Part II, Maturity profiles and traits. Year ten. Year eleven. Year twelve. Year thirteen. Year fourteen. Year fifteen. Year sixteen. Part III, Maturity trends and growth gradients: Total action system. Self-care and routines. Emotions. The growing self. Interpersonal relationships. Activities and interests. School life. Ethical sense. Philosophic outlook. Appendixes. Subjects and methods. Age standards and eligibilities. Readings and references. Index.

Note. One of trinity of books which includes in addition to the present title *Infant and child in the culture of today* 1943, and *The child from five to ten*, described above. The children studied for the present work included many of those ho at earlier ages ere the subject of the studies presented in the first two books of the series. Personality traits, habits and attitudes are described in detail in the chapters entitled "Year ten, "Year eleven, etc. The traits of each age group are described under the heading "Maturity traits, and such subheadings as Physical development and sex awareness, "Self-care and routines, "Emotions, "The growing self "Interpersonal relationships, Activities and interests" and "Ethical sense.

GOODENOUGH, FLORENCE L

Exceptional children. By Florence L. Goodenough with the assistance of Lois M Rynkiewicz. New York Appleton Century-Crofts, Inc., 1956 428 p illus. 22 cm (The Century psychology series Richard M Elliott, editor) $4 50 5007

Contents Part I, General Introduction. Dimensions of the personality Special needs f exceptional children. Methods of classification and measurement. Further problems of classification. Part II, Superior deviates: Fundamental concepts. The exceptionally intelligent child—general characteristics. The personal adjustment and social relations of highly intelligent children. The education of exceptionally intelligent children. The adult achievements of gifted children. Manifestations of special talent in childhood. Part III, The intellectually inadequate The nature of intellectual inadequacy The causes of intellectual inadequacy Attempts to remedy mental retardation. The feeble-minded child in home, school and community The education and training of subnormal children. The mentally deficient child grows up. Part IV Marked inconsistencies of development The patterning of aptitudes and achievements. Specialized educational inconsistencies. Stuttering or stammering. Speech defects other than stuttering. Part The physically handicapped child. Children with sensory handicaps The blind. The partially sighted. The deaf The hard-of-hearing The child with cerebral palsy The brain-damaged child The postencephalitic child. The child with epilepsy The child with other physical handicaps. Multiple handicaps. Part VI, The deviate and social program. Science and the deviate. The deviate and social welfare. Name index. Subject index.

Note. A textbook for college students in education, psychology, or social welfare and reference book for parents, teachers, and others concerned with children. Three main types of exceptional children are differentiated and described and their relations to their

MEAD MARGARET, AND MARTHA WOLFENSTEIN editors

Childhood in contemporary cultures. Chicago University of Chicago Press, 1955 473 p. illus. 24 cm. $7 50 5019

Contents. Part I, Cultural approaches to the study of childhood. Theoretical setting—1954, by M. Mead. Continuities and discontinuities in cultural conditioning—1938, by R. Benedict. Theoretical approach—1941, by G. Gorer. Part II, Observational studies: Children and ritual in Bali, by M. Mead. Balinese children's drawing, by J. Belo. Children and music in Bali, by Colin McPhee. Balinese bibliography. French parents take their children to the park, by M. Wolfenstein. The place of book-learning in traditional Jewish culture, by M. Zborowski. Part III, Child-rearing literature: Early nineteenth-century American literature on child rearing, by R. Sunley. Fun morality—an analysis of recent American child-training literature, by M. Wolfenstein. Child-training ideals in a postrevolutionary context: Soviet Russia, by M. Mead and E. Calas. Parents and children—an analysis of contemporary German child-care and youth-guidance literature, by R. Métraux. Part IV, Fantasies for and about children: "Totis," a modern cautionary tale, by D. [illegible]. "Jack and the beanstalk," an American version, by M. Wolfenstein. "Monkey," a Chinese children's classic. A portrait of the family in German juvenile fiction, by R. Métraux. The image of the child in contemporary films, by M. Wolfenstein. Part V, Children's imaginative productions: French children's paintings, by M. Wolfenstein. The consequences of wrongdoing—an analysis of story completions by German children, by R. Métraux. Sex differences in the play configurations of American pre-adolescents, by E. H. Erikson. Part VI, Interviews with parents and children: Some variants in moral training of children, by M. Wolfenstein. Differential patterns of social outlook and personality in family and children, by E. Frenkel-Brunswik. Part VII, Clinical studies: French and American children as seen by a French child analyst, by F. Dolto. Two types of Jewish mothers, by M. Wolfenstein. Part VIII, Epilogue. Implications of insight—I, by M. Wolfenstein; —II, by M. Mead. Index.

Note: The world-wide scope of this volume is apparent in the titles of the individual studies which are listed above. The collection is, in part, a product of the Columbia Research in Contemporary Cultures and of the American Museum of Natural History Studies in Contemporary Cultures. The studies were conducted from an approach that combined anthropology, psychology and psychoanalysis. The book is a unique contribution to the study of patterns of child-rearing, and by extension to the study of national character. Literature references are included in all of the studies.

MERRILL, MAUD AMANDA

Problems of child delinquency New York Houghton Mifflin Company 1947 403 p. illus. 26 cm. $4.50 5020

Contents: Problems of delinquent behavior. Understanding the delinquent. Social frames of reference. "Toward school with heavy looks." Personality and problems of adjustment. The intelligence of delinquents. Motivation. Private worlds. Interests and attitudes. Factors in after-treatment adjustment. Summary. Bibliography. Appendices. Index.

Note. This book is both a report of a careful socio-psychological study of a group of delinquent children and a general treatise on delinquency. It is based on a study of 300 children brought before a California juvenile court during the years 1931–1935, and on a similar study of a group of nondelinquent children. It is intended primarily for psychology students, but the form of presentation and the readable style make it equally valuable to teachers, social workers, and others concerned with the problems of child delinquency. Statistical data have been segregated in the appendices.

MERRY FRIEDA KIEFER, AND RALPH VICKERS MERRY

The first two decades of life. A revision and extension of *From infancy to adolescence*. Under the editorship of Gardner Murphy New York Harper & Brothers 1950 600 p. illus. 22 cm. $4.50. 5021

Contents: How we study children and adolescents. How we begin life. How we grow before and after birth. How our body structure and functions develop. How motor abilities develop. How language develops. How intelligent behavior develops. How we learn. How we gain emotional maturity. How we develop socially. How personality develops. Growth of character and religious experience. Interests in reading, radio, and movies. Creative activities. Author index. Subject index.

Note. An introductory presentation designed principally for use as a textbook in courses offered in teachers' colleges. The style is more technical and the content more advanced than in books written primarily for parents. Also, the text is heavily documented with references to the literature. The book is a thorough revision and expansion of the authors' *From infancy to adolescence* (1940)

MUSSEN PAUL HENRY AND JOHN JANEWAY CONGER

Child development and personality New York Harper & Brothers, 1956 569 p. illus. 24 cm. $6 00. 5022

Contents: Introduction. Part I, The prenatal period: Genetic factors in development. Prenatal development. Part II, The first two years: Biological changes in the first year. Learning. Social learning in the first year. Development and social learning in the second year. Part III, The preschool years: Personality development in the preschool years. Changing social relationships in the preschool years. Part IV, Middle childhood: Personality development during the middle childhood years. Adjustment to school. The middle childhood years—adjustment to peers. Part V, Adolescence: Physical development in adolescence. Adolescent adjustment in American culture. Index of names. Index of subjects.

Note: An attractive and readable college textbook. It presents the accumulated basic knowledge on the development of behavior and personality from the prenatal period to adolescence. References are incorporated to the basic research studies and to related books suggested for further reading. The authors are members of the faculty of the University of California and of the University of Colorado.

MYKLEBUST, HELMER R.

Your deaf child a guide for parents. With a foreword by Hallowell Davis. Springfield Ill. Charles C Thomas, 1950 133 p. illus. 22 cm. (American lecture series. Publication number 94 a monograph in American lectures in otolaryngology edited by Norton Canfield) $3.00 5023

Contents: What deafness means to you. Causes and types of deafness. Your attitudes and what they mean. The deaf child and his needs. Learning to care for himself. Learning to communicate. What to expect from your child. Organizations which can help—reading materials—directory of schools. Index.

Note: A practical and reliable book in which the general and particular problems of managing deaf children in the home are discussed specifically and sympathetically. It is useful not only for help on problems directly related to deafness but also for collateral matters such as discipline and toilet training. The author is Director of the Children's Hearing Clinic of Northwestern University

PLANT JAMES STUART

The envelope study of the impact of the world upon the child. Cambridge, Mass. Harvard University Press, 1950. 299 p. 23 cm. $3.00 5024

Contents: Introduction. Security. Authority. Status preservation. The feeling of difference. Symbolization and reality. Cadence. Integration in the sense of self-sufficiency. Integration in the sense of cohesion. Physical expression of the sexual urge. The language values of sexual expression. Temperament. Reaction to failure. Minority race problems. Adequacy. Intelligence. Emotional development—dependence—seclusion—homosexuality—heterosexuality. Sibling rivalry. Personality differences. Some other problems. The meaning of meaning. Appendix. References. Index.

Note: This book complements and to some extent supersedes the author's *Personality and the culture pattern*, New York, 1937. Like the earlier work, it is a thoughtful analysis of the influences of the social environment upon the development of the individual personality in children, especially adolescents. The author's viewpoint (expressed in his own words) was that "normally the personality has the ability to shut out large sectors of its environment and to

Ilg, Frances L, and Louise Bates Ames

Child behavior New York Harper & Brothers, 1955 364 p 22 cm $3 95 5013

Contents Forward by A. Gesell. Part I How behavior grows. Ages and stages. Individuality Part II Eating behavior. Sleeping and dreams. Elimination. Tensional outlets. Fears. Intelligence and retardation. Sex behavior and sex interests. Mother-child relationship. Father-child relationship. Brothers and sisters. Comics, television and movies. School. The ethical sense. Part III What to tell about Santa Claus, Deity death, adoption, divorce. What to do about discipline. Postscript references. Index.

Note A book for parents of children up to 10 years of age, ritten in straight forward, nontechnical language by two child specialists on the staff of the Gesell Institute of Child Development. In places, the book incorporates and adapts material which appeared in syndicated newspaper column by the authors beginning in 1951 In other places, it is based on questions raised by parents and answered by the authors on an unrehearsed television series beginning in 1952 With this background, the authors give the subject a concrete treatment which should be helpful to parents who wish either to know what specific problems and anxieties they should expect to face or to find suggestions for handling immediate problems that may arise.

Jersild, Arthur T

Child psychology Fourth edition Englewood Cliffs, N J Prentice Hall, Inc., 1954 676 p illus 22 cm $6 75 5014

Contents A child is born. Nature and course of human growth. Beginnings of behavior and personal experience. Aspects of living and learning in infancy Motor development. Selfhood and social relationships. Development of social behavior Emotional development—affection, joy humor sex—fear and anxiety—anger and hostility Language development. The growth of understanding—early awareness, alertness, and remembering—reasoning, concept formation self awareness. Children's make-believe, dreams, and other imaginative activities. Children interests and play activities. Children s ideals, morals, and religion. The growth and prediction of intelligence. Personality problems and the search for self. Author index. Subject index.

Note. A standard and widely used college textbook, the first edition of which was published in 1933 and the third edition in 1947 Although several of the chapters bear essentially the same titles as in the third edition, the book has been extensively reorganized and revised in this fourth edition. Fundamental changes were made, particularly in the introduction of the concept f the self Among the important additions are the chapters on selfhood, social relationships and social behavior However the concept of the self turns up in other chapters also. The book still provides elementary but full expositions of motivation and behavior development from infancy through early adolescence The bibliography is 40 pages long and contains references to literature published as recently as 1953 The author is Professor of Education in Teachers College f Columbia University

Kent, Grace Helen

Mental tests in clinics for children. New York D Van Nostrand Company, Inc., 1950 180 p 24 cm. (Textbooks on psychology, J P Guilford general editor) $2 45 5015

Contents Why children are referred to the clinic. The clinical examination. Sources of error in use of tests. The composite scale versus the battery Language and performance tests, with and without timing. Use of unstandardized tests. The psychological report. Criteria for construction of clinical tests. Serviceable scales and subtests. Home manufacture of materials. Appendices. Bibliography Index.

Note: A book based on extensive clinical experience. The author is critical of the use of the intelligence quotient (IQ) as sole measuring stick and argues for the use of battery of tests that will provide several different and complementary scores. Against the background of this conviction, she describes and evaluates various types of tests. Much practical information on the conducting of examinations is included. There is bibliography of 170 references.

Levy, David Mordecai

Maternal overprotection. New York Columbia University *Press*, 1943 417 p. 23 cm. $5 00 5016

Contents. Foreword, Aims and methods. Case sifting. Excessive contact. Infantilization. Prevention of social maturity Maternal control. Maternal and paternal factors. Problems of the overprotected. Treatment, prognosis, psychopathology Case studies of treatment and follow-up. Appendix. Case summaries. Index.

Note. This volume contains studies which were made possible by the resources, records, and personnel of the former Institute for Child Guidance in New York City They comprise medical, social, psychometric, and psychiatric investigations whose primary aim is to show the influence of the mother upon emotional and intellectual life from infancy to maturity The book is intended for psychiatrists, pediatricians, social workers, teachers, and others concerned ith child guidance. Many tables and case records are included. The studies originally appeared in *Psychiatry* the quarterly publication of The William Alanson White Psychiatric Foundation.

Louttit, Chauncey McKinley

Clinical psychology of children s behavior problems Revised edition New York Harper & Brothers, 1947 661 p illus. 21 cm. $5 00 5017

Contents Part I, Methods Introduction. The nature of problem behavior Diagnostic methods: anamnesis and examination. Diagnostic methods: psychometrics. Treatment procedures. Part II, Problems correlated with abilities. Mental deficiency or feeblemindedness. School retardation. Specific disabilities in school subjects. Superior mental ability Part III, Primary behavior problems: Conduct problems. Juvenile delinquency Speech defects. Personality problems. Part IV Problems correlated with organic disabilities Sensory defects. Neurological and physical disabilities. Subject index. Name index.

Note. The behavior problems encountered in clinical psychological ork with children are discussed authoritatively and in considerable detail in this book. Diagnosis and treatment are dealt with from the standpoint of practical work in behavior clinics. Particular stress is laid upon the necessity for considering the patient as a hole, with all his family neighborhood, and school background, along with his physical condition. Case histories and statistical tables appear throughout the volume, and the chapters include fairly extensive bibliographies. The third edition, re-titled *Clinical psychology of exceptional children* was published in 1957 573 p., $6 00.

Martin, William E, and Celia Burns Stendler

Child development the process of growing up in society Under the editorship of Willard B Spalding New York Harcourt, Brace and Company 1953 519 p. illus. 22 cm. $7 00 5018

Contents Part I, The child The child as human being. Principles of growth and development. Spurs to activity Constitutional differences among children. The beginnings of life. Part II, Society and culture The meaning of society and culture. Culture, personality and socialization. Growing up in our society Part III, Socialization The goals of socialization. A description of socialization. Socialization from a psychoanalytic point of view Socialization from a socio-psychological point of iew Part IV Socializing agents. The child in the family The child in school. The peer group. The child in the community Bibliographical index. Subject index.

Note. Primarily textbook for college students, particularly for students who are preparing for careers in teaching, this book is also of alue to parents. It presents an inclusive iew of child development with emphasis on the social factors. It is written in a style that is easy to read and the reader's interest is stimulated by the inclusion of anecdotes, case histories and few cartoons. The text is carefully documented, and the "bibliographical index" is 13 pages long. The authors are Professors of Education at the University of Illinois.

preschool period. The family's daily routine and the child's diet. Study and guidance of preschool children. Part four, The primary period: Development during years six, seven, and eight. Problems of the primary period. Child study and guidance. Part five, From the primary period to adolescence: Learning in the preadolescent period. Special problems of preadolescents. Part six, The adolescent years. Index of names. Index of subjects.

Note: An established book which is extensively used as a text book for college courses, a guide for study groups composed of parents, and a reference manual for individual parents and teachers. It presents an over-all survey of the subject with emphasis on the applied aspects. Each aspect of how children six to eight years old learn are discussed at considerable length. The previous edition appeared in 1938. The present edition represents a very extensive revision.

Strauss, Alfred A., and Laura E Lehtinen

Psychopathology and education of the brain-injured child. New York Grune & Stratton, 1947 206 p. illus. 24 cm. $6.00. 5032

Contents: Part I, Psychopathology: Historical review of problems pertaining to the concept of brain-injured children and their education. Remarks on the anatomy of the brain and its function. Perception and perceptual disturbances of brain-injured children. Thinking disorders in brain-injured children. Behavior disorders in brain-injured children. Testing the brain-injured child. Clinic and diagnosis of brain injury in children. The concept of the exogenous child versus the endogenous child. Part II, Education: General principles in the education of the brain-injured child. Teaching arithmetic fundamentals to brain-injured children. Teaching reading to brain-injured children. Teaching writing to brain-injured children. Appendix: A brain-injured deaf child. References. Index.

—— Volume II. Progress in theory and clinic. By Alfred A. Strauss and Newell C. Kephart, in collaboration with Laura E. Lehtinen and Samuel Goldenberg Drawings by Caspar Henselmann. New York Grune & Stratton, 1955 266 p. illus. 24 cm. $7.00 5033

Contents: Anatomy and physiology of the central nervous system and brain injury in children. Embryology and brain injury. Psychopathology of perception—language—concept formation—behavior. Testing the brain-injured child with normal I.Q. by S. Goldenberg. Preliminary conclusions affecting education of brain-injured children, by L. E. Lehtinen. Essays on mental functioning of brain-injured children. Appendixes: Scoring guide to the marble board test and the Ellis design test, by S. Goldenberg. Case histories of brain-injured children with normal I.Q., by L. E. Lehtinen. References. Index.

Note: The first of these books is widely recognized as a handbook in the study of children whose intelligence and behavior is deviant due to brain injuries. It was based on 20 years of research and experience, part of it at the Wayne County Training School of Northville, Michigan, and part in the Cove Schools for Brain-injured Children in Racine, Wisconsin. Approximately half of this volume is devoted to the psychopathology of such children and the other half to principles and techniques of teaching them. The second volume is complementary to the first. It covers advances in the knowledge of the anatomy and physiology of brain injury, progress in understanding the associated psychology and developments in techniques of testing brain-injured children. In both books a number of illustrated case histories are included. The second volume contains an extensive list of literature references.

Teagarden, Florence Mabel

Child psychology for professional workers. Revised edition. New York Prentice-Hall Inc. 1946. 613 p. illus. 24 cm. $5 75 5034

Contents: Heredity. The principles of heredity as applied to the case load. Getting the child into the world. Infancy. The preschool child. Some fundamental physical habits. The child and his home. The child away from his own home. Adoption. The child's emotions. The sex life of the child. The child' intelligence. The child and his school. Behavior difficulties. Psychological and social problems incident to certain diseases of children. Children with visual and auditory handicaps. Speech defective and crippled children. The children's charter. Index.

Note: Although designed primarily for professional social workers, this volume has value as a college text. In addition to purely psychological problems, the effects of hereditary environment, and diseases on the child's conduct and personality are considered. This edition has been enlarged by the inclusion of new illustrative material based on the author's clinical experience, and the extensive chapter bibliographies have been augmented by nearly 700 references published since 1940.

Templin, Mildred C

The development of reasoning in children with normal and defective hearing. Minneapolis The University of Minnesota Press, 1950 143 p. illus. 24 cm. (University of Minnesota. The Institute of Child Welfare Monograph series. No. XXIV) $3.00 5035

Contents: Introduction. The experiment. Analysis of reasoning by matched group technique. Comparison of the reasoning of the hearing and defective hearing subsamples. Intercomparison of the reasoning within the experimental groups. Written language used in explanation of the Deutsche questions. The defective hearing. Summary. Bibliography. Index.

Note: The report of a study whose purpose is explained thus by the author: "The present study was designed to explore the effect upon reasoning of the restriction of experience by an intrinsic factor and by an extrinsic factor. The intrinsic factor selected for this study was the reduction of hearing acuity. The extrinsic factor selected was the reduction of the breadth and complexity of the environment through residence in an institution." Tests were made of 830 children in elementary and high school grades five through 12. These comprised: "(a) 273 day school hearing subjects, whose environment was restricted by neither the extrinsic nor the intrinsic factor; (b) 293 residential hearing subjects, whose environment was restricted only by the extrinsic factor; ( ) 108 day school defective hearing subjects, for whom only the intrinsic restricting factor was present, and (d) 177 residential defective hearing subjects, whose environment was restricted by both the extrinsic and intrinsic factors." The methodology of the study is described and the results are presented for the use of such professionals as educators and psychologists, especially those who are concerned with the training of handicapped children.

Thompson George Greene

Child psychology growth trends in psychological adjustment. Boston Houghton Mifflin Company Inc., 1952 667 p. illus. 22 cm. $6.25 5036

Contents: Studying the child's behavior and development. The new-born infant. Maturation a basic process in behavioral change. Psychological adjustment: some general principles. Sensory and perceptual development. The development of motor abilities. Developmental trends in emotional behavior. Language development. The meaning and measurement of intellectual development. Developmental trends in social behavior. Guiding the social development of children. The development of personal and social values. Developmental trends in personality. Index.

Note: This is a scholarly contribution to the general textbooks in child psychology. The average undergraduate with no more than one general psychology course as preparation may find it somewhat difficult going, but more mature students will find it an exceedingly useful reference. The material on social development is particularly good. Graphic and tabular material have been well chosen and particularly well reproduced.

Thorpe Louis P

Child psychology and development. Second edition. New York The Ronald Press Company 1955 709 p. illus. 21 cm. $6.00 5037

Contents: How to study children. What the child inherits. Early postnatal life. Physical growth and health. The development of motor abilities. Mental abilities and intelligence. The language and thought of the child. Children's play and interests. Emotional factors in development. Personality and character formation of the child. Parent-child relationships. Social education of the child. Mental hygiene of the child. Psychosexual development. School and the learning process. Characteristics of exceptional children. The evaluation of child development. Index of names. Index of subjects.

translate those parts that it takes in into usable or understandable material. It is the part of the personality where this occurs that I call the envelope. He describes how personality is molded but offers no rigid conclusions about how the processes should be altered or changed. The treatment is on professional level, and the book is organized and written so as to make it understandable not only to psychiatrists but also to psychologists, social workers, and educated laymen.

RIBBLE, MARGARETHA ANTOINETTE
The personality of the young child an introduction for puzzled parents New York Columbia University Press, 1955 126 p 21 cm $2 75 5025

Contents Getting perspective. Early sexual development. Privacy Aggression and the muscular system. The beginnings of self Love and hate. The roots of character Child and parent (in retrospect) Books for further reading.

Note Written in nontechnical style, this small book is a helpful guide for parents in family psychological relationships. The viewpoint is Freudian, but the book contains few of the terms of psychoanalysis. It deals frankly but in the common language with the sexual aspects of parental relationships in relation to the young child, with the roots of such personality traits as aggressiveness, with the child's need for privacy and above all with his need for reassuring affection. The age-span covered is approximately from the time the child begins to walk until he is ready for school. The book is complementary to the author' *The rights of infants*, described below

RIBBLE MARGARETHA ANTOINETTE
The rights of infants, early psychological needs and their satisfaction. New York Columbia University Press, 1943 118 p illus 22 cm $2 25 5026

Content The right to a mother Oxygen hunger Sucking. Learning to feel. Sleep. Premental behavior Some facts about elimination. Lif rhythms and artificial schedules. Babies must not be thwarted. Early emotional development. Getting ready to think. Fathers. Toward mental health. Bibliography Index.

Note. The purpose of this book is to discuss vital aspect of infant care hich is not covered in the manuals dealing with food and hygiene—the human impulses which get their initial momentum in the primary relationships between the child and the mother. Many years of observation form the background for this study but the author has succeeded in making it readable and interesting to the general reader as ell as to the specialist in child development.

SLAVSON, SAMUEL RICHARD
Child psychotherapy New York Columbia University Press 1952 332 p 24 cm. $4 50 5027

Content (*abridged*) Part one, Development Normal needs in child development Part two, Psychopathology Pathogenic factors in childhood. The pathogenesis in interpersonal relations. Clinical approaches to child psychotherapy Part three, Psychotherapy The dynamics of psychotherapy The psychotherapist in reality and phantasy Psychotherapy and therapeutic guidance of parents. Group psychotherapy with children Treatment of neurotic nine-year-old boy ith organic deficiency (case study) Index.

Not Discussions of the principles and of the techniques of group treatment of emotionally disturbed and socially maladjusted children under 12 years of age form the main content of this treatise. However it is not limited to descriptions of clinical procedures, nor is the primary emphasis upon them. Instead, the author presents rounded picture of the child's normal psychological needs and of the familial and social influences which thwart these needs and lead to psychological maladjustment. The author is leader in the development of group psychotherapeutic techniques, and the book is based on extensive experience with group therapy of children.

SPOCK, BENJAMIN
The common sense book of baby and child care, with illustrations by Dorothea Fox. New York Duell Sloan and Pearce, 1946 527 p illus 20 cm. $5 00 5028

Contents (abridged) Preparing for the baby The right start. Breast feeding. Bottle feeding. Adding vitamins and water. Daily care. How the baby is doing. Your baby's development. Changes in diet and schedule. Weaning from bottle to cup. Inoculations. Toilet training. The one-year-old. Elements in the diet. Foods and meals. Managing young children. The two-year-old. Three to six. From six to eleven. Schools. Puberty development. Problems of feeding and development. Illness. First aid. Special problems. Index.

Note. One of the most successful books ever published for the guidance of parents of infants and young children. It is especially outstanding for its correlation of practical directions with sound child (and parent) psychology and for the wide range of detailed information.

STERN, CATHERINE, AND TONI S GOULD
The early years of childhood education by insight. New York Harper & Brothers, 1955 203 p 21 cm. $3 50 5029

Contents Part I, Education through insight. General principles and procedures. The parent's role. Stages and standards. Preparation and prevention. Freedom of choice. Security through success. Part II, Education through insight: Application in special problems. The poor sleeper The poor eater The timid child. The tyrant. The slow learner Conclusion Parents of pioneers. Bibliography Index.

Note. The educational method which is the subject of this book has been explained by the authors as follows: "Education through insight is new approach which appeals to the child's power of reasoning and comprehension without directly 'reasoning' with him. The adult alters a child's iewpoint by changing some aspect of the situation so that it is conducive to evoking a child' insight as to his fitting behavior The book is based on an extensive experience with kindergarten age and younger children. It is addressed to both parents and teachers who are concerned with the training of young children.

STOLZ, LOIS MEEK
Father relations of war born children, the effect of postwar adjustment of fathers on the behavior and personality of first children born while the fathers were at war Stanford Stanford University Press, 1954 365 p. illus. 23 cm. $4 00 5030

Contents General description of the father relations research project. I, The father-interview study: Description of the father-interview study Stress areas for fathers returning from war. Fathers' attitudes toward first-born children. Father's perception of self and first-born child, by E. Chance. II, The mother-interview study: Description of the mother-interview study by E. M. Dowley and W. L. Faust. Characteristics of war-born children as revealed by mothers, by E. M. Dowley and W L. Faust. Comparison of mother and father attitudes toward war-separated children, by A. Engvall. III, Observation of children in group situations. Beha ior of war-separated children in group situations, by N Q. Stevenson and others. IV Children in projective-play situations. Children as revealed in projective-play situations, by M. S. Faust. Aggression with balloons, blocking, and doll play by J. M. Ryder Father-child relations in story completions, by M. S. F ust. Father-child relations as revealed by dramatic-play completions, by L. C. Johnson and others. Summary and interpretation of study Ned Ford and his family General summary and interpretation. Appendixes. References.

Note. The results of research study extending over period of four years and conducted within the Department of Psychology of Stanford University under grant from the National Institute of Mental Health are published in this volume. Although the situation studied was of special nature the results throw light on the general problem of the role of fathers in the psychological development of children. The book is f interest to specialists in child psychology

STRANG RUTH
An introduction to child study Third edition New York The Macmillan Company 1951 705 p. illus 22 cm $5 75 5031

Contents (abridged) Part one, The roots of behavior The baby at birth. Hereditary influences. Part two, Early preschool period—the first two years How the baby learns. Child study and parent guidance. Part three, The preschool period—years three, four and five How preschool children learn. Special problems of the later

ent. Intellectual development. Personal work in the high school. The high school curriculum. Conclusion. The end of adolescence. Appendices. Index.

Note: In this standard work, the major physiological, social, moral, emotional, and intellectual factors in the development and behavior of young people from ages 13 years to 21 years are discussed. The viewpoint is practical, the language simple and direct, and the text is well illustrated with pertinent case histories, anecdotes, and life problems, charts, and other related material. The book is directed primarily to prospective and professional teachers. The first edition was published in 1936 and the third edition in 1948. In this fourth edition, there is a newly added chapter on personality and many revisions designed to incorporate the results of studies published since 1947 were made. A selection of new professional literature has been added to the reading lists, and the list of fiction and biography dealing with adolescents contained in an appendix has been revised to include some modern works. The book's organization and scope remain essentially the same.

CROW, LESTER D., AND ALICE CROW

Adolescent development and adjustment. New York, McGraw-Hill Book Company, Inc., 1956. 555 p. illus. 23 cm. $6.00 5044

Contents: Part I, Adolescent experiences: Significance of adolescence. Biological and cultural heritage. Approaches to the study of adolescence. Part II, Adolescent development: Physical and physiological growth. Maturing mental abilities. Changing emotional patterns. Personal and social aspects of personality development. Part III, Adolescent behavior motivations: Importance of interests and attitudes. Sex behavior of adolescents. Physical, mental, and emotional disorders. Conflicts in behavior disorders. Behavior [illegible]. [illegible] values. Part IV, Adolescent adjustment: Home adjustment of adolescents. School adjustment of adolescents. Vocational adjustment of adolescents. Social adjustment of adolescents. Appendices. Index.

Note: The first edition of a relatively new textbook and survey of the psychology of adolescence. Its primary use is as a textbook in teachers' colleges and liberal arts colleges. A survey of basic knowledge on physical and physiological growth is included. However, most of the space is devoted to personality development, behavior and problems of adjustment of adolescents. Discussions of numerous illustrated examples add interest to the presentation. The chapters include selected references to other literature, and there are occasional references in the text to research studies. The authors did not attempt to include references to the large body of literature.

CRUZE, WENDELL W.

Adolescent psychology and development. New York, The Ronald Press Company, 1953. 557 p. illus. 21 cm. $5.00. 5045

Contents: The period of adolescence. Problems and techniques. Physical changes at puberty. Physical development and physiological hygiene during adolescence. Intellectual development. Growth of interests in adolescence. Emotional development. Social development. Moral and religious development. The adolescent and his home. The adolescent and his school. Vocational selection and adjustment. The adolescent and his community. Crime and delinquency. Personality development and measurement. Mental hygiene in adolescence. Adjustments of atypical adolescents. The achievement of maturity. Index of names. Index of subjects.

Note: This book [illegible] study of the adolescent in modern society, his mental and physical growth, and his psychological development. It is especially intended as a textbook for college courses covering the psychology of the secondary school pupil. The content of the various chapters is largely based upon scientific research studies, the bibliographical citations to which are given in footnotes. There are [illegible] figures and 43 tables in the text, presenting some of the data taken from these studies.

FAEGRE, MARION L.

The adolescent in your family. Revised 1955. Washington, D. C., Government Printing Office, 1955. 110 p. illus. 23 cm. (United States Children's Bureau. Publication 347) $0.25 5046

Contents: Introduction. What is adolescence? Influences of earlier experience. Getting used to physical changes. Breaking away from childhood. Development brings new responsibilities. Friends and companions. What roles are boys and girls expected to play? Becoming adjusted to the opposite sex. Emotions in adolescence. Health needs of adolescents. Parents' part in educational and vocational planning. The future lies with youth. Index.

Note: This is the fifth in the Children's Bureau set of publications for parents, the others being *Prenatal care*, *Infant care*, *Your child from one to six*, and *Your child from 6 to 12*. It is published for the guidance of parents of children 12 and over. The chief of the Children's Bureau has written in the foreword: "Adolescence is a hard period to write about. Divergences between children seem to grow more marked as their range and variety of behavior becomes greater. . . . In the United States of today, to picture the wide variations in family life, in parents' hopes and expectations of their children, is impossible. . . . What the Children's Bureau has tried to do in this bulletin is to give some of the underlying needs of young, growing, human creatures which result in behavior that is sometimes hard for parents to understand. Our hope is that each parent who reads it will interpret what is said according to his own special situation and requirements."

FRANK, LAWRENCE K., AND OTHERS

Personality development in adolescent girls. By Lawrence K. Frank, Ross Harrison, Elisabeth Hellersberg, Karen Machover and Meta Steiner. Lafayette, Ind., Child Development Publications of the Society for Research in Child Development, Inc., Purdue University, 1953. 316 p. illus. 23 cm. (Monographs of the Society for Research in Child Development, Inc. Vol. 16, serial no. 53, 1951) $4.50. 5047

Contents: The purposes and aims of the study. The subjects. Methods and assumptions. Some general aspects of adolescent personality. The Rorschach test. The thematic apperception test. Drawings of the human figure. The Horn-Hellersberg test. Graphological study. Interpretive summary of findings. Suggestions for schools and youth agencies. Appendix: Sample form of questions to human figure drawings. Individual records: Prepubertal: Constance, Margaret, Nina. Pubertal: Barbara, Harriet, Jean. Adolescent: Jane, Ruth, Thelma.

Note: The study reported in this publication was undertaken for two major purposes: (1) to explore the personality and emotional reactions of 300 girls just before puberty, at puberty, and in later adolescence, as evidenced by their responses to projective techniques, such as the Rorschach test, the thematic apperception test, and the Horn-Hellersberg test; and (2) to experiment on the same 300 subjects with these same projective methods to discover what each technique could contribute (a) uniquely and (b) as corroboration of other methods to the understanding of personality. The report focuses "upon the psychological maturation of the adolescent girl, her image of herself and of her body, her acceptance or rejection of being female and of the feminine role, her relations with and feelings toward her parents and toward boys, her anxieties and feelings of guilt, her hopes and fears, and how she is facing the inescapable life tasks of adolescence. . . ." About one-third of the space is taken by the appendix of individual records of nine of the 300 subjects.

FRANK, MARY, AND LAWRENCE K. FRANK

Your adolescent at home and in school. New York, The Viking Press, 1956. 336 p. 22 cm. $3.95 5048

Contents: Speaking for parents. Physical growth and development in adolescence. Steps and stages—the pre-adolescent years—adolescence. Life tasks of our adolescent boys and girls. The family circle. Living with the adolescent. Family crises. What kind of education do adolescents need? The emerging high-school programs. Helping the adolescent in high school. Social life in high school. Appendix: Selected bibliography and college information. Index.

Note: A well-written popular book, addressed primarily to parents but of interest also to high school teachers and members of other professions who are professionally concerned with young people. It presents a sane, modern view of adolescent motivations and behavior. Co-ordinated with this presentation is advice on parental guidance of adolescent boys and girls and discussion of their educational requirements. The bibliography lists both popular and technical literature.

Note. A textbook designed for first courses in child psychology offered to undergraduate college students. Its content has been selected so that it is suitable for students majoring in home economics and in education as well as in psychology It provides broad view of the field and makes reference to the major research studies. The first edition was published in 1946. For the second edition, the book was reorganized in part and extended by the inclusion of new topics and later information on topics included in the first edition.

UNITED STATES CHILDREN'S BUREAU

Your child from one to six. Washington, D C Government Printing Office, 1956 110 p illus. 23 cm. (United States Children's Bureau. Publication 30, revised 1956) $0.20 5038

Contents. How children grow—physically emotionally and socially Play Guiding children's imagination. Curiosity and questioning. Constructive discipline. Children's food needs. Sleep. Bowel and bladder control. Things that bother parents. Learning to do without mother Safety precautions. Keeping children well. Prevention of disease. The sick child. Children's diseases and disorders. Emergencies. Index.

Note Another new edition, the first since 1945 of title which has been perennial "best seller" among U S. Government Printing Office titles. The booklet contains common-sense information for parents on the care of children between the ages of one and six. The new edition, somewhat more compact than its predecessor was again prepared under the direction of Mrs. Marion L. Faegre, in consultation with a wide range of professional workers—child psychologists, pediatricians, nurses, educators—as well as with specialists of the Pediatric Advisory Board of the Children's Bureau. With the exception of the useful appendix on children's diseases and disorders, wherein the symptoms and care are indicated for all the common childhood ills, the 1956 edition is entirely rewritten and especially reflects the gains made since 1945 in understanding of the child's emotional and psychological growth and needs. The publication has a full index.

WITMER, HELEN LELAND, editor

Pediatrics and the emotional needs of the child as discussed by pediatricians and psychiatrists at Hershey, Pennsylvania, March 6–8, 1947 Cambridge Mass. Harvard University Press, 1948 180 p. illus 23 cm. $2 00 5039

Contents Session I, What have we learned about emotional growth and development? Session II, What can the pediatrician in practice do in the field of mental health? Session III, What are pediatric departments now thinking and doing about problems of mental health? Session IV What are the next steps in pediatric teaching and training toward better understanding of the emotional life of the child? Session V What are the next steps in furthering comprehensive pediatric service? Session VI, Summary of the discussion. Appendix Ten hospital reports.

Note The proceedings of meeting of pediatricians, psychiatrists, and social workers called to discuss the psychological problems encountered in pediatric practice, and ways of integrating the practice of this branch of medicine with the relevant findings of psychiatry The arrangement of the volume follows the sequence of the agenda. The original papers read at the session are printed without abridgment the ensuing discussions are often abridged or summarized. The appendix contains reports from 10 hospitals on their arrangements for aiding the pediatrician who has to deal with emotional difficulties of the growing child.

YALE UNIVERSITY CLINIC OF CHILD DEVELOPMENT

The first five years of life a guide to the study of the preschool child Part one by Arnold Gesell. Part two by Henry M Halvorsen and others. Part three, by Arnold Gesell and Catherine S Amatruda. New York Harper & Brothers 1940 393 p illus 24 cm. $4 50 5040

Contents. Part I, Early mental growth, Introduction Understanding the preschool child. The nature of mental growth. The first year of life. From one to five. A pictorial survey of preschool behavior Part II Gradations of mental growth. Motor development. Adaptive behavior Language development. Personal-social behavior Part III, The study of the individual child The philosophy of the developmental examination. The conduct of the developmental examination. Clinical adaptations to atypical conditions. Individuality and its characterization. Developmental supervision and the school beginner Examination records and arrangements. Selected references. Index.

Note A volume, intended for laymen, students, and psychologists, which emphasizes the organic continuity of development of the child. Intelligence is treated as an aspect of an intricate reaction system. A great many clinical data are cited, and behavior pattern descriptions are given.

ADOLESCENCE

AUSUBEL, DAVID P

Theory and problems of adolescent development. New York Grune & Stratton 1954 580 p 22 cm. $8 50 5041

Contents Part I, Introduction Adolescence—a stage in personality development. Problems of adolescent development. Part II, Psychobiological problems Problems of psychological transition. Physiological aspects of pubescence. Physical growth and motor development. Psychological accompaniments of bodily change. Personality maturation during adolescence. Parent-child relationships in adolescence. Moral and religious development. Intellectual growth and interest patterns. Part III, Psychosocial problems. Adolescents and the wider community The adolescent peer culture. Sexual behavior in adolescence. Problems of vocational choice in adolescence. Adolescents and the school. Part IV Maladjustment and mental hygiene. Mental hygiene and guidance. Author index. Subject index.

Note A vast body of accumulated knowledge on adolescence is presented in this book, which is designed primarily for use as text by advanced students in psychology The information is organized within a theoretical frame of reference which holds "that adolescence is distinctive stage in personality development precipitated by significant changes in the biosocial status of the child." Although psychological aspects are emphasized, the physiological and physical aspects are not slighted. Much information from anthropology is included. Extensive reference lists are included in the chapters.

BLOS, PETER A

The adolescent personality a study of individual behavior New York D Appleton Century Company Inc., 1941 517 p. 22 cm. (Progressive Education Association publications. Study of Adolescents) $3 75 5042

Note. The special significance and usefulness of this book rest in its use of four detailed and complete case histories of children of different socio-economic and educational levels as mediums for a study of normal adolescent behavior On the basis of the first two cases and many illustrations from other cases, all of them collected by the Study of Adolescents, the author develops theory of adolescent personality which he then tests on the remaining two cases. Finally he applies the knowledge of adolescence thus gained to educational problems. The book is valuable for college, university and normal school courses in adolescent psychology mental hygiene, guidance, and child development.

COLE, LUELLA

Psychology of adolescence Fourth edition New York Rinehart and Company Inc., 1957 712 p illus. 23 cm. $6 50. 5043

Contents Introduction Adolescence as period of human growth. Part I, Physical development Growth in tissue, muscle, and bone. Physiological growth. Health and hygiene Part II, Emotional development. Emotional growth. Personality—measurement and types. Emotional deviates. Emotions and the school. Part III, Social development. Social growth. The adolescent and his home. Delinquency The social life of the school. Part IV Moral development Growth in attitudes. Community influence. Part V Intellectual development Mental growth. Intellectual-cultural inter

New York. Harper & Brothers, 1952 675 p. illus. 24 cm. $5.50. 5054

Contents (abridged). Part I, Physical, intellectual, and cultural backgrounds of adolescent behavior: Physical development and health in adolescence. Adolescent growth in mental abilities. The American culture and adolescent personality. Changing behavior in adolescence as revealed in interest patterns. Part II, Areas of adolescent adjustment: Maturation, adjustment, and emotion in adolescence. Social development and adjustment. Adolescent ideology—attitudes, character and morals, life philosophy. Educational development of adolescents and adjustment to school. The development of vocational plans and work experience. Home relationships of adolescents and achievement of independence. Part III, The individual adolescent. Name index. Subject index.

Note: Essentially a textbook for college undergraduate courses in adolescent psychology this monograph is useful also for reference. The thorough reader will emerge with the core of knowledge necessary for a practical understanding of the field and will know how to apply this knowledge to practical situations. Beyond this, the student is provided with a handle for comprehending and evaluating research literature. The author believes that adolescence and its problems should be considered in the perspective of the developmental trends of childhood and of adult life, not as an independent, entirely dramatic entity. In its entirety the bibliography which closes each chapter lists over 800 books and journals, including publications of 1950. Charts and tables are used to present concrete data and to summarize information.

MEAD MARGARET

From the South Seas studies of adolescence and sex in primitive societies. New York. William Morrow & Company 1939 1,088 p. 21 cm. $5.00. 5055

Contents (abridged): Coming of age in Samoa. The education of the Samoan child. The Samoan household. The girl and her age group. Formal sex relations. The role of the dance. The attitude towards personality. The experience and individuality of the average girl. Maturity and old age. Our educational problems in the light of Samoan contrasts. Appendix. Index and glossary. Growing up in New Guinea: Scenes from Manus life. Early education. The family life. The child and the adult social life. The child and the supernatural. The development of personality. Manus attitudes toward sex. The adolescent girl. The adolescent boy. [illegible] our traditional personality. Education and personality. The child's dependence upon tradition. Appendices. Index and glossary. Sex and temperament in three primitive societies: The mountain-dwelling Arapesh. The river-dwelling Mundugumor. The lake-dwelling Tchambuli. The implications of these results. Index and glossary.

Note. This book combines three of the author's books in one volume and constitutes a series of studies of primitive peoples in the South Seas made consecutively from 1925 to 1933, approached from the view-point of special age groups. In *Coming of age in Samoa*, New York, 1928, the author specializes on the adolescent girl; in *Growing up in New Guinea*, New York, 1930, the pre-adolescent age group is studied, and in *Sex and temperament*, New York, 1935, special study is made of the pre-school age, as well as the final character forms shown by the mature men and women. All of the details of behavior are based upon the author's personal observations and impressions during these separate field trips, and in this sense the work is a pioneer study. A new preface written in 1939 presents a summary of the author's aim and method, with reference to the three studies contained in this volume.

MIDCENTURY WHITE HOUSE CONFERENCE ON CHILDREN AND YOUTH

Personality in the making. Edited by Helen Leland Witmer and Ruth Kotinsky New York. Harper & Brothers 1952 454 p. 25 cm. $5.00. 5056

Contents: Part I, The development of the healthy personality: The making of a healthy personality. The influence of congenital characteristics. The influence of physical limitations. The importance of parent-child relations. Income level and health of personality. The effects of prejudice and discrimination. Religion as an aid to healthy personality development. Part II, Implications for the conduct of social institutions: Some cultural considerations. The family. The church and the synagogue. The school. Leisure-time services. Vocational guidance and employment services. Health services. Social services. Services of law-enforcement agencies. Next steps in research. Members of the staff of the Midcentury White House Conference on Children and Youth. Index.

Note: The conference named in the title of this book was guided and composed of physicians, social workers, educators, psychologists, and members of other professions concerned with the education, guidance, and care of young people. This book is the official report of the conference held in December 1950. It is not written in the condensed technical style that is characteristic of many official reports but is intended for reading as well as for reference. It is both a description of the status quo and a statement of accepted concepts and principles, and is essential reading for anyone interested in this field, particularly as it has been developed and is developing in the United States of America.

SCHNEIDERS ALEXANDER ALOYSIUS

The psychology of adolescence a factual and interpretive study of the conduct and personality of youth. Milwaukee The Bruce Publishing Company 1951 550 p. 23 cm. $4.00 5057

Contents (abridged) Part I, Introduction. Basic concepts of adolescent psychology Part II, Physical development during adolescence. Part III, The nature and development of motivational factors. The determinants of human conduct. Pleasure, pain, reward, and punishment. Part IV The dynamics of adolescent conduct: Adolescent needs and desires. Psychosexual development during adolescence. Development of interests and attitudes. Development of values, ideals, and principles. Part V, The nature and development of temperament and character: Emotional development in adolescence. Moral and religious development during adolescence. Part VI, Social development in adolescence—growth in personality Part VII, Sensory and intellectual development during adolescence: Development of the psychophysical functions. The development of intelligence. Bibliography Glossary Index.

Note A broad and readable account of the psychological development of adolescents, addressed to parents, teachers, and college students. Throughout the book, emphasis is given to explanations of why young people behave as they do, rather than to descriptions of typical behavior patterns. The importance of social pressures in the development of personality is given considerable attention, and there are frequent mentions of fundamental studies and experiments in this sphere. Each chapter concludes with a selected list of readings. The latter are supplemented with an 11-page bibliography.

SYMONDS PERCIVAL MALLON

Adolescent fantasy an investigation of the picture-story method of personality study New York Columbia University Press 1949 397 p. illus. 24 cm. $6.00 5058

Contents. Introduction. A review of literature on the thematic apperception test. The pictures and the data of the study. Theme analysis. Inventory of themes in adolescent fantasy Norms on the picture-story test. Comparison of fantasy and character. Associations to the stories. Study of quantitative relationships. Final selection of pictures, with data on the fantasy value of the pictures. Significance of fantasy in personality. Implications of fantasy for counseling and psychotherapy. Characteristics of adolescent fantasy. Case of Jack. Case of Jimmy. Summary and conclusions. Appendixes: Sketches of the forty cases. Personality traits of the forty cases as inferred from the stories and as observed in real life. Theme headings. Frequency of themes by picture. Correlation tables. Bibliography on the thematic apperception test. Index.

Note: The findings of a systematic study of 40-normal students equally divided as to sex and selected from junior and senior public schools are presented in this book. The main technique in the study was the use of the thematic apperception test, and 42 original pictures designed especially for the elicitation of adolescent fantasy were used in the test. These pictures are reproduced at the end of the book. The stories as told by the subjects are analyzed in detail according to accepted psychoanalytic concepts and the author states, "The picture of the adolescent which this study presents agrees closely with psychoanalytically oriented analyses of the adolescent years." The thematic apperception test is shown to be a valuable research technique in the study of the personality of adolescence.

GARRISON, KARL C

Psychology of adolescence Fifth edition Englewood Cliffs, N J Prentice-Hall, Inc., 1956 529 p illus. 23 cm $6 00 5049

Contents Part I, Introduction The adolescent age. Part II, Growth and development in adolescence: Physiological growth and development. Physical and motor development. Intellectual development. Emotional and social growth. Part III, Personality and adjustment in adolescence Changes of interests with age. Growth in attitudes and beliefs. Ideals, morals, and religion. The adolescent personality Personal and social adjustments. The hygiene of adolescence. Part IV Social forces affecting the adolescent The adolescent at home. The adolescent and his peers. The adolescent in the community The adolescent at school. Educational and vocational guidance. Juvenile delinquency Part V The end of adolescence From adolescence to maturity Appendix. Index of authors. Index of subjects.

Note A standard textbook of which five editions have been published since 1934. It is addressed to graduate college students and deals with problems of special significance to young people who are in the latter stages of adolescence. Problems of personality and adjustment are emphasized. The book also introduces the student to basic experimental study thus laying the foundation for a critical appreciation of the current literature in the field. References are made to many research studies. For the fifth edition, the author made revisions in the text of most chapters, in order to incorporate the results of studies published since the fourth edition was written, and added recent literature to the bibliographies. The annotated bibliography of popular literature touching upon adolescence, presented in an appendix, also was revised.

HAVIGHUST, ROBERT JAMES, AND HILDA TABA

Adolescent character and personality By Robert J Havighurst and Hilda Taba, of The Committee on Human Development, of the University of Chicago In collaboration with Andrew W Brown and others New York John Wiley & Sons Inc. 1949 315 p illus 22 cm $5 25 5050

Content Part 1 Overview of the studies, by R. J Havighurst and H. Taba The problem of studying character The community setting. Subjects and procedures. Part 2 Group studies Community factors in relation to character formation, by R. J Havighurst and D Neubauer Social class and school adjustment in relation to character reputation, by N L. Weckler The relation of the church to character formation, by D Neubauer The role of adults outside the family in character formation, by R. J Havighurst and A. F Rieger Moral beliefs and the ability to apply them in solving problems of conduct, by H. Taba. The relation of values to character by M. Dorr and R. J Havighurst. Personal-social adjustment and character reputation, by F A. Kingsbury Part 3 Character and personality types, by M Dorr and others Studies of individuals. The self-directive person. The adaptive person. The submissive person. The defiant person. The unadjusted person. Part 4 Suggestions for character education Conclusions and implications, by R. J Havighurst and others. Part 5 Methods of studying character and personality Methods of studying character reputation by F A. Kingsbury and N L. Weckler Methods of determining social status, by W L. Warner and others. Methods of studying affectional family relationships, by A. W Brown and others. Methods of studying the role of adults outside the family by R. J Havighurst. Methods of studying moral beliefs, by H. Taba. Methods of studying values, by M Dorr and R. J Havighurst. Methods of studying personal-social adjustment, by F A. Kingsbury Interviewing and miscellaneous methods, by D Neubauer and R. J Havighurst. Comparison of these studies with the Character Education Inquiry by N L. Weckler Index.

Note. A report of field work carried on in Prairie City small pseudonymous laboratory city typical of midwestern communities, by the Committee on Human Development and interdepartmental group representatives of the biological and social sciences at the University of Chicago. The book covers character development in youths of this city who are 16 years of age hen the study was begun. The final part of the volume records some of the tests and questionnaires that are used in the studies. The book is especially intended for social workers, teachers, and other persons who work ith youth.

HORROCKS, JOHN E

The psychology of adolescence. Boston Houghton Mifflin Company, Inc., 1951 614 p illus. 23 cm $5 75 5051

Contents Part one, The adolescent period The nature of adolescence. Part two, The adolescent and his relation to others: The adolescent and his family Social adjustment. Friendships and personal acceptability Adolescent groups and group membership. Heterosexual relations. Part three, Development and growth. Intellectual development. Physical growth. Physiological and anatomical development. Strength and motor abilities. Part four, Adolescent activities and interests Nature and importance of interests and activities. Interests and the media of communication. Vocational interests and aptitudes. Attitudes and ideals. Part five, An overview of behavior: The bases and outcomes of adolescent behavior. The case of Mary Marlowe—an example of adolescent behavior Index of authors. Index of subjects.

Note. A comprehensive overview of the psychology of adolescence, strongest perhaps in its discussion of development and growth, and less strong in its discussion of vocational interests and aptitudes. It is well written, readable, well documented and the selection of source materials has been critically done.

HURLOCK, ELIZABETH B

Adolescent development. Second edition. New York McGraw Hill Book Company Inc., 1955 590 p illus. 24 cm. (McGraw Hill series in psychology, Clifford T Morgan, consulting editor) $6 50 5052

Contents. Adolescence—age of transition. Puberty changes. Psychological significance of body changes. Emotions in adolescence. Social behavior Social adjustments. Adolescent interests. Personal interests. Adolescent recreations. Religious beliefs and attitudes. Moral concepts and behavior Sex interests. Dating and courtship. Family relationships. Personality Bibliography Visual bibliography Name index. Subject index.

Note. A well-written summary of accumulated knowledge concerning the behavior interests and attitudes of boys and girls between the ages of 10 and 21 years. It is used as a textbook in the field of adolescent psychology and also as a source of information for interested parents, teachers, social workers and physicians. The field is covered in considerable detail, and the information has been drawn from wide range of literature, including both popular and professional publications. The first edition was published in 1949 The chapter on family relationships in this second edition is new and all of the other chapters have been revised, some of them ery extens ely in order to give more emphasis to the findings of recent research. References to important older studies have been retained in the bibliography although less space is given to them in the text itself Retention of older references plus addition of references to the new literature—some of it published as recently as 1954—has extended the bibliography from 23 pages to 42.

JONES, HAROLD ELLIS

Development in adolescence. Approaches to the study of the individual New York D Appleton-Century Company Inc. 1943 166 p illus. 21 cm (The Century psychology series R M Elliott, editor) $2 75 5053

Contents Here John was at home Into adolescence. John as seen by his teachers and classmates. John as a member of social groups. Physical development. Motor and mental abilities. Interests and attitudes. An interpretive study of some "underlying tendencies. John as he saw himself. The struggle for maturity Index.

Note An extended case history of adolescence based on records obtained for single individual over period of seven years. The person called John was selected from grade-group of urban public school children. The growth study, continuing to the end of senior high school, includes physical and physiological measurements and records of various aspects of behavioral development during adolescence, with emphasis on this particular individual's handicaps and adjustments. The research on which the book is based was done at the Institute of Child Welfare at the University of California.

KUHLEN, RAYMOND G

The psychology of adolescent development (under the editorship of Gardner Murphy)

CRAWFORD ALBERT BEECHER AND PAUL S BURNHAM

Forecasting college achievement a survey of aptitude tests for higher education. Part 1, General considerations in the measurement of academic promise. New Haven Yale University Press, 1946. 291 p. illus. 24 cm. $5.00. 5065

Contents: Background of educational measurements. The measurement of educational performance and basic statistical principles. Differential aptitude and general intelligence tests. Achievement testing. A sample aptitude battery. Century tests and primary abilities. Test construction and the measurement of "idiosyncrasies." Appendices: Practice booklet (Yale battery). Tables supplementary to the text of Chapters and ix. References and author index. General index.

Note: A detailed study on the professional level of the nature and usability of various types of aptitude tests designed to forecast "individual relative promise for differential types of study and of agreement with them." Some comparison with the volume essay type of examination is included. The work is related but bears little resemblance to manual of educational aptitude tests prepared by the same author for the American Council on Education and issued in preliminary form in 1942. The present volume deals with general types and specifically with guidance tests used in high schools and through the first college year. Also, it discusses selected aspects of College Entrance Examination Board tests. Both authors are associated with the Student Appointment Bureau of Yale University.

CRONBACH LEE JOSEPH

Essentials of psychological testing. Under the editorship of Gardner Murphy New York, Harper & Brothers, 1949 475 p. illus. 24 cm. $5.00. 5066

Contents: Part 1, Basic concepts. Who uses tests? Purposes and types of tests. Interpreting test scores. How to choose tests. How to give tests. Part 2, Tests of ability The Binet scale and its descendants. Mental diagnosis, the Wechsler test. Other tests of general ability Factor analysis: the pattern of abilities. Tests of special abilities. Problems in prediction, prognostic tests. Measures of achievement. Part 3, Testing of typical performance: Problems and practices. Self-report techniques—personality Self-report techniques—interests. The use of test results in counseling. Self-report techniques—attitudes. Observation of behavior in normal situations. Observation in test situations. Projective techniques. Appendixes: Reviews of studies of testing. Principal test publishers and distributors. Author index. Subject index.

Note: A textbook for college students. The author recognizes that the multiplication of available tests makes it impossible for the student to study them all and consequently concentrates on the basic principles of testing in order that the student may learn to choose tests wisely for particular needs and to be aware of the weaknesses of whatever tests he uses. At the same time, he introduces the tests most widely used and most widely cited in the literature of the subject and, by critical analysis of such tests, provides examples of the application of the underlying principles. A selective summary listing of tests is included in many of the chapters, with accompanying critical remarks from qualified reviewers. Suggested readings and references appear at the conclusion of each chapter.

FERGUSON LEONARD W

Personality measurement. New York McGraw Hill Book Company Inc., 1952 457 p. illus. 24 cm. (McGraw Hill publications in psychology Clifford T Morgan, consulting editor) $6.50 5067

Contents (abridged): Fundamental concepts. Intuitive or empirical approach—a rational approach. Attitudes—an [illegible] approach. Personality unidimensional approaches—multidimensional approaches. Adjustment, diagnostic approaches—prognostic approaches. Interests, nomothetic approaches—analytical approaches. Projective techniques, perceptual approach—an empirical approach. Performance, observational approaches—experimental approaches. Evaluation and summary. References. Index.

Note: The chief virtue of this book is its detailed analysis of the preparation of objective (questionnaire) tests for personality traits. Its chief defect is the slight attention given to projective devices. It is designed for undergraduate majors or beginning graduate students in psychology but can be used with little effort by sociologists and others lacking technical psychological training.

GOODENOUGH FLORENCE LAURA

Mental testing its history principles, and applications. New York Rinehart & Company Inc., 1949 609 p. illus. 24 cm. $6.50 5068

Contents (abridged): Part 1, Historical orientation: The social need for mental diagnosis. The educational need. The early tests, 1887–1915. Later developments. Part 2, Principles and methods: The bearing of testing theory upon test interpretation. The analysis and selection of test items. Units of measurement. Age standards and quotients as interpretative measures. Means, medians, and percentiles. Other devices for interpreting test scores. Testing the tests. Analysis of variance. Some questions of mental organization. Part 3, Tests and scales: The conduct of an examination, with particular reference to the testing of young or difficult children. The measurement of special talents and deficiencies. The measurement of motor development and motor skill. The measurement of interests and attitudes. The measurement of personal-social characteristics. Projective methods for the study of personality. Tests for vocational guidance. Part 4, Applications: Testing in schools and colleges. Testing in clinical practice. The use of tests in industry. Testing the Armed Forces. The use of tests in the study of group differences. Glossary. Bibliography. Author index. Subject index.

Note: A general survey of the development and current status of mental testing and mental tests. Particular attention is paid to the history of testing, the currently understood basic principles of testing, and to the chief types of tests. The book is useful to persons who want an inclusive and fairly detailed view of the subject, especially educators and others who are concerned with the selection and administration of tests.

GREEN HARRY A., AND OTHERS

Measurement and evaluation in the elementary school. By Harry A. Green, Albert Jorgensen, and J Raymond Gerberich. Second edition. New York Longmans, Green and Company 1953 617 p. illus. 22 cm. $5.00 5069

Contents: Measurement, evaluation, and the classroom teacher. Development of educational and mental measurement. Education and mental measuring instruments and techniques. Essential qualities of good measuring instruments or techniques. Constructing and using standardized tests. Constructing and using oral and essay tests. Constructing and using informal objective tests. Constructing and using performance tests. Constructing and using evaluation tests and techniques. Using intelligence and aptitude tests. Using personality instruments and techniques. Summarizing the results of measurement. Interpreting the results of measurement. Determining relationships among the results of measurement. Measuring and evaluating in the receptive language arts. Measuring and evaluating in the expressive language arts. Measuring and evaluating in the social studies. Measuring and evaluating in elementary-school mathematics. Measuring and evaluating in the elementary-school sciences. Measuring and evaluating in the fine arts. Measuring and evaluating in health and physical education. Measuring and evaluating general educational achievement. Glossary. Appendix—publishers of tests illustrated and discussed. Index of names. Index of subjects.

Note: A handbook used both for instruction in organized classes in teachers colleges and schools of education, and for reference by practicing teachers. As indicated in its title, it is limited to tests and techniques applicable in the elementary school, but within this limitation it is comprehensive. It covers not only standardized tests but also evaluatory methods including examinations constructed by teachers. The principles of measurement and evaluation, methods of administering tests, interpretation of test results and the actual content of typical tests, are all covered. Literature references are included. The first edition was published in 1942. This second edition represents major revision with much new material. The same authors have produced complementary book for secondary schools, *Measurement and evaluation in the secondary school*, second edition, Longmans, Green and Company 1954 $5.00.

GREENE, EDWARD BARROWS

Measurements of human behavior Revised edition. New York The Odyssey Press, 1952 790 p. illus. 21 cm. $5.00. 5070

PSYCHOLOGICAL TESTING

ABRAMSON, HAROLD ALEXANDER, AND OTHERS

Non projective personality tests. New York The New York Academy of Sciences 1946 148 p illus 23 cm. (New York Academy of Sciences Annals Vol. 46, p 531–678, 1946) $1 75 5059

Contents Part I, Personality inventories: The effect of alcohol on the personality inventory by H. A. Abramson. Psychobiological screening procedures in the War Shipping Administration, by G. G. Killinger and J Zubin. Part II, The Cornell indices and the Cornell word form Construction and standardization, by B. Mittelmann and K. Brodman. *Results*, by A. Weider and D. Wechsler Application, by H. G. Wolff. The Cornell selectee index—an aid in psychiatric diagnosis, by H. J Harris. Part III, Ability patterns and personality The expression of personality and maladjustment in intelligence test results, by R. Schafer Personality and diagnostic evaluation by means of non-projective techniques, by E. Wladkowsky Difference between cases giving valid and invalid personality inventory responses, by Z. A. Piotrowski. Part IV Theory Principles underlying non-projective tests of personality by D. Rapaport. Problems of performance analysis in the study of personality by M. Scheerer

Note The papers comprising this volume were presented at conference held in March, 1945 Various types of nonprojective intelligence tests employed in personality determination are described and evaluated. The discussion includes tests devised for use in selecting military trainees for the United States Army and American Merchant Marine during World War II. There is no index.

AMES, LOUISE BATES, AND OTHERS

Rorschach responses in old age by Louise Bates Ames Janet Learned, Ruth W Métraux and Richard N Walker New York Paul B Hoeber Inc. Medical Book Department of Harper & Brothers 1954 229 p illus. 24 cm $6 75 5060

Content Introduction. Literature. Subjects, methodology and scoring. Classification I cases. Statistical analysis of Rorschach scores. Normal responses. Presenile responses. Senile responses. Other dimensions of classification. Old age and childhood. Area. Determinants. Content. Related concepts. Longitudinal Rorschachs. Summary Appendix Clinical summary tables for normal, presenile and senile responses. References. Index.

Note. This book is the report of a study made "to determine whether or not pattern age changes take place in the human organism in old age as they do in childhood. Two hundred men and women between the ages of 70 and 100 were tested with the Rorschach test, and their responses are analyzed in detail. The tests for some subjects were repeated after a two-year interval and the results of the second tests are presented also.

BAUMAN, MARY KINSEY, AND SAMUEL P HAYES

A manual for the psychological examination of the adult blind. A project of the National Psychological Research Council for the Blind New York The Psychological Corporation 1951 58 p. 23 cm. $1 25 5061

Contents Why special manual for testing the blind These things we all should know Special considerations in the client's history Tests and testing techniques. Reporting the psychological examination. Bibliography Appendix.

Note. The special problems encountered in administering psychological tests to the blind are considered in this booklet The chapter on tests and testing techniques contains descriptions and evaluations of selection of standard tests which have been used or may be used in testing the blind. The book is of interest to graduate psychologists who are concerned with testing of blind persons.

BECK, SAMUEL J

Rorschach's test. New York Grune & Stratton, 1945–52 3 v illus. 24 cm. Vol. I, $4 50, vol II, $5 50, vol. III, $6 00 5062

Contents Vol. I, Basic processes: Experimental procedure. The whole response W Detail and rare detail: D and Dd. Scoring problems. The white space: Ds and Dds. The organization activity: Z. Approach and sequence Ap, Seq. The movement response: M. The color response: C. The light-determined response: Y, V, T Diverse determinants. Important ratios. The form response, F+ and F— The popular response P Content. Scoring record and summary Bibliography Appendix 1. Table of organization (Z) values in the ten figures. Appendix 2 Synopsis of changes from Dd to D. Appendix 3 Graph of approach expectancy for R to 120. Appendix 4 Numeral designations of most frequently selected D and Dd. Index. Vol. II, A variety of personality pictures. Part I: Concerning personality Psychologic significance of the Rorschach test factors. Part II The intelligence curve. The adolescent years. Schizophrenic solutions. Neurotic struggles. Before and after—the test repeated in the same persons. Bibliography Index. Vol. III, Advances in interpretation Concerning the personality Advances in interpretation. An adolescent boy in psychotherapy Acute anxiety in successful man. An engineer and many women. A boy in the Orthogenic School. Synopsis and comment—critical and speculative. Bibliography Index.

Note. A collection of studies based largely on the author's own clinical experiences in using the Rorschach test and on his research. Much that is basic and useful is included on interpretation, and there is much verbatim citation of patients' responses. The first edition of Volume I was published in 1944 and the second edition in 1949 hence a current set consists of Volume I, second edition, 1949 Volume II, 1945 and Volume III, 1952. The author is Head of the Psychology Laboratory of the Department of Neuropsychiatry of the Michael Reese Hospital, Chicago.

BENNETT, GEORGE K , AND OTHERS

Differential aptitude tests manual. By George K Bennett, Harold G Seashore, and Alexander G Wesman Second edition. New York The Psychological Corporation, 1952 77 p illus. 28 cm. $2 00 5063

Contents An integrated battery of guidance tests. Administration and scoring. Norms and profiles. Validity Reliability *Principles of differential measurement*. Appendixes Correlations of the *DAT* with other tests. Development of form B of the *Mechanical Reasoning* test. Bibliography

Note. The *Differential aptitude tests* are a battery of tests developed to provide an integrated, scientific and well standardized procedure for measuring the ability of boys and girls in grades 8 through 12 for purposes of education and vocational guidance. In this manual the eight tests are described, and directions are given for their administration and scoring. A good share of the space is devoted to data on norms, validity reliability etc., of the tests. The manual is addressed primarily to school personnel who use the *Differential aptitude tests* in the testing of students. It is also of interest as an example of well organized test manual to advanced college students and graduates with professional interests in psychological testing. The first edition was published in 1947 The most important new matter in the new edition bears on the validity of the tests as established by research studies.

BUROS, OSCAR KRISEN, editor

The third mental measurements yearbook. New Brunswick Rutgers University Press, 1949 1,047 p. 27 cm $12 50 5064

Contents Tests and reviews. Achievement batteries. Character and personality English. Fine arts. Foreign languages. Intelligence. Mathematics. Miscellaneous. Reading. Science. Social studies. Vocations. Books and reviews. Periodical directory and index. Publishers directory and index. Index of titles. Index of names. Classified index of tests.

Note The sixth in a series of volumes, begun in 1935, designed to aid workers in the fields of education, personnel administration, and psychology in locating and evaluating tests and books on testing. The aim is to include all commercially available tests published in English between October 1940 and December 1947 Section 1 in the above-indicated fields, accompanied by rather than 663 tests in the above-indicated fields, accompanied by rather lengthy reviews and appraisals of the tests A similar arrangement is followed in the second section for 549 books on measurements and related topics. Each section includes extensive bibliographies relating to the test or book under discussion.

and the results are presented in Part two of the book. The essential [illegible] the projection of Rorschach blots on screen [illegible] while the persons being tested [illegible] recorded their responses in specially prepared booklets. [illegible] of this technique the blots are printed in the booklet [illegible] projector is unnecessary. The book is addressed to [illegible] psychologists, and familiarity with the basic Rorschach [illegible] assumed in the treatment. The first edition was published in 1944. Experience acquired since that time in group techniques has been incorporated in this extensively revised edition.

HATHAWAY STARKE ROSECRANS AND PAUL E. MEEHL

An atlas for the clinical use of the MMPI. Minneapolis The University of Minnesota Press, 1951 799 p. 27 cm. $9 75 5076

Contents (abridged) The making of the atlas. Arrangement and description of the data. The use of the atlas and its indexes. Bibliography. Case histories. Low-point index. Contributors' index. Diagnosis index. M? index. L index. F index. K index.

Note A reference book for clinical psychologists who use the Minnesota Multiphasic Personality Inventory. Most of the space is devoted to [illegible] case histories, which are [illegible] of actual records of persons, most of whom were patients of the Psychiatric Unit of the University of Minnesota Hospitals. The histories are coded according to the MMPI profiles. They were selected to provide [illegible] case [illegible] of clinical experience with the MMPI.

KABACK, GOLDIE RUTH

Vocational personalities an application of the Rorschach group method. New York Bureau of Publications, Teachers College, Columbia University 1946 116 p. illus. 23 cm. (Teachers College, Columbia University Contributions to education. No. 924) $2 10. 5077

Contents Introduction: methods frequently used to investigate [illegible]. The problem. Rorschach investigations and procedures used in this study. The subjects of this study. Analysis of the [illegible]. The relationships between Rorschach components. Summary and conclusions. Bibliography. Appendices.

Note Rorschach practitioners in the United States of America have widely urged the adoption of the Rorschach technique for vocational guidance and vocational selection, contending that [illegible] and personality can be determined from Rorschach records, and claiming that the Rorschach test can be of considerable help in selecting persons for positions requiring certain personality traits and in guiding students with respect to educational training and vocational preparation. The study reported in this book was undertaken to investigate the validity of these claims. [illegible] groups totaling 434 individuals were tested with the Rorschach group method, from which 300 records were used in this study: 75 pharmacists, 75 accountants, 75 pharmacy students, 75 accountancy students; 134 [illegible] records were not included. The [illegible] are recorded in detail for these groups, and conclusions are drawn from the results.

KELLY E. LOWELL, AND DONALD W FISKE

The prediction of performance in clinical psychology Ann Arbor *University of Michigan Press*, 1951 311 p. illus. 28 cm. $5.00. 5078

Contents An overview of the project. Sequential phases of the research. The subjects and their training. Predictors. Analyses of predictive measures. The criterion problem. Conventional criteria of professional success. The measurement of diagnostic competence. The measurement of therapeutic competence. The measurement of research competence. The evaluation of other professional qualifications. A prediction problem. Validity of university predictions. The validity of objective tests. The validities of assessment ratings. The prediction of specific criteria in [illegible]. Summary and discussion. List of appendices. Bibliography. Index of names. Index.

Note A book which had its origin in research carried out at the University of Michigan in the years 1946–51 for the Veterans' Administration. The purpose of the research was to develop [illegible] selection program for the selection of trainees in clinical psychology. Specifically [illegible] the project was concerned with the selection of graduate students for training in [illegible] four-year doctoral program in clinical psychology. The primary objective was the evaluation of selection procedures. The techniques of the study and the results are presented in detail. The book is of interest not only to persons who are concerned with the selection of students for training in clinical psychology but also to those who are concerned with the selection of professional personnel in general.

KLOPFER, BRUNO, AND OTHERS

Developments in the Rorschach technique. Volume I, Technique and theory By Bruno *Klopfer* Mary Ainsworth Walter G Klopfer, Robert R. Holt. Yonkers N Y World Book Company *1954 726 p. illus. 23 cm.* $7.50 5079

Contents (abridged) Part I, *Administration and scoring*. Part II, Interpretation Quantitative analysis. Sequence analysis. Evaluation of intellectual level, control, creative potential, and the intravert-extratensive relationship. Interpretative hypotheses derived from the analysis of content. Part III, Theory Problems of validation. Implications of some contemporary personality theories for Rorschach rationale. Rorschach hypotheses and ego psychology. Part IV Reporting of findings. Principles of report writing. Illustrative case study. Rorschach prognostic rating scale. Appendix: Freudian and Jungian approaches to the development of ego and self. Index of names. Index of subject matter.

—— *Volume II, Fields of application.* By Bruno Klopfer with contributions by Mary D Ainsworth and others. Yonkers, N Y World Book Company 1956 828 p. illus. 23 cm. $8.50 5080

Contents: Part I, Genetic psychology Problems in the use of the Rorschach technique with children, by B. Klopfer and others. The interpretation of children's records, by B. Klopfer and others. Rorschach [illegible] in child therapy—a case study by M. Spiegelman, and B. Klopfer. The psychological significance of age patterns in the Rorschach records of children, by L. Fox. The development of perception in the Rorschach, by G. Meili-Dworetzki. The use of the Rorschach technique in child guidance clinics, by D V Anderson and R. Higham. The application of the Rorschach technique to geriatrics, by W G. Klopfer. Part II, Medical psychology The clinical situation, by B. Klopfer Methodological research problems, by B. Klopfer and M Spiegelman. Differential diagnosis, by B. Klopfer and M. Spiegelman. Diagnosis of organic brain damage in the adult, by G. Baker Diagnostic case studies of male adults having organic brain damage, by G. Baker. Part III, Social psychology anthropology and industrial psychology: The Rorschach technique in social psychology by M. Spiegelman. The Rorschach technique in personality and culture studies, by A. I. Hallowell. The Rorschach technique in industrial psychology by G. Williams and [illegible]. Top management and the Rorschach technique, by R. F [illegible]. Part IV Diagnostic practice and projective theory Some relationships between the Rorschach technique and other psychodiagnostic tests, by E. [illegible]. A re-evaluation of projective theory by H. [illegible]. Bibliography by M. D. [illegible]. Cumulative indexes, Volumes I and II, by M. D Ainsworth.

Note These complementary volumes cover at [illegible] graduate-professional level the administration, scoring, interpretation, and fields of application of the Rorschach test. A full-length case study is included in the first volume, and [illegible] comprehensive bibliography in the second volume. The bibliography is in two parts, one covering the literature to 1955 and arranged alphabetically by authors' names, the other covering the literature published 1945–55 and arranged by topic. The work is more advanced, more detailed and more up-to-date than *The Rorschach technique*, by B. Klopfer and D. M. Kelly described below

KLOPFER, BRUNO AND DOUGLAS MCGLASHAN KELLEY

The Rorschach technique a manual for a projective method of personality diagnosis. By Bruno Klopfer clinical contributions by *Douglas McGlashan Kelley* With 1946 supplement by Bruno Klopfer and Helen H. Davidson. Yonkers, N Y World Book Company 1946 475 p *20 cm. illus.* $5.00 5081

Contents Part one, Achievement and aptitude: Introduction. Types of appraisals. Characteristics of good instrument. Construction of test items. Tests of early childhood. Individual tests of ability Measures of educational achievement. Group tests of ability Mechanical and motor tests. Tests of special aptitudes. Military development of tests and ratings. Part two, Elementary statistics: The interpretation of scores. Measures of relationship Factorial analyses. Part three, Dynamic patterns: Personality—dynamic theory and structure. Types of estimates. Drawing, painting, and handwriting. Stories and fantasies. Play and drama. Interests. Appraisals of attitudes. Personality inventories. Rorschach techniques. Observations of behavior Appendixes Publishers of tests and inventories. Classified list of tests and inventories. Index of authors. Subject index.

Note An established textbook and reference manual. It provides at the same time comprehensive view of behavioral measurement techniques and descriptive analyses of wide variety of tests. The classified list of tests and inventories included as an appendix runs to 27 pages. The first edition was published in 1941. In the present edition, the work has been rearranged, partially rewritten, and widely revised so as to include material that has become available since 1941 Two completely new chapters deal with military contributions (the results of World War II experience) and personality theories. The useful lists in the appendixes also are new additions. The extensive bibliography which serves also as the author index, has been revised.

GUILFORD, J P

Psychometric methods. Second edition. New York McGraw Hill Book Company, Inc. 1954 597 p illus 23 cm (McGraw Hill publications in psychology Clifford T Morgan, consulting editor) $8 50 5071

Contents Psychological measurement. Psychological theory A mathematical introduction. The method of average error Method of minimal changes. The constant methods. The method of pair comparisons. The method of rank order. Scaling from interval and ratio judgments. The method of successive categories and other scaling methods and problems. Rating scales. Principles of judgment. Theory of psychological tests. Reliability and validity of measures. Test development. Factor analysis. Appendix.

Note A comprehensive view of psychological measurement with emphasis on the fundamental unity of all measurement techniques is presented in this book. The first edition was published in 1936. The book was reorganized and considerable amount of new matter was added in this second edition.

GULLIKSEN, HAROLD

Theory of mental tests. New York John Wiley & Sons, Inc. 1950 486 p. illus 23 cm (Wiley publications in psychology Herbert S Langfeld, advisory editor) $7 50 5072

Contents (abridged) Basic equations derived from definition of random error Fundamental equations derived from a definition of true score. Errors of measurement, substitution, and prediction. Effect of test length on mean and variance. Effect of test length on reliability Effect of test length on validity Effect of group heterogeneity on test reliability Correction for univariate selection in the three-variable case Correction for multivariate selection in the general case A statistical criterion for parallel tests. Experimental methods of obtaining test reliability Reliability estimated from item homogeneity Speed versus power tests. Methods of scoring tests. Problems of eighting and differential prediction. Item analysis. Bibliography Appendixes Author index. Topic index.

Note The subject of this book is the mathematical theory and statistical methods used in interpreting psychological results. It is well-organized, advanced textbook which can also serve as reference book. The author who is Research Adviser for the Educational Testing Service at Princeton and Professor of Psychology at Princeton University points out that, although the book is primarily for those working in test development, the techniques are applicable in fields other than test construction, such as measurement of attitudes or opinions, appraisal of personality and clinical diagnosis. Illustrative computing diagrams are given for those formulas simple enough to be changed into linear form. The book brings together the technical developments in test theory of the first half of the 20th century and in its introduction goes back to the beginnings in the 1890's. There is a comprehensive bibliography

HALPERN, FLORENCE

A clinical approach to children's Rorschachs New York Grune & Stratton, 1953 270 p 24 cm $7 00 5073

Contents Theoretical concepts. Test administration. Scoring. The significance of the test factors. The nature of the stimulus. General interpretive problems. The well adjusted child. The emotionally disturbed child. Schizophrenia. Organic disorders of the central nervous system. Mental retardation. The Rorschach test and psychotherapy Selected bibliography Index.

Note A useful book based on an extensive experience in testing children with the Rorschach test. It is concerned only with the use of this test on children two and one-half years to 10 years of age. The chapter on test administration contains helpful suggestions, particularly on the testing of very young children. Most of the space is appropriately devoted to interpretation of test scores. The discussions of interpretative techniques and special problems are supplemented by 40 actual case records. The book is directed to graduate students and practicing clinical psychologists.

HARRIS, ROBERT E , AND OTHERS

Recent advances in diagnostic psychological testing, a critical summary Springfield, Ill Charles C Thomas, 1950 120 p. 22 cm. (American lecture series. Publication number 81 A monograph in American lectures in psychology, edited by Molly R. Harrower) $2 75 5074

Contents. Contemporary trends in psychodiagnosis, by J. G. Miller Psychodiagnostic testing in psychiatry and psychosomatic medicine, by R. E. Harris. Neuropsychology by H. L. Teuber: Occipital lobes. The temporal lobes. The parietal lobes. The frontal lobes. Interpretations. References. The application of diagnostic psychological methods to counseling and psychotherapy by G. A. Muench Treatability of patients. Success of therapy Process of therapy Comparative evaluation of therapeutic techniques. Tests as therapeutic agents. Development of new types of diagnostic devices. The personality of the therapist. References. Recent developments in diagnostic testing of children, by L. J. Stone. Basic concepts of development and personality Diagnostic advances in nonprojective testing methods. Diagnostic advances in projective techniques. Conclusions. References. Test construction and methodology by J. Zubin.

Note This publication contains concise reviews of the recent applications of diagnostic psychological methods in the fields of counseling, psychotherapy psychiatry psychosomatic medicine, clinical neurology and child development. Advances in mental test construction and interpretation are described and discussed, and the direction of future research is considered. The papers were originally read at the Symposium on Recent Advances in Diagnostic Techniques at the 1948 Boston meeting of the American Psychological Association.

HARROWER, MOLLY RACHEL, AND M E. STEINER

Large scale Rorschach techniques. Second edition A manual for the group Rorschach and multiple choice tests With contributions by Floyd O Due, Beatrice A. Wright, and M Erik Wright. Springfield Ill Charles C Thomas, 1951 353 p illus. 24 cm. (American lecture series. Publication number 82 A monograph in American lectures in psychology edited by M. R. Harrower) $9.00 5075

Contents (abridged) The group Rorschach—development, administration, scoring. Analysis of group Rorschach material in terms of location, determinants, and content. A multiple choice test for screening purposes. Recent developments in group techniques for the Rorschach test. An analysis of content. A statistical study of card-pull. Index.

Note. A pioneer work in the administration of the Rorschach ink-blot test to groups of persons rather than to individuals. It was based originally upon an experimental investigation of the group technique, in which 340 persons took part and gave total of 8,526 responses. These responses were analyzed from various standpoints,

Contents: Volume i. Part i, Introduction. Part ii, Diagnostic intelligence testing: The nature of intelligence. The Bellevue scale. The Babcock test. Part iii, Diagnostic testing of concept formation: Introduction to the testing of concept formation. Verbal concept formation. The sorting test. The Hanfmann-Kasanin test. Patterns of achievement on the three concept formation tests. Bibliography. Appendices: Vital data of our clinical and control population. Tables—Group averages and individual scores. Review of literature, by Martin Mayman. Indexes. Volume ii. Part iv, Diagnostic testing of personality and ideational content: Introduction. The word association test. The Rorschach test. The thematic apperception test. Diagnosing with a battery of tests. Appendices: Tabulations on the Rorschach scores of each subject of our research population. Extracts of deviant verbalizations on the Rorschach test. Review of the literature on the tests treated in this volume. Indexes.

Note: A detailed study, based on the clinical investigations of the authors, of the techniques and results of using in psychiatric diagnosis a battery of seven tests: The Wechsler-Bellevue intelligence scale, the Babcock test, the Sorting test, the Hanfmann-Kasanin test, the Word association test, the Rorschach test, and the Thematic apperception test. Each test is described, the psychological rationale of the function underlying achievement on the test is explained, administration of the test in the clinic is discussed, then the results are presented chiefly in the form of statistical data. The work is also outstanding for its discussions of hypothesis and its attempt at a basic theory. It is intended for professional psychiatrists.

ROSENZWEIG SAUL

Psychodiagnosis an introduction to the integration of tests in dynamic clinical practice. With the collaboration of Kate Levine Logan. New York Grune & Stratton 1949 380 p. illus. 22 cm. $5.00. 5088

Contents: Part i, Introduction: Clinical psychology as psychodiagnostic art. Part ii, The range of available instruments. Scope. Tests of general intelligence. Measures of intellectual deviation. Vocational aptitude and interest tests. Personality inventories. Projective methods. Part iii, The process of psychodiagnostic integration. The picture of the individual. Young woman with headaches concerning adult status. A child with problems of post-encephalitic origin. An adolescent with episodes of manic excitement. Part iv, A variety of applications: The province of clinical practice. Psychotic reaction to military service. Psychotic reactions. Evaluation of limited intellectual capacity. Defect of function from neurological damage. Maladjustment in later maturity. Somatic complaints as an expression of personality. Anxiety as a pattern of reaction. Casebook on an anonymous basis. Part v, The future. Psychodiagnosis as science. Bibliography. Index.

Note: This book attempts to integrate the objective tests of cognitive function and of personality with projective devices. By use of case materials in which several tests are compared and related to one another, the author demonstrates the clinical use of personality evaluations in obtaining a total picture of the individual. Primarily for graduate students and professional psychologists.

SARASON SEYMOUR B

The clinical interaction with special reference to the Rorschach. New York Harper & Brothers, 1954 425 p. illus. 21 cm. $5.00. 5089

Contents: Part i, Situational variables: Overt and covert behavior. The nature of the instructions and the purpose of the interaction. Stimulus task and time and place of interaction. The psychologist as a variable. Attitudinal factors related to previous learning. Prediction and situational similarity. Conditions for evaluating responses. Part ii, The Rorschach: The instructions. The external stimulus—location of response—color—shading. Internal factors—movement. The plain form (F) response and form quality. The content of the response. The psychologist. Part iii, Individual interpretation: Some major assumptions. Six cases. Bibliography. Author index. Subject index.

Note: Although the contents of some of the chapters of this book have implications for interactions between persons in general, it is primarily a study of variables in the interactions between therapist and patient in psychological interviewing and testing. For example, it is shown in the chapter on the psychologist as a variable that such factors as differences in age, social status and race between psychologist and patient appear to affect the patient's responses to test situations. Other variable factors, some of which are mentioned in the chapter titles of Part i as listed above, have equal significance and are fully discussed. In the second and major part of the book, the relevance of variables in testing patients with the Rorschach test are discussed specifically and in detail. In the chapter entitled, "Six cases," the Rorschach protocols of six actual cases are presented and are analyzed card by card. Although the book is of most value to those who use the Rorschach test, the author makes it clear that the problem of relations in clinical interactions between psychologist and patient is not confined to the Rorschach test but is important in most methods of interviewing and testing.

SARGENT HELEN D

The insight test a verbal projective test for personality study New York Grune & Stratton, 1953 276 p 24 cm. (The Menninger Clinic *monograph series no.* 10) $7.50. 5090

Contents: Part i, The test: Orientation. Stimulus material. The response data. Interpretation. Part ii, Illustrative protocols: Diagnosis and reporting. Schizophrenia. Paranoids. Hysterics. Obsessive-compulsives. Character disorders. Other conditions. Blind clients of social agencies. Concluding note. References. Appendices. Index.

Note: The projective test described in this monograph was originated by its author, who first introduced it in a monograph published in *Psychological monographs,* 57 1944. The test is designed to measure the subject's defense strategies, the self-concept, and various modes of seeking solutions to emotional problems. Its technique is fully explored in this book, which is based on seven years of clinical experience with it by the author and other psychologists. Numerous protocols of actual tests are included, and methods of scoring and interpretation are fully described.

SCHAFER, ROY

The clinical application of psychological tests diagnostic summaries and case studies. Foreword by David Rapaport The Menninger Foundation. New York International Universities Press, Inc., 1948. 346 p. 24 cm. (The Menninger Foundation monograph series. No. 6) $6.75 5091

Contents: Foreword, by D. Rapaport. General considerations. Diagnostic summaries. Case studies, border case studies. Concluding remarks. Scoring symbols for the Rorschach test. Index.

Note: This work is designed as a supplement, or sequel, to *Diagnostic psychological testing,* by D. Rapaport and others, and described above. It supplies condensed diagnostic summaries and numerous studies of individual cases in which batteries of tests were used, following the methods described in the earlier work.

SCHAFER ROY

Psychoanalytic interpretation in Rorschach testing theory and application. New York Grune & Stratton 1954 446 p. 24 cm. (Austen Riggs Foundation. Monograph series No. 3) $8 75 5092

Contents: Introduction. Interpersonal dynamics in the test situation. The response process. Thematic analysis. Criteria for judging the adequacy of interpretations. Introduction to the interpretation of defenses. Repression. Denial. Projection. Obsessive-compulsive defensive operations. Retrospect and prospect. Bibliography. Index.

Note: An introduction, but a substantial one, to the contributions that analysis has made and can make to the theory and interpretation of psychological tests. Although limited to Rorschach testing, implications for other methods of testing are indicated. It is addressed to such readers as clinical psychologists who have completed basic training in the administration, scoring, and interpretation of Rorschach tests, and who also have a basic knowledge of psychoanalytic theory. The chapter on Interpersonal dynamics in the test situation is a long one, well worth reading by all clinical psychologists. In the part of the book that begins with the chapter entitled "Introduction to the interpretation of defenses," the classic defense mechanisms, such as repression, projection, denial, and the obsessive-compulsive constellary of regression, isolation, reaction formation, and undoing, are discussed in relation to Rorschach test responses. These discussions include analyses of illustrative test records. A selected but extensive bibliography is included.

Contents. Part I History of the Rorschach method. Methodological problems. Part II: The technique of administration. General scoring problems. Scoring categories for location of responses. Scoring categories for determinants. Scoring categories for content. The technique of tabulation and the use of the record blank. Part III, General interpretation problems. The general personality structure. Intellectual aspects of personality Emotional aspects of personality Appendix to Part III. Part IV Clinical diagnosis. Intracranial organic pathology Dementia praecox. Mental deficiency Convulsive states. Psychoneuroses. Depressive states. Miscellaneous clinical problems. Bibliography 1946 supplement. Supplementary bibliography Index.

Note: A pioneering work on the clinical uses of the Rorschach technique. It was first published in 1942 and was reissued in 1946 with supplement as noted above. It is shorter and simpler than the two-volume *Developments in the Rorschach technique*, and therefore is more suited to use as an introduction to the subject. It contains a main bibliography covering the literature through September 1941. These bibliographies, however were combined in one alphabet and republished in the two-volume work.

LINDQUIST, EVERET FRANKLIN, editor
Educational measurement. Washington, D C. American Council on Education, 1951 819 p illus. 25 cm. $6 00 5082

Contents Foreword, by G. F Zook. Part one. The functions of measurement in education The functions of measurement in the facilitation of learning, by W W Cook. The functions of measurement in improving instruction, by R. W Tyler The functions of measurement in counseling, by J G. Darley and G. V Anderson. The functions of measurement in educational placement, by H. Chauncey and N Frederiksen. Part two, The construction of achievement tests Preliminary considerations in objective test construction, by E. F Lindquist. Planning the objective test, by K. W Vaughn. Writing the test item, by R. L. Ebel. The experimental tryout of test materials, by H. S. Conrad. Item selection techniques, by F B. Davis. Administering and scoring the objective test, by A. E. Traxler Reproducing the test, by G. Spaulding. Performance tests of educational achievement, by D G. Ryans and N Frederiksen. The essay type of examination, by J M. Stalnaker Part three, Measurement theory The fundamental nature of measurement, by I. Lorge. Reliability by R. L. Thorndike. Validity by E. E. Cureton. Units, scores, and norms, by J C. Flanagan. Batteries and profiles, by C. I. Mosier Index.

Note A reference work and textbook sponsored by the American Council on Education's Educational Advisory Committee, Measurement Book Project. The various chapters are written especially for the volume by recognized authorities on educational testing. The treatment is on the graduate level, and the book is of interest to graduate students in the field of educational testing and to psychologists, educators and others with professional interests in the subject. Extensive lists of references to the literature are included.

MAURER, KATHARINE (MATHER)
Intellectual status at maturity as a criterion for selecting items in preschool tests Minneapolis The University of Minnesota Press, 1946 166 p illus 23 cm. (University of Minnesota. The Institute of Child Welfare. Monograph series no XXI) $2 50 5083

Contents Introduction. The problem. The subjects of the terminal status study Collection and analysis of the data. Validation. Discussion of the results. Interpretation. Bibliography Appendices. Interests questionnaire. Directions for administering the Minnesota preschool scale, forms A and B Graphs showing the percentage of subjects (N = 180) passing each item of the Minnesota preschool scale, forms A and B at each of nine age levels. Indexes.

Note A study intended to aid psychologists in preparing tests for predicting the future psychological development of children. It is based mainly on measurements made with the Wells revision of the Army Alpha test of 226 young men and women between the ages of 16½ and 22 years, all of whom had been tested before the age of six with the Minnesota pre-school scales. Analysis of results from the army test conclusively showed that only about one half of the items found in the usual type of children's predictive test have any significance for long-range prediction of the child's probable development. Much of the information is given in tabular or graphical form.

MICHEELS, WILLIAM JORDAN, AND M RAY KARNES
Measuring educational achievement. New York McGraw Hill Book Company, Inc., 1950 496 p. illus 24 cm. (McGraw Hill series in education, Harold Benjamin, consulting editor) $5 75 5084

Contents. An introduction to measurement. Kinds and types of evaluating instruments. Purposes of evaluation. What makes a good test. General principles of test construction. Multiple-choice items. True-false items. Matching items. Recall items. Modified, adapted, and combined items. Object tests. Manipulative-performance tests. Observation and evaluation. Evaluating major projects. Interpreting test data and assigning marks. Analyzing and improving tests. Improving your instruction—a challenge. Index.

Note: General aspects of the use of tests in measuring educational achievements are discussed in the first three chapters of this book for professional teachers. The remainder is devoted to the principles and techniques of test construction. The purpose is to aid teachers in constructing tests and using them. Many of the examples are of tests suitable for use in connection with vocational education. However the general principles stated are generally applicable to educational tests.

PASCAL, GERALD R., AND BARBARA J SUTTELL
The Bender Gestalt test, quantification and validity for adults. Foreword by David G Wright. New York Grune & Stratton, 1951 274 p. illus. 26 cm. $6.50 5085

Contents. Part I, Quantification: Introduction. Administration and scoring. Reliability Test standardization. Test validity Part II, Clinical use of the Bender-Gestalt test: Introduction. The records of children and those with cortical deficit. The Bender-Gestalt test and psychogenic disorders. Appendix. Scoring manual. Index.

Note: In this book, critical examination of techniques in the administration of the Bender-Gestalt test to persons suffering from mental or nervous disease and of the validity of test results is combined with practical manual on the clinical use of this test and the scoring of results. One of the conclusions of the authors is that "clinical judgment must be added to the quantitative score." However more than half of the space in the book is occupied by the scoring manual and the atlas of scored records. There is a three-page list of references.

PHILLIPS, LESLIE, AND JOSEPH G SMITH
Rorschach interpretation advanced technique. New York Grune & Stratton, 1953 385 p. illus 24 cm. $8 75 5086

Contents. Location choice. Form level. The color response. The movement response. Brilliance, texture, vista and achromatic color responses. Content analysis. Attitudes, role playing and life theme. The concept of shock Sequence analysis. A method of interpretation. Case analysis. Appendix. Index.

Note An advanced book for professional workers with some previous experience in Rorschach testing It includes thorough discussions of such aspects as location choice, form level, and color response. Numerous examples point up the discussion. Some of the postulates and interpretations are included only because the authors have found them useful In fact, they warn, "Unfortunately few of the relationships which are asserted have been corroborated most represent guessed-at hunches." The chapter entitled "Case analysis" contains very detailed analysis of part of Rorschach protocol. Bibliographies are included in the chapters.

RAPAPORT, DAVID AND OTHERS
Diagnostic psychological testing the theory statistical evaluation and diagnostic application of a battery of tests Chicago The Year Book Publishers Inc. 1945–46 2 v illus. 23 cm. (The Menninger Clinic monograph series. No 3) $8 00 per vol set, $15 00. 5087

[illegible] evaluation procedures. Inadequacies in the statement of educational goals. Steps in planning evaluation instruments. Just [illegible] the educational goals. Assigning weights to the goals. The selection of measuring techniques. Objective-type test questions: Origin [illegible] of the objective test. The completion item. The true-false item. Rules for constructing multiple-choice test questions. The control of the difficulty of test questions. The assembly, administration, and scoring of the test. The significance of test scores. Basic considerations in developing [illegible] grading system. The validity of achievement tests. The reliability of teacher-made tests. *Appendix: Objective methods of scoring free-answer examinations.*

Note: A brief and informative guide for teachers. It tells [illegible] objective achievement tests can measure, what they cannot be expected to measure, and [illegible] hat are the best methods of constructing such measurement. Also, it provides teachers with [illegible] techniques for defining educational goals in terms which make the extent to [illegible] hich they are achieved [illegible] measurable functions. However, the author emphasizes that many of the most important outcomes of education are not subject to measurement by the objective examination.

United States. Office of Strategic Services

Assessment of men selection of personnel for the Office of Strategic Services. New York, Rinehart & Company, Inc., 1948. 541 p. illus. 24 cm. $6.00. 5098

Contents: The nature of the task. Principles of assessment. Assessment at S. Procedures—Formulations and ratings—Analysis of [illegible]. Assessment at W WS, and F Assessment [illegible]. The [illegible] of assessment. Conclusions and recommendations. Appendixes: Assessment populations. The interrelationships among the [illegible]. International [illegible]. Index.

Note: A detailed, critical review of the methods developed and [illegible] by the assessment staffs of the United States Office of Strategic Services in appraising candidates for difficult and often hazardous assignments during World War II. The problems of assessing the abilities of men under these conditions are discussed rather fully. The tests [illegible] hich were devised to ascertain the mental, emotional, and physical qualities of the candidates are described in detail. Some comparisons between the predictions made on the basis of the assessment procedure and the achievements of the men on their assignments are made. The book is of special interest to psychologists and psychiatrists interested in the study and measurement of personality.

Wechsler, David

Manual for the Wechsler adult intelligence scale. New York. The Psychological Corporation, 1955. 97 p. 23 cm. $2 75 5099

Contents: Introduction. Standardization of the scale. General testing considerations. Directions for administering the tests. Scoring criteria and sample answers. Table of scaled score equivalents of raw scores. Table of IQ equivalents of sums of scaled scores. Appendix.

Note: The Wechsler-Bellevue intelligence scale has been widely used both in the testing of intelligence of adults and in clinical psychology since its introduction in 1939. The Wechsler adult intelligence scale (WAIS) is an extended and modified version of it. This publication is [illegible] reference handbook addressed to psychologists who use the WAIS. It contains [illegible] discussion of the rationale of the Wechsler scales, an analysis of the techniques of standardization of the WAIS scale, directions for administering the tests of the WAIS, scoring criteria and related aids to interpreting test results.

Wechsler, David

The measurement of adult intelligence. Third edition. Baltimore The Williams & Wilkins Company 1944 258 p. illus. 23 cm. $3.50. 5100

Contents: Part I, The nature and classification of intelligence. Nature of intelligence. Need for an adult intelligence scale. Concepts of mental age and I.Q. Classification of intelligence. Concept of mental deficiency. The problem of mental deterioration. Part II. The Bellevue intelligence scales. Selection and description of tests. Population used in standardizing tests. Standardization and [illegible]. Limitations and special merits. Diagnostic and clinical features. Part III. Manual of Bellevue Intelligence tests. Appendices. I.Q. tables. Index.

Note. A monograph summarizing the results of the author's tests for adult intelligence developed at Bellevue Psychiatric Hospital, New York City and covering the fundamental problems and concepts, the detailed description of the tests, the diagnoses and results and their interpretation. The third edition includes new material on the clinical applications of the results and new data on mental deterioration, as well as new tables and test data in the appendix.

Wechsler, David

Wechsler intelligence scale for children. New York The Psychological Corporation, 1949 114 p. illus. 23 cm. $2.50. 5101

Contents. The rationale of the children [illegible] scale. Standardization statistics. General testing considerations. Table for converting scaled scores into IQs. Scaled score equivalents for raw scores. Directions for administering the tests. Appendixes: General comprehension—scoring criteria. Similarities—scoring criteria. Vocabulary—scoring criteria. Mazes—error guide. *Equivalent test ages for the WISC. Formulas table.*

Note. The Wechsler Intelligence Scale for Children (WISC) consists of 10 tests all of which are ordinarily given to every subject tested. This is the manual for the use of the examiners [illegible] to administer the tests. As the table of contents indicates there is some background information about the tests, but most of the manual is devoted to techniques of administering and scoring the tests in the Scale.

Welsh George Schlager, and W Grant Dahlstrom, editors

Basic readings on the MMPI in psychology and medicine. Minneapolis University of Minnesota Press, 1956. 656 p. illus. 26 cm. $8.75 5102

Contents (abridged) List of contributors. Section I, Theory. Section II, Construction. Section III, Coding. Section IV New scales. Section [illegible] Profile analysis. Section VI, Diagnostic problems. Section VII, Psychiatric problems. Section VIII, Medical problems. Section IX, Therapy. Section X, General personality. Bibliography. Supplementary references. Index.

Note A collection of 66 articles on the Minnesota Multiphasic Personality Inventory deemed to constitute "the major research on clinical developments in the use of the MMPI during the last fifteen years." The majority are reprints from journals and books, however, several articles are published in this volume for the first time. These include some of the articles on the derivation of the basic scales. For all the reprinted articles references are given to the original publications. In the place of separate reference lists for the individual papers, the authors have supplied [illegible] comprehensive bibliography [illegible] hich is essentially complete through December, 1954, for literature on the MMPI and contains [illegible] separate list the references in the articles to literature not pertaining to the MMPI. The collection is [illegible] basic one for all who make use of this important testing procedure.

EDUCATIONAL PSYCHOLOGY

Blair Glenn Myers and others

Educational psychology By Glenn Myers Blair R. Stewart Jones, and Ray H. Simpson. New York The Macmillan Company 1954 601 p. illus. 22 cm. $5.50. 5103

Contents: Part I, Introduction. Psychology and the work of the teacher Part II, Growth and development: The biological and social bases of behavior. Growth and development during childhood. The adolescent period. Part III, Learning: An orientation to learning. Readiness for learning. Motivation—*the forces which energize and direct behavior.* Interests and attitudes. Organization of learning and teaching. The transfer and application of learning. The social psychology of teaching and learning. Discovering and overcoming special difficulties in learning. Part IV Adjustment and guidance: Basic processes of adjustment. Problems of school discipline. Promoting the personal and social adjustment of pupils. Studying the individual child. Part [illegible] Measurement and evaluation: Diagnostic tools. Interpreting and using test results. Marking, reporting, and promoting. Appraising the work of the school. Part VI, The psychology of the teacher: Professional growth of the teacher. Personal and emotional adjustment of the teacher. Indexes.

SHNEIDMAN, EDWIN S

Thematic test analysis. With the collaboration of Walther Joel and Kenneth B Little. Foreword by Henry A. Murray New York Grune & Stratton, 1951 320 p illus 26 cm $8 75 5093

Content (abridged): Introduction. Part I, Thematic test data. Thematic apperception test. Part II, Techniques of thematic test analysis, by M. Arnold, B Aron, L. Bellak, L. Eron, R. Fine A. A. Hartman, R. R. Holt, W Joel, D Shapiro, S. Klebanoff, S. Korchin, J L Lasaga, J B. Rotter & Jessor H. D Sargent, P M. Symonds, and R. K. White. Part III, Additional test data Rorschach test, interpreted by B Klopfer Wechsler Bellevue scale, interpreted by H. Kitzinger Minnesota multiphasic personality inventory interpreted by H. Grayson. Draw a person, interpreted by K. Machover. Bender-Gestalt drawings, interpreted by M. L. Hutt. Part IV Behavioral data. Psychiatric case history abstract (V.A. Neuropsychiatric Hospital) Course in neuropsychiatric hospital. Psychiatric follow-up interview Part V Synthesis and summary Bibliography Index.

Note. This unusual book is built around the detailed interpretations by individual psychologists of a thematic apperception test (TAT) and a complementary make a picture story test (MAPS) administered to one mentally disturbed person who was unknown to the contributing psychologists. The various analyses of these two tests are supplemented by single interpretations of the responses to other tests by the same patient, by an abstract of the actual case history and by summaries by the book's authors. The value of the book lies in its illustrations and discussions of the analytical methods used on the same test responses by various graduate psychologists.

STEIN, MORRIS I.

The thematic apperception test, an introductory manual for its clinical use with adults Revised edition. Reading Mass. Addison Wesley Publishing Company, Inc., 1955 365 p 24 cm. $7 50 5094

Contents The TAT pictures and their common stories. Administration of the TAT Technique of clinical analysis of the TAT Additional factors to be studied. Technique of interpretation. A professional man. A woman comes for therapy A male patient starts therapy A male patient seeks job training. A schizophrenic before and after insulin shock and psychotherapy The protocol of a deteriorated organic. A male student before and after psychoanalysis. Index.

Not An established manual for graduate students of psychology and practicing psychologists who have had some training in personality analysis and are familiar with clinical practice. T facilitate application of the thematic apperception test, the author worked out technique of analysis which avoids the difficulty of the original "need-press" system and terminology The exposition proceeds systematically from the description of the test and the most common responses through discussion of clinical analysis and interpretation. The first edition of the book published in 1948 covered only the pictures administered to men. In the second edition the scope of the book was extended to include the pictures administered to women. In addition, number of cases—all but one of those listed in the above contents—which illustrate various applications of the TAT were added

SUPER, DONALD EDWIN

Appraising vocational fitness by means of psychological tests. New York Harper & Brothers, 1949 727 p 24 cm. $7 00 5095

Contents (abridged) Testing and diagnosis in vocational guidance. Testing and prediction in vocational selection Methods of test construction, standardization, and validation. The nature of aptitudes and aptitude tests. Test administration and scoring. Intelligence. Proficiency Clerical aptitude—perceptual speed. Manual dexterities. Mechanical aptitude. Spatial visualization. Aesthetic judgment and artistic ability Musical talents. Custom-built batteries for specific occupations. Standard batteries with norms for specific occupations. Measures of interests. Personality attitudes, and temperament. Appraising individual vocational promise. Using test results in counseling. Preparing reports of test results. Illustrative cases—data and counseling. Appendix Statistical concepts. Prediction and probability Test publishers and scoring services. Bibliography Index.

Note. A comprehensive treatise in which the theory of the use of tests in vocational counseling, the principles of test construction, techniques in test administration and scoring, and other general aspects are covered, along with descriptions of individual tests. One of the most useful features is the evaluating of particular tests in the light of accumulated experience with them. References to the original publication of the research studies on which the evaluations are based are carefully given. The book is addressed to persons with professional interests in the use of tests in vocational aptitude measuring and vocational counseling. Case histories illustrating the application and use of particular tests are included. The bibliography contains 955 references to books and periodicals.

THORNDIKE, ROBERT L, AND ELIZABETH HAGEN

Measurement and evaluation in psychology and education New York John Wiley & Sons, Inc., 1955 575 p illus 23 cm. $5.50. 5095A

Contents. Historical and philosophical orientation. Overview of measurement methods. The teacher's own tests. Preparing objective tests. Elementary statistical concepts. Qualities desired in any measurements procedure. Norms and units for measurement. Where to find information about specific tests. Standardized tests of intelligence or scholastic aptitude. The measurement of special aptitudes. Achievement tests. Behavioral measures of personality The individual as others see him. Questionnaires and inventories for self-appraisal. Projective tests. Planning school testing program. Marking and reporting. Measurement in educational and vocational guidance. Tests in the selection of personnel. Measurement in diagnosis and therapy Appendix. Index.

Note. A basic, professional-level treatise and reference book designed "for the person who is going to use and interpret tests. The authors' main thesis for any measurement project is the backbone of the book, defining just what it is we wish to measure and determining what operations will serve to measure it. T this end, general measurement procedures and concepts are described, types of tests are discussed, and the student is directed to sources of further information about special tests. The authors attempt to avoid any feeling of absoluteness about testing and evaluating procedures, preferring to encourage healthy skepticism in interpreting test results. Numerous helpful charts and tables, an appendix on specific tests, and chapter on the planning of test program for school are included. The authors are members of the faculty of Teachers College, Columbia University

TOMKINS, SILVAN SOLOMON

The thematic apperception test the theory and technique of interpretation with the collaboration of Elizabeth J Tomkins. New York Grune & Stratton 1947 297 p. 23 cm. $5 00 5096

Contents. History and development of the thematic apperception test. The technique of administration. The scoring scheme. Introduction to the technique of interpretation. Level analysis. Diagnosis of personality—the region of the family Diagnosis of personality—the region of love, sex, and marital relationships. Diagnosis of personality—the region of social relationships. Diagnosis of personality—work and vocational setting. Diagnoses and psychotherapy References. Index.

Note. The TAT method of psychiatric diagnosis—by interpretation of the individual's response to set of "story" pictures—is here considered by psychologist he worked closely with the test from its introduction. Supposedly designed for the uninitiated as well as the professional psychologist, the work none the less presumes at least basic understanding of psychiatric procedure on the part of the reader. Although the first three chapters are of an explanatory nature, the remainder is devoted largely to interpretation and diagnosis. Detailed records of individual reactions to the pictures are followed by the author' evaluation of these and in many cases by corroborath diagnoses from other tests.

TRAVERS, ROBERT MORRIS WILLIAM

How to make achievement tests. New York The Odyssey Press 1950 180 p. illus. 21 cm. $2.25 5097

Contents (abridged) Introduction Measurement and evaluation. The expanding meaning of achievement. Systematic versus unsys-

Contents: Part I, Introduction: The nature and function of psychology in education. Part II, Human development during the first two decades: The fundamentals of human development. Physical, mental, and emotional development. Personal and social development during childhood. Personal and social development during adolescence. Part III, Adjustment in teaching and learning: The dynamics of human behavior and learning. Personal and social bases of adjustment. Adjustment through the development of self-discipline. Part IV, The educative process: Learning—principles, theories, and transfer values. Retention and effective study in learning. The acquiring of skill competence. Thinking and problem-solving. Individual differences in learning. Part V, Evaluating and reporting: The study of the learner in the classroom. Functions and techniques of evaluation. Interpretation of learner progress. Appraisal and reporting of pupil progress. Part VI, The role of the teacher in education: Development of teaching effectiveness. Adjustment aspects of teaching. Teacher counseling and learner adjustment. Appendix. Author index. Subject index.

Note: A well-balanced, introductory text in the psychology of education. It is designed for the instruction of student-teachers. There is some emphasis on the importance of understanding on the part of the teacher of the psychological problems of young people. However, as indicated by the chapter titles, the customary topics of first-year texts in educational psychology are all covered. The authors are members of the faculty of the Department of Education of Brooklyn College.

DEESE, JAMES

The psychology of learning. New York McGraw Hill Book Company Inc., 1952 398 p. illus. 24 cm. (McGraw Hill publications in psychology: Clifford T Morgan consulting editor) $6.00 5110

Contents: Introduction. Reinforcement and learning. The nature of extinction. Stimuli in learning and the process of discrimination. Motivation and learning. Negative reinforcement and punishment. Serial learning and the chaining of responses. Factors affecting rate of complex learning. Retention. Forgetting. Transfer of training. Efficiency in human learning. Thinking and problem solving. Learning and the nature of the learner. Emotion and conflict. Physiological problems in learning. Current theoretical problems. References. Author index. Subject index.

Note: A textbook designed for college use. It is introductory to the psychology of learning but is intended for students who have completed at least a course in basic psychology. It provides a broad survey of the current status of the psychology of learning, both the accumulated knowledge and the unsolved problems. Significant experimental studies are described and evaluated, and references are included to the original publications. The bibliography lists approximately 700 literature references. The author is Assistant Professor of Psychology in Johns Hopkins University.

GARRISON KARL CLAUDIUS

Growth and development. With a chapter by Florene M. Young and a chapter by Florence Hensler New York Longmans, Green and Company 1952 559 p. illus. 22 cm. $5.00. 5111

Contents: Part I, Introduction. Studying child growth and development. Biological inheritance and prenatal development. The period of infancy. Some fundamental principles of growth. Part II, Aspects of growth: Physical growth and health. The development of motor skills. Emotional growth and control. Intelligence—growth and measurement. Language growth and development, by F. M. Young. Growth in knowledge and understanding. Growth in creative expression. The development of social behavior and attitudes, by F. Hensler. Part III, Personality development: Changes of interests with age. Personality development—its nature and evaluation. Personality development—conflicts and adjustment. Mental hygiene of childhood. From childhood to adolescence. From adolescence to maturity. Appendix. Author index. Subject index.

Note: In this book on the physical growth and mental development of children from infancy through adolescence, fundamental knowledge is adequately presented, and there is emphasis on those aspects of the subject which are of special concern to teachers. For example, stated reasons for adolescents leaving school before graduating are discussed. The book is based on a variety of research reports and other professional publications, and these are cited in footnote references.

GARRISON, KARL CLAUDIUS

The psychology of exceptional children. Revised edition. New York The Ronald Press Company 1950. 517 p. illus. 21 cm. $5.00. 5112

Contents: Part I, Introduction. Our children—their assets and liabilities. Fundamental principles of development. Part II, Studying the individual child: The child's physical development. The child's capacities, interests, and achievements. The child's personality. Part III, Mentally retarded children: Characteristics of the mentally retarded. Special disabilities. Curricula provisions for the mentally retarded. Social and personal development of the mentally handicapped. Part IV, Gifted children: Characteristics of the mentally gifted. Psychology of special abilities. School provisions for the gifted. Personal and social development of the gifted. Part V, The physically handicapped child. The problem of defective vision. Children who are hard of hearing. The speech defective child. The crippled child. Children of lowered vitality. Part VI, Emotionally and socially maladjusted children: Children with emotional or adjustive difficulties. Socially maladjusted and delinquent children. Nervous and psychoneurotic children. The hygiene of childhood. Appendix. Author index. Subject index.

Note: A standard work which is used as a text in college courses and also as a guide for teachers, social workers, and parents' groups. Its scope is children whose physical and emotional make-up set them apart in one way or another from the average child. Literature references are included in the form of footnotes and also as selected lists at the ends of chapters. In this revision the purpose and organization of the book are the same as in the first edition, but the incorporation of new case studies and the results of investigations conducted by the author and other workers in the field account for more than 160 additional pages.

GATES ARTHUR IRVING AND OTHERS

Educational psychology by Arthur I Gates, Arthur T Jersild T R. McConnell and Robert C. Challman. Third edition. New York The Macmillan Company 1948 818 p. illus. 21 cm. $5 75 5113

Contents: Introduction—the scope of educational psychology. The development of behavior—introductory. Physical and motor development. Emotional development. Development of social behavior. Mental development. The nature and measurement of intelligence. The practical uses of intelligence and aptitude tests. The general nature of learning. Principles of guidance in learning. The development of meanings. Reasoning and problem solving. Transfer of training. Appraising progress by means of tests and other devices. Appraising the school program through study of pupils as persons. The adjustment of the individual. The adjustment process—tension reduction. Mental health hazards of the school child. Guidance of the individual child. The mental health of the teacher. Index of authors. Subject index.

Note: A standard and unusually successful introductory presentation of the facts and principles of educational psychology. The book has evolved from the senior author's *Psychology for students of education*, 1923 but except for the fact that both works were designed for student teachers, there is little similarity. The work was recast in essentially its present form, and the collaborating authors joined in its preparation, in the edition published in 1942. In preparing this edition the organization of the 1942 text was not changed fundamentally but many revisions were made nevertheless. The chapter, "Appraising the school program through study of pupils as persons," was added; and the chapter, "The adjustment process—tension reduction," constitutes a reworking and expansion of material which in the previous edition was included in the chapter just preceding. A considerable number of the other chapters have been revised in part, and numerous additions have been made to the bibliography.

GUTHRIE, EDWIN RAY AND FRANCIS F POWERS

Educational psychology New York The Ronald Press Company 1950. 530 p. illus. 21 cm. (A volume in the Douglass series in education edited by Harl R. Douglass) $5.00. 5114

Contents (abridged): Part I, Introduction: The challenge of modern education to the psychologist. The definition and meaning of

Note. A textbook designed for use in first courses in educational psychology offered to student teachers. It provides balanced and practical view of the subject. Extensive use is made of examples f actual classroom experiences to point up theories. Footnote efer ences are given to publications cited in the text and, in addition, the chapters contain lists of references for further reading. The authors are members f the faculty of the Uni ersity of Illinois.

BUSH, ROBERT R , AND FREDERICK MOSTELLER

Stochastic models for learning New York John Wiley & Sons, Inc., 1955 365 p illus 24 cm (Wiley publications in statistics. Walter A Shewhart, editor) $9 00 5104

Contents Part I, The mathematical system and the general model: The basic model. Stimulus sampling and conditioning. Sequences of events. Distributions of response probabilities. The equal alpha condition. Approximate methods. Operators with limits zero and unity Commuting operators. Part II, Applications. Identification and estimation. Free-recall verbal learning. Avoidance training. An experiment on imitation. Symmetric choice problems. Runway experiments. Evaluations. Tables. Glossary of symbols frequently used. Index.

Not A pioneering work on the application of the stochastic model concept to the analysis of data from experiments on learning. An underlying thesis is that learning is essentially stochastic in that each experience alters the probabilities of subsequent responses. The book is addressed primarily to experimental psychologists and although expressed largely in mathematical conventions, deep knowledge of advanced mathematics and probability theory on the part of the reader is not assumed. Instead, the necessary parts of matrix theory difference equations, linear operators, etc. are introduced as needed. A general model is presented and its mathematical properties are examined in the first part of the book In the second part, the model is applied to well-known experimental findings in the areas of learning theory which are named in the chapter titles. The advantages of the stochastic model over curve-fitting are discussed in the terminal chapter Literature references are supplied.

COLE, LAWRENCE EDWIN, AND WILLIAM F BRUCE

Educational psychology Yonkers, N Y World Book Company, 1950 768 p illus. 23 cm. $6.25 5105

Contents (abridged) Part one, Life styles in their social settings: The study of educational psychology The human person—his style of life. Part t o, The development of personality—analysis and integration The physical growth of the individual. The development of effective intelligence. The emotions—energies of man. Motives—from drives to purposes. Growth and development in the American culture. The development of the self into mature person. Part three, The psychology of learning in free society: Learning by conditioning responses. Learning by trial and error Learning by insight—Gestalt psychology The psychology of thinking—a new interpretation of learning. The creative imagination—the expressive person. Part four Putting psychology to work in the schools The teacher's task and the barriers. Studying and guiding development. Appraising development and learning—measurement in education. Bibliography Index of names. Index of subject matter

Not A broad view of educational psychology is afforded in this introductory text. It is not limited to the psychology of the learning process but instead includes discussions of pertinent topics in social psychology and the psychology of personality The organization of the book is somewhat unconventional also. For instance, there are numerous quoted passages in which social backgrounds are dramatically presented. The authors' style is easy to read even in those parts of the book devoted to the technical aspects. Lists of "Further reading" for the students are included in the chapters and at the end of the book there is an extensive general bibliography A revised edition was scheduled for publication in 1958.

COMMINS W D , AND BARRY FAGIN

Principles of educational psychology Second edition New York The Ronald Press Company 1954 795 p illus. 21 cm. $6 00 5106

Contents Introduction. Part i, Psychology and education Our psychological heritage. Some principles of mental development. Part ii, Human growth and development Human variability and growth. Growth and maturation. Intellectual development. Social backgrounds of child development. Social and emotional development. Part iii, Individual differences in the school. Measuring abilities. The practical role of intelligence. Personality and school adjustment. Providing for individual differences. Part iv The conditions of learning: The learning process. Learning as perceiving. Learning as goal activity Learning as a social process. The transfer of learning. Part v The forms of learning: Habits and skills. Memory Thinking processes. Problem solving. Learning and personal adjustment. Index of names. Index of subjects.

Note. Designed for introductory courses in educational psychology offered to students who are preparing for careers in teaching, the book provides a substantial survey of the subject. The chapter titles illustrate its broad scope. Basic aspects such as human development, individual differences, and learning theory are emphasized. Extensive bibliographies are included. The first edition was published in 1937 This second edition is the result of a very extensive revision and enlargement. A very wide range of material, most of it derived from research studies published since the first edition was written, has been incorporated in the text, and the bibliographies have been revised. The senior author is a member of the faculty of Catholic University of America.

CRONBACH, LEE J

Educational psychology New York Harcourt, Brace and Company, 1954 628 p. illus. 24 cm $8 00 5107

Contents (abridged) Part i, Psychology and school problems: How psychology contributes to education. An introduction to the learning process. Part ii, Readiness and its development The stream of development. Assessing readiness—personality and motivation—abilities. Adapting schooling to individual differences. Part iii, Acquiring ideas, attitudes, and skills. Transfer of learning. Learning of concepts and principles. Identification and the learning of attitudes. Practice and the learning of skills. Part iv Planning, motivation, and evaluation, Part v Emotional learning: Reaction to thwarting. Personal integration. Personality structure and character development. Author index. Subject index.

Note. The psychology of learning, or the nature of the learning process, is the principal subject of this introductory textbook. The book is written in lucid style and is made interesting and at the same time effective by the inclusion of many illustrated examples of students' reactions to teaching and of other influences that affect students' readiness to learn and their acceptance of the teacher's efforts. The author is member of the faculty of the University of Illinois.

CROW, LESTER D , AND ALICE CROW

Educational psychology New York American Book Company 1954 599 p illus. 23 cm. $5 25 5108

Contents (abridged) Part i, Introduction The nature and scope of educational psychology The teacher and the educative process. Part ii, Growth and development. Part iii, The learner's potentialities: Intelligence and its measurement. Aptitude and aptitude testing. Personality traits and their evaluation. Educational implications of individual differences. Part iv, General principles of learning: Attitudes, interests, and motivation. Acquiring motor skills and knowledge. Reflective and creative thinking. Importance of transfer of training. Part Evaluation of learner achievement: Nature and scope of educational evaluation. Simple statistics in education. Part vi, Psychology of learning areas Acquiring the tools of comprehension and expression. Acquiring mathematical concepts. Developing an understanding of the natural and social sciences. The development of appreciation. Educating for health and safety Vocational exploration and preparation. Part vii, Life adjustments: Adjustment of exceptional individuals. Behavior drives and adjustment. Applying mental hygiene to individual adjustment. Author index. Subject index.

Note An introductory textbook written by two faculty members of the Department of Education of Brooklyn College. It is used for the instruction of students in teachers' colleges. It offers broad modern view of educational psychology including basic knowledge derived from experimental psychology References to source publications are included as footnotes and lists of "suggested readings" are included at the ends of chapters.

CROW, LESTER D , AND ALICE CROW

Human development and learning New York American Book Company 1956 578 p illus. 23 cm. $5.50 5109

Contents: Part I, Introduction: The nature and function of psychology in education. Part II, Human development during the first two decades: The fundamentals of human development. Physical, mental, and emotional development. Personal and social development during childhood. Personal and social development during adolescence. Part III, Adjustment in teaching and learning: The dynamics of human behavior and learning. Personal and social bases of adjustment. Adjustment through the development of self-discipline. *Part IV, The educative process:* Learning—principles, theories, and transfer values. Emotion and effective study in learning. The acquiring of skill competence. Thinking and problem-solving. Individual differences in learning. Part V, Evaluating and reporting: The study of the learner in the classroom. Functions and techniques of evaluation. Interpretation of learner progress. Appraisal and reporting of pupil progress. *Part VI,* The role of the teacher in education: Development of teaching effectiveness. Adjustment aspects of teaching. Teacher counseling and learner adjustment. Appendix. Author index. Subject index.

Note: A well-balanced, introductory text in the psychology of education. It is designed for the instruction of student-teachers. There is some emphasis on the importance of understanding on the part of the teacher of the psychological problems of young people. However, as indicated by the chapter titles, the customary topics of first-year texts in educational psychology are all covered. The authors are members of the faculty of the Department of Education of Brooklyn College.

DEESE, JAMES

The psychology of learning. New York McGraw Hill Book Company Inc., 1952 398 p. illus. 24 cm. (McGraw Hill publications in psychology: Clifford T Morgan consulting editor) $6.00 5110

Contents: Introduction. Reinforcement and learning. The nature of extinction. Stimuli in learning and the process of discrimination. Motivation and learning. Negative reinforcement and punishment. Serial learning and the chaining of responses. Factors affecting rate of complex learning. Retention. Forgetting. Transfer of training. Efficiency in human learning. Thinking and problem solving. Learning and the nature of the learner. Emotion and conflict. Physiological problems in learning. Current theoretical problems. References. Author index. Subject index.

Note: A textbook designed for college use. It is introductory to the psychology of learning but is intended for students who have completed at least a course in basic psychology. It provides a broad survey of the current status of the psychology of learning, both the established knowledge and the unsolved problems. Significant experimental studies are described and evaluated, and references are included to the original publications. The bibliography lists approximately 700 literature references. *The author is Assistant Professor of Psychology in Johns Hopkins University*

GARRISON KARL CLAUDIUS

Growth and development. With a chapter by Florene M. Young and a chapter by Florence Heisler New York Longmans Green and Company 1952 559 p. illus. 22 cm. $5.00. 5111

Contents: Part I, Introduction: Studying child growth and development. Biological inheritance and prenatal development. The period of infancy. Some fundamental principles of growth. Part II, Aspects of growth: Physical growth and health. The development of motor skills. Emotional growth and control. Intelligence—growth and manifestation. Language growth and development, by F. M. Young. Growth in knowledge and understanding. Growth in creative expression. The development of social behavior and attitudes, by F. Heisler. Part III, Personality development: Changes of interests with age. Personality development—its nature and evaluation. Personality development—conflicts and adjustment. Mental hygiene of childhood. From childhood to adolescence. From adolescence to maturity. Appendix. Author index. Subject index.

Note. In this book on the physical growth and mental development of children from infancy through adolescence, fundamental knowledge is adequately presented, and there is emphasis on those aspects of the subject which are of special concern to teachers. For example, stated reasons for adolescents leaving school before graduation are discussed. The book is based on a variety of research reports and other professional publications, and these are cited in footnote references.

GARRISON, KARL CLAUDIUS

The psychology of exceptional children. Revised edition New York The Ronald Press Company 1950. 517 p. illus. 21 cm. $5.00 5112

Contents: Part I, Introduction: Our children—their assets and liabilities. *Fundamental principles of development.* Part II, Studying the individual child: The child's physical development. The child: capacities, interests, and achievements. The child's personality. Part III, Mentally retarded children: Characteristics of the mentally retarded. Special disabilities. Curricula provisions for the mentally retarded. Social and personal development of the mentally handicapped. Part IV, Gifted children: Characteristics of the mentally gifted. Psychology of special abilities. School provisions for the gifted. Personal and social development of the gifted. Part V, The *physically handicapped child:* The problem of defective vision. Children who are hard of hearing. The speech defective child. The crippled child. Children of lowered vitality. Part VI, Emotionally and socially maladjusted children: Children with emotional or adjustive difficulties. *Socially maladjusted* and delinquent children. Nervous and psychoneurotic children. The hygiene of childhood. Appendix. Author index. *Subject index.*

Note: A standard work which is used as a text in college courses and also as a *guide for teachers, social workers, and parents' groups.* Its scope is children whose physical and emotional make-up set them apart in one way or another from the average child. *Literature references* are included in the form of footnotes and also as selected lists at the ends of chapters. In this revision the purpose and organization of the book are the same as in the first edition, but the incorporation of new case studies and the results of investigations conducted by the author and other workers in the field account for more than 160 additional pages.

GATES ARTHUR IRVING AND OTHERS

Educational psychology by Arthur I. Gates Arthur T Jersild T. R. McConnell and Robert C. Challman. Third edition New York The Macmillan Company 1948. 818 p. illus. 21 cm. $5 75 5113

Contents: Introduction—the scope of educational psychology. The development of behavior—introductory. Physical and motor development. Emotional development. Development of social behavior. Mental development. The nature and measurement of intelligence. The practical uses of intelligence and aptitude tests. The general nature of learning. Principles of guidance in learning. The development of meanings. Reasoning and problem solving. Transfer of training. Appraising progress by means of tests and other devices. Appraising the school program through study of pupils as persons. The adjustment of the individual. The adjustment process—tension reduction. Mental health hazards of the school child. Guidance of the individual child. The mental health of the teacher. Index of authors. Subject index.

Note: A standard and unusually successful introductory presentation of the facts and principles of educational psychology. The book has evolved from the senior author's *Psychology for students of education,* 1923 but *except for the fact that both works were designed* for student teachers, there is little similarity. The work was recast in essentially its present form, and the collaborating authors joined in its preparation, in the edition published in 1942. In preparing this edition the organization of the 1942 text was not changed fundamentally but many revisions were made nevertheless. The chapter "Appraising the school program through study of pupils as persons," was added; and the chapter "The adjustment process—tension reduction," constitutes a rewriting and expansion of material which in the previous edition was included in the chapter just preceding. A considerable number of the other chapters have been revised in part, and numerous additions have been made to the bibliography

GUTHRIE EDWIN RAY, AND FRANCIS F POWERS

Educational psychology New York The Ronald Press Company 1950 530 p. illus. 21 cm. (A volume in the Douglass series in education edited by Harl R. Douglass) $5.00 5114

Contents (abridged) Part I, Introduction: The challenge of modern education to the psychologist. The definition and meaning of

Note. A textbook designed for use in first courses in educational psychology offered to student teachers. It provides a balanced and practical view of the subject. Extensive use is made of examples of actual classroom experiences to point up theories. Footnote references are given to publications cited in the text and, in addition, the chapters contain lists of references for further reading. The authors are members of the faculty of the University of Illinois.

BUSH, ROBERT R., AND FREDERICK MOSTELLER

Stochastic models for learning New York John Wiley & Sons, Inc., 1955 365 p illus. 24 cm. (Wiley publications in statistics. Walter A Shewhart, editor) $9 00 5104

Contents Part I, The mathematical system and the general model The basic model. Stimulus sampling and conditioning. Sequences of events. Distributions of response probabilities. The equal alpha condition. Approximate methods. Operators with limits zero and unity Commuting operators. Part II, Applications. Identification and estimation. Free-recall verbal learning. Avoidance training. An experiment on imitation. Symmetric choice problems. Runway experiments. Evaluations. Tables. Glossary of symbols frequently used. Index.

Note. A pioneering work on the application of the stochastic model concept to the analysis of data from experiments on learning. An underlying thesis is that learning is essentially stochastic in that each experience alters the probabilities of subsequent responses. The book is addressed primarily to experimental psychologists and although expressed largely in mathematical conventions, a deep knowledge of advanced mathematics and probability theory on the part of the reader is not assumed. Instead, the necessary parts of matrix theory difference equations, linear operators, etc. are introduced as needed. A general model is presented and its mathematical properties are examined in the first part of the book In the second part, the model is applied to well-known experimental findings in the areas of learning theory which are named in the chapter titles. The advantages of the stochastic model over curve-fitting are discussed in the terminal chapter Literature references are supplied.

COLE, LAWRENCE EDWIN, AND WILLIAM F BRUCE

Educational psychology Yonkers N Y World Book Company, 1950 768 p illus. 23 cm. $6 25 5105

Contents (abridged) Part one, Life styles in their social settings The study of educational psychology The human person—his style of life. Part two, The development of personality—analysis and integration The physical growth of the individual. The development of effective intelligence. The emotions—energies of man. Motives—from drives to purposes. Growth and development in the American culture. The development of the self in a mature person. Part three, The psychology of learning in a free society: Learning by conditioning responses. Learning by trial and error Learning by insight—Gestalt psychology The psychology of thinking—a new interpretation of learning. The creative imagination—the expressive person. Part four Putting psychology to work in the schools The teacher's task and the barriers. Studying and guiding development. Appraising development and learning—measurement in education. Bibliography Index of names. Index of subject matter

Note A broad view of educational psychology is afforded in this introductory text. It is not limited to the psychology of the learning process but instead includes discussions of pertinent topics in social psychology and the psychology of personality The organization of the book is somewhat unconventional also. For instance, there are numerous quoted passages in which social backgrounds are dramatically presented. The authors' style is easy to read even in those parts of the book devoted to the technical aspects. Lists of "Further reading" for the students are included in the chapters and at the end of the book there is an extensive general bibliography A revised edition was scheduled for publication in 1958.

COMMINS, W D AND BARRY FAGIN

Principles of educational psychology Second edition New York The Ronald Press Company, 1954 795 p illus. 21 cm $6 00 5106

Contents Introduction. Part I, Psychology and education Our psychological heritage. Some principles of mental development. Part II, Human growth and development Human variability and growth. Growth and maturation. Intellectual development. Social backgrounds of child development. Social and emotional development. Part III, Individual differences in the school. Measuring abilities. The practical role of intelligence. Personality and school adjustment. Providing for individual differences. Part IV The conditions of learning The learning process. Learning as perceiving. Learning as goal activity Learning as a social process. The transfer of learning. Part V The forms of learning Habits and skills. Memory Thinking processes. Problem solving. Learning and personal adjustment. Index of names. Index of subjects.

Note: Designed for introductory courses in educational psychology offered to students who are preparing for careers in teaching, this book provides a substantial survey of the subject. The chapter titles illustrate its broad scope. Basic aspects such as human development, individual differences, and learning theory are emphasized. Extensive bibliographies are included. The first edition was published in 1937 This second edition is the result of very extensive revision and enlargement. A very wide range of material, most of it derived from research studies published since the first edition was written, has been incorporated in the text, and the bibliographies have been revised. The senior author is a member of the faculty of Catholic University of America.

CRONBACH, LEE J

Educational psychology New York Harcourt Brace and Company, 1954 628 p. illus. 24 cm. $8 00 5107

Contents (abridged) Part I, Psychology and school problems How psychology contributes to education. An introduction to the learning process. Part II, Readiness and its development: The stream of development. Assessing readiness—personality and motivation—abilities. Adapting schooling to individual differences. Part III, Acquiring ideas, attitudes, and skills. Transfer of learning. Learning of concepts and principles. Identification and the learning of attitudes. Practice and the learning of skills. Part IV Planning, motivation, and evaluation, Part V Emotional learning: Reaction to thwarting. Personal integration. Personality structure and character development. Author index. Subject index.

Note The psychology of learning, or the nature of the learning process, is the principal subject of this introductory textbook. The book is written in a lucid style and is made interesting and at the same time effective by the inclusion of many illustrated examples of students' reactions to teaching and of other influences that affect students' readiness to learn and their acceptance of the teacher's efforts. The author is a member of the faculty of the University of Illinois.

CROW, LESTER D , AND ALICE CROW

Educational psychology New York American Book Company, 1954 599 p illus. 23 cm. $5 25 5108

Contents (abridged) Part I, Introduction: The nature and scope of educational psychology The teacher and the educative process. Part II, Growth and development. Part III, The learner's potentialities Intelligence and its measurement. Aptitude and aptitude testing. Personality traits and their evaluation. Educational implications of individual differences. Part IV, General principles of learning: Attitudes, interests, and motivation. Acquiring motor skills and knowledge. Reflective and creative thinking. Importance of transfer of training. Part V Evaluation of learner achievement Nature and scope of educational evaluation. Simple statistics in education. Part VI, Psychology of learning areas. Acquiring the tools of comprehension and expression. Acquiring mathematical concepts. Developing an understanding of the natural and social sciences. The development of appreciation. Educating for health and safety Vocational exploration and preparation. Part VII, Life adjustments. Adjustment of exceptional individuals. Behavior drives and adjustment. Applying mental hygiene to individual adjustment. Author index. Subject index.

Note An introductory textbook written by two faculty members of the Department of Education of Brooklyn College. It is used for the instruction of students in teachers' colleges. It offers a broad modern view of educational psychology including basic knowledge derived from experimental psychology References to source publications are included as footnotes and lists of "suggested readings" are included at the ends of chapters.

CROW, LESTER D , AND ALICE CROW

Human development and learning New York American Book Company 1956 578 p illus. 23 cm. $5 50 5109

and Company 1951 511 p. illus. 23 cm. $5.50. 5120

Contents: Part I, Basic growth concepts: Origin of the organismic viewpoint. Principles of growth and development. Interrelations of growth—an approach to study of the child as whole. Part II, Aspects of development: The physical growth of the child. Aspects of motor growth. The growth of intelligence. Language development. The development of creative ability. Personal-social development. Growth and the organization of learning. Part III, Concomitants of growth and learning: The role of emotion in child development. The development of moral and ethical behavior. The development of personality. Discipline and the growth process. Mental hygiene from the standpoint of growth. Index.

Note: Preliminary to his direction of child development demonstration center, the author gave 10 years to study and research with 450 children, during which time some 200,000 observations were made and recorded. On the basis of this experience, he presents an introductory over-all picture of the physical and mental development of the elementary school child. The volume, intended for pre-service and in-service teachers, administrators, and others interested in child development, begins with an exploration of the principles of child development, follows with discussion of certain of its phases, and concludes with several chapters on those aspects of child development which are accompaniments of growth rather than measurable and direct phases of it—emotion, moral and ethical behavior, personality, discipline, and mental hygiene from the standpoint of growth. Developmental changes in the child and on the relationship between the child environment and such changes are emphasized.

MILLER, NEAL EDGAR, AND JOHN DOLLARD

Social learning and imitation. New Haven Published for the Institute of Human Relations by Yale University Press 1941 341 p. illus. 23 cm. $3.50. 5121

Contents: Foreword. Figures. Preface. Learning: its conditions and principles. Four fundamentals of learning. Significant details of the learning process. A basis for acquired drives and acquired rewards. Higher mental processes. A pattern case of imitation. The learning and the generalization of imitation—experiments on animals. The learning of imitation—experiments on children. Varying cases of matched-dependent behavior. Copying—the role of sameness and difference. The prestige of models—experiments on children. The social conditions producing imitation. Imitation and independent learning—experiment on children. Crowd behavior. Analysis of lynching. Copying in the diffusion of culture. Appendixes: Reviews of Holt's *Theory of imitation.* Theories bearing on the nature of imitation. Laboratory experimental work on imitation behavior. References. Index.

Note: An attempt to use both psychology and social science in study of imitative behavior. Data are presented concerning concrete examples of this behavior in the lives of small children, and experiments are reported which were made, in most cases, with children. These experiments were conducted to test various implications of the hypothesis that imitative behavior is learned, and that it can therefore be subjected. It is not the intent of the authors that this hypothesis shall be considered to effect on this field, but rather beginning for further study and investigation.

MURPHY LOIS (BARCLAY) AND HENRY LADD

Emotional factors in learning. New York Columbia University Press, 1944 404 p. 22 cm. (Sarah Lawrence College publications. No. 4) $5.00 5122

Contents. Part I, The development of an educational point of view: Preface: Individual education and social change. The role of Cognition in educational guidance. Interests and motivation. Variation of learning attitudes. Scope in orientation and growth. The ways in which development comes. The role of "problems" in learning. Defensiveness with specific types of work. Patterns of personality. Insecurity at the college level. Authority problems in relation to learning. Summary of dynamic factors in learning. Part II, Individual studies. Introduction. Ambitious, unusual talent, and rigid personality. Ambivalence resulting from early shock. A practical limited student. Insight without persistent goals. A shy student. Success without growth. Therapeutic uses of the curriculum. A correction to dogmatic thinking. Index.

Note: This monograph is one of series of reports of work done Sarah Lawrence College under full-year grant from the General Education Board. The study centers upon the educational development, through four years, of the students in two entering classes, using records, case reports, personality-test data, and stenographically recorded interviews with students graduating from the two classes. Part II of the book is concerned with individual studies of specific girls, and, together with the first part, attempts to describe method of approach to concepts of guidance developed out of the authors' experience.

NATIONAL SOCIETY FOR THE STUDY OF EDUCATION

The education of exceptional children. Prepared by the Society's Committee Harry J Baker and others. Edited by Nelson D Henry Chicago The University of Chicago Press, 1950 350 p. illus. 22 cm. (National Society for the Study of Education. Forty ninth yearbook pt. II) $3 50 5123

Contents: Editor preface. Introduction to Yearbook. Section I, General concepts and problems: Basic facts and principles underlying special education, by the Yearbook Committee. Administering the special services for exceptional children, by R. Graham and A. M. Engel. Identifying and diagnosing exceptional children, by H. J. Baker and M. B. Stanton. Growth patterns of exceptional children, by W. C. Olson and B. O. Hughes. Guidance for the exceptional child, by F. H. Finch and V. Yowell. The education of teachers of special classes, by F. E. Lord and S. A. Kirk. Parents' problems with exceptional children, by S. R. Laycock and O. S. Stevenson. Section II, Nature and needs of specific groups: Teaching the visually handicapped, by W. Hathaway and R. Lowenfeld. Teaching the acoustically handicapped by C. D. O'Connor and A. Streng. Teaching children with speech handicaps, by W. Johnson. Teaching the orthopedically handicapped and the cardiopathic, by L. J. Linck and others. Special education for the epileptic, the tubercular and children with glandular disorders, by W. C. Cruickshank and W. G. Peacher. Special education for the mentally handicapped, by E. M. Kelly and H. A. Stevens. Special education for the gifted child, by M. R. Sumption and others. Special schools and classes for the socially maladjusted, by E. H. Stullken. Section III, Some future developments. The prevention of handicaps in children, by C. P. Ingram and M. C. Schumacher. Needed projects and research in special education, by S. A. Kirk. Appendix. Index.

Note: This publication was planned to explain the nature of the problems which the school and the community are confronted in connection with the education of exceptional children and to describe the procedures and special services which have been found effective in meeting the needs of exceptional children within school system. The chapters were written for it by outstanding psychologists and educators, most of whom have had extensive experience in the education of exceptional children. Selected literature references are included in all of the chapters.

NATIONAL SOCIETY FOR THE STUDY OF EDUCATION

Learning and instruction. Prepared by the Yearbook Committee, G Lester Anderson, chairman. Edited by Nelson D Henry Chicago The University of Chicago Press 1950. 352 p 22 cm. (National Society for the Study of Education. Forty ninth yearbook, pt. I) $3.50. 5124

Contents. Editor preface. Introduction. Section I, Basic factors underlying learning. The general nature of learning, by G. L. Anderson and A. I. Gates. Motivation and school learning, by E. R. Hilgard and D. Russell. Section II, How children learn in the school environment: How children learn the motor types of activities, by C. E. Ragsdale. How children learn information, concepts and generalizations, by W. A. Brownell and G. Hendrickson. How children learn personal and social adjustment, by C. Tryon and W. E. Henry. How children learn esthetic responses, by J. L. Mursell. How children learn the principles and techniques of problem-solving, by R. L. Thorndike. Section III, Applying principles of learning to the improvement of instruction at different levels of school work: Implications for organization of instruction and instructional adjustments, by W. H. Burton. Applications of learning principles to the improvement of teaching in the early elementary grades, by E. J Swenson. Implications for improving the instruction in the upper elementary grades, by G. M. Wilson. Implications for improving instruction in the high school, by H. A. Thelen and R. W. Tyler

educational psychology Part II, Foundations of learning: Brightness and dullness. Perception and attention. Emotion and motivation. Physical basis of behavior and learning. Part III, Learning and its measurement Viewpoints on the learning process. How children learn. How teaching guides learning. Psychology of audio-visual learning and teaching. Individual differences. Evaluating learning. Part IV Improving learning habits. Part Psychology of school levels, curricula, and methods. Part VI Social adjustment through learning experiences. Part VII, Personal adjustment through learning experiences: How education affects personality Mental hygiene. Part VIII, Psychological factors in school organization and administration: Psychology of discipline. Psychology of the guidance program. Psychology of extracurricular activities. The improvement of teaching. Selected references. Index.

Note. This introductory book on educational psychology is designed for the use of college students who are preparing for careers in education. The authors have covered not only the standard topics in educational psychology but also certain new areas of the subject, including creative activity and audio-visual learning, the psychological analysis of school levels, of the curriculum, of teaching procedures, and the psychological study of extracurricular activities and school leadership. Each chapter concludes with a group of about 10 brief practical questions and a selected list of about 20 recent books and articles.

HATHAWAY, WINIFRED

Education and health of the partially seeing child. Revised edition New York Published for the National Society for the Prevention of Blindness, Inc., by Columbia University Press, 1947 216 p illus 23 cm. $3 75 5115

Contents (abridged) Part one, Historical background. Part two, Administrative responsibilities Classification of the partially seeing. Method of finding partially seeing children. Administrative program planning. Problems in administrative program planning for small communities and rural areas. School health services for visually handicapped children. Selection and preparation of the teacher of the partially seeing. Supervision of partially seeing pupils. Methods of conducting and financing classes for the partially seeing. Preparing the school for the partially seeing child. Part three, Educational responsibilities: Teaching partially seeing children. The use of mechanical devices in teaching. Child guidance for partially seeing pupils. Part four Community social service responsibilities: Community social service and civic organizations. The road ahead. Appendices What the teacher should know about the eye and eye hygiene. Vision testing, screening process. Equipment for partially seeing pupils. Vocabulary of terms relating to the eye. Bibliography Index.

Note. This work is handbook of procedures, primarily for educational administrators, teachers, and ophthalmologists interested in children ith defective vision. Secondarily it is challenge to the public to make vailable the necessary facilities for specialized educational programs for such children. The broad administrative aspects of the problem are intelligently presented, without sentimentality and the actual details of daily procedure are described clearly and practically although the difficulties of the program are not minimized, especially for the small or rural school system. The revised edition includes some new supplementary and bibliographical material.

HILGARD ERNEST ROPIEQUET, AND DONALD G MARQUIS

Conditioning and learning. New York D Appleton-Century Co , 1940 429 p illus 21 cm. (Century psychology series Richard M Elliott, editor) $4 00 5116

Contents The place of conditioning in psychology Classical conditioning experiments. Instrumental conditioning experiments. The nature of reinforcement. The nature of extinction. Strength of conditioning. Gradients of reinforcement. Generalization and discrimination. Serial learning. Problem solving. Voluntary action. Personality Neurophysiological mechanisms of conditioning. Glossary References and author index. Subject index.

Note. This book represents critical exposition of the facts and theories of conditioning principles. Greatest emphasis has been laid upon the relation of conditioning to learning theory Later chapters survey the possibilities of applying conditioning concepts within some of the other fields. There are 39 figures to supplement the text, and each chapter ends with a summary and notes divided by subject. A 11-page glossary is also added.

HILGARD, ERNEST R

Theories of learning Second edition. New York Appleton Century-Crofts, Inc., 1956. 563 p illus 23 cm. (The Century psychology series Richard M Elliott, editor) $5.50. 5117

Contents. The nature of learning theories. Thorndike's connectionism. Guthrie's contiguous conditioning. Skinner's operant conditioning. Hull's systematic behavior theory Tolman's sign learning. Classical Gestalt theory Lewin's field theory Freud psychodynamics. Functionalism. The emergence of mathematical models. Current developments: I, reinforcement and drive. Some persisting issues. Retrospective prospect. References and author index. Subject index.

Note A critical study of theories of learning which are of current interest. The main points of each theory are discussed at adequate length and are related to experiments which were designed by the author of the theory or by other investigators in order to support or to test its validity The historical antecedents are sketched and references are given to a generous selection of the related literature. The book is of interest to advanced and graduate students of psychology to teachers and to psychologists conducting research in areas of psychology tangential to learning theory The first edition was published in 1948. One chapter covering period was deleted in preparing this second edition, the contents of another were incorporated in other chapters, and four new chapters are written. In addition, most of the chapters carried over are substantially revised. The list of literature references is now 58 pages long, and cites publications as recent as 1955.

LINDGREN, HENRY CLAY

Educational psychology in the classroom. New York John Wiley & Sons, Inc., 1956. 521 p illus. 24 cm $5 00 5118

Contents Introduction to educational psychology Origins of behavior The growth and maturity of the learner The learner and his family The learner in his group. Emotional health and problem behavior. Traditional theories of learning. Psychological concepts of the learning process. Intellectual and non-intellectual factors in the learning process. Teacher-centered approaches to the learning situation. Child-centered approaches to the learning situation. Discipline and the learning situation. Learning through group methods. Evaluation of learning. The meaning and use of standardized tests. Children with special needs. Guidance services—individualized help for the learner. The psychology of being a teacher. Appendixes Acknowledgments. Index.

Note Written for student teachers and designed for first courses in educational psychology this book provides modern and useful view of this field. It is written in readable style and is attractively illustrated. References are made to selection of research studies, but the text is not overburdened ith literature references. The publisher has provided an attractive format.

McGEOCH, JOHN ALEXANDER

The psychology of human learning. Second edition revised by Arthur L. Irion. New York Longmans Green and Company, 1952 596 p illus 22 cm. $5 00 5119

Contents. Concepts and methods. Some theoretical considerations. Conditioned response learning. Intraserial phenomena. The distribution of practice and reinforcement. Learning as function of motive-incentive conditions. The law of effect. The role of frequency Transfer of training. Retention and forgetting. Learning as a function of the material learned and of certain modes of practice and presentation. Individual differences and learning. Concluding statement. Author index. Subject index.

Note. A textbook which is designed primarily for college students who are majoring in educational psychology The treatment is advanced, and the main emphasis is on theory Long bibliographies are included. The author index of cited publications runs to 10 pages. Very substantial changes have been made in the present edition. These include more attention to animal learning and to its correlation with the current knowledge of human learning

MILLARD, CECIL VERNON

Child growth and development in the elementary school years Boston D C. Heath

SORENSON HERBERT

Psychology in education. Second edition. New York McGraw Hill Book Company, Inc., 1948. 535 p. 24 cm. $5.50. 5130

Contents (abridged) Human physical growth and development. Mental growth and development. Social growth and development. Our wants, drives, and urges. Emotions, personality and mental hygiene. Intelligence and its relationship to other qualities. Learning capacity and school success. Adjustment to individual differences in intelligence. The progress of growth and development through learning. Interest, attention, incentives and motivation. Transfer of learning and mental discipline. The activity and project method of teaching. Measuring the learning and achievement of pupils. Appendix: Discussion of some statistical and experimental concepts. Glossary. Author index. Subject index.

Note A well-rounded introductory work. Emphasis is given to such matters as emotional reactions, behavior patterns, and the influence of heredity and environment in shaping the responses of children to teaching. Children are [illegible] as members of society with personalities and apparent abilities which are largely shaped by the [illegible] and influences, but heredity is represented as the determining factor in exceptional degrees of mental ability. The frequent introduction of experimental results and case histories adds interest and credibility to the exposition. The first edition was published in 1940. Two chapters were added in preparing this edition, and much of the original material was rewritten. The extensive bibliographies were revised to include literature published since 1940.

SPENCE, KENNETH W

Behavior theory and conditioning. New Haven Yale University 1956 262 p. illus. 22 cm. (Yale University Mrs. Hepsa Ely Silliman memorial lectures) $4.50. 5131

Contents: Historical and modern conceptions in psychology. Selective learning and conditioning. Acquisition curves of conditioning. Theoretical model based on conditioning curves. The role of reinforcement in instrumental reward conditioning. The role of motivation in conditioning. Some applications of the theoretical model to complex learning. Appendixes. Bibliography. Index.

Note: The author of this significant volume has conducted research on the stimulus-response theory of learning for over 20 years. The book is based in large part on the results of this research, but the pertinent results of others are incorporated also. Although some individual experiments and their individual results are described, the main emphasis is on integration of the results into [illegible] tentative theory. In the seventh chapter the theory is extended from simple conditioning of animals to complex behavior situations. The lectures—which in revised form constitute the chapters of the book—were addressed to an audience that included laymen as advanced students of psychology and graduate scientists. The presentation, therefore, is somewhat less technical than it would be in [illegible] book intended for experimental psychologists alone. Even so, the style is far from strictly popular.

STEPHENS, J M

Educational psychology the study of educational growth. Revised edition. New York Henry Holt and Company 1956 717 p. illus. 24 cm. $6.00. 5132

Contents (abridged) Part I, Psychology and the study of educational growth: Understanding educational development—procedures and pitfalls. Locating and using published research. Part II, Physical and mental growth—the general pattern of forces. Physical growth and the problem of health. Growth in intelligence and in the [illegible] use of symbols. Growth in scholastic achievement. Mental and physical growth—the role of nonscholastic factors. Part III, Physical and mental growth—the teacher enters the pattern of forces. Theories of general behavior. Theories of learning. Meaningful relevance in learning and in problem solving. Reducing interference and confusion. Teaching for permanence and transfer. Part IV, Personal and social growth. Personal and social adjustment—basic needs and processes. Social patterns—individual reactions and group processes. Personal and social adjustment—major forces and [illegible]. Guiding personal and social growth—the problems and the goals. Improvement in adjustment and attitudes—mental hygiene in the classroom. Author index. Subject index.

Note A substantial, modern view of educational psychology is presented in this work. A primary theme [illegible] that the teacher is only one element in [illegible] complex pattern of forces affecting the educational development of individuals, and due attention is given to the other forces. The findings of [illegible] the range of research studies are incorporated, and references are made to the original publications. The first edition [illegible] published in 1951. The chapter on individual practices and group processes was added in this second edition, and most of the chapters were revised and rewritten so as to incorporate the results of additional research. References were added to the bibliographies. The author is [illegible] member of the Johns Hopkins University.

STROUD, JAMES B

Psychology in education. Second edition. New York Longmans, Green and Company 1956 617 p. illus. 22 cm $5.00 5133

Contents: The educative process. Education and social class. Man and nature. Race and culture. Psychology of reading. Language and communication. The nature and measurement of intelligence. Mental and physical growth. Education of exceptional children. Approaches to the psychology of learning. Individual differences. Teacher and pupil. Memory. The impact of experience. Mental hygiene and the school child. The profession of teaching. Author index. Subject index.

Note. An intermediate-level treatment designed as [illegible] text for advanced undergraduate and graduate students of education. It provides [illegible] broad, modern [illegible] of the field with due acknowledgment of the cultural and sociological studies bearing on education. The first edition was published in 1946. It was extensively rewritten, and four chapters were added in preparing this edition. References to research studies published in the decade since the first edition was written were added.

TILTON JOHN WARREN

An educational psychology of learning. New York The Macmillan Company 1951 248 p. illus. 22 cm. $3.75 5134

Contents. Part I, An introduction to learning theory: The general problem. Explanation in terms of elements? Explanation in terms of prior experience? Explanation in terms of effects? Part II, The learning process. A general description of learning. Learning in relation to problem solving. Learning as related to practice. Learning and adjustment. Part III, The individual learner. The measurement of achievement. Measures of ability to learn. Specialization of ability to learn. "Native" ability to learn. Personality. Part IV, Some implications for education. Education and the psychology of learning. For more efficient learning. Index of names. Subject index.

Note. This work is not [illegible] textbook or an encyclopedic reference book of the subject, but is rather an original presentation of the nature of the learning process. The author is acting Chairman of the Department of Education in Yale University.

APPLIED PSYCHOLOGY

BERRIEN FREDERICK KENNETH

Practical psychology Revised edition. New York The Macmillan Company 1952 640 p illus. 22 cm. $6.25 5135

Contents: Part 1. Psychology applied to problems of adjustment: Study efficiency. Principles of mental health. Mental health and guidance. Treatment of maladjustments. Adjustments in later life. Part 2, Psychology applied to industry. Employment psychology. Training in industry and business. Efficiency in production. Morale and rewards for work. Industrial and highway accidents. Part 3, Psychology applied to consumers and advertising: Consumer and advertising research. Advertising. Part 4, Psychology applied to crime. Factors in criminal behavior. Testimony and the courtroom. Detecting deception. Treatment of offenders. Part 5, Psychology applied to personal problems: Vocational guidance. Effective speaking and writing. Appendix: Simple statistics. Name index. Subject index.

Note: A basic text designed for use in introductory college courses. However the inclusive scope and simple style make it useful also to persons out of college who have practical or professional interests in the subject. Literature references are given in the form of footnotes. The first edition appeared in 1944. This edition represents [illegible] substantial revision and enlargement. The author is [illegible] member of the staff of the Institute for Research in Human Relations.

Section IV The psychology of learning and teaching procedures The school as a learning laboratory by G. L. Anderson and others. Index.

Note. A carefully prepared interpretation of learning theory from the viewpoint of its application in teaching. It is addressed to teachers, and its purpose is to aid them in applying what is known about the psychology of learning in their teaching practices. Literature references are included in all of the chapters.

OLSON, WILLARD CLIFFORD

Child development. Boston D C Heath and Company, Inc., 1949 417 p illus 23 cm $4 75 5125

Contents Growth and development. Growth periods and educational programs. The expression and nurture of mental growth. Growth in school achievement. The child as a whole. The human relations of the classroom. The child in the home and community The affective life of the child. The teacher in individual and group relationships. Concepts of child development in curriculum and methods. Concepts of child development in the organization and administration of schools. The philosophy of growth. Appendixes Text books and manuals in child development. Finding, abstracting, and reviewing services. Instructional films. Manual for the behavior journal. Index.

Note This approach to child development is oriented toward school teachers. It is, however a comprehensive approach to the concepts of child development and to a growth point of view concerning the organization and adjustment of behavior A good deal of attention is given to the modern social point of view in education Illustrations and graphs are excellent.

PETERSON, HARVEY ANDREW

Educational psychology, Chapters 12, 16 & 18 by Stanley S Marzolf, with a chapter on mental development in infancy and childhood by Nancy Bayley New York The Macmillan Company 1948 550 p illus 21 cm $5 50 5126

Content The field of educational psychology The social environment of youth. Mental development in infancy and childhood. Mental development in adolescence. The experimental evidence for cooperation in learning. Social learning. Motivation. Case studies in teaching and learning. Individual learning. Learning motor skills. Retention. Mental hygiene. The hygiene of work. The measurement of personality other than intelligence. The measurement of intelligence. The measurement of achievement. Some studies of the modification of heredity by environment. Vocational guidance. Index.

Note An introductory text for student teachers. Common social and educational situations are emphasized rather than purely theoretical principles, and the importance of co-operative learning in groups is stressed. The learning of motor skills is discussed in unusual detail. The book is generously equipped with illustrations, chapter summaries, questions and exercises, lists of supplementary reading, lists of available visual aids, and references to related literature.

REDL, FRITZ AND WILLIAM W WATTENBERG

Mental hygiene in teaching Under the editorship of Willard B Spalding and Ernest R. Hilgard New York Harcourt, Brace and Company 1951 454 p 22 cm. $4 50 5127

Contents Part A, Introduction Food for thought. What it is all about. Part B Some fundamentals Behavior mechanisms. Growth. Influences that shape lives. Some personality distortions. Adjustment, maturity and normality Part C, Classroom applications Mental hygiene and school learning. Group life in the classroom. The psychological roles of teachers. Diagnostic thinking in the classroom. Influence techniques. Some common dilemmas teachers face. Children who need special help. Working with parents. Teachers' problems. Limitations of mental hygiene in education. Part E, Appendices Sources of additional help and information. Meaning of special terms. Index.

Note Well versed in modern dynamic concepts of personality development, the authors of this book have made distinct contribution to teachers who wish to approach children as individuals and to see the adjustment problems of children as real and significant. There is practically none of the technical terminology of clinical psychology. Instead, the book is written in the common language. The cases and situations described are typical of those encountered in public schools. The appendixes contain a guide to periodicals and pamphlets on mental hygiene, to audio-visual aids, and a glossary of technical terms.

SKINNER, CHARLES E , editor

Educational psychology Third edition. Englewood Cliffs, N J Prentice-Hall, Inc., 1951 791 p illus 22 cm $6 75 5128

Contents. Introduction: The nature and scope of educational psychology by C. E. Skinner Part I, Human growth and development: The general nature of growth and development, by T R. McConnell. Emotional development, by A. T Jersild. Social growth and character formation, by F F Powers. Intelligence—its nature, growth, and measurement, by P Witty Individual differences in mental abilities—their nature and causes, by F S. Freeman. From childhood to adolescence, by E. S. Conklin and F S. Freeman. Part II, Learning: The learning process—acquisition and retention, by R. A. Davis. Motivation in school learning, by M. K. Thomson. Development of motor skills and knowledge, by J. D. Lawther. Problem solving, by J. Stanley Gray Creative learning and expression, by J M. Fletcher Interests, attitudes, and ideals, by G. W Hartmann. Learning the fundamental school subjects, by K. C. Garrison. Subject disabilities—special difficulties in school learning, by E. R. Wood. Transfer of learning, by L. W Webb. Basic principles of learning, by J N Washburne and others. Part III, Personality and adjustment Personality—its nature and development, by P L. Boynton. Personality maladjustments and mental hygiene, by R. T Rock, Jr Adjustment of deviating children, by J E. Wallace Wallin. Abnormal children and their treatment—some special behavior problems, by F A. Moss. Part IV Measurement and evaluation Educational measurements, by E. A. Lincoln. Teacher-made examinations and other techniques of evaluation, by W J Gifford. Part V Teaching and guidance. Guidance, by M. R. Trabue. Practical guidance and the teacher by A. W Abel. What is teaching? by L. E. Raths. Subject index. Index of names.

Note. A successful textbook, widely used in introductory courses in teachers' colleges. The various chapters are written by outstanding authorities, most of whom are professors in colleges and universities in the United States of America. No particular school or method is favored; but most of the chapters emphasize concepts and theories which have been verified by experimental evidence. Selected but extensive lists of suggestions for further reading are special feature. The second edition was published in 1945. For this third edition many chapters were rewritten in whole or in part. The arrangement of the book was changed somewhat. A selection of the literature published since 1944 was added to the reference lists.

SKINNER, CHARLES E , editor

Elementary educational psychology Second edition. New York Prentice-Hall Inc., 1950 592 p illus 22 cm $5 75 5129

Content Part I, Introduction The nature of educational psychology by J W Charles. The teacher and his task, by F F Powers Part II, Growth and development Personality and behavior, by P L. Boynton. Growth and development, by P L. Harriman. Stages in human life infancy childhood, adolescence, maturity and senescence, by F F Powers. Part III, Mental abilities and individual differences Intelligence and aptitude their nature, development, and measurement, by P A. Witty Individual differences and school adjustments, by J W Wrightstone. Part IV The learning process and evaluation of learning outcomes General aspects of learning, by F F Powers. The dynamics of learning, by P L. Harriman. Transfer of training, by P L. Boynton. Perceptual motor and associational learning, by J W Wrightstone. Reflective thinking and problem-solving, by P L. Harriman. Creative thinking and learning, by P L. Harriman. Psychology of the school subjects, by J W Wrightstone. Appraising the results of learning, by J. W Wrightstone. Part V Personality adjustment, and guidance: Emotion and adjustment by W C. Ryan. Social adjustment and conduct disorders, by W C. Ryan. Adjustment and guidance of the exceptional child, by W C. Ryan. Mental hygiene, by W C. Ryan. The nature and techniques of guidance, by F F Powers. Index of subjects. Index of names.

Note. An established introductory text for college students who are preparing for careers in teaching. Modern ideas and methods are emphasized. The pattern of the book is the same as in the first edition, but the several authors have brought their chapters and the accompanying reference lists up to the date of the revision.

FRYER, DOUGLAS HENRY, AND EDWIN R. HENRY editors

Handbook of applied psychology Contributors Theodora M Abel and others. New York Rinehart & Company Inc., 1950. 2 v 842 p. illus. 26 cm. $15.00. 5142

Contents (abridged): Part one: Group living. Individual efficiency. The individual adjusting to his environment. Techniques of personnel psychology. Fields of personnel psychology: selection and training. Industrial psychology. Transportation. Business psychology. Part two: Educational psychology—techniques of educational adjustment. Fields of educational psychology. Clinical psychology. Fields of clinical psychology. Penology. Consulting psychology. The professions—contributions of applied psychology. The arts—contributions of applied psychology. Administration of psychological services. The professional psychologist. A selected and classified bibliography in applied psychology. Index of contributors. Subject index.

Note: A work composed of 115 papers especially written for it by outstanding American psychologists. It was prepared under the auspices of the American Association for Applied Psychology. The papers are signed with the names of the contributors. Each one is a concise statement of the aspect of applied psychology named in its title and concludes with a selected bibliography. The main bibliography, although a selected one, also runs to 50 closely printed pages.

GARDNER, BURLEIGH, AND DAVID G MOORE

Human relations in industry Third edition. *Homewood, Ill. Richard D Irwin, Inc.*, 1955 427 p. illus. 23 cm. $7.00 5143

Contents: The dynamics of business. The dynamics of human behavior. Division of labor. Authority system and chain of command. Status and status hierarchies. Systems of communication. The functions and problems of each level. The union—its functions and place in the structure. Unions and their structure. Wages and wage systems. Wage incentives and restriction of output. The technique of organization. The individual in the structure. Minority groups in industry. The problems of change. The industrial relations organization. Personnel counseling. Executive personality and organization. Human relations and management. Study Guide. Index.

Note: A very practical exposition of industrial psychology. It is addressed to management and supervisory personnel in industry rather than to college students; and it covers broadly the human relations aspect of management of workers including such important items as wages and wage systems. However, it is concerned primarily with psychology and is particularly valuable for its down-to-earth discussion of such matters as status hierarchies, adjustments and maladjustments of individual workers, and the problems of minority groups.

GHISELLI, EDWIN E. AND CLARENCE W BROWN

Personnel and industrial psychology Second edition. New York McGraw-Hill Book Company Inc. 1955 492 p. illus. 23 cm. (McGraw Hill series in psychology *Clifford* T Morgan, consulting editor) $6.50. 5144

Contents: The scientific study of human factors in industrial problems. Analysis of jobs. The measurement of job proficiency. Rating methods. Principles and problems in the selection and classification of workers. The interview and personal-data analyses. Characteristics and development of psychological tests. Prediction of occupational success by means of aptitude tests. Nature and characteristics of human work. Conditions of work and productivity. Methods of work and design of equipment. Accidents and the safety problem. Training in industry. Motivation of workers. Social factors in industry. Name index. Subject index.

Note: It includes treatment of the psychological principles fundamental to effective personnel and training policies. It is designed for both university students and interested readers in industry, business, and labor. Because of its many brief subdivisions and simple language, it may be comprehended whether studied in an organized course or in self-instruction. Its general approach is characterized by emphasis on the human factor as an integrated whole, in contrast with the atomistic conception of the worker as a set of mechanical responses to stimuli. A number of examples in the text and references compiled at the end of each chapter contribute to a thorough and systematic presentation, but do not interfere with the readability of the book. The first edition was published in 1948. In this second edition, the scope of the book is essentially unchanged, but revision—not extensive in most instances—has been made in many chapters and literature published since the first edition has been added to the list of references. The original chapter on social factors in industry is a new addition.

GRAY, JOHN STANLEY

Psychology applied to human affairs. Second edition New York McGraw Hill Book Company Inc., *1954* 581 p. illus. 24 cm. (McGraw Hill series in psychology Clifford T Morgan, consulting editor) $6.25 5145

Contents: *Introduction—antecedents of applied psychology.* Psychology in college life. Child development. Educational psychology. Vocational guidance. Personality adjustments. Speech correction. Mental illness, by F. A. Brown. Clinical psychology, by C. A. Whitmer. Psychological effects of diet and drugs. Crime and crime detection, by D. S. Rogers. Psychology in industry—work and efficiency, by A. G. Dietze—employment methods, by S. E. Seashore—training and morale, by S. E. Seashore—wage determination. Psychology in marketing and advertising, by M. A. B. Brazier and W. R. Myles. Military psychology, by G. L. Fahey. Psychology in music and art, by G. Reyburn-Gray. Public opinion and propaganda, by R. Stagner. Appendix. Name index. Subject index.

Note: A standard textbook for college courses in applied psychology. The title notwithstanding, the book is not intended for reading outside of organized courses conducted under competent instructors. Practical aspects of psychology are emphasized, and each chapter is in effect a compact, interpretative summary with references to original sources of selected papers and reports that bear on its specific topic. One of the authors' aims was to include facts about the applications of psychology in a variety of fields. The first edition was published in 1946. In preparing the second edition, the order of chapters was rearranged, the former chapter on the psychological effects of narcotics and drugs was replaced by a new one, and revisions were made in a number of chapters. The chapters listed in the above contents without authors' names were written by Professor Gray; the other chapters were contributed by the psychologists whose names are given. Both references to support statements in the text and lists of supplementary reading are included.

GRAY JOHN STANLEY

Psychology in industry New York McGraw Hill Book Company Inc., 1952 401 p. illus. 24 cm. (McGraw Hill publications in psychology Clifford T Morgan consulting *editor*) $6.00. 5146

Contents: Introduction—Basic concepts in human engineering. Work analysis. Worker analysis. Job training. Methods of work. Wages and merit rating. Wages and job evaluation. Nutrition and rest. Safety. Monotony and boredom. Lighting and ventilation. Age of workers, by K. Garrison. The worker's morale, by K. Garrison. Employee adjustment, by K. Garrison. Appendix. Name index. Subject index.

Note: The inclusion of a chapter on nutrition and rest is indicative of the scope of this practical book. The author states, any factor which affects the production efforts of workmen is appropriately classified as industrial psychology. The level of treatment is introductory but the reader needs a basic knowledge of psychology and also some acquaintance with industry. Although organized so that it may be used as a college text, the book is equally suitable as a practical introduction to the field for men already employed in personnel work and time study in industry. Literature on which statements in the text are based is cited in footnotes.

GRAY JOHN STANLEY editor

Psychology in use a textbook in applied psychology Second edition. New York American Book Company 1951 550 p. 23 cm. (American psychology series Henry E. Garrett, general editor) $5.00. 5147

BLUM, MILTON L., AND BENJAMIN BALINSKY

Counseling and psychology, vocational psychology and its relation to educational and personal counseling New York Prentice-Hall, Inc., 1951 586 p illus. 22 cm. $5 75 5136

Contents: Introduction. Pseudo-scientific guidance. Types of counseling centers. The counseling interview-general. The counseling interview-specific. Principles of vocational testing. Types of vocational tests. The guidance use of intelligence, aptitude, and achievement tests. The guidance use of interest and personality tests. Clinical psychology in relation to vocational counseling. Integrating tests and counseling interviews. Statistics in test interpretation. The concept of interest in relation to counseling. Occupational information. The relation of occupational information to vocational psychology The counselor Evaluation of guidance. Employee counseling. Relation of vocational guidance to vocational selection. Index of names. Index of subjects.

Note The contributions of psychology to the body of knowledge known as vocational counseling is covered in this book. It is used not only as college textbook but also as home reading for non-psychologists, such as teachers and social workers who are interested in and perform counseling duties. Selective bibliographies appear at the ends of the chapters.

BLUM MILTON L

Industrial psychology and its social foundations Revised edition. New York Harper & Brothers 1956 612 p illus. 24 cm (Under the editorship of Gardner Murphy) $6 00 5137

Content Part I, Prelude Introduction. The Hawthorne studies. Part II, Understanding the employee Motivation and work. Measuring attitudes. Job satisfaction. Industrial morale. Unemployment. Part III, Understanding the employer Leadership. Industrial warfare. Part IV Problems related to work Psychological testing in industry Psychological testing programs used in industry Job analysis and evaluation Work environment. Fatigue and other phenomena. Time and motion studies and human engineering. Training and learning. Accidents. Part V Product distribution: Consumer research. Advertising. Selling. Part VI, Summary and integration Overview Test appendix. Index of companies, institutions, and government departments. Index of names. Index of subjects.

Note Primarily college textbook in which is presented an introductory but inclusive survey of applied psychology in the field of labor-management relations, and some other applied fields such as consumer research, in democratic society The presentation is without bias toward labor or management. The 'Hawthorne studies' conducted from 1927 to 1939 at the Hawthorne Works of the Western Electric Company are described, and full use has been made of their implications. However much material has been drawn also from the programs and experiences of other companies. The first edition was published in 1949 In this edition the book has been reorganized, increased in length by approximately 100 pages, and revised and extended in various sections. A selection of the recent literature has been added to the bibliographies. The author is member of the faculty of the Baruch School of Business of City College of New York.

BURTT, HAROLD ERNEST

Applied psychology New York Prentice Hall Inc 1948 821 p illus 23 cm. 5138

Contents (abridged) Some psychological fundamentals. Educational significance of differences in intelligence. Personal efficiency Vocational guidance. Psychology in general medical practice. Nature and diagnosis of mental disorders. Psychotherapy Psychology of testimony Psychological techniques for crime detection. Psychological factors in crime. Psychological tests in employment. Efficiency in industrial work. Fatigue, monotony and accidents. Morale. Methodology and selecting of advertising appeals. Advertising media. Outlying fields. Appendix. Index.

Note The principles and some of the techniques of applied psychology are surveyed in this book, which is addressed primarily to college students of psychology and secondarily to laymen, such as business men, who desire more than superficial popularization. There are no exercises or problems, and no bibliography other than occasional footnotes. The author is Chairman of the Department of Psychology at Ohio State University A second edition was published in 1957 593 p., $6.95.

CHAPANIS, ALPHONSE, AND OTHERS

Applied experimental psychology, human factors in engineering design. By Alphonse Chapanis, Wendell R. Garner and Clifford T Morgan New York John Wiley & Sons, Inc., 1949 434 p illus. 24 cm. (Wiley publications in psychology, Herbert S Langfeld, advisory editor) $6 50 5139

Contents. Introduction. A little statistics. The use of statistics. How we see. Instrument dials and legibility Visual displays. How we hear Speech. Tonal signalling systems. How make movements. Controls for human use. The arrangement of work. Working and resting. The working environment. Index of names. Subject index.

Note: Here is an invaluable work for engineers who design machinery plan production operations, or are concerned with safety programs. Because considerable part of it is derived from investigations and experiments in the control of airplanes, it is of special interest to aeronautical engineers. Another considerable portion of it has direct application to personnel management in factories. A wide range of results of psychological investigations into such matters as the best design for dials, the legibility of type and symbols, the relations between the length of work periods and fatigue have been organized and interpreted. Source articles are carefully cited. Although technical terminology is by no means avoided, the book is outstanding for its readability

CURRENT TRENDS IN INDUSTRIAL PSYCHOLOGY

By Wayne Dennis and others. Pittsburgh University of Pittsburgh Press, 1949 198 p. 22 cm. (Current trends in psychology series University of Pittsburgh Press) $4 00 5140

Contents. The background of industrial psychology by W Dennis. Organization structure, by C. L. Shartle. Job requirements, by J. C. Flanagan. Personal selection, by O. L. Crissy Training in industry by W McGehee. Employee-management relations, by R. Baxter Morale and motivation in industry by D. Katz. Industrial psychology and the community by H. C. Taylor

Note. A collection of papers presented at symposium held at the University of Pittsburgh in February 1949. As indicated by the title, the general topic for discussion is the part which psychology and psychologists are playing and should play in the industrial field.

FREEMAN, FRANK S

Theory and practice of psychological testing Revised edition. New York Henry Holt and Company Inc., 1955 609 p. illus 22 cm 5141
$6 00

Contents. Basic theoretical principles. Interpretation of test scores—quantitative and qualitative. Definitions and analyses of intelligence The Binet scales. Early revisions of the Binet-Simon scale. The 1937 revision of the Stanford-Binet scale. The Wechsler scales. Individual performance scales. Scales for infants and preschool children. Nonverbal group scales of mental ability Verbal and mixed group scales of mental ability Aptitude tests—mechanical and clerical—fine arts and professions. Tests of educational achievement. Intelligence tests as clinical instruments. Tests of mental impairment. Personality rating scales. Personality inventories. Projective methods—the Rorschach and the thematic apperception tests. Projective methods—various. Situational tests. Index.

Note Primarily descriptive treatment of the various kinds of tests currently used for assessing the intelligence, personality aptitudes, and educational achievements of individuals. It is used as text by students of psychology social workers, personnel officers and others employing psychological tests. The purpose, method of application, and interpretation of each test are the main topics, but material is also included on the principles and theories upon which the tests are based. The first edition was published in 1950 In preparing this revised edition, the former chapters on statistics in psychological testing and on applications of problems were deleted. Nevertheless, the length of the book has been extended by almost 100 pages, due to the inclusion of additional material The chapters carried over were well revised, and in many instances considerably augmented. The author is member of the faculty of Cornell University

[illegible] of the situation. Propaganda analysis. Propaganda intelligence. [illegible] of the situation. Part III, Planning and operations. [illegible] Operations for psychological warfare. Plans and planning. [illegible] against civilians. Operations against troops. Part IV Psychological warfare after World War [illegible] The "cold war" and [illegible] [illegible] international information operations. Research, [illegible] and the future. Appendix. Military psywar operations, [illegible] Index.

Note: An expert study of propaganda and other psychological [illegible] which can be employed to influence enemy morale and [illegible] enemy resistance. Theoretical principles [illegible] the [illegible] type of warfare are discussed, but the emphasis is on practical [illegible] Leaflets and other forms of propaganda used by both [illegible] in World War [illegible] and in other [illegible] are illustrated and [illegible] analyzed. Techniques of distribution are described. In [illegible] second edition, pages 1–241 are identical [illegible] with the first edition, but the material on pages 241–[illegible], replacing all of Part IV [illegible] listed in the above contents, is newly added.

MAIER, NORMAN RAYMOND FREDERICK

Principles of human relations applications to management. New York John Wiley & Sons, Inc., 1952 474 p. illus. 24 cm. $7.00. 5154

Contents: Introduction. A human relations training program. Discussion methods. Role playing. Role playing in large groups. [illegible] Group-decision procedure. [illegible] in human relations training. [illegible] The quality of group decision [illegible] Transcriptions of two cases [illegible] by the discussion leader. [illegible] The supervisor [illegible] dealings with individuals [illegible] conferences. [illegible] Bibliography. Index.

Note: Although this is essentially [illegible] book on the application of psychology to common management problems in industry [illegible] principles are subordinate to descriptions and analyses of [illegible] techniques. The main theme of the book is the importance of the principle of participation on the part of both management and employees in arriving at decisions that affect personnel [illegible] Discussion procedures in which employees [illegible] participate are described in detail, and are [illegible] with full [illegible] of actual cases. There are [illegible] pages of case studies and [illegible] of pages of transcriptions of interviews and conferences. The [illegible] techniques suggested have been tested in industry by the author, who is Professor of Psychology in the University of Michigan.

MAIER, NORMAN RAYMOND FREDERICK

Psychology in industry: a psychological approach to industrial problems. Second edition. Boston Houghton Mifflin Company 1955 678 p. illus. 22 cm. $6.00 5155

Contents: The place of psychology in industry. [illegible] factor in behavior. The psychology of attitudes. Frustration as [illegible] factor in behavior. [illegible] Morale. Supervisory leadership. Individual differences. [illegible] The use of psychological tests in industry. The [illegible] of psychological tests. Motion and time analysis. [illegible] Basic principles of motivation. Motivation and [illegible] Fatigue. Psychological fatigue and related phenomena. Safety [illegible] The working environment. Psychological factors in labor turnover. [illegible] and interviewing. Bibliography. Index of names. Index of subjects.

Note: An introduction to the theories and principles of psychology as applied to human problems in industry. It is essentially [illegible] and up to date. Much space [illegible] devoted to the [illegible] psychology of human attitudes, feelings and needs, and there is less than the usual emphasis on the use of psychology in such industrial [illegible] as employee selection. The book [illegible] addressed to college students, both those who are majoring in industrial psychology and those who are preparing for careers in business administration and in administrators engaged in activities that require an understanding of industrial psychology. The first edition was published 1946. This second edition represents an extensive revision and substantial enlargement of the book. There are two additional chapters. The bibliography, which now includes [illegible] selection of the [illegible] published since the first edition was written, is 30 pages [illegible]

NATIONAL RESEARCH COUNCIL. COMMITTEE ON UNDERSEA WARFARE. PANEL ON PSYCHOLOGY AND PHYSIOLOGY

A survey report on human factors in undersea warfare. Washington, D C. The National Research Council Committee on Undersea Warfare 1949 541 p. illus. 26 cm. $2.25 5156

Contents: Part I, General visual problems. How we see—a summary of basic principles, by A. Chapanis. The night lookout, by C. H. Wedell and L. A. Riggs. The design and use of optical instruments, by L. A. Riggs. Printed materials, maps, and charts, by M. N. Cook. The design and use of instruments, by W. E. Kappauf. Visual display [illegible] Visibility on radar scopes, by [illegible] Williams. Visual display of complex information, by J. W. Gebhard. Part II, Design and arrangement of operating equipment. The design of controls, by D. R. Craig and D. G. Ellson. Human factors in panel design, by [illegible] Arrangement of equipment, by R. C. Channell and [illegible] Part III, Auditory problems. Auditory signals, by W. R. [illegible] Auditory discrimination in sonar operation, by W. D. Neff [illegible] and W. R. Thurlow. Part IV Communication. Voice communication—personnel and phraseology by M. H. Abrams. Voice communication—effects of masking and distortion, by G. A. Miller. Visual communication, by W. S. Verplanck. Part [illegible] Habitability: A. Physiological factors. Temperature and humidity in relation to the thermal interchange between the human body and the environment, by L. P. Herrington and J. D. Hardy with [illegible] foreword on the habitability of submarines—a review of the physiological problems, by E. F. DuBois. Diet, by J. Brozek and O. Mickelsen. The sleep-wakefulness cycle of submarine personnel, by N. Kleitman. Part VI, Habitability. B. Psychological factors: Relation of noise to the habitability of submarines, by P. K. Brown. Lighting and color, by M. A. Tinker. Motion sickness—its psychophysiological aspects, by J. E. Brown. Motion sickness—physical considerations regarding its etiology by M. F. Morton. Part VII, Emotional stability and adjustment. Psychophysiology of stress, by C. W. Darrow and C. E. Henry. Psychological causes and results of stress, by R. L. French. Part VIII, [illegible] Morale and leadership, by R. L. French. Part VIII, Selection and training. Selection and training, by L. J. Cronbach. Part IX, Personnel resources. Personnel resources for research in applied experimental psychology by J. L. Kennedy and R. C. [illegible] Name Index. Subject Index.

Note: A collection of original papers written by specialists in response to [illegible] request to provide [illegible] concise, but comprehensive account of the present status of basic and applied research and needed [illegible] formulate recommendations for future research. The papers are accompanied by bibliographies. Three of the papers listed in the above table of contents are not included in the volume itself but are available only from the Chief of Naval Research of the Navy and are loaned only to persons authorized to receive classified [illegible]

POFFENBERGER, ALBERT THEODOR

Principles of applied psychology. New York D. Appleton-Century Company Inc. 1942 655 p. illus. 24 cm. (The Century psychology series R. M. Elliott, editor) $5.00. 5157

Contents (abridged): The field of applied psychology. Learning and the acquisition of skill. Thinking and suggestion. Work and rest. Monotony—a problem in adjustment. The influence of drugs and stimulants. Principles of vocational adjustment. Rating human qualities. The role of intelligence in adjustment. Adjustment to uniformity and variety of work—specialization—standardization. Psychological problems in the distribution of goods. The adjustment of advertising and selling methods to the consumer. The causes of criminal behavior. The determination of guilt. Treatment of the offender. Psychology in the treatment of disease. Psychology in education. Bibliography. Index.

Note: A broad survey of the subject, designed for undergraduate college students who have had an elementary course in the subject. The book is also of interest to vocational teachers, business men, and others [illegible] have some knowledge of psychology. This title is successor to H. L. Hollingworth and A. T. Poffenberger, *Applied psychology*, new edition, New York, 1923. This edition contains nine new chapters, [illegible] include chapters on the psychology of the judge and jury [illegible] advertising, and on vocational subjects. The text is keyed to the bibliography [illegible] includes 722 numbered entries.

ROE ANNE

The psychology of occupations. New York John Wiley & Sons Inc., 1956. 340 p illus. 23 cm. $6 75 5158

Contents: Part I, The roles of occupations: Occupations in three societies. The role of the occupation in the life of the individual. Part II, People differ: Variability. Physical differences. Psycho-

Contents Principles of psychology available for use, by K. C. Garrison and M. Zeigler. Psychology in determining vocational aptitudes, by K. C. Garrison. Psychology in home life, by A. S. Jensen. Psychology in education, by J B Stroud. Psychology in industry by E. E. Ghiselli. Psychology in business, by H. W Hepner. Psychology in law and in criminology by C. A. Whitmer and G. I. Giardini. Psychology in arfare, by T W Harrell. Psychology in clinical practice, by C. R. Rogers and M L Stein. Psychology in medicine, by T Hunt. The psychology of influencing other people, by R. Stagner. Psychology in social reform, by G. W Hartmann. Author index. Subject index.

Note. A college textbook which affords view of the main fields of applied psychology The authors of the various chapters are prominent contemporary psychologists. Generally speaking, each author outlines applications of psychology in his field, describes particular examples, and refers to related professional literature. In comparison to the first edition published in 1941 revisions appear in most of the chapters, but few of the changes are drastic. The chapter on psychology in warfare is a new addition.

HAHN, MILTON E , AND MALCOLM S MAC-LEAN

Counseling psychology Second edition New York McGraw Hill Book Company, Inc., 1955 302 p illus. 24 cm. $4 75 5148

Contents Counselors and counseling. The philosophy and ethics of counseling psychology The nature of educational-vocational-personal problems. The tools and techniques of counseling. Aptitudes, abilities, skills, and achievements. Educational-vocational interests. Collection of data for a systematic case study A counseling interview—some implications. Learning, anxiety reduction, and counseling. Prognosis and prediction. Counseling psychology and related disciplines. Author index. Subject index.

Note. The first edition of this book, published in 1950, was entitled *General clinical counseling in educational institutions.* The second edition, completely revised, has been given new title, to reflect more precisely the nature of the contents. It deals fully with late and significant developments as well as covering the earlier history of the emergence of counseling psychology from the general psychological field and of administratively operated guidance. Included in the preface to the new edition is a brief review of the literature of the field of counseling psychology between the years 1950 and 1955 In addition, each chapter except the last closes with bibliography The authors are ...sors at the University of California, Los Angeles.

HAIRE, MASON

Psychology in management. New York McGraw Hill Book Company, Inc., 1956 212 p 23 cm. (McGraw Hill series in psychology Clifford T Morgan, consulting editor) $4 75 5149

Contents. Introduction. The nature of people. Leadership and supervision. Communication. Training. Productivity and wage-payment plans. More complex problems. Index.

Note. A lucid discussion of some of the high points of applied psychology which are important in the management of enterprises. It is designed for rapid reading and it contains no literature references, chapter summaries, or other customary paraphernalia of text. Nevertheless, it is reliable book and contains information of importance for the intended readers. The author is a specialist in industrial psychology associated with the Institute of Industrial Relations at the University of California.

HARRELL, THOMAS WILLARD

Industrial psychology New York Rinehart & Company Inc., 1950 462 p 23 cm. $5 00 5150

Contents (abridged) Occupational information. Individual differences. Individual differences and their evaluation. Selection by interview and application blank. Personnel tests. Human engineering. Improving work methods. Training. Fatigue and conditions of work. Accident prevention. Human relations Motivation. Attitudes and job satisfaction. Mental hygiene and personnel counseling. Psychological aspects of labor relations. Supervision...Name index. Subject index.

Note. An introductory but substantial ... the contribution that psychology can make in industry ... the problem labor management cooperation and to de... ques which wi... facilitate such cooperation. The author firmly believes that psychology has an important place in developing scientific methods for the study of human behavior in industry However he does not disguise the fact that industrial psychology is not yet fully developed science with universally accepted principles and methods. Many case studies are used to illustrate methods and indicate results. Extensive bibliographies follow the several chapters. The author is Professor of Psychology in Stanford University

JANIS, IRVING L

Air war and emotional stress, psychological studies of bombing and civilian defense. New York McGraw Hill Book Company, Inc., 1951 280 p 24 cm. $7 50 5151

Contents Part I, Reactions at Hiroshima and Nagasaki Introduction. Emotional impact of the A-bomb. Aftermath of the atomic disasters. Part II, Effects of air war Scope of the inquiry Psychiatric disorders. Fear and emotional adaptation. Aggression and wartime morale. Adjustment mechanisms. Part III, Psychological aspects of civilian defense General assumptions. Problems of disaster control. Training and emotional inoculation. Education for survival. Apprehensiveness among the urban population. Bibliography Index.

Note. An important work based on the literature and on research carried out by the Rand Corporation for the United States Air Force. The results of the research were first presented in reports for specialists. These reports served as the primary basis for the book which, however is directed primarily to nonmilitary personnel, including psychologists, and civilian officials concerned with national defense and the protection of civilian populations. Much of the book is based on World War II experience. However the third part looks to the future and particularly to the training of civilian populations in ways that should reduce civilian casualties in case of another major war Pertinent literature is cited in footnotes, and in the seven-page bibliography at the end of the volume.

LAIRD, DONALD A., AND ELEANOR C LAIRD

Practical business psychology Second edition. New York Gregg Publishing Division, McGraw Hill Book Company, 1956 472 p. illus 23 cm. $5 95 5152

Contents (abridged) Part I, Personal efficiency Psychology in business efficiency What is "a fair day's work"? Efficiency and ability to concentrate. Speedier reading, vocabulary building, and use of the eyes. Efficient learning and vocational training. Ways to plan and organize work for greater efficiency Matching jobs and people. Part II, Human relations and morale. Human relations in ... and business. The rise of modern human relations. Motivation ... Creating confident hopefulness. ... morale and the will to work. Personality for business. ... Personality and emotional health Personality for business ... conduct personality interview Part IV Personal leadership ... group cooperation. The nature and basis of leadership. ... The strategies of leadership ...ment of personal leadership. Group cooperation in business. Index.

Note. ... survey of business ... rating the first edition of this book, as made by the authors ... tors and industrial training directors ... and how the contents ... determine what the book should contain and how the ... psychology of ... be presented. The result is that the applied psychology of ... research methodical business is emphasized, while the laboratory ... written partly ... of psychology are treated briefly The book is ... terminology of the terminology of business, but the elementary ... chology is used also. It is addressed to personnel workers, foremen ... an interest in ... In fact, to practically anyone who has ... relations and ... standing the elementary psychology of business ... industrial counsel... It is used as textbook in college and ... second edition ... The first edition as published in 1951. The ... training directors ... on new survey of educators and industrial ... sections in chapters contains three new chapters and many new ... ment of the material ...ried over Also there has been some rearrange-

LINEBARGER, PAUL M A.

Psychological warfare Second edition. Washington D C Combat Forces Press, 1954 318 p illus 24 cm $6 00 5153

Contents. P... Definition and history Historic examples of psychological ... The function of psychological warfare. ... ation of ... warfare. The limitations of psychological ... warfare in World War I. Psychological ... Part II, Analysis, intelligence, and esti-

ment of the situation. Propaganda analysis. Propaganda intelligence. Estimate of the situation. Part III, Planning and operations. Organization for psychological warfare. Plans and planning. Operations for civilians. Operations against troops. Part IV, Psychological warfare after World War II. The "cold war" and [illegible] and [illegible]. Strategic international information operations. Research, development and the future. Appendix: Military psywar operations, 1950-[illegible]. Index.

Note. An expert study of propaganda and other psychological techniques which can be employed to influence enemy morale and sway enemy audiences. Theoretical principles which underlie the type of warfare are discussed, but the emphasis is on practical applications. Leaflets and other forms of propaganda used by both sides in World War [illegible] and in other wars are illustrated and critically analyzed. Techniques of distribution are described. In the second edition, pages 1-241 are identical with the first edition, but the material on pages 243-[illegible], embracing all of Part IV as listed in the above contents, is newly added.

MAIER, NORMAN RAYMOND FREDERICK

Principles of human relations: applications to management. New York: John Wiley & Sons, Inc., 1952. 474 p. illus. 24 cm. $7.00 5154

Contents: Introduction. A human relations training program. Discussion methods. Role playing. Role playing in large groups. Reactions to human relations training. Group-decision procedure. Democratic supervision in action—case studies. The quality of group decisions as influenced by the discussion leader. Transcriptions of two problem-solving conferences. The supervisors' dealings with [illegible]. [illegible]. Bibliography. Index.

Note. Although this is essentially a book on the application of psychology to common management problems in industry, psychological principles are subordinate to descriptions and analyses of practical techniques. The main theme of the book is the importance of the principle of participation on the part of both management and employees in arriving at decisions that affect personnel relations. Discussion procedures in which employees with grievances participate are described in detail, and are pointed up with full accounts of actual cases. There are 30 pages of case studies and some [illegible] pages of transcriptions of interviews and conferences. The new techniques suggested have been tested in industry by the author, who is Professor of Psychology in the University of Michigan.

MAIER, NORMAN RAYMOND FREDERICK

Psychology in industry: a psychological approach to industrial problems. Second edition. Boston: Houghton Mifflin Company, 1955. 678 p. illus. 22 cm. $6.00. 5155

Contents: The place of psychology in industry. Causation in behavior. The psychology of attitudes. Frustration as a factor in behavior. Morale. Supervisory leadership. Individual differences. Measuring proficiency. The use of psychological tests in industry. The general nature of psychological tests. Motion and time analysis. Industrial training. Basic principles in motivation. Motivation and work. Fatigue. Psychological factors and related phenomena. Safety. The working environment. Psychological factors in labor turnover. Counseling and interviewing. Bibliography. Index of names. Index of subjects.

Note. An introduction to the theories and principles of psychology as applied to human problems in industry. It is eminently practical and up to date. Much space is devoted to the basic psychology of human attitudes, feelings and needs, and there is less than the usual emphasis on the use of psychology in such industrial operations as employee selection. The book is addressed to college students, both those who are majoring in industrial psychology and those who are preparing for careers in business administration, and to administrators engaged in activities that require an understanding of industrial psychology. The first edition was published in 1946. This second edition represents an extensive revision and substantial enlargement of the book. There are two additional chapters. The bibliography, which now includes a selection of the literature published since the first edition was written, is 30 pages long.

NATIONAL RESEARCH COUNCIL. COMMITTEE ON UNDERSEA WARFARE. PANEL ON PSYCHOLOGY AND PHYSIOLOGY

A survey report on human factors in undersea warfare. Washington, D. C.: The National Research Council Committee on Undersea Warfare, 1949. 541 p. illus. 26 cm. $2.25 5156

Contents. Part I, General visual problems: How we see—a summary of basic principles, by A. Chapanis. The night lookout, by C. M. Wedell and L. A. Riggs. The design and use of optical instruments, by L. A. Riggs. Printed materials, maps, and charts, by M. N. Crook. The design and use of instruments, by W. E. Kappauf. Visibility on radar scopes, by S. B. Williams. Visual display of complex information, by J. W. Gebhard. Part II, Design and arrangement of operating equipment: The design of controls, by D. E. Craig and D. G. Ellson. Human factors in panel design, by E. [illegible]. Arrangement of equipment, by R. C. Channell and others. Part III, Auditory problems: Auditory signals, by W. R. Garner. Auditory discrimination in sonar operation, by W. D. Neff and W. R. Thurlow. Part IV, Communication: Voice communication—personnel and phraseology, by M. H. Abrams. Voice communication—effects of masking and distortion, by G. A. Miller. Visual communication, by W. S. Verplanck. Part V, Habitability: A. Physiological factors. Temperature and humidity in relation to the thermal interchange between the human body and the environment, by L. P. Herrington and J. D. Hardy, with a foreword on the habitability of submarines—a review of the physiological problems, by E. F. DuBois. Diet, by J. Brozek and O. Mickelsen. The sleep-wakefulness cycle of submarine personnel, by N. Kleitman. Part VI, Habitability: B. Psychological factors. Relation of noise to the habitability of submarines, by F. K. Berrien. Lighting and color, by M. A. Tinker. Motion sickness—its psychophysiological aspects, by J. E. [illegible]. Motion sickness—physical considerations regarding its etiology, by M. F. [illegible]. Part VII, Emotional stability and adjustment: Psychophysiology of stress, by C. W. Darrow and C. E. Henry. Psychological causes and results of stress, by E. A. Haggard. Morale and leadership, by R. L. French. Part VIII, Selection and training: Selection and training, by L. J. Cronbach. Part IX, Personnel resources: Personnel resources for research in applied experimental psychology, by J. L. Kennedy and R. C. [illegible]. Name index. Subject index.

Note. A collection of original papers written by specialists in response to a request to provide "first, a concise, but comprehensive, account of the present status of basic and applied research and second, to formulate recommendations for future research." The papers are accompanied by bibliographies. Three of the papers listed in the above table of contents are not included in the volume itself but are available only from the Chief of Naval Research of the Navy and are loaned only to persons authorized to receive classified documents.

POFFENBERGER, ALBERT THEODOR

Principles of applied psychology. New York: D. Appleton-Century Company, Inc., 1942. 655 p. illus. 24 cm. (The Century psychology series, R. M. Elliott, editor) $5.00. 5157

Contents (abridged): The field of applied psychology. Learning and the acquisition of skill. Thinking and suggestion. Work and rest. Monotony—a problem in adjustment. The influence of drugs and stimulants. Principles of vocational adjustment. Rating human qualities. The role of intelligence in adjustment. Adjustment to uniformity and variety of work—specialization—standardization. Psychological problems in the distribution of goods. The adjustment of advertising and selling methods to the consumer. The causes of criminal behavior. The determination of guilt. Treatment of the offender. Psychology in the treatment of disease. Psychology in education. Bibliography. Index.

Note. A broad survey of the subject, designed for undergraduate college students who have had an elementary course in the subject. The book is also of interest to vocational teachers, business men, and others who have some knowledge of psychology. This title is successor to H. L. Hollingworth and A. T. Poffenberger, *Applied psychology, new edition*, New York, 1923. This edition contains nine new chapters, which include chapters on the psychology of the judge and jury, radio advertising, and on vocational subjects. The text is keyed to the bibliography, which includes 732 numbered entries.

ROE, ANNE

The psychology of occupations. New York: John Wiley & Sons, Inc., 1956. 340 p. illus. 23 cm. $6.75 5158

Contents: Part I, The roles of occupations: Occupations in three societies. The role of the occupation in the life of the individual. Part II, People differ: Variability. Physical differences. Psycho-

logical differences. Differences in social inheritance—in education and other biographical factors. Part III, Occupations differ The structure of occupations in the United States. The classification of occupations. Group I occupations—service. Group II occupations—business contact. Group III occupations—organization. Group IV occupations—technology Group V occupations—outdoor Group VI occupations—the sciences. Group VII occupations—general cultural. Group VIII occupations—arts and entertainment. Part IV Following an occupation Studies of occupational choice. Progress in the occupation. The effect of the occupation on other aspects of living. Part V Implications: The implications of occupational psychology Glossary Index.

Note. A comprehensive and important work on the psychological aspects of choice of occupation and adjustment to occupation, addressed to advanced college students and to college graduates practicing in such fields as counseling and vocational guidance. It presents occupational adjustment as an aspect of social adjustment. It incorporates the results of numerous research studies and provides literature references to the original publications.

ROETHLISBERGER, F J

Management and morale Cambridge, Mass. Harvard University Press, 1956 194 p 22 cm. $3 50 5159

Contents. Part I Introduction. The road back to sanity Understanding—a prerequisite of leadership. The social structure of industry A disinterested observer looks at industry Of words and men. What is adequate personnel management? Part II Concerning people who deal with cooperative phenomena. Concerning people who theorize about cooperative phenomena. Management and morale.

Note. A collection of addresses based in part on the famous Hawthorne study of the factors that influence worker morale and efficiency It is considered to be one of the basic books on the relations between executive and workers in modern industry Essentially it deals with the psychology of such relations, but since the addresses were originally made to groups of businessmen, there is little in them of the jargon of psychology

STAGNER, ROSS

Psychology of industrial conflict. New York John Wiley & Sons, Inc., 1956 550 p illus 24 cm. $8 00 5160

Contents Introduction. Perception—general considerations—applied aspects. Motivation—principles—some applications. Frustration and aggression. Groups and group behavior. Leadership. Institutions. Tactics—management—the union. The accommodation process. The strike. Cooperation. Industrial peace. Bibliography Index of authors. Index of subjects.

Note. In this substantial book, conflicts between management and labor are analyzed in terms of the human motives that underlie them. Writing as a specialist in applied psychology particularly in the field of labor relations, the author first analyzes the motives, then critically examines the traditional tactics of management and labor He is not partial to either management or labor and he does not attempt to write out formulas for management-labor peace. The book is written at a fairly technical level, and is directed to such readers as advanced college students majoring in industrial psychology business management or labor relations, and graduate social scientists who are interested in industrial conflict. It is potentially of value also to top personnel in employing firms and labor unions, who are concerned with management-labor negotiations.

THORNDIKE, ROBERT LADD

Personnel selection, test and measurement techniques. New York John Wiley & Sons Inc., 1949 358 p 22 cm $5 50 5161

Contents: Introduction. Job analysis. Test selection and invention. The estimation of reliability The estimation of test validity—criteria of proficiency The estimation of test validity—statistics of validity Combining tests into a battery The analysis and selection of test items. The administration of a testing program. Administrative problems in using the results of an aptitude testing program. The personnel selection program and the public. Appendixes. Index.

Note Considerable original work is embodied in this book. The chief basis for it was four years of study and organization of a program for the selection of crews for air craft of the United States Army Air Force during World War II. However the approach has been generalized and adapted to make the findings and methods applicable in personnel selection programs in civilian enterprises. Statistical techniques play a considerable part in the methods described, therefore, the reader needs an understanding of basic statistical principles.

TIFFIN, JOSEPH

Industrial psychology Third edition. Englewood Cliffs, N J Prentice-Hall, Inc., 1952 559 p illus 21 cm $6 50 5162

Contents Introduction. The significance of individual differences in industry The interview and related employment methods. General principles of employee testing. Mental ability and mechanical aptitude tests. Dexterity manipulative, and achievement tests. Tests of personality and interest. Visual skills and vision tests. Training of industrial employees. Industrial inspection. Industrial merit rating. Wages and job evaluation. Work, fatigue, and efficiency Accidents and safety Attitudes and morale. Appendixes: Elementary statistical procedures. Taylor-Russell tables. Publishers of tests. Index.

Note. A standard survey of procedures and techniques employed by industry in the application of psychology to employee problems, inspection accuracy training methods, and employee morale. It is used as a guide for persons engaged in personnel work in industry and for psychologists preparing for this field. The second edition was published in 1947 Except for a new introductory chapter, the organization and scope of this third edition are identical with the second edition, but the treatment of many topics has been revised, in many instances, so as to incorporate the results of research published in the period 1946–51

VITELES, MORRIS SIMON

Industrial psychology New York W W Norton & Company, Inc., 1932 652 p illus. 24 cm $7.25 5163

Contents. Preface. Introduction to a study of industrial psychology The economic foundations of industrial psychology Social foundations of industrial psychology The psychological foundations of industrial psychology The rise and scope of industrial psychology. The nature and distribution of individual differences. The origin of individual differences. Basic factors in vocational selection. Job analysis. The interview and allied techniques. Standardization and administration of psychological tests. Tests for skilled and semi-skilled workers. Tests in the transportation industry Tests for other occupations, technical and supervisory employees. Safety at work. Psychological techniques in accident prevention. Accidents in the transportation industry The acquisition of skill. Training methods. Industrial fatigue. The elimination of unnecessary fatigue. Machines and monotony Specific influences in monotonous work. Motives in industry The maladjusted worker. Problems of supervision and management. Acknowledgments. Index to names. Subject index.

Note. Devoted to a discussion of the methods employed, the principles involved, and the results accomplished by industrial psychology in promoting the better effectiveness of man in industry and increasing industrial efficiency It is a comprehensive text, designed for advanced study and use in the field. A bibliography is included.

VITELES, MORRIS SIMON

The science of work. Illustrated by Kinsley R. Smith. New York W W Norton & Company, 1934 442 p illus 22 cm. $4 90 5164

Contents: Preface. Work throughout the ages. Work with machines. Fitness for work. Developing the psychological yardstick. Matching men and occupations. Worse than war. Acquiring skill at work. Making work easy Machines and monotony Making work worthwhile. Salvaging the misfits. Working together. References. Index.

Note. A simpler less technical book than the author's comprehensive survey *Industrial psychology* described above. Material is here selected which will be of immediate interest and use to the practical man in industry

ENGINEERING

GENERAL

BAKER, H. DEAN AND OTHERS

Temperature measurement in engineering. Volume 1. By H. Dean Baker E. A. Ryder and N. H. Baker New York John Wiley & Sons, Inc., 1953 179 p. illus. 24 cm. $4.95 5165

Contents: Temperature. Methods for measuring temperature. Precision requirements. Conditions affecting temperature measurement. The thermocouple thermometer—circuits. Indicating instruments. Design installation techniques. Installation design types. Drilling techniques. Special materials—protective coatings, heat- and corrosion-resistant metals, plastics, refractories, and ceramics. Generalized installation designs. Temperature gradient installation designs. Conclusion to Volume I. Name index. Subject index.

Note: The first volume of a two-volume work designed to provide engineers with a comprehensive account of the techniques employed in temperature measurement. The treatment is nonmathematical and practical, and emphasizes the actual procedures for designing and constructing specific measuring installations. Extensive bibliographies are included to provide data on highly specialized problems which are not covered in the text. This volume deals exclusively with thermocouples or thermoelectric methods of temperature measurement. Volume II will discuss such problems as the measurement of very low and very high temperatures in rapidly moving bodies, liquids, and gases. The senior author is Professor of Mechanical Engineering at Columbia University.

BRADFORD JOHN R., editor

Radioisotopes in industry Contributing authors P. C. Aebersold and others. New York. Reinhold Publishing Corporation, 1953 309 p. illus. 24 cm. $8.00. 5166

Contents: Radioisotopes—a new industry by T. E. Gorman. Radioisotopes for industry by P. C. Aebersold. Fundamentals of radiochemistry by J. R. Bradford. Radiation protection, by G. Gorman. Radioisotopes in physical and chemical research, by G. D. Calkins. Applications of radioisotope techniques, by C. Rosenblum. Radiochemical laboratories, by T. B. Lenahan. Design of laboratories for safe use of radioisotopes, by D. R. Ward. Production and separation of radioisotopes, by A. F. Rupp. Tracer experiments, by R. Flaherty. Instrumentation of the radiochemical laboratory by T. L. Pattengill. Decontamination and the disposal of radioactive wastes, by C. C. Ruchhoft. Industrial uses of radioactive fission products, by P. M. Cook and others. Distribution of radioisotopes by the Atomic Energy Commission, by R. A. Lough. Appendixes. Useful radioactive isotopes, pile-produced. Useful radioactive isotopes, cyclotron-produced. Index.

Note: With one exception the chapters of the book were first presented in April, 1951, as papers at the conference sponsored by the Case Institute of Technology and the Atomic Energy Commission. The purpose of the conference (and of the book) was to make available to scientists and technologists in industry information on the availability, potential applications and manipulation of radioactive isotopes in measurement, inspection and research. Some material not directly related to the book's purpose—for instance material on the production of radioisotopes—is included. Although not a complete manual of the subject, the book contains valuable information for all who are beginning to use radioactive isotopes or who are interested in their industrial applications. Literature references are included with each chapter. Approximately half of the authors are on the staff of the Atomic Energy Commission or the Oak Ridge National Laboratory.

BROWN ROBERT QUIXOTE

Introduction to engineering problems. New York. Prentice-Hall, Inc., 1948. 191 p. illus. 22 cm. $3.25 5167

Contents. Introduction—the objectives of engineering problems. Logarithms and the slide rule. Some basic mathematical principles. Some basic physical principles. Good form in writing. Projects. Index.

Note. The chief purpose of a course in engineering problems is to enable the beginning college student to discover whether he has the aptitudes and interests for a successful engineering career. This text, written for use in such courses, offers basic information in mathematics and physics, together with approximately 300 problems designed to test the student's ability to comprehend such knowledge and to apply it. The writing of engineering reports, letters, and other forms that come within the work of engineers is covered compactly.

CENTENNIAL OF ENGINEERING 1852–1952 INC. Centennial of engineering, 1852–1952 history and proceedings of symposia. Edited by Lenox R. Lohr president. Chicago Centennial of Engineering, 1952 Inc., 1953 1,079 p. 24 cm. $10.00. 5168

Contents (abridged): Book I, The centennial celebration. The centennial idea takes form. Theme and philosophy. Centennial awards luncheon. Centennial evening party. Story of engineering [illegible] The [illegible] of science and industry. Atom to Atom. Appendixes. Book II, The convocation. The rise of the organized profession. Education and training. Food. Texas. Transportation. Mineral industries. Structures and construction. Chemical industries. Communications. Energy. Health and human engineering. Organization. Index.

Note: The centennial of which this volume is a product was that of the American Society of Civil Engineers founded in 1852. However, the celebration was not limited to the achievements of civil engineering but was general in scope and designed to call attention to the accomplishments of engineering. The first part of the book contains the official history and general proceedings. The appendixes to this part contain the names of officers, directors, sponsors and participating societies. The second and larger part of the book contains the proceedings of 12 symposia whose titles are given above. Generally speaking, each symposium consisted of introductory remarks, several short papers and discussion, all of which are published in this volume. The book contains many valuable papers and much interesting information, but its bulk will frighten away many readers. The brevity of the index will discourage reference use except by the very determined.

CHRISTMAN RUTH C editor

Industrial science, present and future. A collection of papers presented at the installation of the Section on Industrial Science of the AAAS at the Philadelphia meeting on December 28–30 1951 Arranged by Allen T Bonnell. Edited by Ruth C. Christman. Washington, D C. American Association for the Advancement of Science, 1952. 152 p. 23 cm. $2.00. 5169

Contents: Bridging the gap, by E. R. Weidlein. Industrial science today: The petroleum industry by R. E. Wilson. The steel industry by H. G. Batcheller. The communications industry by J. B. Fisk. The chemical industry by N. A. Shepard. The pharmaceutical industry by E. H. Volwiler. Industrial science tomorrow: Horizons in industrial science from the viewpoint of the consultant, by L. M. Gilbreth. Horizons in industrial science from the viewpoint of the educator, by J. Cronin. Horizons in industrial science from the viewpoint of the research institute, by F. C. Croxton. Horizons in industrial science from the viewpoint of government, by A. T. Waterman. The contributions of industry to scientific education, by C. L. Emerson. Industrial science and community health, by C. L. Dunham. The new industry and the community, by R. A. Neary. Industrial science and its public relations, by G. E. Pendray.

Note. In the papers collected here, some of the history achieve-

ments, and problems and the outlook for the future of industrial science are outlined. By the term "industrial science," the authors collectively have designated not only research on the part of industry but also such other aspects as industry's relation to scientific education, and relations between government research and industrial research. The papers are addressed to the general public rather than to specialists; however, they are of interest to scientists who are concerned with the larger and social aspects of science.

CRISPIN, FREDERIC SWING

Dictionary of technical terms, containing definitions of commonly used expressions in aeronautics, architecture, woodworking and building trades, electrical and metalworking trades, printing, chemistry, etc. Seventh edition, revised. Milwaukee: The Bruce Publishing Company, 1946. 427 p. illus. 20 cm. $4.75 5170

Note. A dictionary for students, draftsmen, mechanics, builders, electricians, and workmen generally. No attempt has been made to include all the technical terms in any field. Instead, a selection of the terms most likely to be encountered by the workman in his daily work is provided. The present revision has been enlarged by the inclusion of additional terms and definitions relating to aeronautics, automechanics, electricity, plastics, and welding.

CROUCH, W. GEORGE, AND ROBERT L. ZETLER

A guide to technical writing. Second edition. New York: The Ronald Press Company, 1954. 441 p. illus. 22 cm. $5.50 5171

Contents: The technical man's writing problems. The business letter—form and substance. Types of technical letters. The formal technical report. Informal and memoranda reports. The technical and semitechnical article. Language essentials and types of technical exposition. Speaking techniques. Index to English usage. Appendixes: Selected bibliography; General reading list. Index.

Note. A guide to the use of good and effective English in technical reports, articles, lectures, etc. It includes some information on the organization and format of forms of technical literature, but is not a full-scale treatment of this aspect of the subject. It is used primarily as a textbook. However, its organization and an adequate index make it suitable for use as a desk reference book for scientists and engineers who feel the need for a handbook of English usage.

DALTON, BLANCHE H.

Sources of engineering information. Berkeley: University of California Press, 1949. 109 p. 24 cm. $4.00 5172

Contents: Indexes to periodical and serial literature. Abstracts. Location of articles—identification of periodicals. Bibliography. Reference books. The trade catalog collection. Standards and specifications.

Note. A selected bibliography of indexes, abstract journals, lists of periodicals, bibliographies, book selection guides, reference books, etc., in the field of engineering. The list of reference books is the major section, accounting for 70 of the 109 pages. Within the sections whose titles are given above, entries are organized under specific subheadings. Each entry provides such information as authors' names (if there is an author), title, place of publication, publisher and year of publication (of the first volume in the case of periodicals). Although now somewhat out of date, especially in some subsections of the list of reference books, it is still a useful list. The author is librarian of the Engineering Library of the University of California.

DE VRIES, LOUIS

English German technical and engineering dictionary. New York: McGraw-Hill Book Company, 1954. 997 p. 24 cm. $22.50 5173

Note. A major bilingual dictionary. It gives the equivalents in the German language of more than 130,000 English language technical and engineering terms. Abbreviations are also included. Most of the terms and abbreviations are from the various fields of engineering.

DE VRIES, LOUIS

German English technical and engineering dictionary. New York: McGraw-Hill Book Company, Inc., 1950. 928 p. 23 cm. $22.50. 5174

Note. The English equivalents of approximately 115,000 German scientific terms are given in this reference book. A considerable number of the terms are derived from private glossaries compiled by professional translators and research workers from the recent literature. Many of these have not appeared in other dictionaries. A feature that adds much to the book's usefulness is the inclusion of a high number of combinations and variants. The main list is supplemented by a 16-page list of abbreviations with their German meanings and English equivalents.

ESHBACH, OVID WALLACE

Handbook of engineering fundamentals. Prepared by a staff of specialists under the editorship of Ovid W. Eshbach. Second edition. New York: John Wiley & Sons, Inc., 1952. 1,314 p. illus. 22 cm. $11.00 5175

Contents (abridged): Mathematical and physical tables. Mathematics. Physical units and standards. Mechanics of rigid bodies. Mechanics of deformable bodies. Mechanics of incompressible fluids. Aerodynamics. Engineering thermodynamics. Electricity and magnetism. Radiation, light, and acoustics. Chemistry. Metallic materials. Non-metallic materials. Engineering law. Index.

Note. A comprehensive handbook of fundamental theories, data, and formulas essential in engineering practice. It is designed for use by engineers in all branches of engineering. The contents given above are the titles of the sections. In most instances a section is composed of several subsections, each one of which is the work of an authority whose name is given. Bibliographies accompany the subsections, but the index is all-inclusive. The first edition appeared in 1936. In the new edition, some of the sections have been reorganized and all of them revised to some extent. A fair number have been completely rewritten.

FINCH, JAMES KIP

Engineering and Western civilization. New York: McGraw-Hill Book Company, Inc., 1951. 397 p. illus. 24 cm. $6.50 5176

Contents (abridged): Ancient engineering. The Middle Ages and the Renaissance. The age of French leadership. Early British engineering. The Victorian era. American engineering in the 19th century. The new engineering. Modern engineering. Engineering and Western civilization. Engineering and economic change. Engineering and the worker. The distribution of technological gains. Technological change and capital goods. Engineering and research. Conclusion. Bibliography. Index.

Note. In this outline history of engineering, Dr. Finch takes as his thesis that engineering and technological advances have exercised a greater influence on the growth of modern institutions than have philosophic, economic, or social forces. Except for a brief survey of the growth of engineering from ancient times to the Victorian era, the author deals entirely with the part played by the engineer in the evolution of the United States of America. The book is intended primarily for use in introductory engineering courses, but it can be recommended also for general reading. It includes a valuable and extensive annotated bibliography.

FINCH, JAMES KIP

A history of the School of Engineering, Columbia University. New York: Columbia University Press, 1954. 138 p. illus. 26 cm. $2.75 5177

Contents: Introduction. Preparing the way. The founding of the School of Mines. Mines in transition. The birth of the departments. The earlier years at Morningside. A new era—postwar reorganization. Graduate instruction and research. World War II and its aftermath. Looking ahead. Index.

Note: An official history of one of the most influential engineering schools in the United States of America, and of its parent, the Land of Hope. The volume is replete with the names of famous engineers and teachers of engineering, but the main story is the gradual evolution of engineering education in the United States as the nation developed from colonial possession to the highest rate of industrialization of any country in the world.

HERTZ, DAVID BENDEL

The theory and practice of industrial research. New York McGraw Hill Book Company Inc., 1950. 385 p. illus. 23 cm. (McGraw Hill *engineering management series* R. T Livingston, consulting editor) $7.50 5178

Contents: Introduction. The creative mentality and research problems. Methods of problem solving in research. The method of research. The background of research in industry. Research projects and programs. The magnitude of research projects and programs. The organization and administration of research personnel. Research finances and budgeting. Internal relationships in the research group. Formal and informal research reports. Research facilities—laboratory design, research tools, and auxiliary services. Patent policies in research. External relationship of the research department. Bibliography. Index.

Note: The first chapters contain a careful analysis of the nature and general problems of research, then the author turns his attention to the practical organization and administration of research in industry. In both parts he has something worthwhile to say. The work is intended for use as a textbook in courses offered to advanced science and engineering students, but it is of interest to graduate workers in industrial research and corporation executives as well. There is a good bibliography.

HOOVER, THEODORE JESSE, AND JOHN CHARLES LOUNSBURY FISH

The engineering profession. Second edition. Stanford Stanford University Press 1950 486 p. illus. 23 cm. $7.50. 5179

Contents: Who is an engineer? What is engineering. Fields and functions of engineering. Civil engineering. Mining engineering. Mechanical engineering. Electrical engineering. Chemical engineering and other fields. The method of engineering. Application of the engineering method. Uncertainties in engineering. Vocational guidance in engineering. Education of the engineer. The new call to the engineering profession. Appendix: Some definitions of engineering. Requirements for admission to membership in engineering societies. Engineering codes. Index.

Note: A full, well-written description of the engineering profession. It is addressed to secondary school students who are contemplating careers as engineers and to teachers and vocational counselors who advise young people on the choice of careers. The types of engineering activities, how engineers go about their work, what an engineer's education must be, are the topics rather than the technology of engineering. However, typical engineering problems are included in the discussion, and there are selected lists of engineering literature. Some statistical data on salaries, distribution of engineers, etc. are included, but this information is now out of date.

INDUSTRIAL RESEARCH INSTITUTE, INC

Research in industry its organization and management prepared by and published for Industrial Research Institute, Inc. C. C. Furnas, editor New York D Van Nostrand Company Inc., 1948. 574 p. illus. 23 cm. $8.50. 5180

Contents: The philosophy and objectives of research in industry. The research laboratory as an operating department of the company. Development. The research director's job. Organization charts in theory and practice. The research program. Selecting projects for research. The research budget. Research reports. Characteristics of the research man and the research atmosphere. Qualifications, training, aptitudes and attitudes of industrial research personnel. Procurement and selection of research personnel. Salary policy. Personnel policies and personality problems. Professional growth of the research man. The location, design, and construction of a modern research laboratory. The tools of research. Instruments and supplies. The research unit. Adjunct: Service personnel and facilities. Translating research results into new products and factory procedures. By-products of research. Evaluating the results of research. The research director's responsibility in determining the company patent policy. Pattern of collaboration between the research department and the patent department. Licenses, royalties and patent pools. Relations with the public and government. Relations with the educational system. Relations with other firms and industry. Research in America and Europe. Goals and problems for the future. Appendices. Index.

Note: The material in this volume is authentic. Twenty-nine of the contributors are associated in executive capacities with the research programs of prominent American corporations, and the other four are associated with the National Research Council and other organizations concerned with the fostering of research. It is addressed primarily to administrators, but some lay readers will find it of interest, particularly for the light it throws on industry's view of the importance of research. The appendices contain an extensive bibliography and also sample forms for agreements between employers and research personnel.

KEREKES FRANK AND ROBLEY WINFREY

Report preparation, including correspondence and technical writing Second edition. Ames The Iowa State College Press, 1951 448 p. illus. 29 cm. $7.50. 5181

Contents (abridged): Reports. Planning the investigation and report. Collection of information. Mechanics of style. Format and arrangement. Tabular presentation. Preparation of illustrations. Effective writing. Writing the first draft and revising. Correspondence. Letter reports and short reports. Formal reports. Magazine feature articles and technical papers. Oral presentation of reports and technical papers. Letter of application. Editing, copyreading and proofreading. Appendix. Index.

Note. The authors of this book have taken plenty of time and have produced a full book that will be used not only in instruction but after graduation as a reference book. Numerous full-size examples of charts, graphs, business letters, employment applications, sample title pages and other illustrations of forms much needed by scientists and engineers in their work after graduation are included. The accompanying discussions are factual and practical.

KILLEFFER, DAVID HERBERT

The genius of industrial research. New York Reinhold Publishing Corporation, 1948. 263 p. illus. 23 cm. $5.00 5182

Contents: Industrial research is methodical. The dual nature of research. Stating the problem. Two basic methods of research. Thinking out the problem. Process research. Product research. Equipment research. The progressive development of an idea. Three illustrative researches. The pilot plant and what happens there. Reports are essential. Evaluating research. Something about patents. Loose ends gathered here. Index.

Note: The author believes that the "genius" of industrial research lies in planned, methodical investigations and accumulation of knowledge rather than in the kind of spontaneous inspiration that is popularly thought of as genius. His purpose has been to show by exposition and example how a definite pattern of industrial research can be learned, and how a scientific method of working and thinking can be cultivated by the young research worker. Part of the book's interest lies in its presentation of case histories of a number of notable investigations, most of which are quoted from the papers of successful industrial chemists.

KIRBY RICHARD SHELTON, AND OTHERS

Engineering in history By Richard Shelton Kirby Sidney Withington, Arthur Burr Darling and Frederick Gridley Kilgour New York McGraw Hill Book Company Inc. 1956 530 p. illus. 24 cm. $8.50. 5183

Contents: Origins. Urban society. Greek engineering. Imperial civilization. The revolution in power. Foundations for industry. The industrial revolution. Roads, canals, bridges. Steam vessels and locomotives. Iron and steel. Electrical engineering. Modern transportation. Sanitary and hydraulic engineering. Construction. Reflections. Index.

Note: The title of the book might be taken to indicate that its subject is the influence of engineering upon history. Actually the book is primarily a history of Western engineering, or of engineering in the Western world. The contributions of other civilizations to en-

ciety is a recurrent but secondary theme. The time span is from the first recorded examples of engineering down to the technology of our own times. The authors have succeeded in making the achievements of engineers potentially interesting for most readers, both those with some knowledge of technology and those without. Furthermore, they have done this by describing the achievements themselves rather than by devoting space to personalities and anecdotes. Included are a moderate number of illustrations, selected literature references and a good index.

LEIDECKER, KURT FRIEDRICH, editor

German English technical dictionary of aeronautics — rocketry — space navigation — atomic physics — higher mathematics — jet engines — turbines — hydraulics — petroleum industry — civil and mechanical engineering — ballistics — electronics — radio — radar — aerophotography — television — infrared research — communication — meteorology — topography — aeromedicine. Based on data compiled by the U S Air Force. New York S F Vanni, 1951 2 v 28 cm $35 00 5184

Note The terms for this dictionary and the English equivalents were compiled by the Dictionary Unit which was first associated with the United States Strategic Air Forces in Europe and later was transferred to the Air Documents Research Center in Dayton, Ohio. Definitions are short, and no examples of usage are included. The work's merit lies in the inclusion of many terms in aeronautics and related fields which are not to be found in other dictionaries. Another edition of the work was previously made available to government agencies and to contractors of the United States Armed Forces, but this is the first edition to be offered generally

LEY, WILLY

Engineers' dreams Diagrams and maps by Willy Ley Illustrations by Isami Kashiwagi. New York The Viking Press 1954 238 p. illus 24 cm. $3 50 5185

Contents Forbidden tunnel. Islands afloat. The tamed volcano. The Valley of the Jordan. Africa's central lake. Atlantropa—the changed Mediterranean. Power from the sun. Waves and warm water Harnessing the winds. Epilogue. Index.

Note. Not quite all of the wonderful schemes in this book are "dreams, for volcanoes, or at least subterranean heat, has already been harnessed for industrial use. However this exception is excusable, for the other dreams include such grand schemes as Herman Sorgel's proposal for adding to the land masses of Europe and Africa and at the same time creating hydroelectric generating plants of great capacity by damming off the Mediterranean Sea. The author is skilled writer and the book is good example of how technical things can be made interesting to nontechnical readers.

McCLOY, SHELBY T

French inventions of the eighteenth century Lexington University of Kentucky Press, 1952 212 p illus. 25 cm. $4 50 5186

Contents The balloon. Steam transportation. The telegraph. Lighting. Papermaking. Chemical inventions. Textiles. Automata. Other mechanical devices. Military inventions. Medicine and surgery Patents and encouragement. Conclusion. Bibliography Index.

Note. A readable, well-documented survey of French inventive activity during the 18th century Although individual inventions are described and illustrated, the main theme is the strong current of activity This is delineated against the social and political background. Inventors are named, and there are occasional remarks on individual personalities and fortunes but the biographical aspect is not emphasized. There are many scholarly footnotes and an extensive bibliography

MAUK, JAMES F , compiler

Industrial research laboratories of the United States. Tenth edition. Compiled by James F Mauk, with the assistance of Harold Peacock, Melvin S Ruffner Under the direction of Charles I Campbell. Washington, D C National Academy of Sciences —National Research Council, 1956 560 p. 26 cm (National Academy of Sciences—National Research Council Publication 379) $10 00 5187

Note. In its tenth edition, this well known reference book unchanged in scope but considerably enlarged in content. As before, it is a directory of nongovernmental research laboratories including laboratories maintained by commercial firms, independent commercial laboratories, laboratories maintained by trade associations and independent nonprofit laboratories. Testing laboratories and university laboratories are not included. Information about each laboratory includes name of the organization, address, name of the president and, in some cases, other executive officers, name of the director of research, size and makeup of the research staff and a condensed statement of research activities. The information given was obtained by means of mailed questionnaires; hence, there are variations in fullness from one entry to another. The main part of the volume is arranged alphabetically by name of firm. A geographical index and a detailed subject index to research activities are included. In this edition there are 4,060 entries representing 4,834 laboratories, an increase of approximately 30 per cent over the preceding edition.

MEES, CHARLES EDWARD KENNETH, AND JOHN A. LEERMAKERS

The organization of industrial scientific research. Second edition. New York McGraw Hill Book Company, Inc., 1950 838 p. 24 cm. $7 00 5188

Contents (abridged) Part I, General principles: The development of scientific organization. Industrial research. Part II, Agencies for the conduct of industrial research. Government laboratories. Associations for industrial research. Technological research institutes. Some large industrial laboratories. Part III, The organization and operation of industrial laboratories. The position of the laboratory in a company The direction of research. The transfer of research to production. Reports, patents, publications, and library The financial administration of the laboratory The design of laboratory for specific industry Index.

Note. This book deals chiefly with the setting up and administration of research laboratories in industrial corporations. The authors are associated with the Eastman Kodak Company However, they have taken a general view of the subject and have drawn liberally from the experiences of other companies. The work is of interest both to staff members of industrial laboratories and to executive officers of corporations who are concerned with general company policy The first edition, written by the senior author alone, was published in 1920. This edition is largely new even though the viewpoint is the same.

MILLER, WALTER J , AND LEO E A SAIDLA, editors

Engineers as writers growth of a literature. With a foreword by H. S Rogers. New York D Van Nostrand Company, 1953 340 p. illus 22 cm. $4 75 5189

Contents Engineers as writers. Vitruvius and the holy ground. Frontinus' classic report. Agricola's classic treatise. Smeaton founds literature. McAdam's sharp remarks. Rankine's manuals. Wellington's memorable sentences. Lamme's papers. Parsons' addresses. Taylor's principles. Pupin's autobiography Ammann's reports. Benedict and Rubin collaborate. Hoover reports to the public. Raymond well-tempered paper. Bibliography Index.

Note An anthology of engineering writing which has been edited and organized primarily for study by engineering students. The range in time of the works represented is 27 to 1935 A.D. Most of the selections are from works, significant as landmarks in the development of engineering, which are noted also for simplicity and clarity of style. Each selection is supplemented by historical and biographical data and a critical comment written by the editors.

Mills, Gordon H. and John A. Walter
Technical writing. New York Rinehart & Company Inc., 1954 463 p. illus. 23 cm. $4.50. 5190

Contents: Section one, Preliminary problems: Introduction. Five basic principles of good technical writing. Style in technical writing. Outlines and abstracts. Section two, Special techniques of technical writing: Definition. Description of a mechanical device. Description of a process. Classification and partition. Interpretation. Section three, Transitions, introductions, and conclusions: Transitions. Introductions. Conclusions and summaries. Section four, Types of reports: The progress report. Recommendation reports. Special types of report organization. Oral reports. Business letters. Writing for professional journals. Section five, Report layout: The format of reports. Graphic aids. Section six, The library research report: Finding published information. Writing the library research report. Appendixes. Index.

Note: An outstanding introductory textbook, primarily designed for the instruction of engineering students. It is concerned with the nature of technical reports and related technical writing and with the techniques of technical writing which are different from other forms of writing. It is not a reference book of grammar, punctuation, etc., or of typical reports. A noteworthy feature is the inclusion of the full text of an actual report, with commentaries by the authors on not only the organization of the report but also on the clarity, grammar, etc., of specific passages. Also included are both the first and final versions of a report written by John L. Gait which won a prize in a contest sponsored by the American Institute of Electrical Engineers.

Nelson, J. Raleigh
Writing the technical report. Third edition. New York. McGraw Hill Book Company Inc., 1952 356 p. illus. 24 cm. $4 95 5191

Contents (abridged): Part I, The design of the report. Part II, Some suggestions as to the form and style of the report. Part III, The concerns of the report. Part IV, Summary of basic principles. Part V, Manual for class use. Index.

Note: In this text for both practicing and student engineers, emphasis is placed on the basic principles and procedures which should be followed in preparing technical reports, rather than on the form of specific types of report. Thus, although numerous sample reports are included, the book is not intended to serve as a form or style manual. The major changes in this edition are found in the latter part of the volume, where the basic principles previously discussed at length are now summarized and where an outlined course in report writing has been added.

Ogburn, William Fielding, editor
Technology and international relations. Chicago The University of Chicago Press, 1949 201 p. illus. 23 cm. $4.00 5192

Contents: Introductory ideas on inventions and the state, by W. F. Ogburn. The process of adjustment to new inventions, by W. F. Ogburn. Technology and the growth of political areas, by H. Hart. The atomic and steel complex and international relations, by A. R. Ueber. Aviation and international relations, by W. F. Ogburn. Atomic energy and international relations, by W. T. R. Fox. The mass-communications inventions and international relations, by R. Leigh. New techniques of war and national policies, by B. Brodie. Modern technology and the world order, by Q. Wright. Index.

Note: The lectures delivered at the 24th Institute of the Norman Wait Harris Memorial Foundation of the University of Chicago are collected in this volume, together with an introduction by the editor. The main theme is the effects of technology, or clusters of inventions, upon international relations. The portions of the atomic bomb occupies much of the discussion. The lectures were addressed to laymen, and the book is worthwhile reading for almost any educated reader interested in the social impact of science and technology.

Oliver, John W
History of American technology New York The Ronald Press Company 1956 676 p. 24 cm. $6 50 5193

Contents (abridged): Part I, Yankee ingenuity: from Jamestown and Plymouth to the American Revolution: Transplanting of tools, skills, and techniques. Advances in agricultural technology. Advances in building technology to the Revolution. Clothing and leather technology. Early transportation and communication technology. Role of science in early American technology. American technology during the Revolution. Part II, Laying the foundations: from the American Revolution to the Civil War: Building an empire of science. Passing of the Homespun Age. Transportation technology to 1850. Water transportation technology to 1850. The communications revolution to 1860. The revolution in agricultural technology to 1860. A nation alert to science. American technology goes abroad. Technology in the Civil War. Part III, Rise of the United States as world power: Civil War to 1900. The nation's awareness of science and technology to 1900. The age of steel. The birth of the petroleum industry. The coming of the electrical age. Agricultural technology. Food technology. Clothing technology—boots and shoes. Building technology. Transportation technology. Communication technology. Part IV, World leadership: from 1900 to the present. Science and technology help make America a world power—1900 to World War I. Transportation and communication technology—1900 to World War I. Motion picture technology. Technology in World War I. Communication technology since 1920. Transportation technology since World War I. Technological advances in metallurgy since 1920. Technological advances in nonmetallic industries since 1920. Technology in World War II. Today's technologies. Index.

Note: The part and chapter titles of this distinctive work indicate the breadth of its coverage, but they cannot do justice to the detail. The author has not only described the processes, but has also included thousands of small facts, such as the number of patents issued in the year 1860, the number of the Edison Company's customers in 1890, and the consequences of the famine in natural ice in 1889/90. Devices seldom heard of, such as machines for preparing canned corn, are described, along with better known inventions. The author's style, though pedestrian, is pleasant to read. The book lacks pictures, and the short reference lists are not intended to meet the needs of scholars.

O'Rourke, Charles Edward, editor
General engineering handbook editor-in chief Charles Edward O'Rourke. Associate editors, Thomas R. Agg Harry Bouchard Walter B Carver and others. Second edition New York McGraw Hill Book Company Inc., 1940 1 120 p. illus. 21 cm $10 00 5194

Contents: Mathematics, by M. G. Malti. Mathematical tables, by W. B. Carver. Physical tables, by C. E. O'Rourke. Engineering materials, by H. H. Scofield and G. Murphy. Theoretical mechanics, by A. P. Poorman. Hydraulics, by F. M. Dawson. Structural theory and design, by E. S. Sherry. Plain and reinforced concrete, by C. E. O'Rourke. Foundations, by R. P. Davis. Topographical and geodetic surveying, by H. Bouchard. Route surveying and earthwork, by T. F. Hickerson. Highways, by T. R. Agg and R. A. Moyer. Municipal sanitation, by J. J. Doland and E. W. Steel. Machine elements, by R. C. H. Heck. Pumps, compressors and hydraulic turbines, by R. L. Daugherty and F. G. Switzer. Engineering thermodynamics, by J. E. Emswiler and others. Heating and air conditioning, by C. O. Mackey. Fundamentals of electrical engineering, by M. G. Malti. Electrical measurements, by C. E. Tucker. Index.

Note: A reference work for practicing engineers and students covering the elements of all branches of engineering. The purpose is not to supplant the detailed handbooks devoted to each of the special fields of engineering, but to supply a compact summary of important fundamentals, so that the specialist may gain some familiarity with those divisions outside his particular field. A knowledge of general engineering theory and practice as well as a fundamental knowledge of college mathematics is assumed. The second edition omits some of the more specialized sections of the first edition and expands the fundamental sections of mathematics, materials, mechanics, and hydraulics. There is new material on plain concrete, structural theory, engineering thermodynamics, and electrical engineering.

Robb, Louis Adams
Engineers dictionary Spanish English and English-Spanish. Second edition. New York John Wiley & Sons, Inc., 1949 664 p. 22 cm. $12.50. 5195

Note: In its second edition this useful dictionary has been considerably enlarged. Radio and television terms are now included, and larger branches of engineering, such as civil, mechanical, and mining, are given more thorough coverage. As in the earlier edition, terms whose usage is more or less confined to a single Latin-American country are identified with a symbol which designates the country. In contrast to some technical dictionaries, this one is not

padded out with terms from the general literary language but is confined to engineering terms and terms closely related to fields of science and technology

ROSSNAGEL, W E

Handbook of rigging New York McGraw Hill Book Company, Inc., 1950 321 p illus. 24 cm $6 00 5196

Contents. Fundamentals. Fiber rope. Wire rope. Hoisting chains and hooks. Slings. Wood for structural purposes. Planks for scaffolds. Testing scaffold planks. Swinging and suspended scaffolds. Scaffolding. Painting and repairing steel stacks. Life belts, boatswain's chairs, and life nets. Ladders. Strength calculations for timbers. Strength calculations for metal beams. Cranes, hoists, and derricks. Chain hoists. Jacks, rollers, and skids. Hoist signals. Accident prevention. Caring for the injured. Reference codes, laws, and standards. Appendix Handy reference tables. Index.

Note An important book for all who are concerned with scaffolding, hoisting machinery and related equipment. The material is presented from the viewpoint of those who will make practical use of it, such as machine operators, foremen and safety engineers. There is a generous number of illustrations, and the chapter of "Reference codes, laws, and standards available from state governments and other agencies concerned with safety in the United States of America is a useful feature.

SELL, LEWIS L

English Portuguese comprehensive technical dictionary of aircraft, automobile, railways, shipping, electricity, electronics radio television, telephone photography, photogrammetry building construction, aircraft and antiaircraft armaments sporting, commercial terms, hydraulics, mechanics, pneumatic tools civil engineering, steam, automotive & diesel engines boilers, paper office equipment, sugar mill machinery, metallurgy sheet metal work textiles machine tools agricultural implements paints & dyes mining, carpentry petroleum, steel products 500,000 English and Portuguese technical terms. New York McGraw Hill Book Company, Inc. 1953 1 168 p 28 cm $35 00 5197

Note. Undoubtedly the most comprehensive bilingual dictionary of its kind. It reads from English to Portuguese.

SELL, LEWIS L

English Spanish comprehensive technical dictionary of aircraft, automobile electricity, radio television aircraft & anti aircraft armaments aerial photographic mapping agricultural implements, sporting commercial terms mechanics & machine tools steam automotive & diesel engines boilers, paints & dyes office equipment sugar mill machinery petroleum steel products detailed treatment of specific technical idiom current in the various Spanish-speaking countries and the differences between British English and American English—complete cross referencing—synonyms and antonyms. 525 000 English and Spanish technical terms New York McGraw Hill Book Company Inc. 1944 1 478 p 28 cm. $35 00 5198

—— Spanish English comprehensive technical dictionary of aircraft, automobile, railways, highways, electricity, electronics, radio, television, photography & photogrammetry, aircraft & anti aircraft armaments, sporting & baseball, commercial terms, hydraulics, mechanics, pneumatic tools, civil engineering, steam, automotive & diesel engines, boilers, paper, office equipment, sugar mill machinery, metallurgy sheet metal work, machine tools, agricultural implements, paints & dyes, petroleum, steel products, detailed treatment of specific technical idiom current in the various Spanish speaking countries, and the differences between British English and American English—complete cross referencing—synonyms and antonyms. 700 000 Spanish and English technical terms. New York McGraw Hill Book Company, Inc., 1949 1,706 p. 28 cm $40 00 5199

Note Together these complementary works constitute the most comprehensive bilingual dictionary available of Spanish and English technical terms. As noted in the title of the English-Spanish volume, attention is paid not only to differences among the various Spanish-speaking countries, but also to the differences between British and American usage.

TIMOSHENKO, STEPHEN P

The collected papers of Stephen P Timoshenko New York McGraw Hill Book Company, 1953 642 p. illus. 24 cm. $15 00. 5200

Contents. Biographical sketch. List of early Russian papers. Einige Stabilitätsprobleme der Elastizitätstheorie. Erzwungene Schwingungen prismatischer Stäbe. Sur la stabilité des systèmes élastiques. Zur Frage nach der Wirkung eines Stosses auf einen Balken. Étude de la flexion des barres. Über die Biegung der allseitig unterstützten rechteckigen Platte unter Wirkung einer Einzellast. On the torsion of a prism, one of the cross-sections of which remains plane. A membrane analogy to flexure. On the transverse vibrations of bars of uniform cross-sections. On the distribution of stresses in a circular ring compressed by two forces acting along a diameter. Bending stresses in curved tubes of rectangular cross-section. The bending and torsion of multithrow crankshafts on many supports. The pendulum hardness tester. Determination of the modulus of elasticity. Kippsicherheit des gekrümmten Stabes mit kreisförmiger Mittellinie. Über die Biegung von Stäben, die eine kleine anfängliche Krümmung haben. On stresses in a plate with a circular hole. The approximate solution of two-dimensional problems in elasticity. Deflections of a uniformly loaded circular plate with clamped edges. Analysis of bi-metal thermostats. Method of analysis of statical and dynamical stresses in rail. Stress concentration produced by fillets and holes. The stiffness of suspension bridges. Vibration of bridges. Über die Biegung von Trägerrosten. The stability of the webs of plate girders. Buckling of flat curved bars and slightly curved plates. Bending of rectangular plates with clamped edges. Theory of suspension bridges. Theory of bending, torsion and buckling of thin-walled members of open cross-section. The forced vibrations of [illegible]. Stress concentration and fatigue failures.

Note. During his long and eventful career Professor Timoshenko has written engineering papers in four languages, the more important, published in French, German, or English, have been collected in this volume. A list of his papers published in Russian is included with the titles translated into English and citations given to the periodicals in which they appeared. The 15-page biographical sketch which precedes the papers was written by D. H. Young. The book is a tribute to a great engineer and teacher rather than being a volume to be read for new engineering information; hence an index was appropriately omitted.

TUTTLE, ROBERT E., AND C. A. BROWN

Writing useful reports: principles and applications. New York: Appleton-Century-Crofts, Inc., 1956. 635 p. illus. 19 cm. $4.50. 5201

Contents: Part I, Writing useful reports: Why write reports? What to use in building the report. A basic pattern and some guides. Using the guides. Using prefatory material. Using introductions. Concluding. Organizing the developing sections. Presenting the facts. Using illustrations. Using the help of others. Writing and checking. Helping the reader by good format. Using available sources. Keeping notes. Part II, Applications: Reports showing how the basic patterns are modified. Reports for supplementary study. Appendix. Index.

Note: According to the authors of this book, all reports, whatever the subject or purpose, consist of basic elements which may be arranged to suit specific sets of circumstances. These elements and other matters of general application, such as format, are discussed in the 171-page first part. The longer second part contains a variety of reports in which the applications of the ideas set forth in the first part of the volume are illustrated. The book was developed in college courses and is used primarily as a college text. However, it is suitable for reading by any college graduate who wishes to acquire a thorough understanding of report writing.

UNITED STATES. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT

Applied physics: Electronics, a history of Divisions 13 and 15 and the Committee on Propagation, NDRC, edited by C. G. Suits, with a foreword by Karl T. Compton. Optics: a history of Divisions 16 and 17, NDRC, by H. Kirk Stephenson and Edgar L. Jones, edited by George R. Harrison. Metallurgy: a history of Division 18, NDRC, by Louis Jordan. Boston: Little, Brown and Company, 1948. 456 p. illus. 22 cm. (Science in World War II) $6.00. 5202

Contents (abridged): Book one. Electronics. Part one, History of Division 15, NDRC. Beginning of radio countermeasures. Transition and liaison with the services. The American British Laboratory (ABL-15) as organization. Airborne Instruments Laboratory. Antennas. Tube developments. Evaluation of radar countermeasures. Part two, History of Division 13, NDRC. Microwave communications research. Direction finder research. Ionosphere and radio propagation studies. Central communications research. Part three, History of the Committee on Propagation, NDRC. Meteorology. Forecasting. Storm detection by radar. Book two. Optics. New optical instruments. Camouflage projects. Advances in aerial control. Book three. Metallurgy. Part one, History of organization and operations. The War Metallurgy Committee. Part two, Specific fields of metallurgical research and the participating agencies. Aircraft materials. Guns and gun steels. Metals for high-temperature service. Welding—ships. Foundry materials and processes. Personnel index. Subject index.

Note: A comprehensive review of the research carried on during World War II in the fields of physics, electronics, and metallurgy by the thousands of scientists, engineers and subject specialists mobilized by the Office of Scientific Research and Development. The book describes the way in which such highly diversified instruments and techniques as radar countermeasures, land mines, infrared telescopes, reliable signalling, armor-piercing shot, etc., were developed, improved, and brought to practical war-time use. Because of the comprehensiveness little technical data are included, and each topic is discussed only in nontechnical form.

USHER, ABBOTT PAYSON

A history of mechanical inventions. Revised edition. Cambridge: Harvard University Press, 1954. 450 p. illus. 25 cm. $9.00. 5203

Contents: The place of technology in economic history. Historical analysis of social change. The particular systems of events. The emergence of novelty in thought and action. The early history of the pure, applied mechanical sciences. The mechanical equipment of pre-Christian antiquity. The development of water wheels and windmills, 150 B.C.–A.D. 1500. Water clocks and mechanical clocks, 16 B.C.–A.D. 1550. Leonardo da Vinci, engineer and inventor. The invention of printing. Machinery of the textile industries, 100–1800. The development of clocks and watches into instruments of precision, 1500–1800. The production and application of power, 1500–1830. The production and application of power, 1830–1930. Machine tools and quantity production, 1450–1850. The production and distribution of power since 1832. Notes. Bibliography. Index.

Note: The role of technology in economic change is the principal subject of this book, and the introductory chapter is the key one. In the succeeding chapters, however, the author gives a detailed and valuable account of selected inventions and technical developments. Those inventions selected for discussion are named in the chapter titles. In this revised edition the first four chapters are new. Some new information has been incorporated in the chapters carried over from the second edition, notably in the chapters on clocks and on the machinery of the textile industry.

WATERBURY, LESLIE ABRAM

Waterbury's vest pocket handbook of engineering, revised by H. W. Reddick, W. M. Lansford, C. O. Mackey, H. H. Higbie and H. S. Bull. Fourth edition. New York: John Wiley & Sons, Inc., 1947. 386 p. illus. 14 cm. $3.95. 5204

Contents: Algebra. Trigonometry. Mensuration. Analytic geometry. Differential calculus. Integral calculus. Theoretical mechanics. Mechanics of materials. Mechanics of fluids. Heat engineering. Electrical engineering. Illumination engineering. Radio and electronics formulas. Tables. Index.

Note: A convenient reference book for use in the field and shop, because it can literally be carried in a vest pocket. The data presented in each chapter are the more commonly needed facts, definitions and formulas. This edition has been extensively revised, and data pertaining to heat transfer, illuminating engineering and mensuration have been added.

WEIL, B. H., editor

The technical report: its preparation, processing, and use in industry and government. New York: Reinhold Publishing Corporation, 1954. 485 p. illus. 24 cm. $12.00. 5205

Contents: Part I, Functions: The technical report in industry, by A. L. Fox. The technical report in government, by L. M. McKenna. Part II, Preparing and processing: Writing the technical progress report, by J. C. Lane. Writing the formal technical report, by M. H. Graham and R. R. Carey. Common faults and recommended practices in writing technical reports, by D. S. Davis. Writing the literature summary, by B. H. Weil. The oral report, its preparation and presentation, by B. A. Jones. Editing technical reports, by D. S. Davis. Style manuals for technical reports, by B. H. Weil. Illustrating, duplicating and binding the technical report, by B. A. Jones. Making graphs and tables more effective, by J. C. Lane. Part III, Distributing: Distributing the company technical report, by L. Shaw and J. Banks. Security and other aspects of the distribution of governmental technical reports, by R. R. Bray. Part IV, Filing: Filing the technical report in industry and government, by M. Terry and J. F. Smith. Subject classifying and alphabetical indexing of technical reports, by L. R. Poland. Report indexing of hand-sorted punched cards, by S. W. Dunwiddie and C. C. Conrad. The Uniterm coordinate indexing of reports, by M. Taube and associates. Cataloguing government technical reports, by B. M. Fry. Records and control procedures for security-classified technical reports, by B. M. Fry. The storage and housing of unpublished technical reports, by S. Herner. Abstracting technical reports, by L. C. Stark and E. C. Crosman. Part V, Using: Putting technical-report files to work, by L. R. Poland. How to locate and obtain government information reports, by F. L. Brown. Use of industry-survey reports as a chemical-market-research tool, by H. E. Bode. Appendices. Report manual of the Georgia Tech Engineering Experiment Station. Executive order 10501—safeguarding official information in the interest of the defense of the United States. Author index. Subject index.

Note: A book designed to aid in solving some of the problems created by the rise of the technical report as a primary medium of communication in science and engineering, particularly at the research level. The authors are directors of research, college teachers

of technical writing, librarians and specialists in other fields. Problems in writing and editing, circulating, abstracting, indexing, even storing of such reports are discussed and various solutions are described. The book contains many useful ideas, however it is written from too many diverse viewpoints and contains too much elementary and obvious material for a definitive monograph.

ZIMMERMAN, OSWALD THEODORE, AND IRVIN LAVINE

Industrial Research Service's handbook of *material trade names 1953 edition.* Dover, N H Industrial Research Service, 1953 794 p illus 28 cm. $20 00 5206

Note. A revised, enlarged and in every way much improved second edition of the 1946 book of the same title. It now contains approximately 15,000 trade names in all fields, as compared to 5,000 in the first edition. Properties and uses, as well as the manufacturers or distributors of each product, are identified. Symbols have been introduced to distinguish the registered and unregistered trade names, generic and common names. A new feature, the "Classification section," provides a classified approach which is supplemented by an expanded directory of producers and their products. An essential reference book for the technical library and for the desks of engineers, manufacturers and purchasing agents who are concerned with the identification and purchase of trade-named products. Supplement 1 was published in 1957 378 p., $13.50.

ZIMMERMAN, OSWALD THEODORE, AND IRVIN LAVINE

Scientific and technical abbreviations, signs and symbols Second edition *Dover, N H. Industrial Research Service, 1949 541 p.* illus. 22 cm. $8 00 5207

Contents General list of abbreviations and symbols. Greek alphabet, numerical prefixes, metric abbreviations, mathematics, and statistics. Chemistry chemical engineering, physics, thermodynamics, heat flow humidity and radiation. Mechanics, hydraulics, acoustics, and illumination. Mechanical drawings, materials of construction, and shop terms. Electricity electronics, and magnetics. Mapping. Railway Aeronautics and aviation. Communications. Meteorology Military Medicine, botany and zoology Commerce Astronomy Latin expressions, states, punctuation, and proof reading. Technical journals. Index.

Note A reference handbook of standard and accepted abbreviations and symbols. The first section consists of about 7,000 terms alphabetically arranged and followed by their recommended abbreviations or signs. The sections devoted to special fields contain standard abbreviations and symbols, such as those adopted by the American Standards Association and, in addition, other abbreviations commonly employed in the particular field. The scope and even the format of the book are essentially unchanged in this second edition. There has been some rearrangement of material. Some of the tables have been expanded and seven new ones added.

MATHEMATICS FOR ENGINEERS

ADAMS DOUGLAS PAYNE, compiler

An index of nomograms. New York John Wiley & Sons Inc., 1950 174 p 25 cm. $4 50 5208

Contents Index A, Key words. Index B, Master list Mathematics. Physics. Chemical engineering and chemistry Electricity electronics, radio. Hydraulics and power Waterworks and sewerage. Oil and gas and by-products. Illumination. Aeronautics. Heating, piping, ventilating, air conditioning, insulation, refrigeration. Building, structures, surveying, soils, cement. Highways, railroads, trucking. Machine design. Machine tools. Welding, foundry sheet metal. Metals. Mining. Paper Textile. Medicine. Food.

Note. Useful nomograms are published from time to time in technical periodicals, here many of them have been buried heretofore, because the persons who could have put them to use did not know of them or lacked time t ferret them out. This book locates more than 1,100 such nomograms which have appeared in 97 scientific and technical periodicals. The index to key words is essentially title index. The other and main index is classified one.

BECKENBACH, EDWIN F , editor

Modern mathematics for the engineer New York McGraw Hill Book Company, Inc., 1956 514 p illus. 23 cm $7 50 5209

Contents Part I, Mathematical models: Linear and non-linear oscillations, by S. Lefschetz. Equilibrium analysis—the stability theory of Poincaré and Liapunov by R. Bellman. Exterior ballistics, by J W Green. Elements of the calculus of variations, by M. R. Hestenes. Hyperbolic partial differential equations and applications, by R. Courant. Boundary value problems in elliptic partial differential equations, by M. M. Schiffer The electrostatic boundary-value problems, by I. S. Sokolnikoff. Part II, Probabilistic problems: The theory of prediction, by N Wiener The theory of games, by H. F Bohnenblust. Applied mathematics in operations research, G. W King. The theory of dynamic programming, by R. Bellman. Monte Carlo methods, by G. W Brown. Part III, Computational considerations Matrices in engineering, by L. A. Pipes. Functional transformations for engineering design, by J L. Barnes. Conformal mapping methods, by E. F Beckenbach. Nonlinear methods, by C. B. Morrey jr. What are relaxation methods? by G. E. Forsythe. Methods of steep descent, by C. B. Tompkins. High-speed computing devices and their applications, by D. H. Lehmer Name index. Subject index.

Note The contents of this book were delivered first as lectures in an extension course offered at the University of California. The course was planned to "generate in the minds of engineers and applied scientists engaged in research, design, and administration an awareness of the recent rapid advancement in applied mathematical thought. Eminent mathematicians and engineers prepared and delivered the lectures, and each spoke in the spirit of explaining important and useful ideas and techniques to receptive audience. There is emphasis on solution of problems involving probability on numerical techniques and on high-speed computers. The various chapters include selected references to the literature. The book is a companion volume to L. N Ridenour ed., *Modern physics for the engineer* New York, 1954.

BORG, SIDNEY F

An introduction to matrix tensor methods in theoretical and applied mechanics. Ann Arbor, Michigan J W Edwards Publisher, Inc., 1956 202 p. illus 28 cm $4 75 5210

Contents Mathematical preliminaries. Tensors (or matrices) of zero, first and second order Introduction to theory of elasticity Applications of the theory of elasticity Introduction to the theory of plates and shells. The equations of viscous flow and introduction to boundary layer theory Introductory theory of plasticity Curvilinear coordinates. Tensor analysis as related to dimensional analysis. Index.

Note A textbook designed for the instruction of senior undergraduate and graduate students of engineering and applied physics. It is an introduction to matrix and tensor techniques useful in various fields of applied physics and engineering and is organized so as to give broad, unified view of matrix-tensor approaches to problems in applied mechanics. The first chapter is taken largely from paper contributed by the author to the February 1951 issue of the *American journal* / *physics*. The author is head of the Department of Civil Engineering of Stevens Institute of Technology

BURINGTON, RICHARD STEVENS, AND CHARLES CHAPMAN TORRANCE

Higher mathematics, with applications to science and engineering New York Mc Graw Hill Book Company Inc. 1939 844 p. illus. 23 cm. $10 00. 5211

Contents (abridged) Differential calculus Elementary review Partial differentiation. Integral calculus. Indefinite integrals. Definite integrals. Riemann theory of integration. Improper integrals. Integrals containing parameter Special functions defined by means of definite integrals. Numerical integration. Ordinary differential equations Elementary types. Linear equations. Singular solutions. Electrical networks. Numerical solution. Legendre and Bessel's equations. Infinite sequences and series Power series. Other topics. Sequences of functions. Fourier series. Orthogonal functions. Functions of complex variable Complex numbers. Complex integral calculus. Singularities of single-valued analytic functions. Conformal mapping. Applications. Elliptic functions. Algebra and vector analysis Some differential geometry Tensor analysis. Partial differential

equations. Calculus of variations. Dynamics. Introduction to real variable theory. Bibliography. Index.

Note: Designed primarily to meet the growing needs of readers interested in the applications of mathematics to physics and engineering, the book emphasizes physical meanings of the various notions and relationships encountered in higher mathematics. In order that the treatment may be suited to the student of pure mathematics, emphasis has been placed upon the conditions which must be met for a given theorem or formula to be valid.

BURR, IRVING W

Engineering statistics and quality control New York. McGraw Hill Book Company 1953. 442 p. illus. 24 cm. $7.50 5212

Contents: Introduction. The frequency distribution—a tool and concept. A few fundamental statistical measures. The normal curve. Control charts in general. Control charts for measurements. Probability. Control charts for attributes. Miscellaneous topics in control charts. Putting control charts to work. Acceptance sampling for attributes. Some standard plans for attributes. Some plans for acceptance sampling by measurements. Putting statistical methods to work. Appendix: Glossary. Tables. Index.

Note: Essentially this book is an introduction to applied statistics addressed to engineering students. The applications of statistical techniques to the quality control of manufactured products is emphasized, but the book is not limited to quality control. It is a work of interest to scientists and technicians in any field where statistical methods may be applied to the analysis of data. It is distinguished by skillful interweaving of theory and applications and by a style that reads easily. Selected literature references are included. The author is Professor of Mathematics, Purdue University.

BUSH VANNEVAR

Operational circuit analysis. With an appendix by Norbert Wiener New York John Wiley & Sons, Inc., 1929 392 p. illus. 20 cm. $7.50. 5213

Contents: The circuits of engineering and physics. The fundamental equations of circuit analysis. The impedance function. The indicial admittance. The superposition theorem. The infinite integral theorem. The Heaviside expansion theorem. The direct operational method. Functions of a complex variable. The Fourier integral formulation. Fractional-order derivatives. Series expansions of operators. Operators involving [illegible]. Special circuit problems and analysis. Networks with variable parameters. Appendixes: Table of symbols. Fourier analysis and asymptotic series. Table of operational formulas. Index.

Note: This textbook still holds its place as a useful, well-organized introduction to the operational methods of Oliver Heaviside. It is written from the engineering viewpoint and is designed to prepare the reader for the use of the operational method in all kinds of circuit problems.

CHURCHILL, RUEL VANCE

Modern operational mathematics in engineering. New York McGraw Hill Book Company Inc., 1944 306 p illus. 21 cm. $5.25 5214

Contents: The Laplace transformation. Further properties of the transformation. Elementary applications. Problems in partial differential equations. Functions of a complex variable. The inversion integral. Problems in heat conduction. Problems in mechanical vibrations. Sturm-Liouville systems. Fourier transforms. Appendixes. Index.

Note: A college text dealing with the use of the Laplace transformation in the solution of engineering and physics problems involving partial differential equations. A bibliography and tables are given in the appendixes. No previous preparation in the subject of partial differential equations is required of the student, and a year of college physics is considered sufficient background for the physical and engineering problems encountered in the text. The work is a companion volume to the author's *Fourier series and boundary value problems*, New York, 1941.

CRANDALL, STEPHEN H.

Engineering analysis a survey of numerical procedures. New York McGraw Hill Book Company Inc. 1956 417 p. illus. 24 cm (Engineering Societies monographs Ralph H. Phelps, consulting editor) $9.50 5215

Contents: Equilibrium problems in systems with finite number of degrees of freedom. Eigenvalue problems for systems with finite number of degrees of freedom. Propagation problems in systems with finite number of degrees of freedom. Equilibrium problems in continuous systems. Eigenvalue problems in continuous systems. Propagation problems in continuous systems. Bibliography. Name index. Subject index.

Note: A college text of more than the usual significance. It deals with the construction of mathematical models for physical situations encountered in engineering and reduction of the mathematics to forms that can be solved by numerical techniques. The latter step is important because it enables the computation of the solutions on high-speed computers when the problem is a complex one. The unusual organization of the book is apparent from the chapter titles listed above. The treatment is at the graduate level. The book is designed for use in organized courses and is suitable also for study outside of such courses by graduate engineers. The author is Associate Professor of Mathematics at the Massachusetts Institute of Technology.

DAVIS DALE S

Nomography and empirical equations. New York Reinhold Publishing Corporation 1955 236 p. illus. 24 cm. $6 75 5216

Contents: Part I, Empirical equations: Common linear, logarithmic, and semilogarithmic forms. Two-variable correlation—less common forms. Two-variable correlation—special methods. Three-variable correlation. Part II, Nomography: Addition charts. Logarithmic charts. Nonlogarithmic multiplication charts. Reciprocal variable charts. Combination charts. Line coordinate charts. Graphical anamorphosis. Appendix. Index.

Note: A successor to the author's *Empirical equations and nomography*, New York, 1943. Since publication of the first edition, the book has been widely used, both for the instruction of engineering students and as a refresher and reference book for working engineers. The scope is unchanged in this new edition. However, numerous useful changes have been made, changes designed to facilitate understanding of the book and to enhance its usefulness. The quantity of matter in the book has been substantially increased; however, a considerable fraction of the increase is due to the inclusion of more problems for the reader to solve.

DULL RAYMOND WILLIAM

Mathematics for engineers. Revised and edited by Richard Dull. Third edition. New York McGraw Hill Book Company Inc., 1951 822 p illus. 21 cm. $9.00. 5217

Contents (abridged): Functions and graphs and the statement of problems in the form of equations. Linear or first-degree equations. Analytical and graphical solutions. Quadratic or second-degree equations. Explicit functions. Analytical and graphical solutions. Cubic functions. Polynomial functions. Power functions. Progressions. Variables, limits, and indeterminate forms. Exponential functions and their relation to logarithmic functions. Infinite series. Determinants. Permutations and combinations. Geometry and mensuration. Trigonometric functions. Polar coordinates. Vectors. Imaginary and complex numbers. Hyperbolic functions. Simple application of coordinates. Linear equations. Second-degree equations. Conics. The parabola. The circle and the ellipse. The hyperbola. Parametric and polar equations. Empirical equations. Application of coordinates to geometry of three dimensions. Linear equations in three variables. Differential calculus. Differentiation of logarithmic and exponential functions. Curve analyses. Integral calculus. The definite integral. Reduction methods for integration. Summation method. Differential equations. Dimensional and similarity analysis. Index.

Note. This volume is intended to serve practicing engineers as a quick reference manual, or as a text for reviewing or expanding their mathematical knowledge. The form and scope of presentation lie between the conciseness of the engineering handbook and the tutorial style of the mathematical textbook. Changes made in this edition include a new chapter on differential equations and an expansion of the sections on infinite series, determinants, complex vectors, and trigonometric functions.

FRANKLIN, PHILIP

Differential equations for electrical engineers. New York John Wiley & Sons, Inc., 1933 299 p. illus 22 cm. $4 50 5218

Contents. Complex numbers. Average values and Fourier series. Linear differential equations with constant coefficients. Partial derivatives and partial differential equations. The physical meaning of certain partial differential equations. Solutions of partial differential equations satisfying given boundary values. Analytic functions. Convergence of Fourier series. Bibliography Index.

Note. A textbook which treats the problems of current flow determination in networks with lumped constants, the geometric and physical meaning of partial derivatives and partial differential equations, and theory of power series and Fourier series. Practical applications are stressed in examples and problems.

FRY, THORNTON C

Probability and its engineering uses. Princeton D Van Nostrand Company, Inc., 1928 476 p illus 24 cm. $7 75 5219

Contents Introduction. Permutations and combinations. Elementary principles of the theory of probability Probability and experiment; Bernoulli's theorem. Probability and experiment; Bayes theorem. Distribution functions and continuous variables. Averages. The distribution functions most frequently used in engineering. Curve fitting. The theory of probability as applied to problems of congestion. Fluctuation phenomena in physics. Appendices. Index.

Note. Developed from notes prepared for a course sponsored by the Bell Telephone Laboratories and given to graduate engineers on its staff, this book is a very successful exposition of probability from the viewpoint of the engineer Without being superficial, the author has succeeded in making the subject clear and in indicating meaningful implications for engineering. The organization and style of the book are such that persons with adequate education in basic mathematics can understand it without the guidance of an instructor The first edition was published in 1928, and it has been reprinted many times without revision.

GRINTER, LINTON ELIAS, editor

Numerical methods of analysis in engineering (successive corrections) A publication resulting from a symposium held at Illinois Institute of Technology, Chicago, Illinois, arranged and edited by L E Grinter New York The Macmillan Company, 1949 207 p illus 24 cm $6 00 5220

Contents I, Numerical methods based upon physical concepts Analysis of continuous frames by distributing fixed-end moments, by H. Cross. Statistical state of stress studied by grid analysis, by L. E. Grinter Appendix—Notched beam solution by grid analogy by A. J Pyle. II, Numerical solutions of equations for state of stress. Numerical solutions of boundary value problems by relaxation methods, by F S. Shaw The quest for accuracy in computations using finite differences, by R. V Southwell. A new approach to the numerical solution of Laplace's equation, by M. M. Frocht. III, Applications of numerical methods to heat transfer Numerical solutions for thermal systems, by L. M. K. Boelter and M. Tribus. Two problems in building heating solved numerically by G. M. Dusinberre. Appendix—Temperature distribution through ground, by J. D. Bottorf and Y S. Touloukian. IV Surveys and bibliographies of numerical methods Successive corrections—a pattern of thought, by F Baron. Numerical methods of analysis of bars, plates and elastic bodies, by N M. Newmark. A survey of the approximate solution of two-dimensional physical problems by variational methods and finite difference procedures, by T J Higgins. Author index. Subject index.

Note. The first paper in this volume, written by Hardy Cross and reprinted here from the *Proceedings* of the American Society of Civil Engineers, was the starting point for extensive investigation of the use of numerical methods of analysis in arriving at satisfactory approximations in engineering problems that could not be solved exactly Most of the remaining papers are not reprints but are published here for the first time. They are of interest to graduate students and to graduates engaged in research and engineering design. Substantial bibliographies accompany the papers.

HEACOCK, FRANK A.

Graphic methods for solving problems. Princeton Princeton University Store, 1952 113 p 28 cm $1 90 5221

Contents Simple graphs and charts. The hydrograph. Geometric diagrams. Network charts. Vectors and mechanics. Descriptive geometry Nomographs and computing devices. Graphic analysis. General bibliography Index.

Note. Primarily this book is an annotated, bibliographical guide to the articles and books on graphic methods that have been published from 1937 through 1950. However each of the chapters begins with a section in which a particular type of graphic device or method is carefully defined and illustrated. The main emphasis is on engineering uses of graphic methods, but some material is included on pictorial charts and other devices that are used in a number of fields. The book is a development of research undertaken for a committee of the American Society for Engineering Education.

JOHNSON, WALTER C

Mathematical and physical principles of engineering analysis. New York McGraw Hill Book Company, Inc., 1944 346 p. illus. 21 cm. $6 25 5222

Contents. The analysis of engineering problems. Some basic physical principles. Transient and steady-state conditions. Setting up equations. Graphical and numerical solution of differential equations. Ordinary and differential equations. Vector representation of sinusoids. The checking of equations. Dimensional analysis. Fourier series. Systems with distributed constants. Index.

Note Presents the essential physical and mathematical principles and methods of attack that underlie the analysis of many practical engineering problems. Emphasis is placed upon physical concepts, the use of assumptions, procedures in setting up equations, the use of mathematics as a tool in accurate and quantitative reasoning, and the physical interpretation of mathematical results.

JONES, OSCAR BERNARD

Applied industrial mathematics. New York Prentice-Hall, Inc. 1947 342 p. illus. 24 cm. $4 25 5223

Contents (abridged) The origin of mathematics. Division and its application. Factoring and cancellation. Signs and symbols. Fractions and mechanical advantage. Decimals, percentages, and arithmetical averages. Involution and evolution. Cube root. Ratio and proportion. Pulley and gear ratios. Tapers. Elementary algebraic equations. Polynomials. Equations and graphs. Exponents and logarithms. Binomial theorem and algebraic factoring. Quadratic equations. Elements of geometry Ellipses. Summary of theorems and axioms. Pyramids and cones. Spheres. Solids of revolution—blank diameters. Spur gears—center of gravity Trigonometric functions. Compound angles. Index.

Note An elementary text designed for the use of students in technical and vocational schools and for home study purposes by mechanical draftsmen, designers, and tool and die makers. The methods of applying arithmetic, algebra, geometry logarithms, and trigonometry to the solution of machine shop problems are preceded by brief review of the mathematical concepts and operations involved. Worked examples and review problems are included in each chapter.

KÁRMÁN, THEODOR VON, AND MAURICE A. BIOT

Mathematical methods in engineering an introduction to the mathematical treatment of engineering problems New York McGraw Hill Book Company Inc., 1940 505 p. illus 23 cm. $7 50 5224

Contents Introduction to ordinary differential equations. Some information on Bessel functions. Fundamental concepts of dynamics. Elementary problems in dynamics. Small oscillations of conservative systems. Small oscillations of nonconservative systems. The differential equations of the theory of structures. Fourier series applied to structural problems. Complex representation of periodic phenomena. Transient phenomena. Operational calculus. Equations with finite differences applied to engineering. Words and phrases. Answers. Index.

Note The object of this book is to familiarize engineering students with the special techniques used in the mathematical treatment of engineering problems. Necessary tools beyond elementary calculus are taught in direct connection with practical problems from the field of mechanical, civil, and electrical engineering.

LANGHAAR, HENRY LOUIS

Dimensional analysis and theory of models. New York. John Wiley & Sons Inc., 1951 166 p. illus. 23 cm. $6.00. 5225

Contents The nature and the use of dimensions. Principles and fundamentals of dimensional analysis. Systematic calculation of dimensionless products. Algebraic theory of dimensional analysis. Similarity and model testing. Dimensional analysis applied to problems of stress and strain. Some applications of dimensional analysis in fluid mechanics. Dimensional analysis applied to the theory of heat. Dimensional treatment of problems of electromagnetic theory. Differential equations and similarity. Answers to problems. Index.

Note Dimensional analysis is a set of mathematical techniques whereby the number of variables in a given problem may be reduced in order to obtain useful partial solutions. It has special application to the design and predictions of performance of full-scale machines from data obtained in experiments with small models. The book also contains discussions of applications of dimensional analysis to fields of engineering in which it is not practical or customary to use models in design work. The author is Professor of Theoretical and Applied Mechanics at the University of Illinois.

LAWDEN DEREK F

Mathematics of engineering systems (linear and non-linear) New York John Wiley & Sons, Inc., 1954 380 p. illus. 23 cm. $5 75 5226

Contents Introduction. Linear differential equations with constant coefficients (classical methods). Linear differential equations with constant coefficients (operator methods). Fourier analysis. Non-linear differential equations. Appendix of Laplace transforms. Solutions to exercises. Index.

Note This book is an introduction to a number of mathematical techniques based on differential equations which are useful in the analysis of mechanical and electrical systems encountered in engineering design. It is intended for use as a text by engineering students and as a refresher by graduate engineers. Linear differential equations and Fourier analysis are treated at some length. Although the chapter on non-linear differential equations is about 70 pages long, it is only an introduction to this area which is of so much importance in present-day engineering analysis. Numerous worked examples are included and answers are given for the problems included for the student to solve.

MICHAL ARISTOTLE D

Matrix and tensor calculus with applications to mechanics, elasticity and aeronautics. New York John Wiley & Sons, Inc., 1947 132 p. illus. 23 cm. (Galcit aeronautical series) $4 75 5227

Contents Part I, Matrix calculus and its applications: Algebraic preliminaries. Differential and integral calculus of matrices. Matrix methods in problems of small oscillations. Matrix methods in the mathematical theory of aircraft flutter. Matrix methods in elastic deformation theory. Part II, Tensor calculus and its applications: Space line element in curvilinear coordinates. Vector fields, tensor fields, and Euclidean Christoffel symbols. Tensor analysis. Laplace equation, wave equation, and Poisson equation in curvilinear coordinates. Some elementary applications of the tensor calculus to hydrodynamics. Applications of the tensor calculus to elasticity theory. Homogeneous and isotropic strains, strain invariants, and variation of strain tensor. Stress tensor, elastic potential, and stress-strain relations. Tensor calculus in Riemannian spaces and the fundamentals of classical mechanics. Applications of the tensor calculus to boundary-layer theory. Notes on Part I. Notes on Part II. References for Part I. References for Part II. Index.

Note The purpose of this volume is to provide the research engineer with a working knowledge of the matrix and tensor calculus. The author has stressed the practical aspects of the subject as utilized in the fields of physics, meteorology, electrical engineering, mechanical engineering, and aeronautical engineering.

MILLER, KENNETH S

Engineering mathematics. New York Rinehart & Company Inc. 1956 417 p. illus. 23 cm. $6.50 5228

Contents Determinants and matrices. Integrals. Linear differential equations. Fourier series and integrals. Laplace transform. Network theory. Random functions. Appendices. Answers. Index.

Note A well-co-ordinated textbook designed primarily for study by first-year graduate students of engineering. As the chapter titles indicate, some techniques are introduced which were not usually included in first-year graduate texts of a few years ago. A particular example is the final chapter on random functions. The author is Associate Professor of Mathematics in New York University.

MINORSKY NICHOLAS

Introduction to non linear mechanics Topological methods, analytical methods, non linear resonance relaxation oscillations. Ann Arbor J W Edwards 1947 447 p. illus. $6.00 5229

Contents Part I, Topological methods of non-linear mechanics: Phase trajectories of linear systems. Phase trajectories of non-linear conservative systems. Questions of stability. Limit cycles of Poincaré. Bifurcation theory (Poincaré). Geometrical analysis of existence of periodic solutions. Cylindrical phase space. Part II, Analytical methods of non-linear mechanics: Introductory remarks. Method of Poincaré. Method of Van der Pol. Theory of the first approximation of Kryloff and Bogoliuboff. Approximations of higher orders. Method of equivalent linearization of Kryloff and Bogoliuboff. References. Part III, Non-linear resonance: Introductory remarks. Systems with several degrees of freedom. Subharmonics and frequency demultiplication. External periodic excitation of quasi-linear systems. Non-linear external resonance. Subharmonic resonance on the basis of the theory of Poincaré. Entrainment of frequency. Parametric excitation. References. Part IV, Relaxation oscillations: Introductory remarks. Fundamentals of the discontinuous theory of relaxation oscillations. Degenerate systems with one degree of freedom. Multiply degenerate systems. Mechanical relaxation oscillations. Oscillations maintained by periodic impulses. Effect of periodic parameters on stationary states of dynamical systems. References. Index.

Note Linear differential equations are much used in computations in engineering, especially in problems concerning oscillation and resonance. However linear methods fail to give accurate results in many cases, because the assumptions or idealizations that must be made are not valid. This work is an introduction to certain useful mathematical methods that may be used for more accurate results in such cases. It was issued originally as restricted reports for the use of authorized personnel during World War II.

MURNAGHAN FRANCIS DOMINIC

Introduction to applied mathematics. New York John Wiley & Sons, Inc., 1948. 389 p. illus. 24 cm. (Applied mathematics series edited by I S Sokolnikoff) $7 00 5230

Contents Vectors and matrices. Linear vector functions. Functions-vectors. Fourier series. Curvilinear coordinates. Laplace's equation. Spherical harmonics and Bessel functions. Boundary-value problems. Integral equations. The calculus of variations. The operational calculus. Index.

Note Some of the fundamental concepts of higher mathematics that are finding wide application in present-day science and engineering are discussed in this text. The work is based on a course for graduate students that was given for 20 years by the author at the Johns Hopkins University and is intended for use in similar courses.

MURPHY GLENN

Similitude in engineering. New York The Ronald Press Company 1950 302 p. illus. 24 cm. $7.00 5231

Contents (abridged) Part I, Theory of similitude and its application to models: Observations and measurements. Dimensional analysis. Development of prediction equations. Theory of models. Structural models. Part II, Distorted models: Analysis. Distorted structural models. Fluid flow models. Thermal models. Electrical and magnetic models. Acoustical and illumination models. Applications of model

theory to chemical engineering. Part III, Dissimilar models: Analogies from second-order ordinary differential equations. Analogies from second-order partial differential equations. Analogies from fourth-order differential equations. Analogies from four-term algebraic equations. Author index. Subject index. Tables: Critera for rejection of observations. Average values of properties of a few solids. Average values of properties of a few fluids. Prediction factors for stress and deflection. Value of *N* in Bazin formula.

Note. This book deals with the design of engineering models and the interpretation of the results obtained in experiments ith them. It is intended for use chiefly as a college textbook, and the chapters conclude with problems to be solved and, in some cases, with out lines of laboratory experiments. Worked problems, some of which require the use of laboratory equipment, are incorporated in the discussions. Familiarity with basic mechanics and with the handling of differential equations has been assumed in the treatment.

Oldenburger, Rufus

Mathematical engineering analysis. New York The Macmillan Company, 1950 426 p illus 24 cm. $8 00 5232

Contents (abridged) Fundamentals of the mechanics of particles and rigid bodies. Applications and further development of the theory of the mechanics of rigid bodies. Fundamentals of electricity and magnetism. Electric systems. Electromagnetic fields. First law of thermodynamics. Second law of thermodynamics. Heat transfer Fundamental theory of elasticity Elasticity for one and two dimensions. Elasticity in three dimensions. Fundamental fluid theory Compressible fluids. Aerodynamics.

Note Not a text in mathematics but one in utilizing mathematics in the solution of research problems in engineering. Its purpose is to show advanced engineering and science students who are preparing for industrial research how to set up physical problems so that they can be solved mathematically The author has assumed that his readers will have knowledge of advanced calculus. Scores of specific engineering examples are used in the exposition. These have such titles as "Automobile with shock absorbers and elastic tires, "Rocket moving in two-dimensional space, "Diesel engine driving marine propeller through long shaft, and "Flow past an airplane wing.

Pipes, Louis Albert

Applied mathematics for engineers and physicists New York McGraw Hill Book Company, Inc., 1946 618 p illus. 23 cm. $7 50 5233

Contents. Infinite series. Complex numbers. Mathematical representation of periodic phenomena, Fourier series and the Fourier integral. Linear algebraic equations, determinants, and matrices. The solution of transcendental and polynomial equations. Linear differential equations with constant coefficients. Laplacian transforms of use in the solution of differential equations. Oscillations of linear lumped electrical circuits. Elastic vibrations of systems with a finite number of degrees of freedom. The differential equations of the theory of structures. The calculus of finite differences and linear difference equations with constant coefficients. Partial differentiation. The gamma, beta, and error functions. Bessel functions. Legendre's differential equation and Legendre polynomials. Vector analysis. The wa equation. Simple solutions of Laplace's differential equation. The equation of heat conduction or diffusion. The elements f the theory of the complex variable. The solution of two-dimensional potential problems by the method of conjugate functions. The operational calculus. The analyses of nonlinear oscillatory systems. Index.

Note A classroom textbook which is also useful to practicing engineers as handy review It discusses many of the more useful topics from advanced mathematics and explains their applications to the solution of problems in engineering and applied physics. It is based on course formerly given by the uthor in the Harvard Graduate School of Engineering. Since the author's main purpose was to demonstrate the use of mathematics, he has not always included proofs, but he has included references to publications in which proofs will be found. A group of problems accompanies each chapter

Reddick, H. W and F H Miller

Advanced mathematics for engineers. Third edition prepared by F H. Miller New York John Wiley & Sons Inc. 1955 548 p 22 cm $6 50 5234

Content Ordinary differential equations. Hyperbolic functions. Elliptic integrals. Infinite series. Fourier series. Gamma, Bessel, and Legendre functions. Partial derivatives and partial differential equations. Vector analysis. Probability and numerical methods. Functions of complex variable. Operational calculus. Appendix Answers to problems. Index.

Note This book has been developed from courses in applied mathematics given to civil, electrical, mechanical, and chemical engineering students at the Cooper Union Institute of Technology. Its mathematical scope is apparent from the chapter titles listed above. In all of the chapters the mathematical concepts and techniques are the primary subject and their applications in engineering are secondary Nevertheless, the applications are the reason for the existence of the book. The second edition was published in 1947 The major change in this third edition is substantial increase in the number of problems. However revisions and changes ha been made in various chapters, and the longer chapter on probability has been rewritten and retitled. Professor Miller who prepared this third edition, is Head of the Department of Mathematics in the School of Engineering of Cooper Union.

Rice, Harold S, and Raymond M Knight

Technical mathematics. New York Mc Graw Hill Book Company, Inc., 1954 748 p illus. 24 cm $6 50 5235

Contents (abridged) Unit one, Slide rule and review of arithmetic and geometry: Treatment of measured data. The slide rule. Unit two, Basic algebra: Linear equations in one unknown. Unit three, Advanced algebra and logarithms; Functions and graphs. Systems of linear equations. Quadratic equations in one unknown. The binomial theorem—progressions. Exponential functions—rate of growth. Unit four Introduction to analytical trigonometry Unit five, Numerical trigonometry of the right triangle. Unit six, Oblique triangles and applications of numerical trigonometry Unit seven, Analytical trigonometry: Vectors. Graphs of the trigonometric functions. Complex notation and vector algebra. Appendixes: Computation aids and approximations. Formulas of geometry and mensuration. Solution of higher-degree equations. Tables. Index.

Note. More ground is covered in this book than in many of the "practical texts in mathematics. Also, some of the topics covered, for instance vector algebra, are more advanced in level. The authors have assumed that the students and readers who use the book will have had one or two years of high-school algebra, nevertheless, there is chapter in which elementary algebra is reviewed. The book was developed at Wentworth Institute in courses offered to students preparing for industrial positions in which some familiarity ith elementary engineering mathematics is required. Accordingly there is considerable emphasis on the use of the slide rule and on the use of graphs in computation and in setting up equations. Another feature is an unusually large number of exercises and problems for the student to ork.

Salvadori, Mario George, and Ralph J Schwarz

Differential equations in engineering problems. New York Prentice-Hall, 1954 432 p. illus. 23 cm $8 65 5236

Contents Introduction. Setting up ordinary differential equations. Homogeneous linear differential equations with constant coefficients. Nonhomogeneous linear differential equations. The Laplace transform and initial value problems. Simultaneous linear differential equations. Integration by series. Bessel functions. Nonlinear differential equations and elliptic integrals. Solution of differential equations by Fourier series. Partial differential equations. Index.

Note An engineering college textbook in which differential equations are treated entirely from the engineering viewpoint. Applications in engineering are illustrated both in the expository text and in the problems. Completion of introductory college courses in calculus and algebra are prerequisites. The authors are members of the Engineering Faculty of Columbia University and the book has been developed in courses given there.

Salvadori, Mario George

The mathematical solution of engineering problems with a collection of problems by Kenneth S Miller New York Columbia University Press 1948 245 p. illus. 23 cm. $4 25 5237

Contents: Introduction. A review of some basic mathematical concepts. Plane analytic geometry. The numerical solution of algebraic and transcendental equations. The numerical solution of simultaneous linear algebraic equations. Elementary functions and power series. Fourier series expansion and harmonic analysis. Answers to [illegible] problems. Index.

Note: An elementary textbook in engineering mathematics. The first chapter is definitely a refresher on such concepts as variables and functions, [illegible] of [illegible] variables, continuity, differentials, and integrals, since the author has assumed on the part of the reader knowledge of mathematics through calculus. In the other chapters, concepts and techniques of theoretical mathematics are related to the solving of practical engineering problems. Numerous illustrative examples are incorporated into the textual material, and over 1,000 practical problems constitute an important part of the exposition. The author is Professor of Civil Engineering in Columbia University. The book was first published by the McGraw-Hill Book Company in 1946.

SALVADORI, MARIO GEORGE

Numerical methods in engineering. With a collection of problems by Melvin L. Baron. New York, Prentice-Hall, Inc., 1952. 258 p. illus. 21 cm. (Prentice-Hall civil engineering and engineering mechanics series. N. M. Newmark, editor) $5.75 5238

Contents: The practical solution of algebraic and transcendental equations. Finite differences and their applications. The numerical integration of initial value problems. The numerical integration of ordinary boundary value problems. The numerical solution of partial differential equations. Index.

Note: A useful introduction, which is designed both for college seniors and for graduate engineers. The numerical methods described are especially adapted to use on electric calculating machines of the desk type and on slide rules. The book contains concise but clear explanations of many useful numerical methods, such as Graeffe's root-squaring scheme, Cholesky's matrix method, the relaxation method, the trapezoidal rule for numerical integration, Fox's methods for second order linear equations, and Simpson's one-third rule. The author is Professor of Civil Engineering in Columbia University.

SCHELKUNOFF, SERGEI ALEXANDER

Applied mathematics for engineers and scientists. New York, D. Van Nostrand Company, Inc., 1948. 472 p. illus. 24 cm. (The Bell Telephone Laboratories series) $9.50 5239

Contents: Complex numbers. Theory of approximations. Solution of equations. Power series. Differentiation. Integration. Vector analysis. Coordinate systems. Exponential functions. Differential equations of the first order. Differential equations of the second order. Differential equations of higher order. Partial differential equations. Conformal transformations. Contour integration. Fourier analysis. The gamma function. Exponential integrals. Fresnel integrals. Bessel functions. Legendre functions. Formulation of equations. References. Index.

Note: As engineering advances, so do the demands upon the mathematical knowledge of engineers. This book deals with certain advanced mathematical concepts and procedures whose usefulness in several fields of mathematical physics or engineering have already been demonstrated, even though they are not part of the mathematical equipment of the average graduate physicist or engineer. Concepts of limited usefulness or so far applied only to highly specialized fields have not been included. The author is a member of the technical staff of the Bell Telephone Laboratories.

SIMON, LESLIE EARL

An engineers' manual of statistical methods. New York, John Wiley & Sons, Inc., 1941. 231 p. illus. 25 cm. $5.75 5240

Contents: Making sense out of figures. Inspection of [illegible] lots by attributes. Inspection of isolated lots by attributes. Process inspection by attributes. Inspection of [illegible] lots by variables. Inspection of isolated lots by variables. Process inspection by variables. The special case of [illegible] sample size. A method of expressing quality. Sample size. Significant differences. Miscellaneous statistical techniques. Predicting from sample to lot. The incomplete beta-function ratio. Sampling quality control system. Specifications and standards of quality. Literature cited. Glossary of symbols. Index.

Note: A summary of certain working parts of the sciences of probability, statistics, and logic, designed for the practical man whose interest is centered in his industrial or engineering work. The principles relating to inspection methods and statistical inference are predicated on recognized standard procedures or on research conducted at the Ballistic Research Laboratory, Aberdeen Proving Ground, in connection with the designing of an inspection procedure for the Army Ordnance.

SMOLEY, C. K.

Smoley's four combined tables for engineers, architects and students. By C. K. Smoley, extended by E. R. Smoley and N. G. Smoley. Chautauqua, N. Y., C. K. Smoley & Sons, Inc., 1956. 4 v. in 1. 18 cm. $12.00. 5241

Note: Combined, for the convenience of users, in this reference manual are four independent books of tables. There is a combined title page, from which the title given above has been taken, and four title pages for the individual compendia. Titles and paginations of the individual works are as follows: Smoley, *Parallel tables of logarithms and squares*, 661 pages; Smoley, *Parallel tables of slopes and rises for bridge and structural engineers, draftsmen, checkers, template makers, bender and vocational schools*, 190 (actually 433) pages; Smoley, *Five decimal logarithmic trigonometric tables, natural trigonometric functions including secant and cosecant, squares, cubes, square roots, etc., areas, circumferences of circles for diameters to 200 by one-eighths*, 183 pages; Smoley, *Segmental functions, text and tables giving simple methods of solving circular segments, and of computing its area, when the segment is given with only 2 of its 5 parts, viz.—the arc, the chord, the radius, the central angle and the height, with numerous examples illustrating the application of these methods*, 215 pages. The component parts of the volume have been issued in many editions and in various combinations with one another.

SOHON, HARRY

Engineering mathematics. New York, D. Van Nostrand Company, Inc., 1944. 278 p. illus. 23 cm. $4.50. 5242

Contents: Interpolation formulas. Determinants. Dimension analysis. Complex numbers and hyperbolic functions. Algebraic equations. Approximate solutions of algebraic equations. Fourier series. Differential equations. Gamma functions and Bessel's functions. Vector algebra. Vector calculus. Stretched string and round diaphragm. Skin effect problems. Answers to problems. Index.

Note: This book is intended for engineering students who have completed the study of the elementary calculus and for graduate engineers seeking to bolster their present knowledge of mathematics. It is intended to strengthen the student in algebra and to provide him with certain mathematical tools which depend on the calculus. The theory of determinants is taken up early in the work and together with matrix theory is used throughout the book. The method of identifying multiple roots of algebraic equations has been systematized, and emphasis is placed on methods of approximating all the roots, whether rational or irrational. The analysis of the result of an approximate Fourier analysis is an original work by the author.

SOKOLNIKOFF, IVAN STEPHEN, AND ELIZABETH S. SOKOLNIKOFF

Higher mathematics for engineers and physicists. Second edition. New York, McGraw-Hill Book Company, Inc., 1941. 587 p. illus. 23 cm. $7.50. 5243

Contents: Infinite series. Fourier series. Solution of equations. Partial differentiation. Multiple integrals. Line integral. Ordinary differential equations. Partial differential equations. Vector analysis. Complex variable. Probability. Empirical formulas and curve fitting. Answers. Index.

Note: A textbook for college students who have a working knowledge of the elementary calculus and intend to specialize in physics or engineering. The emphasis is upon the practical utility of mathematics as a tool in both of these fields, and those topics are selected which are of most frequent and immediate use in applied sciences. The illustrative material is intended to point out the underlying principles rather than to afford a solution of specific problems con-

fronting the engineer The second edition contains additional problems, new data on infinite series and differential equations, and a new chapter on complex variables, while the discussion of improper integrals contained in the first edition has been omitted.

THOMSON, WILLIAM TYRRELL

Laplace transformation, theory and engineering applications Englewood Cliffs, N J Prentice-Hall, Inc , 1950 230 p illus 21 cm. (Prentice Hall engineering design series, John A. Hrones, editor, and Prentice Hall electrical engineering series, William L Everitt, editor) $3 75 5244

Contents: Introduction to the Laplace transformation. Properties of the Laplace transformation. Dynamical applications. Structural applications. Complex-variable theory Partial differential equations. Difference equations. Closed loop systems. Analogies. Appendices. Index.

Note: A good, well-organized introduction to the Laplace transformation. It includes, both in the expository text and in the problems included for readers to solve, illustrations of many applications in applied mechanics, structural design, heat conduction, etc.

VER PLANCK, D W , AND B R. TEARE, JR.

Engineering analysis, an introduction to the professional method New York John Wiley & Sons, 1954 344 p illus 24 cm. $7 00 5245

Contents The professional method of dealing with engineering problems. Application of professional method. The understanding of principles fundamental to engineering. Translation into mathematics. Solutions of some ordinary differential equations. Checking. Interpretation of the mathematics. Problems. Index.

Note. How to think clearly in solving engineering problems is the topic of this book. Intended for undergraduate students in engineering colleges, it can be read with profit by most young engineering graduates as well. A relatively simple problem, the analysis of an invention is solved in the first chapter and the process is carefully described step by step. In later chapters, the problems considered require more complex mathematics, but the basic method is adhered to. Appropriately the two last chapters deal with methods of checking results and of interpreting them in the form of report or paper. There are 50 pages of practice problems.

WIENER, NORBERT

Extrapolation, interpolation, and smoothing of stationary time series with engineering applications New York Published jointly by The Technology Press of The Massachusetts Institute of Technology and John Wiley & Sons Inc., 1949 163 p illus 24 cm $4 50 5246

Contents Introduction. Résumé of fundamental mathematical notions. The linear predictor for single time series. The linear filter for single time series. The linear predictor and filter for multiple time series. Miscellaneous problems encompassed by the technique of this book. Appendixes Table of the Laguerre functions. The Wiener RMS (root mean square) error criterion in filter design and prediction, by N Levinson. A heuristic exposition of Wiener's mathematical theory of prediction and filtering, by N Levinson. Index.

Note A treatise which has primary applications in communications engineering but applies also to the design of certain types of servomechanisms and other systems in which the mathematics of probability must be taken into account in predicting performances. The methods discussed can be applied to problems with the following characteristics (to use the words of the author) the existence of a linear problem, invariant under the translation group, which is not capable of an exact solution but in hich measure of the failure of an approximate solution may be given as the mean of the square of the modulus of an expression known to be linear in terms of the function upon which we are operating. The exposition is largely in mathematical terminology and is intended for such groups as graduate engineers who are familiar ith Fourier series and related mathematical concepts.

WYLIE, CLARENCE RAYMOND, JR.

Advanced engineering mathematics. New York McGraw Hill Book Company, Inc., 1951 640 p illus 24 cm. $8 00 5247

Contents: Ordinary differential equations of the first order. Linear differential equations with constant coefficients. Simultaneous linear differential equations. Mechanical and electrical circuits. Fourier series and integrals. The Laplace transformation. Partial differential equations. Bessel functions. Analytic functions of complex variable. Integration in the complex plane. Infinite series in the complex plane. The theory of residues. Conformal mapping. Analytic functions and fluid mechanics. Vector analysis. Numerical analysis. Appendix: Selected topics from algebra and calculus. Index.

Not An engineering college text written by the chairman of the Department of Mathematics and Astronomy of the University of Utah. The treatment assumes a knowledge of mathematics through elementary calculus. Preliminary mathematics leading up to the material covered in the book is reviewed in the appendix. Numerous worked examples and practice exercises are a feature of the book.

ENGINEERING DRAWING

(Including Descriptive Geometry)

ALBERT, C D

Machine design drawing room problems. Fourth edition revised. New York John Wiley & Sons, Inc., 1951 538 p. illus. 24 cm. $6 75 5248

Contents Introductory discussion. Flanged shaft coupling. Bearing cap. Form factor and strength of gear teeth. Hydraulic automobile transmission. Valve gear of diesel engine. Strength and stiffness of shafts. Curved parts and frames. Helical spur reducing gears and housing. Steam engine flywheel. Air-operated arbor press. Thrustor-operated industrial brake. Car puller. Pump problems. Mechanical features of jib crane. Combination punch and shear. Balancing problems. Engineering materials. Allowable stresses, static and fluctuating loads. Straight and helical spur gears. Worm gearing. Graphics. Tolerances and allowances for metal fits. Bearings. Screw threads and screw fasteners. Miscellaneous information in tabular form. Index.

Note: A textbook used in undergraduate engineering courses offered to students ho have prior knowledge of basic mechanics and basic engineering drawing. Its purpose is to teach the essentials of machine design through the application of mechanical engineering drawing methods. Essentially it deals with design procedures that are carried out in the drafting department of engineering organizations rather than with drawing techniques. Each chapter is complete in itself and deals with the special problems connected with the designing of particular types of machine or machine part. The fourth edition was published in 1948. In this "fourth edition revised" important and rather extensive exchanges were made in the 25th and 26th chapters in order to bring them into accordance with the current Standard of Unified and American Screw Threads. Otherwise the text is unchanged from that of the fourth edition published in 1948, which, however contained several newly added chapters.

BISHOP, CALVIN C

Electrical drafting and design. Third edition. New York McGraw Hill Book Company, Inc. 1952 267 p. illus. 24 cm $4.50. 5249

Contents: General instructions for mechanical and electrical drafting. Circuit diagrams. Switchboard for a direct-current generator Switchboard for 2300-volt service. Outdoor substation. Residence wiring. Laying out wiring. Illumination. Industrial plant. Appendix. Index.

Note. An established text and reference manual on the making of drawings of circuit diagrams and wiring installations. It is addressed chiefly to student draftsmen enrolled in vocational schools, but it is suitable also as reference or refresher for working draftsmen in need of particular information on electrical drawings. The 125-page appendix consists mainly f tables of reference data useful to electrical draftsmen. The second edition was published in 1931. For this edition the work was ery substantially revised and enlarged.

Bishop, Carlton Thomas

Structural drafting. New York John Wiley & Sons, Inc., 1941 287 p. illus. 23 cm. $6.00. 5250

Contents: Introduction. The engineering department of a structural company. The manufacture of structural steel. The fabrication of structural steel. The structural drawing. Conventional methods of representation. Conventional methods of billing. Conventional methods of dimensioning. Drafting technique. Notes and tables. Working lines. Rivet spacing. Welding. Connections. Layouts. Marking systems. Plate girders. Roof trusses. Latticed girders. Beams. Columns. Bridge trusses. Bracing and miscellaneous members. Shop work. Erection plans and diagrams. Material order bills. Miscellaneous drawings and [illegible]. Checking and correcting drawings. Reinforced-concrete construction. Timber construction. Glossary of engineering terms. Index.

Note: This book corresponds in scope to the duties of the structural draftsman in the preparation of detailed working drawings for members of steel structures. Drawings for concrete and timber structures are also discussed, and billing practice is covered. There are many detailed illustrations, and the glossary of engineering terms includes about 500 items.

Carini, Louis Frank Bartholomew

Drafting for electronics. New York McGraw Hill Book Company Inc., 1946. 211 p. illus. 23 cm. $4.00. 5251

Contents: Schematic drafting. Fundamentals of instrumental drawing. Essentials of lettering. Abbreviations and letter symbols. Symmetry and balance. Schematic delineation. Schematic circuit properties. Schematic pictorial drawing. Industrial electronics. Technical outline drawings. Graphic integration. Checking of drawings. Preparing drawing prints. Drawings for reproduction. Appendices. List of visual aids. Index.

Note: Students and draftsmen who are well versed in engineering drawing often need supplementary instruction to prepare them for electronic drafting which is schematic and employs specialized symbols. This book provides this supplementary information, but it contains also a review of general methods that will be useful to persons who are beginning a study of engineering drawing. Much useful data, such as the R. M. A. color codes for capacitors and resistors, standard wire gages and conversion factors for various electrical units are given in the appendix.

Farmer, J Harold and others

Illustrating for tomorrow's production, by J. Harold Farmer Abbott J Hoecker and Francis F Vavrin. New York The Macmillan Company 1950. 199 p. illus. 24 cm. $5 75 5252

Contents (abridged): Part I, Preliminary to production illustration. The purpose of production illustration. Isometric and dimetric drawing. Method for making true-scale perspective drawings. Mechanical method for exploding views. Freehand drawing based on the mechanical construction principle. Part II, Making a production illustration. The rough layout. Rendering. Mounting and presentation of drawings. Reproduction of illustrations. Part III, Aircraft illustrating. Part IV, The production illustrator in advertising and industrial design. Bibliography.

Note: A short but practical introduction to the technique of making perspective drawings of such things as machines and machine parts for use in manufacturing and also for reproduction in publications, such as instruction manuals. Approximately half of the space is devoted to reproductions of illustrations, all of which either depict the making of production illustrations or show finished illustrations. The book is primarily useful to draftsmen and artists who wish to prepare for practical work in the field. The fourth part is only 11 pages long and hence is little more than an outline of the use of production illustrations in advertising and industrial design.

French, Thomas Ewing and Charles J Vierck

A manual of engineering drawing for students and draftsmen. With the assistance of Charles D Cooper Paul E. Machovina, Ralph S. Paffenbarger and Hollie W Shupe. Eighth edition. New York McGraw Hill Book Company Inc., 1953 715 p. illus. 25 cm. $8 75 5253

Contents: Introductory. Lettering. The selection of instruments. Applied geometry. Orthographic projection. Orthographic reading. Orthographic freehand drawing. Orthographic instrument drawing. Auxiliary views. Oblique views. Rotation. Sections and conventions. Intersections. Developments. Pictorial drawing. Perspective drawing. Pictorial sketching. The drawing and the shop. Dimensioning and notes. Precision and limit dimensioning. Screw threads. Threaded fasteners. Keys, rivets, and springs. Piping drawings. Welding drawings. Gears and cams. Working drawings. Jigs and fixtures. The elements of structural drawing. The elements of architectural drawing. Map and topographic drawing. Charts, graphs, and diagrams. Illustration. Notes on commercial practice. Bibliography of allied subjects. Appendix. Glossary of shop terms. Glossary of structural terms. Glossary of architectural terms. Supplementary visual materials. Index.

Note: Revised, established, and rearranged, the new edition of one of the most successful American engineering college texts has shorter chapters and four basic divisions: shape description, size description, basic machine elements, and working drawings. The chapter on screw threads now conforms to the new Unified Standard and the chapter on welding drawings now follows the latest ASA Standard. The term rotation is used in place of revolution to describe the process of turning the object about various axes, to obtain auxiliary views. The best of the old drawings have been kept and many new drawings have been added. Before his death Thomas E. French was Professor of Engineering Drawing at Ohio State University for many years. All of the other authors named on the title page of the eighth edition are currently members of the Department of Engineering Drawing of the same university.

French, Thomas Ewing and Carl L. Svensen

Mechanical drawing a text with problem layouts. Fifth edition, revised and enlarged by Carl L. Svensen. New York McGraw Hill Book Company Inc., 1948 437 p. illus. 23 cm. 5254

Contents: The language of drawing. Learning to draw. Lettering. Theory of shape description. Sketching. Sections. Auxiliary views and revolutions. Principles of size description. Technique of the finished drawing. Bolts, screws, and other fastenings. Mechanical drafting. Pictorial drawing. Production illustration. Aircraft drafting. Working drawings. Graphic solutions. Cams and gears. Sheet-metal drafting. Architectural drafting. Structural drafting. Map drafting. Problems. Appendix. Index.

Note: A standard text for instruction at the vocational school rather than the college level. In short, it is used in teaching the rudiments of drafting. It provides an exceptionally thorough introduction at the beginning practical level. A sixth edition was published in 1957 448 p., $4.80.

Giachino, J W., and Henry J Beukema

American Technical Society's drafting. Chicago American Technical Society 1954 243 p. illus. 24 cm. $3.50. 5255

Contents: What is drafting? Occupational opportunities in drafting. Learning to draw. Making a layout drawing. Lettering a drawing. Dimensioning a drawing. Making a working drawing. Drawing sectional and auxiliary views. Learning about assembly drawing and fasteners. How to make pattern drawings. Drawing without instruments. Planning a house. Laying out schematic diagrams. Drawing graphs and charts. Making prints and reproductions. Appendix. Index.

Note: A well-planned introductory text in which important terms, concepts and instruments are explained both visually and in words. The examples illustrate the application of drafting in various crafts and branches of engineering, such as machine design, sheet metal work and building. Each chapter includes in addition to the traditional problems for students, a "self quiz" that will facilitate comprehension for many students. More elementary and less complicated than the typical introductory text in mechanical drawing, the book is suitable for readers who are lacking in engineering education.

Giesecke, Frederick Ernest and others

Technical drawing by Frederick E. Giesecke, Alva Mitchell and Henry Cecil Spen

cer Third edition New York The Macmillan Company, 1949 851 p illus. 24 cm $8 50 5256

Contents. Introduction. Instruments and materials. Instrumental drawing. Geometry of technical drawing. Lettering Projections. Multiview projection. Sectional views. Auxiliary views. Revolutions. Axonometric projection. Oblique projection. Perspective. Technical sketching. Intersections and developments. Dimensioning. Fasteners. Shop processes. Working drawings. Gearing and cams. Pipe, fittings, and valves. Welding. Shading. Patent drawing. Graphs. Architectural drawing. Structural drawing. Topographic drawing. Aeronautical drafting. Reproduction of drawings. Appendix. Index.

Note The clarity and thoroughness with which many aspects of technical drawing are presented in this volume make it of value both as text in colleges and vocational schools, and as a basic reference book. The techniques of making technical drawings are explained in detail, but the emphasis is on fundamental principles. The many excellent drawings and illustrations constitute large and important part of the text. This edition has been enlarged and revised. In particular chapters dealing with such topics as dimensioning, axonometric projections, shop processes, and architectural dra ing have been rewritten and expanded and new chapter on aeronautical drafting has been added.

GRANT, HIRAM E

Practical descriptive geometry New York McGraw Hill Book Company, Inc. 1952 253 p illus 24 cm. $4 75 5257

Contents Introduction. Reference planes. The basic lines and planes. Basic auxiliary views. Points and lines. Lines and planes. Revolution. Force diagrams. Point, line, and plane relations with cylinders, cones, and spheres. Conic sections and their applications. Mining, geology and civil engineering. Shades and shadows. Curved surfaces. Plane and curved surface intersections. Developments, transitions, and the helix. Intersection of surfaces. Graphical accuracy Index.

Note A new textbook for use in college courses. Theory and practice are combined and some of the applications shown are unexpected as, for instance, the application of descriptive geometry to the layout of a pipe line on steep mountainside. There are 319 figures, and the majority of them contain reproductions of more than one drawing.

HOELSCHER, RANDOLPH PHILIP, AND CLIFFORD H SPRINGER

Engineering drawing and geometry New York John Wiley & Sons 1956 498 p illus. 29 cm $8 00 5258

Contents Introduction. Lettering. Use and care of instruments. Geometrical constructions Geometric projections. Sketching. Orthographic projection. Sectional views. Dimensioning. Fasteners. Shop terms and processes. Drawings for interchangeable assembly Auxiliary projections. Geometry of engineering drawing. Intersections and developments. Axonometric projection. Oblique projection. Perspective. Charts and diagrams. Map drawing. Architectural drawing. Structural drawing. Pipe drawing. Machine drawing. Tool drawing. Welding drawing. Reproduction of drawings. Patent Office drawings. Appendix. Index.

Note. The senior author of this new text is head of the Department of General Engineering of the University of Illinois, and his co-author is Professor of Engineering in the same department. The purpose of their book is to train engineers rather than draftsmen in drawing techniques. Drawing is not slighted, but there is more than the usual emphasis on principles and other matters basic in engineering communication. Also, the student or reader is afforded an insight into the special techniques and requirements of variety of types of drawing, such as map drawing, structural drawing and patent office drawing The book is well organized and, of course, fully illustrated It supersedes *Engineering drawing* by *H. H. Jordan* and R. P Hoelscher.

HOELSCHER, RANDOLPH PHILIP, AND OTHERS

Industrial production illustration for students draftsmen and illustrators by Randolph Philip Hoelscher Clifford Harry Springer and Richard F Pohle Second edition New York McGraw Hill Book Company, Inc., 1946 243 p. illus. 28 cm. $7.50. 5259

Contents Uses of pictorial drawing. Lettering. Orthographic projection. Orthographic sketching. Axonometric projection—conventional construction. Axonometric projection—exact method. Axonometric sketching. Oblique projection. Sketching in oblique. Perspective. Shades and shadows in perspective. Perspective sketching. Shading. Special equipment for making pictorial dra ings. Problems. List of visual aids. Index.

Note. During World War II, three-dimensional sketches and drawings were found to be valuable aids in the rapid instruction of beginning workers untrained in the reading of blueprints. This work, first published in 1943, is one of the pioneer American texts on the subject. It is designed to impart thorough understanding of the theory of perspective and other types of pictorial illustration and to introduce the reader to the practical techniques that have been developed for the economical production of such illustrations. This edition is greatly improved over the original edition. The text has been set in type, new illustrations and a considerable amount of textual material have been added.

HOOD, GEORGE JUSSEN

Geometry of engineering drawing, descriptive geometry by the direct method. Third edition. New York McGraw Hill Book Company, Inc., 1946 362 p illus. 24 cm. $3.00. 5260

Contents Introduction. Principal lines. Views and their relations. Auxiliary views. Oblique views. Design of structures. Straight lines. Curved lines. Planes. Intersection and development of surfaces. Single curved surfaces. Warped surfaces. Double curved surfaces. Topographical and mining problems. Pictorial views. The projection method. Problems. Index.

Note A second-year college textbook for engineering students based on the method of three-dimensional visualization of the structure or object as opposed to the method of projections, ground lines and traces of planes. The student is taught to see and make drawings as if they were the objects themselves. This edition has been slightly enlarged by the inclusion of some new material, such as chapter on views and their relations, and by the addition of photographs of engineering structures which illustrate the applications of descriptive geometry The large collection of problems has been revised with new ones added and others deleted.

HOWE, HAROLD BARTLETT

Descriptive geometry a pictorial approach. New York The Ronald Press Company, 1951 332 p illus. 24 cm $4 25 5261

Contents. Introduction. Lines. Planes. Lines and planes. Mining problems. Revolution. Vectors. Single-curved surfaces. Convolutes. Warped surfaces. Double-curved surfaces. Intersection of surfaces. Perspective. Application problems. Index.

Note. The chief characteristic of this introductory textbook is best stated in the author's words. the direct-method approach has been substituted for the original trace-of-plane method, involving the four quadrants, which was closely tied to the mathematics from which it sprang. Some emphasis is placed on developing the reader's ability to make pictorial sketches, since this type of illustration is now widely used in industry

JOHNSON, WILLIAM HARDING AND LOUIS V NEWKIRK

Modern drafting New York The Macmillan Company, 1944 197 p illus. 21 cm. (Industrial arts education series) $4 00 5262

Contents Draftsman's language and tools. Lettering and techniques. Reading drawings. Working drawings. Pictorial drawing and freehand sketching. Geometric constructions. Sheet-metal drafting and surface development. Machine drafting. Aircraft drafting. Architectural drafting. Graphs and maps. Tracing, blue-printing, and duplicating.

Note A simple text designed for students of the high-school level and for older beginners desiring an introduction to the subject. It deals with the fundamental procedures of drafting and their industrial applications. The volume is well illustrated, and there is an index.

KATZ, HYMAN H.

Aircraft drafting. New York The Macmillan Company 1946. 386 p. illus. 29 cm. $7.25 5263

Contents The airplane. Drawing instruments and their use. The pencil and their use. The alphabet of lines. Lettering. Applied geometry. Orthographic projection. Making [illegible] drawing. Auxiliary views. Sectional views. Dimensioning. Pictorial drawing. Production changes [illegible] drawings. Materials in aircraft. Machines and processes. Fasteners. Standard parts. Dash numbers. Bill of materials. Calculation of weights. Lofting. Design. Index.

Note A basic textbook and reference manual which assumes no previous drafting experience, and which emphasizes the close relationship of engineering to drafting. In addition to the usual fundamentals of drafting, the orthographic and pictorial drawing methods, dimensioning procedures, and lofting techniques peculiar to the airplane industry are presented. The various aircraft manufacturing operations, such as [illegible], casting, machining, welding and riveting, are described as an aid to the beginning draftsman. The [illegible] profusely illustrated.

KATZ, HYMAN H.

Technical sketching and visualization for engineers. New York The Macmillan Company 1949 163 p. illus. 26 cm. $6.50 5264

Contents Introduction. Technical sketches. Straight lines. Curved lines. Proportion. Lettering—symbols—practice—problems. Orthographic sketching. Pictorial sketching. Shading. Measurements from the model. Non-graphical visualization. Appendix. Index.

Note A good exposition of the techniques of freehand pictorial sketching which are useful in visualizing mechanical ideas and designs. There is also some discussion of clay and cardboard models. Methods which can be followed to produce the fairly precise sketches which are most useful in the representation of machines and machine parts are emphasized. The book is intended for draftsmen and engineers already familiar with mechanical drawing.

LENT DEANE

Machine drawing. New York Prentice-Hall, Inc., 1951 523 p. illus. 24 cm. (Prentice-Hall engineering design series John A. Hrones, editor) $7.00. 5265

Contents Part I. The design phase. The design of machines. Part II. The detail phase. Detail drawings. Shape description. Technical sketching. Auxiliary and partial views. Sectional views. Symbols and conventional representation. Size description—dimensioning. Manufacturing processes. Control of manufacturing accuracy. Technique of [illegible] drawing. Finished detail drawings. Part III. The [illegible] phase. Assembly drawings. Standard parts. Problems. Appendix. Index.

Note A textbook organized so that [illegible] may be used in either vocational school or college courses offered to students who are preparing to become draftsmen or to work in machine design. Only those aspects of mechanical drawing which are useful in the drawing of machine parts are covered. The discussions are clear and full enough so that in most parts they can be understood without the assistance of an instructor.

LEVENS, A. S

Graphics in engineering and science. New York John Wiley & Sons, Inc., 1954 696 p. illus. 25 cm. $8.00 5266

Contents (abridged) Part I. Fundamentals and applications of orthogonal projection. Principles of projection. Application of the basic principles of orthogonal projection. Developments. Visibility. Axis problems. Intersection. Pictorial drawing. Part II. Technical drawing practice. Sections and conventions. Threads and fasteners. Cams and gears. Part III. Graphical solutions and computations. Graphical mathematics. Functional scales. Empirical equations. Nomography. Graphic statics. Graphical calculus. Graphics in research. Appendix. Geometrical constructions. Tables. List of [illegible] [illegible] symbols. Angles and true values in pictorial orthographic views. The use of the [illegible] method in the solution of [illegible] differential equations. Selected bibliography. Index.

Note Although the book contains some material which is of interest to draftsmen, [illegible] [illegible] on the graphic language rather than on mechanical drawing, and is intended for the instruction of scientists and engineers [illegible] will use drawing techniques as mediums of expression or in mathematical computations. In the chapters devoted to illustrating techniques, the emphasis is on pictorial drawings, however some mention of the orthographic techniques are included. The greater part, on the use of graphic methods in solving mathematical problems, is of interest not only to students but also to graduate scientists and engineers who were graduated before engineering school curricula included courses on graphical methods of computation. The author is Professor of Engineering Design in the University of California.

LUZADDER, WARREN JACOB

Fundamentals of engineering drawing for technical students and professional draftsmen. Third edition. Englewood Cliffs N J Prentice-Hall Inc. 1952 721 p. illus. 24 cm. $6.50. 5267

Contents. Introduction. Drawing materials and equipment. Use of instruments and equipment. Engineering geometry. Technical lettering. The theory of projection. Multiview drawing. Auxiliary views. Revolution. Sectional views. Conventional practices and representations in orthographic drawing. Freehand drafting. Ink work and tracing. Pictorial drawing. Shop processes. Dimensioning. Screw threads and fasteners. Piping drawings. Working drawings. Welding drawings. Machine elements. Developments and intersections. Architectural drawing. Structural drawing. Topographic and engineering map drawing. Shade lines and surface shading. Patent Office drawings. Reproduction and duplication of engineering drawings. Engineering graphs and charts. Graphical calculus. Appendix. Index.

Note. A successful textbook which is widely used for the instruction of students who are studying to become draftsmen, and to a somewhat lesser extent for the instruction of students preparing for engineering careers. It covers the subject broadly and at the same time in detail. There are many hundreds of excellent illustrations. The verbal exposition is full and explicit in accordance with the author's aim to make the book as nearly self-teaching as possible. The second edition was published in 1946. In this third edition, the scope of the book and style of presentation are unchanged, but useful and fairly extensive revisions have been made in both the text and illustrations.

LUZADDER, WARREN JACOB

Technical drafting essentials for vocational and technical students. Architectural drafting section, by William S. Hornung. New York Prentice-Hall Inc., 1950. 376 p. illus 24 cm. $4.00. 5268

Contents (abridged) Drawing instruments and equipment. Engineering geometry. Technical lettering. Multiview drawing. Freehand drafting. Sectional views. Conventional practices and representations in orthographic drawing. Auxiliary views. Revolution. Ink work and tracing. Dimensioning. Screw threads, fasteners, and welding. Working drawings. Piping drawings. Gears and cams. Pictorial drawing. Sheet metal drafting. Map drafting. Structural drafting. Architectural drafting. Appendix. Index.

Note A revision of the author's well-known *Fundamentals of engineering drawing*, for use in courses in high schools and trade schools and for self-instruction. It contains considerably less material than the earlier book but is full enough to prepare students for practical work. There are 316 figures, many of which include reproductions of more than one drawing.

MILLER, HENRY WILLARD

Descriptive geometry Seventh edition. New York John Wiley and Sons, Inc., 1941 254 p. illus. 23 cm. $4.00. 5269

Contents Abbreviations, notations, conventions, definitions. The point and line. Planes. Simple relations of the point, line, and plane. Higher relations of the point, line, and plane. Applications of revolution in measurement of plane figures. Lines and surfaces. Tangent planes. Intersection of surfaces. Development of cylinders and cones. Shades and shadows. Perspective. Test exercises. Index.

Note A textbook for engineering college students. The author pays tribute to the basic works of Monge, Warren, and Church, but he has successfully adapted his treatment of the subject to the needs of present-day engineers. The seventh edition contains 25 new sheets of test exercises designed to supplement the dis-

cussions and illustrations of the text as well as to test the student's understanding of theory

PARÉ, E G, AND OTHERS

Descriptive geometry By E G Paré, R. O Loving, and I. L Hill New York The Macmillan Company, 1952 309 p illus 25 cm. $4 25 5270

Contents (abridged) Orthographic projection. Primary auxiliary views. Lines. Planes. Piercing points. Intersection of planes. Angle between planes. Parallelism. Perpendicularity Angle between line and oblique plane. Mining and civil engineering problems. Revolution. Concurrent vectors. Plane tangencies. Intersections of planes with solids. Developments. Intersections of surfaces. Shades and shadows. Pictorial projections. Conics. Map projection. Spherical triangles. Appendixes Graphical accuracy Geometric constructions. Classification of geometric forms. Index.

Note. A textbook for use in introductory college courses. The authors have taken pains to organize it so that it can be easily assimilated by beginning students. Applications are indicated both in the exposition and in the problems, but the abstract phases of the subject are not neglected.

ROEVER, WILLIAM HENRY

The Mongean method of descriptive geometry New York The Macmillan Company 1933 151 p illus 20 cm $5 50 5271

Contents Introduction. Book I, The Mongean method of double orthographic projection Representation of the point. Representation of the straight line—its traces. Representation of the plane. Profile, or third plane of projection. Fundamental problems of geometry of position. Other problems of geometry of position. Problems involving perpendicularity Metrical problems. Other devices for the solution of metrical problems. Index.

Note. A revision for American use of that portion of Professor Loria's work on the Mongean method in his *Vorlesungen über darstellende Geometrie*, published in Germany in 1907 This text was approved by Professor Loria before publication. The original work has been modified to reduce the mathematical prerequisites and to emphasize the mathematical aspects of descriptive geometry The subject is of interest to mathematicians and engineers.

ROWE, CHARLES ELMER, AND JAMES DORR McFARLAND

Engineering descriptive geometry, the direct method for students draftsmen architects and engineers. Second edition. Princeton N J D Van Nostrand Company Inc. 1953 352 p illus. 23 cm. $5 50 5272

Contents Introduction. Principal views. Auxiliary views. Oblique views. Line and plane problems. Surfaces and developments. Surfaces and intersections. Warped surfaces. Geology and mining problems. Engineering problems. The Mongean method of descriptive geometry Shades and shadows. Perspective drawing. Problems. Index.

Note. The "direct method" is used in preference to the Mongean method in this standard engineering college textbook. Any problem in descriptive geometry is treated as a space relationship and is solved directly on the drawing board without using ground lines, folding lines, traces of planes or other devices. Fourteen fundamental principles which are concisely stated in the introduction form the working basis for the solution of all problems. The first edition was published in 1939 Although the length of the book has been increased by over 30 pages in this second edition, there are no material changes in organization, level or scope. However the number of illustrations has increased, and there are now 385 figures.

RULE, JOHN THOMAS, AND EARLE F WATTS

Engineering graphics. New York McGraw Hill Book Company, Inc. 1951 298 p illus 24 cm $5 50 5273

Contents. The straight line and circle. The construction of the conic sections. Projective constructions. Roulettes, glissettes, and spirals. Vector geometry Graphical scales. Empirical curves. Periodic curves. Graphical calculus. The geometry of projection drawing. Axonometry Conventions of practical drafting. Appendixes. American drafting standards. Geometric proofs. Table of chords. Table of logarithms. Table of natural trigonometric functions. Table of exponentials. Values of e^{x}—hyperbolic logarithms. Index.

Note. In this college textbook on engineering drawing the use of graphic methods in the analysis of engineering problems is given considerably more emphasis than are the techniques of making representational drawings. Both aspects are well covered as to theory and to basic techniques, but there is comparatively little in the book on the drawing of machine parts, lettering, etc. On the other hand, such chapters as that on graphical calculus cover a phase of the subject that is omitted entirely from some of the older texts.

RUSINOFF, SAMUEL EUGENE

Practical descriptive geometry Illustrated. Chicago American Technical Society, 1947 259 p illus. 22 cm. $5 00 5274

Contents Introduction. Orthographic projection. Auxiliary views. Problems of point, line, and plane. Intersection of planes. Curved lines and surfaces. Intersection of planes and curved surfaces. Development of curved surfaces. Intersection of surfaces. Solution of miscellaneous problems by descriptive geometry

Note. A thoroughly practical textbook for use in trade-school and engineering-college courses. It opens with a short review of mechanical drawing fundamentals, following which each principle of descriptive geometry is explained step by step. Practical applications in the automotive, aviation, machine-tool, and steel industries are shown in the illustrative examples and in the problems for students.

SCHUMANN, CHARLES H.

Descriptive geometry a treatise on the graphics of space for the scientific professions. Fourth edition. Princeton, N J D Van Nostrand Company, Inc., 1946 338 p. illus. 23 cm. $4 00 5275

Contents. Introductory principles and problems. Problems on points, lines and planes. Revolved views and auxiliary views. Further problems on points, lines and planes. Practical applications. Lines. Single curved surfaces. Warped surfaces. Double curved surfaces and surfaces of revolution. Intersections of surfaces. Appendix. Plane and solid geometry theorems, plane curves. Index.

Note. A successful textbook first published in 1937 and since reprinted many times in its various editions. It contains more matter than some introductory textbooks in this subject. Notably it makes use of both the "direct method" and the older method of plane traces. However the emphasis is on the direct method. As shown above, there is a chapter on warped surfaces. Approximately 500 problems are included.

SMUTZ, FLOYD A, AND RANDOLPH F GINGRICH

Descriptive geometry, essential principles and applications for students of engineering and architecture. Third edition Princeton D Van Nostrand Company Inc., 1950. 142 p. illus. 25 cm $4 00 5276

Contents Introduction. Projections of a point. Auxiliary projections of lines. Auxiliary projections of planes. Revolution method. Nonintersecting lines. Surfaces. Tangents to surfaces. Intersections of surfaces Applications to shades and shadows. Glossary Index.

Note. The auxiliary plane method, rather than the Mongean system, is used in this standard textbook for students of drafting and engineering. The authors have purposely omitted the abstract aspects of descriptive geometry and have concentrated on problems and solutions of practical value. Detailed solutions of typical problems are included in the expository text. Each chapter concludes with a generous number of problems for the student.

STREET, WILLIAM EZRA

Technical descriptive geometry New York D Van Nostrand Company Inc., 1948 179 p. illus. 25 cm. $4 25 5277

Contents: Orthographic projection. Primary auxiliary views. Secondary auxiliary views. Revolutions. Developments. Intersections. Perspective. Shades and shadows. Vector diagrams. Index.

Note: A text for the engineering student who has had at least one semester of drawing. Geometry as applied to the structure of machines and to geology is emphasized, using methods of progressive complexity. Many problems of a practical nature are included. "The Nomenclature Committee Report of the Drawing and Descriptive Geometry Division of S. P. E. E. (now A. S. E. E.) for descriptive geometry has been adopted. The text, illustrations and problems are in conformity with the American Standards.

SVENSEN CARL LARS

Machine drawing a text and problem book for technical students and draftsmen. Third edition. New York D Van Nostrand Company Inc., 1945 280 p. illus. 23 cm. $4.00 5278

Contents: Elementary principles. Threaded fastenings. Welded and riveted construction. Principles and practice of dimensioning. Machine drawing. Machine sketching. Machine details. Bearings. Pulleys, belts, etc. Shafting and couplings. Jigs, fixtures, and details. Gears and cams. Piping drawings. Problems and studies. Supplementary problems. Appendix.

Note: The material in this excellent book is designed to supplement the contents of the typical college course in engineering drawing. It may be used in formal courses or for self-instruction or reference by persons already employed who have had an introductory course. The subject is covered with a fair degree of comprehensiveness. There are more than 450 illustrations, approximately 400 problems, and many tables of reference data.

TREACY JOHN

Production illustration the techniques and applications of perspective engineering drawings. New York John Wiley & Sons Inc., 1945. 202 p. illus. 23 cm. $6 75 5279

Contents: Part I Introduction. Drafting standards and practices. Shading techniques. Reproduction aids. Reproduction methods for illustration. Photographic illustrations. Linear perspective. Free-hand drawing. Part II General uses of illustrations. The introduction of production illustration. Organization of an illustration department. General reference illustrations. Perspective engineering drawings. Manufacturing illustrations. Miscellaneous applications. Appendix: The perspective drawing board. Function illustration. Prepared shading, textures and symbols. Instruction in production illustration. Index.

Note: An excellent presentation of the relatively new techniques used in the production of perspective drawings for use in industry together with a survey of the uses of such illustrations. The treatment is practical and on the level of persons engaged in the making and use of production illustrations. The book is also suitable for use in college and vocational school courses.

TURNER, WILLIAM WIRT AND OTHERS

Basic engineering drawing a text integrating engineering drawing descriptive geometry machine drawing. By William Wirt Turner Carson P Buck, and Hugh P Ackert. New York The Ronald Press Company 1950. 669 p. illus. 23 cm. $5 50 5280

Contents: Drafting equipment. The use and care of drafting instruments. Conventional lines and their applications. Lettering. Orthographic projection. Freehand sketching. Auxiliary views. True length. True size. Piercing points. Perpendicular relationships. Revolution. Intersections and developments. Pictorial drawing. Sections and conventions. Dimensioning. Fasteners, piping, and welding. Working drawings. Gears and cams. Graphs. Drafting as it applies to various types of engineering. Appendix. Index.

Note: A textbook for use in full-length introductory courses in engineering colleges. As indicated in the subtitle, it includes certain allied subjects, such as descriptive geometry which are often taught as separate courses. Also, there is more emphasis on perspective and other types of pictorial drawings than is found in some of the long established texts. This aspect reflects the wide use of such drawings in American industry where they have been found easier for beginning machinists and other mechanics to follow than conventional plane drawings. The appendix includes a useful glossary

VAN GIESON D WALTER

Electrical drafting applied to circuits and wiring. New York McGraw Hill Book Company Inc. 1945 140 p illus. 22 cm. $3.50 5281

Contents: Symbols. The schematic diagram. Modern methods. The detailed wiring plan. Circuit and wiring plans—lighting—railway signals—communication—radio and television—power. Switchboard-wiring plans. Car-wiring plans. Ship-wiring plans. Aircraft-wiring plans. Traffic-signal wiring plans. Animated-sign lighting. Neon and fluorescent lighting. Instruments and indicating devices. Checking the wiring plan. Equipment-location plans. Conduit and location plans. Notes and specifications. Drawing titles, subtitles, etc. Alterations and revisions to drawings. Office practice. Drafting kinks. Appendix. Index.

Note: A practical exposition of the subject. It is intended for engineers, draftsmen, electricians, and others who already know the fundamentals of drafting but who need more knowledge of the special technique of drawing electrical circuits than is offered in general textbooks.

WARNER, FRANK M

Applied descriptive geometry with drafting room problems. Fourth edition. New York McGraw Hill Book Company Inc., 1954 247 p. illus. 23 cm. $4.50 5282

Contents: Orthographic drawing. Fundamental auxiliary lines. Point, line and plane problems. Revolution. Concurrent noncoplanar forces. Curved lines and surfaces. Intersection of surfaces. Practical problems. Drafting-room problems. Appendix. Index.

Note: The change-of-position, or direct method, of drawing is taught in this introductory textbook, which is addressed to undergraduate engineering students. The book is well-illustrated and has an attractive format. A great variety of problems is included.

WATTS EARLE FRANCIS, AND JOHN T RULE

Descriptive geometry New York Prentice Hall Inc., 1946 301 p. illus. 24 cm. $4.50 5283

Contents: Principles of orthographic projection. Fundamental problems relating to lines and planes. On the systematic solution of problems. Graphical computations. Polyhedrons. Curved surfaces. Surfaces of general form. Horizontal projection. Analytic solutions. Pictorial drawing. Simple shadows. Practical applications. Appendices: Precision in drawing. Properties of plane figures. Stereoscopic drawing. Natural trigonometric functions. Table of chords. Index.

Note: An engineering college text which stresses the practical side of the subject. It is the authors' contention that engineers should make greater use of purely graphical methods for solving technical problems. The basic projections of the point, line, and plane are given and these are followed by more complex discussions covering topics such as the representation of an equation in three variables, Cartesian coordinates, perspective, and the development of various curved surfaces. The authors are members of the faculty of the Massachusetts Institute of Technology.

ZOZZORA, FRANK

Engineering drawing. New York McGraw Hill Book Company Inc. 1953 369 p illus. 30 cm. $5.00. 5284

Contents: Introduction. Engineering lettering. Orthographic projection. Freehand detail drafting. Instruments and their use. Geometrical constructions. Shop processes. Dimensioning. Sectional and conventional practices. Primary auxiliary views. Pictorial drawing. Common fasteners. Assembly drawing. Intersections and developments. Cams and gears. Inking procedure. Bibliography. List of visual aids. Appendix. Index.

Note: A liberal use of pictorial illustrations to illustrate the techniques of engineering drawing is one of the outstanding features of this work. These illustrations appear not only in the chapter on pictorial drawing but throughout the book and are used as a means of instruction. Although less ground is covered than in some of the established college texts, there is adequate material on the fundamentals. The book is particularly suited to the needs of students who are preparing for careers in draftsmanship. The author is Head of the Department of Engineering Drawing and Descriptive Geometry in the University of Delaware.

APPLIED MECHANICS

ADVANCES IN APPLIED MECHANICS Volume I Edited by Richard von Mises and Theodore von Kármán. New York Academic Press, Inc., 1948 293 p illus. 24 cm. $8.50 5285

Contents. Recent advances in the mechanics of boundary layer flow by H. L. Dryden. Modern trends in nonlinear mechanics, by N Minorsky Survey of papers on elasticity published in Holland 1940–1946 by C. B Biezeno. A mathematical model illustrating the theory of turbulence, by J M. Burgers. On numerical methods in wave interaction problems, by H. Geiringer On Bergman's integration method in two-dimensional compressible fluid flow by R. V Mises and M. Schiffer Bibliography Author index. Subject index.

—— Volume II Edited by Richard von Mises and Theodore von Kármán New York Academic Press, Inc., 1951 233 p illus 24 cm. $7 00 5285A

Contents On the statistical theory of isotropic turbulence, by T V Kármán and C. C. Lin. The laminar boundary layer in compressible flow by G. Kuerti. Bending I curved tubes, by R. A. Clark and E. Reissner Recent developments in inverse and semi-inverse methods in the mechanics of continua, by P F Neményi. Theory of filtration of liquids in porous media, by P Ya. Polubarinova-Kochina and S. B. Falkovich. Author index. Subject index.

—— Volume III. Edited by Richard von Mises and Theodore von Kármán. New York Academic Press, Inc., 1953 324 p. illus 23 cm. $9 00 5285B

Contents Boundary layer problems in applied mechanics, by G. F Carrier The one-dimensional isentropic fluid flow by O Zaldastani. Turbulent diffusion—mean concentration distribution in a flow field of homogeneous turbulence, by F N Frenkiel. On aerodynamics of blasts, by H. F Ludloff. On the presence of shocks in mixed subsonic-supersonic flow patterns, by G. Guderley Vortex systems in wakes, by L. Rosenhead. Some recent results in the theory of an ideal plastic body Non-autonomous systems, by A. I. Bellin. Author index.

—— Volume IV Edited by H L. Dryden and Theodore von Kármán. Managing editor G Kuerti associate editors, F H. van den Dungen L. Howarth, J Pérès. New York Academic Press Inc., 1956 413 p illus 23 cm $10 00 5285C

Contents The turbulent boundary layer by F H. Clauser Nonlinear elasticity by T C. Doyle and J L. Ericksen. Physical and statistical aspects of fatigue, by A. M. Freudenthal and E. J Gumbel. Three-dimensional boundary layer theory by F K Moore. Dislocation theory of plasticity of metals, by G. Schoeck. The Poincaré-Lighthill-Kuo method, by H. S. Tsien. On the concept of elastic stability by H. Ziegler Author index. Subject index.

Note. A review series edited on the plan of publishing monographic surveys of topics rather than surveys of the literature of specified periods. However recent literature is emphasized in most I the surveys as would be expected. Each paper is written by an expert and is based both on the author's own knowledge of the field and on the literature. An extensive bibliography is always included. The chief purpose of the series is to aid engineers and scientists in keeping abreast of developments in fields allied t their own specialties. Accordingly the treatment of each subject is on professional level.

AMERICAN MATHEMATICAL SOCIETY

Symposium on Applied Mathematics Transactions of the Symposium on Fluid Mechanics and Computing held at New York University, April 23–24, 1953 The first symposium on applied mathematics sponsored by the American Mathematical Society and Office of Ordnance Research, U S. Army Editorial committee, Garrett Birkhoff K. O Friedrichs and T E Sterne. New York Interscience Publishers, Inc. 1954 243 p. 26 cm $5 00 5285D

Contents Mathematical methods in compressible flow theory by M. J Lighthill. Boundary layer problems in applied mathematics, by G. F Carrier. Fourier synthesis of homogeneous turbulence, by G. Birkhoff. One-dimensional anisentropic flows, by G. S. S. Ludford and M. H. Martin. Approximate methods for computing flow fields, by J H. Giese. Results and conjectures in the mathematical theory of subsonic and transonic gas flow by L. Bers. The singular solutions and the Cauchy problem for generalized Tricomi equation, by A. Weinstein. Remarks on the theory of partial differential equations of mixed type and applications to the study of transonic flow, by P Germain. Discussion on transonic flow by R. von Mises. Some problems solvable on computing machines, by M. Lotkin. Weak solutions of nonlinear hyperbolic equations and their numerical computations, by P D Lax. Computation of one dimensional compressible flows including shocks, by L. H. Thomas. The deformation of a thin material shell of non-uniform thickness by detonation wave, by G. E. Hudson. Measurement of spherical shock waves, by H. Schardin.

Note. Although entitled "Transactions, this volume contains only papers which were presented at the Symposium on Fluid Mechanics and Computing. Transcripts of discussions are not included, and there is no index. However there are illustrations with some of the papers and bibliographies with most of them. Most of the papers describe recently developed methods of mathematical attack on complex problems in fluid flow. Several of them describe in detail the techniques for handling the calculations on high speed computing machines.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on new methods for particle size determination in the sub-sieve range. Philadelphia American Society for Testing Materials 1941 111 p illus. 23 cm. (Special technical publication #51) $1.25 5285E

Contents Methods for determining particle size distribution, by H. E. Schweyer and L. T Work. Shape and surface of fine powders by the permeability method, by P C. Carman. Surface area of Portland cement, by P S. Roller and P V Roundy Jr An improved hydrometer method for use in fineness determinations, by A. Klein. The determination of subsieve particle size distributions by sedimentation method, by S. W Martin. The electron microscope in the determination of particle size characteristics, by J. Hillier. A new method for measuring the surface areas of finely divided materials and for determining the size of particles, by P H. Emmett. Specific surface of pigments by adsorption from solution, by W W Ewing Appendix.

Not A collection of technical papers on various methods of measuring particle size distribution and specific surface, including discussion of theory and results of experimental research. Extensive bibliographies are also presented.

BINDER, R. C

Advanced fluid dynamics and fluid machinery New York Prentice-Hall Inc., 1951 426 p. illus. 22 cm. $6 75 5286

Contents. Part I, *Fluid dynamics* I troduction. Steady one-dimensional compressible flow Compressible flow in channels with friction and heat transfer Boundary-layer flow turbulence, and energy losses. Part II, Fluid machinery General features of dynamic machines. Axial-flow fans, pumps, and compressors. Centrifugal fans, pumps, and compressors. Fluid couplings and fluid torque converters. Jet compressors and jet pumps. Turbines. Part III, *Fluid dynamics*: Unsteady flow in one dimension—fluid vibrations. General analytical relations. Steady two-dimensional incompressible flow Steady two-dimensional compressible flow General analytical relations for viscous flow Vector analysis in flow studies. Appendix. Answers to problems. Index.

Note Taking up where the author *Fluid mechanics*, described below leaves off this book is directed to engineering college students he have completed course based on that book or an equivalent course. It is more analytical than the introductory book and covers number of topics not covered in it. The 114-page second part

[illegible] types of modern machines which are based on the phenomena of fluid dynamics. Selected literature references are included [in] the chapters.

BINDER, R. C.
Fluid mechanics. Third edition. Englewood Cliffs, N J Prentice-Hall, Inc., 1955 388 p. illus. 23 cm. $5.95 5287

Contents: Part I, Basic relations: Introduction—some fluid properties. Fluid statics. Kinematics of fluid flow. Dynamic or momentum equation. Energy equation for the steady flow of any fluid. Viscosity or internal friction. Dimensional analysis and dynamic similarity. Part II, Applications in fluid mechanics: Flow of incompressible fluids in pipes. Fluid meters. Flow in curved path. Resistance of immersed bodies. Dynamic lift. Propulsion and craft [illegible]. General features of fluid machines. Turbines, fluid couplings, and fluid torque converters. Flow of liquids in open channels. Compressible flow. Compressible flow in pipes with friction. Fluid power and control systems. Lubrication. Unsteady flow and noise. Answers to problems. Index.

Note: Although in this book the part on applications is approximately two and one-half times the length of the part on basic [illegible], the book [is] not primarily [a] descriptive treatment of hydraulic machinery. It presents [a] well-balanced treatment in [which] the descriptions of applications are well integrated [with] the theory. It has been widely used in introductory courses in engineering colleges since the publication of the first edition in 1943.

BOYD JAMES E., AND PERCY W OTT
Mechanics a textbook for engineers. Third edition. New York McGraw Hill Book Company Inc., 1950. 422 p. illus. 24 cm. $6.00. 5288

Contents: Fundamental ideas. Concurrent, coplanar forces. Application of forces. Nonconcurrent, coplanar forces. Connected bodies. Graphical methods. Method of work. Concurrent, noncoplanar forces. Nonconcurrent, noncoplanar forces. Machines and friction. Flexible cables. Center of gravity. Moments of inertia. Kinematics and dynamics. Force and motion. Dynamics of rotation. Momentum. Harmonic vibration. Moving frames of reference. Some extracurry problems. Index.

Note: An engineering textbook designed for [a] course of about seven or eight semester hours. The book places emphasis on fundamental principles and includes many examples and problems to encourage the student in the application of the principles. Much of the material has been entirely rewritten for the third edition. New chapters include those on Method of work, Machines and friction, Flexible cables, and Moving frames of reference. The treatment of kinetics has been reorganized and rewritten, with emphasis upon strictly analytical methods. Throughout the text, new problems have been added, most of them more difficult than the original problems.

CADLE, R. D
Particle size determination. New York Interscience Publishers, Inc 1955 303 p. illus. 19 cm. $5.50. 5289

Contents: Introduction. Treatment of data. Sampling methods. Choice of technique for particle size determination. Optical microscopy. Electron microscopy. Sieve analysis. Sedimentation and elutriation. Surface area measurements. Optical methods. Miscellaneous methods. Index.

Note: One of the publisher's "Interscience manuals," this book provides [a] survey of methods of determining the sizes of particles ranging from those as large as grains of sand down to those so small that they can be viewed only by the electron microscope. The viewpoint [is] practical, and the book is addressed to scientists and technicians who are not experts in the subject. The early chapters deal with the general aspects of the problem, its significance, the statistical treatment of observed data, and criteria for selecting [a] size determination method for use in [a] specific situation. The remaining chapters deal with the chief techniques. These are named in the chapter titles quoted, except that the final chapter covers several less-important methods, such as electrostatic counting and methods based on sound waves. Although the methods selected for full treatment are adequately described, others are covered briefly with reference to other publications [where] fuller treatments are to be found.

CAMPBELL JOHN WILLIAM
An introduction to mechanics. New York Pitman Publishing Corporation 1947 372 p. illus. 24 cm. $4 75 5290

Contents: Rectilinear kinematics. Vector quantities. Plane kinematics. Particle dynamics. Centers of mass. Plane statics. Some properties of matter. Miscellaneous topics. Moments of inertia. Plane motion of [a] rigid body. Flexure and torsion. Kinematics of plane motion of rigid bodies. Further conditions for equilibrium. Flexible chains and cables. The general motion of [a] rigid body. Gravitation. Lagrange equations. Appendices: Principles of computation. Elementary calculus. Definite integrals. A useful reduction integral. Simpson's rule. Hyperbolic functions. Reckoning. Tables. Answers. Index.

Note: A textbook suitable for use in rigorous courses offered to students in engineering colleges. Mathematical methods involving the use of ordinary and [v]ector calculus are explained. Worked examples are incorporated in the text, and there are additional problems for students to solve. The author is Professor of Mathematics at the University of Alberta.

COX GLEN N AND WILLIAM G PLUMTREE
Engineering mechanics. Second edition. Princeton D Van Nostrand Company Inc. 1954 382 p. illus. 24 cm. $6 00. 5291

Contents: Fundamental concepts, definitions, and principles. Resultants of coplanar force systems. Equilibrium of coplanar force systems. Analysis of simple structures and flexible cables. Friction. Non-coplanar force systems. Centroids. Moments of inertia. Kinematics. Kinetics of rigid bodies—force-inertia method. Work, energy, and power. Impulse and momentum. Simple harmonic motion and mechanical vibrations. Index.

Note: A college textbook in [w]hich the exposition is carried forward largely in problems, including both solved problems included as examples and problems for the student to solve. The book is designed for use in the instruction of undergraduate students of engineering. The treatment assumes [a] knowledge of basic physics and mathematics through differential calculus. The arrangement is such that it may be studied concurrently with [a] course in integral calculus. The first edition was published in 1943 and was the work of the senior author alone. In preparing the second edition the authors rearranged the material, increased the number of topics covered, and added many new problems.

DALLA VALLE, JOSEPH MARIUS
Micromeritics the technology of fine particles. Second edition. New York Pitman Publishing Corporation 1948. 555 p. illus. 23 cm. $9 00. 5292

Contents: Principal symbols used in text and their units. Introduction. Dynamics of small particles. Shape and size-distribution of particles. Methods of particle-size measurement. Theory of sieving and grading of materials. Characteristics of packings. Behavior of particles under pressure. Diffusion of particles. Electrical, optical, and sonic properties. Thermodynamics of particles. Surface properties of particles. Chemical properties of small particles. Flow of fluids through packings. Imbibition and particle-moisture relationships. Capillarity. Determination of particle surface. Muds and slurries. Transport of particles. Dust clouds. Atmospheric and industrial dust. Collection and separation of particulate matter from air. Theory of fine grinding. Sampling. Selected bibliography. Appendices. Author index. Subject index.

Note: When the first edition of this book was published in 1943, it constituted the first important treatise on the behavior and physical properties of small particles larger than colloids. Again, it has been the author's purpose to provide fundamental information regarding particle-measurement, size-distribution, packing arrangements, and the application of this knowledge in such fields as soil and mineral physics, chemical engineering, geology, and hydrology. In this edition, several chapters have been revised, but the major change is the addition of the chapters that deal with the behavior of particles under pressure, particle dispersion by diffusion, surface properties of particles, dust and smoke clouds, and sampling techniques. The bibliography has been expanded from 38 to 43 pages.

DEN HARTOG JACOB PIETER
Mechanics. New York McGraw Hill Book Company Inc., 1948. 462 p. illus. 23 cm. $7.00. 5293

Contents. Discrete coplanar forces. Conditions of equilibrium. Distributed forces. Trusses and cables. Beams. Friction. Space forces. The method of work. Kinematics of a point. Dynamics of a particle. Kinematics of plane motion. Moments of inertia. Dynamics of plane motion. Work and energy Impulse and momentum. Relative motion. Gyroscopes. Problems. Answers to problems. List of equations. Index.

Note. A well-organized text designed for use in courses offered to sophomore or junior engineering college students. The treatment, although concise and to the point, is fuller and more advanced than that found in standard physics textbooks. Practical examples are freely used to illustrate basic principles and laws, and an unusually large number of problems and review exercises is included.

Faires, Virgil Moring, and Sherman Daniel Chambers

Analytic mechanics. Third edition. Problems in this edition revised by James Harvey Caddess New York The Macmillan Company, 1952 540 p. illus 24 cm. $6 25 5294

Contents Resultants and components. Coplanar concurrent forces. Moments and parallel coplanar forces. Non-concurrent, non-parallel, coplanar forces. Flexible cords. Friction. Graphical methods. Maximum and minimum forces. Non-coplanar forces. Centroids. Moments of inertia of areas. Moments of inertia of masses. Plane motion. Relative motion. Force systems that produce rectilinear motion. Curvilinear motion. Rotation and plane motion of rigid bodies. Work, kinetic energy power Impulse and momentum. Mechanical vibrations. Balancing rotating elements. Appendixes. Index.

Note In this text for college engineering courses, the authors have made a special effort to relate basic principles and theories to practical engineering problems. Numerous review problems of a practical nature are included, and illustrations and drawings are freely used to amplify the problems and the text proper This edition has undergone some rewriting further to clarify basic ideas, and many new problems have been added. Other changes include the addition of chapter on vibration, short discussions of gyroscopic action and dimensional analysis, and brief historical and biographical sketches.

Fairman, Seibert, and Chester S Cutshall

Engineering mechanics Second edition New York John Wiley & Sons, Inc., 1946 267 p illus. 24 cm. $4 50 5295

Contents Part I, Statics Introduction—General principles. Equilibrium of coplanar forces. Stresses and reactions in simple structures. Equilibrium of forces in space. Friction. Centroids and center of gravity Moment of inertia of area. Product of inertia of area—maximum and minimum moments of inertia. Moment of inertia of mass. Part II, Kinetics Rectilinear motion. Curvilinear motion and rotation. Work, energy and power Dynamics of rotating bodies. Plane motion. Impulse, momentum, and impact.

Note. An elementary textbook for engineering students who have studied calculus. Special note should be made of the explanation of the graphic method with the use of Bow's notation, the practical applications of the gyroscopic principle to ships, airplanes, etc., and the extended treatment of certain phases of plane motion. This edition is essentially the same as that of 1938 except for the division of one chapter the addition of the chapter entitled Production of Inertia of area, and the addition of new problems.

Girvin Harvey Frank

Applied mechanics. Second edition Scranton International Textbook Company 1949 417 p illus 24 cm. (International textbooks in civil engineering Benjamin A. Whisler consulting editor) $6 25 5296

Contents (abridged) Fundamental conceptions. Coplanar concurrent force systems. Coplanar parallel force systems. Coplanar nonconcurrent force systems by mathematical methods. Non-coplanar force systems by graphical methods. Flexible cables. Friction. Centroids and centers of gravity Kinematics of particle. Kinematics of a rigid body Rectilinear translation of rigid body Curvilinear motion. Rotation. Work, energy and power Plane motion of rigid body Impulse and momentum. Index.

Note A successful textbook for engineering college courses. Both mathematical and graphical methods of problem-solving are covered. Since numerous worked examples are included in the text, the book has some usefulness for study outside organized courses. No major changes were made in preparing this edition, but numerous minor additions and rearrangements were made. The number of problems to be worked by the student has been greatly extended. The type for the whole book was re-set. The new format is a considerable improvement over that of the first edition.

Green, Henry

Industrial rheology and rheological structures. New York John Wiley & Sons Inc., 1949 311 p illus 22 cm. $9 00 5297

Contents (abridged) Part I, A rheological system. Part II, The system applied to laboratory measurements. Part III, The particle—the basis of rheological structure. Part IV Particle groups rheological structures. Appendixes. Literature cited. Glossary Author index. Subject index.

Note In this work, the author describes a system used in his own laboratory that is based on use of multipoint consistency curve and is especially suited to practical use in industry The system is explained and is compared with other systems. Its practical applications together with the mathematical computations involved are covered thoroughly The work is addressed chiefly to technical personnel in industry who are concerned with processes where rheology of product is an important consideration.

Hall, Newman Arnold

Thermodynamics of fluid flow New York Prentice Hall, Inc., 1951 278 p. illus. 22 cm. $5 75 5298

Contents. Introduction. Fluid friction. Energy and continuity Momentum principles. Incompressible fluids. Perfect gases. Constant-area adiabatic flow Varying-area adiabatic flow Shock regions. Flow measurement and control. Diabatic flow Propulsion systems. Appendixes. Conversion tables. Mathematical notes. Thermodynamic partial derivatives. Tables. Index.

Note: The combination of fluid mechanics and fluid flow is presented in this textbook to enable the student to grasp the fundamentals necessary to the analysis of fluid flow an understanding of which is important in chemical, aeronautical, and mechanical engineering. While the book includes some review of both fluid mechanics and thermodynamics, the author assumes that the reader will already have received fundamental training in the two fields separately Theory is emphasized, with numerous examples showing the application of the theory in practical situations. Aside from its use as textbook, the book can also be of some use as a reference source for engineers concerned with research and development in fields dependent on flow systems.

Hunsaker, Jerome Clarke, and Brandon Garner Rightmire

Engineering applications of fluid mechanics. New York McGraw Hill Book Company, Inc. 1947 494 p illus. 23 cm. $7.50 5299

Contents Preface. Introductory survey Statics. Kinematics and continuity Dynamics of an ideal fluid. Energy relations for steady flow Momentum relations for steady flow Dimensional analysis and similitude. Incompressible flow in closed conduits. Compressibility phenomena. Drag. Wing theory Hydrodynamic lubrication. Boundary lubrication. Hydraulic turbines. Pumps, fans, and compressors. Propellers and jets. Fluid couplings and torque converters. Hydraulic transmissions and controls. Appendix. Problems. Index.

Note The authors have based this work on 12 years' experience in teaching fluid mechanics in undergraduate courses at the Massachusetts Institute of Technology It is frankly college textbook and furthermore is intended primarily for use in introductory courses that will be followed by more advanced ones. The fundamental principles and basic mathematical equations are treated rather extensively in the earlier chapters. In the later chapters, the design and performance of various devices that depend upon the mechanical behavior of liquids and gases under various conditions are analyzed. These range from lubricated bearings to "buzz bombs." Short lists of references for the guidance of students are appended to the chapters.

Engineering

Applied Mechanics

JENSEN, ALFRED

Applied engineering mechanics. New York McGraw Hill Book Company, Inc., 1947 316 p. illus. 23 cm. $4.00. 5300

Contents (abridged): Part I, Statics: Basic principles. Coplanar force systems. Non-coplanar force systems. Friction. Centroids and centers of gravity. Moments of inertia of areas. Part II, Dynamics: Kinematics of rectilinear motion. Kinetics of rectilinear motion. Kinematics of rotation. Kinetics of rotation. Curvilinear motion. Kinematics of rotation. Work, energy and power. Appendix: Centroids of areas by integration. Moments of inertia of plane areas. Moments of inertia of solid bodies. Variable acceleration. Derivation of the laws of motion. Index.

Note: An introductory text for use in vocational schools and first courses in engineering colleges. The simplicity of the treatment and the large number of practice problems make it suitable also for home study. Each section includes many examples and problems which show the application of the principles of mechanics to the solution of everyday engineering problems. Both analytical and graphical methods of solution are illustrated.

KARELITZ, GEORGE BORIS AND OTHERS

Problems in mechanics, based on the original collection of I. V. Mestchersky by G. B. Karelitz, J. Ormondroyd, and J. M. Garrelts. New York. The Macmillan Company 1939 271 p. illus. 23 cm. (Engineering science series edited by E. R. Hedrick) $6.00. 5301

Contents (abridged): Elements of mechanics. Statics. Kinematics. Dynamics (General). Problems—statics. Plane statics. Statics in space. Kinematics: Motion of a particle. Motion of a rigid body. Relative motion. Rotation of rigid bodies. Dynamics: Rectilinear motion. Curvilinear motion. Motion of rigid bodies. Work and energy. Impulse and momentum. Review problems in dynamics. Appendix: Table of units. Systems of units. Trigonometric functions.

Note: This collection of problems for advanced students of engineering is based on the original collection published by the late I. V. Mestchersky of the Polytechnic Institute of St. Petersburg. The original problems were reworded to suit American practice and units of measurement, and were supplemented by over 100 additional problems, making a total of 712 in all. Answers are given for the majority of them. A number of typical problems in each section are completely worked out to provide some guidance for the student in methods of approach and solution. A table of units and trigonometric functions is provided at the end of the book.

LEIGH, CHARLES WILBUR, AND JOHN FREDERIC MANGOLD

Practical mechanics and strength of materials. Third edition. New York McGraw Hill Book Company, Inc., 1940 498 p. illus. 19 cm. $5.50. 5302

Contents: The three simple stresses. Welded and riveted joints. Mechanical properties of materials. Resultant and equilibrium of forces. Parallel forces and moments. Static and kinetic friction. Concurrent, nonconcurrent coplanar forces. Nonconcurrent coplanar forces. Framed structures, roof and bridge trusses. Stability and center of gravity. Moment of inertia. Beams and beam design. Horizontal and vertical shear. Deflection, typical cases. Combined stresses, short columns. Indeterminate beams, concrete beams. Metal, timber, and concrete columns. Torsion, shafts and couplings. Appendixes—tables. Index. Answers.

Note: A presentation of the principles of mechanics and strength of materials, designed for short courses on the subject in night schools, vocational schools and colleges, and for the use of men in construction work. Emphasis is placed upon practical relations and equations. In the third edition, the text has been rewritten and expanded, new tables have been introduced dealing with trigonometry formulas and deflections, wide-flange beams, and unequal leg angles, and new problems have been provided.

MERIAM, J. L.

Mechanics. Part I, Statics. Part II, Dynamics. New York John Wiley & Sons, Inc., 1952 2 v. illus. 24 cm. Part I, $4.50; part II $4.50. 5303

Contents: Part I, Statics: Principles of mechanics. Force systems. Equilibrium. Structures. Distributed forces. Beams. Friction. Virtual work. Index. Part II, Dynamics: Kinematics. Principles of kinetics. Force, mass, and acceleration. Work and energy. Impulse and momentum. Periodic motion. Appendices: Moments of inertia. Useful tables. Index.

Note: Although divided into two parts for convenience, this text for beginning students is a compact treatment of a total of 471 pages of the theory and application of mechanics. The opening chapter on the principles of mechanics is repeated in both volumes, as are the appendixes. The exposition progresses from fundamentals to advanced theory with emphasis upon the importance of principles. An outstanding feature is the inclusion of a total of 1,371 practical problems, almost all of which are illustrated by line drawings of exceptional clarity and reality. *Solutions* are printed in full for one ... of the problems, and answers are given for many more.

MUHLENBRUCH, CARL W

Experimental mechanics and properties of materials. Second edition of *Testing of engineering materials*. Princeton D. Van Nostrand Company, Inc., 1955 243 p. illus. 23 cm. $4.00. 5304

Contents (abridged): Experimental mechanics and properties of materials. Conducting laboratory experiments and instructions for writing reports. Experiments. Appendix. Index.

Note: The 79 experiments included in this book illustrate the principles and variety of tests of engineering materials and the principles of ... The book is one of an equipment range of testing equipment. The book is planned for the guidance of undergraduate students of engineering taking laboratory courses in the mechanics and properties of materials.

MURPHY, GLENN

Mechanics of fluids. Second edition. Scranton International Textbook Company 1952 309 p. illus. 25 cm. (International textbooks in civil engineering. Benjamin A. Whisler consulting editor) $6.75 5305

Contents: Properties of fluids. Fluids at rest. Buoyant forces. Flow of fluids. Uniform flow. Nonuniform flow. Forces developed by fluids in motion. Hydraulic machinery. Similarity law. Appendixes. Index.

Note: In this introductory textbook basic principles underlying the behavior of fluids are presented for engineering students. Engineering applications are illustrated, and most of the problems pertain to such applications, but the emphasis is on the physical principles. Although about 20 pages shorter than the first edition published in 194-, material on such topics as torque converters and fluid couplings has been added. Several sections have been extensively rewritten.

PLETTA, DAN HENRY

Engineering statics and dynamics. New York The Ronald Press Company 1951 392 p. illus. 23 cm. (A volume of a series in engineering mechanics edited by Glenn Murphy) $6.00 5306

Contents: Statics: The scope and fundamental concepts of mechanics. The resolution and composition of force systems. Forces in equilibrium. Trusses, frames, and cables. Internal resistance of solid bodies. Centroids and moments of inertia. Dynamics, Part I, Kinematics: Motion of a particle. The motion of rigid bodies. Dynamics, Part II, Kinetics: Kinetics. Inertia forces. Work, energy, and power. Impulse, momentum, and impact. Vibrations. Dimensional analysis and model similarity. Appendix. Answers to problems. Index.

Note: A textbook intended for beginning courses in statics and dynamics. The general theory of each topic is presented first, and then the specific applications are considered. Descriptive matter is kept at a minimum, but many illustrative problems are presented. The author is of the Research Foundation at Virginia Polytechnic Institute.

ROUSE, HUNTER

Elementary mechanics of fluids. New York John Wiley & Sons, Inc., 1946 376 p illus. 22 cm. $5 50 5307

Contents. Introduction to the study of fluid motion. Fluid velocity and acceleration. Pressure variation in accelerated flow Effects of gravity on fluid motion. One-dimensional method of flow analysis. Effects of viscosity on fluid motion. Surface resistance. Form resistance. Lift and propulsion. Surface tension. The role of compressibility in fluid motion. Appendix. Mechanical properties of fluid matter Index.

Note Just as the mechanics of solids, originally taught as part of courses in classical physics, became of sufficient importance to warrant fuller treatment in separate courses in statics and dynamics, the mechanics of fluids is now a subject of courses distinct from courses in physics and even in hydraulics. This work on the fundamental principles and phenomena of the flow of liquids and gases has been written for use in such courses. It is intended primarily for engineering students ho have had courses in physics and calculus. It is also useful as compact and up-to-date guide for graduate engineers. The author is Director of the Iowa Institute of Hydraulic Research.

RUDINGER, GEORGE

Wave diagrams for nonsteady flow in ducts. New York D Van Nostrand Company, Inc., 1955 278 p illus 24 cm $6 50 5308

Contents Introduction. List of symbols. Fundamentals of wave diagram construction. The wave diagram. General flow problems. Boundaries and discontinuities. Interaction of discontinuities. Techniques of wave diagram construction. Examples. Bibliography Charts and tables. Appendix: Steady-flow relations. Index.

Note. The construction of wave diagrams is a simplified technique for analyzing the propagation of gas particles and pressure waves in systems of nonsteady gas flow Such analyses are necessary in number of fields of present-day engineering, including gas turbine design and combustion. This book is an introduction to the practical construction of such wave diagrams. The necessary simplifying assumptions are clearly indicated, the mathematical reasoning and drawing are expounded step by step, and methods of checking results are described. The bibliography contains a long list of books, articles and technical reports in which specific aspects are covered in more detail. The chapter entitled Charts and tables, contains 40 pages of data for ready reference. The book is useful to graduate physicists and engineers who are preparing to enter field of research or design where computations of nonsteady flow must be made. Graduate engineers already immersed in such work find the reference data useful. The author is Principal Physicist, Cornell Aeronautical Laboratory Inc.

SEELY, FRED B , AND NEWTON E ENSIGN

Analytical mechanics for engineers. Fourth edition New York John Wiley & Sons, Inc. 1952 443 p illus 22 cm 5309

Contents Part one, Statics Fundamental concepts and definitions. Resultants of force systems. Equilibrium of coplanar force systems. Equilibrium of trusses and cables. Equilibrium of non-coplanar force systems. Friction. Part two, Kinematics Motion of a particle. Motion of rigid bodies. Part three, Kinetics Force, mass, and acceleration. Work and energy Impulse and momentum. Part four Special topics Mechanical vibrations. Balancing. Appendix. First moments and centroids. Index.

Note. A college textbook in which physical principles are presented for the benefit of prospective engineers. The emphasis is on the principles, but engineering applications are indicated in the worked examples and in the problems for students to solve. Problems in equilibrium and in dynamics have been given special attention. The fifth edition was published in 1958, 475 p., $7.25.

SINGER, FERDINAND L

Engineering mechanics Second edition. New York Harper & Brothers, 1954 525 p illus. 24 cm. $6 50 5310

Contents Part I, Statics Principles of statics. Resultants of force systems. Equilibrium of force systems. Analysis of structures. Friction. Force systems in space. Centroids and centers of gravity Moments of inertia. Part II, Dynamics. Principles of dynamics. Rectilinear translation. Curvilinear translation. Rotation. Plane motion. Work and energy Impulse and momentum. Mechanical vibrations. Graphic methods. Index.

Note. An established introductory textbook for engineering college students. It offers a clear presentation of the fundamental principles of statics and dynamics and demonstrates their applications to problems in engineering. Calculus is used in the presentation, but there is also much use of graphic methods. The first edition was published in 1943. The level of presentation and the organization of the book are the same in this second edition, but the text has been extensively rewritten and somewhat enlarged. The number of problems for students to sol e has been increased to 1,721 As in the first edition, extensive use has been made of diagrams, and their numbers also have been substantially increased. The author is Associate Professor of Engineering Mechanics in the College of Engineering of New York University

STREETER, VICTOR LYLE

Fluid mechanics. New York McGraw Hill Book Company, Inc., 1951 366 p. illus. 24 cm $6 50 5311

Contents. Pressure intensity Static pressure forces. Fluid-flow concepts and basic equations. Action of fluid jets—turbomachinery Laminar flow Flow measurement. Steady flow in closed conduits. Flow in open channels. Flow around immersed bodies. Oil hydraulic systems. Appendixes. Physical properties of fluids. Partial derivatives and total differentials. Index.

Note. An elementary textbook for engineering students. It is supposed that the student ill have completed a course in integral calculus and at least two courses in engineering mechanics before undertaking the course of study in fluid mechanics. Explanations of the various new topics introduced are carefully presented on an elementary level and, in general, the elaborate treatment that the use of partial differentials would make possible has been avoided so that students may focus upon the fluid phenomena. A large number of problems, both of the numerical type and of the multiple-choice type, are printed at the end of each chapter and bibliographical calculus and at least two courses in engineering mechanics before references are given at the close of some of the chapters. The second edition was published in 1958, 480 p., $7.50.

TIMOSHENKO, STEPHEN, AND D H YOUNG

Advanced dynamics New York McGraw Hill Book Company, Inc., 1948 400 p illus. 23 cm $8.50 5312

Contents Dynamics of particle. Dynamics of system of particles. Dynamics of systems with constraints. Theory of small vibrations. Rotation of a rigid body about fixed point. Appendix: Dimensional analysis and theory of models. Index.

Note A textbook designed primarily for courses in advanced mechanics in engineering schools. It covers the more important methods of mathematical analysis that are valuable for the solution of such varied and complex problems in dynamics as vibration, engine balancing, the gyroscope and its applications, the rectilinear motion of rockets, and the motion of projectiles through the atmosphere. Approximate methods and rigorous methods of arriving at solutions are both demonstrated. Lagrangian equations are discussed at some length. The book should prove useful to graduate engineers as well as to students.

VENNARD, JOHN K.

Elementary fluid mechanics. Third edition New York John Wiley & Sons, Inc., 1954 401 p. illus. 22 cm. $5.50 5313

Contents Fundamentals. Fluid statics. Principles of one-dimensional flow Flow of an incompressible ideal fluid. Flow of compressible ideal fluid. The impulse-momentum principle. Flow of real fluid. Similarity and dimensional analysis. Fluid flow in pipes. Fluid flow in open channels. Fluid measurements. Fluid flow about immersed objects. Appendixes. Index.

Note A successful introductory textbook designed for the use of engineering college students who ha completed basic courses in mechanics and mathematics. Although mathematics is used in the exposition, physical concepts rather than mathematical analysis are emphasized. A broad though elementary iew of the field is presented. The author is Professor of Fluid Mechanics on the faculty of Stanford University

VIBRATION

BERNHARD RUDOLF KARL

Mechanical vibrations, theory and applications an introduction to practical dynamic engineering problems in the structural field. New York Pitman Publishing Corporation, 1943 139 p. illus. 23 cm. $3.50 5314

Contents: Introduction. General definitions. Observation of harmonic vibrations in simple phenomena. Clocks and measuring instrument considered as simple pendulum. Damping. Forced vibrations. Response of an instrument considered as result of forced vibrations. Calibration of mechanical instruments. Discussion of vibration phenomena due to forced vibrations. Coupled vibrations. Superposition of harmonic vibrations. Harmonic analysis. Resonance effect of girders. Magnitudes and limits of quantities to be measured. Requirements for measuring instruments. Sources of errors. Calibration of measuring instruments. Typical dynamic recording instruments. Other methods. Summary of practical applications. Bibliography. Index.

Note: An introduction for students and practicing engineers who have not studied dynamics. The book summarizes important facts and emphasizes experiments with simple models for easy visualization. Part [illegible] treats physical phenomena and their significance. Part II treats measuring techniques, typical dynamic measuring instruments, and dynamic testing methods.

CREDE, CHARLES E.

Vibration and shock isolation. New York John Wiley & Sons, Inc., 1951 328 p. 24 cm. $8.25 5315

Contents: Introduction. Isolation of vibration. Isolation of shock. Further considerations in vibration and shock isolation. Properties of materials and design of isolators. Particular applications of isolators. Index.

Note: A treatise covering both theory and practice in the use of resilient supports to protect machines and structures from vibration and shock. This subject is of interest to many engineers, ranging from those who design the relatively simple supports for automobile engines to those who are concerned with the installation of very heavy machines, such as punch presses. Most of the book is devoted [illegible] theory and fundamental considerations rather than to practical applications. It is addressed to graduate engineers and other persons who have equivalent backgrounds in mathematics, the fundamentals of mechanics, etc. Each chapter includes [illegible] selected list of literature references.

DEN HARTOG JACOB PIETER

Mechanical vibrations. Fourth edition. New York McGraw Hill Book Company Inc., 1956. 436 p. illus. 23 cm. $9 00 5316

Contents: Kinematics of vibration. The single-degree-of-freedom system. Two degrees of freedom. Many degrees of freedom. Multicylinder engines. Rotating machinery. Self-excited vibrations. Systems with variable or non-linear characteristics. Problems. Answers to problems. Appendix: A collection of formulas. Index.

Note: An introductory but rather comprehensive treatment of vibration theory and of means of controlling undesirable vibrations. It is used primarily as [illegible] textbook for the instruction of engineering college students and secondarily as [illegible] "refresher" for graduate engineers. The mathematics is simpler than might be expected, nevertheless, most situations discussed are analyzed mathematically. Much attention is given to the basic techniques of controlling vibrations of machinery and of structures to which machinery [illegible] attached. The fourth edition was published in 1947. Deletions and additions were made in all of the chapters in preparing this edition with the net result that the book has been shortened by almost thirty pages. The problems for students to solve are now segregated at the end of the book, and their number has been substantially increased.

HANSEN HOLGER M AND PAUL F CHENEA

Mechanics of vibration. New York John Wiley and Sons, Inc. 1952 417 p. illus. 24 cm. $8.00. 5317

Contents: General concepts. Part I, Systems of one degree of freedom. Free vibration [illegible] without damping. Forced vibrations without damping. Forced [illegible] vibrations [illegible] with damping. Part II, Systems of several degrees of freedom. Classical method. The mobility method and use of the complex variable. Solution of the general frequency equation. Part III, Special topics: Systems with distributed physical constants. Vibrations of transient character. Vibrations of [illegible] non-linear character. Problems. Answers to problems. Index.

Note: This work was developed from [illegible] course in [illegible] vibration analysis at the University of Michigan. It is introductory to the subject and is frankly [illegible] textbook. However in the third part the student is introduced to problems and methods that are typical of those in use in practical [illegible] vibration analysis in industry

MORSE, PHILIP M

Vibration and sound. Second edition. New York McGraw Hill Book Company Inc., 1948. 468 p. illus. 24 cm. (International series in pure and applied physics G P Harnwell, consulting editor advisory editorial committee E. U Condon and others) $7.50 5318

Contents: Introductory. The simple oscillator. The flexible string. The vibration of bars. Membranes and plates. Plane [illegible] waves of sound. The radiation and scattering of sound. Standing waves of sound. Bibliography. Glossary of symbols. Tables of functions. Index.

Note: An engineering college textbook [illegible] which is written at [illegible] level that makes it useful also to graduate physicists and engineers [illegible] be used as introduction to or [illegible] review of theory. It presents basic knowledge on vibration and on radiation of sound, with due attention to the associated mathematics. The first edition was published in 1936. Among other revisions, this second edition contains [illegible] more extensive treatment of radiation and of transient vibrations.

MYKLESTAD N O

Fundamentals of vibration analysis. New York McGraw Hill Book Company Inc. 1956 260 p. illus. 24 cm. $6.50. 5319

Contents: Fundamentals. Undamped vibrations of single-degree-of-freedom systems. Vibrations of single-degree-of-freedom systems with viscous damping. Systems of one degree of freedom with non-linear damping. Undamped vibrations of systems with more than one degree of freedom. Application of generalized coordinates. Damped vibrations of systems with more than one degree of freedom. Tabular methods for finding natural frequencies. Answers to problems. Index.

Note: A text designed as [illegible] first book of instruction in vibration analysis for advanced students of engineering and graduate students. The approach is classical and, as the title is intended to indicate, the emphasis [illegible] on fundamental phenomena and standard methods of analysis. The expository matter includes numerous worked examples, [illegible] feature that will be appreciated by the graduate engineer who tackles the book outside of [illegible] course. It is [illegible] successor to the author' *Vibration Analysis*, New York, 1944, and so much revision and augmentation has been made that it is fairly presented as new work.

TIMOSHENKO S

Vibration problems in engineering Third edition in *collaboration with* D H. Young. Princeton D Van Nostrand Company Inc., 1955 468 p. illus. 23 cm. $8 75 5320

Contents: Systems with one degree of freedom. Systems with non-linear and variable spring characteristics. Systems with two degrees of freedom. Systems with several degrees of freedom. Vibrations of elastic bodies. Author index. Subject index.

Note: A standard and widely used engineering college textbook. It develops the fundamental mechanical principles, explains methods of solving many practical engineering problems involving vibration, and provides numerous examples of calculations. The first edition was published in 1928 and the second edition in 1937. This third edition—the first to bear the name of [illegible] collaborating author —has been extensively revised; and the treatment of such topics as nonlinear vibrations and vibrations of elastic bodies have been rewritten. The former chapter on vibration measuring instruments has been deleted. New problems for students to solve have been added in various chapters.

HYDRAULICS

BAKHMETEV, BORIS ALEKSANDROVICH

Hydraulics of open channels. New York McGraw Hill Book Company, Inc., 1932 329 p. illus 23 cm (Engineering Societies monographs) $7 50 5321

Contents Part I, Theory of gradually varied flow. Part II, Practical applications. Part III, The hydraulic jump.

Note A comprehensive treatment of the more advanced features relating to flow of water in open channels, such as backwater and other surface curves, the hydraulic jump and other topics of varied flow.

CHURCH, AUSTIN H.

Centrifugal pumps and blowers. New York John Wiley & Sons, Inc., [illegible] 308 p illus, 22 cm $7 00. 5322

Contents Introduction. Principles of fluid flow. [illegible] pumps and blowers. Speeds, speed and efficiency of pumps. [illegible] mance curves and [illegible] of pumps. Design of radial-type pumps. Other pump impeller types. Pump details and materials. [illegible] applications and selection. Pump installation, operation, and test. Thermodynamic principles. Classification and performance curves of blowers. Design of radial-type blower stage. Construction details of blowers. Blower applications. Regulation of blowers. Blower installation, operation, and test. Disk stresses. Critical speeds. Index.

Note This book presents basic principles of design, construction, and application along conventional lines of practice. The treatment follows through the complete design of both a blower and a pump, including the design of the installation. The book incorporates many of the most important recent experimental results and data. For greater range in application, the data are applied to the average rather than specialized types of installation. Valuable charts, diagrams, and tables are included.

CREAGER, WILLIAM PITCHER, AND OTHERS

Hydroelectric handbook, by William P Creager and Joel D Justin with the assistance of contributors. Second edition. New York John Wiley & Sons, Inc., 1950 1 151 p. illus, 24 cm. $17 00 5323

Contents [illegible] Preliminary studies and economics. Rainfall. Factors affecting runoff. River gaging [illegible]. Flood flows. [illegible] Types of hydro plants [illegible] Hydraulics. Pondage and storage [illegible] dams. Earth dams. Timber dams and steel dams. Spillways and [illegible] Conduits and powerhouses. Intakes. Canals. Steel [illegible] Water hammer [illegible] Wood-stave pipe [illegible] Powerhouse superstructure [illegible] Hydraulic turbines [illegible] Index.

Note There are 44 chapters in this comprehensive work. [illegible]

[illegible] R L AND A C INGERSOLL

[illegible] mechanics with engineering applications. Fifth edition New York McGraw-Hill Company Inc., 1954 472 p illus [illegible] 5324

Contents Properties of fluids. [illegible] of fluid [illegible]

force and momentum. Similarity laws and factors for turbomachines. Impulse turbines. Reaction turbines. Centrifugal and axial flow pumps. Fluid couplings and torque converters. Basic hydrodynamics. Appendixes. Answers to problems. Index.

Note. Entitled *Hydraulics* in its first four editions, this book has been used in its various editions as a textbook in engineering colleges since 1916. It is designed to introduce the student to both theory and to practical applications. A broad view of the subject is presented, and the phenomena associated with both compressible and incompressible fluids are included, with, however, emphasis on those aspects of the field that are of interest to the hydraulic engineer. The fourth edition was published in 1937. This fifth edition is the first one in which authorship is shared with a co-author. The former chapter on water power plants has been deleted and much information added on various topics.

DAVIS, CALVIN VICTOR, editor

Handbook of applied hydraulics. Second edition. New York McGraw-Hill Book Company, Inc., 1952 1,272 p. illus. 24 cm. $15.00 5325

Contents: River regulation by reservoirs, by T. T. Knappen and others. Gravity dams, by C. V. Davis. Arch dams, by L. E. Houk. Buttress dams, by K. H. Burroughs. Earth dams, by T. T. Knappen and J. Lowe III. Rock-fill dams, by L. C. Steele. Spillways and stream-bed protection works, by E. W. Lane and C. V. Davis. Spillway crest gates, by J. S. Bowman and J. R. Bowman. High-pressure outlet works, by P. A. Kinzie. Canals, flumes, covered conduits, tunnels, and pipe lines, by J. Hinds. Hydroelectric plants, by J. C. Stevens and C. V. Davis. Hydraulic machinery by L. F. Moody. Water hammer by G. R. Rich. Surge tanks, by G. R. Rich. Speed regulation and governing stability by G. R. Rich. Navigation locks, by G. R. Rich. Irrigation, by I. E. Houk. Irrigation structures, by I. E. Houk. Water supplies, by T. R. Camp. Water distribution, by T. R. Camp. Water treatment, by T. R. Camp. Sewerage, by E. A. [illegible] and W. E. Stanley. Sewage-treatment hydraulics, by E. A. [illegible] and W. E. Stanley. Hydraulic models, by G. H. Hickox. [illegible] by P. Z. Kirpich. Appendixes: Hydraulic formulas, by [illegible]. Graphical aids to hydraulic computations, by K. E. [illegible].

[illegible] engineering handbook of the "easy" rather than [illegible] type. Although the pertinent formulas and the expected data are present, they are subordinated to an expository [illegible] designed to be read. In many of the sections, fundamentals and their practical applications are presented by [illegible] engineering features of representative projects already [illegible] this edition much of the original edition was re[illegible]. Sections on water hammer, surge tanks, and speed regulation have been added. The expanded [illegible] those on gravity dams and hydroelectric plants. [illegible] formulas and graphical aids are also newly added.

[illegible]HENKO [illegible]

[illegible]anced [illegible] [illegible]ok Com[illegible] $8.50

EINSTEIN, HANS ALBERT

The bed-load function for sediment transportation in open channel flows Washington, D C Government Printing Office, 1950 71 p. illus. [illegible] cm. (United States. Department of Agriculture. Technical bulletin no 1026) o.p. 5326

Contents Introduction. Approach to the problem. Limitation of the bed-load function. Hydraulics of the alluvial channel. Suspended load. Limit of suspension. [illegible] Bed-load concept. The bed-load [illegible] between bed load and suspended load. The [illegible] tests with sediment mixtures. Sample calculation. Limitation of the method. Summary. [illegible] List of symbols. Work Charts.

Note A method for determining the bed-load function for many [illegible] channels is described in this pamphlet. [illegible] measure of prediction of future channel [illegible] prevention of bed erosion, such may be [illegible] such as dams or other projects altering the [illegible] if severe, may lead to the undermining [illegible] bridge piers, sewer outlets, and bank [illegible] material includes nine folded [illegible].

[illegible] JOHN K[illegible] [illegible]ry fluid [illegible] John [illegible] 22 cm [illegible]

[illegible]UDREY

[illegible]l of estimating stream flow [illegible] evaporation formula. Wash-

ington, D. C. Carnegie Institution of Washington, 1950. 237 p. illus. 20 cm. (Carnegie Institution of Washington. Publication no. 400) o.p. 5327

Contents (abridged): Part I, A new evaporation formula. Final form of observation equations used for determining evaporation. Extent of computation of known quantities. Principal facts from the use of evaporation tables. Summary of general conclusions. Appendix. Tables. Part II, A new method of estimating stream-flow. Form of observation equations. Method of converting constants of stream-flow formulas to percentages. Examples of computation. Tests of overall accuracy of computed stream-flow. General résumé of theory. Appendices. Tables. Index.

Note: A summary of the research made by the author and J. F. Hayford into the laws governing the amount of stream-flow, and its application for the engineering profession of new data for use in developing new waters for power, flood control, etc.

IOWA. STATE UNIVERSITY. INSTITUTE OF HYDRAULIC RESEARCH

Engineering hydraulics: proceedings of the fourth Hydraulic Conference, June 12–15, 1949. Edited by Hunter Rouse. New York, John Wiley & Sons, Inc., 1950. 1,039 p. illus. 24 cm. $15.75 5328

Contents: Fundamental principles of flow, by H. Rouse. Hydraulic similitude, by J. S. Warnock. Flow measurement, by J. W. Howe. Hydrology, by G. R. Williams. Flow of ground water, by C. E. Jacob. Steady flow in pipes and conduits, by V. L. Streeter. Surges and water hammer, by J. S. McNown. Channel transitions and controls, by A. T. Ippen. Gradually varied channel flow, by C. J. Posey. Flood routing, by B. R. Gilcrest. Wave motion, by G. H. Keulegan. Sediment transportation, by C. B. Brown. Hydraulic machinery, by J. W. Daily. Appendix: List of symbols. Dimensional considerations. Properties of common fluids. Author index. Subject index.

Note: A comprehensive treatise in which the emphasis is on the principles and basic techniques of hydraulic engineering rather than specialized applications. The work was planned as a whole by the staff of the Iowa Institute of Hydraulic Research, and each of the 13 subdivisions into which the main subject was divided was assigned to an outstanding authority. The manuscripts prepared by the 13 authors were edited and correlated, then issued in preprint form to the registrants for the fourth Hydraulics Conference sponsored by the Institute. This conference was devoted to criticism and discussion of the manuscripts. Finally, all of the chapters were revised in the light of the experts' criticisms. The final result is a book that should take its place as the basic volume in any library collection on hydraulic engineering.

KING, HORACE WILLIAMS

Handbook of hydraulics, for the solution of hydraulic problems. Revised by Ernest F. Brater. Fourth edition. New York, McGraw-Hill Book Company, Inc., 1954. illus. 19 cm. $8.00. 5329

Contents (abridged): Section I, Fluid properties and hydrostatics. Section II, Hydrodynamics. Section III, Orifices, gates, and tubes. Section IV, Sharp-crested weirs. Section V, Weirs not sharp crested. Section VI, Pipes. Section VII, Open channels with uniform flow. Section VIII, Open channels with nonuniform flow. Section IX, Measurement of flowing water. Section X, Tables. Index.

Note: A standard reference book used by advanced undergraduate students of engineering and graduate engineers alike. It provides in concise form the range of information on basic principles, definitions of terms, formulas, and computations. There are numerous tables and graphical representations of data and 67-page section of tables of logarithms, squares, cubes, reciprocals, etc. The third edition was published in 1939. Numerous useful revisions and amendments were made in preparing this fourth edition, the first to bear the name of a second author.

KING, HORACE WILLIAMS, AND OTHERS

Hydraulics, by Horace W. King, Chester O. Wisler and James G. Woodburn. Fifth edition. New York, John Wiley & Sons, Inc., 1948. 351 p. illus. 22 cm. $5.00. 5330

Contents: Fundamental properties of fluids. Principles of hydrostatic pressure. Hydrostatic pressure on surfaces. Relative equilibrium of liquids. Fundamentals of fluid flow. Orifices, tubes, and weirs. Pipes. Open channels. Hydrodynamics. Hydraulic similitude and dimensional analysis. Answers. Index.

Note: An introductory exposition of fundamental principles and of selected engineering applications. It is used chiefly as an undergraduate textbook, but is useful also as a concise review for practicing engineers who are not specialists in this field. A considerable amount of revision is apparent in this edition. The chapter on hydraulic similitude and dimensional analysis, which has pertinence to the use of models in hydraulic engineering design, has been added.

KING, HORACE WILLIAMS

Manning formula table, for the solution of pipe problems: giving diameters in inches corresponding to different rates of loss of head and different degrees of roughness of pipe surfaces. New York, McGraw-Hill Book Company, Inc., 1937. 351 p. 23 cm. $3.50. 5331

Note: Presented in this volume is a tabular solution of the Manning formula throughout the range of conditions ordinarily encountered by engineers in pipe problems. The values given are applicable to all circular conduits flowing full, including sewer pipe and drain tile. Volume two, which contained a similar table covering flow in open channels, is out of print.

KRISTAL, FRANK A., AND F. A. ANNETT

Pumps: types, selection, installation, operations, and maintenance. Second edition. New York, McGraw-Hill Book Company, 1953. 373 p. illus. 24 cm. $6.50 5332

Contents: Reciprocating pumps. Volute-type centrifugal pumps. Diffuser-type centrifugal pumps. Turbine pumps. Propeller pumps. Rotary pumps. Deep-well pumps. Boiler-feed pumps. Sewage and sludge pumps. Sanitary pumps. Variable displacement and proportioning pumps. Methods of priming pumps. What is head on pumps? Economical pipe size for pumps. Pump operation. Pump selection, installation, and operation. Centrifugal-pump troubles and remedies. Appendix: Tables and data. Index.

Note: A book containing both general and specific information and addressed to industrial, chemical and sanitary engineers, and others who are concerned with the selection or operation of pumps. All of the principal types of pumps are described as to operating principles, characteristics, uses, etc. Although small pumps, such as are used in farm water supply systems, are included, most of the space is given, as might be expected, to industrial pumps. The first edition was published in 1940. In this second edition, the scope and arrangement are unchanged. A considerable portion of the text and illustrations has been carried over from the first edition. However, a chapter has been added on pumps used in food processing, and there are newly added sections in other chapters on such topics as jet pumps, mechanical seals, regenerative turbine pumps, sewage pumps and pump pricing. There are now 417 figures, and these include many diagrams of pump mechanisms.

McCLAIN, CLIFFORD HENDERSON

Fluid flow in pipes. A clear-cut summary of modern theory in the flow of liquids and gases through piping and ducts, with practical applications and detailed worked-out examples. New York, The Industrial Press, Inc., 1952. 123 p. 24 cm. $3.00. 5333

Contents: Dimensions of fluid properties. Viscosity of fluids. Effect of piping on fluid flow. Design practice.

Note: In this book the basic phenomena and theory are covered rather thoroughly from the standpoint of design of industrial piping systems. Though much of the exposition is expressed mathematically, the mathematics is simple. Twenty worked examples are included at appropriate points to assist the reader who studies the book by himself.

HYDRAULICS

BAKHMETEV, BORIS ALEKSANDROVICH
Hydraulics of open channels New York McGraw Hill Book Company, Inc., 1932 329 p illus 23 cm (Engineering Societies monographs) $7 50 5321

Contents Part I, Theory of gradually varied flow Part II, Practical applications. Part III, The hydraulic jump.
Note. A comprehensive treatment of the more advanced features relating to flow of water in open channels, such as back water and other surface curves, the hydraulic jump and other topics of varied flow

CHURCH, AUSTIN H.
Centrifugal pumps and blowers New York John Wiley & Sons, Inc., 1944 308 p illus. 22 cm. $7 00 5322

Contents Introduction. Principles of fluid flow Basic theory of pumps and blowers. Specific speed and efficiency of pumps. Performance curves and cavitation of pumps. Design of radial-type pump stage. Other pump impeller types. Pump details and materials. Pump applications and selection. Pump installation, operation, and test. Thermodynamic principles. Classification and performance curves of blowers. Design of radial-type blower stage. Construction details of blowers. Blower applications. Regulation of blowers. Blower installation, operation, and test. Disk stresses. Critical speeds. Index.
Note This book presents basic principles of design construction, and application along conventional lines of practice. The treatment follows through the complete design of both blower and pump, including the design of the installation. The book incorporates many of the most important recent experimental results and data. For greater range in application, the data are applied to the average rather than to specialized types of installation. Valuable charts, diagrams, and tables are supplied.

CREAGER, WILLIAM PITCHER, AND OTHERS
Hydroelectric handbook, by William P Creager and Joel D Justin, with the assistance of contributors. Second edition New York John Wiley & Sons, Inc., 1950 1 151 p illus. 24 cm $17 00 5323

Contents (abridged) Preliminary studies and economics Rainfall. Factors affecting runoff River gaging, by N C. Grover and J C. Hoyt. Flood flows. Investigation of sites. Hydraulics. Pondage and storage. Types of hydro plants. Cost of steam power Cost of hydro power Dams—design and construction. Solid gravity concrete dams. Arch dams. Earth dams. Timber dams and steel dams. Spillways and headwater control. Conduits and powerhouses Intakes. Canals. Steel pipe, by C. H. Scheman and H. C Boardman Wood-stave pipe by B. E. White. Water hammer by E. B. Strowger Powerhouse substructure. Powerhouse superstructure, by J H. Gandolfo. Equipment and operation Hydraulic turbines, by Arnold Pfau and W M. White. Electrical design, by R A. Hopkins. Operation of hydroelectric plants, by A. Davis. Index.
Note There are 44 chapters in this comprehensive work. Each chapter is condensed technical essay on its title subject and is, in most cases, supplemented by bibliography of the useful technical literature. The book is standard one for practicing engineers and is especially useful to those members of the profession who have not specialized in hydroelectric engineering but are beginning t ork with the construction or operation of hydroelectric plants. The first edition was published in 1927 and as 897 pages in length. The greater part of the material in the second edition is new

DAUGHERTY R L AND A. C INGERSOLL
Fluid mechanics with engineering applications Fifth edition New York McGraw Hill Book Company Inc 1954 472 p illus. 24 cm $7 00 5324

Contents Properties of fluids. Pressure. Hydrostatic force on areas. Kinematics of fluid flow Dynamics of fluid flow Similitude of fluid flow Flow measurement. Friction losses in pipes Flow through pipes. Uniform flow in open channels. Nonuniform flow in open channels. Unsteady flow Forces on immersed bodies. Dynamic force and momentum. Similarity laws and factors for turbomachines. Impulse turbines. Reaction turbines. Centrifugal and axial-flow pumps. Fluid couplings and torque converters. Basic hydrodynamics. Appendixes. Answers to problems. Index.
Note. Entitled *Hydraulics* in its first four editions, the book has been used in its various editions as a textbook in engineering colleges since 1916. It is designed to introduce the student to basic theory and to practical applications. A broad view of the subject is presented, and the phenomena associated with both compressible and incompressible fluids are included, with, however, emphasis on those aspects of the field that are of interest to the hydraulic engineer The fourth edition was published in 1937 This fifth edition is the first one in which authorship is shared with a co-author The former chapter on water power plants has been deleted and much information added on various topics.

DAVIS, CALVIN VICTOR, editor
Handbook of applied hydraulics. Second edition New York McGraw Hill Book Company, Inc., 1952 1,272 p. illus. 24 cm. $15.00. 5325

Contents. River regulation by reservoirs, by T T. Knappen and others. Gravity dams, by C. V Davis. Arch dams, by L E. Hauk. Buttress dams, by E. H. Burroughs. Earth dams, by T T. Knappen and J Lowe III. Rock-fill dams, by L C. Steele. Spillways and stream-bed protection works, by E. W Lane and C. V Davis. Spillway crest gates, by J S. Bowman and J R. Bowman. High-pressure outlet works, by P A. Kinzie. Canals, flumes, covered conduits, tunnels, and pipe lines, by J Hinds. Hydroelectric plants, by J. C Stevens and C. V Davis. Hydraulic machinery by L. F Moody. Water hammer by G. R. Rich. Surge tanks, by G. R. Rich. Speed regulation and governing stability by G. R. Rich. Navigation locks, by G. R. Rich. Irrigation, by L E. Houk. Irrigation structures, by I. E. Houk. Water supplies, by T R. Camp. Water distribution, by T R. Camp. Water treatment, by T R. Camp. Sewerage, by S. A. Greeley and W E. Stanley Sewage-treatment hydraulics, by S. A. Greeley and W E. Stanley Hydraulic models, by G. H. Hickox. Hydrology by P Z. Kirpich. Appendixes: Hydraulic formulas, by W L. Voorduin. Graphical aids to hydraulic computations, by K. E. Sorensen. Index.
Note. A standard engineering handbook of the "essay" rather than the "table" type. Although the pertinent formulas and the especial collections of data are present, they are subordinated to an expository text which is designed to be read. In many of the sections, fundamental principles and their practical applications are presented by describing the engineering features of representative projects already constructed. For this edition much of the original edition was rewritten or augmented. Sections on water hammer, surge tanks, navigation locks, and speed regulation have been added. The expanded discussions include those on gravity dams and hydroelectric plants. The appendixes on formulas and graphical aids are also newly added.

EINSTEIN, HANS ALBERT
The bed load function for sediment transportation in open channel flows. Washington, D C Government Printing Office, 1950. 71 p illus. 23 cm (United States. Department of Agriculture. Technical bulletin no. 1026) 5326 o p

Contents. Introduction Approach to the problem. Limitation of the bed-load function. Hydraulics of the alluvial channel. Suspension. Integration of the suspended load. Limit of suspension. Practical calculation of suspended load. Bed-load concept. The bed-load equation. Transition between bed load and suspended load. The necessary graphs. Flume tests with sediment mixtures. Sample calculation of river reach. Limitations of the method. Summary Literature cited. Appendix List of symbols. Work Charts.
Note A method for determining the bed-load function for many but not all types of stream channels is described in this pamphlet. The method permits measure of prediction of future channel changes, important in the prevention of bed erosion, which may be caused by improvements such as dams or other projects altering the flow of the stream and which, if severe, may lead to the undermining of costly installations, bridge piers, sewer outlets, and bank protection works. The illustrative material includes some folded two-color work charts in pocket.

FOLSE JULIUS AUDREY
A new method of estimating stream-flow, based upon a new evaporation formula. Wash

STEPANOFF, ALEXEY JOAKIM

Turboblowers theory design and application of centrifugal and axial flow compressors and fans. New York John Wiley and Sons Inc., 1955 377 p. illus. 24 cm. $8.00. 5340

Contents: Selected topics from fluid mechanics. Definitions and terminology. Theory of the centrifugal impeller for incompressible fluid. Vortex theory of Euler's head for incompressible fluid. General characteristics of turbomachinery—incompressible fluid. Hydraulic performance of centrifugal blowers. Thermodynamics of turboblowers. Special problems, thermodynamic and hydrodynamic. Power curves. Leakage, disk friction, and mechanical losses—axial thrust. Compression with cooling. Centrifugal fans. Axial flow fans and blowers, single stage. High pressure multistage axial flow compressors. Special problems and application of blowers and compressors. Design of mixed flow impellers. Index.

Note: Despite the subtitle of this book, it deals primarily with theory and design. The single chapter on applications is short and devoted chiefly to illustrations of how specific design problems have been solved in commercially developed machines. Actually the book is largely devoted to the handling of hydrodynamic and thermodynamic problems in design. Using the concept of "available energy" the author has treated the analysis of design problems specifically and in detail and has outlined practical design procedures. References are included to both American and European literature. The author is a member of the engineering staff of the Ingersoll Rand Corporation.

UNITED STATES BUREAU OF RECLAMATION

Hydraulic and excavation tables. Tenth edition. Washington, D C. Government Printing Office, 1950. 173 p. 18 cm. 5341

Note: Compiled originally for the official use of the engineers of the Bureau of Reclamation, this manual of tables has proved to be useful to other engineers concerned with projects involving hydraulics and earth moving. Most of the 34 tables were computed for this publication. Earlier editions appeared in 1905, 1910, 1913, 1917, 1921, 1924, 1935, 1940, and 1946, and the number of tables has gradually increased from 13 to the present 34. The seventh edition containing 31 tables was published in 1937 330 p. $2.00.

WOODWARD SHERMAN MELVILLE, AND CHESLEY J POSEY

Hydraulics of steady flow in open channels. New York John Wiley and Sons, Inc., 1941 151 p. illus. 23 cm. $4 75 5342

Contents: Introduction. Bernoulli's theorem applied to frictionless rectangular open channel. The stationary hydraulic jump in channels of rectangular cross section. Criteria of flow and the hydraulic jump in channels of non-rectangular cross section. The moving hydraulic jump. Backwater curves—introductory. Back-water curves in uniform channel. Analysis of flow problems. Step methods for backwater curves. Bends, transitions, and obstructions. Steady varied flow. Index.

Note: The language in this book is succinct, and the treatment is simple. Terms are clearly stated and defined. Basic hydraulics of open channel flow are clearly developed and illustrated. The results of much research, never before published, are included. New and convenient tables for solving uniform flow problems by Manning's formula are given. The important methods for computing backwater curves are described and classified with respect to their relative merits for different types of problems. A treatment of flow around bends and through obstructions such as bridge piers is included. The textual material is completed by many practical illustrative problems, and there are additional problems with which the reader can test his grasp of the material.

ENGINEERING MATERIALS

AMERICAN SOCIETY FOR METALS

Interpretation of tests and correlation with service a series of four educational lectures presented to members of the ASM during the thirty-second National Metal Congress and Exposition, Chicago October 23 to 27 1950 Cleveland The American Society for Metals, 1951 198 p. illus. 24 cm. $5.00 5343

Contents. Correlation of laboratory tests and service performance, by M. F Garwood and others. Limitations of mechanical testing, by M. Gensamer. Wear tests and service performance, by J T Burwell. Corrosion tests and service performance, by F L. LaQue. Index.

Note: The papers in this book relate to the very important topic of correlations between laboratory tests and service performance. For example, in the first paper there are reports of detailed investigations of automobile steering knuckles, front suspension coil springs, and axle shafts. The lectures were addressed to professional metallurgists, but they are also of interest to mechanical engineers concerned with the design of machine parts. Each of the papers is accompanied by a list of references.

AMERICAN SOCIETY FOR TESTING MATERIALS

ASTM standards on plastics. Sponsored by ASTM Committee D 20 on Plastics. Specifications, methods of testing, nomenclature definitions. Philadelphia American Society for Testing Materials, 1955 786 p illus. 23 cm. $5 75 5344

Contents (abridged) Specifications for plastics. Strength properties of plastics. Hardness properties of plastics. Thermal properties of plastics. Optical properties of plastics. Permanence properties of plastics. Analytical methods for plastics. Molds and molding processes for plastics. Definitions and nomenclature of plastics. Conditioning of plastics. Electrical tests. Plates, sheets, tubes, rods, and molded materials. Miscellaneous subjects. Appendices.

Note: A collection of the specifications for and methods of testing plastic materials, which have been developed by the American Society for Testing Materials. It includes both specifications accepted as standard and tentative specifications. The volume is typical of the special collections of specifications available from the Society in contrast to their comprehensive *Book of ASTM standards*, described above.

AMERICAN SOCIETY FOR TESTING MATERIALS

1955 book of ASTM standards including tentatives. (A triennial publication) Philadelphia American Society for Testing Materials 1955 1 vol. in 7 parts. illus. 23 cm. Part 1 $13.50 part 2 $11.00 part 3 $13.50 part 4 $11 00 part 5 $11.00 part 6 $13 00 part 7 $11 00. 5345

Contents (abridged) Part 1 *Ferrous metals.* Part 2 *Non-ferrous metals.* Part 3 Cement, concrete, ceramics, thermal insulation, road materials, waterproofing, soils. Part 4 Paint, naval stores, cellulose, wax polishes, wood, acoustical materials, sandwich and building constructions, fire tests. Part 5 Fuels, petroleum, aromatic hydrocarbons, engine antifreezes. Part 6 Plastics, electrical insulation, rubber electronic materials. Part 7 Textiles, soap, water, paper, adhesives, shipping containers, atmosphere analysis.

Note: Formally adopted ASTM standards, ASTM tentative specifications, methods of tests, and definitions are all included in this collection, which is issued every three years. Each of the volumes (called parts by the publisher) contains approximately 1800 pages and has its own index. However, a combined index is issued by the publisher. Annual supplements to the triennial collection are available from the same publisher.

AMERICAN SOCIETY FOR TESTING MATERIALS

Selected ASTM engineering materials standards for use in college curricula. Philadelphia American Society for Testing Materials, 1956 354 p. illus. 22 cm. $4.00. 5346

Contents (abridged) Factors and principles of specifications, by C. D. Dudley. Legal aspects of standardization, by R. R. Irvine. *List of standards by materials:* Steel. Iron. Aluminum. Copper and

PARMAKIAN, JOHN

Waterhammer analysis. Published under the sponsorship of Allis-Chalmers Manufacturing Company [and other companies] New York Prentice-Hall, Inc., 1955 161 p illus. 24 cm. $4 90 5334

Contents Rigid water column theory Elastic water column theory Velocity of waterhammer waves. Waterhammer wave reflection. Waterhammer for rapid gate movements. Waterhammer for slow gate movements. Theory of graphical waterhammer analysis for gate operation. Waterhammer produced by gate closure. Waterhammer produced by gate opening. Waterhammer for uniform gate operation. Waterhammer in pump discharge lines caused by power failure. Special waterhammer solutions for pump discharge lines. Waterhammer solutions for pump discharge lines. Waterhammer analyses including effect of hydraulic losses. Waterhammer analysis for compound pipes. Approximate methods of graphical waterhammer analysis. Discharge characteristics of gates and valves. Surge tanks. Air chambers at pumping plants. References. Problems. Index.

Note. The term "waterhammer" describes a class of transient phenomena which occur in hydraulic systems and which must be controlled by correct design of the system so as to avoid undesirable consequences. The average citizen encounters waterhammer in the form of a sharp thump when a faucet is closed too suddenly in a plumbing system. However it is much more complex problem to the designer of for instance, a municipal pumping station. This book presents systematic method of analyzing waterhammer problems. The two basic theories are described and a group of "fundamental waterhammer equations" are derived. Waterhammer problems presented by variety of systems and conditions are analyzed. Charts designed to shorten the necessary computations are included.

POWELL, RALPH WATERBURY

An elementary text in hydraulics and fluid mechanics A revision of *Mechanics of liquids* New York The Macmillan Company, 1951 316 p illus 22 cm $5.50 5335

Contents Hydrostatics. Fundamentals of fluid flow Orifices, tubes, nozzles, and weirs. Pipe flow Flow in open channels. Further effects of viscosity surface tension, and compressibility Models. Appendixes Properties of liquids, with tables. Dimensional analysis. Rational basis for pipe formulas. Stream gaging. Index.

Note A textbook designed for use in engineering colleges. Appropriately it pays due attention to the historical development of the subject and emphasizes principles. However both the examples that are worked in the exposition and the problems for the student to solve illustrate concrete applications in engineering. Some reorganization and considerable revision have been put into the present edition. The major addition is the chapter on hydraulic models.

RICH, GEORGE ROLLO

Hydraulic transients New York McGraw Hill Book Company, Inc. 1951 260 p illus 24 cm (Engineering Societies monographs Ralph H Phelps consulting editor) $7 50 5336

Content Water hammer Turbine speed regulation. Stability of governing Water-hammer pressures in pump discharge lines. The differential surge tank. The restricted-orifice surge tank Navigation locks. Surges in power canals—tidal harmonics Elements of the graphical method of water-hammer analysis. Index

Note An engineering college textbook applying arithmetic integration and trial-and-error arithmetic to practical problems in water hammer surge-tank design, turbine-speed regulation, stability of governing, pressures in pump discharge lines, filling systems for navigation locks, and surges in open canals. In few cases where the development of theory requires the solution of partial differential equations, the author has employed the complex operational calculus, explaining that the reader not familiar with the method may take this small amount of routine mathematics for granted without any impairment of the general usefulness of the book in practical computation. The author states his opinion that no method exceeds the arithmetic-integration process in simplicity and directness or affords so clear an insight into the physical action at all stages of the cycle. Bibliographical references appear at the ends of the chapters.

SHEPHERD, D G

Principles of turbomachinery New York The Macmillan Company, 1956 463 p. illus. 24 cm. $10 00. 5337

Contents Introduction. Dimensional analysis. Energy transfer between fluid and a rotor Thermodynamics of gas flow Flow of fluids in turbomachines. Centrifugal pumps and compressors. Radial-flow turbines. Axial-flow turbines. Performance of turbines and comparison of types. Axial-flow compressors and pumps. Performance of compressors and pumps and comparison of types. Name index. Subject index.

Note. An analytical exposition of the principles of turbomachines that is to say machines in which the fluid is not positively contained but is continually in steady flow through the machine, undergoing changes of pressure primarily by means of dynamic effects." All the classes and varieties of turbines are considered, as well as those kinds of rotary pumps and compressors to which this definition applies. The basic similarity of turbomachines is emphasized, and the first five chapters are devoted to principles and relationships common to all. In the six following chapters, rather detailed analyses of the chief kinds of turbo machines are presented. The author is Professor of Mechanical Engineering in Cornell University and the book is primarily text for use in engineering college courses. Graduate engineers not specializing in this field but needing information about it should find the book useful as a survey and guide to the significant literature.

STEARNS, REID F, AND OTHERS

Flow measurement with orifice meters, by Reid F Stearns, Russell R. Johnson, Robert M Jackson and Charles A. Larson. New York D Van Nostrand Company, Inc., 1951 350 p. illus 26 cm. $8 00 5338

Content (abridged) Introduction. Derivation of flow equations. Applications of flow equations to metering problems. Evaluation of variable terms in flow equations. Principles of operation of commercial meters. Interpretation of meter records. Orifice meter installations. Testing and checking meters. Special metering problems. Accuracy of orifice meter installations. Appendixes. Supplemental metering information. Numerical data. Physical data. Bibliography. Index.

Note A comprehensive manual of the use of orifice meters for the measurement of the flow of fluids including gas, steam, water, oil and chemicals in pipes and other closed conduits. It has been written by four engineers associated with the Standard Oil Development Company and it is addressed primarily to chemical engineers at work in industry Such aspects of the general subject as selection of orifice sizes, types of differential meters, installation of meters, the keeping and interpretation of meter records, and estimations of accuracy are discussed fully The book abounds in graphs and tables designed to facilitate its use by engineers who are not meter specialists.

STEPANOFF, ALEXEY JOAKIM

Centrifugal and axial flow pumps theory design and application. New York John Wiley & Sons, Inc., 1948 428 p illus 23 cm. $9 75 5339

Contents Selected topics from hydraulics. Definitions and terminology Theory of the centrifugal pump impeller Vortex theory of Euler's head. Specific speed and design constants. Design of mixed flow impellers for centrifugal pumps. Pump casing. Axial flow pumps. Hydraulic performance of centrifugal pumps Leakage, disk friction, and mechanical losses. Axial thrust. Cavitation in centrifugal pumps. Special operating conditions of centrifugal pumps. Special problems of pumps design and application. Shaft design for critical speeds. Special problems and applications of vertical turbine and axial flow pumps. Special problems and applications of centrifugal pumps. Centrifugal-jet pump water systems Index

Note: This text, written for hydraulic engineers and advanced students, provides a detailed discussion of the basic principles of the subject. Theoretical aspects are closely interwoven with practical descriptions of the steps to be followed in designing pump parts and discussions of the behavior of centrifugal pumps under varying conditions. Many of the problems discussed had their origin in the new uses to which such pumps have been put in recent years, and constant reference is made to experimental studies carried out in connection with cavitation, axial and radial thrust, control of head-capacity brake-horsepower curves, etc. A second edition was published in 1957 462 p $12.00.

provides an alphabetical key to all the commodities. A supplement has been published as follows: P. A. Cooley. *Supplement 1. National directory of commodity specifications*, Washington, D. C.: Government Printing Office, 1947 [illegible] p. $2.25.

COWDREY IRVING H. AND EDWARD L BARTHOLOMEW, JR.

Introductory engineering materials. New York McGraw Hill Book Company Inc., 1953 424 p. illus. 22 cm. $6 00 5352

Contents: Testing. Wood. Stone. Brick. Cementing materials. Cement and concrete. Plastics. Irons, steels, and cast irons. Heat treatment of steel. Mechanical forming. Casting and welding. Alloy steels. The light metals and their alloys. Copper and its alloys. The special-purpose nonferrous alloys. Suggested reading. Motion pictures and filmstrips. Index.

Note. The authors of this elementary text have done a good job of describing, with a minimum of mathematics, a number of basic materials, showing why and how they are used in engineering. The book is illustrated with well-chosen photographs, and in the metals section, with photomicrographs. The presentation is logical throughout, and the style is a good example of unlabored technical writing, easy to read and to comprehend.

DAVIS HARMER E., AND OTHERS

The testing and inspection of engineering materials. Second edition. By Harmer E. Davis, George Earl Troxell and Clement T Wiskocil. New York McGraw Hill Book Company Inc., 1955 431 p. illus. 24 cm. (McGraw-Hill series in civil engineering Harmer E. Davis, consulting editor) $6 50. 5353

Contents (abridged): Part 1. Principles of testing and inspection. The nature of the problem. General features of mechanical testing. Measurement of load, length, and deformation—common testing apparatus. Static tension and compression tests. Static shear and bending tests. Hardness tests. Impact tests. Fatigue and creep tests of metals. Nondestructive tests. Analysis and presentation of data. Principles of inspection. Part 2. Instructions for laboratory work. Problems. Appendices. Index.

Note: An engineering college textbook containing descriptive accounts of the principles, devices and techniques of engineering testing, together with a collection of problems to be solved in college laboratories. In this edition, the first part, containing the background material, accounts for about three-fourths of the total pages, and the problems occupy less than 50 pages. The book can be studied without access to a laboratory and is useful to engineering graduates and technicians in need of descriptions of specific test methods. The bibliography runs to 1,271 references and is a useful guide to the modern literature of the field. The book appeared in 1941 in a preliminary edition, and was reproduced from typewriter script. The second edition has been printed from type and given a more attractive format. Both text and bibliography have been thoroughly revised.

DIETZ, ALBERT GEORGE HENRY editor

Engineering laminates. New York John Wiley & Sons, Inc. 1949 797 p. illus. 24 cm. $15.00. 5354

Contents: Introduction. The strength of laminated and sandwich structural elements, by N. J. Hoff. Adhesives, by R. K. Pfleumer. Glued-laminated wood, by V. Ketchum. Plywood, by M. S. Parkes and D. Countryman. Composite laminated-wood-concrete construction, by W. D. Kenney. Plastics-bonded laminates, by R. K. Witt. Thermostat metals, by U. U. Savolainen. Aluminum-clad products, by E. H. Dix, Jr. Hot-dipped aluminum-coated steel, by R. P. Flickinson. Copper and copper-alloy clads, by W. L. Keene. Nickel-clad, monel-clad, and inconel-clad steel, by W. G. Theisinger. Stainless clad steel, by C. A. Schroeder. Cast laminated metallic materials, by J. S. Vanick. Hardness and wear resistance—hard surfacing by fusion welding, by R. S. Avery. Sprayed metal, by H. S. Ingham. Glass-lined steel equipment, by O. L. Chaseman. Composite-glass structures, by G. R. Watkins. Sandwich-type building boards having honeycomb-based cores, by A. Elmendorf and M. Laidl. Plastic-surfaced plywoods and their properties, by M. G. Bell. Structural-sandwich construction, by R. T. Schwartz. Rubber laminates, by W. E. Burton. Molding laminates and sandwich materials, by C. B. Hemming. Index.

Note. The term laminates, as used in this volume, includes all composites which are of value from an engineering point of view and whose properties differ significantly from the properties of the constituent materials. Emphasis is placed on the physical properties and engineering uses of the various types of laminates, but information regarding methods of manufacture and fabrication is also included. The volume is designed for the use of engineers and architects, and is particularly valuable for its extensive tabulations of data regarding the physical and mechanical properties of the wide variety of laminated products. Bibliographies accompany most of the chapters.

DIETZ ALBERT GEORGE HENRY

Materials of construction—wood plastics, fabrics. New York D Van Nostrand Company Inc., 1949 347 p. illus. 24 cm. (A technical series on building construction Walter C. Voss editor) $6.00 5355

Contents. Sources of timber supply. Growth and structure. Physical properties. Hygroscopic properties, shrinkage and swelling. Mechanical properties. Identification. Lumber grades and sizes. Destructive agencies. Preservative treatment. Veneers, adhesives, plywood, laminated wood. Textile materials. Chemistry of plastics and resins. Plasticizers, fillers, colors, film and sheet, coatings. Molds and molding methods. Plastics-based laminates, vulcanized fiber, resin-wood combinations. Properties of plastics. Building boards, structural sandwiches, timber-concrete. Index.

Note: A concise, almost encyclopedic, presentation of information on materials used in modern building. The various materials are discussed from the standpoint of their use in building, but much information is also included on the processes by which the synthetic materials are manufactured. Numerous tables of engineering data are included, and each chapter is supplemented by a useful bibliography.

DUMOND T C editor

Engineering materials manual New York Reinhold Publishing Corporation 1951 386 p illus. 30 cm. $7.50. 5356

Contents: Standard engineering steels. Stainless steels—their selection and application. High-strength low-alloy steels. Clad steels. Tool steels. Free cutting steels. Gray iron castings. Wrought aluminum alloys. Aluminum alloy castings. Magnesium alloys. Nickel and high-nickel alloys. Engineering bronzes. Beryllium copper. Bearing metals. Cemented carbides. Ceramics for engineering applications. Rubber as an engineering material. A plastics primer for engineers. Selection and application of plastics. Thermosetting plastics. Thermoplastics. Plastic laminates. Hard-facing materials. Organic finishes for metals. Electroplated coatings. Coloring of metals. Porcelain enamels. Industrial adhesives.

Note: A broad though unintegrated view of engineering materials is presented in this volume. The volume editor and the editors of many of the chapters are members of the editorial staff of the journal *Materials and methods*, and the book is made up largely if not altogether of material published in that journal. As would be expected in view of the source, there is much emphasis on materials developed since World War II and new applications of older materials. A number of the sections are brief, that on electroplated coatings—to cite an example—being only 11 pages long. The volume contains a number of useful tables, for example, 12 pages of tabulated information on typical methods of coloring various metals and alloys. There is no index.

GILKEY HERBERT JAMES AND OTHERS

Materials testing theory practice and significance of physical tests on engineering materials, by Herbert J Gilkey Glenn Murphy and Elmer O Bergman. New York McGraw Hill Book Company Inc., 1941 185 p. illus. 28 cm. $5 75 5357

Contents. Testing, testing equipment, and testing observations. Properties of materials. Evaluation of properties from load-displacement data. Tensile tests. Compressive tests. Shearing and torsional tests. Flexural tests. Column tests. Hardness tests. Fatigue and impact tests. Design, control, and curing of concrete mixtures. Experimental aids in stress analysis. Appendices. Subject, author and general source indexes.

bars. Cement, concrete and concrete aggregates. Building brick. Wood. Plastics. List of standards by methods of test. Static tension and compression tests. Hardness tests. Specific gravity and unit eight tests. Consistency and slump tests. Sampling and inspection.

Note Designed for the use of engineering college students as indicated in the title, this book contains the full text of nearly 50 ASTM standards, and also short informative articles on the purpose and ork of the American Society for Testing Materials, the riting of technical papers, the legal aspects of standardization, etc.

BATEMAN, JOHN HENRY

Materials of construction, a textbook for students of engineering New York Pitman Publishing Corporation, 1950 568 p. illus. 23 cm. $7 50 5347

Contents Introduction. Mineral aggregates. Cementing materials. Concrete—materials, essential properties, proportions—manufacture, placing, properties—mortar gypsum, and lime products. Structural clay products. Building stone. Lumber and timber. The manufacture of pig iron and steel. The crystal structure and constitution of metals and alloys. Alloy steels. The shaping of steel—the structural steels. Wrought iron, cast iron, malleable cast iron. Structural aluminum and structural magnesium. The preservation of the ferrous metals. Index.

Note A text and reference book in which the manufacture, properties, dimensions, etc., of building materials are described. A good deal of supplementary information is included. For example, the chapter on the manufacturing and placing of concrete provides reliable and fairly inclusive survey of current practices in the field including the placing of concrete in large structures such as dams, and also including special methods of placing such as "prepakt" concrete. The chapters are supplemented by good bibliographies.

BRADY, GEORGE S

Materials handbook, an encyclopedia for purchasing agents, engineers, executives, and foremen Eighth edition. New York Mc Graw Hill Book Company, Inc., 1956 1 022 p 24 cm $12 50 5348

Note A long-established cyclopedic reference book of technical and trade information on materials of commercial importance including such common ones as brick and uncommon ones such as walrus hide. Although the information given about the individual terms varies considerably generally speaking each product is the subject of a descriptive essay ranging in length from few sentences to several pages and containing information on such points as origin, physical properties and uses. Trade names and manufacturers' names are often mentioned. The preceding edition was published in 1951 In this eighth edition, the book is about 100 pages longer Descriptions of numerous recently developed products, and a selection of new trade names has been added.

BROWN, HARRY PHILIPS, AND OTHERS

Textbook of wood technology By H P Brown, A J Panshin, and C C Forsaith Formerly published under the title Commercial timbers of the United States New York McGraw Hill Book Company Inc 1949–52 2 v 23 cm (The American forestry series Walter Mulford, consulting editor) Vol. I $8 50 vol. II $11 00 5349

Contents. Volume I, Structure, identification defects, and uses of the commercial woods of the United States The plant origin of wood. The tree. The gross features of wood of value in identification. The woody plant cell The cambia of trees. The minute structure of coniferous woods. The minute structure of porous woods. Variable quality of wood within tree-species. Figure in wood. Defects in wood. Natural durability f wood. Glossary Index Volume II, The physical mechanical, and chemical properties f the commercial woods of the U ited States Part I, The physical properties of wood. Density and specific gravity Wood in relation to moisture. Wood in relation to heat. Wood in relation to sound, light, and electricity The bending and finishing of wood Part II The mechanical properties of wood Mechanics of short wooden columns. The mechanics of wooden beams. The mechanics of wooden beams—stresses in simple wooden beams subjected to transverse loading. The mechanics of wooden beams—divers analyses th respect to wooden beams and members. Stresses in wooden columns up to the proportional limit. Stresses in wooden beams and columns beyond the proportional limit. Standard testing procedure for determining the mechanical properties of ood. Working stresses for wood. Variation in the strength properties of wood. Strength properties of laminated wooden beams and columns. Strength properties and fire resistance of wood-steel construction. Strength properties of plywood. Holding power of timber fasteners. Holding power of timber fasteners—modern timber connectors. Stresses in framed structures. Part III, The chemical properties of wood. The chemical components of wood. Effect of chemical treatments on wood. Thermal reactions of wood and its decomposition by biological agents. Index.

Note. In this revision of an earlier work, it has been the authors' purpose "to bring together all available worthwhile information on the commercial timbers of the United States. The work is used as a text by college students of forestry and as a reference tool by engineers, architects, and others requiring knowledge of the structure and characteristics of wood. Volume I retains the general arrangement and scope of the previous work, but the former sections on durability and defects of wood have been enlarged to form five new chapters. Volume II is entirely new and has been added to achieve the above-stated comprehensiveness.

BURTON, WALTER E , editor

Engineering with rubber New York Mc Graw Hill Book Company, Inc., 1949 486 p. illus 23 cm $8 00 5350

Contents Types of rubber. Properties of rubber Rubber adhesives. Latex products. V-belts and sheaves. Flat rubber belting—transmission—conveyor—elevator Extruded rubber. Rubber mountings. Hard rubber Rubber hose. Rubber in hydraulic equipment. Lathe-cut rubber Rubber linings. Molded rubber Packing and sheet rubber. Rubber printing materials. Rubber-covered rolls. Sponge rubber. Rubber thread and tape. Miscellaneous rubber products. Vinyl chloride polymers. Case histories. Index.

Note. The chief purpose of this volume is to suggest to design engineers when and how rubber may be utilized to good advantage in machinery and manufactured products. In addition to serving as practical guide to the properties, uses, and engineering possibilities of natural and synthetic rubbers, it describes the methods of manufacture and operating characteristics for a ariety of products made from rubber and rubber compounds. Particularly useful are the tabulations of technical data regarding the dimensions, engineering properties, and structural details of these products.

COOLEY, PAUL A , AND ANN E RAPUZZI, compilers

National directory of commodity specifications, classified and alphabetical lists and brief descriptions of specifications of national recognition Third edition Prepared by Paul A Cooley and Ann E Rapuzzi under the direction of A. S McAllister Chief of the Division of Codes and Specifications Washington D C Government Printing Office 1945 1,311 p 27 cm (United States National Bureau of Standards. Miscellaneous publication M178 superseding Miscellaneous publication M130) o p 5351

Contents Introduction. Classified list of specifications. Animals and animal products (except wool and hair) Vegetable food products and beverages. Vegetable products, except food, fibers, and wood. Textiles. Wood and paper Nonmetallic minerals. Ores, metals, and manufactures (except machinery vehicles, and electrical supplies) Machinery and vehicles. Chemicals and allied products. Commodities not elsewhere classified. Directions for obtaining copies of specifications. Names and addresses of standardizing agencies. Index and alphabetical list of commodities.

Note This extensive publication of hich former editions appeared in 1925 and 1932 is classified list of printed specifications for the manufacture of every significant manufactured product, with brief description of the contents of the specifications. Included are the standards and specifications of various trade associations, technical societies, and national industrial organizations of all kinds, as well as the purchase specifications of arious branches of the Federal Government. The index, a closely printed section of 117 pages,

tion. Rubber and aviation, by J. J. Allen and others. Specification and inspection of rubber products, by W. J. McCortney and W. J. Kuppus. Rubber products for new or special purposes, by E. F. Riesing and J. E. Glock. Molecular structure and mechanical properties of polymers. Name index. Subject index.

Note: Written by experts, this book is a comprehensive source of information on the properties of rubber already developed, and on the specification of rubber for particular uses. It is addressed to graduate students and structural designers and to others in need of technical engineering information on rubber. The chapters on rubber in various fields of application are in the nature of general surveys in which typical uses are described without any attempt to describe all possible examples. To cite an example, only one short paragraph is devoted to air springs for automobiles, although the indications are that such springs will soon constitute a major use of rubber. The chapters on specification, inspection, and the development of rubber products for new uses are by comparison more complete treatments. Literature references are included in all of the chapters, and there are adequate indexes.

MARIN, JOSEPH

Engineering materials their mechanical properties and applications. New York Prentice-Hall, Inc., 1952 491 p. illus. 23 cm. (Prentice-Hall engineering design series John A. Hrones editor) $7.00. 5363

Contents (abridged) Part one, Mechanical properties—general. Static properties in tension and compression. Static properties in shear and bending. Static properties under combined stresses. Fatigue properties. Impact properties. Creep and temperature properties. Part two, Specific materials: Structure of materials and control of their properties. Ferrous metals and alloys. Non-ferrous metals and alloys. Non-metallic materials. Part three, Materials testing machines and strain gages. Name index. Subject index.

Note: Although this college textbook is designed to be used in introductory courses it contains an analytical treatment that carries the reader farther into many topics than is common in introductory books. Methods of testing materials and the interpretation and application of results are emphasized. Comparatively full discussions of such topics as creep and temperature properties are included. Related literature is listed in footnotes or chapter bibliographies. The author is Professor of Engineering Mechanics and Research Professor of Engineering Materials at Pennsylvania State College.

MILLS, ADELBERT P

Materials of construction their manufacture and properties. By the late Adelbert P Mills. Second, third, and fourth editions, edited by Harrison W Hayward. Fifth and sixth editions, rewritten and edited by Lloyd F Rader Sixth edition. New York John Wiley & Sons, Inc., 1955 650 p. illus. 24 cm. $7.50. 5364

Contents (abridged) Section I, Definitions of terms. Section II, Metals. Structure and constitution of metals. Tests of metals. Service requirements of metals. Sources and production of metals. Iron ore and pig iron. Steel. Wrought iron. Cast iron. Malleable cast iron. Alloy steels. Non-ferrous metals and alloys. Section III, Building stones and mineral aggregates. Section IV Cementing materials. Gypsum plaster. Lime. Cements. Section V Concrete. Section VI, Brick and clay products—refractory heat-insulating, and acoustical materials. Section VII, Timber. Section VIII, Organic plastics. Section IX, Laminates and adhesives. Section X, Organic protective coatings. Index.

Note. A book which has been widely used as a college textbook in its various editions since 1915. It describes sources, methods of manufacture, properties and uses of the important materials of construction. Special aspects such as methods of inspection and testing are included in the chapters on some materials. There are many tabular and graphical presentations of data. Literature references are supplied. The fifth edition was published in 1939 and it represented a very extensive revision of the preceding edition. The sixth edition contains a new chapter on mineral aggregates, and several of the chapters carried over have been revised so as to cover new developments in adhesives, coatings, non-destructive testing, etc.

MINER, DOUGLAS F, AND JOHN B SEASTONE editors

Handbook of engineering materials. Prepared by a staff of specialists. New York John Wiley & Sons Inc. 1955 1,380 p. illus. 22 cm. $17.50 5365

Contents. Section 1 General information on materials: Materials specifications and standards. Statistics in the application of materials. Mathematical and physical tables. Section 2, Metals: Ferrous metals. Aluminum. Magnesium. Copper and its alloys. Zinc. Nickel and its alloys. Other pure metals. Special purpose metals and alloys. Section 3 Non-metals. Wood and wood-base materials. Paper. Fibers. Plastics and rubbers. Organic finishing materials. Fuels. Carbon products. Ceramic materials. Industrial chemicals. Lubricants. Section 4 Construction materials. Cementing materials and concrete. Roofing materials. Timber. Rope. Foundations. Weather and moisture protection. Glass products. Index.

Note: A reference handbook which provides in a single volume a very wide range of information on materials of engineering interest. The main emphasis is appropriately on physical properties, but other information useful in the selection of materials is included also, such as characteristics which affect fabricating, commercial availability and special pointers on conditions affecting service. Many data are presented in tables and graphs. Much information is also conveyed in concisely written narrative descriptions and discussions. Literature references are contained in most of the subsections. The book was written by a group of experts, most of whom are employed in industry.

MOORE, HERBERT F AND MARK B MOORE

Textbook of the materials of engineering. Eighth edition. New York McGraw Hill Book Company Inc., 1953 372 p. illus. 24 cm. $6.75 5366

Contents. Introductory. Columns, stress, and strain, by J. O. Draffin. The elastic strength of materials. The failure of materials by flow or creep. The failure of materials by fracture. Tables of physical properties of typical structural metals. Structural damage, working stress, factor of safety. The failure of metallic materials by corrosion and by wear. The production of the common structural metals—cast metals. Crystalline structure and heat treatment of metals—alloying. Strengthening metal parts by surface treatment, welding, powdered metals. Wood. Building stone and ceramic materials. Cementing materials—gypsum, lime, portland cement, and other hydraulic cements. Concrete, by H. F Gonnerman. Plastics, by W. K. Findley. Rubber, leather, rope. Testing and inspection—experimental stress analysis. Specifications for materials. Stress, strain, elastic and crystalline distortion, and structural damage to machine parts and structural members. Name index. Subject index.

Note. The first edition of this standard text for engineering students was published in 1917. Now as then, the treatment is elementary and designed to provide the beginning student with a knowledge of the physical properties, methods of manufacture and fabrication of the more common building materials. Only stress-carrying materials are included, and the tabulation of properties is limited to those of typical building materials. Comparing this edition to the seventh, published in 1947, there have been some rearrangement and combining of various topics, but the chief revision has been in the discussion of materials which have assumed importance since 1947. A chapter has also been added dealing with the relationship between metal strength and their atomic and crystalline structure. The chapter bibliographies have been brought up to date.

MURPHY GLENN

Properties of engineering materials. Second edition. Scranton International Textbook Company 1947 459 p. illus. 23 cm. (International texts in civil engineering Benjamin A. Whistler consulting editor) $7.25 5367

Contents: Materials and the engineer. Behavior of materials under load. Failure of materials. Use of properties in design. Qualities other than strength. Control of the properties of materials. The iron-carbon system. Manufacture and properties of the ferrous metals. Nonferrous metals. Timber. Stone. Clay products. Cementing materials. Concrete. Miscellaneous materials. Review questions. Answers to problems. Index to properties. General index.

Note. A laboratory manual for the engineering student covering the operation of testing equipment, the taking of data, the preparation of reports, and the interpretation of the data secured. The student is given an insight into the function and background of purchase specifications and into the need for and methods of inspection and acceptance tests. A chapter is devoted to experimental aids in stress analysis, including the use of models for the prediction of structural behavior Typical problems are illustrated and numerous bibliographic notes are given in the text.

GREATHOUSE, GLENN A., AND CARL J WESSEL, editors

Deterioration of materials, causes and preventive techniques. A collaboration under the joint auspices of the Services Technical Committee of the Department of Defense and the Prevention of Deterioration Center, Division of Chemistry and Chemical Technology, National Academy of Sciences—National Research Council. New York Reinhold Publishing Corporation, 1954 835 p illus 24 cm. $14 00 5358

Contents. Part I, Some important factors in deterioration Climate and deterioration, by C. J Wessel and H. C. S. Thom. Chemical and physical agents of deterioration, by G. A. Greathouse and others. *Biological agents of deterioration, by R. A. St. George and* others. Part II, Materials and their preservation Metals, by N E. Promisel and G. S. Mustin. Wood and wood products, by G. M Hunt. Paper by C. J Wessel. Textiles and cordage, by C. J Wessel. Leather by R. M. Lollar Plastics and rubber by A. Lightbody and others. Paints, varnishes, enamels, and lacquers, by J E. Cowling and M. E. Roberts. Part III, Some assembled units and their preservation Electrical and electronic equipment, by H. C. Gilbertson. Optical instruments and photographic equipment, by H. St. Shirk. Part IV Some special aspects of preservation Dehumidification, by A. S. Gates, Jr and others. Packaging, by T A. Carlson. Toxicological evaluation of preservatives, by W C. Cox. Appendix Government specification numbers, by S. F Booth. Index.

Note. A reference book of basic and practical information. The scope is indeed broad for instance, the chapter on deterioration by chemical and physical agents includes discussions of damage by wind, ice and lightning! The chapters on preventive techniques include mentions of all useful techniques and give specific details on most of them. However the presentation is necessarily compact, and the reader is expected to turn to the literature cited in the bibliographies for fuller discussions and additional details. The book has developed from research originally undertaken during World War II and continued since under military auspices hence, there is decided military flavor Nevertheless much of the information presented is applicable also to civilian problems.

HUNT, GEORGE M , AND GEORGE A GARRATT

Wood preservation Second edition New York McGraw Hill Book Company 1953 417 p illus 24 cm. $7.50 5359

Content The field of wood preservation. Agencies of wood deterioration. Wood preservatives. Preparation of material for treatment. Wood-preserving processes. Factors affecting penetration and absorption Economic aspects of preservative treatment. Properties of treated wood. Treating plants and equipment. Methods of protecting wood other than by standard preservative treatment. Fire-retarding treatments. Appendix. Index.

Note This book is useful both as college text and as reference book. It provides an inclusive introduction to the field together with references to the more useful and authoritative literature. There is some emphasis on large-scale preservation problems, such as are presented by marine piles, railroad ties and telephone poles, but there is also adequate attention to such aspects as the protection of houses against decay and termites and to the repair of termite damage when it has occurred. The first edition was published in 1938. In preparing this edition, descriptions of number of methods of treatment were revised in accordance with recent developments, material was added on new preservatives and treatments, literature references and tables were brought up to date. *However most of the content is identical with that of the first* edition.

KEYSER, CARL A

Materials of engineering, properties, fabrication, uses, and testing Englewood Cliffs, N J Prentice Hall, Inc., 1956 502 p. illus. 22 cm. $8 00 5360

Contents. Part I, Metallic materials. Fundamentals of metal structure. General comments on testing and failure of metals. Testing and failure of metals under static loads at atmospheric temperatures. Testing and failure under dynamic loads. Testing and failure at high temperatures. Corrosion and corrosion testing. Extraction of metals from their ores. Effects of alloying on slowly cooled metals. Hardening by combined effects of alloying and heat treatment. Ferrous alloys. Nonferrous metals and alloys. Methods of metal fabrication and their effect on properties. Part II, Inorganic nonmetallic materials. Minerals, rocks, clay and related materials. Inorganic cementing materials. Concrete. Part III, Organic materials. Plastics. Rubber. Organic coatings. Wood. Index.

Note. A wide range of basic information on the major engineering materials is presented in this book. Appropriately about three-fourths of the space is devoted to metals, and these are covered from their submicroscopic structure to techniques of fabrication. Most topics are covered concisely and selected literature references are given for readers who seek more information. The book is organized so that it may be used in undergraduate courses offered to engineering students. It is suitable also for self-instruction and reference use by such readers as machine tool operators who feel need for basic technical information on engineering materials.

LEIGHOU, ROBERT BENJAMIN

Chemistry of engineering materials. Rewritten by the following members of the chemistry faculty of the Carnegie Institute of Technology J C Warner (editor) Thomas R. Alexander, Paul Fugassi, D S McKinney, and others. Fourth edition New York McGraw Hill Book Company Inc., 1942 645 p. illus 23 cm. (International chemical series L P Hammett, consulting editor) $8.50. 5361

Contents Water for steam generation. Fuels, combustion, and lubricants. Refractories. The nonferrous metals. Nonferrous alloys. Production of iron and steel. Alloys of iron constitution, treatment, and uses. Technology of shaping metals and alloys. Corrosion of metals and alloys. Protective metallic and inorganic coatings. Building stones. Lime and gypsum products. Portland cement and concrete. Clay and clay products. Abrasives. Glass. Organic plastics. Rubber natural and synthetic. Organic protective coatings: paints, varnishes, enamels, lacquers. Glues and adhesives. Insulating materials.

Note. A textbook for sophomore and junior engineering students and reference book for practicing engineers who have not had advanced courses in chemistry and metallurgy The book is designed to provide information on the chemical properties of engineering materials so that they may be more intelligently selected and used. This fourth edition represents revision of much of the text, especially in the sections dealing with water for steam generation, fuels, abrasives, glass, organic plastics, and rubber

MCPHERSON, A. T , AND ALEXANDER KLEMIN, editors

Engineering uses of rubber New York Reinhold Publishing Corporation 1956 490 p illus. 24 cm. $12 50 5362

Contents: Introduction, by E. A. Hauser Making rubber products for engineering uses, by E. G. Kimmich. Compounding—the art of tailoring the properties of rubber to the use by G. E. Manson. The General engineering properties of rubber by E. G. Kimmich. The design of rubber mountings, by J F Downie Smith Deterioration of rubber from use and with age by J Crabtree and F S. Malm. Rubber in civil engineering, by W E Scoville, Jr Rubber in electrical Rubber in chemical engineering, by R. S. Garvey Jr Rubber in electrical engineering, by G. J Crowdes. Tires, by R. H. Spohman. Belt conveyors, by F D. Saloff. Rubber in automobiles, by J. W Mar-

Contents: Structure of wood. Characteristics of some important commercial woods grown in the United States. Physical properties of wood. Strength values of clear wood and related factors. Grades and uses of lumber. Stress grades and working stresses. Timber fastenings. Solid and built-up structural members. Gluing of wood. Glued structural members. Plywood and other combinations products. Structural sandwich construction. Bent wood members. Control of moisture content and shrinkage of wood. Fire resistance of wood construction. Painting and finishing wood. Protection from wood-destroying organisms. Wood preservation. Poles, piling, and ties. Thermal insulation. Building fiberboards. Modified woods and paper-base laminates. Glossary. Index.

Note: The handbook was prepared and is published as an aid to better and more efficient use of wood as a material of construction. It contains various data for its use in design and specification. The chief basis for the handbook is the accumulation of information at the Forest Products Laboratory which has resulted from the engineering and allied investigations of wood and wood products during the more than 40 years of its maintenance researches on wood. Each chapter is filled with technical information on various phases of wood usage and is concluded with a brief bibliography of sources cited. The publication is of value to carpenters, cabinet makers, contractors, engineers, architects, lumber dealers, and others concerned with wood as a structural material.

UNITED STATES. NATIONAL BUREAU OF STANDARDS

Characteristics and applications of resistance strain gages. Proceedings of the NBS Semicentennial Symposium on Resistance Strain Gages held at the NBS on November 8 and 9 1951 Washington, D C Government Printing Office, 1954 140 p. illus. 24 cm. (United States. National Bureau of Standards. Circular 528) $1.50. 5374

Contents: Postmortem determinations for elastic and plastic strains of tensile specimens, by L. Vigness and T. K. Perdue. Cementing and waterproofing of resistance strain gages, by R. O. Boone. Unbonded resistance-wire strain gage, by L. Statham. An unbonded bonded-wire resistance strain gage for measuring internal strain in concrete, by R. C. Yalom, jr. Properties of concrete under impact as measured with bonded-wire strain gages, by D. Watstein. A new strain gage without transverse sensitivity, by A. U. Huggenberger (abstract). How to use C-H gages, by G. Y. A. Gustafsson. Bonded-wire strain gage in the field of instrumentation, by A. C. Ruge. Commercial weighing with resistance strain gages, by A. L. Thurston. Applications of resistance-wire strain gages to high-capacity load-(?)weighing devices, by D. R. Tate. Preliminary investigation of the strain sensitivity of conducting films, by W. R. Campbell.

Note: Activity of the National Bureau of Standards on resistance strain gages began with the McCollum-Peters carbon-pile telemeter. This was followed by a study of carbon-strip gages in 1934. A few years later the introduction of strain sensitive fine wire led to greatly accelerated work in this field. Extensive performance tests were made on wire strain gages of different manufacture. Continued tests and studies were made at the National Bureau of Standards and at other laboratories. Such studies were devoted to the application of strain gages to the measurement of mechanical quantities, such as acceleration, impact force, and dynamic pressure. Calibrations were carried out on many instruments employing wire strain gages as the sensing element. At the 1951 symposium, held by the Bureau in conjunction with the Office of Naval Research, 11 papers on both experimental and theoretical aspects of the subjects were presented. Ten of the papers are published in this volume, together with the discussion which took place at the meeting.

WANGAARD FREDERICK FIELD

The mechanical properties of wood. New York John Wiley & Sons Inc., 1950 377 p. illus. 22 cm. $7.50. 5375

Contents (abridged): Part I, Basic mechanical properties of clear wood. Structural uses of wood. Tensile strength. Compression or crushing strength. Bending. Toughness. Hardness. Cleavage resistance. Elastic properties. Part II, Factors affecting the mechanical properties of wood. Defects—Knots—Checks and shakes—Cross grain—Wood-inhabiting fungi—Compression failures and cross breaks—Bird pecks—Mineral streaks—Lightning rings. Factors other than defects—Density—Position in tree—Moisture content—Preservative treatment—Heartwood and sapwood—Season of cutting—Duration of stress—Fatigue. Part III, Working stresses for structural lumber. Factors concerned in the derivation of basic stresses. Basic-stress values for clear wood. The basis for structural lumber grades. Application of working stresses in design. Part IV Timber testing. Working plan. Moisture determination. Machines for static tests. Description of tests. References. Appendix. Index.

Note: In this useful book information is presented on the various factors which affect the strength and other mechanical properties of wood and the methods of testing wood. All of the topics mentioned in the above table of contents and about as many more are covered compactly but in sufficient detail for average use. The text is liberally supplemented with literature references and tabulated data. The book is of interest to builders, structural engineers, and others who are required to specify or test wood for manufacturing or structural purposes. It supersedes G. A. Garratt's book of the same title.

WHITE ALFRED HOLMES

Engineering materials. Second edition. New York McGraw Hill Book Company Inc. 1948 686 p. illus. 24 cm. $5.50 5376

Contents (abridged): Fundamental properties of solids. Iron and its alloys with carbon. Manufacture of iron and low-carbon alloys from the ore. Early methods of producing wrought iron and steel from pig iron. Manufacture of steel by the Bessemer, open-hearth, and electric-furnace processes. Properties of plain carbon steel as influenced by fabricating operations. Alloy steels with low-alloy content. Properties of high-alloy steels including tool steels, stainless steels, and alloys for high-temperature service. Castings of steel, malleable iron, and gray iron. Copper, nickel, zinc, and their alloys. The light metals—aluminum, magnesium, beryllium, and their alloys. The soft metals—lead, tin, and their alloys. Bearing metals. Rocks and their decomposition products. Clay products. Lime, gypsum, and magnesium oxychloride products. The inorganic cements. Fuels and combustion. Water and its industrial utilization. Soap and other detergents. Wood and wood products. Organic protective coatings, old type. Synthetic materials for plastics, adhesives, and protective coatings. Plastics, laminates, and synthetic coatings. Index.

Note. Although this volume is intended primarily for use as a text in college engineering courses, the compilation of essential data regarding the manufacture, properties, and uses of engineering materials makes it of value also as a reference tool for the practicing engineer. This edition has been extensively revised to incorporate developments during World War II, particularly in light metals and plastic materials. New chapters have been added on wood and wood products and various synthetic materials, and the chapters on carbon steel, alloy steels, and light metals have been rewritten and enlarged. The brief chapter bibliographies have been brought up to date.

WITHEY M O AND G W WASHA

Materials of construction. New York John Wiley & Sons, Inc., 1954 870 p. illus. 24 cm. $9.00 5377

Contents: Synopsis of the principles of mechanics of materials. Machines and appliances for mechanical tests. Testing of structural materials. Characteristics, physical properties, and uses of wood. The deterioration and preservation of timber. The mechanical properties of timber. Building stone. Structural clay products. Portland cement. Natural and other hydraulic cements. Limes and plasters. Methods of testing hydraulic cements. Concrete aggregates. Making mortar and concrete. The physical properties of mortar and concrete. Portland cement products. Metals and their ores. Reduction of iron from its ores. Manufacture of wrought iron and steel. Manufacture of iron and steel shapes. Formation and structure of alloys. Constitution of iron and steel. Properties of wrought iron. Effect of composition on the properties of steel. Heat treatment of steel. Effect of mechanical work on the properties of steel. Alloy steels. Cast iron and malleable cast iron. Constitution of some of the more important non-ferrous alloys. Non-ferrous metals and alloys. The effect of temperature on the properties of metals. Fatigue of structural materials. Index.

Note. An engineering college textbook of sufficiently comprehensive scope to render it of interest to some graduate civil engineers. As the title indicates, its scope is primarily the materials used in construction of buildings. Each of the materials named in the chapter titles is discussed as to source, method of manufacture, mechanical and physical properties, commercial varieties and methods of testing. In the chapters on mortar and concrete, there is also considerable information on the handling of these materials in placing them in structures. There are scattered literature references and an exceptionally detailed index. The book supersedes J. B. Johnson's Materials of construction, revised by M. O. Withey and J. Aston, eighth edition, New York, 1939.

Note A study of the basic principles which are responsible for the physical and chemical behavior of engineering materials. The volume is intended as an undergraduate engineering school text rather than as a source book of data, and as such it includes problems to solve and references for collateral reading. In the second edition the plan remains the same, but revisions have been made to include a new chapter on control of the properties of materials, and recent developments in powder metallurgy laminated products, cold treatment of metals, high-temperature alloys, silicones, and synthetic rubber have been included.

NORD, MELVIN

Textbook of engineering materials New York John Wiley & Sons, Inc., 1952 518 p illus 24 cm. $6 50 5368

Contents (abridged) Part I, The raw materials of engineering: Sources of raw materials. Formation of mineral deposits. Recovery of mineral. Part II, Production of engineering materials: Mineral dressing. Unit chemical processes in the production of engineering materials. Principles and processes of extractive metallurgy Part III Properties of engineering materials States of matter Mechanical properties of engineering materials. Physical and chemical properties of engineering materials. Part IV Specific engineering materials. Section 1 Materials for the generation of energy—water—fuels—explosives. Section 2 Metals. Section 3 Natural and artificial stone. Section 4 Natural and synthetic organic materials of construction. Section 5 Protective materials. Index.

Note The first three parts of this work are devoted to an exposition of basic aspects of engineering materials. Part IV—which accounts for more than 300 of the 500-odd pages—is devoted to discussions and descriptions of specific materials. In this part each material considered is defined, and its origin, properties, manufacture, and uses are described. Finally there is a short list of literature references. Many of these descriptions contain enough material to make them useful for reference by readers who want background information rather than engineering data. However the book is intended for use in short courses in engineering colleges.

PERRY, THOMAS DOANE

Modern plywood Second edition New York Pitman Publishing Corporation, 1948 458 p illus 23 cm. (Pitman books on industrial materials and processes, Alexander Klemin, advisory editor) $7 00 5369

Contents Introduction, by Wilson Compton. Glossary of trade terms used in the plywood industry Brief history of plywood. Advantages of plywood. Adhesives for plywood. Characteristics of modern plywood. Veneer manufacturing. Plywood manufacturing. High-density plywood. Plywood in industry Engineering data on plywood. Grading rules. Testing adhesives. Index.

Note A comprehensive survey of the manufacture, properties, and uses of plywood. Approximately equal emphasis is placed upon the manufacture of plywood and the manufacture of articles from plywood. In this edition the detailed descriptions of manufacturing methods have been revised to cover recent developments. Thus the chapter on adhesives has been more than doubled in size to include new material on animal, vegetable and especially synthetic resin glues and the chapter on manufacturing methods contains new sections on progressive gluing, metal-to-wood gluing, and curing of resins by electrical high-frequency methods. The excellent bibliography of the 1942 edition has been brought up to date, but the references are now grouped at the end of each main section

PERRY THOMAS DOANE

Modern wood adhesives. New York Pitman Publishing Corporation 1944 208 p illus 23 cm. $4 50 5370

Contents Origin of glues and their uses. Animal glues. Vegetable glues. Casein glues. Soybean glues. Synthetic resin adhesives. Silicate of soda glues. Albumin glues. Prepared glues. Methods of comparing glues. Glue mixing and spreading equipment. Pressure in gluing. Adhesion secured by heat. Reducers for glue solvents. Impregnation. Glue testing. Index.

Note A discussion of the manufacturing processes, properties, and applications of the different types of glues used in the development of plywood and veneers. The glues are listed and described in separate chapters according to their origin. Following these accounts of special characteristics, are general chapters covering methods of comparing glues, equipment for preparing and applying them, the effect of pressure and heat in securing good glue joints, the problem of wood impregnation and the procedure in various methods of glue testing. There are brief chapter bibliographies and a glossary

SONNEBORN, RALPH H.

Fiberglas reinforced plastics Contributing authors Albert G H Dietz and Alton S. Heyser New York Reinhold Publishing Corporation, 1954 240 p illus 23 cm $4.50 5371

Contents Part I The nature and uses of fiberglas reinforced plastics. Materials for FRP Manufacturing processes for fiberglas reinforced plastics. Secondary operations. Inspection and testing. Properties of FRP Design methods based on experience. Applications of FRP Part II: Design theory of reinforced plastics. Structural design of FRP laminates. Appendixes: Glossary of terms as applied to FRP Selected bibliography Index.

Note. The combination of fine glass fibers (and fabrics made of such fibers) with thermosetting plastic resins has produced a new class of engineering materials with unique and useful properties. Applications already developed include a variety of products such as roofing panels, lampshades, household laundry tubs, safety helmets and sports car bodies. This is a book on these materials, written from the viewpoint of product designers and engineers. As the chapter titles indicate design is covered both from the standpoint of theory and practical experience. Molds and shaping processes are considered at some length. There are about 100 illustrations, many of which are reproductions of photographs of steps in manufacturing processes. The bibliography does not include patents.

TIEMANN, HARRY DONALD

Wood technology constitution properties and uses. Third edition. New York Pitman Publishing Corporation 1951 396 p. illus. 23 cm. (Pitman Books on industrial materials and processes, Alexander Klemin, advisory editor) $6 00 5372

Contents Introduction. What wood is. The life of a tree and its relation to the human race. The structure of wood. How to identify species of wood by visible structure. The structure of the cell wall. Chemistry of wood and cellulose. Modified cellulose—textile fibers and plastics. Paper and pulp from wood. Moisture relations of wood. The shrinkage and swelling. Collapse its cause and its significance. Dimensional stability Drying lumber procedure in kiln-drying operations. Physical properties of wood. Mechanical properties of wood. Effect of temperature and kiln-drying—temporary exposure—Yale tests. Effect of temperature at time of test. Plywood, glues, adhesives. Dielectric heating for gluing and drying. Biological destructive agencies and preservative measures. Permeability of wood. Distinguishing features of American woods. Appendixes. Index.

Note A clearly written, comprehensive survey of the mechanical properties of wood and of the technology of handling it as a structural material. It does not cover such matters as the design of timber structures rather it covers the varying strength of wood under varying conditions, adhesives for bonding wood, how wood is made into paper, etc. There are also excellent discussions of the various defects of wood. References are made to scores of research studies, which is not surprising in view of the fact that the author was once a member of the staff of the United States Forest Products Laboratory The second edition was published in 1944 Much important material was added in this third edition.

UNITED STATES FOREST PRODUCTS LABORATORY

Wood handbook. Basic information on wood as a material of construction, with data for its use in design and specification Prepared by The Forest Products Laboratory Forest Service, U S Department of Agriculture. Washington D C Government Printing Office 1955 528 p illus. 23 cm (United States. Department of Agriculture Agriculture handbook no 72) $2 00 5373

as an infinite plate. The influence of the material on stress distribution. Lateral extensometers and isopachic curves. The numerical solution of Laplace's equation. Conformal transformations, the use of polar and bipolar coordinates in isoparametrics. The stresses at joints in three dimensions. Three-dimensional technique. Applications of oblique incidence and of rotational effects. Circular sections in torsion and bending. Scattered and convergent light. Appendix: Fosterite—a new material for three-dimensional photoelasticity. Index of names. Subject index.

Note: Widely recognized as the standard treatise on its subject, the work is both an introduction to photoelastic methods of stress analysis and a monograph of theory and advanced techniques. The first volume covers the fundamental theory and the purely optical techniques. The second volume, in addition to further developments of the theory and methods covered in the first volume, introduces the theory of elasticity, describes methods for determining the sums of principal stresses at interior points and discusses the theory and techniques and applications of three-dimensional photoelasticity. Methods not requiring transparent models also are described in the second volume, but not in the first. Both volumes are illustrated with numerous strain diagrams and photographs of strain patterns.

FROCHT MAX MARK

Strength of materials a first course. New York. The Ronald Press Company 1951 439 p. illus. 24 cm. $6.00. 5385

Contents: Basic concepts. Statically determinate stresses in tension and bending. Statically determinate stresses due to internal pressure and torque. Basic concepts of strain and axial deformations. The state of stress and strain at a point. The significance of static stresses and stresses in design: photoelastic patterns. Shear and bending moments. Stresses in symmetrical beams. Failure under steady and alternating stresses. Torsion in circular shafts. Deflections of beams. Statically indeterminate beams. Columns and curved beams. Riveted joints and nonhomogeneous beams. Appendixes. Index.

Note: An engineering college textbook written by a well-known authority in photoelasticity and other methods of experimental stress analysis. The author has taken particular pains to emphasize the practical aspects of the subject and to describe contemporary methods. Among the numerous illustrations are a number of photographs of stress patterns obtained by photoelastic techniques. The book supersedes a text of the same title written by the author and M. C. Leps, published in 1934. Only one chapter has been carried over from that book without extensive revision.

LAURSON PHILIP GUSTAVE, AND WILLIAM JUNKIN COX

Mechanics of materials. Third edition. New York. John Wiley & Sons, Inc 1954 414 p. illus. 23 cm. $7.50. 5386

Contents: Stress and deformation. Mechanical properties of materials. Allowable stresses. Pressure containers. Riveted and welded joints. Stresses due to axial loads. Torsional stress, shafts, and helical springs. Beams—shear and bending moment. Stresses in beams. Design of beams. The deflection of statically determinate beams. Restrained beams. Direct stress combined with bending. Columns with axial loads. Columns with eccentric loads. Combined stresses. Elastic energy: stresses produced by moving bodies. Continuous beams. Beams of two materials. Beams (additional topics). Eccentrically loaded connections. Comprehensive problems. Appendixes. Centroids of areas. The moment of inertia of a plane area. Tables. Index.

Note: An engineering college textbook designed for use in introductory courses in the mechanics of materials (strength of materials). The first fourteen chapters are a well-integrated study of basic principles; the remaining chapters contain slightly more advanced, more specialized material. The discussions are relatively full, and many worked examples are included. The second edition was published in 1947. Some of the expository text was revised, and many new worked examples and problems for the student to solve were added in preparing this third edition.

MARIN JOSEPH AND JOHN A. SAUER

Strength of materials. Second edition. New York. The Macmillan Company 1954 518 p. illus. 24 cm. $6.75 5387

Contents: Part 1, Simple stresses: Members subjected to simple tension and compression. Members subjected to shear and torsion. Members subjected to bending—beams. Members subjected to axial and bending loads—short members. Members subjected to axial and bending loads—long members or columns. Part 2, Statically indeterminate stresses: Deformation methods of analysis. Energy methods of analysis. Part 3, Combined stresses. Determination of stresses. Theories of failure and design. Part 4, Special topics: Riveted and welded joints. Special problems on bending of beams. Members subjected to fatigue and impact loads. Temperature and creep properties of materials. Experimental stress analysis. Appendixes: Centroids and moments of inertia of plane areas. Tables of physical properties and design stresses for common engineering materials. Index.

Note: A well-organized introductory text which is designed to teach engineering college students the analysis of structural members under varying conditions of strain and stress. It describes the methods used to ascertain the stresses and to determine the dimensions of members required to meet specific loads. The theory of the subject is emphasized, but it is integrated with discussions of the mechanical properties of materials and the techniques of design. The drawings and diagrams and, in fact, the whole format of the book are exceptionally good. The first edition was published in 1948. This second edition, written with a co-author represents an extensive rewriting and augmentation. The chapters on temperature and creep properties and on experimental stress analysis are new and extensive revisions were made in the chapters carried over.

MILLER, F E AND H. A. DOERINGSFELD

Mechanics of materials. Scranton International Textbook Company 1955 514 p. illus. 23 cm. $7.50 5388

Contents: Stress and strain. Properties of engineering materials. Allowable stresses. Riveted and welded joints. Torsion. Shear and bending moment. Stresses in beams. Deflection of statically determinate beams. Restrained beams. Additional topics on beams. Bending or torsion stresses combined with direct stresses. Combined stresses for general types of loading. Column theory and design. Fatigue of metals. Energy of strain and impact. Stresses in thick-walled cylinders. Appendixes. Index.

Note: A relatively new introduction to mechanics of materials, written for undergraduate college students who are taking their first course in the subject and have completed courses in statics and integral calculus. It is well organized, adequately illustrated, and the publisher has given the volume a good format. The authors are members of the faculty of the University of Minnesota.

MURPHY GLENN

Advanced mechanics of materials. New York McGraw Hill Book Company Inc., 1946 307 p. illus. 24 cm. $7.00. 5389

Contents: Relationship of materials to design. Stresses and strains at a point. Stress-strain relationships. Theories of failure. Axial loading. Cylinders, spheres, and disks under radially symmetrical loads. Torsion. Flexure. Cross shear. Introduction to photoelastic analysis. Compressive loads and buckling. Answers to problems. Author index. Subject index.

Note: Primarily this book is a text in stress analysis for use in advanced engineering courses. The treatment is largely theoretical and requires a sound background of mathematics and a knowledge of the strength and properties of materials. Practical applications of the subject are illustrated by the numerous problems given at the end of each chapter. The book is also of some use to practicing structural draftsmen and engineers, for its treatment of numerous special design problems—for example, torsional stresses in thin-walled closed sections—which are accompanied in most cases by references to fuller treatments in other publications.

MURPHY GLENN

Mechanics of materials. Revised printing. New York The Ronald Press Company 1948. 310 p. illus. 23 cm. $5.00 5390

Contents: Stress, strain, and axial loading. Joints and connections for axially loaded members. Torsion. Stresses in flexural members. Deflection of flexural members. Statically indeterminate beams. Columns. Combined loadings. Dynamic and repeated loads. Appendixes: Properties of sections. Answers to problems. Index.

Note: A well-written introductory textbook. It is briefer than some of the available texts for introductory courses in mechanics of materials or strength of materials, but the fundamentals of the subject are well covered and there are 639 problems for students to solve. Answers to the problems are contained in the book.

WOLDMAN, NORMAN EMME

Materials engineering of metal products. New York Reinhold Publishing Corporation, 1949 583 p. illus 24 cm $12 50 5378

Contents (abridged) Section I, Materials for light weight construction. Aluminum alloys. Magnesium alloys. High strength-low alloy steels. Stainless steel. Section II, Materials for mechanical products Gear materials. Spring materials. Bearing materials. Section III, Materials for the electrical industries. Magnetic materials. Electrical contacts. Thermostat metals. Section IV Materials for special and severe service Corrosion and its prevention. High-temperature materials. Section V Testing Mechanical testing. Nondestructive testing and inspecting. Appendix. Properties of materials. Subject index.

Note Essentially a desk reference book for engineers concerned with design and specification. However it is more than a mere compilation of data. The expected tabulations of properties are present, but the greater part of the text consists of concise but helpful discussions of such matters as the behavior of specific materials under working conditions. For example, the chapter on electrical contacts includes a discussion several pages in length on contact operation and failures, in which the causes of contact failures are made clear Most of the matter relates to metals, but a few other materials, such as rawhide for gears, are considered.

YOUNG, JAMES F

Materials and processes. Second edition New York John Wiley & Sons, Inc., 1954 1,074 p illus 24 cm. $9 75 5379

Contents Part I, Materials The nature of pure metals. Alloys. Metallographic examination. Mechanical properties of metals. Corrosion and tarnishing properties of metals. Electrical and magnetic properties of metals. Iron and steel. Nonferrous metals and alloys. Nonmetallic materials. Electrical insulation. Plastics. Rubber Ceramics. Miscellaneous nonmetallic materials. Part II, Processes. Casting processes. Powder metallurgy Heat treating. Hot-working processes. Cold-working processes. Welding and allied processes. Machining. Cleaning, plating, and organic finishing of metals. Gaging, inspection, and nondestructive testing. Statistical methods useful in industrial quality control. Index.

Note. This book is a broad survey from the engineering standpoint of materials used in manufacturing and of the chief manufacturing processes. Addressed to engineers, its chief purpose is to provide foundation of basic information as background for practical engineering work in machine design, production control, etc. Even though the scope is broad, wide range of reference data and manufacturing "know how" is included. The first edition appeared in 1944 In the second edition the book is half again as long and contains much added information on developments of the last decade.

MECHANICS OF MATERIALS

CONWAY, HARRY D

Mechanics of materials. New York Prentice-Hall, Inc 1950 325 p illus 24 cm (Prentice-Hall engineering design series John Hrones editor) $5 50 5380

Contents. Elementary stress and strain. Compound stress and strain. Welded and riveted joints. Theory of torsion. Shearing and bending of beams. The stresses in beams. Deflection due to bending. Clamped and continuous beams. Miscellaneous beams. Columns. Failure under combined stresses. Thick cylindrical and spherical shells subjected to uniform pressure. Statical indeterminacy and Castigliano's theorem. Appendix Moments of inertia of areas. Index.

Note A standard, introductory textbook based on the author' years f teaching the subject in courses given in the College of Engineering of Cornell University Most of the chapters contain clear statement of assumptions on which the theory developed in the chapter is based. Many worked examples and also many problems for the student to solv ar included.

COX, GLEN NELSON AND OTHERS

Strength of materials. By Glen N Cox, Frank J Germano and John H. Bateman New York Pitman Publishing Corporation, 1951 408 p illus. 24 cm. $6 50 5381

Contents Stress and strain. Materials testing and properties of materials. Riveted and welded joints thin-walled cylinders and spheres. Torsion. Shearing force and bending moment in beams. Simple stresses in beams. Combined stresses. Special beams and beams of t materials. Deflection of statically determinate beams. Statically indeterminate beams. Columns. Fatigue of metals. Stresses caused by impact and energy loads. Curved beams. Appendices. Moment-distribution method for continuous beams. Tables. Index.

Note. A clear explicit style and conformity to recently published experimental results and to major United States of America building codes are features of this introductory textbook. Current building techniques, such as the making of elded joints by shielded arc, have been taken into account. The theory of columns is discussed in the light of Ryder's A rational explanation of column behavior, which appeared in 1948. Both the moment-distribution method and the theorem of three-moments for the solution of continuous beam problems are explained. A generous number of sol ed problems are included in the exposition.

DEN HARTOG, JACOB PIETER

Advanced strength of materials. New York McGraw Hill Book Company, Inc., 1952 379 p illus 24 cm. $8 50 5382

Contents Torsion. Rotating disks. Membrane stresses in shells. Bending of flat plates. Beams on elastic foundation. Two-dimensional theory of elasticity The energy method. Buckling. Miscellaneous topics. Problems. Answers to problems. Index.

Note. A textbook designed for engineering college students who have completed an introductory course in strength of materials. The author describes it as an intermediate book designed to bridge the gap between elementary texts and advanced treatises on elasticity It has been developed from material used in two courses offered to senior and graduate students at Massachusetts Institute of Technology

FREUDENTHAL, ALFRED M

The inelastic behavior of engineering materials and structures New York John Wiley & Sons, Inc. 1950 587 p illus 23 cm. $11 50 5383

Contents (abridged) Part A, The structural aspect of mechanical behavior The structure of matter Structural theories of deformation. Part B, Mechanics of inelastic deformation Mechanical variables. Linear behavior Plasticity Work hardening of polycrystalline metals. Creep and relaxation. Inelastic behavior under dynamic conditions. Fracture. Rheological behavior of suspensions and gels. Part C, Application of the mechanics of inelastic behavior: Plasticity Work hardening and creep. Author index. Subject index.

Note A contribution of considerable importance to the understanding of the behavior of engineering materials hen they are strained beyond the elastic limit. The subject has application to such techniques as the rolling of metals, the drawing of wires, the design of structural parts so as to avoid failure by fracture and creep. Basic physical principles interpreted in terms of the Bohr atom are emphasized, but there are frequent references to applications and testing methods. The book was developed from notes prepared for graduate course at the University of Illinois, and its audience is graduate engineering students and practicing engineers.

FROCHT, MAX MARK

Photoelasticity New York John Wiley & Sons Inc. 1941–48 2 v illus (part col d) 23 cm. Vol. I, $13 00 vol. II $14 50 5384

Contents Volume I Stresses and strains in two dimensions. Differential equations of equilibrium. Preliminary optics. Polarized light. Double refraction. Devices used for the polarization of light. Polariscopes. The stress-optic law and the stress pattern. Isoclinics and stress trajectories. Principal stresses across sections of symmetry by the slope equilibrium (rapid) method. Shear and normal stresses across straight lines (shear difference method) Principal stresses by graphical integration. Materials and models. Diphase molecular theory of plastics and its relation to the annealing of bakelite and to the frozen stress pattern. Technique of stress patterns. Features of equipment. Photography Name index. Subject index Volume II The compatibility equation and elementary stress functions in two dimensions. Radial stresses in the semi-infinite plate. Radial stresses in wedges and beams. The ircular disk Concentrated load

beam. Columns. Special topics. Appendixes. Moments of inertia. Tables. Index.

Note: A clearly written introduction designed for the instruction of students in engineering colleges. It is well organized from the standpoint of institutions of learning. There are over 1,200 problems for the student to solve. In addition to an adequate number of worked examples in the text.

SLOANE, ALVIN

Mechanics of materials. New York The Macmillan Company 1952 468 p illus. 24 cm. $6.50. 5397

Contents: Introduction to mechanics of materials. Bending. The beam theory. Corollary I—The longitudinal shear theory. Corollary II—The deflection theory. Violations of the limitations of the beam theory. Torsion. Column theory. Combined loading. Elastic strain energy. Mechanical properties of materials. Additional uses of Mohr's circle. Appendix. Tables. Index.

Note: A textbook for first courses in this subject in engineering colleges. It has a number of unusual features, such as the introduction of Mohr's circle in the first chapter and frequent use of this concept in later exposition. The author is Associate Professor of Mechanical Engineering in Massachusetts Institute of Technology.

TIMOSHENKO S AND GLEASON H. MAC CULLOUGH

Elements of strength of materials. Third edition. Princeton D Van Nostrand Company Inc., 1949 426 p. illus. 24 cm. $6.00 5398

Contents: Tension and compression. Shearing stress, riveted and welded joints, thin-walled cylinders. Combined stresses—analysis of plane stress. Shearing force and bending moment. Stresses in beams. Deflection of beams. Statically indeterminate problems in bending. Special topics concerning beams. Torsion—torsion combined with thrust or bending. Axial force accompanied by bending—theory of columns. Energy of strain. Elements of photo-elastic theory. Mechanical properties of materials. Appendices. Index of names mentioned. Index of subjects.

Note: A shorter, more elementary version of the similar author *Strength of materials*, described below. It is not simply another version of Part of that work but contains a selection of material from both volumes. It presents a broad, elementary view of the field but includes many solved problems as part of the expository text. Problems to be solved by the student are included also. It has a number of special features, including the use of Mohr's circle for solving problems in combined stress, rational treatment of the column problem, and a discussion of photo-elasticity. The second edition was published in 1940. A number of important changes were made in preparing this third edition, including revisions and organizations in the text and in the problems.

TIMOSHENKO S

Strength of materials. Third edition. Princeton. D Van Nostrand Company Inc., 1955–56. 2 v illus. 23 cm. Part I $6.50 part II, $7.50. 5399

Contents: Part I, Elementary theory and problems: Tension and compression within the elastic limit. Analysis of stress and strain. Bending moment and shearing force. Stresses in laterally loaded symmetrical beams. Deflection of laterally loaded symmetrical beams. Statically indeterminate problems in bending. Symmetrical beams of variable cross section—beams of two materials. Bending of beams in a plane which is not a plane of symmetry. Combined bending and axial load—theory of columns. Torsion and combined bending and torsion. Strain energy and impact. Curved bars. Appendix. Author index. Subject index. Part II, Advanced theory and problems: Beams on elastic foundations. Beams with combined axial and lateral loads. Special problems in the bending of beams. Thin plates and shells. Buckling of bars, plates and shells. Deformations symmetrical about an axis. Torsion. Stress concentration. Deformations beyond the elastic limit. Mechanical properties of materials. Author index. Subject index.

Note: An authoritative work used both as a textbook in comprehensive courses in engineering colleges and as a reference book. As shown above, it is divided into two distinct parts which are published as separate volumes. The first part is used as a text in introductory elementary courses, while the second part contains the advanced methods and rigorous analyses used in professional engineering. The material in Volume I is a suitable preparation for the study of the material in the second volume. However the volumes may be and are used independently. The first edition of Volume I was published in 1930, and the second edition in 1940. In the case of the second volume, the date of the first edition was 1930, and the date of the second edition 1941. In comparison to the second edition, important revisions were made in both volumes. Also, there was some reorganization of the material. This included, among other changes, the transfer of the material on curved bars from the second volume of the work to the first.

INSTRUMENTATION AND CONTROL

AHRENDT, WILLIAM ROBERT, AND JOHN F TAPLIN

Automatic feedback control. New York McGraw Hill Book Company Inc. 1951 412 p illus. 24 cm $8.50 5400

Contents: Introduction. Dynamical analysis of physical systems. The operational approach to feedback control. Frequency spectrum analysis. Feedback control loops. Multiple-loop feedback control systems. Design considerations. Nonlinearity and discontinuity. Servomechanisms. Pneumatically operated controllers. Temperature regulation. Speed governing. Pressure, flow and liquid level. Glossary. Appendix. Index.

Note: A practical treatment on the engineering level. The theoretical fundamentals are outlined, and mathematical methods of analysis of controlling systems are presented. However, the mathematical aspects are not pursued to the advanced regions, characteristic of many books on the feedback principle. Much attention is paid to practical aspects that would be of concern to engineers designing controls and servomechanisms. Though intended mainly for engineering students, the book is potentially useful to graduate engineers and others in industry who find themselves in need of an inclusive introductory treatment.

AHRENDT WILLIAM ROBERT

Servomechanism practice. New York Mc Graw Hill Book Company Inc., 1954 349 p. illus. 24 cm. $7.50 5401

Contents: Operation of a simple servomechanism. Potentiometers. Synchros and related error detectors. Double-speed synchronizing networks. Demodulators and modulators. Networks. Electronic amplifiers. Rate generators. Servomotors. Friction dampers. Magnetic amplifiers. Rotating amplifiers. Hydraulic systems. Design of servomechanisms. Manufacture of servomechanisms. Servomechanism adjustment and trouble shooting. Tests of servomechanisms. A typical servomechanism and its operation. Problems. Bibliography. Glossary of terms. Appendix. Index.

Note: A comparatively simple treatment of servomechanism principles and elements. Simplicity has been achieved largely by emphasizing servomechanism components, such as electronic amplifiers and hydraulic systems and by limiting the discussion of design to simple cases. The book offers the conscientious reader with practical interests a reliable explanation of the purpose of servomechanisms, how they work, what they consist of and gives him an insight into the design problems. Although developed in a formal college course and intended primarily for use as a text, it is suitable also for self-instruction.

BATCHER, RALPH R. AND WILLIAM MOULIC

The electronic control handbook. Pittsburgh Instruments Publishing Company 1946 344 p. illus. 23 cm. $2.00. 5402

Contents: Section I, Basic elements of control. Theory of control systems. Signal transmission systems. Section II, Conversion elements. Section III, Electronic modification circuits. Control amplifiers. Control oscillators. Counting and timing circuits. Electrical conversion circuits. Passive networks. Deviation detectors. Section IV, Actuating elements: Synchros and servo-systems. Solenoids and relays. Saturable reactors. Section V, Control motors. Welding control. Speed control. Miscellaneous electronic applications. Selected bibliography. Index.

Note: A compact treatment for engineers and others who have some knowledge of electrical principles. It covers briefly the general

NADAI, ARPÁD

Theory of flow and fracture of solids. Second edition. Volume one. New York McGraw Hill Book Company, Inc., 1950 572 p illus 23 cm. (Engineering Societies monographs, Ralph H Phelps, consulting editor) $12 00 5391

Contents (abridged) Part I, Deformation of solids, analysis of stress and strain Elastic and permanent deformation. Behavior of matter under high pressure. The ordered and unordered states of matter Crystalline structure in metals. Mechanism of plastic deformation in the grain structure. Theory of the tensile test. Mohr's representation of stress. Finite homogeneous strain without rotation. Finite plane strain. Vector geometry of stress and strain. Part II, The yielding of solids, particularly of the metals under simple states of stress. Rules in the new theories of flow of solids. Strain and flow figures. Compression. Torsion of a round bar Plastic bending of bars. Buckling after the yield point is exceeded. Part III, The elastic, the very viscous, the ideally plastic substance and some of their generalizations Isotropic elastic solid. Steady slow flow of very viscous substance. Ideally plastic substance. Constrained flow of ideally plastic material. Theory of the plastic deformation of flat rings or disks. The problem of plastic torsion. The flow layers in twisted bars of mild steel Theory of the surfaces of slip. Index.

Note. The author's *Plasticity* has long been recognized as major contribution to the knowledge of the behavior of solids when strained beyond the elastic limit. Much work has been done in the field in recent years because of the pertinence of the subject to the design of the machines operating at high speed or under high pressures, such as gas turbines consequently in the present revision under a new title, both the content and length of the original work have been extended to include phenomena associated with fracture as well as that associated with plastic deformation.

RINEHART, JOHN S, AND JOHN PEARSON

Behavior of metals under impulsive loads Cleveland The American Society for Metals, 1954 256 p illus 24 cm $5 50 5392

Contents Concept of impulsive loading. Properties of materials under conditions imposed by impulsive loading. Propagation of transient disturbances. Explosives and explosions. Characteristics of impulsive loads. Methods of observation and apparatus—nonphotographic. High speed photographic techniques. Inelastic behavior under nonimpulsive loading. Fracturing under impulsive loading. Plastic deformation under impulsive loading. Structural changes under impulsive loading. Behavior under impact. Practical application of explosives. Conclusions.

Note. How metals in the form of plates and other simple structures react to the kinds of high-transient loads applied by explosions is the main subject of this book. However the primary viewpoint is metallurgical rather than structural. Also, there are brief discussions of the effects of explosive charges on rocks, etc., as in blasting. In early chapters, the contrasting reactions of materials under static loads and impulsive loads are described, the laws governing the propagation of transient disturbances in elastic bodies are summarized, and certain fundamental properties of explosives are outlined. Most of the rest of the book is devoted to descriptions of experimental techniques and the results of experiments. The bibliography is limited to literature cited in the text nevertheless, it is an extensive one.

ROARK, RAYMOND J

Formulas for stress and strain Third edition New York McGraw Hill Book Company Inc. 1954 381 p illus. 24 cm. $7 50 5393

Contents Part Definitions and symbols Definitions. Symbols and units. Part II, Facts—principles—methods. The behavior of bodies under stress. Principles and analytical methods. Experimental methods. Properties of plane area. Part III, Formulas and examples Tension, compression, shear and combined stress. Beams—flexure of straight and curved bars. Torsion. Flat plates. Columns and other compression members. Pressure vessels—pipes. Bodies under direct bearing and shear stress Elastic stability Dynamic and temperature stresses. Miscellaneous tables. Index.

Note. A standard compilation of formulas and technical data relating to strength of materials. It is used primarily as reference handbook by structural engineers, machine designers, and engineering students. It includes, in addition to the tables of formulas, discussions of methods of calculating stress, strain and strength in various structural elements. In this edition, the scope and arrangement of the book are the same as in the second edition (1943), but tables and formulas have been revised and expanded to include the results of recent investigations and to conform with current specifications. Worked examples are again included, and the chapter bibliographies have been brought up to date.

SEELY, FRED B, AND JAMES O SMITH

Advanced mechanics of materials. Second edition New York John Wiley & Sons Inc., 1952 680 p illus 24 cm. $8 50 5394

Contents Part one, Preliminary considerations. Analysis of subject. Elementary stress formulas for static loads. Stresses and strains at a point. Theories of failure by yielding. Part two, Special topics on the strength and stiffness of members subjected to static loads: Shear center for a cross section of beam. Unsymmetrical bending. Curved flexural members. Beam on continuous elastic support. Flat plates. Torsional resistance of bars having non-circular cross sections. Thick-walled cylinders. Contact stresses. Part three, Localized stress—stress concentration: Values and significance of localized stresses in various members. Part four, Energy methods. Deflection of members and simple structures by Castigliano's theorem. Deflection of members and simple structures by unit load or dummy load method. Forces and moments in statically indeterminate members and structures. Part five, Influence of small inelastic strains on the load-carrying capacity of members. Effect of small inelastic strains in axially loaded members and in straight beams. Effect of small inelastic strains for combined bending and axial loads. Introduction to ultimate load analysis of statically indeterminate members. Part six, Introduction to instability—buckling loads. Buckling of cylindrical tubes under uniform external pressure. Appendixes A brief introduction to the mathematical theory of elasticity The elastic-membrane (soap-film) analogy for torsion. Properties of an area. Index.

Note. Although organized as textbook with numerous problems for the reader to solve, the content of this book is sufficiently advanced and comprehensive enough to make it useful to graduate engineers. Somewhat more advanced methods are covered than are found in introductory books, and some more specialized problems are analyzed. The first edition was published in 1931 and was the work of Professor Seely alone. Though intended for the same audience as the first edition, the book has now been rewritten throughout and is essentially new Although the theory of elasticity is not used in the body of the work, it is outlined in the first appendix, and compared t the method of ordinary mechanics in the analysis of stresses and strains.

SEELY, FRED B, AND JAMES O SMITH

Resistance of materials. Fourth edition. New York John Wiley & Sons Inc., 1956. 459 p illus. 22 cm $6.50 5395

Contents Part I, Elementary topics Relation among loads, stresses, and deformations. Torsion of cylindrical bars. Bending loads—stresses in beams. Deflection f beams. Combined axial tensile and bending loads. Buckling load—instability—columns. Statically indeterminate members. Relations between stresses at point on different planes passing through the point—combined static loads Repeated loads—fatigue of metals Dynamic loads. Part II, Additional topics Composite beams—reinforced-concrete beams. Unsymmetrical bending. Double-integration method for deflection of beams. Conjugate-beam method for deflection of beams. Continuous beams—three-moment theorem. Elastic location of load-resisting members Appendixes Properties of an area. Properties of rolled-steel sections. Index.

Note. An introductory textbook which offers broader treatment of the subject than is usual in books written for first courses. The first edition was written in 1945 and the third edition in 1947 In this fourth edition, written with the aid of co-author the book has been very extensively revised about, however changing its organization and level. The scope has been broadened to cover both elastic and inelastic deformation of structural members. There are now 434 figures and 464 problems for the student to solve.

SINGER, FERDINAND L

Strength of materials. New York Harper & Brothers, 1951 469 p illus 24 cm $6 50 5396

Contents. Simple stress. Riveted and welded joints. Torsion. Shear and moment in beams. Stresses in beams Beam deflections. Restrained beams. Continuous beams. Combined stresses. Reinforced

components are not discussed in detail); and the analysis and design of control systems. The authors are associated with the General Electric Company, and the work appears in the publisher "General Electric series."

COCKRELL, WILLIAM D

Industrial electronic control a guide to the understanding of electronic control circuits for industrial uses. Second edition. New York. McGraw Hill Book Company Inc., 1950. 355 p. illus. 21 cm. $6.00. 5408

Contents (abridged) Section I, Electron tubes: The vacuum tube. The gas-filled tube. Special tube types. The mechanical construction of tubes. Section II, Circuit components: Instruments and meters. Transformers and miscellaneous components. Combinations of component elements. Section III, Basic electronic circuits: Rectifier circuits and filters. Timing and wave-shaping circuits. Amplifier circuits and filters. Oscillator circuits. Section IV, Regulating and switching circuits. Regulating or closed-cycle control systems: Closed-cycle control systems. Bode diagrams and their use in system stabilization. Section V, Industrial electronic circuits. Direct-current photoelectric circuits and motor control. Alternating-current relay and power circuits. Resistance-welder controls and welder current regulating. Appendix. Index.

Note: A useful manual for plant engineers, electricians, maintenance men, and others whose work involves the operation or repair of electronically controlled machinery and systems. Although helpful for men with technical backgrounds, the treatment is largely nonmathematical. Basic elements and circuits are considered from the standpoints of characteristics and uses. Typical wiring diagrams are included. Important additions have been made in this edition, including the section on closed-cycle control systems.

DIEBOLD JOHN

Automation. The advent of the automatic factory New York D Van Nostrand Company Inc., 1952. 181 p. 22 cm. $3 75 5409

Contents: Note on the word automation. The problem of automation. Control and the computer. The redesign of product and process. Making machines automatic. Automatic handling of information. What will automation mean to business? Some social and economic effects of automation. Index.

Note: A study of the possibilities, limitations, and social and economic consequences of the revolutionary new machines of the electronic age and what they will mean in terms of jobs, cost of goods and services, standards of living, and increased leisure time. The author examines the effects upon engineering, education, management, and labor of the new electronic machines, some of them already available and in operation in offices and factories.

DRAPER, CHARLES STARK, AND OTHERS

Instrument engineering. By Charles Stark Draper Walter McKay and Sidney Lees. Volume I, Methods for describing the situations of instrument engineering. New York McGraw Hill Book Company Inc., 1952 269 p. illus. 29 cm. (McGraw Hill publications in aeronautical science Jerome C. Hunsaker consulting editor) $7.00. 5410

Contents: The operating system. Diagrams for describing operating systems. Performance equations and performance functions for operating systems. Static and dynamic operating conditions—static accuracy. Static performance. Dynamic performance. Derivation of performance equations. Dimensional analysis. Concepts and notation for the comparison of physical quantities. Concepts and notation for the description of generalized operating system performance. Applications of statistical methods to instrument engineering. Representation of physical situations by mathematical forms. Description of performance in terms of sinusoidal response characteristics. Bibliography. Index.

—— Volume II, Methods for associating mathematical solutions with common forms. New York. McGraw Hill Book Company Inc., 1953 827 p. illus. 29 cm. (McGraw Hill publications in aeronautical science Jerome C. Hunsaker consulting editor) $16.00 5411

Contents: Introduction. Nondimensionalization of linear integro-differential equations. Classical method of solving linear integro-differential equations. Operational methods of solving linear integro-differential equations with constant coefficients. The relating function, the weighting function, and the transfer function. Solutions associated with first-order differential equation forms. Solutions associated with second-order differential equation forms. Transient stability of mathematical solutions. Numerical methods of determining transient stability. Methods of solving third- and fourth-order characteristic equations. Graphical methods of determining transient stability. Graphical calculation of steady-state sinusoidal relating functions. Relating function forms from pulse function responses. Representation of solutions for differential equations with nonlinear terms of the rate-determined step type. Numerical analysis by the number series transformation method. Bibliography. Index.

—— Volume III Applications of the instrument engineering method. Part I, Measurement systems. New York McGraw Hill Book Company 1955 879 p. illus. 29 cm. (McGraw Hill publications in aeronautical science Jerome C. Hunsaker consulting editor) $17.50. 5412

Contents: Introduction. Concepts, definitions, diagrams and notation for describing operating components and operating systems. Indicators and measurement. Elements and components associated with instrument systems, by H. R. Brassard. Temperature-measuring instruments. Electromechanical measuring instruments. Pressure-measuring systems, by Y. T. Li. Integrators and differentiators. Vibration measurement and vibration isolation, by Y. T. Li. Bibliography. Index.

Note: A substantial contribution to the literature on indicating, measuring and control instruments. It is based in large part on the activities and experience of the Aircraft Instrument Section and the Instrumentation Laboratory of the Aeronautical Engineering Department of Massachusetts Institute of Technology. It covers theory, analytical methods, and applications. It is used both as a textbook for college students and as a reference book by graduate engineers. The second part of Volume III covering control systems is still to be published.

ECKMAN DONALD P

Industrial instrumentation. New York John Wiley & Sons, Inc., 1950. 396 p. illus. 21 cm. $7.00. 5413

Contents: Qualities of measurement. Expansion thermometers. Thermoelectric temperature measurement. Resistance thermometers. Radiation temperature measurement. Methods for composition analysis. Mechanical measurements. Measurement of pressure and vacuum. Measurement of head and level. Flow-metering. Process instrumentation. Appendix. Index.

Note: Although this book is essentially a text for undergraduate engineering students, it can be used also by industrial and chemical engineers as an introductory guide to the principles and methods of measurement which are of use in the processing and manufacturing industries. Emphasis is placed on instruments used in measuring temperature, pressure, rate of flow, and composition. Each class of instrument is preceded by a review of the physical principles involved; and the construction, operation, and applications of selected instruments are described. Schematic diagrams and review problems are included.

ECKMAN DONALD P

Principles of industrial process control. New York John Wiley & Sons Inc., 1945 237 p. illus. 22 cm. $5.50. 5414

Contents: The art and science of control. Measuring means of industrial controllers. Characteristics of measuring means. Modes of automatic control. Final control elements. Process characteristics. Theory of automatic control. Quality of automatic control. Application control engineering. Automatic control systems. Maintenance of [illegible] control. Glossary of terms used in automatic control. Index.

Note: An introductory treatment, for engineering students and others with considerable technical education, of the basic principles

eral principles of control systems, then explains the common circuits and circuit elements and states their characteristics and uses. Many illustrations and diagrams are included. The chapter references together with the bibliography direct the reader to sources of more precise information on specialized topics such as the design details of control equipment.

BROMBACHER, W G, AND T W LASHOF

Bibliography and index on dynamic pressure measurement Washington, D C. Government Printing Office, 1955 124 p 26 cm. (United States National Bureau of Standards Circular 558) $0 75 5403

Contents: Introduction. Bibliography Author index. Subject index.

Note. One of a series of reports which are the results of surveys conducted as part of a program of instrumentation research and development co-operatively sponsored at the National Bureau of Standards, by the Atomic Energy Commission, the Office of N val Research and the Air Research and Development Command. The scope of this particular survey was limited to the preparation of this bibliography of 850 books and articles on the subject of dynamic pressure measurement and related subjects, including static pressure measurement and general information on the components of instruments. Fields of application covered in the bibliography are blast pressures, underwater explosions, automotive powerplants, ballistics, meteorology aeronautics, physiology and, to lesser extent, applications in acoustics, geophysics, industrial and miscellaneous explosions, hydraulics, structures, high pressure, and high vacuum. The entries are arranged chronologically by year from 1903 through 1954 and, within the year alphabetically

BROMBACHER, W G

Guide to instrumentation literature, by W G Brombacher, Julian F Smith and Lyman M Van der Pyl Washington, D C. Government Printing Office 1955 156 p. 26 cm. (United States. National Bureau of Standards Circular 567) $1 00 5404

Contents. Introduction. Instrumentation literature Abstract and review journals. Bibliographies. Books. Dissertations and theses, sources and guides. Directories of manufacturers, buyers' guides, exhibit guides. Guides to technical literature. Indexes to technical literature. Patents. Periodicals. Specification lists and handbooks. Author index. Subject index.

Note. This compilation of over 1,200 references forms useful guide to the literature of instrumentation, which is defined as comprising "the art and science of designing, making, applying, and operating instruments. Articles published in periodicals are not separately included, but indexes and abstracts of such articles on given subject are indicated in the subject index. Foreign-language references are not covered so thoroughly as English-language references. Books and reference works are listed for about 20 years back, although most are less than 10 years old periodicals and bibliographies are listed back to their beginning dates. The publication, which is a combination and revision and extension of 1945 pamphlet of the American Society of Mechanical Engineers and a 1952 report of the National Burea of Standards, is issued to serve esearch investigators, instrument users, and others wishing to utilize the extensive and scattered literature of instrumentation.

BROWN, GORDON STANLEY, AND DONALD P CAMPBELL

Principles of servomechanisms dynamics and synthesis of closed loop control systems New York John Wiley & Sons Inc., 1948 400 p illus 24 cm. $8 50 5405

Contents. Outline of subject. Dynamics of elementary control systems. Transient response using the Laplace transform. Sinusoidal response of closed-loop systems. System diagrams, equivalent circuits, and block diagrams. Introduction to synthesis, determining the gain constant *K* Methods of *G* function synthesis—linear coordinates. Methods of *G* function synthesis—logarithmic coordinates. Systems subjected t multiple disturbances. Experimental studies in servomechanisms. Method for approximating the transient response from frequency response. Table of SIN*x*/*x*. Problems. Bibliography Index.

Note. An important addition to the literature of servomechanisms. It is designed primarily for senior and graduate engineering students, but, since it is written from a fresh viewpoint and contains some material not published hitherto, it will be of interest to persons already engaged in research and engineering design. The treatment is chiefly mathematical, and there is virtually no discussion of mechanical components of control systems such as motors, relays, etc. Both authors are members of the faculty at Massachusetts Institute of Technology and the first mentioned is head of the Electrical Engineering Department.

BRUNS, ROBERT A., AND ROBERT M SAUNDERS

Analysis of feedback control systems, servomechanisms and automatic regulators. New York McGraw Hill Book Company, Inc., 1955 383 p illus 24 cm. (McGraw Hill electrical and electronic engineering series, Frederick E Terman, consulting editor) $8 50 5406

Contents. Introduction. Part I, Components: Mechanical systems. Electrical actuators. Hydraulic elements. Pneumatic elements. Electric circuit elements. Electronic amplifiers. Magnetic amplifiers. Dynamo-electric amplifiers. Transducers, data transmitters, and error detectors. Reference standards. Part II, Feedback-system theory Specifications and stability Block diagrams and network reduction. Experimental methods for obtaining transfer functions. Transient response from frequency-response data. Nonlinear systems. Discontinuous systems. Appendix. Stability criterion for multiple-loop systems. Index.

Note. This book is designed as an introduction for advanced undergraduate students of engineering and graduat engineers. In contrast with some other books on control system analysis, the essential viewpoint is practical, and the mathematics is held to relatively easy level. The Laplace transform, for instance, is not used. Essentially the book teaches the a-c steady-state method of analysis and makes only incidental reference to other methods. More than two-thirds of the space is devoted to system components, and these are discussed as to mechanical and electrical principles and uses in feedback control systems and are analyzed in terms of their transfer functions. Most of the book relates to linear systems the short chapter on nonlinear systems serves mainly to give the reader preview of methods of analysis of them.

CHESTNUT, HAROLD, AND ROBERT W MAYER

Servomechanisms and regulating system design. New York John Wiley & Sons, Inc., 1951–55 2 v illus 23 cm Vol. I $9.25, vol. II $8 50 5407

Contents. Volume I: The automatic control problem. Manipulation of complex numbers. Solution of linear differential equations. Laplace transforms for the solution of linear differential equations. Steady-state operation with sinusoidal driving functions. Methods of determining system stability Typical control elements and their transfer functions. Types of servomechanisms and control systems. Complex plane representation of feedback control system performance. Design use of complex plane plot to improve system performance. Attenuation concepts for use in feedback control system design. Application of attenuation-phase diagrams to feedback control design problems. Multiple-loop and multiple-input feedback control systems. Comparison of steady-state and transient performance of servomechanisms. Bibliography Index. Volume II Measurement techniques. Influence of input characteristics on control system design. Selection of controlled system power element with proper rating. Networks for obtaining desired attenuation-frequency characteristics. Amplifier design. All alternating-current servomechanism operation. Linearization of non-linear elements for small departures. Linearization of non-linear elements for large departures. Application of non-linear elements to control systems. Bibliography Index.

Note. The first volume of this two-volume work is directed to readers, particularly young engineers who are making their first acquaintance with the field. The necessary mathematical background is covered in five of its chapters. Then the basic approaches to the analysis of servomechanisms are discussed with emphasis on method of synthesis that is based on the attenuation-frequency theorems of Bode. The second volume is addressed to engineers who have mastered the first volume or who have acquired the equivalent in basic knowledge elsewhere. It is devoted to the more advanced aspects of servomechanism and regulator design. Problems of special concern t design engineers, such as reduction of errors due to noise introduced by it the selection of system elements (however

... -making devices. Gaseous electronic switching devices. Electronic switching circuits. Power amplifiers. Control circuit fundamentals. D.c. motor control circuits. Motor acceleration. Speed control—rheostatic and switching methods. Speed control with auxiliary power converters. Motor braking. Feedback control systems. Motor protection. Appendices. Index.

Note. A senior text for students of electrical engineering who have already had courses in circuit theory, electric machinery, electronics, and linear differential equations. Chapter titles indicate the scope of the material covered. Most topics are developed from basic theory, both analytically and graphically. Feedback systems are considered and servomechanisms are mentioned, but the major emphasis of the book is on control systems having no feedback. Each chapter has a set of problems and a selected bibliography citing references up through 1951. The author is Professor of Electrical Engineering at Rensselaer Polytechnical Institute.

LaJoy, Millard H.
Industrial automatic controls. New York Prentice-Hall, Inc., 1954 278 p. illus. 22 cm. $7.00. 5421

Contents: Introduction to the concept of automatic control. Two-position control. Proportional control. Floating mode of control. Rate mode of control. Controller combinations. Pneumatic control circuits. Hydraulic control circuits. Electric and electronic circuits. Applications. Theoretical consideration of the process. Controlled system analysis. Bibliography. Glossary of terms. Index.

Note. A comparatively simple introduction to automatic control principles and to the basic types of controllers. Considerable descriptive matter is included, but the book cannot be fairly described as a descriptive text. The emphasis is definitely on principles and analysis, but only the more elementary aspects are covered. Considerable facility in the handling of algebraic equations is essential for full comprehension of such chapters as the one on theoretical considerations, but on the whole the mathematics is much simpler than most of the available books on this subject. The book should serve well as an exposition for technicians employed in industry, undergraduate students, and even for graduate engineers whose work requires only a general knowledge of automatic control. The author is a member of the engineering faculty of the University of Minnesota.

Laning, J. Halcombe, jr. and Richard H. Battin
Random processes in automatic control. New York McGraw Hill Book Company Inc., 1956 434 p. illus. 24 cm. (McGraw Hill series in control systems engineering John R. Ragazzini and William E. Vannah, consulting editors) $10.00. 5422

Contents: Introduction. Basic concepts of probability theory. The statistical description of random processes. The shot effect and Gaussian random processes. Analysis of effects of time-invariant linear systems on stationary random processes. Mean-squared error analysis for nonstationary problems. Optimum linear least-squares smoothing and prediction for stationary random processes. Optimum operations with finite data. Appendices. Bibliography. Index.

Note: A graduate-level text developed at Massachusetts Institute of Technology. Its first four chapters constitute an exposition of basic probability theory and statistical theory useful in the understanding of the analysis of random processes or "noise." The chapters that follow illustrate application of this basic theory and the statistical methods to the analytical study of a variety of problems in automatic control and to the design of control systems to cope with random events. The 10 appendixes contain a variety of material, including a discussion of analogue computers, mathematical proof of the method of adjoint systems—a method developed by the authors of the text—and a solution of the equation $F(s) = 0$. Other original methods developed by the authors are introduced in other chapters. The book is of interest to both scientists and engineers working in automatic control design or in other fields where a basic knowledge of theory applicable to random processes is useful.

Lauer, Henri, and others
Servomechanism fundamentals, by Henri Lauer Robert Lesnick, and Leslie E. Matson. New York McGraw Hill Book Company Inc., 1947 277 p. illus. 23 cm. $5.50 5423

Contents. Elementary forms of control systems. Servo system follow-up links. Fundamentals of mechanics and electricity. Analysis of servomechanisms with viscous output damping. Analysis of servomechanisms with error-rate damping. Analysis of servomechanisms with combined viscous output damping and error-rate damping. Error-rate stabilization networks. Analysis of servomechanisms with integral control. Transfer function analysis of servomechanisms. Typical design calculations and general considerations. Index.

Note. With the increasing use of automatic control and remote control in industry there has arisen a need for books that explain the principles of servomechanisms. This book is designed as an introduction to the subject for both engineering students and graduate students. The merit of the book is in the thorough treatment of analyzing by the transient analysis method, the design and performance of various fundamental types of servomechanisms. One chapter has been included principally for comparison purposes. This is the chapter devoted to the transfer function method of analysis. The principles of *follow-up links*, such as differential gears, translating devices and synchro motors and generators are outlined, but there is no attempt to cover the design of servomechanism components, such as motors, gears, and other mechanical parts.

Markus, John and Vin Zeluff
Handbook of industrial electronic control circuits. New York McGraw Hill Book Company Inc. 1956 352 p. illus. 29 cm. $8.75 5424

Contents: Amplifier circuits. Capacitance control circuits. Cathode-ray control circuits. Counting circuits. Direct-current amplifier circuits. Measuring circuits. Metal detector circuits. Motor control circuits. Multivibrator circuits. Oscillator circuits. Photoelectric circuits. Power supply circuits. Radiation circuits. Remote control circuits. Sorting circuits. Temperature control circuits. Timing circuits. Transistor circuits. Ultrasonic control circuits. Welding control circuits. Author index. Subject index.

Note. About 300 descriptions of circuits of interest in industrial electronic control applications, which were published in the periodical *Electronics* during the period 1948–1955, have been collected in this volume and arranged under the headings given in the above Contents. Each circuit is concisely described in the terminology of the field, and one or more wiring diagrams are included. A reference is given in each case to the original publication. A very detailed subject index is provided. Although the book contains no previously unpublished circuits, by virtue of being well indexed and easier to handle, it makes the material more available. It is a sequel to the same editors' *Handbook of industrial electronic circuits*, New York, 1948.

Nixon, Floyd E.
Principles of automatic controls. New York Prentice Hall, Inc., 1953 409 p. illus. 22 cm. (Prentice Hall electrical engineering series W. L. Everitt editor) $7.50 5425

Contents: Automatic control systems. Application of mathematics to control systems. The Laplace transform. Block diagram notation. The Nyquist criterion. Application of the Nyquist criterion to typical open-loop transfer functions. Design considerations. Other methods of analyzing the open-loop function. Types of compensation. Effect of noise and output disturbances. Interpreting Nyquist loci. Numerical integration. Automatic computers. Methods for analyzing transient response data. Nonlinear systems. Appendixes. Bibliography. Index.

Note. A broad introduction to the basic principles of automatic controls and to the details of typical simple systems. The Nyquist stability criterion is emphasized. Except for the last chapter which is a brief one, only linear systems are discussed. No mathematics beyond introductory calculus is necessary to understand the main part of the book. More difficult mathematics is presented in the appendixes. The book is organized as a text but is suitable for reading without the aid of an instructor by practicing engineers and other readers familiar with simple engineering mathematics and technical terminology. The chapter on automatic computers is a quick review of the operating principles of both digital and analog computers. The author is on the engineering staff of the Glenn L. Martin Company.

Oldenburger, Rufus editor
Frequency response. New York The Macmillan Company 1956 372 p. illus. 29 cm. $7.50. 5426

of servomechanisms and automatic controls. The theory of the subject is treated in considerable detail, and is illustrated with diagrams of ideal control mechanisms and ith graphs. Some practical aspects of the subject, such as maintenance and servicing of control systems, are discussed briefly Chapter bibliographies are included. The author is Associate Professor of Mechanical Engineering at Case Institute of Technology

EVANS, WALTER R

Control-system dynamics. New York Mc Graw Hill Book Company, Inc. 1954 282 p illus. 24 cm. (McGraw Hill electrical and electronic engineering series, Frederick Emmons Terman, consulting editor) $7 00 5415

Contents Terminology The dynamics problem. Description of typical components. Fundamentals of transient response. Meaning and use of transfer functions. The frequency-response method. Transient response from frequency esponse. The rootlocus method. Multiple-loop systems. Circuit analysis. Use of determinants. Transfer functions and transient response. Graphical analysis f nonlinear systems. Appendixes. Problems. Bibliography Index.

Note An outstanding contribution to the literature of control system analysis, written so as to be useful both to advanced students and to graduate engineers. Some introductory and conventional material is contained in the early chapters. However the chapter on the root locus method describes method developed by the author himself From this chapter onwards, the topics discussed and the level of treatment are such that graduate engineers will be interested. One of the special features of value to nonstudent readers especially is the inclusion of short synopses at the beginning f every section, which make it easy to select the sections of interest. The "Spirule described in the third appendix is plastic device designed for the rapid addition of angles and multiplication of length of vectors. It is especially useful in the calculations invol ed in the author's root locus method.

FETT, GILBERT HOWARD

Feedback control systems New York Prentice Hall, Inc. 1954 361 p illus. 23 cm. (Prentice Hall electrical engineering series W L Everitt, editor) $8 50 5416

Contents. Table of symbols. Introduction to control devices. Components of feedback control system. Steady state and transient solutions of feedback control system differential equations. Nyquist criterion for stability Stability diagrams. Analysis and synthesis of complex control systems. Nonlinear feedback control system analysis. Appendix LaPlace transforms. Roots of algebraic equations. Index.

Note An introduction t the components, analysis and synthesis of automatic control systems based on the feedback principle. It is addressed mainly to advanced students of engineering in colleges, and the chapters include the traditional problems for students to solve. The several standard methods for writing and solving the differential equation of a feedback control system are presented. The Nyquist method is given special emphasis, and the chapter devoted to it is one of the longer ones in the book. This chapter the chapter on stability diagrams, and the final chapter in hich methods of analysis applicable to nonlinear feedback control systems are developed, are of interest to graduate engineers as well as to students. The author is Professor of Electrical Engineering in the University of Illinois.

FLUGGE-LOTZ, IRMGARD

Discontinuous automatic control Princeton Princeton University Press 1953 168 p illus 25 cm $5 00 5417

Contents Part I, Discontinuous control of moving body with a single degree of freedom The differential equation of motion. Description of the controlling mechanism. The solutions of the differential equation of motion and its continuity qualities. Complete theory of the motion with position control. Complete theory of the motion with velocity control. Part II, Influence of control mechanism imperfections on the motion of body with single degree of freedom Effects upon motion with position control. Effects upon motion with velocity control. Part III, Discontinuous control of moving body ith more than one degree of freedom The longitudinal motion of missile (discontinuous position control) Appendixes Tables. Construction of logarithmic spirals by an approximate method. Index.

Note. In this book is presented new and valuable method of analysis of systems of discontinuous automatic control. Because the method is largely graphical it avoids much of the involved and difficult computations hich has heretofore been necessary in the analysis of this kind of ystem. Most of the book is devoted to the analysis of systems controlling bodies ith one degree of freedom, but in the third part the author has presented an attack on the discontinuous control of guided missile having 6 degrees of freedom. This last part illustrates the wide range of potential applications of discontinuous systems.

GEYGER, WILLIAM A.

Magnetic amplifier circuits, basic principles, characteristics, and applications. New York McGraw Hill Book Company, Inc., 1954 277 p illus. 24 cm. $6 00 5418

Contents. Introduction. Historical development of magnetic-amplifier circuits. Magnetic-amplifier elements. Basic nonfeedback types of magnetic-amplifier circuits. Operating conditions of nonfeedback magnetic-amplifier circuits. Nonpolarized, polarized, and doubledirectional types of nonfeedback magnetic-amplifier circuits. Basic external-feedback types of magnetic-amplifier circuits. Development f external-feedback types of magnetic-amplifier circuits. Doubledirectional external-feedback circuits with two saturable-reactor elements. Doubledirectional external-feedback circuits ith four saturable-reactor elements. Basic single-core internal-feedback magnetic-amplifier circuits. Basic two-core internal-feedback types of magnetic-amplifier circuits. Full-wave types of doubledirectional internal-feedback circuits ith two saturable-reactor elements. Half-wave types of doubledirectional internal-feedback circuits with two saturable-reactor elements. Doubledirectional internal-feedback circuits with four saturable-reactor elements. Magnetic-amplifier circuits of the self-balancing potentiometer type. Second-harmonic-type magnetic-amplifier circuits. Technical properties of magnetic amplifiers. Typical applications of magnetic amplifiers. Author index. Subject index.

Note: A useful presentation of information on the basic principles and amplifier applications of saturable-core reactors. It is based on the patent and periodical literature, including the author's own extensive publications, issued through approximately December, 1953 The information has been well organized and is conveyed in a clear style with special attention to standard nomenclature and symbols. Although there are diagrams of many typical circuits, the book is not cyclopedic in this respect. In fact, the author has described his purpose as to indicate method of advanced thinking that can give clear and comparatively simple picture of magnetic-amplifier circuits rather than just to describe multitude of specific arrangements. Each chapter contains an extensive list of literature references.

HOLZBOCK, WERNER G

Instruments for measurement and control. New York Reinhold Publishing Corporation, 1955 371 p illus 23 cm. $10.00 5419

Contents Temperature. Humidity and moisture. Pressure. Flow Liquid level. Density Viscosity Speed. Analysis. Automatic controller action. Electric controllers. Self-operated, pneumatic and hydraulic controllers. Time function controllers. Final control elements. Trends. Glossary Index.

Note The author of this book describes its scope in these words: "This book is concerned with those industrial instruments commonly used for remote reading or remote automatic action hile the industrial plant, and includes such elements as are essential for this purpose." The discussions of instruments and control devices are addressed to persons ith technical education and experience who are not instrument specialists. Operating principles, typical mechanisms and wiring circuits, inherent inaccuracies and how they are compensated for or minimized, are all discussed. The book is about commercially vailable instruments, but it is not descriptive manual or catalog of such. Rather the types and varieties of instruments are discussed with reference to selected commercial instruments. There are no literature references. It is of interest to engineers who are responsible for the selection of instruments and related controlling mechanisms, and to others in need of an over-all iew of the field.

JONES, RICHARD W

Electric control systems. Third edition. New York John Wiley & Sons 1953 511 p. illus. 24 cm. $7 75 5420

Contents Introduction. Dynamics of the motor and load. D-C motor characteristics. A-C motor characteristics. Electromagnetic

John Wiley & Sons, Inc., 1955 545 p. illus. 24 cm. $13.50. 5430

Contents: Magnetics: Introduction to the theory of magnetism, by W. Morrill. Magnetic materials, by W. Morrill. Magnetic testing, by H. F. Storm. Theory of magnetic amplifiers, by H. F. Storm, by E. J. Kurz. Theory of magnetic amplifiers. The saturable reactor. Introduction to the theory of magnetic amplifiers. The saturable reactor with resistive load, steady-state operation with free even-harmonic currents; the series-connected saturable reactor—the parallel-connected saturable reactor. Static characteristics of the saturable reactor with resistive load and free even-harmonic currents—with reactor with resistive load and suppressed even-harmonic currents. The shunt-resistive load and suppressed even-harmonic currents. Transient response of the saturable reactor with resistive load. Steady-state operation of the saturable reactor with inductive D-C load. Transient operation of the saturable reactor with inductive D-C load. Transient operation of the saturable reactor with inductive D-C load. Saturable reactors with external feedback. Saturable reactors with feedback; transient operation. Relations between saturable reactors with external feedback and with blocked intrinsic feedback (A-C amplifiers). The amplistat with zero total feedback ($\lambda = 0$). The amplistat with finite total feedback ($\lambda \neq 0$). Characteristics of amplistats with resistive load. Amplistats with suppressed alternating components of control currents. Magnetic amplifiers with inductive, D-C load. Components: Core and coil materials, by P. A. Vance. Metallic rectifiers, by E. A. Karg. Applications: Magnetic amplifiers for radiotelephony, by E. F. Uschmann. Applications of saturable reactors, by W. D. Cockrell. Basic applications of single-ended amplistats, by H. M. Ogle. Applications of double-ended (push-pull) amplistats, by H. M. Ogle. Special and equipment, by H. M. Ogle. Alternator voltage regulation, by E. H. Bratton. Saturating reactors: Nonlinear A-C reactors in circuit elements, by H. W. Lord. Bibliography. Name index for bibliography. Subject index.

Note: An authoritative, well-organized treatment of saturating-type power amplifiers. The chief author is a specialist in magnetic amplifiers on the staff of the General Engineering Laboratory of the General Electric Company and the contributors of special chapters are associated with the same company. The level of treatment is similar to that of graduate engineers who are beginning to work in the analysis and design of magnetic amplifiers or in fields where these applications of this device have been developed. Theory and analysis are emphasized, but many other aspects are covered also, including even some manufacturing techniques. The bibliography together with an author index runs to 4 pages.

Thaler, George J

Elements of servomechanism theory New York, McGraw Hill Book Company Inc., 1955. 282 p. illus. 24 cm. (McGraw Hill electrical and electronic engineering series Frederick E. Terman, consulting editor) $5.00. 5431

Contents: Introduction. General aspects of analysis and design. Transient analysis of servomechanisms. Transfer functions. Transfer-function plots. Analysis of single-loop systems. Methods of meeting performance specifications. Gain adjustment of servomechanisms. Series compensation of servomechanisms. Feedback compensation of servomechanisms. Introduction to advanced topics—linear theory—nonlinear systems. Appendixes. Tables of numerical data. Servo components. An introduction to the Laplace transformation. Index.

Note: Both operational calculus and the theory of complex variables have been avoided in this introduction to servomechanism theory; hence, the book is suitable for undergraduate students, technicians and engineers who cannot understand the standard treatises because of their higher mathematical level. The logarithmic and polar approaches to servomechanism analysis and design are introduced in the same chapter and are, to use the author's words, "integrated and compared." The two final chapters on advanced topics are relatively brief and are intended to accomplish little more than give the reader a brief preview of what servomechanism theory at a professional level is about. The author is a faculty member of the United States Naval Postgraduate School.

Thaler, George J and Robert G Brown

Servomechanism analysis. New York McGraw Hill Book Company Inc., 1953 414 p. illus. 24 cm. $8.00 5432

Contents: General background. The Laplace transformation. Equations of physical systems. Transient analysis of servomechanisms. Transfer functions. Graphical representation of transfer functions. Analysis of servomechanism performance from equations and transfer-function plots. Introduction to design. Gain adjustment. Series compensation. Parallel compensation. Logarithmic coordinates in analysis and design. Relay servomechanisms. The root-locus method. Appendixes. Tables. Error detectors. Controllers. Servomotors. Component-ing devices. Bibliography. Index.

Note: Analysis of servomechanisms by mathematical methods is the main topic of this book. Various methods of analysis are discussed, and the applications and limitations of each are indicated. Special emphasis is given to transfer-function analysis and to the root-locus methods of design. The special problems of analyzing relay servomechanisms are adequately covered. The book is introductory to the subject and is intended for advanced undergraduate and postgraduate engineering students. A bibliography of more than 200 citations is included.

Truxal John G

Automatic feedback control system synthesis. New York McGraw Hill Book Company Inc., 1955 675 p. illus. 24 cm. (McGraw Hill Electrical and electronic engineering series Frederick Emmons Terman consulting editor) $12.50. 5433

Contents: Introduction. Signal-flow diagrams and feedback theory. Synthesis of RC networks. Root-locus methods. Synthesis through pole-zero configurations. Design in the plane. Principles of statistical design. Application of statistical design principles. Sampled-data control systems. Nonlinear systems and describing-function analysis. Phase-plane analysis. Index.

Note: An important addition to the literature of feedback control systems. Its principal object is to provide engineers with the knowledge that is necessary to take full advantage of the Laplace transform in designing feedback control systems; hence, the chapters on synthesis of RC networks, root loci, statistical methods, etc. The author is frankly critical of some of the traditional approaches to design in this field and goes into considerable detail on how their disadvantages and limitations can be avoided. Most of the space is devoted to synthesis of linear systems fed on continuous signals, but linear systems based on sampling of input data and nonlinear systems are considered at some length in the two final chapters. The book is suitable for use as a graduate-level text and as a guide to independent study by graduate engineers already at work in the field.

Tsien H. S

Engineering cybernetics. New York McGraw Hill Book Company Inc., 1954 289 p. illus. 24 cm. $7.00 5434

Contents: Introduction. Method of Laplace transform. Input, output, and transfer function. Feedback servomechanism. Noninteracting controls. Alternating-current servomechanisms and oscillating control servomechanisms. Sampling servomechanisms. Linear systems with time lag. Linear systems with stationary random inputs. Relay servomechanisms. Nonlinear systems. Linear system with variable coefficients. Control design by perturbation theory. Control design with specified criteria. Optimalizing control. Filtering of noise. Ultrastability and multistability. Control of error. Index.

Note: The author of this book has approached automatic control in the spirit of Norbert Wiener's Cybernetics, or control and communication in the animal and the machine, New York, 1948. He has emphasized fundamental qualitative aspects of the characteristics of control systems and has dealt at length with such basic matters as the mathematical analysis of feedback. He has purposely ignored specific practical problems and even in the chapter on relay servomechanisms, he has not described a practical relay. Engineers who are concerned on a research level with the study and design of controlling mechanisms (and of course engineering graduates preparing for such work) are the intended audience.

Van Valkenburgh Nooger & Neville, Inc

Basic synchros and servomechanisms. New York John F Rider Inc., 1955 2 v in 1 23 cm. $6.95 5435

Note: This work is an introductory text intended for study by men with an elementary knowledge of electricity and electronics. The exposition is simple and direct without recourse to mathe-

Contents Part I, Fundamentals. The Regeneration theory by H. Nyquist. Early history of the frequency-response field, by A. C. Hall. The frequency-response method—a brief survey by R. H. Macmillan. Frequency-response data presentation, standards and design criteria, by R. Oldenburger A bibliography of the frequency-response method as applied to automatic feedback-control systems, by A. M. Fuchs. Analysis f regulating systems with particular reference to speed control, by R. H. Macmillan. Part II, F equency-response aids Frequency-response computational aids, by K. Izawa. Sine-wave generators, by D W St. Clair and others. Part III, Servo airplane and power system applications The frequency-response approach to the design f mechanical servo, by H. A. Helm. Application of frequency-analysis techniques to hydraulic control systems, by A. C. Hall. Frequency-response method applied to the study of turbine regulation in the Swedish power system, by V Oja. Experimental flight methods for evaluating frequency-response characteristics of aircraft, by G. A. Smith and W C. Triplett. Part IV Process control Control-system behavior expressed as a deviation ratio, by J M. L. Janssen. Frequency-response analysis and controllability of a chemical plant, by A. R. Aikman. Frequency-response analysis f continuous flow systems, by H. Kramers and G. Alberda. Response and phase-lag of thermometers, by E. G. J Eykman and C. J D M. Verhagen. Part V Transient response: Determination of transient response from frequency response, by A. Leonhard. The use f zeros and poles for frequency esponse or transient response, by W R. Evans. A method of estimating dynamic characteristics of physical systems, by S. Lees. Part VI, Optimum controls A uniform approach to the optimum adjustment f control loops, by R. C. Oldenbourgh and H. Sartorius. Synthesis of optimum feedback systems satisfying a power limitation, by J H. Westcott. Part VII, Nonlinear techniques. On some nonlinear phenomena in regulatory systems, by L. C. Goldfarb. Recent advances in nonlinear servo theory by J M. Loeb. Approximate frequency-response methods for representing saturation and dead band, by H. Chestnut. Stability characteristics of closed-loop systems with dead band, by C. H. Thomas. Part VIII, Sampling controls Frequency method of analyzing intermittent regulating systems, by YA. Z. Tsypkin. The pulse transfer function and its application to sampling servosystems, by R. H. Barker Part IX, Statistical methods A statistical approach to servomechanisms and egulators, by M. J Pelegrin. Index of authors. Index of subjects.

Note A notable collection f research papers contributed by engineers and scientists of the United States of America and other countries. All but 10 of the papers were presented at a Frequency Response Symposium sponsored by the American Society of Mechanical Engineers in 1953. The papers presented at this meeting are accompanied by transcripts of the discussions and of the authors' responses to the discussions. Bibliographies are included.

RADIO–ELECTRONICS–TELEVISION MANUFACTURERS ASSOCIATION ENGINEERING DEPARTMENT

Proceedings of the RETMA symposium on automation, "Automation for electronics and electronics for automation" University of Pennsylvania, Philadelphia, Pennsylvania, September 26 and 27 1955 New York Engineering Publishers, 1956 114 p illus 28 cm $5 00 5427

Contents Session I, Mechanization for high volume assembly A system for automatic production of electronic assemblies, by C. Brunetti and G. Kwasniewski. Design and manufacture of automation components, by L. Kahn. Obtaining reliability and versatility in high production mechanized assembly equipment, by J Harrington, Jr Sylvania automatic assembly equipment and its application to 5-tube AC/DC radio chassis, by C. F Carlson. Session II, Data sensing, processing and utilization Milestones of automation, by D A. Griffin. Factory automation by digital control, by J A. Potter An automated ticket reservation system, by C. Andrews. Automatic warehousing, by G. Kittredge. Automation of non-circular gear cutting by UNIVAC-120, by A. H. Stillman and F W Cunningham. Session III, The future of automation Panel discussion, by J D O'Connell and others. Session IV Automation for low volume production "Mini-A-Matic," machine for short run production, by D F Pennie. A functional approach to automatic systems and standardization, by F C. Collins and K. Henkoffer. The production of electronic circuits by mechanized wiring, by S. J Begun and F Rosenthal. Automation and the subminiature system, by R. J. Roman. Session V Redesign for automation of components and products: Redesign for automatic production of electronic equipment, by M. R. Johnson. Signal Corps component program for automation, by S. F Danko and R. A. Gerhold. Automation from the component manufacturers' viewpoint, by J D Heibel and J. H. Fetter. Philosophy of component design and packaging for mechanized assembly of printed wiring boards, by R. B. Lynn.

Note: This collection of papers offers specific descriptions of automation techniques and the machines for carrying them out, which have been developed in the electronics manufacturing industries. The authors are associated with such firms as General Mills, Sylvania Electric Products, International Business Machines, Sperry-Rand, and Radio Corporation of America, and in majority of instances they have described products or automation activities of their companies. The volume contains, in addition to the papers themselves, excerpts of the discussions at the meeting. These include discussions of the individual papers and also lengthy panel discussion of the future of automation.

SHANNON, C E, AND J MCCARTHY, editors

Automata studies. Princeton Princeton University Press, 1956 285 p illus. 26 cm. (Annals of mathematics studies edited by Emil Artin and Marston Morse) $4.00. 5428

Contents, Part I, Finite automata: Representation of events in nerve nets and finite automata, by S. C. Kleene. Probabilistic logics and the synthesis of reliable organisms from unreliable components, by J von Neumann. Some uneconomical robots, by J T Culbertson. Some universal elements for finite automata, by M. L. Minsky Gedanken-experiments on sequential machines, by E. F Moore. Part II, Turing machines A universal turing machine with two internal states, by C. E. Shannon. A note on universal turing machines, by M. D Davis. The inversion of functions defined by turing machines, by J McCarthy Computability by probabilistic machines, by K. de Leeuw and others. Part III, Synthesis of automata: Design for an intelligence-amplifier, by W R. Ashby The epistemological problem for automata, by D M. MacKay Conditional probability machines and conditioned reflexes, by A. M. Uttley Temporal and spatial patterns in a conditional probability machine, by A. M. Uttley

Note. The original studies in this volume pertain to the area of technical development occupied by such devices as electronic computers, automatic control systems and machines that "think," and to the related area of theory containing such systems of ideas as game theory and information theory The majority of the papers lean heavily on mathematical analysis. However some of them are primarily philosophic in tone, hile the third group on synthesis of automata is devoted primarily to design criteria and methods of solving design problems. The volume contains something of interest to graduate scientists in many fields of scientific research and applications.

SHENKER, HENRY, AND OTHERS

Reference tables for thermocouples. By Henry Shenker, John I Lauritzen, Jr., Robert J Corruccini, and S T Lonberger Washington, D C. Government Printing Office 1955 84 p 26 cm. (United States. National Bureau of Standards. Circular 561) $0 50 5429

Contents Introduction. Part I, Celsius (centigrade) tables. Fahrenheit tables.

Note. The temperature—electromotive-force relationship for a thermocouple in general cannot be expressed by simple equation. It is convenient, therefore, to have empirical tables giving the temperature—electromotive-force relationship for the various types of commercially available thermocouples. For any thermocouple type, table is based on calibrations of representative thermocouples at sufficient points to yield temperature—electromotive-force plot characteristic of the material. In this circular expanded reference tables for platinum ersus platinum—10-percent rhodium, platinum versus platinum—13-percent rhodium, chromel-alumel, iron-constantan (modified 1913) copper-constantan, and chromel-constantan thermocouples are given with temperature in degrees Celsius (centigrade) and Fahrenheit and electromotive force in millivolts as the arguments. The tables are based upon the absolute electrical units and the International Temperature Scale of 1948. They are the latest ersions of all such tables prepared at the National Bureau of Standards.

STORM, H F

Magnetic amplifiers Contributors E. F W Alexanderson and others New York

CIVIL ENGINEERING

GENERAL

ABBETT ROBERT W., editor

American civil engineering practice. In three volumes. Prepared by a staff of specialists under the editorship of Robert W Abbett. Volumes I–II. New York John Wiley & Sons, Inc., 1956. 2 v 22 cm. $15.00 per vol. 5438

Contents: Volume II: Metropolitan and community planning, by T. T. McCrosky and Y. de Panchete. Surveying, by G. D. Whitmore and others. Traffic engineering, by T. J. Fratar and T. M. Matson. Highway engineering, by W. J. Cox and A. W. Bushell. Airport engineering, by P. Mason. Railroad engineering, by W. W. Hay. [illegible] and site construction, by W. M. Aagaard and C. S. Proctor. Foundations, by W. M. Aagaard and C. S. Proctor. Earthwork and dredging, by W. M. Aagaard and C. S. Proctor. Tunnels, by O. Singstad and D. Kalin. Mathematical tables. Index. Volume III: Hydraulics and pumping, by J. G. Woodburn. Hydrology, by W. W. Horner. Dams, by W. P. Creager and B. O. McCoy. River engineering, by G. R. Marsden and J. H. Stratton. Hydroelectric power, by W. P. Creager and E. R. Strouse. Irrigation and land drainage, by D. P. Barnes. Public water supply, by R. Hazen. Sewerage and sewage disposal, by Metcalf and Eddy. Refuse collection and disposal, by R. Eliassen. Harbor engineering, by R. W. Abbett and others.

Note: Planned as a successor to the long-standard American civil engineers' handbook, edited by M. Merriman, this new work is a full-scale reference book on contemporary civil engineering as it is practiced in the U.S.A. A modern feature is that it covers planning as well as design and construction. It is composed, as the above contents show, of sections written by recognized authorities. In some of the sections, the style is concise and depends on many tabular and graphical representations of data. On the other hand, some sections, particularly those on such topics as community planning, are written more fully and are suited to straightforward reading. Selected literature references are included in some sections. Each volume has its own detailed subject index. The third volume containing articles on such topics as concrete structures, retaining walls, bridges, and miscellaneous structures such as towers, masts, bunkers, chimneys and tanks was published in 1957 $15.00.

HENNES, ROBERT G., AND MARTIN I. EKSE

Fundamentals of transportation engineering. New York McGraw Hill Book Company Inc., 1955 520 p. illus. 24 cm. (McGraw-Hill series in civil engineering: Harmer E. Davis, consulting editor) $8.50 5439

Contents (abridged): Part 1. Roads and pavements: Foundation soils. Grading the roadbed. Stabilized roads. Bituminous materials—properties and basic uses. High-type bituminous pavements. Portland cement concrete pavements. Drainage. General maintenance of roads and streets. Part 2, Airport engineering: Design standards. Runways and space. Layout. Grading. Drainage. Pavements. Marking and lighting. Part 3, Railroad engineering: Historical development and present trends. The permanent way. Steam locomotives. Diesel-electric and electric locomotives. Train resistance. Speed-time-distance calculations, horsepower output, and fuel consumption. Elements of subgrades. Part 4, River and coastal engineering: River hydraulics. Channel regulation. Locks and dams. Ports and harbors. Wind, waves, tides, currents. Coastal structures. Part 5, Pipeline transportation. Part 6, Belt conveyors. Index.

Note: The fields of transportation engineering treated in this [illegible] are indicated in the part-titles which are listed above. Engineering is emphasized. When economic and other related aspects are included at all, the discussions are brief. Special attention has been paid to the terminology of the various fields and terms, such as "[illegible]," "[illegible]," "[illegible]," and "[illegible]," and are [illegible] when first introduced. There are many graphs and tables of reference data. Primarily a text for advanced undergraduate students of civil engineering, the book has some appeal for graduate engineers because of its inclusive scope.

KIRBY RICHARD SHELTON AND PHILIP GUSTAVE LAURSON

The early years of modern civil engineering New Haven Yale University Press, 1932 324 p. illus. 24 cm. $6 00 5440

Contents: Preface. Illustrations. Introduction. Surveying. Canals. Roads and pavements. Railroads. Bridges. Tunnels and subways. Waterworks and water power. Sewers. River and harbor improvement. Materials. Biographical outlines. Bibliography. Index.

Note: A history of the profession in terms of its accomplishments and leading engineers. The period covered is from the seventeenth to the late nineteenth century, and the emphasis is placed on modern beginnings rather than on a complete story of development. The book is addressed to those who have some background of civil engineering interest or knowledge.

NICHOLS HERBERT L. JR.

Moving the earth the workbook of excavation. Illustrations by Helen Schwagerman. Greenwich, Conn. North Castle Books distributed by D Van Nostrand Company Inc., Princeton, N J., 1955 1,280 p. illus. 25 cm. $15 00 5441

Contents: Part 1, The work. Land clearing. Levels and location. Soil and sand. Cellars. Ditching and dewatering. Ponds. Landscaping, and agricultural grading. Roads. Rock blasting and [illegible]. [illegible] operation. Making and losing money. Part 2, The machines. Basic information. Revolving shovels. Conveyor machinery. Tractors and bulldozers. Tractor loaders. Scrapers. Dump trucks and wagons. Grading and compacting machinery. Compressors and drills. Miscellaneous machinery. Appendix. Glossary. Index.

Note: Techniques of excavation, land-moving and dewatering of construction sites, and the machines with which the operations are carried out, are both covered in this cyclopedic work. The techniques are described explicitly from the viewpoint of men engaged in the construction industry. So thorough is this section of the book that it even includes a discussion of first-aid measures to apply when workers are stung by insects. In the part on machines, as much attention is given to the principles and mechanical details of specific machines as to machine types and uses. Both parts are very fully illustrated with reproductions of drawings and photographs illustrating typical machines and showing how they are used most effectively. The glossary is 21 pages long.

RICHARDSON HAROLD WARD AND ROBERT S MAYO

Practical tunnel driving. New York McGraw Hill Book Company Inc. 1941 436 p. illus. 23 cm. $7 75 5442

Contents: History of tunneling. Engineering and design. Tunnel surveying. Safety in tunneling. Shaft sinking. Mucking. Tunnel hauling. Hoists and headframes. Ventilation and dust control. Pumping and water handling. Plant and utilities. Soft-ground tunneling with timber. Soft-ground tunneling with liner plates. Shield-driven tunnels. The shield. The plenum process. Air locks. Tunneling in rock. Drills and drilling. Explosives. General support in rock tunnels. Concrete lining. Tunnels in exceptional ground. Pipe jacking.

Note: A practical text and reference treatment for engineers and contractors, covering all phases of tunneling and all kinds and classes of tunnels, large or small, constructed in soft ground

matics. Practically every concept is illustrated in a diagram or cartoon-type drawing in addition to being described. Although designed for use in organized classes under the guidance of trained instructors, the work is also suitable for home study by readers who desire a practical rather than a theoretical knowledge of automatic control. It was developed originally for use in specialty schools of the United States Navy

WADE, WARREN F, AND EMORY N KEMLER

Automatic control bibliography Spring Park, Minn Summary Reports, 1955 331 p 23 cm $15 00 5436

Contents: Part I, Bibliography of American and British articles. Part II, Index of magazine articles Automation. Chemical industry—miscellaneous. Control panels. Control valves. Courses. Economics. Electric-electronic controls. Engineering. Food processing equipment. Furnaces and kilns. Heating and ventilating. History and trends. Hydraulic controls. Instrument department—its origin and function. Internal combustion engines. Machine tools and manufacturing processes. Maintenance. Mechanical controls. Oil and gas production applications. Paper industry Pipeline applications. Pneumatic controls. Power plant. Refinery and petrochemicals. Standardization. Theory of control. Water treatment and industrial waste disposal. Part III Book bibliography List of periodicals on automatic controls. List of abbreviations of magazines.

Note. Periodical articles and books written in English and bearing on automatic control are listed in this useful bibliography The first and main part is arranged by author and the usual bibliographical information is given, that is, author's name, title of article, title of journal, volume, pagination, month and year of publication. In addition, there is in many instances a short descriptive note. Following the author list, there is a listing of anonymous articles arranged by title of periodical in which they appeared. There are 1 423 entries in the two lists. A classified subject index (the headings are listed above) follows. Finally there are lists of British and American books and English-language periodicals. The span of time covered is approximately 1900-1954 with, of course, most of the references being publications of the last two decades.

WOODBURY, DAVID O

Let ERMA do it, the full story of automation. New York Harcourt, Brace and Company, 1956 305 p illus. 21 cm. $5 00 5437

Note. ERMA in the title of this book designates a specific Electronic Recording Machine—Accounting, which was developed for and is now in use in a branch of the Bank of America in San Jose, California. ERMA with a little human assistance does the record keeping and accounting for many thousands of individual bank accounts. However the book is more than a history of this one machine. It is a popular account of automation in general. The elementary principles of automatic control and machines, not only accounting machines but also automatic production lines in factories, electronic computers, etc., are explained in the common language and there is, in addition considerable discussion of the social implications of automation and the need for it in our contemporary civilization. It is written in a style that is both lively and vivid.

URQUHART, LEONARD CHURCH editor

Civil engineering handbook. Third edition. New York McGraw Hill Book Company Inc., 1950. 1,002 p. illus. 24 cm. $11.00. 5449

Contents: Surveying, by R. E. Davis. Railway, highway and air port engineering, by J. R. Babcock, 3rd, and A. J. [illegible]. Mechanics of materials, by J. R. [illegible]. Hydraulics, by H. W. King and E. F. Brater. Stresses in framed structures, by L. C. Urquhart. Steel design, by C. T. [illegible]. Cement and concrete, by H. J. Gilkey. Soil mechanics and foundations, by A. E. Cummings. Sewerage and sewage disposal, by R. G. Tyler. Water supply and purification, by R. E. [illegible]. Index.

Note: As in previous editions, this book is primarily a basic reference tool for engineering students and practicing engineers. In spite of its handbook nature, many of the sections are fairly complete expositions of the topics to which they are devoted. Although the greater part of the text has been carried over from the previous edition, there has been extensive revision. The additional 128 pages are largely accounted for by new sections on photogrammetric surveying, airport engineering, and hydraulic models; but the chapter on cement and concrete has been expanded, and mechanics and soil [illegible] are treated at greater length, and numerous small changes occur throughout the book. The bibliographies have been revised.

SURVEYING

BOUCHARD HARRY

Surveying. Third edition. Scranton International Textbook Company 1947 647 p. illus. 20 cm. $6.75 5450

Contents: Introduction. Measurement of horizontal distances. Measurement of vertical distances. The measurement of angles. Field operations with the transit. The direction of lines. Traverse surveys. Curvilinear surveys. Triangulation. Topographic surveys. Hydrographic surveys. Earthwork. Special surveys. United States public land surveys. Municipal surveys. Latitude, longitude, azimuth, and time. The adjustment of instruments. Errors. Constructing and finishing maps. State coordinate systems. Tables. Index.

Note: Detailed treatment of many topics in this standard textbook for student engineers makes it suitable as a reference work for practicing engineers and surveyors as well. Since the publication of the previous edition (1940) about 30 states have legalized the state system of plane coordinates established by the U. S. Coast and Geodetic Survey. In this edition, a new chapter has been included to explain these state systems and the advantages of tying land surveys to their control points. Also, new material on the use of aerial photographs in mapping has been added to the chapter on topographic surveys.

BREED CHARLES B

Surveying. New York John Wiley & Sons Inc., 1942 495 p. illus. 18 cm. 5451

Contents: Surveys and their purposes; sources of surveying information. Measurement of distances. Measurement of direction: the magnetic compass. Measurement of angles; use of the transit. The engineer's level and its use. Traverse and land surveys. Calculation of closed traverses and land areas. The United States system of surveying the public lands. Contours. Stadia surveying with transit and plane table. Aerial surveying. Lines and grades. Cross-sections; volumes. Miscellaneous surveying problems. Plotting and finishing maps. Tables. Index.

Note: A succinct treatment of the fundamentals of modern surveying practice. A full discussion is given of the principles and of the use of surveying instruments. Numerous field exercises and problems in this part of the book provide a basic knowledge of surveying technique. Emphasis is placed on surveying for construction. One survey is carried on from the beginning to the end of the book and is used throughout to illustrate the principles under discussion. The latter part of the book comprises a set of tables, sufficiently extended to meet the needs of almost all surveying problems. A new edition was published in 1957 497 p., $5.50.

BREED CHARLES B AND GEORGE L. HOSMER

The principles and practice of surveying. Volume I, Elementary surveying. Eighth edition. New York John Wiley & Sons, Inc., 1945 717 p. illus. 19 cm. $6.00 5452

Contents. Part I, Use, adjustment, and care of instruments: General definitions—measurement of lines—adjustment of errors. Measurement of direction. Measurement of angles. Measurement of differences of elevation. Part II, Surveying methods. Land surveying. Traverse lines—location of buildings, miscellaneous surveying problems. The stadia method—the plane-table method. Observations for meridian and latitude. Leveling. City surveying—lines and grades for construction—survey of city lots, buildings and party walls. [illegible] topographical surveying methods. Mine surveying. Part III, Computations: General principles—miscellaneous problems—earthwork computations. Calculations relating to traverses. Part IV Plotting: Drafting instruments and material—process prints. Methods of plotting. Finishing and filing drawings. Tables. Appendices.

—— Volume II Higher surveying. Seventh edition. New York John Wiley & Sons Inc., 1953 675 p. illus. 19 cm. $7.00 5453

Contents: Part I, Control of the survey: Control—triangulation—traverse. Astronomical observations. Precise, trigonometric, and barometric leveling. Part II, Filling in topographic details: The transit and stadia method. The plane-table method. The relation of geology to topography. Part III, Photogrammetric surveying: Ground photogrammetry. Aerial photogrammetry. Stereophotogrammetry. Part IV Hydrographic surveying and stream gaging: Hydrographic surveying. Measurement of the flow of water in open channels. Part [illegible] Constructing and finishing maps: Map projections. Plotting and finishing topographic and hydrographic maps. Tables. Appendices.

Note: A standard work which has been used in its various editions as a text for students and a reference work for practicing surveyors for about 50 years. A current set consists of the editions listed above. Revisions in the eighth edition of Volume I included rewriting of the note on public land surveys to bring it into accord with current practice in the United States of America. Revisions in the seventh edition of Volume II include rather extensive changes in the chapter on astronomical observations, rewriting of the section on barometric leveling in chapter three, and a complete revision of the third part on photogrammetric surveying.

BRINKER RUSSELL C., AND WARREN C TAYLOR

Elementary surveying Third edition Scranton, Pa. International Textbook Company 1955 550 p. illus. 22 cm. $5 50 5454

Contents. Part [illegible] Introduction. Theory of measurements and errors. Surveying field notes. Linear measurements. Leveling. Angles, bearings, and azimuths. The compass. The transit. Traversing. Traverse computations. Area. Stadia. Topographic surveys. Mapping. The plane table. Adjustments of instruments. Part II: Determination of meridian. Photogrammetry. Boundary surveys. Surveys of the public lands. Construction surveys. Circular curves. Parabolic curves. Volumes. Industrial applications. Appendices. References. Index.

Note: An introductory though comprehensive textbook. It is used in the instruction of college students preparing for such fields as engineering, geology, and forestry. In addition to covering standard techniques and applications of surveying, it contains discussions of aerial photogrammetry, public land surveying, and the use of surveying equipment in the setting up of jigs for certain manufacturing processes. A first edition was published in 1930 with Professor Taylor as the only author. The book has been much reorganized, revised and extended in this third edition.

DAVIS RAYMOND E.

Elementary plane surveying. Third edition. New York McGraw Hill Book Company Inc., 1955 507 p. illus. 21 cm. $6.00. 5455

Contents: Field and office work. Errors. Measurement of distance. Measurement of difference in elevation. Differential leveling. Profile leveling; cross sections; grades. Plotting profiles and cross sections; volumes of earthwork. Measurements of angles and directions. The engineer's transit. Transit-tape surveys. Stadia surveying. Triangulation of ordinary precision. The plane table. Map drafting. Map plotting. Calculation of areas of land. Field astronomy—latitude and azimuth. Land surveying. Topographic maps.

or hard. Carries through all steps from basic fundamentals to completion of the project, including discussion not only of location, investigation and planning of the project, design, construction and economics, but also of such practical details as track layout, size of cars, timbering, explosives, etc.

SCHEFFAUER, FREDERICK C, editor

The hopper dredge, its history, development, and operation Prepared by the office of the Chief of Engineers, U S Army, under the direction of the Hopper Dredge Board Frederick C Scheffauer, editor in-chief Washington, D C Government Printing Office, 1954 399 p illus 28 cm $4 00 5443

Contents Introductory description and fundamentals. Operation. Hull and superstructure. Machinery and controls. Dredge pumps. Dredge pump suction assemblages. Dredge pump discharge assemblages. Hopper and overflow systems. Drags. Gas removal systems. Economic loading. Unusual dredging accomplishments. Appendix. Typical specifications for rubber-covered ball-joints. Bibliography Historical summary of design functions and biographies. Dredging report forms. Index to figures and tables. Subject index.

Note The Corps of Engineers of the United States Army has for about century been building and operating seagoing hopper dredges for the improvement of navigable waterways under its jurisdiction. During this period, the hopper dredge has increased in length from about 150 feet to 525 feet and has changed from a crude device to an efficient machine designed for a special purpose and equipped with the latest aids to navigation and safety The purpose of this volume is to trace the development of those features peculiar to this type of vessel to describe in some detail, with appropriate technical illustrations, improvements in its design, construction, and operation and also to point out some of the mistakes which have been made. Much of the subject matter was drawn from personal observations of the various authors, and the remainder from records of the Corps of Engineers.

SEELYE ELWYN E

Data book for civil engineers Design. Second edition New York John Wiley & Sons, Inc, 1951 725 p illus 30 cm. $16 75 5444

Contents Structural—general—concrete—rigid frames—steel—aluminum—welding—wood—plywood—foundations—beam formulas. Earthwork. Roads. Railroads. Airports. Bridges. Dams. Corrosion of metals. Docks and piers. Transmission towers. Drainage. Drainage and sewerage. Sewage treatment. Industrial wastes. Waste disposal. Water supply Water purification. Water distribution. Grandstands. Athletic fields. Outdoor swimming pools. General. Index.

—— Specifications and costs. Second edition New York John Wiley & Sons Inc. 1951 505 p. illus 30 cm $16 75 5445

Contents Contract documents. Site investigation. Structural specifications. Industrial buildings. Airports, roads, and railroads. Bridges. Docks. Dams. Drainage, sewers, sewage treatment, and water supply Swimming pool. Athletic fields. Costs. Glossary Specifications index. Costs index. Glossary index.

—— Field practice Second edition. New York John Wiley & Sons Inc 1954 394 p illus 21 cm $7 50 5446

Contents Part I, Inspection Construction equipment Erection methods. Material handling. Safety provisions. Concrete. Masonry Structural steel Welding. Metals. Bridges. Painting. Foundations. Piles. Rope and cable—strengths. Varieties of knots. Wood and timber construction. Soils. Grading. Bituminous paving. Sewers, drains, water gas, etc.—pollution control works. Precast concrete pipe manufacture. Sanitary and drainage construction. Miscellaneous. Part II, Surveying Topographic survey Construction stakeouts. Circular curves. Transition curves. Vertical curves. Railroad turnouts and crossovers. Earthwork computations. Leveling. Transit problems. Allowable errors. Determination of true north Instruments and their adjustments. Taping. Mapping. General tables and information. Index.

Note: A comprehensive, practical reference work. The author has practiced engineering in the United States of America for more than three decades, and the books are based on his experience and that of his firm. He has included in them the kind of information that he knows is often needed in designing and supervising construction The material consists mainly of tabulated data, structural design details, model specifications, check lists, and concise descriptions of procedures. The first two volumes are for office use, but the third volume is designed for carrying in the field when necessary The first editions of the three volumes were published in 1945–47 Revisions and additions have been made to each of the volumes as new editions were published. A third edition of the volume on specifications and costs was published in 1957 $20.00.

TRAUTWINE, JOHN CRESSON, AND JOHN C TRAUTWINE, JR.

The civil engineer's reference-book (formerly "pocket book") Edited by John C. Trautwine 3d Twenty first edition. Ithaca Cornell University Press, 1937 1,514 p. illus. 17 cm. $7 00 5447

Contents (abridged) Mathematics: Arithmetic. Geometry mensuration, and trigonometry—Lines. Angles. Surfaces. Solids. Specific gravity Weights and measures. Surveying. Natural phenomena. Sound. Heat. Air. Atmosphere. Wind. Rain and snow Water. Evaporation. Leakage. Mechanics. Strength of materials: General principles. Transverse strength. Strength of columns. Shearing and torsional strength. Hydrostatics. Hydraulics. Constructions, etc.: Hoisting, conveying and excavating machinery Dredging. Foundations. Stonework. Retaining walls. Stone bridges. Timber dams. Water supply Test and well boring. Rock drills. Traction, animal power. Trusses. Stresses in truss members. Bridge details and construction. Digests of specifications for bridges and buildings, steel railroad and highway bridges, combination railroad bridges. Suspension bridges. Rivets and riveting. Railroads. Track. Turnouts and crossings. Curves. Signaling. Yards and stations. Earthwork. Tunnels. Trestles. Rolling stock. Train resistance. Train dynamics. Operation cost. Construction cost. Materials Timber. Iron and steel. Cement mortar Concrete. Reinforced concrete. Price list. Bibliography Index.

Note A reference handbook for civil engineers, presenting in concise form review of theory in mathematics, physics, mechanics, strength of materials, railroad construction, and related subjects, together with numerous tables of data, graphs, and other statistics. The section on railroads is rather extensive and covers their engineering and construction as well as some aspects of operation.

UNITED STATES DEPARTMENTS OF THE ARMY AND THE AIR FORCE

Special surveys Washington, D C. Government Printing Office, 1953 301 p. illus. 23 cm (United States. Department of the Army Technical manual TM 5–235) $1 00 5448

Contents I, Introduction General. Responsibilities. II, Underground surveying: Operations. Underground surveying equipment. Angular measurements. Underground leveling. Underground topography Shaft-plumbing and transfer of azimuth. Underground traverses. Typical problems and notes. Expedient measures. Computations. Maps and models of underground passages. III, Survey support of geology and pedology Survey support for geologic mapping. Survey support for pedological mapping. IV Hydrographic surveys. Operations. Tidal observations. Streamflow and stream-gaging stations. Stream-gaging equipment. Measurement of streamflow Special hydrographic projects. Subsequent surveys. Equipment for sounding operations. Methods of taking and locating soundings. Finishing the subsequent survey Land surveying. Operations. Surveys of private lands. Surveys of public lands. Field operations in surveys of public lands. Appendix. References. Glossary Index.

Note. For purposes of this manual the term "special surveys" designates geological, underground, hydrological and land surveys undertaken to provide specialized data for military engineering projects and other engineering work for which the Army is responsible. Operational procedures, instruments and equipment peculiar to or generally used in such surveys are covered. Knowledge of basic surveying principles, techniques and instruments on the part of readers has been assumed. Since special surveys are frequently related to plane, route, construction, and geodetic-control surveys, the appendix gives list of related manuals, regulations, and survey texts.

URQUHART LEONARD CHURCH editor

Civil engineering handbook. Third edition. New York. McGraw Hill Book Company Inc., 1950. 1,002 p. illus. 24 cm. $11.00. 5449

Contents: Surveying, by R. E. Davis. Railway, highway and airport engineering, by J. B. Babcock, 3rd, and A. J. Bone. Mechanics of materials, by J. S. Kemmerer. Hydraulics, by H. W. King and E. F. Brater. Stresses in framed structures, by L. C. Urquhart. Steel design, by C. T. Bishop. Cement and concrete, by H. J. Gilkey. Soil mechanics and foundations, by A. E. Cummings. Sewerage and sewage disposal, by R. G. Tyler. Water supply and purification, by R. E. Babbitt. Index.

Note: As in previous editions, this book is primarily a basic reference tool for upperclass students and practicing engineers. In spite of its handbook nature, many of the sections are fairly complete expositions of the topics to which they are devoted. Although the greater part of the text has been carried over from the previous edition, there has been extensive revision. The additional 118 pages are largely accounted for by new sections on photogrammetric surveying, airport engineering, and hydraulic models, but the chapter on cement and concrete has been expanded, soil mechanics and soil tests are treated at greater length, and numerous small changes occur throughout the book. The bibliographies have been revised.

SURVEYING

BOUCHARD HARRY

Surveying. Third edition. Scranton International Textbook Company 1947 647 p. illus. 20 cm. $6.75 5450

Contents: Introduction. Measurement of horizontal distances. Measurement of vertical distances. The measurement of angles. Field operations with the transit. The direction of a line. Traverse surveys. Coordinate surveys. Triangulation. Topographic surveys. Hydrographic surveys. Earthwork. Special surveys. United States public land surveys. Municipal surveys. Latitude, longitude, azimuth, and time. The adjustment of instruments. Errors. Constructing and finishing maps. State coordinate systems. Tables. Index.

Note: Detailed treatment of many topics in this standard textbook for student engineers makes it suitable as a reference work for practicing engineers and surveyors as well. Since the publication of the previous edition (1940) about 20 states have legalized the state system of plane coordinates established by the U. S. Coast and Geodetic Survey. In this edition, a new chapter has been included to explain these state systems and the advantages of tying land surveys to their control points. Also, new material on the use of aerial photographs in mapping has been added to the chapter on topographic surveys.

BREED, CHARLES B

Surveying. New York John Wiley & Sons, Inc., 1942 495 p. illus. 18 cm. 5451

Contents: Surveys and their purposes, nature of surveying information. Measurement of distances. Measurement of direction, the magnetic compass. Measurement of angles: use of the transit. The engineer's level and its use. Traverse and land surveys. Calculation of closed traverses and land areas. The United States system of surveying the public lands. Contours. Stadia surveying with transit and plane table. Aerial surveying. Lines and grades. Cross-sectional volumes. Miscellaneous surveying problems. Plotting and finishing maps. Tables. Index.

Note: A succinct treatment of the fundamentals of modern surveying practice. A full discussion is given of the principles and of the use of surveying instruments. Numerous field exercises and problems in this part of the book provide a basic knowledge of surveying techniques. Emphasis is placed on surveying for construction. One survey is carried on from the beginning to the end of the book and is used throughout to illustrate the principles under discussion. The latter part of the book comprises a set of tables, sufficiently extended to meet the needs of almost all surveying problems. A new edition was published in 1957 495 p. $5.50.

BREED CHARLES B AND GEORGE L. HOSMER

The principles and practice of surveying. Volume I, Elementary surveying. Eighth edition. New York John Wiley & Sons, Inc. 1945 717 p. illus. 19 cm. $6.00 5452

Contents: Part I, Use, adjustment, and care of instruments: General definitions—measurement of lines—adjustment of errors. Measurement of direction. Measurement of angles. Measurement of differences of elevation. Part II, Surveying methods: Land surveying. Traverse lines—location of buildings, miscellaneous surveying problems. The stadia method—the plane-table method. Observations for meridian and latitude. Leveling. City surveying—lines and grades for construction—survey of city lots, buildings and party walls. Contours—miscellaneous topographical surveying methods. Mine surveying. Part III, Computations: General principles—miscellaneous problems—earthwork computations. Calculations relating to traverses. Part IV, Plotting: Drafting instruments and materials—process prints. Methods of plotting. Finishing and filing drawings. Tables. Appendices.

—— Volume II Higher surveying Seventh edition. New York John Wiley & Sons, Inc., 1953 675 p. illus. 19 cm. $7.00. 5453

Contents: Part I, Control of the survey: Control—triangulation—traverse. Astronomical observations. Precise, trigonometric, and barometric leveling. Part II, Filling in topographic details: The transit and stadia method. The plane-table method. The relation of geology to topography. Part III, Photogrammetric surveying: Ground photogrammetry. Aerial photogrammetry. Stereophotogrammetry. Part IV, Hydrographic surveying and stream gaging: Hydrographic surveying. Measurement of the flow of water in open channels. Part V, Constructing and finishing maps: Map projections. Plotting and finishing topographic and hydrographic maps. Tables. Appendices.

Note: A standard work which has been used in its various editions as a text for students and a reference work for practicing surveyors for about 50 years. A current set consists of the editions listed above. Revisions in the eighth edition of Volume I included rewriting of the notes on public land surveys to bring it into accord with current practice in the United States of America. Revisions in the seventh edition of Volume II include rather extensive changes in the chapter on astronomical observations, rewriting of the section on barometric leveling in chapter three, and complete revision of the third part on photogrammetric surveying.

BRINKER RUSSELL C AND WARREN C TAYLOR

Elementary surveying Third edition Scranton Pa. International Textbook Company 1955 550 p. illus. 22 cm. $5.50 5454

Contents: Part I, Introduction. Theory of measurements and errors. Surveying field notes. Linear measurements. Leveling. Angles, bearings, and azimuths. The compass. The transit. Traversing. Traverse computations. Area. Stadia. Topographic surveys. Mapping. The plane table. Adjustments of instruments. Part II, Determination of meridian. Photogrammetry. Boundary surveys. Surveys of the public lands. Construction surveys. Circular curves. Parabolic curves. Volumes. Industrial applications. Appendixes. References. Index.

Note: An introductory though comprehensive textbook. It is used in the instruction of college students preparing for such fields as engineering, geology and forestry. In addition to covering standard techniques and applications of surveying, it contains discussions of aerial photogrammetry, public land surveying, and the use of surveying equipment in the setting up of jigs for certain manufacturing processes. A first edition was published in 1930 with Professor Taylor as the only author. The book has been much reorganized, revised and extended in this third edition.

DAVIS RAYMOND E.

Elementary plane surveying. Third edition. New York McGraw Hill Book Company Inc., 1955 507 p. illus. 21 cm. $6.00. 5455

Contents: Field and office work. Errors. Measurement of distance. Measurement of difference in elevation. Differential leveling. Profile leveling; cross sections; grades. Plotting profiles and cross sections; volumes of earthwork. Measurements of angles and directions. The engineer's transit. Transit-tape surveys. Stadia surveying. Triangulation of ordinary precision. The plane table. Map drafting. Map plotting. Calculation of areas of land. Field astronomy—latitude and azimuth. Land surveying. Topographic maps.

Topographic surveying. Route surveying. Construction surveying. Photogrammetric surveying. References. General tables. Index.

Note. A combined text and field manual of the theory and practice of surveying which is designed primarily for the instruction of college students majoring in fields of engineering other than civil engineering. As the chapter titles show it covers a wide range of topics. However many of the topics are covered in a descriptive manner with attention only to elementary aspects. The first edition was published in 1934 and the second edition in 1941. In preparing this third edition a number of sections were revised and was added. Some illustrations are new and others have been redrawn.

DAVIS, RAYMOND E, AND JOE WALLACE KELLY

Short course in surveying New York Mc Graw Hill Book Co, Inc., 1942 330 p illus. 19 cm. $5 00 5456

Contents Preface. Tables. Field and office problems. Field and office work errors. Measurement of distance. Measurement of difference in elevation. Differential and profile leveling. Measurement of angles and directions. The engineer's transit. Transit-tape surveys. Stadia surveying. Map drafting. Map plotting. Calculation of areas of land. Topographic maps. The plane table. Topographic surveying. Route surveying. Land surveying. Determination of azimuth. References. Trigonometric and miscellaneous surveying tables. Index.

Note. This book presents the fundamental principles and practice of elementary plane surveying for the rapid training of rodmen, chainmen, instrumentmen, and draftsmen. It is a condensation of more advanced textbooks widely used in engineering colleges, only those subjects being presented which are intended to lead to a reasonable proficiency in the shortest possible time.

DAVIS, RAYMOND E, AND FRANCIS S FOOTE

Surveying, theory and practice Fourth edition. New York McGraw Hill Book Company, Inc., 1953 1 021 p illus. 21 cm $8 50 5457

Contents Fundamental concepts. Essential features of principal surveying instruments. Field work. Computations. Errors. Map drafting. Measurement of distance. Measurement of difference in elevation. Differential leveling. Profile leveling, cross-sections, grades. Plotting profiles and cross-sections, volumes of earthwork. Measurement of angles and directions. The engineer's transit. Transit-tape surveys. Stadia surveying. Triangulation. The plane table. Map plotting. Calculation of areas of land. Principles of field astronomy. Azimuth, latitude, longitude, and time. Land surveying, rural and urban. United States public-land surveys. Topographic maps. Topographic surveying. Route surveying. Root curves. Construction surveys. Mine surveying. Hydrographic surveying and flow measurement. Photogrammetric surveying. Map projections. General tables. Index.

Note. A more comprehensive and advanced text than the senior author's *Elementary plane surveying* described above. It includes specialties such as mine surveying which are not covered in the shorter book, and in addition, treats more thoroughly topics that are common to both books. It is used as textbook in courses offered to students with special interests in surveying and as reference book. The first edition was published in 1928 and the third edition in 1940. Much of this fourth edition is identical with the third edition nevertheless, some important changes have been made in both text and illustrations.

GOSSETT, F R

Manual of geodetic triangulation Washington D C Government Printing Office 1950 344 p illus 25 cm. (United States. Coast and Geodetic Survey Special publication no 247) $2 00 5458

Contents. Introduction. Reconnaissance. Triangulation. Base measurement. Azimuths. Special surveys. Appendix Specifications for horizontal and vertical control. Strength of figure. Constants and formulas. Lists of instruments and equipment. Lists of books and forms. Standard list of common names of objects used as landmarks. Special applications of vertical-angle measurements. Miscellaneous tables. Index.

Note. The material in this manual is the product of accumulated experience in the field and in the office of numerous members of the U S. Coast and Geodetic Survey for many years. The manual is compilation of currently approved methods for triangulation surveys of the Coast and Geodetic Survey furnishing specifications and instructions for first second- and third-order triangulation by field parties of the Survey

HICKERSON, THOMAS F

Route location and surveying. Formerly published under the title of *Highway surveying and planning* Third edition New York McGraw Hill Book Company, Inc., 1953 543 p illus. 19 cm. $6 50 5459

Contents Transportation systems. Route surveys. Circular curves. Parabolic curves. Transition spirals. Curve superelevation. Widening highway curves. Sight distance on highways. Earthwork. Drainage surveys and facilities. Construction procedure. String-lining railroad curves. Railroad turnouts and crossings. Miscellaneous. Appendix. List of tables. Tables. Explanation of tables. Index.

Note. The second edition of this manual for students and practicing engineers was published in 1936. In the third edition the title has been changed to indicate the broadening of the book's scope to include material on railways, canals, pipe lines, and airports. Basic principles and mathematical methods are stressed, but the inclusion of large collection of tables also enables the volume to be used as field manual.

HOSKINSON, ALBERT J, AND J A. DUERKSEN

Manual of geodetic astronomy determination of longitude, latitude, and azimuth. Washington, D C Government Printing Office, 1947 205 p illus 26 cm (United States. Coast and Geodetic Survey Special publication no 237) $1.25 5460

Contents. Introduction. Part I, Determination of longitude: Longitude determination with the Bamberg transit. Instruments. Astronomical test. Equatorial value of longitude micrometer. Level sion. Mean width of contact strips. Lag in the radio filter. Computation, station site and instrumental setup. Adjustments of the instruments. Longitude determination. Part II, Determination of latitude by the Horrebow-Talcott method. Introduction. General instructions for latitude work. The Bamberg broken-telescope transit. Observing list for latitude. Directions for observing. Latitude computation. Part III, Determination of the astronomic azimuth of direction Definitions. Specifications for Laplace azimuth. Instruments Instrument support and protection. Determination of azimuth. Direction method. Micrometer method, azimuth determinations in high latitudes with the Bamberg broken-telescope transit. Appendix Latest procedure in longitude determination. Reduction of mean to apparent place. Correction to azimuth for the elevation of the mark. Correction for the displacement of the pole. Rejection of doubtful observations. Probable errors of adjusted values. Astronomical refraction. Tables. Explanation of tables. Index.

Note The material in this manual is the product of the accumulated experience in office and field of the members of the U. S. Coast and Geodetic Survey from its earliest days to the present. Its purpose is to set forth the methods currently used by the Survey in its astronomical work in the field and to describe in some detail the office methods used in computing and processing the field records. It supplants previous manual, Special publication no. 14 *Determination of time, longitude, latitude and azimuth.*

HOSMER, GEORGE LEONARD

Practical astronomy a textbook for engineering schools and a manual of field methods Fourth edition revised and rewritten by James M Robbins New York John Wiley & Sons Inc., 1948 355 p. illus 22 cm. $6.25 5461

Contents. Part I, Fundamental principles of practical astronomy: The celestial sphere—real and apparent motions. Definitions—points and circles of reference. Systems of coordinates on the sphere. Relation between coordinates. Measurement of time. Ephemerides—star

catalogues—interpolation. The earth's figure—corrections to observed altitudes. Description of instruments. The constellations—star identification. Part II, Engineering astronomy: Observations for latitude. Observations for time and longitude. Observations for azimuth. Tables. Greek alphabet. Abbreviations used in this book. Symbols used in this book. Appendix: Spherical trigonometry.

Note: An introductory text that is designed for students who will take only a short course in the subject. It outlines the theory and procedures of astronomical observations and calculations, and their practical applications in such fields as surveying, civil engineering, time measurement, and gives descriptions of the major instruments used in such observations. The work has been rather extensively revised in this edition.

IVES, HOWARD CHAPIN

Highway curves. Fourth edition highway surveying, *location, geometric design, and* earthwork, by Philip Kissam. New York John Wiley & Sons, Inc., 1952 197 389 p. illus. 18 cm. $7.50 5462

Contents: Part I, Text: The location procedure. The preliminary survey. The location survey. Simple curves. Compound curves. Reversed curves. Vertical curves. Spirals, superelevation, and widening. Cross sections. Volume computation. Haul and the mass diagram. Ramps for interchanges. Part II, Tables. Curves of even radius. Curves of even degree, arc definition. Searles spiral. Logarithms. Natural trigonometric functions. Functions of numbers. Conversions. Trigonometric formulas. Explanation of tables. Index.

Note: A standard work used both as an engineering college text and field book. It presents the practices followed by the Highway Departments of the state governments and by the national government in laying out highway routes. The third edition appeared in 1941. This is the first edition by Professor Kissam, and it is a thorough revision in which important changes have been made in both the expository text and in the tables.

KIELY, EDMOND R.

Surveying instruments, their history and classroom use. Washington National Council of Teachers of Mathematics, 1947 411 p. illus. 23 cm. (*National Council of Teachers of Mathematics. Nineteenth Yearbook*) $3.00 5463

Contents: Beginnings in Egypt, China, and Babylonia. Developments in Greece and Rome. Contributions of medieval Europe, Islam, and India. Advancements in Europe during the Renaissance. Development of practical geometry in the schools. Applications of geometry trigonometry in simple surveying. Appendix. Bibliography. Index.

Note. Addressed to teachers of high-school mathematics with the purpose of interesting them in simple surveying as part of the program for geometry and trigonometry classes, and of providing them with sufficient exercises to carry out such a program. About two-thirds of the book is devoted to the history of the development of surveying instruments from early times through the seventeenth century. The construction and use in various periods and countries of such devices as leveling and right-angle instruments, the astrolabe, dial constructions, and compasses are descriptively presented and are illustrated by old prints and diagrams. Sample outdoor surveying exercises conclude the book. These are selected to illustrate basic geometrical principles and their solutions requiring the use of instruments are outlined. Since, however, the author believes that proficiency with instruments can be acquired only by practice, few directions are included for their use.

KISSAM, PHILIP

Surveying for civil engineers. New York McGraw Hill Book Company Inc. 1956 716 p. illus. 24 cm. $8.50. 5464

Contents: Part I, Instruments and methods for large surveys. Introduction, errors, and planning a survey. Precise levels and differential leveling. Horizontal measurement. Angular measurement. The compass and the earth's magnetic field. Simple control surveys. Topographic surveys. Planning and estimating from topographic maps. Part II, Operations. Celestial observations. Boundary surveys. The United States public land surveys. Fundamental survey control and the state coordinate systems. City surveys. Mine surveys. Hydrographic surveys and stream gaging. Bridge and tunnel surveys. Part III, Procedures for precise control. Precise level nets. Precise triangulation. Precise traverse nets. Part IV. Aerial mapping. Part Appendix. Probability. Least squares. The theory of state coordinate systems. Tables and charts. Index.

Note. Both a textbook for advanced courses and a practical treatise for professional civil engineers, this work describes the techniques and instruments used in mine surveying, hydrographic surveying, surveying for large construction projects, etc. It is complementary to the author's *Surveying: instruments and methods for surveys of limited extent* (see below) but may be used independently by any engineer or engineering student who has a knowledge of elementary surveying. A good deal of ground is covered, nevertheless, there is much detailed discussion of special points, for instance, of making tape corrections in mine surveys. The importance of precision is a constant theme.

KISSAM PHILIP

Surveying *instruments and methods for* surveys of limited extent Second edition. New York McGraw Hill Book Company Inc. 1956 482 p. illus. 23 cm $5 75 5465

Contents: Part I: Surveying and its applications. The surveying method. Horizontal measurement. The transit. Use of the transit. Adjustment of transit. Traverse. The level and bench-mark leveling. Adjustment of level. Leveling procedures. Establishing line and grade for construction. Miscellaneous operations. Topographic surveying. Drawing maps and keeping records. Part Tables. Visual aids. Index.

Note. Less advanced and less specialized than the complementary Surveying for civil engineers, described above, this book is designed to prepare engineers and others to do ordinary surveying. It covers standard instruments, techniques and computations. The first edition was published in 1947. A chapter on optical tooling was added in the second edition, and revisions and additions were made in other chapters.

LEGAULT, ADRIAN R., AND OTHERS

Surveying an introduction to engineering measurements. Englewood Cliffs, N J Prentice-Hall Inc., 1956 430 p illus. 24 cm. (*Prentice-Hall civil engineering and engineering mechanics series* N M. Newmark editor) $6 75 5466

Contents. I, The engineer and surveying: Surveying—its use to the engineer. Surveying as applied to engineering. Computations—some fundamental principles. II, Measurements: Determining distance. Determining direction. The engineer's transit. Measuring elevations. Adjustment of instruments. III, Applications: Control surveys. Subdivisions of public lands. Traverses. Office computations—traverses and simple triangulation. Topographic surveying. Aerial surveying. Construction surveys. Optical tooling. Selected references. Appendix tables. Index.

Note. A broad but simplified view of modern surveying is provided by this textbook. Some information is included on most aspects of the field likely to be of interest to the engineer who is not a specialist in surveying; but some of the chapters, such as the one on optical tooling, are only descriptive outlines of the topics named in their titles. The book is much shorter than typical introductory texts in surveying. However some of the brevity has been achieved by omitting field exercises, although a 100-page section of tables is included. The volume is well illustrated and has an attractive format.

MEYER CARL F

Route surveying Second edition. Scranton Pa. International Textbook Company 1956 312 320 p. illus. 19 cm. $7.50 5467

Contents: Part I, Basic principles: Route location. Simple curves. Compound and reverse curves. Parabolic curves. Spirals. Earthwork. Part II, Practical applications: Special curve problems. Curve problems in highway design. Railroad surveys. Highway surveys. Surveys for other routes. Aerial photography in route surveying. Appendix: Partial theory of the spiral. Part III, Tables. Index.

Note: The main principles and techniques of route surveying are presented in this text and pocket-book. The author is Professor of Civil Engineering in Worcester Polytechnic Institute, and his book is designed primarily for engineering college students. However, it contains a good deal of concise information including tabulated data

which is useful to the engineer in the field. It is well organized and clearly written. The first edition was published in 1949 The chapter on aerial photography in route surveying is new in this second edition, and various revisions, major and minor are apparent in other chapters. The 320-page section of tables now contains 32 tables.

MITCHELL, HUGH CHESTER
Definitions of terms used in geodetic and other surveys. Washington, D C Government Printing Office, 1948 87 p 25 cm. (United States. Coast and Geodetic Survey Special publication no 242) $0 45 5468

Note: A glossary of geodetic and other surveying terms. Work on the publication was begun by the Federal Board of Surveys and Maps in 1933 and concluded, after the abolition of that Board in 1942 in the Division of Geodesy of the U S. Coast and Geodetic Survey For each term, there is a basic definition or description containing the elements essential to a complete and accurate definition or description. For many terms there are also given in separate paragraphs, supplementary statements designed to facilitate the interpretation of the basic definition and to call attention to other uses that may have been made of the terms defined.

MITCHELL, HUGH CHESTER, AND LANSING G SIMMONS
The state coordinate systems (a manual for surveyors) Washington, D C. Government Printing Office, 1945 62 p illus. 25 cm (United States Coast and Geodetic Survey Special publication no 235) $0.50 5469

Contents (abridged) Introduction Establishment of the state coordinate systems. State systems approved by Federal bureaus. Chapter I, The stat coordinate systems Terms and definitions. Geodetic and plane-coordinate positions. Map projections and state grids. Chapter II, Surveys and plane-rectangular coordinates Position of origin and signs of coordinates. Azimuths preferred to bearings. Difference between geodetic and grid azimuths. Convergence of meridians. Plane coordinates and city surveys. State grid zones. Local systems f coordinates. Ground lengths reduced to sea level. Sea-level lengths reduced to grid lengths. Combination factors. reduction to sea level and grid. Characteristics and length reductions. Accuracy of sea-level reduction. Chapter III, The land survey Planning the survey The field work. The office work. Land area. Lost and obliterated corners. Description by coordinates. Bibliography Appendices. Table f the state coordinate systems. Formulas and tables. Index.

Note This manual is designed to aid the surveyor who intends to use a state coordinate system for referencing a land or engineering survey in order that its results may be placed on lasting basis by coordination with surveys in other areas. The state coordinate systems are described, and procedures which their use involves are explained and exemplified by carrying through the computation of farm survey The publication does not attempt to go beyond plane surveying.

NASSAU JASON JOHN
Practical astronomy Second edition New York McGraw Hill Book Company, Inc. 1948 311 p illus. 23 cm (McGraw Hill astronomical series Edward Arthur Fath consulting editor) $6 00 5470

Content (abridged) Part I Fundamental principles and ordinary determinations f time, latitude, longitude, and azimuth. Astronomical systems of coordinates. The astronomical triangle. Time and longitude. The *Nautical almanac*. Con ersion of time. Instruments. Latitude. Azimuth. Part II Precise determination of azimuth, time, longitude, and latitude. Secular and periodic changes, the *American ephemeris and nautical almanac*, star catalogues. Determination of time by the transit instrument. The zenith telescope. Determination of latitude and longitude by equal altitudes. Appendix A. Formulas relating to spherical trigonometry Appendix B. Interpolation. Tables. Forms. Star maps. Index.

Note: An established textbook for college students f civil engineering, which will be of interest also to graduate civil engineers and surveyors who need survey of new instruments and techniques. Compared to the first edition (1932) the present edition has been rearranged and extensively rewritten. One chapter is now devoted to the equilateral-prismatic and the Wills pendulum astrolabes.

PARKER, HARRY, AND JOHN W MACGUIRE
Simplified site engineering for architects and builders. New York John Wiley & Sons, Inc., 1954 250 p illus. 21 cm. $5.50. 5471

Contents. Logarithms. Trigonometry Measuring distances. Measuring angles. Land surveys. Survey computations. Computation of areas. Miscellaneous surveying problems. Circular curves. Leveling. Contours. Uses of contours. Computations for cut and fill. Vertical curves. Drainage and grading. Staking out buildings and roads. Site selection considerations. Check list for site plans. Index.

Note A practical book on the preparation of site plans for buildings, calculating the excavation and grading, planning the drainage systems, etc. Necessarily much of it is devoted to surveying techniques and to calculations in connection with them. The main value of the book lies in the fact that it as ritten for architects and builders without training in surveying. The patient, detailed exposition and the many worked examples make it eminently suitable for self-instruction.

PICKELS, GEORGE WELLINGTON, AND CARROLL CARSON WILEY
Route surveying. Third edition. New York John Wiley & Sons, Inc., 1949 434 p. illus. 18 cm. $5 75 5472

Contents Route surveys. Maps, plans, and profiles. Distance, curvature, and grades. Circular curves. Spirals. String-lining railroad curves. Parabolic curves. Railroad turnouts, connections, and crossings. Earthwork. Appendix. Theory of spiral. Tables. Index.

Note An advanced text and reference book for surveyors and civil engineers. Railroad surveys are treated first, then applications or modifications of the methods to other routes such as highways, pipe lines, and power transmission lines are dealt with. Knowledge of elementary surveying and trigonometry is presupposed. In this edition the chapter on string-lining has been completely rewritten, and other lesser changes have been made throughout to incorporate new material.

RAPPLFYE, HOWARD SNYDER
Manual of leveling computation and adjustment. Washington, D C. Government Printing Office 1948 178 p illus. 25 cm. (United States. Coast and Geodetic Survey Special publication no. 240) $0 75 5473

Contents. Introduction. Notation. Material received from the field. Preliminary processing by the Section of *Field Records*. Preliminary computations. Junction details. Combination computations. Adjustment of leveling. Distribution of corrections. Computation of adjusted elevations. Final check on summary sheets. Tables. Appendix. Resolution of the International Geodetic Association. Resolutions of the International Association of Geodesy Orthometric and dynamic corrections. Development of circuit-reduction method. Application f circuit-reduction method to networks including level circuits having no fixed points. Index.

Note. Geodetic leveling parties f the Coast and Geodetic Survey operating under special instructions issued for each project, carry on the field work of running line of first or second-order levels. The field work is done in accordance with the provisions of the General Instructions for Geodetic Leveling set forth in Special publication no. 239 *Manual of geodetic leveling* As that manual amplifies and explains the General Instructions and is the guide for the geodetic leveling parties in the field, this manual is the guide for the office personnel engaged in processing the data received from the field. It supplants Part II, Office computations, of Special publication no. 140, *Manual of first-order leveling*, by Henry G. A et, first published in 1929 and reprinted with supplement in 1935, 1939 and 1943

RAYNER, WILLIAM HORACE
Advanced surveying Second edition Princeton D Van Nostrand Company, Inc., 1950. 369 p illus. 20 cm $5 00 5474

Contents Errors. Precise leveling. Traverse. Triangulation. *Field astronomy* Topographic surveying. Hydrographic surveying. The

measurement of stream flow. Mine surveying. Photogrammetry. Plane coordinates. History of surveying. Index.

Note: A standard textbook designed for use in undergraduate college courses which have been preceded by a course in elementary surveying. It explains the more refined methods of measurements used in accurate work and also in specialized work. The major change in this edition is expanded treatment of photogrammetry. Also, a true meridian table has been included, and there are other minor revisions. The author is emeritus Professor of Civil Engineering in the University of Illinois.

RAYNER, WILLIAM HORACE, AND MILTON O SCHMIDT

Elementary surveying Third edition Princeton, N J D Van Nostrand Company Inc., 1955 426 p. illus. $5.50. 5475

Contents: Section I, Use and adjustments of instruments: General principles. Measurement of distances. The level. Angles and directions. The transit. Section II, Construction surveys. Leveling. Transit surveys. Computations. Circular and vertical curves. Stadia surveying. Contours and contour construction. The plane table. Topographic surveying. Map drafting. Determination of true meridian. Section III, Land surveying. Tables. Field problems. Index.

Note: This book is one of the standard American textbooks for first college courses in surveying. It describes the various instruments, introduces the reader to the basic techniques of surveying and to the special techniques of land surveying. It is available from the same publisher as a separate book and also in combination with the same author's Advanced surveying, second edition, described above under the title, "Surveying, elementary and advanced," 1957 715 p., $8.50.

RUBEY HARRY AND OTHERS

Engineering surveys elementary and applied, by Harry Rubey George Edward Lommel, and Marion Wesley Todd. Second edition. New York The Macmillan Company 1950. 888 p. illus. 21 cm. $6.75 5476

Contents (abridged): Measurement of distances. Compass surveying. Leveling. The transit. Adjustment and care of instruments. Observations for meridian. Stadia surveying. Topography. Triangulation. Land surveys. Route surveys. Area surveys. City surveys. Office work. Organization of surveys. Introduction to applied engineering surveys. Horizontal control. Engineering astronomy. Vertical control. Topographic details. Photogrammetry. Hydrographic surveying and flow measurements. City planning surveys. Underground surveys. Construction surveys. Tables. Index.

Note: An engineering college textbook which covers the whole field of modern surveying practice including the newer developments such as photogrammetry and allied techniques such as the measurement of stream flow. These uncommon techniques are not covered exhaustively but the discussion is always supplemented by lists of references to related books and articles where more information can be found. The book's inclusiveness and its typographical excellence make it a good one for library use. The second edition was published early in 1914, 916 p., $4.75.

RUBEY HARRY

Route surveys and construction a pocket and reference book with tables for the survey design, and construction of highways, railways, airways, tramways, beltways, canals, flumes, levees, pipe lines, transmission lines, and other route constructions for students, professional engineers, construction engineers, and contractors. Third edition of *Route surveys.* New York The Macmillan Company 1956. 282 p. illus. 18 cm. $6.25 5477

Contents: Introduction. The reconnaissance. The preliminary location. Simple circular curves. Compound and reverse curves. Solution by transits. Vertical and other parabolic curves. Spirals. Railway turnouts and track layouts. String lining of curves. Earthwork and embankment. Haul and the mass diagram. Rights of way. Construction. The construction engineer and professional management. The engineer-contractor. Comparison of various definitions of degree of curve. Highway practice. Aerial photography in route surveying. Problems. Tables. Index.

Note: A standard and widely used instruction book and field reference book for civil engineers and others in the construction industries who are concerned with the surveying of routes or the construction of highways, pipe lines, transmission lines, etc. The first edition was published in 1933 and the second edition in 1951, both under a slightly different title. The greater part of this third edition is identical with that of the second. However, two chapters, one entitled "The construction engineer and professional management" and the other entitled "The engineer-contractor," have been substituted for chapters on observations for meridian and adjustment of instruments that appeared in the second edition. Also a short Addendum and a bibliography of other books have been added to the chapter on aerial photography. Again, there is an extensive and separately paged section of tables. The tables appear to be unchanged from those in the preceding edition.

SEARLES WILLIAM HENRY AND HOWARD CHAPIN IVES

Field engineering a handbook of the theory and practice of railway surveying location, and construction. Twenty-second edition, by Philip Kissam. New York John Wiley & Sons, Inc., 1949 2 v in 1 illus. 18 cm. $8.00. 5478

Contents: Volume I, Text: The location of transportation lines. Reconnaissance. The preliminary survey and projecting location. The location survey. Simple curves. Compound curves. Reversed curves. Turnouts and crossings. The spiral curves. Cross sections. Calculation of earthwork. Earthwork tables. Earthwork diagrams. Haul and the mass diagram. Construction. Track laying. String lining curves. Theory of maximum economy in grades and curves. Leveling under unusual conditions. Adjustment of instruments. Highway curves. Volume II, Tables.

Note: The first edition of this handbook was published in 1880; hence, in its various editions it has served the needs of both students and practicing engineers for over seventy years. Early editions dealt mainly with the location and building of railroads, and the emphasis is still on this subject, but the special problems of highway location and surveying are also covered. This is the first edition revised by Professor Kissam. The first chapter has been added, and important additions having to do with such topics as the preliminary survey aerial mapping, the two-base method for precise altimetry the contraline method of staking out turnouts and yards, and vertical curves are found in other chapters.

SKELTON RUSSELL R.

Route surveys. New York McGraw Hill Book Company Inc., 1949 531 p. illus. 18 cm. $6.50. 5479

Contents: Introduction. The reconnaissance. The preliminary survey. The location survey. Simple circular curves. Compound and reverse curves. Parabolic curves and their applications. Spiral curves. String lining of curves. Earthwork. Earthwork distribution. Right of way. Construction surveys. Elements of turnouts, frogs, and switches. Problems. Tables. Index.

Note: An engineering college textbook and field manual on the surveying of transportation routes. It is general in scope, in the sense that it covers the surveying and location of railway routes, highway routes, transmission line routes, etc. However, the major emphasis is on highway surveying. Practical methods currently in use in the United States of America are covered. Problems for students to solve are included, but these are set off in a separate section where they do not interfere with the use of the book in the field. Approximately half of the space is occupied by a series of useful tables.

TRACY JOHN CLAYTON

Surveying theory and practice. New York John Wiley & Sons, Inc., 1947 1,279 p. illus. 20 cm. $10.75 5480

Contents (abridged): Part I, Field work: Fundamental definitions and concepts. Linear measurements. Basic problems in chaining. Use of the level and the leveling rod. Leveling to establish grade points. Precise differential leveling. Bearings and azimuths. Compass surveying. Use of the transit. Transit surveying—methods of running traverses. Triangulation. Stadia surveying. Plane-table surveying. Topographic surveying. Vertical curves. Horizontal curves. Determination

of a meridian. Part II, Office work Office computations—general directions and suggestions. Calculation of bearings and azimuths. Calculation of omitted measurements. Calculation of areas. Subdivision of land. Earthwork computations. Draftingroom methods. Methods of plotting angles. Methods of plotting traverses. Plotting the map. Profiles and cross sections. Part III, Surveying instruments Introduction. Chains, tapes, and rods. Transits, levels, plane tables, surveyor's compass, sextant. The care of instruments. Part IV Standard surveys Horizontal control surveys. Surveys for construction. Surveys of land boundaries. United States public-land survey Aerial photographic surveys. Tables. Index.

Note. Tracy's *Plane surveying* has been standard instruction and reference book since its original publication in 1907 This new title represents an extensive revision and expansion of the older ork. The purpose—that of providing a comprehensive text for students and reference handbook for practical use in the field and office—is still the same, but the work has been brought up t date and a good deal of new material added.

UNITED STATES ARMY CORPS OF ENGINEERS

Topographic surveying Washington, D C Government Printing Office, 1954 280 p illus 23 cm. (United States. Army Department of the Army technical manual TM5–234) $0 75 5481

Contents: Introduction. Preliminary planning. Field survey Third-order traverse. Fourth-order traverse. Triangulation. Spirit levels. Trigonometric levelling. Polaris. Geodetic astronomy Towers, lights, and targets. Control on aerial photography Control stations. Classification survey Shore-ship triangulation. Appendix References. Specifications for triangulation. Subtense measurements. Altimeter surveying. Standardization of tapes by National Bureau of Standards. Check lists of surveying equipment and sets. Glossary Index.

Note. This is an Army manual for the instruction of topographic surveyors. It covers the practices and techniques approved for use in the prosecution of horizontal and ertical surveys for (1) military topographic map compilation and revision (2) extension of control for military purposes (3) determination of picture-point control for photogrammetric use of aerial photographs, and (4) astronomic fixes. A thorough familiarity with the basic surveying operations described in *Element f surveying* (Department of the Army technical manual TM5-232) is prerequisite for the proper understanding and use of the manual. The bibliography lists surveying publications issued by the U S. Department f Commerce, the U S. Department of the Interior the U S. Department of the Navy and other surveying publications of the U S. Department of the Army vailable through the U S. Government Printing Office.

UNITED STATES BUREAU OF LAND MANAGEMENT

Manual of instructions for the survey of the public lands of the United States 1947 Prepared and published by the Bureau of Land Management. Washington D C Government Printing Office, 1947 613 p illus. 24 cm. $2 75 5482

Content The general plan. Instruments and methods. System of rectangular surveys. Corner monuments. Restoration of lost corners. Resurveys. Special surveys and instructions. Field notes. Plats. Mineral surveys. Appendix. Index. Inserts (folded in pocket) Specimen township plat. Specimen plat, mineral-patent survey and mill site.

Note. This manual supersedes other manuals of similar title issued by the General Land Office between 1855 and 1930. It is "issued for the guidance of all employees ho exercise technical responsibility in the execution of cadastral surveys or resurveys, including the preparation of the field notes and plats thereof in any manner relating to the public domain. It contains the detailed instructions and regulations needed by employees of the Bureau of Land Management in their work presenting the detail of the plan and methods from the point where the subjects are ordinarily concluded in the text books on surveying. A supplement entitled, *Restoration of lost or obliterated corners and subdivision of sections,* was published in 1952.

UNITED STATES BUREAU OF LAND MANAGEMENT

Standard field tables and trigonometric formulas A supplement to the *Manual of instructions for the survey of the public lands of the United States,* Eighth edition, 1956. Prepared in the Division of Cadastral Engineering Washington, D C. Government Printing Office, 1956 245 p. illus. 18 cm. $1 50 5483

Contents: Units of linear measure, units of area, expansion of steel tapes and conversion tables chains to feet and feet to chains. Reduction in latitude to south boundary of township, and corrections for con ergency within a township. Traverse table, for the correction of random lines. Traverse tables. Correction of error in stadia wire interval. Stadia coefficients, vertical rod. Natural sines and cosines. Natural tangents and cotangents. Logarithmic sines, cosines, tangents, and cotangents. Logarithms of numbers. Convergency of meridians, and differences of latitude and longitude. Azimuths of the tangent to the parallel. Offsets of the tangent to the parallel. Azimuths of the secant. Offsets from the secant to the parallel. Lengths of arcs of the earth's surface. Apparent time f sunrise and sunset. Conversion tables, degrees to time, and time to degrees. Sidereal conversions, and reductions to the local mean time of upper culmination of Polaris. Mean refractions in zenith distance. Coefficients to apply to mean refractions for variations in barometer and temperature. Coefficients for computing errors in azimuth, due to small errors in declination or latitude Mean refractions in polar distance. Trigonometric formulas for the solution of plane triangles. Trigonometric formulas for the solution f stadia measurements, observations for time, latitude, and azimuth and problems in convergency Increments of curvature. Conversion tables The arpent and vara units. Metric conversions. Chains and links to feet. Feet to chains and links. Natural factors for conversion of latitudes and departures to differences of latitude and longitude. Logarithmic factors for conversion of latitudes and departures to differences of latitude and longitude.

Note. A pocket-sized manual of tables and formulas for the use of United States of America surveyors and engineers on public land surveys. It is the latest edition of a work originally issued in 1910.

UNITED STATES COAST AND GEODETIC SURVEY

Horizontal control data. Washington, D C. Government Printing Office, 1941 23 p. illus. 23 cm (United States. Coast and Geodetic Survey Special publication no. 227) $0.15 5484

Contents. Field methods and equipment. Office computations and adjustments. Explanation of horizontal control data. Uses for horizontal control data. Use of metric and English units. Cooperation in preservation of marks. Publications.

Note. A companion publication to the Bureau's *Control leveling,* Special publication no. 226, the present work outlines the standards and methods as practiced by the United States Coast and Geodetic Survey in making triangulation observations. Standards of accuracy for first, second, and third order triangulation are included.

UNITED STATES COAST AND GEODETIC SURVEY

Manual of plane-coordinate computation, by Oscar S Adams and Charles N Claire. Washington D C Government Printing Office 1935 271 p illus 23 cm. (United States. Coast and Geodetic Survey Special publication no. 193) $1 00 5485

Contents (abridged) Nature of surveying. Choice of plane systems. Formulas for the Lambert projection. Formulas for the transverse Mercator projection. List of states with their respective grids. Explanation of plane or grid azimuth. Computing plane coordinates on the Lambert and on the transverse Mercator projections. Applications of the grids to computation. Computation of first-order traverse in North Carolina. Scale factors. Adjustment of

quadrilateral. Two short traverse adjustments. Adjustment of small arc of triangulation in an overlap section of two systems. Index.

Note: This manual of computations shows how to use the various systems of plane coordinates or grids (as determined for each of the states of the United States by the Coast and Geodetic Survey) in actual calculations. Although two different systems were used in adapting the grids to the different States, the method of using the results after the coordinates have been computed are essentially the same in both of the systems. Particular attention is given to the type of computation which involves traverse lines starting from a fixed point and ending on another fixed point. The manual also indicates how to pass from one grid system to another including adjustment to different systems of projection. Intended to encourage engineers and surveyors to base their work on geodetic control to co-ordinate it with the national control system.

UNITED STATES. COAST AND GEODETIC SURVEY

Manual of second and third order triangulation and traverse. Revised edition. Washington, D C. Government Printing Office, 1935. 226 p. illus. 23 cm. (United States. Coast and Geodetic Survey Special publication no. 145) $1 00 5486

Contents (abridged) General statement. Reconnaissance. Second and third order triangulation. Second and third order base measurement. Second and third order traverse. Astronomic azimuths. Computations, formulas, and tables. Index.

Note: A reference manual intended to supplement the standard textbooks teaching the basic principles of control surveys. The only discussions of theoretical principles which have been included are those necessary to a proper understanding of field methods. The manual contains condensed specifications for third-order control surveys together with more detailed instructions and specifications for second-order triangulation and horizontal control surveys in conformity with modern requirements and the approved practice of the U.S. Coast and Geodetic Survey. Surveying tables are included.

UNITED STATES. COAST AND GEODETIC SURVEY

Manual of traverse computation on the transverse Mercator grid, by Oscar S Adams and Charles N Claire Washington, D C Government Printing Office, 1935 197 p. illus. 23 cm. (United States. Coast and Geodetic Survey Special publication no. 195) $0.75 5487

Contents (abridged) Introduction. Description of the transverse Mercator projection. Method of computation of the projection. Computation of traverses in the vicinity of Rochester N Y Traverses in New Jersey Grid lines on Geological Survey quadrangle maps. Methods of constructing the meridians and parallels on the grid projection. Transformation of local systems of plane coordinates to grid coordinates. Index.

Note: A supplement to the Bureau's Special publication no. 193, entitled *Manual of plane-coordinate computation*, Washington, 1935, and a companion volume to Special publication no. 194 entitled *Manual of traverse computation on the Lambert grid*, Washington, 1935, now out of print. The transverse Mercator projection, while not as easily illustrated as the Lambert projection, is just as simple in conception and use, and is here illustrated by actual computation examples, from U S Coast and Geodetic traverse surveys made in Rochester, N. Y. and in the vicinity of Newark, N J These were computed especially for this publication and are offered to engineers and surveyors as typical examples of standard practice

PHOTOGRAMMETRY AND CARTOGRAPHY

ADAMS OSCAR SHERMAN

General theory of equivalent projections. Washington, D C. Government Printing Office, 1945 74 p. illus. 25 cm. (United States. Coast and Geodetic Survey Special publication no. 236) $0 40 5488

Contents. Reduction of the spheroid to the sphere. Distortion in length and angle. Examples of one coordinate as an arbitrary function. *Projections with circular parallels.* Lambert's azimuthal equivalent projection. Bonne's projection. Albers equal-area projection. Proposed new projection. *Determination of the axes of the Tissot Indicatrix.* Determination of the directions of the axes. Example of the Indicatrix. Hammer-Aitoff projection. Curves of true scale on equivalent projections. The Lambert azimuthal, equal-area, polar projection. *Tables:* Transformation from geographic to azimuthal coordinates on the authalic sphere—center on the Equator Values of the azimuth reckoned from the north. Values of the great circle distance from the center Functions of authalic latitude for map of world on proposed equal-area projection. Table for an equivalent projection with Lambert, azimuthal, meridional, projection spacing on the central meridian and straight line parallels.

Note: A mathematical treatise on the general principles underlying all projections in which the area is preserved in constant ratio throughout the map in all its parts. Such projections are also called equal-area and sometimes authalic. The publication will be of interest to those concerned with the technical aspects of map projection. Some knowledge of mathematical analysis is necessary to an understanding of its contents.

AMERICAN SOCIETY OF PHOTOGRAMMETRY

Manual of photogrammetry Second edition. Washington, D C. American Society of Photogrammetry 1952 876 p. illus. 26 cm. $12.50. 5489

Contents: The development of photogrammetry by O. D. Whitmore Elements of photogrammetric optics, by R. E. Ash. Cameras: Part 1, Aerial cameras and accessories, by J J Deng. Part 2 Field calibration of aerial mapping cameras, by E. D. Sewell. Part 3, Aerial camera stations, by M. A. Clark. Aerial photography by W R. Harman. Photographic materials and laboratory techniques, by J. L. Tupper, and others. Basic methods of photogrammetry by G. C Tewinkel. *Field surveys for photogrammetry* by the staff of the Maps and Surveys Branch of the Tennessee Valley Authority Radial triangulation, by H. J Keith. Rectification, by R. E. Altenhofen. Preparation of aerial mosaics, by the Technical Staff, Aero Service Corporation. Elements of stereoscopy by A. L. Nowicki. *Photographic interpretation for civil purposes, by R. N Colwell.* Map compilation with the stereometer-type instrument. Photogrammetric plotting instruments, by J. T Pennington. The operation of the multiplex, by E J Lord, Jr. Mapping from oblique photographs by B. B. Lane, Jr. Planning for photogrammetric mapping, by K. B. Walker *Education and training*, by H. O Sharp. *Definition of terms used in photogrammetry* Ready reference list, by D. Landen. Index.

Note: A comprehensive manual, which was prepared under the auspices of the chief professional society in this field in the United States of America. It is addressed to persons with professional interests in the techniques and uses of photogrammetry

BRANCH MELVILLE CAMPBELL, JR.

Aerial photography in urban planning and research. Illustrated by the author Cambridge, Mass. Harvard University Press, 1948. 150 p. illus. 28 cm. (Harvard city planning studies. XIV) $3.00 5490

Contents (abridged) Part 1: The use of aerial photographs for urban planning and research. Vertical stereophotographs. Oblique photographs. Photographic mapping. Cost of aerial surveys. Part 2: Special knowledge prerequisite to the effective use of air photos for urban planning and research. Platforms and plotting. Photo mosaics. Flight planning. Photographic quality Cameras and film. Night photographs. Photographic interpretation. Notes. Index.

Note: A comprehensive study of actual and potential uses of aerial photographs; not only in city planning but also in the regular work of local government units. An example of the latter is the use of such photographs in making tax and assessment maps. In the first part of the volume the various types of aerial photographs, their characteristics and uses, are discussed. In the second part, the technical processes of making aerial photographs, assembling them into maps or mosaics, and interpreting the finished product are covered in adequate detail.

BROWN, LLOYD ARNOLD

The story of maps Boston Little, Brown and Company 1950 397 p illus 26 cm. $10 00 5491

Contents Introduction. The earth takes shape. The habitable world. The world of Claudius Ptolemy The Middle Ages. Charts and the haven-finding art. The map and chart trade. The latitude. The longitude. Survey of a country Survey of a world. Notes. Bibliography Index.

Note. A survey history of the science of mapmaking, written so far as possible from original sources consulted in the chief libraries of the United States of America, and Europe. From the classical world of Egypt, Greece, and Rome, down through the days of Columbus and Magellan, to the Army Map Service of World War II, the story is told with emphasis upon the mapmakers and the methods and apparatus they used rather than upon the charts and maps which they produced. A selective bibliography representative of the literature on cartography arranged under 15 broad subject groupings covers 32 pages at the conclusion of the book. The illustrations number 83 aside from the end papers, which reproduce two Dutch maps of 1541

CHURCH, EARL FRANK, AND ALFRED O QUINN

Elements of photogrammetry Syracuse Syracuse University Press, 1948 120 p illus 24 cm. $3 00 5492

Contents Part I, Fundamental principles Introduction. Fundamental principles of aerial photogrammetry Control of photogrammetric work. Photographic interpretation. Application of the fundamental principles to practical problems in photogrammetry Part II, Practical mapping methods: Stereocomparagraph and contourfinder technique. Planimetric map compilation based upon radial line plotting. Mosaics. Topographic mapping with the multiplex-projector Oblique photographs. Tri-metrogon method for reconnaissance mapping.

Note. A brief review of the fundamental principles and methods of photogrammetry written for an introductory college course. Particular attention is given to the operation and use of various instruments used in the construction of aerial maps. The book is revision of Earl Church's *Elements of aerial photogrammetry* Syracuse, 1944 and now includes brief chapters on the history of photogrammetry control in photogrammic work, and photographic interpretation.

GREENHOOD, DAVID

Down to earth mapping for everybody With illustrations by Ralph Graeter New York Holiday House, 1951 262 p illus 28 cm $5 00 5493

Contents Part I, Getting the most out of maps: The nature of maps. How to find places. Airplanes and square planes. This little means that much. The rose of the winds—direction. Making molehills out of mountains. Flat maps with round meanings. Part II, Making your own Basing maps on other maps. Basing maps upon the ground. Part III, Forming collection Treasures, tools, and materials. Appendix. Index.

Note A well-written popular book. It is addressed to the amateur and is designed to give him an understanding and appreciation of maps whether his interest is that of user collector or maker The style is conversational, and large number of pictorial illustrations clarify the technical details. It was first published in 1944 A number of revisions including the addition of new literature to the annual bibliography were made for the third printing in 1951

LOW JULIAN W

Plane table mapping New York Harper & Brothers, 1952 364 p illus 20 cm. (Harper's geoscience series, Carey Croneis editor) $6 00 5494

Contents Concepts and definitions. Elementary plane table surveying. Plane table triangulation. Small and intermediate scale mapping. Large-scale mapping. Reconnaissance mapping. Adjustments of instruments. Care and repair of instruments. Characteristics of vertical aerial photographs. Plane table applications of vertical photographs. Drawing instruments and their uses. Methods and practice in map construction. Appendix. Index.

Note. A thorough textbook and handbook on the use of the plane table in the construction of engineering and geological maps. The treatment is well organized, and the publisher has given the book an excellent format for its intended use.

NATIONAL GEOGRAPHIC SOCIETY

The round earth on flat paper map projections used by cartographers. By Wellman Chamberlin With drawings by Charles E. Riddiford Map services of the National Geographic Society, by Gilbert Grosvenor 109 illustrations from photographs and drawings, 16 pages of maps from the National Geographic Magazine. Washington, D C. National Geographic Society, 1950 126 p illus. 25 cm $1 00 5495

Contents Map services of the National Geographic Society by G. Grosvenor Projections used for National Geographic Society maps. The round earth on flat paper—map projections used by cartographers, by W Chamberlin. Eight typical maps from the *National Geographic Magazine.* National Geographic Society ten-color maps.

Note The article, "The round earth on flat paper which occupies pages 39–103 of this publication, is its principal feature. This article is semitechnical description of cartographic methods. It includes a lucid discussion of the problem of accurately representing areas of a global earth on plane maps and describes in some detail the principal projections that have been evolved to partially surmount the difficulties. It throws much light on the study and reading of maps.

RAISZ, ERWIN

General cartography Second edition. New York McGraw Hill Book Company, Inc. 1948 354 p illus. 26 cm. (McGraw Hill series in geography, V C. Finch, consulting editor) $7 50 5496

Contents. Book one, General cartography: Part I, The history of maps. Part II, Scales and projections. Part III Representation of the earth's pattern on maps. Part IV Lettering, composition, and drafting of maps. Book two, Special cartography: Part V Surveying on the ground and from the air Part VI, Official and professional maps. Part VII, Cartographic specialties. Part VIII, Science maps. Appendix. Index.

Note This well-written and comprehensive text on the science of map-making is intended primarily for use in college courses, but its readable style will also appeal to the interested layman. It is concerned, not so much with the actual techniques of map-making, as with the fundamental principles and problems of the art of mapping. The broad scope of the earlier edition has been further augmented by the addition of new chapters on ground and aerial surveying. Map projections and military maps are discussed at greater length, and the bibliography has been revised and brought up to date.

ROBINSON, ARTHUR HOWARD

The look of maps, an examination of cartographic design Madison The University of Wisconsin Press 1952 105 p illus. 24 cm. $2 75 5497

Content Toward better cartography The cartographic technique. Cartography as visual technique. The importance of lettering. The style of lettering. The employment of lettering. Map structure. Map design. Color in cartography The employment of color. A selected bibliography

Note As the subtitle indicates, this book is a study of the visual or graphic design aspects of maps. It is written for cartographers and others who may be concerned with the design of maps, and from that viewpoint it presents the current scientific knowledge of the legibility of type faces, the perimeral factors in color perception, etc. Selected bibliographies are included.

Photogrammetry

SHARP, H. OAKLEY
Practical photogrammetry New York The Macmillan Company 1951 229 p illus. 21 cm. $4.50. 5498

Contents. Part [illegible] Photogrammetry Camera. Perspective. Terrestrial photographic surveying. Aerial photogrammetry Stereoscopy Compilation of maps. Control surveys. Planimetric and topographic details. Part [illegible] Practical applications. Tilt and rectification. Planning an aerial survey. Specifications for aerial photography and mapping. Appendix. Index.

Note A compact, introductory survey of fundamentals, current techniques, and uses of photogrammetry [illegible] itten for engineering students and graduate engineers rather than for aerial photographers and specialists in photogrammetry Among the 90 figures are numerous reproductions of photographs of plotting equipment and related devices. There is no bibliography

SLOANE, ROSCOE C., AND JOHN M MONTZ
Elements of topographic drawing. Second edition. New York McGraw Hill Book Company Inc., 1943 251 p. illus. (part col d) 23 cm. $6.00. 5499

Contents Topographic drawing. Conventional signs. Topographic mapping. Topographic drawing in colors. Contours and contour sketching. Copying—duplication—reproduction Map projections. Suggestions for office practice. Suggested problems.

Note A fully illustrated book, used both in the instruction of draftsmen and as [illegible] reference book by topographic draftsmen and general draftsmen [illegible] they are called upon to draw maps. It provides explicit information on symbols, techniques, instruments and methods of reproduction.

SMITH HAROLD THEODORE UHR
Aerial photographs and their applications. New York D Appleton-Century Company Inc., 1943 372 p. illus. 24 cm. (The Century earth science series K. F Mather editor) $5.00. 5500

Contents. Introduction Characteristics of aerial photos. Stereoscopic study of aerial photos. General principles of photo interpretation. Geographic and topographic interpretation. Planimetric maps from vertical photos. Planimetric maps from oblique photos. Photomosaics. Contour maps from aerial photos. Geologic interpretation. Physiographic interpretation Aerial photos in economic geology engineering, and other fields Military applications.

Note A practical, profusely illustrated textbook that provides knowledge of the simpler methods of making maps from aerial photographs and gives thorough instruction in the interpretation of photographs with special reference to the geologic point of view but with attention also to the problems of the engineer geographer and military scientist

SWANSON L. W AND OTHERS
Topographic manual. Part II, Photogrammetry Washington D C. Government Printing Office, 1949 570 p. illus. 26 cm. (United States. Coast and Geodetic Survey Special publication no. 249) $3 25 5501

Contents (abridged) Preliminary office procedures Requirements for map accuracy Outline of operations Equipment and instruments for photogrammetric offices. Aerial photography by R M. Berry: Coast and Geodetic Survey use of aerial photographs. Season and weather. Cameras and materials. Airplanes, instruments, and accessories. General instructions for aerial photography Flight planning. Laboratory processing and records. Photogrammetric theory by G. C Tewinkel Optical principles The vertical aerial photograph. Stereoscopy The near-vertical photograph. Tilt determination. Rectification. Radial-plot procedures Determination of the average scale of photographs. Projection and grid construction Control station data. Radial-plot assembly of nine-lens photographs with hand templets. Radial-plot assembly of single-lens photographs with hand templets—with mechanical templets. Direct radial plotting. Map manuscript delineation Photograph interpretation. Orientation and adjustment for delineation. Three-point contour lines. Scaling of positions. Stereoscopic plotting instruments, by G C Tewinkel The two-lens method. The multiplex projector The stereoplanigraph. Records and reports, by R. G. Jones: Records and reports for photogrammetric mapping. Smooth drafting and publication. Map revision. Coordination of photogrammetric and hydrographic surveys. Trimetrogon mapping. The Schneider stereoscope. Reference books. Index.

Note: The work describes, with appropriate illustrations, the methods of Coast and Geodetic Survey in the making of maps from aerial photographs. The publication is the second part of [illegible] complete Topographic Manual being prepared by the Coast and Geodetic Survey Part [illegible] (out of print) contains the requirements and detailed instructions for field topographic surveys, including plane table surveys without using aerial photographs and photogrammetric field survey [illegible] made for the compilation of maps from aerial photographs.

THOMAS, PAUL D
Conformal projections in geodesy and cartography Washington D C. United States Government Printing Office, 1952 142 p. illus. 26 cm (United States. Coast and Geodetic Survey Special publication no. 251) $0.60 5502

Contents (abridged) Mapping formulas: Mercator projection—transverse Mercator projection—oblique Mercator projection. Lambert conformal conic projection—one standard parallel—two standard parallels. Stereographic projection—polar—meridian—horizon—polar coordinates for the stereographic projections of the sphere. Derivation of mapping formulas. Bibliography Index.

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UNITED STATES. COAST AND GEODETIC SURVEY
Elements of map projection with applications to map and chart construction, by Charles H. Deetz and Oscar L. Adams. Fifth edition, revised 1944 Washington D C. Government Printing Office 1944 226 p. illus. 25 cm. (United States. Coast and Geodetic Survey Special publication no. 68) $2.25 5503

Contents (abridged) General statement. Analysis of the basic elements of map projection. Representation of the sphere upon plane. Elementary description of various forms of projection. The polyconic projection. The Bonne projection. The Lambert azimuthal (or zenithal) equal-area projection. The Lambert conformal conic projection with two standard parallels. The grid system of military mapping. The Albers conical equal-area projection with two standard parallels. The Mercator projection. Fixing position by wireless directional bearings. World maps: The Mercator projection. The stereographic projection. The Aitoff equal-area projection of the sphere The Mollweide homalographic projection. Goode's homalographic projection (interrupted) for the continents and oceans. Lambert's projection of the northern and southern hemispheres Conformal projection of the sphere within [illegible] two-cusped epicycloid. Guyou's doubly periodic projection of the sphere. Recent contributions to world mapping. Index.

Note A concise presentation of the theory and practice of map projection for the student of cartography as well as for the layman who makes use of maps in his work. Mathematical theory for the more important projections is presented and there are tables for the construction of Mercator and Lambert projections. Ten plates of specimen maps are included.

UNITED STATES DEPARTMENT OF THE ARMY
A guide to the compilation and revision of maps. Washington, D C Government Print

BROWN, LLOYD ARNOLD

The story of maps. Boston Little, Brown and Company, 1950 397 p illus. 26 cm $10.00 5491

Contents Introduction. The earth takes shape. The habitable world. The world of Claudius Ptolemy The Middle Ages. Charts and the haven-finding art. The map and chart trade. The latitude. The longitude. Survey of a country Survey of a world. Notes. Bibliography Index.

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NATIONAL GEOGRAPHIC SOCIETY

The round earth on flat paper, map projections used by cartographers. By Wellman Chamberlin With drawings by Charles E. Riddiford. Map services of the National Geographic Society, by Gilbert Grosvenor 109 illustrations from photographs and drawings, 16 pages of maps from the National Geographic Magazine Washington, D C. National Geographic Society, 1950 126 p. illus. 25 cm $1 00 5495

Contents: Map services of the National Geographic Society by G. Grosvenor Projections used for National Geographic Society maps. The round earth on flat paper—map projections used by cartographers, by W Chamberlin. Eight typical maps from the *National Geographic Magazine.* National Geographic Society ten-color maps.

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ROBINSON ARTHUR HOWARD

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SMITH, HAROLD THEODORE UHR

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Note: A practical, profusely illustrated textbook that provides knowledge of the simpler methods of making maps from aerial photographs and gives thorough instruction in the interpretation of photographs with special reference to the geologic point of view but with attention also to the problems of the engineer, geographer and military science.

SWANSON L. W. AND OTHERS

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THOMAS PAUL D

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UNITED STATES. COAST AND GEODETIC SURVEY

Elements of map projection, with applications to map and chart construction, by Charles H. Deetz and Oscar L. Adams. Fifth edition revised 1944 Washington D. C. Government Printing Office 1944 226 p. illus. 25 cm. (United States. Coast and Geodetic Survey Special publication no. 68) $2.25 5503

Contents (abridged): General statement. Analysis of the basic elements of map projection. Representation of the sphere upon a plane. Elementary discussion of various forms of projection. The polyconic projection. The Bonne projection. The Lambert zenithal (or azimuthal) equal-area projection. The Lambert conformal conic projection with two standard parallels. The grid system of military mapping. The Albers conical equal-area projection with two standard parallels. The Mercator projection. Fixing position by wireless directional bearings. World maps. The Mercator projection. The stereographic projection. The Aitoff equal-area projection of the sphere. The Mollweide homalographic projection. Goode's homolographic projection (interrupted) for the continents and oceans. Lambert projection of the northern and southern hemispheres. Conformal projection of the sphere within a two-cusped epicycloid. [illegible] doubly periodic projection of the sphere. Recent contributions to world mapping. Index.

Note: A concise presentation of the theory and practice of map projection for the student of cartography as well as for the layman who makes use of maps in his work. Mathematical theory for the more important projections is presented and there are tables for the construction of Mercator and Lambert projections. Ten plates of specimen maps are included.

UNITED STATES. DEPARTMENT OF THE ARMY

A guide to the compilation and revision of maps. Washington, D. C. Government Print

ing Office, 1955 167 p illus 26 cm. (United States. Department of the Army Technical manual no 5 240) $1 00 5504

Contents. Introduction. Cartographic drafting techniques. Collection of source material. Preparation of the compilation base Projections. Grids. Control. Plotting techniques. Compiling General. Photo interpretation for mapping. Shop methods and techniques. Final drafting. Map revision. Map editing. Introduction to photomaps. Extension and adjustment f controls Plotted bases. Extension of control from picture points. Control of mosaics. Techniques of laying mosaics. Trimetrogon charting. Appendices References. Plastic scribing. Field mapping expedients. Mapping from single high oblique photographs. Parallax tables. Edit checklist. Glossary Index.

Note This manual provides single text on the techniques of map compilation and drafting for the guidance of personnel whose duties include map compiling, cartographic drafting, and map editing. The manual covers the construction of map projection and grids the compilation and revision of maps from aerial photographs or map manuscripts by specialized phases of topographic drafting, and the preparation of mosaics, annotated photographs, hasty maps, and other map substitutes. It supersedes the 1944 edition of the same manual.

UNITED STATES DEPARTMENT OF THE ARMY

Map reading Washington, D C Government Printing Office, 1956 253 p. illus. (part col'd) 23 cm (United States. Department of the Army Field manual FM 21 26) $1 00 5505

Contents Part I, Introduction to use of maps. General. Basic map reading. Part II, Point location Map measurements. Grids and grid reference systems. Location by intersection and resection. Use f field sketching in description of location. Part III, Land navigation by dead reckoning General. Instruments of land navigation. Direction finding. Ground distance measurement. Recording and maintaining course. Part IV Map substitutes and supplements Importance of map substitutes. Aerial photographs. Mosaics and photomaps. Overlays and overprints. Third dimension map substitutes. Appendices References. General map information. Classification of maps. Map standards. Conversion factors of measurement. Projections. Glossary Index.

Note This work has dual purpose to guide the instructor of classes studying the basic concepts of map reading and to provide an advanced reference text of map using and reading. The first part of the manual expresses the basic map-reading principles which the soldier must follow to use military map for the purposes for which it was made. The subsequent parts of the manual present more detailed information on map reading, including related subjects such as sketching and land navigation. The volume contains over 120 illustrations, including a folded large-scale military map in color

UNITED STATES LIBRARY OF CONGRESS MAP DIVISION

Three-dimensional maps an annotated list of references relating to the construction and use of terrain models Compiled by Walter W Ristow Washington The Library of Congress 1951 43 p 26 cm $0.35 5506

Note. The 234 references cited in this bibliography provide comprehensive listing of articles and books published from 1666 to June, 1951 Most of the references cover publications of the past ten or twenty years and describe the construction and use of terrain models made of plaster of Paris, plastics, and rubber The entries are annotated and arranged alphabetically by author A brief subject index is included.

STRUCTURAL ANALYSIS AND DESIGN

ALBERT, ODD

Elastic behavior of structural members 'the frame constant method' Belmar N J Opla Company, 1956 280 p illus. 23 cm. $6 50 5507

Contents Cantilever beam with constant moment of inertia. Elastic behavior of structural members. The moment equations using the support angles. The unit beam. Unit beam subject to concentrated loads. Deflecting supports. General behavior of the continuous girder Continuous girder of two spans. Continuous girder of three spans. Continuous girder of four spans. Continuous girder of five spans. Continuous girder of six spans. Moment applied at a support.

Note Presented in this book is a method of analysis which the author has described as follows: "The deflections of the free end of fixed cantilever beam under various types of loading furnish the basis for simple method of determining the elastic behavior of beams and frames. The method is based upon the various deflections of the free end of member considered as fully restrained cantilever beam with all the direct loads applied and the influences of all other members in the system considered as loads. Thus, direct load will tend to bend the free end up, and an imaginary reaction at the free end will tend to bend this end up or down depending upon its direction. A moment at the free end will bend it up or down, according to its direction. The method was developed gradually over a long experience of study engineering practice and teaching in Sweden and the United States of America.

AMERICAN SOCIETY OF CIVIL ENGINEERS

Design of cylindrical concrete shell roofs. Prepared by the Committee on Masonry and Reinforced Concrete of the Structural Division through its Subcommittee on Thin Shell Design New York American Society of Civil Engineers 1952 177 p illus. 23 cm. (American Society of Civil Engineers. Manuals of engineering practice no 31) $5 00 5508

Contents Introduction. History of shell design theories. Design procedure. Design examples, long shells, simply supported. Design example, long shells, continuous over support. Design example, short shell simply supported. Design of transverse stiffeners. Effect of continuity of shell and transverse stiffener Elastic stability of shells. Appendices. References on the design of barrel shells. Theory Notation.

Note An authoritative and useful work. Design procedures are the primary topic, and approximately 100 pages are devoted to them. However the theory is derived mathematically in a 71-page appendix. Many tables and charts which simplify the computational work in connection with the design of concrete shell roofs are included The international literature published 1915–1950 is cited in the bibliography

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on structural sandwich construction Presented at the fifty fourth annual meeting American Society for Testing Materials Atlantic City N J., June 21 1951 Philadelphia American Society for Testing Materials, 1952 114 p. illus. 23 cm (Special technical publication no 118) $2 00. 5509

Contents Introduction, by A. G H. Dietz. Developments and trends in lightweight composite construction, by L. J. Markwardt. Sandwich construction in the elastic range, by H. W March. Strength of sandwich construction, by C. B Norris. Compressive and Strength of sandwich construction, by C. B Norris. Compressive and torsional instability of sandwich cylinders, by G. Gerard. Paper honeycomb as core for structural sandwich construction, by E. W Kuenzi. Aluminum honeycomb sandwich construction, by T. P Pajak. Some developments in structural sandwich building panels having inorganic cores, by G. M Rapp. Fabrication techniques for structural sandwich constructions, by R. G. Hecht.

Note. Sandwich constructions consisting of thin strong facings bonded to lightweight cores are designed to provide strong light structures. These papers describe the composition, engineering properties, and methods of testing various types of "sandwiches. They have been prepared by experts in this field and report on experimental work conducted by the authors. Bibliographies and brief discussions are included. Of interest to structural engineers and architects.

ANDERSEN, PAUL

Statically indeterminate structures their analysis and design. New York. The Ronald Press Company 1953 318 p. illus. 24 cm. $7.50. 5510

Contents: Basic principles of structural analysis. Deflection of beams. Deflection of trusses. Consistent deflections and least work. The slope-deflection method. Moment-distribution method. Frames with different joint translations. Settlement and temperature stresses. Design of continuous frames. Tapered and haunched members. Wind-stress analysis. Space frames. Appendix—charts—tables. Index.

Note: As indicated in the sub-title, this introduction to statically indeterminate structures deals not only with analysis but also with design. However, the primary subject is analysis and applications to design are included chiefly to illustrate the interest of the engineering course students for whom the book is intended. A number of problems that occur in practical design but which are often omitted from introductory texts are considered such as design to allow for foundation settlement, and design of horizontally curved beams. Such topics cannot be neglected. The book is well organized and adequately illustrated. The author is Professor of Structural Engineering in the University of Minnesota.

BLEICH, FRIEDRICH

Buckling strength of metal structures. With the collaboration of Commander Lyle B Ramsey Edited by Hans H Bleich. New York. McGraw Hill Book Company Inc. 1952. 508 p. 24 cm. (Engineering Societies monographs Ralph H. Phelps, consulting editor) $12.00. 5511

Contents: Buckling of centrally or eccentrically loaded columns. The mathematical treatment of stability problems and the stability criteria. Buckling of centrally loaded columns by torsion and flexure. Lateral buckling of beams. Built-up columns and columns of variable cross-section. The stability of frameworks. The effective length of compression members in trusses and the stability of rigid-frame structures. Stability of axially compressed bars elastically supported at specific points. Local buckling of plate elements of columns. Rectangular plates with longitudinal stiffeners. Stability of web plates of girders. Special problems in the design of ship plating. Author index. Subject index.

Note: The result of a planned effort sponsored by the Bureau of Ships of the United States Navy to assemble reliable data on the analysis of fabricated steel structures under compressive loading. The literature of the subject has been surveyed, critically evaluated, and useful data and methods have been synthesized to form a manual for practical use by graduate engineers. Not only are the larger aspects of the subject, such as are mentioned in the chapter titles, covered, but there are also discussions of many small points, such as the safety factor in short columns as compared to long columns. The methods and formulas presented are particularly applicable to the design of ship hulls and other heavy structures. The book is not intended for use in the design of light structures, such as airplane frames.

CISSEL, JAMES HARLAN

Stress analysis and design of elementary structures. Second edition. New York John Wiley & Sons, Inc., 1948 419 p. illus. 23 cm. $7.00. 5512

Contents: Part I. Stress analysis: Introduction—Definitions. External forces—Loads. Graphic statics. [illegible] Restrained and continuous beams. Trusses. Stability of masonry structures and foundations. Part II. Design of simple structures. Structural fastenings and connections. Timber beams and columns. Steel tension members, columns, beams, and girders. Light-gage steel construction. Reinforced concrete beams, slabs, and columns. Appendix. Index.

Note: The author designed this volume as an introductory exposition for the instruction of general engineering classes. It presupposes an elementary knowledge of statics and strength of materials. Part I is virtually unchanged from the first edition (1940) while Part II shows considerable revision, and many new pages of problems have been added throughout the text. The chapter on light-gage steel construction is new and newly added tables of standards, properties, sizes, and other material specifications appear in the appendix.

GRINTER, LINTON ELIAS

Automatic design of continuous frames in steel and reinforced concrete. New York The Macmillan Company 1939 141 p. illus. 23 cm. $5.00. 5513

Contents: Philosophy of automatic design for continuous structures. Modern methods of analysis of continuous frames. Automatic design of continuous frames. Automatic design of continuous frames. Automatic design with haunched members. Analysis of continuous frames by balancing angle changes. Determining influence lines by balancing angle changes. Index.

Note: Revising the old system of repeated analysis and design into a single procedure of successive corrections, this book presents a method which the author terms "automatic design" as applied to problems of structural engineering. The book is intended to supplement other texts, including the author's, on the theory and design of structures.

GRINTER, LINTON ELIAS

Design of modern steel structures. New York The Macmillan Company 1941 452 p. illus. 23 cm. $7.00. 5514

Contents (abridged): Riveted connections. Internal action of riveted joints. Rivet resistance. Eccentricity in riveted connections. Design of seat and connection angles. Welded connections. Arrangement of structural welds. Stress analysis for welds. Throat and root stresses in fillet welds. Design of structural welds. Pins and bolts for connections: Pin design. Pin plates. Timber construction: Holding power of nails and screws. Bolted joints in timber. Timber connectors. Tension members: Bars and rods. Structural shapes. Built-up tension members. Compression members. Column action. Column design. Truss members. Beams and girders. Fundamental theory. Buckling resistance of beams. Floor design. Strengthening old structures. Combined direct stress and flexure: Theory of combined action. Stress and stability: Maximum stresses. Bearing stresses. Plate design. Buckling of plates. Stress concentration. Torsion of beam sections. Design of plate girders. Roofs for industrial buildings: Riveted truss design. Welded truss design. Design of a low truss highway bridge. Office buildings. Examples of functional arrangement. Design and construction details. Design of a tall building: Floor arrangement. Column selection. Wind resistance by stories. Design of continuous beams. Special design problems. Specifications. Index.

Note: A companion volume to Grinter, *Theory of modern steel structures*, Volume I, described below. These two books are intended to cover all of the problems of analysis and design that can be treated to advantage in the usual undergraduate college courses in statically determinate structures. There is considerable emphasis in this volume upon the design of structural members and structural joints both in timber and in steel.

GRINTER, LINTON ELIAS

Elementary structural analysis and design, steel timber and reinforced concrete. New York The Macmillan Company 1942 383 p. illus. 24 cm. $6.00 5515

Contents: Design and construction. The tools of stress analysis. Industrial buildings. Riveted connections. Welded connections. Pins and bolted connections. Tension and compression members. Rolled beams and girders. Plate-girder design. Roofs for industrial buildings. Timber construction. Timber roof truss design. Reinforced concrete construction. Reinforced concrete beams and slabs. Reinforced concrete columns. Wall and column footings. Formulas and charts for reinforced concrete design. Specifications. Index.

Note: This volume is especially designed for architects, mechanical engineers, sanitary engineers, and others not specializing in bridge design. It covers both the analysis and design of simple structures of steel, timber and reinforced concrete. For timber structures, the use of modern timber connectors and the design of roof trusses with timber connectors are treated. Reinforced concrete beams, slabs, columns, and footings are discussed in the light of the 1940 report of the Joint Committee on Concrete and Reinforced Concrete. The major design problems on the steel roof truss and the steel girder are solved for both riveted and welded structures. Fifty design sheets illustrate the solution of typical design problems as they would be solved in a design office.

GRINTER, LINTON ELIAS

Theory of modern steel structures Revised edition. New York The Macmillan Company, 1949 2 vol. illus 24 cm $6 00 per vol. 5516

Contents Vol. I, Statically determinate structures. Introduction. The theory of stress analysis. Industrial buildings. Industrial building bents. Truss bridges—dead loading—highway loadings—railway loadings. Lateral and portal bracing of bridges. The plate girder. Office and commercial buildings. Wind stresses in tier buildings. Index. Vol. II, Statically indeterminate structures and space frames. Analysis and design of indeterminate structures. Framed structures in space. Deflections of structures. Classical methods of analysis of indeterminate structures. Analysis of continuous frames by moment distribution. Analysis of continuous frames by balancing end angle changes. Influence lines and maximum moment curves for continuous, movable and long-span bridges. Analysis of arches and closed rings. Index.

Note. A successful introductory textbook for engineering colleges. It is used also for self-instruction and review by practicing engineers. Addressed to those who are preparing for careers in structural engineering, it not only provides reliable expositions of modern methods of stress analysis and structural design but also mentions outstanding names and structures in the development of structural engineering and pictures ancient and modern structures. Both graphical and algebraic methods of analysis are explained. Important revisions and additions were made in preparing this edition.

HARRIS, CHARLES OVERTON

Elementary structural design. Chicago American Technical Society, 1951 163 p illus 29 cm. $5.25 5517

Contents Fundamentals. Equilibrium. Centroid of an area. Moment of inertia. Simple stress and strain. Beams. Beams of standard section. Deflection of beam. Statically indeterminate beams. Reinforced-concrete floor slabs. Bending combined with tension or compression. Compression members. Structural connections. Answers to problems. Index.

Note. A home-study text that is exceptionally well written and well organized. The discussions are full and clear and the author has included generous number of worked examples. There are many illustrations—most of them diagrams—and also practice problems and review problems.

HARRIS, ERNEST C

Elements of structural engineering New York The Ronald Press Company, 1954 505 p illus 24 cm $7 00 5518

Contents Introduction. Equilibrium and reactions. Shear thrust, and bending moment. Analysis f trusses and bracing. Analysis with moving loads. Deflections in beams. Design in steel—members—connections. Design in concrete. Design in timber Appendixes. Index.

Note. Although written by a specialist in civil engineering, this book is addressed to college students in non-civil branches of engineering, such as mechanical engineering and electrical engineering, in which an elementary knowledge of the design of structures is useful. It presents the subject in simpler way than would be appropriate to students preparing for careers in structural design. The applications described are in such fields as petroleum refinery construction, platforms for S field derricks, and electrical substations. Analysis and design procedures are both covered. The expository text includes numerous worked examples of problems in both analysis and design.

HETÉNYI, MIKLÓS IMRE

Beams on elastic foundation theory with applications in the fields of civil and mechanical engineering Ann Arbor The University of Michigan Press 1946 255 p illus. 26 cm $6 00 5519

Contents. General solution of the elastic line. Beams of unlimited length. Beams of finite length. Particular cases of loading on finite beams. Beams of variable flexural rigidity and variable modulus of foundation. Straight bars under simultaneous axial and transverse loading. Elastic stability of straight bars. Torsion of bars. Circular arches. Continuity in the foundation. Tables.

Note. This book is probably the most comprehensive treatment of the analysis of beams supported on elastic foundations. Although some theory and technique have been taken over from the older literature on the subject, the greater part of the material, including number of useful formulas, is original. Occasional practical applications are introduced into the text, but the emphasis is on theory

HETÉNYI, MIKLÓS IMRE, editor

Handbook of experimental stress analysis. New York John Wiley & Sons, Inc., 1950. 1,077 p illus 23 cm. $17 00 5520

Contents. Mechanical properties of materials, by C. W MacGregor Testing machines, by J Marin. Mechanical gages and extensometers, by L. H. Donnell and W T Savage. Optical methods of strain measurement, by J L. Mandbeck. Electrical-resistance gages and circuit theory by C. O. Dohrenwend and W R. Mehaffey. Electric-inductance gages, by B. F Langer. Electric-capacitance gages, by B. C. Carter and others. Motion measurements, by J. Ormondroyd and others. Strain rosettes, by J H. Meier. Working stresses, by C. R. Soderberg. Residual stresses, by O. J. Horger. Methods of crack detection, by C. Lipson. Interpretation of service fractures, by R. E. Peterson. Brittle models and brittle coatings, by M. Hetényi. Structural model analysis, by J. B. Wilbur and C. H. Norris. Analogies, by R. D Mindlin and M. G. Salvadori. Photoelasticity: Fundamentals and two-dimensional applications, by T. J. Dolan and W M. Murray Three-dimensional photoelasticity by D. C. Drucker X-ray analysis, by C. S. Barrett. Appendixes: Fundamentals of the theory of elasticity by S. P Timoshenko. Dimensional analysis, by J N Goodier. The precision of measurements, by M. Hetényi. Index.

Note. This ork is comprehensive handbook of information on all of the important techniques of experimental (in contrast to mathematical) stress analysis which are currently of interest to engineers. In the typical chapter, "essay" information on basic principles, uses, and limitations of the particular technique under discussion is combined with tabulated data, pertinent illustrations, and an extensive bibliography of related literature. Most of the authors are engineers associated ith manufacturing corporations or are professors of engineering in outstanding schools of technology The book is addressed primarily to graduate engineers.

HOFF, NICHOLAS JOHN

The analysis of structures, based on the minimal principles and the principle of virtual displacements. New York John Wiley & Sons, Inc., 1956 493 p. 24 cm. $9 50 5521

Contents (abridged) The principle of irtual displacements. The minimum of the total potential. The calculation of buckling loads. Complementary energy and least-work methods. Appendixes. Author index. Subject index.

Note. A graduate-level exposition of structural analysis. The author's main theses are that the theory of structures is logical and unified system and that all of the methods of analysis and design used by engineers are related. The book is organized in the four parts whose titles are given above. The chief part is the first one, in which the principle of virtual displacements is presented as powerful tool of structural analysis, and its applications to a variety of frameworks is illustrated. In this part, such well-known methods as the Hardy Cross moment distribution method are discussed and related to the main theory The author is Head of the Department of Aeronautical Engineering and Applied Mechanics of Polytechnic Institute of Brooklyn and many of the applications used for illustration relate to aircraft structures. An extensive, annotated bibliography is included. In addition to its use in organized courses, the book should be of interest to graduate engineers ith some experience in structural design ho wish to read comprehensive, modern presentation.

HOOL, GEORGE ALBERT, AND W S KINNE, editors

Steel and timber structures. Revised by R. R. Zipprodt and D M Griffith. Second edition revised and enlarged. New York McGraw Hill Book Company Inc., 1942 733 p. illus. 23 cm. $11 00 5522

Contents Buildings. Roof trusses. Short span steel bridges. Timber bridges and trestles. Steel tanks. Chimneys. Structural steel detailing. Fabrication of structural steel. Steel erection. Estimating steelwork. Materials. Appendixes. Index.

Civil Engineering

Structural Analysis

Note: A collection of data to aid engineers, construction men, draftsmen, and designers in the design and erection of all types of steel and timber structures.

HOOL, GEORGE ALBERT, AND W S KINNE, editors

Stresses in framed structures compiled by a staff of specialists. Revised by R. R. Zipprodt and George C. Ernst. Second edition. New York. McGraw Hill Book Company Inc., 1942 642 p. illus. 23 cm. $8.50. 5523

Contents: General theory. Roof trusses. Bridge trusses. Lateral trusses and portal bracing. Deflection of trusses, redundant members and secondary stresses. Statically indeterminate frames. Wind stresses in high buildings. Rectangular tower structures. Appendices. Index.

Note: A treatment for home-study classroom instruction, and general reference, of the theory of stresses in all types of framed structures and its application to the various parts of the structures.

HOOL, GEORGE ALBERT AND W S KINNE, editors

Structural members and connections, compiled by a staff of specialists editors-in-chief George A. Hool and W. S. Kinne. Revised by R. R. Zipprodt and F N Menefee. Second edition. New York McGraw Hill Book Company Inc., 1943 639 p. illus. 23 cm. $3.50. 5524

Contents: Section 1, General theory: Definitions, stress and deformation, simple and cantilever beams, deflection of beams, restrained and continuous beams, columns, bending and direct stress, unsymmetrical bending. Section 2, Design of steel and cast-iron members. Steel shapes and properties of sections, steel beams, multiple beam girders, [illegible], box girders, plate girders, bearing plates and [illegible] for beams and girders, steel tension members, cast-iron [illegible], steel columns, [illegible]. Section 3, [illegible] and [illegible] for steel members. Section 4, Design of wooden members. Wooden beams, wooden girders, wooden columns. Section 5, [illegible] and connections for wooden members. Section 6, Design of reinforced concrete members. Rectangular beams and one-way solid slabs, T beams and ribbed one-way slabs, beams and slabs reinforced for compression, slabs supported upon four edges, flat slab floor panels, members subject to direct axial compression, members subject to direct axial tension, members subject to bending and direct compression, [illegible]. Appendixes. General notation. Geometric properties of sections. Deflections of beams: elastic curve method, [illegible] method. Index.

Note: A text and reference book for students and practicing engineers, presenting treatment of the general theory pertaining to structural members, also their detailed design and the design of their connections with other members. It covers the design of steel and cast-iron members, spacers and connections, and design of reinforced concrete members, a practical treatment including a number of worked-out [illegible] problems.

LEE, GEORGE HAMOR

An introduction to experimental stress analysis. New York John Wiley & Sons, Inc., 1950. 319 p. illus. 23 cm. $6.00. 5525

Contents: An introduction to the theory of elasticity. Stress determinations from strain measurements. Structural [illegible]. Strain gages. The variable resistance wire strain gage. Photoelasticity—[illegible]. Photoelasticity—experimental procedure. Analogies. The brittle lacquer method. Miscellaneous methods in experimental stress analysis. Experimental considerations. Name index. Subject index.

Note: A survey of currently practiced methods without undue emphasis on any one method. The contents were developed from notes prepared by the author used in the course at the United States Naval Postgraduate School, and the book is intended for readers with previous education in engineering. Specific techniques and testing instruments are both described. In many instances, pictures of the instruments are included. Each of the chapters concludes with well-selected bibliography of the international literature.

MCKAIG THOMAS H.

Applied structural design of buildings. Second edition. New York F W Dodge Corporation, 1956. 442 p. illus. 27 cm. $17.50. 5526

Contents: General principles. Simple stresses and elastic theory. Moments. Steel in bending. Reinforced concrete in bending. Timber and other materials in bending. Columns. Foundations and walls. Connections. Complex structures. Office practice. Index.

Note: A reference book of design methods and data useful to architects [illegible] in the designing of structures. The author, [illegible] consulting engineer, has based it on the experience of his own firm. The main topics covered are listed above. Generally speaking, the chapters consist of presentations of short practical methods. In most instances, the method is described and its application to the solution of at least one problem is illustrated. Data useful in connection with it is supplied in adjacent tables. The first edition was issued privately in 1949 by the author. Various revisions were made in preparing this second edition, but the most noteworthy change is [illegible] much improved format.

MAUGH LAWRENCE CARNAHAN

Statically indeterminate structures. New York John Wiley & Sons Inc., 1946 338 p. illus. 23 cm. $6.00. 5527

Contents: Classification and description of statically indeterminate structures. Fundamental principles of structural mechanics. Continuous beams and frames with straight prismatic members. Building frames subjected to vertical loads. Continuous frames with joints having different lateral displacements. Continuous girders and frames with variable moment of inertia. Continuous trusses and bents. Elastic arches, rings, and frames with curved members. Flexible members. Special problems in statically indeterminate structures. Appendix. Index.

Note: Teaching material developed for use in senior and graduate engineering courses at the University of Michigan forms the basis of the work. Statically indeterminate structures are discussed and classified, and the fundamental principles of structural mechanics are explained. Emphasis is placed on solving problems by methods of successive approximation. Selected references to related literature and a group of problems for the student to solve are appended to each chapter. The author is Professor of Engineering at Michigan.

MORRIS CLYDE TUCKER, AND SAMUEL T CARPENTER

Structural frameworks. New York John Wiley & Sons, Inc., 1943 272 p. illus. 22 cm. $5.50 5528

Contents: Loads. Fireproof floors. Beams and girders. Deflections. Columns. Rigid frames under vertical loading. Wind bracing. Asymmetry. Radio and transmission towers. Industrial buildings. Welded design. Column bases and foundations. Index.

Note: A clear explanation of some of the more intricate problems that arise in the design of buildings and structural frameworks. Some of the problems are encountered when preliminary analysis does not allow for sufficient interaction of the many members of the structural frame which occur when the effects of deformations are not included in the analysis. Wherever possible the discussion is supplemented by detailed examples to show how the theory may be applied specifically. The authors indicate permissible simplifications in methods of calculation which are in accord with the elastic action of the structures and which give results of adequate accuracy.

MURNAGHAN FRANCIS DOMINIC

Finite deformation of an elastic solid. New York John Wiley & Sons, Inc., 1951 140 p. 24 cm. (Applied mathematics series, edited by I. S. Sokolnikoff) $6.25 5529

Contents: Vectors and matrices. The specification of strain. The connection between stress and strain. Isotropic elastic media. Nonisotropic elastic media. Simple shear and tension. Particular problems. Index.

Note: An important contribution to the literature of the theory of elasticity. In it, methods of analysis based largely on matrix algebra are provided for the computation of the small deformations that occur in solids under stress. These minute deformations are usually

ignored in conventional design, but they are important in connection with the design of highly stressed structural members, such as the rotor blades of gas turbines. In the final chapter matrix algebra is applied t the solution of problems involving the compression of the spherical shell, a circular tube and the torsion of a circular cylinder

NATIONAL LUMBER MANUFACTURERS ASSOCIATION

Wood structural design data. Third edition Volume 1 Washington, D C National Lumber Manufacturers Association, 1956 362 p illus 28 cm $4 00 5530

Contents. Introduction. Notations and symbols. Physical properties. Mechanical properties. Stress-grades and allowable stresses. Structural glued laminated lumber. Joint fastenings. Load duration—allowable stress relationships. Lumber terms. Abbreviations of lumber terms. Board measure table. Lumber quantity—cost table. Standard lumber sizes. Properties of sections, sawn lumber—glued laminated lumber Wood beams, design—general formulas—resisting moments—safe load tables, explanation—load tables, limited by deflection—load tables, determined by bending. Maximum spans for joists and rafters. Plank and laminated floors and roof decks. Wood columns, design—load tables. Stud walls. Wood trusses. References. Appendices Properties of sections, condensed table. Decimal equivalents. Sources of additional information.

Note A large volume containing extensive factual and tabular information relating to the design of typical wood structural members. The various tables are accompanied by text to assist the user in the interpretation and application of the data, which conform to the *National design specification for stress-grade lumber and its fastenings*, 1957 The new (third) edition takes account of improvements in efficient structural design in wood since the issuance of the previous edition, including the following: the timber connector system of wood construction the development of structural glued-laminated lumber and a simplified procedure for column design. A five-page supplement to Volume 1 has been issued entitled, *Working stresses for stress-grade lumber*

PARCEL, JOHN I, AND ROBERT B B MOORMAN

Analysis of statically indeterminate structures. New York John Wiley & Sons, Inc. 1955 571 p illus. 24 cm. $9 50 5531

Contents. Introduction. Deflections by the method of work. Deflections by special methods. General theory of statically indeterminate stresses. Special methods—selection of base system—elastic center—column analogy Special methods—slope deflection. Special methods—moment distribution. Continuous girders and trusses. The rigid frame. Secondary stresses. The elastic arch. Suspension bridges. Index.

Note There are many textbooks on statically indeterminate structures nevertheless, this new one merits inspection by anyone who is interested in structural design. It is painstakingly written with careful attention paid to basic definitions and theory detailed exposition of variety of useful methods of analysis, and numerous examples f problems such as will be encountered in practical design. Both authors have extensive experience in the teaching of structural analysis, and Professor Moorman is at present chairman of the Department of Civil Engineering of Syracuse University

PARKER, HARRY

Simplified design of roof trusses for architects and builders. Second edition. New York John Wiley & Sons Inc. 1953 278 p illus 20 cm. $4 75 5532

Contents. Part I, Principles of graphic statics Concurrent forces. Non-concurrent forces. Centroids—center of gravity Beams, shear and moment diagrams. Part II, Stresses in roof trusses. Types of roof trusses. Loads on roof trusses. Reactions Stresses in roof trusses. Miscellaneous roof trusses. Maximum stresses. Part III, Design of roof trusses. Timber trusses. Steel trusses. Part IV Timber connectors in roof trusses Timber connectors. Truss members in tension. Timber columns formulas. Design of truss joints. Trusses framed with timber connectors. Index

Note. A useful exposition of principles and practical design methods, with emphasis on the latter It is directed primarily to men in architecture and building who lack formal engineering education. However it is useful also to trained engineers as a review or practical manual. It is written in straightforward style and contains many helpful diagrams. Typical problems in design are described and solved as an integral part of the exposition. All of the data necessary for carrying out the calculation of the problems are provided in tables in the book itself The first edition was published in 1941 The book as considerably revised and expanded for this second edition in order to incorporate changes in allowable unit stresses and other advances in practice. The entire fourth section on the design of roof trusses in which timber connectors are used was added in this edition.

PARKER, HARRY

Simplified design of structural steel. Second edition. New York John Wiley & Sons, Inc, 1955 244 p illus. 20 cm. $5 75 5533

Contents Structural sections. Unit stresses. Reactions, moments and shear Bending stresses properties of sections. Design of beams. Floor framing. Riveted connections. Welded connections. Plate girders. Columns. Miscellaneous structural elements. Index.

Note A well-known text book designed for such readers as architects and builders who are interested in practical design rather than theory The common structural steel shapes are described, and their properties are tabulated in series of tables. Simple methods requiring only arithmetic and elementary algebra are then illustrated for the computation of shear bending moments, deflections, etc. The design of particular structural elements, such as floor frames, is explained in an expository text and in numerous worked examples. The first edition of the book was published in 1945. The organization and scope are unchanged in this second edition, but data have been added on new steel shapes. Shapes no longer produced have been eliminated. A number of new topics have been added, including the design of open web steel joists and the design of beams for long spans and light loads.

PARKER, HARRY

Simplified engineering for architects and builders. Second edition. New York John Wiley & Sons, Inc. 1947 245 p. illus. 20 cm. $4 75 5534

Contents Section I, Principles of mechanics: Direct stresses. Stresses with new names. Lengthening and shortening of bars. Moments. Reactions of beams. Shear and bending moments. Theory of bending and properties of sections. Section II, Timber construction. Section III, Steel construction. Section IV Reinforced concrete. Section V Roof trusses.

Note This useful work is intended to show architects, draftsmen, and builders how to design simple structural units, such as beams, columns, floors, and roof trusses. Although it contains few tables, it is a self-instruction text rather than handbook. Compared to the first edition (1938) the purpose and arrangement of the work are unchanged but there are rather extensive and important changes in unit stresses, and in the tables and problems.

PARKER, HARRY

Simplified mechanics and strength of materials. New York John Wiley & Sons, Inc., 1951 275 p. 20 cm. $5 50 5535

Contents Mechanics and strength of materials. Forces. Forces acting on bodies. Moments of forces. Stresses and deformations. Properties of sections. Shearing stresses in beams. Bending moments in beams. Continuous and restrained beams. Deflection of beams. Beams. Built-up beams of two materials. Column stresses, design of beams. Rivets and welds. Torsional stress and shafts. Stresses in pipes and tanks. Reinforced concrete. Retaining walls and dams. Index.

Note. The sixth of Professor Parker's "simplified" books. Like the others, the matter in this book is not so much simplified as it is brief and clear. The book's purpose is to give engineers, engineering students, architects and others who need an understanding of mechanics and strength of materials, working knowledge that can be put to practical use. The topics have been carefully selected, and the exposition contains numerous worked examples. The mathematics employed includes only arithmetic and algebra.

PERRY, C C, AND H R LISSNER

The strain gage primer New York McGraw Hill Book Company Inc. 1955 281 p. illus. 24 cm. $6 00 5536

Contents: An introduction to strain measurement. Bonded wire strain gage. Basic strain gage techniques. The Wheatstone bridge. Instrumentation. Scales and systems. Strain rosettes and stress gages. Known-grades of strain gages. Long-time strain gage installations. The use of strain gages with slip rings and switch contacts. Transducer applications of strain gages. Special problems, techniques, and equipment. Strain indication with brittle coatings. Appendix. Tables of strain gage characteristics and dimensions. Index.

Note: Truly a "primer" in the sense that it is introductory to the subject, the book is nevertheless a thorough manual of the practical use of strain gages. The basic principles of the strain gage and its accessory instruments are treated only briefly. On the other hand, its possibilities and limitations, applications, techniques of installing strain gages on a variety of devices and materials; the methods of reading or compensating for errors; and other aspects of interest to engineers who use strain gages are covered in full detail. Because brittle lacquers are often used in conjunction with strain gages to show stress pattern, a chapter on them is included. Literature references are supplied for each chapter.

PHILLIPS ARIS

Introduction to plasticity New York Ronald Press Company 1956 230 p. illus. 24 cm. $7.00. 5537

Contents: Introduction. The calculation of the collapse load. The moment-curvature diagram. Bending with axial force. Deflections. Curved bars. Stress-strain relations. Collapse under combined stresses. Beam buckling under combined stresses. Appendix. Problems. Index of names. Index of subjects.

Note: A new engineering college text in which plasticity in metals is presented from the standpoint of practical engineering design. The book could serve also as an introduction for practicing engineers, especially since plastic design of structures is gaining recognition as a system of design that may supersede at least in some fields, the established system of elastic design. In several of the chapters, there are concise discussions of the results of experiments designed to test theories, such as the theory of plastic collapse. Fairly extensive lists of references to the source literature of the subject, including the author's own papers, are included in the various chapters. Proofs of important theorems and formulas are supplied in the appendix. The author is Associate Professor of Civil Engineering in Yale University.

PRAGER, WILLIAM AND PHILIP G HODGE, JR.

Theory of perfectly plastic solids. New York John Wiley & Sons, Inc., 1951 264 p. 24 cm. (Applied mathematics series edited by I. S. Sokolnikoff) $7.50. 5538

Contents: Basic concepts. Trusses and beams. Torsion of cylindrical or prismatic bars. *Plane strain problems with axial symmetry—general theory—specific problems—contained plastic deformation—limit analysis.* Extremum principles. Author index. Subject index.

Note: An introduction for senior and graduate students of engineering and applied mathematics. Some previously unpublished material on limit analysis is included, along with the published contributions of such scientists as von Kármán, von Mises, Nadai, and Prandtl. The mathematical level is best described in the authors' own words, "The mathematical background expected from the reader is that necessary for advanced strength of materials or elementary theory of elasticity. The authors have attempted to refrain from indulging in mathematics for mathematics' sake. On the other hand they did not hesitate to use the mathematical tools and techniques best fitted for the problems under discussion."

REYNOLDS METALS COMPANY

Aluminum in modern architecture. Volume I, Buildings, by John Peter associate editor Edward A. Hamilton. Volume II, Engineering design and details, by Paul Weidlinger New York Reinhold Publishing Corporation, 1956. 2 v 23 cm. Vol. 1 $10.00 vol. 2 $17.50. 5538A

Contents: Volume I. Introduction. Aluminum in modern building. List of buildings by type—factories—offices—residences—schools—churches—general. Conversations with noted architects. Index. Volume II. Background to aluminum. Physical and mechanical properties. The production, fabrication and surface finishing of aluminum mill products and castings. Joints and connections. Potentials and limitations of aluminum as a structural material. Structural design. Architectural design and details. Aluminum piping, ductwork and insulation. Appendix. Index. Credits.

Note: The first of these two volumes is primarily a picture book of structures in which aluminum has been used as an important structural or decorative element. Buildings from most of the countries of the world are shown and the photographs are both dramatic and well reproduced. The second volume is an assembly of architectural and engineering information—primarily the latter—useful to architects and engineers in building design. It provides reliable data on the physical and mechanical properties of aluminum and aluminum alloys. It supplies design information on whole structures and on structural elements in which aluminum is the major material. This volume also is well illustrated. In view of the fact that it will be used for reference the index is very inadequate.

SHEDD THOMAS CLARK AND JAMISON VAWTER

Theory of simple structures. Second edition. New York John Wiley & Sons, Inc., 1941 505 p. illus. 23 cm. $6.00. 5539

Contents: Part I, Theory of simple structures: Introduction. Reactions. Shears and moments—fixed loads. Reactions, shears and moments—moving loads. Common framed structures. Stresses in trussed structures—fixed loads. Graphic statics. Stresses in trussed structures—moving loads. *Effect of lateral and longitudinal forces.* Part II, Introduction to statically indeterminate structures. Beams and frames. Trussed structures. Properties of a triangle and a parabola. Index.

Note: A simple but thorough discussion of the application of the fundamental laws of statics in structural analysis, as well as a treatment of the basic principles of the analysis of statically indeterminate structures. This latter is the feature of the second edition, and it is presented in the two chapters of Part II. Emphasis in this book is placed on the changes in shape of the loaded structure, and the calculation of the magnitude of these changes by the geometry of small angle changes along the axes of the members.

SOKOLNIKOFF I. S

Mathematical theory of elasticity Second edition. New York McGraw Hill Book Company Inc., 1956. 476 p. illus. 24 cm. $9.50 5540

Contents: Analysis of strain. Analysis of stress. Equations of elasticity. Extension, torsion, and flexure of beams. Two-dimensional elastostatic problems. *Three-dimensional problems. Variational methods.* Name index. Subject index.

Note: A standard, comprehensive work in which the property of substances—notably building materials—to recover their original shapes after deformation is treated analytically and from a unified point of view. It is regarded as a college textbook but is widely recognized also as an important contribution to engineering literature. The first edition was published in 1946. This edition is about 100 pages longer and contains very extensive problems and supplementation. Two of the three terminal chapters are entirely new and the other has been very extensively revised. Citations of recent literature have been added to the bibliographical footnotes and to the numerous short lists of collateral reading.

SUTHERLAND HALE, AND HARRY LAKE BOWMAN

Structural theory Fourth edition. New York John Wiley & Sons, Inc., 1950. 394 p. illus. 23 cm. $3.50 5541

Contents: Reactions and stresses. Graphic statics. Roof trusses. Truss and girder bridges. Long-span bridges. Lateral bracing and portals. Slope and deflection. Rigid frames. Wind stresses in tall building frames. Indeterminate trusses. Secondary stresses. Space frameworks. Index.

Note: A long-established introductory text for engineering college students. It is concerned with the design of trusses, rigid frames, and space frameworks and covers more difficult structures, such as the suspension bridge. There is strong emphasis on the use of graphic methods in the solution of problems. The scope and arrangement are unchanged from the preceding edition; but a fair amount of material has been added on such matters as the solutions of compound

trusses by means of the Williot-Mohr diagram, and the use of the theorem for virtual work in reaction and truss stress computations. The chapter on rigid frames has been considerably expanded.

TIMOSHENKO, STEPHEN

Theory of elastic stability New York McGraw Hill Book Company, Inc., 1936 518 p illus 23 cm. (Engineering Societies monographs, H. W Craver, consulting editor) $9 50 5542

Contents Bending of prismatic bars under the simultaneous action of axial and lateral loads. Buckling of centrally compressed bars. Experiments and design formulas. Buckling of compressed rings and curved bars. Lateral buckling of beams. Bending of thin plates. Buckling of thin plates. Bending of thin shells. Buckling of shells.

Note. Written for designers of metallic structures, such as bridges, ships, airships, aeroplanes, etc., and also for use in colleges in courses of theory of structures and design of aeroplanes. Gives complete discussion of such problems as buckling of struts, compressed members of trusses, buckling of curved bars, lateral buckling of I-beams, buckling of plates, webs of plate girders and of thin shells. In all cases not only is the theory developed, but also the application of this theory in design is shown and experiments verifying the theory are described.

TIMOSHENKO, STEPHEN, AND J N GOODIER

Theory of elasticity Second edition New York McGraw Hill Book Company, Inc., 1951 506 p illus. 24 cm. (Engineering Societies monographs Ralph H. Phelps, consulting editor) $10 50 5543

Contents Introduction. Plane stress and plane strain. Two-dimensional problems in rectangular coordinates. Two-dimensional problems in polar coordinates. The photoelastic method. Strain energy methods. Two-dimensional problems in curvilinear coordinates. Analysis of stress and strain in three dimensions. General theorems. Elementary problems of elasticity in three dimensions. Torsion of prismatical bars. Bending of prismatical bars. Axially symmetrical stress distribution in solid of revol tion. Thermal stress. The propagation of waves in elastic solid media. Appendix The application of finite difference equations in elasticity Author index. Subject index.

Note In this book the fundamentals of the theory of elasticity are presented, together with solutions of special problems and descriptions of approximate and experimental methods for solving elasticity problems. Because practical applications of the theory of elasticity are emphasized, consideration of matters of chiefly theoretical interest is omitted. Bibliographical references are given in footnotes for the benefit of those desiring to study special problems in more detail. The second edition is expanded by nearly 100 pages in comparison with the 1934 edition. The sections in the first edition dealing with the photoelastic method and thermal stress have been expanded and made into separate chapters presenting many methods and solutions not given in the original edition. An appendix has been added on the method of finite differences and its applications, including the relaxation method. New sections and paragraphs have been incorporated into other chapters.

TIMOSHENKO, STEPHEN

Theory of plates and shells. New York McGraw Hill Book Company Inc 1940 492 p illus 23 cm (Engineering Societies monographs H W Craver consulting editor) $9 00 5544

Contents Bending of long rectangular plates to cylindrical surface. Pure bending of plates. Symmetrical bending of circular plates. Small deflections of laterally loaded plates. Simply supported rectangular plates. Rectangular plates with various edge conditions. Plates of various shapes. Bending of plates under the combined action of lateral loads and forces in the middle plane of the plates. Large deflections of plates. Deformation of shells without bending. General theory of cylindrical shells. Shells having the form of surface of revolution and loaded symmetrically with respect to their axis.

Note. A complementary book to the author's *Theory of elasticity* It covers structural elements in hich one dimension is small in comparison with the other dimensions, in short, plates and shells. It is used both as a textbook and as treatise and reference book by graduate engineers.

TIMOSHENKO, STEPHEN, AND D H. YOUNG

Theory of structures. New York McGraw Hill Book Company, Inc., 1945 488 p. illus. 23 cm $8 00 5545

Contents: Elements of plane statics. Statically determinate plane trusses. Influence lines. Statically determinate space structures. General theories relating to elastic systems. Deflection of pin-jointed trusses. Statically indeterminate pin-jointed trusses. Beams and frames. Arches. Index.

Note A well-written textbook for engineering college students. The authors have taken special pains to demonstrate the relationships between mechanics and structural analysis. Problems for the student to solve are included.

VAN DEN BROEK, JOHN ABRAHAM

Elastic energy theory Second edition New York John Wiley and Sons, Inc., 1942 298 p illus 23 cm $6 50 5546

Contents Statically determinate versus statically indeterminate structures. Elastic energy Analysis of frames. Redundant frames. Analysis of beams. Redundant beams. Combined bending and direct stress. Combined bending and torsion. Elastic energy and deformations due to shear. Resilience. Elastic curves as influence lines. Theory of least work. Columns. Estimate of elastic energy theory. Appendixes. Problems. Index.

Note A study of the elastic energy method to determine the distribution of stresses in elastic materials subject to deformation. The book avoids the historic approach to the subject, except for the purpose of comparison, and simplifies the treatment of the subject. Statically indeterminate problems usually found in the design of bridges and buildings can be solved by the methods presented in the book. In addition, there are methods and problems in the solution of springs, large pipes, and airship and airplane frames.

VAN DEN BROEK, JOHN ABRAHAM

Theory of limit design. New York John Wiley & Sons, Inc., 1948 144 p. illus. 22 cm. $4 50 5547

Contents Physical properties of metals. Limit design of simple structures. Limit design of redundant beams. Limit design of frames. Connection details. Evaluation of limit design. References. Problems. Index.

Note Limit design is method of structural analysis hich aims at ascertaining the permissible sal deformations in given structure, or in establishing the limits ithin which failure is practically certain not to occur In this compact volume, the author has drawn upon his own research and experience to outline the procedure of such method and its underlying theory Particular attention is given to the ductile characteristics of metals, and numerous graphical representations of the stress-strain relationship of various metals and structural members are included.

VAWTER, JAMISON, AND JAMES G CLARK

Elementary theory and design of flexural members. New York John Wiley & Sons, Inc 1950 215 p illus. 23 cm. $5.50. 5548

Contents Pure bending in homogeneous, symmetrical sections. Bending in nonhomogeneous, symmetrical beams. Elementary design of steel beams and girders. Elementary design of steel columns with bending. Elementary design of reinforced concrete beams and columns. Bending in unsymmetrical sections. Bending in special beams including those ith thin ebs. Appendix. Illustrative design of floor in timber Index.

Note An engineering college textbook intended for use in intermediate courses offered to students who have had basic course in strength of materials. In effect, it is first book in practical design and as such is of potential interest to architects, practical builders, etc., who need an introduction or refresher on the engineering aspects of elementary structural design. The authors are Professors of Civil Engineering in the University of Illinois.

WANG, CHI TEH

Applied elasticity New York McGraw Hill Book Company Inc. 1953 357 p. illus. 24 cm. $8 50. 5549

Contents: Analysis of stress. Analysis of strain. Stress-strain relations and the general equations of elasticity. Plane-stress and plane-strain problems. Torsion of variously-shaped bars. Finite-difference approximations and the relaxation method. Energy principles and variational methods. Solution by means of complex variables. Bending and compression of bars—elastic stability. Numerical methods in the determination of buckling loads. Bending and buckling of thin plates. Theory of thin shells and curved plates. Index.

Note: The book was developed from lectures given over a period of years to graduate engineering students at New York University. Elasticity is presented from the viewpoint of structural design engineers already at work in their profession. The book is an introduction to the subject and at the same time an exposition of methods applicable in practical design. The treatment is primarily analytical and mathematical; however, the reader is not assumed to have knowledge of mathematics beyond introductory calculus. More advanced mathematics is developed in the book as needed. Full accounts are included of applicable approximation techniques and numerical methods. The book is of particular interest to engineers who are concerned with the analysis of airplane structures.

WANG, CHU KIA

Statically indeterminate structures. New York. McGraw-Hill Book Company Inc. 1953 424 p. illus. 23 cm. $7.50 5550

Contents: General introduction. Deflection of statically determinate beams and frames. Deflection of statically determinate trusses. Analysis of statically indeterminate beams and frames by the method of consistent deformation. Analysis of statically indeterminate trusses by the method of consistent deformation. The three-moment equation. The slope-deflection method. The moment-distribution method. The method of column analogy. Analysis of fixed arches. Secondary stresses in trusses with rigid joints. Composite structures. Answers to exercises. Index.

Note: An engineering college textbook in which extensive use is made of both solved problems and problems for the student to solve. Typical problems in analysis for which solutions are presented in detail are a feature of practically every chapter. There are 332 figures in addition to unnumbered figures included in the 131 exercises for the student. All of the standard methods of analysis of this type of structure are covered, as the chapter titles show. The author is a member of the faculty of the School of Architecture of the University of Illinois.

WESTERGAARD, HAROLD MALCOLM

Theory of elasticity and plasticity. New York John Wiley and Sons, Inc., for Harvard University Press, 1952 176 p. illus. 22 cm. (Harvard monographs in applied science. No. 3) $5.00. 5551

Contents: Scope. Historical notes. Stress. Strain. Hooke's law, the basic equations of elasticity, and the simplest possible laws of plasticity. Stress potential and applications to hollow cylinders and spheres, tensile bars, and thermal stresses. Galerkin vector, twinned gradient, and applications including effects of single forces. Index of authors. Index of subjects.

Note: The theory of elasticity (with some reference to plasticity) is presented very concisely and on a fairly advanced level in this book. Considerable attention is given to the historical aspects, not only in the chapter, "Historical notes," but to some extent in other chapters also. The author himself is responsible for many advances in the application of mathematics to the solution of practical engineering problems involving elasticity and his book is the essence of lectures which he gave for many years at Harvard University, where he was until his death Gordon McKay Professor of Civil Engineering.

WILBUR, JOHN BENSON AND CHARLES HEAD NORRIS

Elementary structural analysis. New York McGraw Hill Book Company Inc., 1948 523 p. illus. 23 cm. $7.50 5552

Contents: Introduction. Reactions. Shear and bending moment. Trusses. Graphic statics. Influence lines. Bridge and roof trusses. Long-span structures. Three-dimensional frameworks. Gravel structures. Cables. Approximate analysis of statically indeterminate structures. Deflections of structures. Stress analysis of indeterminate structures. Influence lines for statically indeterminate structures. Other structures. Model analysis of structures. Model methods of stress analysis. Other uses of structural models. Index.

Note: In this text for undergraduate civil engineering students the emphasis is placed on methods of stress analysis, and only brief mention is made of the principles of design. Throughout the book the illustrative material is drawn entirely from civil engineering structures, but the methods discussed and principles involved are applicable to structures [illegible] [illegible] fall within the scope of other branches of engineering. In spite of its predominantly textual nature, the volume will also be of value as a reference tool for practicing engineers. The authors are members of the faculty of Massachusetts Institute of Technology.

WILLIAMS CLIFFORD DAVID

Analysis of statically indeterminate structures. Third edition. Scranton, Pa. International Textbook Company 1951 395 p. illus. 21 cm. $6.75 5552A

Contents: Slope and deflection of beams. Slope and deflection of trusses. Beams. Single-span frames and arches. Slope deflection. Moment distribution. Continuous and redundant trusses. Secondary stresses in trusses. Columns. Column analogy. Multiple-span rigid frames. Index.

Note: Although the subject of indeterminate structures is ordinarily of graduate level, this book has been written for undergraduate engineering students. It stresses the application and simplicity of basic principles, and by means of many carefully chosen problems attempts to develop in the student an independent analytical ability. Completed course-work in integral calculus, applied mechanics, and the stress analysis of determinate structures are prerequisites. The chapter on column analogy describes a computation arrangement useful in analyzing many types of indeterminate structures. The second edition was published in 1946. The addition of the chapter on multiple-span rigid frames is the most important change in the third edition.

WILLIAMS CLIFFORD DAVID, AND ERNEST C HARRIS

Structural design in metals. New York The Ronald Press Company, 1949 596 p. illus. 24 cm. 5553

Contents: Introduction. Rivets, bolts and pins. Welding. Selection of sections. Connections. Plate girders. Trusses. Bearings. Light gage structural members. Fatigue of structural members. The rigid frame. Appendices. Index.

Note: An engineering college textbook which has several interesting features. Equal attention is given to welding and to riveting as techniques for the joining of structural metals. The structural aluminum alloys are considered along with steel. The method of exposition is to explain the design of structural elements and details rather than complete structures, thus enabling the student to acquire knowledge which is applicable to all types of structures from roof trusses to frames for airplanes. The appendix contains useful standard information and specifications. A second edition was published in 1957 653 p. $8.00

BUILDING

ACKERMAN ADOLPH JOHN AND CHARLES H. LOCHER

Construction planning and plant. New York. McGraw Hill Book Company Inc. 1940 381 p. illus. 23 cm. $6.00 5554

Contents (abridged): General problems. Preliminary planning. Preparatory work. Construction stages. Programming the job. Selection of equipment and small tools. Measuring equipment performance. Pile-driving and extracting equipment. Pumping and unwatering equipment. Excavating equipment. Transporting equipment. Compressed-air systems. Foundations. Cutoffs, pile foundations, and caissons. Cement handling. Concrete placing and forms. Hoisting and conveying equipment. Canals, tunnels and penstocks. Electric power and equipment. Human relations.

Note: A manual for contractors, engineers, and all others interested in the planning, control, and execution of large construction jobs, with practical methods and details from actual experience. Shows how to plan and manage jobs and gives descriptions, comparisons, and data for construction machinery per-

trusses by means of the Williot Mohr diagram, and the use of the theorem for virtual work in reaction and truss stress computations. The chapter on rigid frames has been considerably expanded.

TIMOSHENKO, STEPHEN

Theory of elastic stability New York McGraw Hill Book Company, Inc., 1936 518 p illus. 23 cm. (Engineering Societies monographs, H. W Craver, consulting editor) $9 50 5542

Contents Bending of prismatic bars under the simultaneous action of axial and lateral loads. Buckling of centrally compressed bars. Experiments and design formulas. Buckling of compressed rings and curved bars. Lateral buckling of beams. Bending of thin plates. Buckling of thin plates. Bending of thin shells. Buckling of shells.

Note Written for designers of metallic structures, such as bridges, ships, airships, aeroplanes, etc., and also for use in colleges in courses of theory of structures and design of aeroplanes. Gives a complete discussion of such problems as buckling of struts, compressed members of trusses, buckling of curved bars, lateral buckling of I-beams, buckling of plates, webs of plate girders and of thin shells. In all cases not only is the theory developed, but also the application of this theory in design is shown and experiments verifying the theory are described.

TIMOSHENKO, STEPHEN, AND J N GOODIER

Theory of elasticity Second edition New York McGraw Hill Book Company, Inc, 1951 506 p illus. 24 cm. (Engineering Societies monographs, Ralph H. Phelps, consulting editor) $10 50 5543

Contents Introduction. Plane stress and plane strain. Two-dimensional problems in rectangular coordinates. Two-dimensional problems in polar coordinates. The photoelastic method. Strain energy methods. Two-dimensional problems in curvilinear coordinates. Analysis of stress and strain in three dimensions. General theorems. Elementary problems of elasticity in three dimensions. Torsion of prismatical bars. Bending of prismatical bars. Axially symmetrical stress distribution in solid of revolution. Thermal stress. The propagation of waves in elastic solid media. Appendix The application of finite difference equations in elasticity Author index. Subject index.

Note. In this book the fundamentals of the theory of elasticity are presented, together ith solutions of special problems and descriptions of approximate and experimental methods for solving elasticity problems. Because practical applications of the theory of elasticity are emphasized, consideration of matters of chiefly theoretical interest is omitted. Bibliographical references are given in footnotes for the benefit of those desiring to study special problems in more detail. The second edition is expanded by nearly 100 pages in comparison ith the 1934 edition. The sections in the first edition dealing with the photoelastic method and thermal stress have been expanded and made into separat chapters presenting many methods and solutions not given in the original edition. An appendix has been added on the method of finite differences and its applications, including the relaxation method. New sections and paragraphs have been incorporated into other chapters.

TIMOSHENKO, STEPHEN

Theory of plates and shells. New York McGraw Hill Book Company Inc., 1940 492 p illus 23 cm (Engineering Societies monographs H W Craver consulting editor) $9 00 5544

Contents Bending of long rectangular plates to cylindrical surface. Pure bending of plates. Symmetrical bending of circular plates. Small deflections of laterally loaded plates. Simply supported rectangular plates. Rectangular plates ith various edge conditions. Plates of various shapes. Bending of plates under the combined action of lateral loads and forces in the middle plane of the plates. Large deflections of plates. Deformation of shells without bending. General theory of cylindrical shells. Shells having the form of surface of revolution and loaded symmetrically with respect to their axis.

Note A complementary book to the author's *Theory of elasticity* It covers structural elements in which one dimension is small in comparison ith the other dimensions, in short, plates and shells. It is used both as textbook and as treatise and reference book by graduate engineers.

TIMOSHENKO, STEPHEN, AND D H. YOUNG

Theory of structures New York McGraw Hill Book Company, Inc., 1945 488 p. illus. 23 cm. $8 00 5545

Contents Elements of plane statics. Statically determinate plane trusses. Influence lines. Statically determinate space structures. General theories relating to elastic systems. Deflection on pin-jointed trusses. Statically indeterminate pin-jointed trusses. Beams and frames. Arches. Index.

Note. A well- ritten textbook for engineering college students. The authors have taken special pains to demonstrate the relationships between mechanics and structural analysis. Problems for the student to sol are included.

VAN DEN BROEK, JOHN ABRAHAM

Elastic energy theory Second edition. New York John Wiley and Sons, Inc., 1942 298 p illus. 23 cm. $6 50 5546

Contents Statically determinate versus statically indeterminate structures. Elastic energy Analysis of frames. Redundant frames. Analysis of beams. Redundant beams. Combined bending and direct stress. Combined bending and torsion. Elastic energy and deformations due to shear. Resilience. Elastic curves as influence lines. Theory of least work. Columns. Estimate of elastic energy theory Appendices. Problems. Index.

Note A study of the elastic energy method to determine the distribution of stresses in elastic materials subject to deformation. The book avoids the historic approach to the subject, except for the purpose of comparison, and simplifies the treatment of the subject. Statically indeterminate problems usually found in the design of bridges and buildings can be solved by the methods presented in the book. In addition, there are methods and problems in the solution of springs, large pipes, and airship and airplane frames.

VAN DEN BROEK, JOHN ABRAHAM

Theory of limit design New York John Wiley & Sons, Inc., 1948 144 p. illus. 22 cm. $4.50 5547

Content Physical properties of metals. Limit design of simple structures. Limit design of redundant beams. Limit design of trusses. Connection details. Evaluation of limit design. References. Problems. Index.

Note. Limit design is method of structural analysis hich aims at ascertaining the permissible safe deformations in a given structure, or in establishing the limits within which failure is practically certain not to occur. In this compact volume, the author has drawn upon his ow research and experience to outline the procedures of such a method and its underlying theory Particular attention is given to the ductile characteristics of metals, and numerous graphical representations of the stress-strain relationship of various metals and structural members are included.

VAWTER, JAMISON, AND JAMES G CLARK

Elementary theory and design of flexural members. New York John Wiley & Sons, Inc., 1950 215 p. illus 23 cm. $5.50. 5548

Contents Pure bending in homogeneous, symmetrical sections. Bending in nonhomogeneous, symmetrical beams. Elementary design of steel beams and girders. Elementary design of steel columns with bending. Elementary design of reinforced concrete beams and columns. Bending in unsymmetrical sections. Bending in special beams including those ith thin webs. Appendix: Illustrative design of a floor in timber Index.

Note. An engineering college textbook intended for use in intermediat courses offered to students who have had basic course in strength of materials. In effect, it is first book in practical design and as such is of potential interest to architects, practical builders, etc., who need an introduction or refresher on the engineering aspects of elementary structural design. The authors are Professors of Civil Engineering in the University of Illinois.

WANG, CHI TEH

Applied elasticity New York McGraw Hill Book Company Inc. 1953 357 p. illus. 24 cm. $8.50 5549

Civil Engineering

Contents: Analysis of stress. Analysis of strain. Stress-strain relations and the general equations of elasticity. Plane-stress and plane-strain problems. Torsion of variously-shaped bars. Plane-deformation problems. Tension of [illegible] and the relaxation method. Energy principles [illegible] approximations and the relaxation method. Solution by means of complex [illegible] and variational methods. Solution by means of [illegible]. Bending and compression of bars—elastic stability. [illegible] methods in the determination of buckling loads. Bending and buckling of thin plates. Theory of thin shells and curved [illegible]. Index.

Note: This book was developed from lectures given over a period of years to graduate engineering students at New York University. [illegible] is presented from the viewpoint of structural design engineers [illegible] at work in their profession. The book is an introductory [illegible] to the subject and at the same time an exposition of methods [illegible] applicable in practical design. The treatment is primarily [illegible] and mathematical, however, the reader is not assumed to have knowledge of mathematics beyond introductory calculus. More advanced mathematics is developed in the book as needed. Full accounts are included of applicable approximation techniques and numerical methods. The book is of particular interest to those who are concerned with the analysis of airplane structures.

WANG, CHU-KIA

Statically indeterminate structures. New York McGraw Hill Book Company Inc., 1953. 424 p. illus. 23 cm. $7.50 5550

Contents: General introduction. Deflection of statically determinate beams and frames. Deflection of statically determinate trusses. Analysis of statically indeterminate beams and frames by the method of consistent deformation. Analysis of statically indeterminate trusses by the method of consistent deformation. The [illegible] method. The moment-distribution method. The method of column analogy. Analysis of [illegible] with rigid joints. Combined action. Secondary stresses in trusses with rigid joints. [illegible] structures. Answers to problems. Index.

Note: An engineering college textbook in which extensive use is made of both solved problems and problems for which solutions are provided. Typical problems in analysis for which solutions are [illegible] in detail are features of practically every chapter. There are 132 figures in addition to [illegible] figures included in the [illegible] problems for the student. All of the standard methods of analysis are covered, as the chapter titles [illegible] of the type of structure are covered. [illegible]. The author is a member of the faculty of the School of Architecture of the University of Illinois.

WESTERGAARD HAROLD MALCOLM

Theory of elasticity and plasticity New York. John Wiley and Sons, Inc., for Harvard University Press, 1952 176 p. illus. 22 cm. (Harvard monographs in applied science. No. 3) $5.00. 5551

Contents: Scope. Historical notes. Stress. Strain. Hooke's law. The basic equations of elasticity and the simplest possible laws of plasticity. Stress potential and applications to hollow cylinders and spheres, tensile forces, and thermal stresses. Galerkin vector, twinned gradient, and applications including effects of a single force. Index of authors. Index of subjects.

Note: The theory of elasticity (with some references to plasticity) is presented very concisely and on a fairly advanced level in this book. Considerable attention is given to the historical aspects, not only in the chapter, Historical notes, but to some extent in other chapters also. The author himself is responsible for many advances in the application of mathematics to the solution of practical engineering problems involving elasticity, and his book is the summary of lectures which he gave for many years at Harvard University where he was until his death Gordon McKay Professor of Civil Engineering.

WILBUR, JOHN BENSON AND CHARLES HEAD NORRIS

Elementary structural analysis. New York McGraw Hill Book Company Inc., 1948. 523 p. illus. 23 cm. $7.50. 5552

Contents: Introduction. Reactions. Shear and bending moment. Trusses. Graphic statics. Influence lines. Bridge and roof trusses. Long-span structures. Three-dimensional frameworks. Gravity structures. Cables. Approximate analysis of statically indeterminate structures. Deflections of structures. Stress analysis of indeterminate structures. Influence lines for statically indeterminate structures. Other structures. Model analysis of structures. Model methods of stress analysis. Other uses of structural models. Index.

Note: In this text for undergraduate civil engineering students the emphasis is placed on methods of stress analysis, and only brief mention is made of the principles of design. Throughout the book the illustrative material is drawn from civil engineering structures, but the methods discussed and principles involved are applicable to structures whose design falls within the scope of other branches of engineering. In spite of its predominantly textual nature, the volume will also be of value as a reference tool for practicing engineers. The authors are members of the faculty of Massachusetts Institute of Technology.

WILLIAMS CLIFFORD DAVID

Analysis of statically indeterminate structures. Third edition. Scranton Pa. International Textbook Company 1951 395 p. illus. 21 cm $6.75 5552A

Contents: Slope and deflection of beams. Slope and deflection of trusses. Beams. Long-span frames and arches. Slope deflection. [illegible]. Moment distribution. Continuous and redundant trusses. Secondary stresses in trusses. Columns. Column analogy. Multiple-span rigid frames. Index.

Note: Although the subject of indeterminate structures is ordinarily of graduate level, this book has been written for undergraduate engineering students. It stresses the application and simplicity of basic principles, and by means of many carefully chosen problems attempts to develop in the student an independent analytical ability. Completed course-work in integral calculus, applied mechanics, and the stress analysis of determinate structures are prerequisites. The chapter on column analogy describes a [illegible] method useful in analyzing many types of indeterminate structures. The second edition was published in 1946. The addition of the chapter on multiple-span rigid frames is the most important change in the third edition.

WILLIAMS CLIFFORD DAVID AND ERNEST C HARRIS

Structural design in metals. New York The Ronald Press Company 1949 596 p. illus. 24 cm. 5553

Contents: Introduction. Rivets, bolts and pins. Welding. Selection of sections. Connections. Plate girders. Trusses. Bearings. Light gage structural members. Fatigue of structural members. The rigid frame. Appendices. Index.

Note: An engineering college textbook which has several interesting features. Equal attention is given to welding and to riveting as [illegible]. The structural aluminum techniques for the joining of structural metals. The structural aluminum alloys are considered along with steel. The method of presentation is to explain the design of structural elements and details rather than complete structures, thus enabling the student to acquire knowledge which is applicable to all types of structures from roof trusses to frames for airplanes. The appendix contains useful standard information and specifications. A second edition was published in 1957 [illegible] p., $8.00.

BUILDING

ACKERMAN ADOLPH JOHN AND CHARLES H. LOCHER

Construction planning and plant. New York McGraw Hill Book Company Inc., 1940. 381 p. illus. 23 cm. $6.00. 5554

Contents (abridged): General problems. Preliminary planning. Preparatory work. Construction stages. Programming the job. Selection of equipment and small tools. Measuring equipment performance. Pile-driving and extracting equipment. Pumping and unwatering equipment. Excavating equipment. Transporting equipment. Compressed-air systems. Foundations. Caissons, pile foundations, and cofferdams. Cement handling. Concrete placing and forms. Hoisting and conveying equipment. Canals, tunnels and penstocks. Electric power and equipment. Human relations.

Note: A manual for contractors, engineers, and all others interested in the planning, control, and execution of large construction jobs, with practical methods and details from actual experience. Shows how to plan and manage jobs and gives descriptions, comparisons, and data for construction machinery [illegible]

ticularly heavy types, to aid in efficient planning and operation of construction plants. Based on a series of articles that appeared in *Construction methods*.

AMERICAN INSTITUTE OF STEEL CONSTRUCTION

Steel construction, a manual for architects, engineers and fabricators of buildings and other steel structures. Fifth edition New York American Institute of Steel Construction, 1946 432 p illus 23 cm. 5555

Contents (abridged) Part I Rolled steel structural shapes. Rolling mill practice. Miscellaneous data for designing and estimating. Part II, Estimating and detailing information Detailing practice. Standard beam connections. Separators, tie rods, and anchors. Field rivet and erection clearances. Pipe railing details. Rivet dimensions, weights, etc. Screw threads. Bolt and nut dimensions, weights, etc. Part III, Allowable loads by A. I. S. C. specification. Part IV Standard specifications and codes: American Institute of Steel Construction. American Institute of Bolt, Nut and Rivet Manufacturers. American Society for Testing Materials. American Welding Society United States Department of Commerce. Part V Miscellaneous data and mathematical tables. Index.

Note A widely used designers' and draftsman's handbook. Most of the changes in this edition had their origin in revised specifications and in changes in rolled shapes now being manufactured. A sixth edition was published in 1957 $3.50.

ANDERSON, L O, AND O C HEYER

Wood frame house construction. Prepared by the Forest Products Laboratory, U S Forest Service. Washington, D C. Government Printing Office 1955 235 p illus. 23 cm. (United States. Department of Agriculture Agriculture handbook no 73) $0 65 5556

Contents. Introduction. Location and excavation. Concrete work. Foundation walls and piers. Concrete floor slabs on ground. Floor framing. Wall framing. Ceiling and roof framing. Wall sheathing. Roof sheathing. Exterior trim and millwork. Roof coverings. Exterior frames, windows, and doors. Exterior siding and stucco. Framing details for plumbing. Framing details for heating systems. Wiring. Insulation. Ventilation. Interior-wall and ceiling finish. Floor coverings Interior doors, frames, and trim. Millwork. Stairs. Sheet-metal work. Porches and garages Chimneys and fireplaces. Drives, walks, and basement floors. Painting and finishing. Protection against decay and termites. Protection against fire. Methods of reducing building costs. Protection and care of material on the building site. Maintenance and repair Literature cited. Glossary of housing terms. Index.

Note. The purpose of the publication is to "present sound principles for wood-frame house construction and suggestions for selecting suitable materials in a manner that will greatly assist in the construction of a good house even by those without previous construction experience. It sets forth what are considered by the Forest Products Laboratory to be acceptable practices in assembling and arranging the parts of a well-designed frame house Construction details are given in a series of drawings. All construction requirements, as well as species and grades of lumber specified, conform as nearly as practicable to Federal Housing Administration minimum property requirements. Planning and designing are not covered. In addition to its use by amateur builders, the book is also suitable for use as a teaching text for apprentice carpenters and as a guide to judging quality in frame house construction.

ARCHITECTURAL RECORD

Architectural engineering new concepts new methods, new materials new applications. New York, F W Dodge Corporation 1955 494 [illegible] cm. $11 50 5557

[illegible] Structural elements [illegible] Building shell Structural frame, [illegible] with the other division. Section 2 Environmental con[illegible] both as textbook [illegible]ing—panel heating—air conditioning—[illegible] Lighting. Acoustics. Section 3. Vertical transportation and materials handling. Section 4 Site planning: Drainage. Foundations. Roads and parking. Section 5, Materials Concrete. Wood. Wood protection. Glass. Plastics. Flooring. Section 6, Special problems. Structural safety Fire and explosion protection. Planning for atomic energy Index.

Note. Approximately 100 articles published during the past nine years in *Architectural record* have been collected in this volume. Both text and illustrations have been reprinted. The range of topics is indeed wide, from a discussion of experiences with unpainted wood siding to uses of prestressed concrete. The title Architectural engineering is inappropriate, for there is no resemblance to a systematic treatise. Rather the book provides within one set of covers a series of informative, expertly written but separate accounts of recent developments in building materials and techniques, together with a few articles on older techniques, such as are employed in the drainage of building sites. The index is a good one that includes architects' and builders' names as well as topics.

ARCHITECTURAL RECORD

Time-saver standards a manual of essential architectural data for architects, engineers, designers, builders, draftsmen and other technicians. Third edition. New York F W Dodge Corporation, 1954 888 p. illus. 29 cm. $12.50 5558

Contents (abridged) Office practice—drafting standards, symbols, fundamental data. Structural design and construction methods. Design elements—residential—non-residential. Recreation, site planning, landscaping. Building materials and equipment.

Note A standard reference book, well known in architectural and technical libraries, including the office libraries of architects and draftsmen. Each of the sections named in the above table of contents has a number of subsections devoted to specific topics of which "Windows—wood, Retail shops—interior displays, and "Office lighting" will serve as examples. The typical sub-section is a concise essay containing both narrative description for background and tabular and graphical presentations of data for use in design. Selected literature references are usually included. In this edition, the book has been reorganized and a considerable range of material added. Room was made for the new material by deleting certain material that appeared in preceding editions. Much of the material was reprinted from *Architectural record* and other publications.

BLAKE MARION ELIZABETH

Ancient Roman construction in Italy from the prehistoric period to Augustus a chronological study based in part upon the material accumulated by the late Dr Esther Boise Van Deman Washington D C Carnegie Institution of Washington 1947 421 p. illus. 29 cm. (Carnegie Institution of Washington. Publication 570) $10 00 5559

Contents List of plates. Selected bibliography and abbreviations. Types of evidence. Roman building materials. Stone walls in Italy Squared-stone construction in Rome and vicinity Arch and vault construction in cut-stone work. Opus incertum to opus reticulatum. Sun-dried and semi-baked bricks. Brick and tile construction. Mortar and similar mixtures. Concrete. Indexes Sites other than Rome. Rome. Types of evidence. Materials used in building. Subjects.

Note A carefully-documented, scholarly study Although it is of primary interest to archaeologists, it is also valuable to students of the history of building and engineering. Detailed and precise information is presented on both building materials and methods of building.

BURBANK NELSON L

House carpentry and joinery Fifth edition. New York *Simmons-Boardman* Publishing Corporation 1952 219 p. illus 29 cm o p. 5560

Content Tools and equipment. House plans Excavations. Foundation forms. Foundations. Sills Girders. Floor joists. Sub flooring. Outside framed walls. Inside framed walls Plumbing framed work. Sheathing walls. Ceiling joists. Roof framing Roof sheathing. Cornices. Roofing. Porch and bay framing Exterior wall covering. Interior wall covering. Stairs. Interior trim Windows Doors. Hardware. Closets, shelving and built-in equipment Finished flooring.

Garage doors. Insulation. Finishing. Glossary. Twelve principles for construction. Index.

Note. A revision of the book formerly entitled Carpentry and joinery work. In its earlier editions [illegible] was designed primarily as trade school textbook. In the present edition the emphasis has been changed somewhat in favor of the layman and amateur builder [illegible] much of practical information about building. Passages and sections addressed directly to students and apprentice carpenters —for instance, the chapter on tool usage—have been omitted, and the book has been converted to [illegible] compendium of [illegible] information on the structural details of [illegible] houses, especially houses [illegible] modern homes. There is [illegible] wide variety of illustrations. A new edition [illegible] planned for 1958.

BURBANK, NELSON L.

House construction details. Fourth revised edition. New York Simmons-Boardman Publishing Corporation, 1954 395 p. illus. 28 cm. $4.95. 5561

Contents: Floor plans—sets of house plans. Excavations—foundations [illegible]—foundations. Sills—girders—posts—sub-flooring. Outside wall construction. Inside walls—wall sheathing—[illegible]. [illegible] roof construction—bay construction—roofing. Cornices and porches. Exterior wall covering. Interior wall covering—interior trim. Stair construction. Windows. Doors. Hardware. Closets—shelves—built-in equipment. Finished flooring. Chimneys and fireplaces. Scaffolds and [illegible]. Garages. Insulation. Heating—air conditioning. Painting and finishing. Modern building materials. Prefabrication. Farm buildings—equipment. Better detail [illegible]. Index.

Note: Numerous [illegible] drawings, diagrams and photographs [illegible] illustrate typical methods, typical equipment, architectural and structural details, and construction techniques are the main features of this practical manual for builders. Many of the illustrations are reproduced from the periodical *American builder.* Most are accompanied by legends which carry [illegible] considerable part of the exposition. The reading text [illegible] concise and [illegible] devoted to explanations of principles of building and descriptions of classes of equipment. The book [illegible] used as [illegible] guide and source of ideas in the construction of new single-family houses, in the alteration of [illegible] [illegible] remodeled plans, and in house remodeling. The third edition was published in 1952. Much material has been carried over from it to the fourth edition. However, some material has been added, particularly in the illustrations.

BURKE, ARTHUR E., AND OTHERS

Architectural and building trades dictionary by Arthur E. Burke, J Ralph Dalzell, and Gilbert Townsend. Edited by Pearl Jenison. Chicago American Technical Society 1955 377 p. illus. 22 cm. new enlarged edition. $6.50. 5562

Note. An illustrated dictionary for architects, builders, carpenters, and contractors. Words and terms are defined briefly and clearly [illegible] pronunciation [illegible] indicated for selected words. The 346 pages of the dictionary proper contain 11 detailed illustrative figures, some of them full-page size, as for example those for [illegible], chimney, [illegible], [illegible] [illegible]. A useful book for those needing practical definitions of words, terms, and phrases in the building trades.

COY PAUL H., AND LEO M LEGATSKI

Unistrut space-frame system. Ann Arbor University of Michigan Press, 1955 2 vols. in 1. 75 p. illus. 29 cm. $7.50. 5563

Contents: Research organization. Project history. Testing program. Laboratory tests. Gravity-load field tests. Lateral-load field tests. Analysis of field-test findings. General conclusions. Postscript.

Note: This work is the detailed report of "the technical aspects of [illegible] program of research and experimentation aimed at the development of [illegible] demountable space-frame system of building construction using Unistrut framing members. Unistrut framing members are [illegible] product of the Unistrut Corporation of Wayne, Michigan. The research was conducted as [illegible] project of the Engineering Research Institute of the University of Michigan. It involved the design and erection of test structures, testing of the structures, and the development of some new framing members and connections. One volume of the report describes the project, its techniques, and results in [illegible] text. The other volume consists of graphical presentations of the results of tests, photographs of structures and other illustrations.

CRANE, THEODORE

Architectural construction the choice of structural design. Second edition. New York John Wiley & Sons, Inc., 1956 433 p. illus. 25 cm. $10.00 5564

Contents. Building codes and design standards. Choosing the framing material. Planning the framing of [illegible] building. Choosing the structural floor system. Choosing the structural roof system. Wide-span designs. Choosing the wall assembly. Masonry walls. Choosing the type of foundation. *Index.*

Note. The subtitle of this book furnishes the clue to its purpose. Addressed to advanced students of architecture and architectural engineering, practicing architects and others [illegible] who are concerned with the choice of [illegible] type of construction to be used for [illegible] particular building, [illegible] provides authoritative descriptions and discussions of accepted materials and systems of construction for the various structural elements including framing, floor, roof, [illegible], and foundation. There are frequent references to codes, standards and other related literature and an abundance of well-chosen illustrations. The first edition [illegible] as published in 1947. Although written from the same viewpoint and composed of the same number of chapters [illegible] the same titles, this second edition contains [illegible] range of new material reflecting the very extensive changes in the building construction that have come about in the past decade in the United States of America.

DALZELL, J RALPH

Blueprint reading for home builders. New York McGraw Hill Book Company Inc. 1955 138 p. illus. 31 cm. $5.50 5565

Contents. Introduction. Scaling and dimensioning. Elevation views. Plan views. Section views. Detail views. Mechanical details. Survey and plot plans. Written specifications. Blueprint reading.

Note. By limiting the scope of this book to the kinds of drawings used in the construction of residential houses the author has been able to cover the ground in detail and to discuss numerous points [illegible] such there would not be room in [illegible] book on blueprint reading in general. No previous acquaintance [illegible] architectural drawing is necessary in order to understand the book. The general scheme of exposition is to reproduce drawings, then to discuss them point by point, hence, [illegible] considerable part of the space in the book [illegible] occupied by illustrative matter. In the body of the work the illustrations are black and white reproductions of line drawings, but reproductions of blueprints are bound in at the end. The book is suitable for use as [illegible] vocational school text for students preparing for the home building industry

DALZELL, J RALPH

Simplified masonry planning and building. New York McGraw Hill Book Company Inc., 1955 370 p. illus. (part col d) 23 cm. $5.00. 5566

Contents: Introduction. Cement. Mortar. Concrete—footings—foundations—floors—block. Typical concrete-block details. Concrete-block walls, foundations, and pilasters—chimneys. Stucco. Insulation. Illustrative example. Miscellaneous masonry projects. Index. Blueprints—Plates [illegible] to vi.

Note: An elementary practical book suitable for use as [illegible] vocational school text and as [illegible] reference manual for practical builders, including amateurs. It covers standard materials and techniques in building small structures of poured concrete and concrete block. It is written in [illegible] simple style and is generously illustrated. Structural clay tile and brick masonry are not included, otherwise, the book covers about the same ground as *Masonry simplified,* written by the author and G. Townsend and described above.

DALZELL, J RALPH AND GILBERT TOWNSEND

Bricklaying, skill and practice. Illustrations by Arthur E. Burke. Second edition. Chicago American Technical Society 1954 184 p. illus. 22 cm. $3.50. 5567

Contents: Brick masonry. Where bricks are used. Typical brick masonry details. How to lay bricks. Fireplace design and construction. Chimneys and fireplace construction. Index.

Note: A textbook designed for vocational courses offered to young men [illegible] who are planning to become brick masons. It begins with

ticularly heavy types, to aid in efficient planning and operation of construction plants. Based on a series of articles that appeared in *Construction methods*.

AMERICAN INSTITUTE OF STEEL CONSTRUCTION

Steel construction a manual for architects, engineers and fabricators of buildings and other steel structures. Fifth edition. New York American Institute of Steel Construction, 1946 432 p illus 23 cm. 5555

Contents (abridged) Part I: Rolled steel structural shapes. Rolling mill practice. Miscellaneous data for designing and estimating. Part II. Estimating and detailing information: Detailing practice. Standard beam connections. Separators, tie rods, and anchors. Field rivet and erection clearances. Pipe railing details. Rivet dimensions, weights, etc. Screw threads. Bolt and nut dimensions, weights, etc. Part III, Allowable loads by A. I. S. C. specification. Part IV Standard specifications and codes American Institute of Steel Construction. American Institute of Bolt, Nut and Rivet Manufacturers. American Society for Testing Materials. American Welding Society United States Department of Commerce. Part V Miscellaneous data and mathematical tables. Index.

Note A widely used designers' and draftsman's handbook. Most of the changes in this edition had their origin in revised specifications and in changes in rolled shapes now being manufactured. A sixth edition was published in 1957 $3.50.

ANDERSON, L O, AND O C HEYER

Wood frame house construction Prepared by the Forest Products Laboratory, U S Forest Service. Washington D C Government Printing Office, 1955 235 p illus 23 cm. (United States. Department of Agriculture Agriculture handbook no 73) $0 65 5556

Contents Introduction. Location and excavation. Concrete work. Foundation walls and piers. Concrete floor slabs on ground. Floor framing. Wall framing. Ceiling and roof framing. Wall sheathing. Roof sheathing. Exterior trim and millwork. Roof coverings. Exterior frames, windows, and doors. Exterior siding and stucco. Framing details for plumbing. Framing details for heating systems. Wiring. Insulation. Ventilation. Interior-wall and ceiling finish. Floor coverings. Interior doors, frames, and trim. Millwork. Stairs. Sheet metal work. Porches and garages. Chimneys and fireplaces. Drives, walks, and basement floors. Painting and finishing. Protection against decay and termites. Protection against fire. Methods of reducing building costs. Protection and care of material on the building site. Maintenance and repair Literature cited. Glossary of housing terms. Index.

Note The purpose of the publication is to "present sound principles for wood-frame house construction and suggestions for selecting suitable materials in a manner that will greatly assist in the construction of good house even by those without previous construction experience. It sets forth what are considered by the Forest Products Laboratory to be acceptable practices in assembling and arranging the parts of a well-designed frame house Construction details are given in a series of drawings. All construction requirements, as well as species and grades of lumber specified, conform as nearly as practicable to Federal Housing Administration minimum property requirements. Planning and designing are not covered. In addition to its use by amateur builders, the book is also suitable for use as teaching text for apprentice carpenters and as guide to judging quality in frame house construction.

ARCHITECTURAL RECORD

Architectural engineering new concepts new methods, new materials new applications New York, F W Dodge Corporation 1955 494 p illus. 30 cm. $11 50 5557

Contents (abridged) Section 1 Building shell Structural frame, walls, roofs, floors. Prefabrication. Section 2 Environmental control: Heating and air conditioning—panel heating—air conditioning—new devices and systems—condensation. Lighting. Acoustics. Section 3, Utilities. Electrical systems. Vertical transportation and materials handling. Section 4 Site planning: Drainage. Foundations. Roads and parking. Section 5 Materials. Concrete. Wood. Wood protection. Glass. Plastics. Flooring. Section 6, Special problems. Structural safety Fire and explosion protection. Planning for atomic energy Index.

Note Approximately 100 articles published during the past nine years in *Architectural record* have been collected in this volume. Both text and illustrations have been reprinted. The range of topics is indeed wide, from discussion of experiences with unpainted wood siding to uses of prestressed concrete. The title Architectural engineering is inappropriate, for there is no resemblance to systematic treatise. Rather the book provides within one set of covers a series of informative, expertly written but separate accounts of recent developments in building materials and techniques, together with a few articles on older techniques, such as are employed in the drainage of building sites. The index is good one that includes architects' and builders' names as well as topics.

ARCHITECTURAL RECORD

Time-saver standards a manual of essential architectural data for architects, engineers, designers, builders, draftsmen, and other technicians. Third edition. New York F W Dodge Corporation, 1954 888 p. illus. 29 cm. $12.50 5558

Contents (abridged) Office practice—drafting standards, symbols, fundamental data. Structural design and construction methods. Design elements—residential—non-residential. Recreation, site planning, landscaping. Building materials and equipment.

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BLAKE, MARION ELIZABETH

Ancient Roman construction in Italy from the prehistoric period to Augustus a chronological study based in part upon the material accumulated by the late Dr Esther Boise Van Deman. Washington, D C Carnegie Institution of Washington 1947 421 p. illus. 29 cm. (Carnegie Institution of Washington. Publication 570) $10 00 5559

Contents List of plates. Selected bibliography and abbreviations. Types of evidence. Roman building materials. Stone walls in Italy Squared-stone construction in Rome and vicinity Arch and vault construction in cut-stone work. Opus incertum to opus reticulatum. Sun-dried and semi-baked bricks. Brick and tile construction. Mortar and similar mixtures. Concrete. Indexes. Sites other than Rome. Rome. Types of evidence. Materials used in building. Subjects.

Note A carefully-documented, scholarly study Although it is of primary interest to archaeologists, it is also valuable to students of the history of building and engineering. Detailed and precise information is presented on both building materials and methods of building.

BURBANK NELSON L

House carpentry and joinery Fifth edition. New York Simmons-Boardman Publishing Corporation 1952 219 p. illus. 29 cm. o.p. 5560

Contents. Tools and equipment. House plans. Excavations. Foundation forms. Foundations. Sills. Girders. Floor joists. Sub flooring. Outside framed walls. Inside framed walls. Plumbing framed work. Sheathing walls. Ceiling joists. Roof framing. Roof sheathing. Cornices. Roofing. Porch and bay framing Exterior wall covering. Interior wall covering. Stairs. Interior trim Windows. Doors. Hardware. Closets, shelving and built-in equipment. Finished flooring.

Civil Engineering

Government Printing Office, 1954 220 p. illus. 23 cm. (United States. Department of Agriculture. Technical bulletin no 1069) $0.60. 5574

Contents: Introduction. Part 1. Fabrication: Performance record of glued joints in laminated construction. Properties and characteristics of woodworking glues. Selection of glues for laminating. Selection and preparation of lumber for laminating. Layout of laminated assembly. Gluing jigs and forms. Gluing of edge and end joints. Gluing laminated assemblies. Equipment for applying glued pressure. Clamping techniques for straight and curved members. Curing the glue in laminated assemblies. Rate of heating in large units of laminated clamped assemblies. Plant and machinery [illegible]. Control instruments [illegible] for laminating operation. Control [illegible]. Methods of evaluation of product. Preservative treatments of laminated wood and gluing of treated wood. Part II. Design: Basic features of glued laminated wood construction. Calculation of working stresses. Design considerations for laminated wood. Suggested specification requirements. Glossary. Literature cited. Appendix: Effect of end joints. Effect of knots. Effect of form and [illegible]. Relation of strength properties to curvature. Height of beams. Strength of glued laminated construction made of this [illegible]. Concentrations of shear stress near load points of beams. Index.

Note: Glued laminated wood construction has been developed as a technique adapted to a wide variety of building and construction uses. Theaters, churches, gymnasiums, warehouses, barns, bridges [illegible] in which it is employed, in addition to [illegible] shipbuilding and boatbuilding. This bulletin is based upon research carried on at the Forest Products Laboratory of the U. S. Forest Service, Madison, Wisconsin. It tells the advantages and applications of this type of construction and covers all the technical phases of its use. Although the publication is primarily a guide to the fabrication and design of such glued laminated members as beams, arches, and truss parts, the fabrication principles set forth are applicable to glued laminated articles of all types and sizes.

HANSEN HOWARD JAMES

Modern timber design. Second edition. New York John Wiley & Sons Inc., 1948 312 p. illus. 23 cm. $6 50. 5575

Contents: Characteristics and properties of wood. Mechanical and physical properties. Grading rules and working stresses. Mechanics of wood. Fastenings. Beams and columns. Wood trusses. Timber decks and bridges. Glued laminated construction. Plywood. Decay, wood-destroying organisms, and preservatives. Appendixes. Index.

Note: This college textbook has also proved useful to practicing engineers concerned with the design of wooden structures. It has been revised so as to conform with the National Lumber Manufacturers Association's *National design specification for stress grade lumber and its fastenings* (1944). Most chapters show some alteration, but the most extensively revised are the third and fifth, two—those on mechanical properties and on mechanics—are new.

HANSEN HOWARD JAMES editor

Timber engineers' handbook. New York John Wiley & Sons, Inc., 1948. 882 p illus. 21 cm. $15.00. 5576

Contents: Factors affecting strength. Grading rules and working stresses. Standard terms and abbreviations. Sizes and properties of sections. Weights. Loadings. Simple beams. Continuous beams. Trussed beams. Columns—solid. Spaced columns. Combined stresses. Fastenings. Trusses. Glued laminated construction. Plywood. Floor systems. Buildings. Poles and piling. Protection and maintenance. Appendix. Index.

Note: Here are brought together in readily accessible form basic information and reference data of particular value to engineers concerned with the design of wooden structures. Numerous diagrams and charts are used to illustrate and give data on definitions, location and details of construction. The appendix contains "Table of uniformly distributed loads" in which the following information is given for (1) nominal sizes of timber ranging from 2 in. × 3 in. to 24 in. × 48 in., (2) fiber stresses ranging from 950 lb. to 2 400 lb. per sq. in. and (3) spans ranging from 3 ft. to 50 ft. W total load; H maximum horizontal shear for load W; d, maximum deflection for load W; W' total load in pounds limited by deflection of 1/360 of span.

HAUF, HAROLD DANA, AND HENRY A PFISTERER

Design of steel buildings. Third edition. New York John Wiley & Sons, Inc. 1949 280 p. illus. 22 cm. $6 00. 5577

Contents: General considerations. Reactions, shear and bending moment. The design of beams. Riveted connections. Plate girders. Columns and struts. Roof trusses. Wind stresses in tall buildings. Welded construction. Building design project. Appendixes. Index.

Note: An introduction to the basic principles of structural steel design [illegible] for students of architectural engineering and for the guidance of the beginning architect or engineer. The book deals specifically with the structural design of such types of buildings as apartment houses, offices, schools, etc. The treatment assumes knowledge on the part of the reader of the elements of mechanics and strength of materials. Little change has been made in the scope or arrangement of this new edition. However [illegible] chapter on welded construction has been added, codes of practice and specifications have been brought up to date, and the chapter on the design of beams has been extensively revised.

HAWKINS, REGINALD R., AND C H. ABBE

New houses from old, a guide to the planning and practice of house remodeling. New York McGraw Hill Book Company, Inc., 1948. 558 p. illus. 24 cm. $6 50. 5578

Contents: Remodel! New houses from old—some examples. The chief types of house construction. How to judge a house for remodeling. Halls and stairs. Living rooms. Dining rooms. Kitchens. Bathrooms. Bedrooms. Closets and storage space. Basements. How to do remodeling. Masonry work. Foundations. Chimneys and fireplaces. Interior walls. Exterior walls. Windows and doors. House framing. Roofs. [illegible] walls and trim. Floors. Painting and papering. Heating. Insulation. Plumbing. Water supply. Sewage disposal. Wiring and lighting. Useful books and pamphlets. Addresses of organizations and publishers. Appendix. Index.

Note: About one-third of this book deals in nontechnical language with the problems faced by anyone who plans to modernize a dwelling house. In this part are discussed the modern requirements for comfortable and efficient houses and how these requirements can be obtained by well-planned remodeling of constructed houses. The rest of the book is concise, encyclopedic discussion of the building materials and techniques that are employed in house remodeling. The work is addressed primarily to actual and prospective homeowners, but it contains much information that is also of value to amateur and professional building craftsmen. There are about 150 illustrations.

HOLMES BURTON H editor

Materials and methods in architecture a compendium of technical articles selected from *Progressive architecture* New York Reinhold Publishing Corporation 1955 412 p. illus. 30 cm. $11.50 5579

Contents: Construction methods today and tomorrow. The role of steel. Aluminum-faced structures. Wood forever. Our approach to concrete. Three building types. Insulation and structure. Foundations. Construction materials data: Ubiquitous steel. Aluminum, the challenger. Concrete and plaster. Insulation—money in the bank. Flashing moves in. Interior materials. Surface protection. Environmental control today and tomorrow. Sun angle data. Lighting summary. Water supply and laboratory plumbing. Equipment. Index.

Note: Certain walls of steel and aluminum, laminated wood arches, prestressed concrete, vermiculite plaster. Cases, perimeter heating, residential air conditioning, cold cathode fluorescent lighting, and television antenna systems for apartment houses are some of the newly developed materials, techniques and equipment described in this volume. As indicated, all of the articles appeared first in the periodical *Progressive architecture*. They appeared over a period of six years. The volume is not, therefore, a systematic, comprehensive treatment of new things in building, but is instead a collection of rather miscellaneous articles, tied together by a not very pronounced central theme and a general index.

HORNUNG WILLIAM J

Architectural drafting. Second edition. Englewood Cliffs, N J Prentice-Hall Inc.,

elementary information on tools and materials, explains the technique of laying up ordinary brick walls, piers, etc., and concludes with two chapters on the design and building of fireplaces and chimneys. In short, it covers the brick-laying technique and related information that a mason would use in constructing such structures as dwelling houses. It is fully illustrated. Much of the material, both text and illustrations, has been taken from the author's *Masonry simplified*.

DALZELL, J RALPH, AND OTHERS

Building trades blueprint reading. Part I, Fundamentals. Third edition, by Rex Battenberg and W Rahy Paul. Contributor, Chapter 7, William Woltjes Chicago American Technical Society, 1956 128 p illus 28 cm $2 75 5568

Contents. Working drawings. Elevation views. Plan views. Dimensioning and scaling. Structural details. Survey and plot plans. Regional variations. Final examination. Appendix.

—— Part II, Specifications, blueprints and examinations. Second edition revised By J Ralph Dalzell Chicago American Technical Society 1950 234 p illus 28 cm $2 40 5568A

Note A practical introductory course used in vocational schools and in training courses for apprentices. It includes several full-sized blueprints of residential buildings in addition to many drawings in reduced scale.

DALZELL, J RALPH, AND GILBERT TOWNSEND

How to remodel a house. Chicago American Technical Society, 1942 528 p illus. (part col'd) 22 cm. $5.25 5569

Contents Types of home architecture. How to read architectural plans. Specifications. Fundamentals of remodeling. How to select architectural types. Architectural drawings. Structural details. Stairs. Insulation. Selection of materials. Bathrooms. Remodeling kitchens. Heating and air-conditioning. Electric lighting and wiring. Remodeling rooms. Floor plans and elevations for remodeling. Illustrative example. Index. Blueprints.

Note A book intended as a guide through every step of reasoning, planning, and designing, with regard to individual rooms or entire floors and exteriors. Studies are given in the evaluation of insulation, air-conditioning and heating plants, plumbing, electric wiring. Detailed drawings and many photographs are used. The index is extensive. Questions and answers follow each chapter

DALZELL, J RALPH, AND GILBERT TOWNSEND

Masonry simplified. Volume I, Tools, materials practice. Contributor to third edition Edward Matzke. Chicago American Technical Society, 1956 463 p illus 22 cm. $5 40 5570

Contents Lime, its manufacture and application. Mortar types, properties, and uses. Concrete characteristics and mixing. Blueprint reading. Concrete masonry. Structural clay tile. Brick masonry. Masonry sidewalks, driveways, floors, and steps. Illustrated dictionary of building terms. Index.

Note. A successful practical text intended primarily for the use of vocational school students. It is written in a simple direct style and is thoroughly illustrated. The first edition was published in 1948. Although this second edition is 96 pages longer the increase is due to the inclusion of a dictionary of building terms that did not appear in the first edition. The chapters have the same titles and the same numbers of pages as those in the first edition However the fifth chapter entitled "Concrete masonry" has been extensively revised in both text and illustrations. In contrast there are few if any changes in other chapters. Volume II, *Practical construction* second edition, was published in 1957 438 p., $5.95.

DIETZ, ALBERT G

Dwelling house construction. Second edition Princeton D Van Nostrand Company, Inc., 1954 396 p illus. 24 cm. (A technical series on building construction, Walter C. Voss, editor) $8 00 5571

Contents. Inspection of the site. Building layout. Excavation, sanitary systems. Foundations. Framing. Chimneys and fireplaces. Windows. Roofing and flashing. Cornices, gutters, leaders. Exterior finishes, water tables. Insulation. Lath and plaster—dry" walls. Interior finish. Hardware. Painting. Panel construction. Index.

Note A compactly written textbook and manual covering the structural and finishing details and methods of construction currently used in the building of small dwelling houses in the United States of America. It covers only houses with wooden frames. Houses with walls built of masonry units or solid masonry are not discussed, but houses with masonry veneer walls over wooden frames are included. It is used both as a textbook in college courses and as a home study and reference book. Concise discussions of specific topics are supplemented by many clear drawings, and by model specification clauses however there are no reference lists or guides to sources of additional information. The first edition was published in 1946. In this second edition, the chapter on panel construction, which describes the structural principles and methods of erection of houses built of prefabricated panels, is newly added. All of the other chapters have been carried over from the preceding edition, with major changes only in the chapter on hardware. The author is Professor of Building Engineering and Construction of Massachusetts Institute of Technology

DUNHAM, CLARENCE WHITING

Planning industrial structures. New York McGraw Hill Book Company, Inc., 1948. 481 p. illus. 23 cm. $8 00 5572

Contents General planning of structures. Exploration of the site. Daylighting industrial plants. Electric lighting and power. Ventilation. Roofs. Floors. Walls and partitions. Steel mill buildings. Multistory steel buildings. Concrete structures. Wooden structures. Foundations. Machinery foundations. Miscellaneous considerations and structures. Some lessons in structural planning. Index.

Note The scope of this work is the planning and design of factory buildings and other industrial structures. It deals mainly with two aspects the principles of planning so as to obtain maximum of suitability to the operation that will be performed in the plant, and special points and "know-how" for which there is no space in the usual handbook. Design is carried only through the selection of materials and parts. Thus in the chapter on floors, there is information on types of floor construction and on special details, such as joints, but none on methods of calculating allowable spans, because the work is intended chiefly for engineers who are already well grounded in the theory of structures.

FICKES, CLYDE F, AND W ELLIS GROBEN

Building with logs. Washington D C. Government Printing Office, 1945 56 p. illus. 23 cm. (United States. Department of Agriculture. Miscellaneous publication no 579) $0.25 5573

Content Building the foundation. Preparing the logs. Dimensions of the building Framing the corners. Door and window jambs. Floor joists. Laying the wall logs. Window and door openings. Window and door frames. Roof framing. Partitions. Flooring Interior wood finishing. Calking. Chinking. Chinkless log-cabin construction. Hewing timbers. Fireplace framing. Oiling and painting. The finished structure. Furniture. Building plans. Additional information.

Note Issued by the United States Forest Service, this publication gives the basic principles needed for successful building with logs. It assumes that the reader is familiar with the ordinary frame-building methods used where wood is the principal construction material. The illustrations include photographs of modern log buildings and building plans for four log residences. Plans are also given for furniture suitable for a log house.

FREAS, A. D, AND M L SELBO

Fabrication and design of glued laminated wood structural members. Washington D C.

Note: Practical and dependable manual for all concerned with the planning and erection of brick masonry work—including not only contractors and masons, but also architects, manufacturers, and others interested in the efficient and economical application of masonry materials. Describes every type of work performed by bricklayers and masons, every type of material handled by them, giving methods, pointers, and technical data to aid in best selection and handling of these materials, and numerous tables of labor and materials requirements for a quicker and more accurate estimating.

NATIONAL RESEARCH COUNCIL

Metal curtain walls the edited papers and discussions of a research correlation conference conducted by the *Building Research Institute* in the Chamber of Commerce of the United States in Washington D C. on September 28 and 29 1955 Washington D C. National Academy of Sciences—National Research Council, 1955 190 p. illus. 27 cm. $4.00. 5587

Contents: Welcome to conference, by C. H. Topping. Introduction to the conference, by E. X. Tuttle. Part I, Recent studies of metal curtain walls: Survey of architects, by W. A. Taylor. BRAB survey by W. H. Scheick. Detroit Edison survey by J. O. Blair. Part II, Architectural design, by M. Abramovitz and R. W. McLaughlin. Discussion. Part III, Performance requirements in panel design, by T. L. Rogers. Discussion. Part IV, Structural design techniques: The design of metal curtain walls, by J. H. Callender. Metal curtain wall structural design techniques, by R. E. Perry. Core material and adhesives for sandwich panel construction, by J. M. Rubin. Discussion. Introduction to Parts V, VI, and VII, by H. B. Tate. Part V, Panel moisture and condensation control: Thermal insulation and condensation control in metal curtain walls, by E. R. Queer. Part VI, Sound transmission, by R. B. Newman. Part VII, Erection of metal curtain walls, by N. S. Collyer. Discussion of Parts V, VI, and VII. Part VIII, Summary and future outlook, by F. J. Close and D. E. Sargent.

Note: Published in this volume are the proceedings of a conference which was attended by architects, engineers associated with the manufacturers of building materials, and others. The conference was concerned with the manufacture and uses of prefabricated metal panels for the exterior walls of buildings, a relatively new development which has already had a tremendous architectural impact on the American skyscraper.

NATIONAL RESEARCH COUNCIL

Plastics in building the uses, past and present, and the potentialities of plastics in building as reported at a conference conducted by the Building Research Institute October 27 and 28, 1954 at the Chamber of Commerce of the United States in Washington, D C. Washington, D C National Academy of Sciences—National Research Council, 1955 149 p. illus. 28 cm. $5.00. 5588

Contents: Part I, An introduction to plastics in building: Plastics and its building construction, by E. B. Cooper. Physical and engineering properties of plastics, by A. G. H. Dietz. Evaluating plastics for building applications, by T. S. Rogers. General discussion. Part II, Specific uses of plastics in building: Light-transmitting panels, by J. L. Borkum. Glazing and interior illumination, by O. L. Freeman. Plastic thermal insulations and vapor seals, by R. N. Kennedy. Plastics in structural panels, by A. T. Wahlstedt. Surfacing and decorative uses of plastics in building, by H. McCann. Plastic piping, plastic ducts and conduits, by R. B. Seymour. General discussion. Part III, Standards and codes for plastics in building: Standards for plastics products, by G. M. Kline. Building code regulation of plastic building materials, by F. J. Kirk. General discussion. Part IV, Future uses of plastics in building: The future of plastics in building, by J. A. Bergstrom. General discussion. Part V, Summaries of the conference: For the plastics industry by R. K. Mueller. For the building industry by H. K. Hunsucker. Closing remarks, by W. H. Scheick. Appendix: A discussion of the building code regulation of plastic building materials, by S. H. Ingberg. A report on sprayed-on plastic coatings, by G. G. Rathgeber. Index.

Note: The conference whose proceedings are published in this volume was attended by architects, chemists, research directors, and other professional persons interested in the plastics and building industries. Many applications, both developed and potential, are described or at least mentioned in the papers and discussions.

NATIONAL RESEARCH COUNCIL

Porcelain enamel in the building industry Sponsored by the Building Research Advisory Board and the Porcelain Enamel Institute. Conducted by The Building Research Institute Division of Engineering and Industrial Research. *Washington, D C. National Academy of Sciences*—National Research Council, 1954 146 p. illus. 27 cm. (National Academy of Sciences—National Research Council. Research conference report no. 6) $6.00. 5589

Contents: Session I, Fundamental properties of porcelain enamel: Porcelain enamel—from an ancient art to a modern industrial material, by D. Chase. Chemical properties of porcelain enamel coatings, by G. H. Spencer-Strong. Physical characteristics of porcelain enamel, by E. E. Howe. Weather resistance of porcelain enameled structural units, by D. G. Moore. Radiochemical decontamination characteristics of porcelain enamel, by G. W. Parker and G. M. Herbert. Porcelain enamel manufacturing processes, by G. H. McIntyre. Methods of testing architectural porcelain enamels, by W. N. Harrison. General discussion. Session 2, Uses of porcelain enamel in building design: The design, manufacture, and erection of architectural porcelain metal parts, by R. B. Loring. Porcelain enamel curtain walls and their utilization in the building industry, by E. X. Tuttle. An architect's viewpoint of porcelain enamel used alone and in combination with other materials, by W. Lescaze. Creative uses of porcelain enamel, by R. W. Hamilton. General discussion. Session 3, Porcelain enamel as an engineering material: Engineering properties of porcelain enamel, by F. R. Bagley. Flues, furnaces, and exhaust systems using high temperature porcelain enamels and ceramic coatings, by A. I. Andrews. Porcelain enameled aluminum, by R. C. Cribber. General discussion. Session 4, Building experience with porcelain enamel—problems, solutions, costs: The use of porcelain enamel for hospitals, by J. J. Sender. The use of porcelain enamel in sales structures, by F. R. Fritsch. The use of porcelain enamel for houses, by W. W. Lubbock. Porcelain enamel steel in industrial buildings, by M. Mohr and C. F. Block. General discussion. Conference summary by W. H. Scheick.

Note: The proceedings of a conference held in November 1953 are published in this volume. Both in the papers and in the remarks of the discussants much light is focused on the status of porcelain surfaced metals in the building industry and on problems and techniques of manufacturing porcelain enameled sheets and other porcelain enameled building materials. Literature references are included in some of the papers.

NATIONAL RESEARCH COUNCIL. BUILDING RESEARCH ADVISORY BOARD

Condensation control in buildings as related to paints, papers, and insulating materials. Proceedings of a conference conducted by the Building Research Advisory Board February 26 and 27 1952 Washington, D C. National Academy of Sciences—National Research Council 1952 118 p. illus. 28 cm. (Building Research Advisory Board. Research conference report no. 4) o.p. 5590

Contents: Session 1, *The problem and its causes:* Introduction, by L. Harper. Panel discussion, by K. Sargent and others. Technological aspects of condensation control in building structures, by C. E. Lund. The movement of moisture in building materials, by J. D. Babbitt. General discussion. Session II, Current technical progress: Introduction, by J. S. Long. Water permeability of panel materials for wall construction, by K. J. Dunn, Jr. Panel discussion, by W. Vanney and others. General discussion. Session III, Current technical progress, continued: Paper and foil films, by F. Neubach. Panel discussion, by F. A. Joy and others. General discussion. Session IV, Current technical progress, concluded: Influence of construction methods and materials on con-

1955 221 p illus 28 cm. (Prentice Hall Technical industrial vocational series, Claude H. Ewing, editor) $6.35 5580

Contents. Construction principles. Standard details for house construction. Planning the house. Starting the house plans. Heating the house. Plumbing for the typical dwelling. Electric wiring for the home. The model house. Glossary of work terms. Index.

Note All types of drawings currently used in the United States of America in the course of construction of small houses are covered in this introductory textbook. The book thus parallels introductory textbooks on engineering drawing, but is limited to architectural drawing. It is written in a simple, straightforward styl and is fully illustrated. It is used for the instruction of secondary and vocational school students who are preparing for careers as draftsmen and as a basic book to learning the reading of architectural blueprints. The first edition was published in 1949 The second and third chapters on house construction details and house planning are added in this second edition.

KELLY, BURNHAM

The prefabrication of houses a study by the Albert Farwell Bemis Foundation of the prefabrication industry in the United States. New York The Technology Press of the Massachusetts Institute of Technology and John Wiley & Sons, Inc., 1951 466 p 23 cm. $8.50 5581

Contents Definitions. The development of the industry 1946–1949 great expectations and disappointments. The future of prefabrication. Introduction. Management. Design. Procurement. Production. Marketing. Conclusion. Appendixes. Procedure. Companies and people visited. List of prefabricators. Annotated bibliography Index.

Note An authoritative and detailed analysis of the history and contemporary status of the prefabricated housing industry in the United States of America. The main emphasis is on the complicated business aspects of the industry rather than on manufacturing and structural details. Nevertheless, enough is included on structure to make the book worth reading by anyone interested in the technical aspects. A considerable part of the material in the volume is based on field survey of the industry in the United States of America after World War II.

KENNEY, JOSEPH E

Blueprint reading for the building trades Second edition. New York McCraw Hill Book Company Inc., 1955 120 p illus. 30 cm $5 00 5582

Contents The scope of architecture. The importance of blueprints. Blueprints and their use. Language of the blueprint. Symbols. Conventions. Schedules. Scale representation. Brickwork. Different types of blueprints or drawings. Specifications. Construction details and practice problems. California house. First and second-class construction. Lever House. Modern concrete house. Store planning. Estimated cost of building. Architectural and building terms. Index

Note How to read the working drawings (called blueprints because of their usual background color) used as guides to construction in the building trades is taught in this introductory and practical book. The common aspects of blueprints such as symbols, conventions, and scales are explained in the preliminary chapters In the chapters that follow the instruction is centered on the interpretation of the blueprints which ar included in the book An unusual feature is the inclusion of reproduced reproductions of actual working drawings, reduced in size for a house designed by Richard J Neutra. Although used primarily as text in practical courses at the vocational school level, the book is suitable also for self-instruction by carpenters, prospective homeowners and others who wish to teach themselves how to read building trades blueprints.

KETCHUM, MILO S

Handbook of standard structural details for buildings Englewood Cliffs N J Prentice-Hall, Inc., 1956 120 p illus. 26 cm. $4 65 5583

Contents Introduction. Small house. Small masonry building. Reinforced concrete building. Steel frame building. Industrial building. Timber building. Index.

Note Addressed to draftsmen, architects and others who are acquainted with basic techniques in architectural drawing, this book is designed to teach some of the fine points of preparation of practical working drawings for building construction. The emphasis is—to use the author's words— on the routine presentation of the minimum essential information for construction. Six types of building structures, as named in the chapter titles, are considered. Each drawing is accompanied by a brief discussion of its main features and a more extensive discussion of the reasons for the inclusion or omission of specific details. The author is a member of the firm, Ketchum and Konkel, consulting engineers in Denver, Colorado.

LAIR, E A.

Carpentry for the building trades. Second edition. New York McGraw Hill Book Company, Inc., 1953 310 p. illus. 23 cm $5.50. 5584

Contents: Framing. Rafter framing. Roofing and siding. Lath and plaster Finish—trim, windows, and doors. Glass—glazing—insulation. Lumber—grading and measuring. Scaffolds and safety measures. Blueprints and specifications. Projects, questions, and problems. List of visual aids. Index.

Note. A clearly written, elementary book. It is primarily textbook for use in practical courses, but is useful also to home owners and amateur builders who wish to know how houses are constructed or to undertake simple building operations. All of the tasks that fall to the carpenter in the building of small houses are described in simple language and clear illustrations. The first edition was published in 1947 This second edition represents considerable revision and augmentation, reflecting such developments in homebuilding in the United States of America as houses without basements, fully insulated houses, picture windows, etc. There are now 326 figures, some of which contain several illustrations.

MERRILL, ANTHONY FRENCH

The rammed-earth house with an introduction by the Hon Clinton P Anderson, Secretary of Agriculture. Illustrated. New York Harper & Brothers, 1947 230 p illus. 21 cm. $3 00 5585

Contents (abridged) The history of rammed-earth from Hannibal to Hibben. The pros and cons—what can be done with earth and where the dra backs lie Designing for rammed-earth. Soil selection and preparation. Building the rammed-earth house. Soil-cement—rammed in place, rammed in blocks or puddled. Cement-water paints. The Bureau of Standards tests—a short description of the results of official strength comparisons of earth and standard building materials. Bibliography

Note A popular book on the use of rammed-earth (also known as *pisé de terre*) as building material for house walls. Soil-cement mixtures and soil asphalt mixtures are discussed, as ell as natural soils. Although the book is intended for reading by persons without technical training, technical matters such as the framing of rammed-earth houses, the making of soil-cement bricks, etc., are discussed at some length. The book is both a plea for wider use of rammed earth in house construction and manual for builders and potential house owners who wish to experiment with this type of wall construction. The assumption that the verage man can build house of this material appears to underlie the author's discussion. The extensive bibliography includes references to both technical and nontechnical literature.

MULLIGAN, JOHN ALOYSIUS

Handbook of brick masonry construction New York McGraw Hill Book Company Inc. 1942 526 p illus. 23 cm. $8 00 5586

Contents Bricklaying. Concrete masonry Sand. Concrete Cement. Lime. Mortar Joints. Bond. Brick. Common brick. Firebrick. Face brick. Testing brickwork. Structural terra cotta and hollow tile. Composite masonry Sewer pipe. Concrete building units. Cavity walls. Brick veneer Backing of rubble masonry Cement plaster and pargeting. Stone masonry Limestone and rubble masonry Architectural terra cotta. Weathering. Efflorescence and stains. Glass-block masonry Window calking. Underpinning. Reinforced brickwork. Brickwork for boiler setting. Fireplaces and chimneys. Paving. Swimming pools. Timbrel arch construction. Specifications. Definitions and tables. Glossary

Building

PULVER, HARRY E.
Construction estimates and costs. Second edition. New York McGraw Hill Book Company Inc., 1947 653 p. illus. 23 cm. $8.00. 5596

Contents: Estimating in general. Handling and transporting materials. Excavation. Piling and bracing. Concrete. Masonry. Dampproofing and waterproofing. Wood construction. Structural steel. Roofing and flashing. Lathing and plastering. Heating and air conditioning. Plumbing. Electrical work. Painting, papering, and glazing. Heavy machinery. Construction plant and equipment. Overhead and profit. Complete estimates. Approximate estimates. Construction equipment. Appendices. Diagrams. Index.

Note: A practical manual giving definite and detailed information on methods of estimating construction costs for large and small jobs, buildings, residences, and roads. In considering each aspect of the following items are covered: quantities and costs of materials; labor-hours and costs; amount, kind and cost of equipment needed; items in the overhead and their costs, percentage of profit. Methods of preparing estimates both approximate and complete, of making computations, and of avoiding errors are clearly set forth. Numerous tables and charts together with sample estimates illustrating details discussed in the text are included. The changes made in this edition, compared to the first (1940) pertain almost entirely to changes in prices of material and wage rates.

RAMSEY CHARLES GEORGE, AND HAROLD REEVE SLEEPER
Architectural graphic standards for architects, engineers, decorators, builders draftsmen and students. Fifth edition. New York John Wiley & Sons, Inc., 1956 758 p. illus. 30 cm. $18.95 5597

Contents: Footings, foundations and retaining walls. Wood construction. Steel and concrete construction. Masonry construction. Fireplaces and chimneys. Waterproofing and expansion joints. Exterior wall facings and veneers. Curtain walls. Roofing and sheet metal. Stairs. Miscellaneous metals. Doors, bucks, windows and equipment. Glass, glazing and glass block. Hardware. Furring, lathing and plastering. Interior finishes. Furniture, accessories, equipment and storage. Toilet fixtures, accessories and partitions. Mechanical equipment and related technical information. Landscaping and site work. Sports and games. General information. Area requirements for planning. Index.

Note: Since 1932 when the first edition appeared, this reference book has been accepted among architects, builders, civil engineers, draftsmen and others concerned with building and furnishing of buildings as the standard guide on the structural elements and details, types and dimensions of contemporary building materials, building hardware, furniture and the other aspects of building listed in the chapter titles given above. The fourth edition was published in 1951 and contained [illegible] pages. In this fifth edition, the number of pages has been substantially increased, and a large proportion of the pages carried over has been revised. About 75 per cent of the pages in this edition represent new or revised material. An important change in style is the use of type rather than hand-lettering on the new and revised plates. Also, since the publication of the fourth edition, H. R. Sleeper's Building planning and design standards, New York 1955, has been published as companion volume.

RAY JESSE EDGAR
The art of bricklaying Peoria Chas. A. Bennett Co. Inc., 1950. 240 p. illus. 22 cm. $4.50. 5598

Contents: The story of brick. Composition of brick. Lime, cement, mortar. Tools. Spreading mortar. Corners, raking a four-inch corner. Raising an eight-inch American bond corner. Raising an eight-inch Flemish bond corner. Layout of corners in the various bonds. Important suggestions for the apprentice. Walls—special exercises. Bonds and patterns in brickwork. Chimney construction. Special aspects of brickwork. Arch layout and construction. Brick details and construction. Advanced problems in ornamental brickwork. Photographs of excellent brickwork. Laying cement block. Scaffolding. Glossary of trade terms. Index.

Note: An introductory book written by a man with many years' experience in bricklaying. It is designed mainly for students in vocational classes and for apprentices, but the amateur can also pick up many points in it. The discussion is compact and couched in the language of the bricklayer's craft. The short chapter on concrete blocks is designed for student bricklayers, and is not full enough to meet the needs of the beginning mechanic who does not learn brick laying first.

RICHEY, HARRY GRANT
A reference handbook for construction engineers, architects, builders, superintendents of construction and building construction foremen. New York Simmons-Boardman Publishing Corporation 1951 1,640 p. illus. 18 cm. $11.00 5599

Contents (abridged): Personality and duties. Foundations. Waterproofing. Building stones. Stone, marble and tile work. Brickwork, architectural terra cotta, brick paving. Limes and cements. Mortar and concrete. Concrete construction. Fireproofing and fire prevention. Iron, steel, sheet metal, and roof work. Carpentry and woodwork. Timber and lumber. Lathing and plastering. Painting, varnishing, glazing, and paper hanging. Plumbing, piping, sewage disposal. Heating and ventilation. Electric wiring and various mechanical equipment. Hydraulics, strength, etc., of materials. Drawing, laying out work. Squares, cubes, roots, mensuration. Useful information, receipts, etc. Glossary of engineering, architectural and trade terms. Index.

Note: A relatively new compilation that includes some information not found in the older handbooks of the kind. Although much of the information is what might be called "standard data," some of it is unusual in a handbook of this type. The miscellaneous material covers such matters as how to clean paint, how to hang window sashes with one weight, the best height for plumbing fixtures, and how to remove stains from concrete floors. The author was formerly associated with the United States Treasury Department in the construction of public buildings.

SIEGELE, HERMAN HUGO
Building trades dictionary, a book written in simple language, defining words phrases and expressions pertaining to the building trades covering carpentry bricklaying plastering, concrete construction, stone masonry cement finishing, electrical work, sheet metal work, plumbing, steam fitting, form building painting, roofing, and other building trades. Chicago Frederick J Drake & Co., 1946. 380 p. illus. 23 cm. $3.00. 5600

Note: Although terms are included in this dictionary from all the trades mentioned in its subtitle, a large proportion of them and most of the illustrations relate to carpentry. Most of the definitions are rendered in the language of the trader; hence, the book's chief use will be as an addition to the apprentice's and craftsman's personal libraries.

SIEGELE HERMAN HUGO
Carpentry craft problems a complete practical book of instruction covering all branches of carpentry written in terms commonly used on the job and illustrated from the standpoint of solving the every-day problems of carpenters. Chicago Frederick J Drake and Co., 1952 307 p. illus. 23 cm. $3.50. 5601

Contents (abridged): Tools. Squaring methods, staking out and batter boards. Forms for residence foundations, slabs and beams. Shores and braces. Column and other forms. Sills and floor construction. Second-floor joist supports and bridging. Rough floors, floor openings and dropped ceilings. Framing and raising skeleton walls. Gutters and flat roofs. Cornices. Steps. Lattice work. Cornerboards and outside base. Half-timber work and stucco corners. Building paper and siding. Brackets and gable finish. Door and window frames. Sheathing and shingling. Roll roofing. Screen frames. Job-made doors. Heavy timber joints. Round timber framing and log houses. Mortise-and-tenon and other joints. Heavy timber barns. Trusses. Shoring, needling and heavy-timber bracing. Index.

densation problems, by L. V Teesdale. Panel discussion, by F B. Rowley and others. General discussion. Session v Future technical and educational opportunities The technologists' panel, E. R. McLaughlin moderator H. E. Robinson and others. General discussion. The industrial panel, L. G. Harger moderator W G. Vanney and others. General discussion. Summary of the conference, by T S. Rogers. Bibliography Attendance at the conference.

Note. The condensation of water vapor in the interiors and within the walls of modern buildings, especially residences, is a problem of economic interest as well as one of comfort for the building inhabitants. Published in this volume are the verbatim proceedings of a symposium devoted to the scientific and technical problems and to the progress made toward solving them.

NATIONAL RESEARCH COUNCIL BUILDING RESEARCH ADVISORY BOARD

Housing and building in hot humid and hot-dry climates Proceedings of a conference November 18 and 19, 1952, conducted by the Building Research Advisory Board Washington, D C National Academy of Sciences—National Research Board, 1953 177 p illus. 28 cm (Building Research Advisory Board. Research conference report no 5) $4 50 5591

Contents Introduction to subject of conference, by W R. Woolrich. Session I, Part I, Living in hot environments Practical aspects of tropical living, by R. Walker Significance of hot environments for man, by D H. K. Lee. Bioclimatic approach to architecture, by V Olgyay Panel discussion, M. A. Pond, moderator H. C. S. Thom and others. General discussion. Session II, Part II, Building in hot environments Architectural design for hot climates. Introduction to subject, by A. Mayer Solar control and orientation to meet bioclimatic requirements, by A. Olgyay Design for natural ventilation in hot-humid weather by R. H. Reed. Technology of the cooling effect of trees and shrubs, by R. B. Deering. Building in warm climates, by G. A. Atkinson. Panel discussion, R. Walker moderator: C. W Smith and others. General discussion. Session III, Structures and materials in hot climates. The design of building footings on expansive clay soils, by R. F Dawson. A study of structural features in masonry houses, by J N Thompson. Deterioration problems of materials and structures in hot climates, by B M. Holmes. Performance and properties of materials in hot climates, by G. M Rapp. Heat capacity and the distribution of mass in the design of buildings for hot climates, by J W Drysdale. Panel discussion, D E. Parsons, moderator R. B T yler and others. General discussion. Session IV Mechanical problems in hot climates The economics of livability cooling and heating in hot climates, by W R. Woolrich Roof spray by O E. Sutton. Adiabatic cooling, by R. S. Farr Dehumidification, by T H. Urdahl. Panel discussion T S. Rogers, moderator L. Merle and others. General discussion. Conference summary by W H. Scheick. Devices against the sun by W W Dornberger Comments on papers and discussions. Attendance at the Conference.

Note In this volume, the verbatim proceedings are published of a Conference on living and building in hot climates which was attended by architects, engineers, and other specialists from the United States of America and other countries. The volume is illustrated by many photographs, drawings, diagrams, charts, and tables.

PARKER, HARRY

Simplified design of structural timber New York John Wiley & Sons Inc. 1948 218 p illus. 20 cm. $5 50 5592

Contents Characteristics and classifications of wood. Unit stresses. Working stresses for structural lumber Properties of sections. Bending moments and shear Shearing stresses in beams. Deflection of beams. Design of beams. Joists and rafters. Plank and laminated floors. Timber columns. Bolted joints. Timber connectors. Truss design. Combined bending and axial loading. Trussed beams. Design of purlins. Compound beams. Stud walls. Index.

Note. A concise exposition of practical methods of designing wooden structural members, such as are mentioned in the chapter titles. Like the other books in this author's "Simplified" series, the treatment assumes no previous education in structural design and is aimed at young architects, builders, and other persons whose work requires them to design buildings on sound engineering principles. It is organized so that it may be used as textbook in short courses, or as a home-study book without the guidance of an instructor. Many worked examples are incorporated in the text, there are also problems for the student to work.

PEURIFOY, R. L

Construction planning, equipment, and methods New York McGraw Hill Book Company, Inc., 1956 534 p. illus. 24 cm (McGraw Hill civil engineering series Harmer E Davis, consulting editor) $8.50. 5593

Contents Introduction. Job planning and management. Factors affecting the selection of construction equipment. Engineering fundamentals. Tractors and related equipment. Excavating equipment. Trucks and wagons. Rubber tires. Belt-conveyor systems. Compressed air Drilling and blasting rock. Tunneling. Foundation grouting. Piles and pile-driving equipment. Pumping equipment. Cofferdams. The production of crushed-stone aggregate. Forms for concrete structures. Concrete. Safety engineering. Appendixes: Cost of owning and operating construction equipment. Construction-equipment depreciation schedule. Index.

Note First and foremost textbook for college students of civil engineering, this book has enough scope and includes enough reference data to make it useful to graduate engineers too. The primary viewpoint is that of an engineer who is responsible for the planning and supervision of large construction jobs; however much of the information included is applicable to small operations also. Over-all planning is dealt with rather briefly machines and techniques more fully There is considerable emphasis on the computations necessary in the selection of equipment and calculating its output. Selected literature references are included in the chapters. The author is Professor of Construction Engineering at Texas Agricultural and Mechanical College.

PLUMMER, HARRY C

Brick and tile engineering handbook of design Washington D C Structural Clay Products Institute, 1950 392 p illus. 24 cm. $5 00 5594

Contents Origin and manufacture. Modular coordination. Classification size, color and texture. Properties of structural clay products. Mortar Properties of brick and tile walls. Design of brick and tile walls. Brick and tile wall sections and details. Design of chimneys and fireplaces. Fireproofing and furring. Construction of brick and tile walls. Bonds and patterns. Bibliography Index.

Note A manual of descriptive and engineering data on brick and structural tile. Manufacturing operations are outlined in the first chapter but all the remaining chapters are devoted to discussion and to data useful to architectural engineers, architects, building contractors, and other persons who have practical interests in building with brick and structural tile. There is a fair number of illustrations, the majority of which depict standard structural details. The bibliography covers building codes, specifications and standards, as well as selection of books and articles.

PLUMMER, HARRY C, AND JOHN A. BLUME

Reinforced brick masonry and lateral force design Washington D C Structural Clay Products Institute, 1953 271 p illus. 24 cm. $4 95 5595

Contents History and description. Properties of reinforced brick masonry Minimum design and construction requirements. Design criteria. Lateral force resistant structures. Reinforced brick masonry wall sections and details. Specifications for masonry construction. Construction of reinforced masonry Appendixes. Building code lateral force requirements. Design of reinforced brick beams and slabs. Bibliography Index.

Note. The type of construction to which this book is devoted is described as brick masonry in which steel reinforcement is embedded and so placed that the masonry will be greatly increased resistance to forces which produce tensile, shearing and compressive stresses. The book is professional-grade reference manual covering properties, design, specifications and construction techniques for reinforced brick masonry It includes much engineering data derived from laboratory tests. The chapter on specifications contains complete examples of suggested specifications. The chapter on construction describes recommended methods in detail.

Building

Note: An authoritative reference book on wood as structural material and on the design of wooden structures. It is thoroughly revised and so the design of wooden structures in the United States of America up to the current with design in the United States of America up to the date of publication and covers all modern developments such as timber connectors, glued construction, fire retardants, etc. The chapter titles listed show the general extension of the scope and expansion. Under "Special framing" and "Plywood," such structures as pole frame structures, floor diaphragms, and built-up [illegible] are considered. The chapter entitled Design standards is [illegible] compilation of pertinent design standards and specifications of the National Lumber Manufacturers Association, American Standards Association and American Society for Testing Materials.

TOWNSEND GILBERT

Carpentry a practical treatise on simple building construction, including framing, roof construction, general carpentry work exterior and interior finish of buildings, building forms and working drawings. Illustrated. Revised edition. Chicago American Technical Society 1949 504 p. illus. 21 cm. $2.50. 5609

Contents: Introduction. Framing. The roof. Exterior and interior finish. Farm buildings. Index.

Note: A practical introductory textbook and handbook for carpenters and apprentices. Correct methods are described and illustrated for a wide variety of operations in building construction and general carpentry work. There are 541 figures in the first four parts of the work. The fifth part on farm buildings has been reprinted from another book *Fundamentals of carpentry*, vol. II, by W. E. Durbahn. It contains approximately 30 additional illustrations.

TOWNSEND, GILBERT AND OTHERS

How to estimate carpentry lath and plaster air conditioning, sheet metal linoleum, paint ing, masonry marble and tile, electrical wir ing, plumbing, glass hardware. By Gilbert Townsend, J Ralph Dalzell James McKin ney Collaborators Electrical sections, by Carl H. Dunlap Radiant heating section by Gene Ferrell. Second edition revised. Chi cago American Technical Society 1955 699 p. illus. 22 cm. $6 75 5610

Note: An introductory text on estimating of quantities and costs in building. It is designed for students who are preparing for the building trades by pursuing courses in trade schools. It deals more with actual methods and calculations than with current costs, that is to say, it is not a reference manual of present-day building costs. It was first published in 1939. Up to page 604, this second edition is practically identical with the first edition. Beginning with page 604 there are some 60 pages of new matter on radiant heating systems and estimating in connection with them.

TOWNSEND GILBERT AND J RALPH DAL ZELL

How to plan a house. Second edition. Chi cago American Technical Society 1952 587 p. illus. 23 cm. $6 95 5611

Contents: Types of house architecture. Building lots. Orientation. Styling [illegible] homes. Foundations and footings. Types of materials for walls, partitions, floors, roofs. Designing I beams and other steel support members. Strength of floors, roofs, walls. Standard sizes of materials and spacing parts. Working drawings required for a house. Planning various rooms. Planning floor plans. Designing elevations. Mechanical considerations. Details. How to keep plans within financial budget. Specifications. Illustrative example. Index.

Note: This book is both a text for practical students and a guide for those prospective homeowners who like to work out all the details of planning their own homes. Most aspects of the subject are at least touched upon, but the book is valuable chiefly for its wide range of information on structural details and the technical aspects of planning and construction. The first edition appeared in 1942. A fair amount of material has been added in this edition, especially on the currently popular single-story house and on recently developed materials. Three chapters have been dropped. The number of illustrations has been increased.

UNITED STATES FOREST PRODUCTS LABORA TORY

Manual on wood construction for prefabri cated houses. Prepared by The Forest Prod ucts Laboratory Forest Service U S De partment of Agriculture in collaboration with the technical staff of the Housing and Home Finance Agency Washington D C. Govern ment Printing Office, 1947 330 p. illus. 26 cm. $1.50. 5612

Contents: Introduction. Basic information on wood as a housing material. Factors affecting the use of wood in housing. Grades of lumber and plywood. Strength of housing materials. Protection of wood from decay, insects, fire. Paints and painting. Insulation and ventilation of houses. Seasoning and storage of housing materials. Machining of wood and other housing materials. Glues and gluing. Wood and plywood for specific parts of houses. Joints and fastenings. Prefabrication operations. Repair techniques. Glossary. Index.

Note: Intended primarily for the use of house designers, prefabricators, builders, contractors, engineers, and housing officials, this manual is a comprehensive illustrated guide and reference work on construction techniques for prefabricated houses of wood. It is based chiefly upon the accumulation of information resulting from studies in wood handling and processing conducted by the Forest Products Laboratory over a period of 36 years, supplemented by information obtained in a survey of current fabrication methods in prefabrication plants. It includes new contributions as well as basic information on the subject.

UNITED STATES FOREST PRODUCTS LABORA TORY

Technique of house nailing. By Forest Products Laboratory, Forest Service U S Department of Agriculture, in collaboration with the technical staff of the Housing and Home Finance Agency Washington, D C. Government Printing Office, 1947 53 p. illus. 23 cm. $0 15 5613

Contents: Introduction. Recommendations for nailing. Key to drawings. Figures 1–41. Sizes of common wire nails. Glossary of housing terms.

Note: This pamphlet presents information for home builders on correct nailing practice and gives precise specifications for nailing. Four pages of text are followed by forty-four pages of figures, each figure accompanied by brief descriptive notes. Each drawing illustrates a separate nailing problem in house construction, such as corner posts, studs, anchorage of studs to sill, floor openings, door openings, bevel siding. The drawings show clearly how many nails are advised, where they should be driven, and whether they should be directly nailed or "toenailed." The techniques illustrated are based upon engineering studies, testing, observation of nailing practices, and investigations conducted by the Forest Products Laboratory.

UNITED STATES HOUSING AND HOME FI NANCE AGENCY DIVISION OF HOUSING RE SEARCH

Plank-and-beam system for residential con struction. A guide and design manual for the application of the plank-and-beam system to the modern house for a better product at lower cost. Prepared as a staff project of the Division of Housing Research. Alan L. Win throp, project engineer Washington, D C. Government Printing Office, 1953 80 p. illus. 26 cm (United States. Housing and Home Finance Agency Division of Housing Re search. Construction aid 4) $0.45 5614

Note A practical book on carpentry divided into 53 lessons, illustrated with 767 drawings and diagrams. It is intended especially for the apprentice carpenter and also covers problems that arise in the work of the journeyman carpenter the foreman and the superintendent of construction work. Differences between editions are usually small. A new edition as published in 1958, 309 p., $3.50.

SIEGELE, HERMAN HUGO

The steel square. A practical treatment of the steel square and how it is used Chicago Frederick J Drake & Company, 1951 184 p illus 23 cm. $3 00 5602

Contents (abridged) Roof framing table. Square and circle. Polygons. Simple roof framing cuts. Framing hips and valleys. Irregular plan roof. Irregular pitch roof framing. Backing hips and valleys. Various roof framing problems. Hayfork hoods. Determining size of step. Service stairs. Rough horses. Hand railing. Winding and circular stairs. Concrete steps. Stair and other problems. Miter and squaring problems. Squares. Index.

Note The steel square is a versatile instrument, and few carpenters fully master it. This book, for all craftsmen who wish to extend their knowledge of the square, describes several hundred techniques in roof framing, stair layout, etc. For the most part, the descriptions are explicit and detailed. There are 463 figures, each one of which is tied in with the textual discussion.

SINGLETON, JACK

Manual of structural design. Third edition Topeka H M Ives & Sons, 1947 336 p illus 26 cm. $6 00 5603

Note A standard handbook of methods, formulae, and data which are useful to professional structural engineers. Although a considerable part of the material relates to steel, there is also much data on reinforced concrete, aluminum, and wood. The bulk of the information is in tabular form and relates to shapes, sizes, and weights of various structural members, universal beam tables, shear constants, bending and direct stresses, weights of building materials, etc. Formulae, worked examples, and the American Institute of Steel Construction structural specifications and code of practice are also included. In this edition the work has been enlarged by more than 100 pages to include new tables and revised specifications and properties of new structural steel shapes.

SLEEPER, CATHARINE, AND HAROLD R SLEEPER

The house for you to build, buy or rent illustrations by Henry Diamond and Lombard C Jones New York John Wiley & Sons Inc. 1948 313 p illus. 27 cm. $6 75 5604

Content Your house is your castle. Rent, buy or build? Rent—for a tryout. Renting snags. Rent—$ and sense. Architects' lingo. Buy—to your advantage. Blind buying. When can you buy and what can you spend? Shopping for your house. Know what you buy. Build—to feather your own nest. Build—but don't bungle. Tackling your house. Meet Mr Architect. Without benefit of architect. Money talks. Pick your site. Tailoring the house and lot. Architects' sign language. Types and styles. How to solve the puzzle—planning. Planning for sleeping—bedrooms, closets, bathrooms. Planning for feeding. Planning for work spaces and storage. Finishes. Designing the exterior. Keeping the gremlins out. What makes the house tick? Gadgets. Ready! Set! Go! Index.

Note A popular but fairly comprehensive guide to the planning and building of dwelling houses. Much of it deals with nontechnical subjects such as the arguments for and against home ownership and the advantages of employing an architect to plan and build a house but a fair share of it is given over to explaining, by means of numerous drawings and an easy text, the materials, construction methods, and equipment of small houses as they are built in the United States of America.

SLEEPER, HAROLD R

Building planning and design standards for architects engineers designers consultants, building committees draftsmen and students. New York John Wiley & Sons, Inc., 1955 331 p illus 30 cm. $12 00 5605

Contents. Small homes. Motels. Hotels. Bars, restaurants and kitchens. Schools. Gymnasiums. Theaters and auditoriums. Stadiums and grandstands. Shops and stores. Office buildings. Banks. Agricultural buildings. Air terminals. Bus terminals. Parking garages. Service stations. Railroad and trucking data. Fire stations. Hospitals. Doctors' offices. Dentists' offices. Churches and temples. Mechanical equipment.

Note A complementary work to the author's well known *Architectural graphic standards*. It provides additional design information on the kinds of structures which are named in the chapter titles quoted above. In his preface to this book, the author indicates that *Architectural graphic standards* is intended as the general book and this new title as the specific one. However, the information included in *Building, planning and design standards* is both general and specific. For instance, although the school chapter includes data on such general matters as walking distances for pupils, minimum site sizes and area requirements for recreation, it includes also such information as "Recommended heights of chalk rail above floor" and dimensions for desks and seats. A bibliography of sources and related works is included in each chapter. There is no volume index, a lack which will probably bother librarians more than architects.

STALEY, HOWARD RAYMOND

Semi fireproof construction. New York D Van Nostrand Company Inc. 1948. 327 p. illus. 24 cm (A technical series on building construction, Walter C. Voss, editor) $6.00. 5606

Contents Introduction. Starting the construction operation. Soils for foundations. Excavation and sheet piling. Pile foundations. Footing and foundation walls. Exterior masonry walls. Interior and special masonry work. Framing of floors and flat roofs. Pitched types of roof framing. Roofing. Interior work. Rigging and derricks. Industrial buildings. Index.

Note. A concise manual of building materials and construction methods currently employed in the United States of America, in buildings of types III, IV and V as defined by the American Iron and Steel Institute. A complete coverage of these fields is not provided, but the materials and methods described cover a wide range and are the more commonly used ones. There are many excellent drawings of structural details and also illustrations of selected power tools. The chief use of the book will probably be as a textbook in engineering colleges, but it can serve also as an elementary reference book in the building industry

SWANSON, WILLIAM ELMER

Log cabins. New York The Macmillan Company, 1948 207 p. illus. 21 cm. $2 95 5607

Contents Building procedure. Types of cabins. Selecting a location. Tools. Available timber on property. Clearing the site. Building preparation. Foundations. Walls. Roofs. Floors. Windows and doors. Porch and garage. Interior and exterior of cabin. Fireplaces. Water and sewage. Furniture. Care of cabin and grounds. Miscellaneous. Index.

Note A practical manual which is aimed particularly at amateurs who lack experience in building. All of the operations that come up in the construction of small log cabins and related structures, such as fences and cabin furniture, are covered simply and in explicit detail. There are about 200 illustrations.

TIMBER ENGINEERING COMPANY

Timber design and construction handbook. Prepared by Timber Engineering Company an affiliate of the National Lumber Manufacturers Association New York F W Dodge Corporation 1956 622 p. illus. 23 cm. $12 75 5608

Content Wood properties. Commercial lumber standards. Preliminary design considerations. Post-and-beam construction. Roof trusses. Arches. Special framing. Exterior structures. Plywood. Fabrication, assembly erection, and maintenance. Specification format. Reference data. Design standards. Glossary. Abbreviations of terms. Index.

aspects of the approach to the design of houses for strength discussed in this publication, with such modifications as experience shows are necessary should result not only in greater safety for occupants but through economical use of materials should also result in savings in cost of construction.

Wilson John Douglas, and S O Werner

Simplified roof framing. Second edition. New York. McGraw Hill Book Company Inc., 1948. 160 p. illus. 21 cm. $4.20. 5620

Contents: Roof terms, types, and principles. The gable roof. The hip roof. The intersecting roof. The unequal pitch intersecting roof. Special problems and cuts. Summary of roof information and basic layout principles. The steel square and its use. Index.

Note: Roof framing is a specialized branch of carpentry, but because most carpenters have occasionally to frame roofs they require general information on the subject. This book, primarily a vocational school textbook, is useful for self-instruction for both carpenters and home mechanics. It provides clear detailed descriptions, and there are 111 illustrations. The first six chapters are little changed from the first edition (1927) but the last two are new

BUILDINGS EQUIPMENT

Adlam, Thomas Napier

Radiant heating: a practical treatise on American and European practices in the design and installation of systems for radiant, panel, or infra-red heating, snow melting and radiant cooling, including step-by-step procedure, with typical problems solved by the application of simplified working data, charts and tables. Second edition, revised and enlarged. New York The Industrial Press, 1949 504 p. illus. 24 cm. $6.00 5621

Contents (abridged): Theory of heat radiation. Artificial heating related to bodily heat losses. The measurement of comfort. Temperature studies in radiant heated rooms. Radiant heating with ceiling panels. Radiant heating with floor panels. Wall, baseboard, electrical, and metal panels. Controls for radiant heating. Areas and surface temperatures of radiant heat panels. Determining panel pipe size, spacing and loop layout. Radiant cooling and air conditioning. Snow melting by embedded pipes. Step-by-step procedure in radiant heating design. Index.

Note: A comprehensive manual designed for architects and heating engineers in need of technical information relating to the design of radiant heating systems. The present edition is 32 pages longer than the first edition published in 1947. New material is found on the design and construction of ceiling, floor, and wall panels, and there are several new [illegible] charts. There is no bibliography.

Adlam, Thomas Napier

Snow melting. New York The Industrial Press, 1950. 224 p. illus. 23 cm. $4.50 5622

Contents (abridged): Feasibility and cost of removing snow by melting. Snow melting test data and test set-ups. Calculating the heat required for snow melting. Pipe friction and expansion in snow melting systems. Antifreeze solutions and their use in snow melting systems. Automatic controls for starting system as snow begins to fall. Air venting and flow adjusting. Snow melting systems applied to roads and driveways. Snow melting systems applied to sidewalks. Special and dual-purpose applications of snow melting. Costs to install and operate snow melting systems. Design procedure and charts for pipe sizing and spacing. Index.

Note: The use of embedded hot water coils and electric cables for melting snow on driveways and sidewalks was briefly discussed by the author in his work *Radiant heating* (see above). In this volume he provides detailed information regarding design, construction, installation and operating costs of such installations. These data, and the methods of calculating heat requirements, should be of value to anyone contemplating the installation of such a system, but the book is intended primarily for engineers. A considerable variety of systems already built and operating are described and illustrated.

Allen, John Robins, and others

Heating and air conditioning, by John R. Allen James H. Walker and John W James. Sixth edition. New York McGraw Hill Book Company Inc. 1946 667 p illus. 23 cm. $7.50. 5623

Contents: Heat and the properties of steam and air. Heat losses from buildings. Methods of heating. Gravity warm-air furnace heating. Radiators, convectors, and unit heaters. Fuels and boilers. Steam heating systems. Pipe, fittings, valves, and accessories. Steam piping. Hot-water heating systems. Automatic control. General and district heating—electric heating. Air and its properties. Principles of air conditioning. Ventilating and air-conditioning systems. Fans, filters, washers, and coils. The transmission and distribution of air. Cooling and dehumidifying apparatus. The cooling and dehumidifying load. The design of an air-conditioning system. Residence air conditioning. Unit air conditioners. Industrial air conditioning. Appendix. Index.

Note: This work is an established textbook for engineering college courses. In libraries it has proved useful also as a book that can be used by general readers as a source of information about heating and air-conditioning systems and apparatus. The presentation is technical, but since it is written for students who are beginning the study of the subject, the mathematics employed are simple, and the terminology is not difficult. This edition has not been completely rewritten, but new material has increased the number of pages by 74 over the fifth edition (1939) and several parts have been extensively revised.

American Society of Heating and Ventilating Engineers

Heating, ventilating air conditioning guide. Vol. 34 New York American Society of Heating and Ventilating Engineers 1956 1,696 p. illus. 24 cm. $12 00. 5624

Contents (abridged): Section I, Fundamentals: Terminology. Thermodynamics. Fluid flow. Heat transfer. Section II, Human reactions. Physiological principles. Air conditioning in the prevention and treatment of disease. Air contaminants. Section III, Heating and cooling loads. Heat transmission coefficients of building materials. Moisture in building construction. Heating load. Cooling load. Section IV Combustion and consumption of fuels. Automatic fuel burning equipment. Heating boilers, furnaces, space heaters. Chimneys and draft calculations. Section [illegible] Systems and equipment: Gravity warm air systems. Forced warm air systems. Steam heating systems. Hot water heating systems. Panel heating. Pipe, fittings, welding. Pipe and industrial insulation. District heating. Central systems for air conditioning. Air conditioning. Air duct design. Fans. Air cleaning. Refrigeration. Automatic control. Sound control. Electric heating. Section VI, Special systems. Industrial air conditioning. Industrial drying systems. Transportation air conditioning. Residential summer air conditioning. Schoolhouse heating and ventilating. Section VII, Instruments and codes. Catalog data section.

Note: A long-established and authoritative compilation of technical data and design information which is prepared for the guidance of engineers. It contains expositions of principles and design procedures, tabulations of engineering data, useful formulas, and descriptions of types of equipment. A new edition is published every year. Much matter is carried over from one year to the next, but in most years there are also important and fairly extensive revisions. There is always a substantial section of manufacturers' advertising.

Babbitt Harold Eaton

Plumbing. Second edition. New York McGraw Hill Book Company Inc., 1950 644 p. illus. 24 cm. $8.00. 5625

Contents: Elements of plumbing. Hydraulics and pneumatics. Water supplies. Pumps and storage tanks. Water-supply pipes in buildings. Hot-water, chilled-water, gas, compressed-air, and vacuum supplies. Interior fire protection. Design and layout of drainage pipes, vent pipes, and traps. Installation of drainage and vent pipes. Sewage and drainage pumps and drains. Valves, faucets, meters, and other appurtenances. Materials, dimensions, and types of pipes, fittings, and equipment. Bathroom, and lavatories and toilet-room fixtures. Bathing, kitchen, washing, and other fixtures. Water treatment and sewage disposal. Maintenance and repairs. Heating. Ap[illegible] plumbing: Glossary of plumbing terms.—Extracts from and references to standard specifications for plumbing materials and equipment.—Problems and drawings of incorrect plumbing for corrections. Index.

Contents Part I General characteristics and basic principles. Potential cost savings. Conventional framing vs. plank-and-beam. Limitations of the plank-and-beam system. Part II Designing the planking. Handling the planks on the job. Designing the beams. Insulation and condensation control. Appendix I Plank structural design. Appendix II, Beam structural design. Appendix III, Design of insulation for condensation control.

Note "The plank-and-beam system for the construction of floors and roofs in today's houses is uniquely adaptable to the modern design trends toward one-story structures, large glass areas, modular co-ordination, open-space planning, and, if desired, 'natural finish' materials. It is characterized by the concentration of structural loads on fewer and larger sized pieces than in conventional construction, resulting in rapid site assembly with fewer man-hours. Dual function of materials and the use of planks continuous over two or more spans result in further economy. The first part of the publication discusses the background, the advantages, and the disadvantages of the system. The second part is an engineering design manual outlining the principles involved, together with tables and graphs for the design and selection of members.

UNITED STATES NATIONAL BUREAU OF STANDARDS

Sound insulation of wall and floor constructions, prepared by the staff of the Sound Section Washington, D C Government Printing Office, 1955 66 p. illus 26 cm (United States National Bureau of Standards. Building materials and structures report 144) $0 40 5615

Contents Introduction. Location of building. Location of rooms within a building. Factors that control the transmission of sound through walls and floors. Homogeneous walls. Nonhomogeneous walls. Impact noises and methods of computing results. Masking effect. Maximum tolerable noise levels. Details of measurement of sound-transmission loss. Numbering of panels. References. Tables. Numerical index of test panels.

Note This report summarizes data on the sound transmission of door wall and floor constructions in dwelling houses and office buildings. The general principles of sound insulation are discussed, and the techniques found most effective by test are explained in detail by means of text and illustrations. The report supersedes *Building materials and structures report 17* (published in 1939) and its supplements (1940 and 1947) It covers the results reported in the earlier publications and adds later results up to March, 1954.

VOSS WALTER CHARLES

Fireproof construction New York D Van Nostrand Company Inc., 1948 286 p illus. 24 cm (A technical series on building construction, Walter C Voss, editor) $5 75 5616

Contents Introduction. Preliminary and incidental work. Rock excavation. Foundations. Structural frames. Floor systems. Erection of the structural frame. Exterior walls. Fireproofing and partitions. Interior finish. Roofing and sheet metal. Building services. Index.

Note. This volume will serve as a manual of good practice for the construction of fire resistant buildings, rather than as a comprehensive text on the subject. It describes some of the commonly accepted methods utilized in the construction of buildings classified as "first class" by the National Board of Fire Underwriters and the American Iron and Steel Institute. The book is well illustrated with diagrams and photographs, and each step in the construction process is discussed in the light of accepted practices, choice of materials, handling of materials, and organization of the job.

WALKER, FRANK R.

The building estimators reference book a practical and thoroughly reliable reference book for contractors and estimators engaged in estimating the cost of and constructing all classes of modern buildings. Twelfth edition—illustrated Chicago Frank R. Walker Company 1954 1,774 p illus. 17 cm $13.50 5617

Contents (abridged) Excavating, backfilling, soundings, well drilling, hauling, caissons, wood and concrete piles, sheet piling and bracing. Concrete breaking, pneumatic excavating, trucking, drilling and sand blasting. Concrete footings, foundations and retaining walls. Reinforced and architectural concrete construction. Concrete masonry Integral and membrane waterproofing. Brick masonry glass blocks. Rubble stone, cut stone, granite and terra cotta. Rough carpentry and timber framing, hardwood and wood block flooring, wood and trusses. Mill work and interior finish, wood stairs. Wallboard, insulation, sound deadening, building board and sheathing. Corkboard insulation, weather strips. Painting, varnishing and decorating, paper hanging. Glass and glazing, structural glass, metal store fronts. Lathing. Interior marble and structural slate. Tile floors, wainscoting and mantels, terrazzo and composition floors and base, rubber tile and linoleum floors. Sheet metal work. Steel and aluminum windows, screens, storm windows and light industrial doors. Structural iron and steel. Electric freight and passenger elevators. Heating and air conditioning, furnace, steam, hot water and vapor systems. Plumbing, sewerage and gas fitting, refrigeration. Electric wiring. Index.

Note. The first edition of this book was published in 1915 and it has been a standard manual in the building trades in the United States of America since that time. It covers the estimating of the quantities and costs of materials and the hours of labor and wages for projected building operations. The field is covered in detailed fashion for instance, there is information on such procedures as the hacking and chipping of old concrete which must be removed—not a building operation but one which enters into the cost of numerous building modernizations. Aside from its main use, the book is a source of information on the forms and dimensions of building materials. New editions are published frequently The scope and organization are not changed from one edition to another but some changes are always made so as to take account of changes in building methods, in wage scales, etc. The 14th edition was published in 1957 $13.50.

WAUGH, HERBERT R., AND NELSON L. BURBANK

Handbook of building terms and definitions New York Simmons-Boardman Publishing Corporation, 1954 421 p. illus. 20 cm. $5 00 5618

Note. A useful, reliable dictionary of terms used in the building trades in the United States of America. The authors took a liberal view of the boundaries of the field, hence, terms such as "motor" are included as well as "rubble." The definitions are written, for the most part, in the common language and are well phrased. A considerable number of illustrations are scattered through the text and, in addition, there is an appendix of symbols used in architectural drafting, drawings of pipe fittings, etc.

WHITTEMORE, HERBERT LUCIUS, AND OTHERS

Strength of houses application of engineering principles to structural design. By Herbert L. Whittemore, John B Cotter, Ambrose H. Stang, and Vincent B Phelan. Washington, D C. Government Printing Office, 1948. 132 p. illus. 27 cm. (United States. National Bureau of Standards. Building materials and structures report BMS 109) $1 50 5619

Contents Introduction. Outline of method for determining strength of houses. Dead load. Floor load. Wind load. Snow load. Water load. Assumptions. Conventions. Reactions on elements of house. Roof. Hip and valley rafters. Walls. Partitions. Floors. Weights of house constructions. Variations in strength of house constructions. Allowable loads on house constructions. Comparison of allowable loads with design loads for typical houses. Conclusions. Selected references.

Note. Methods for designing small houses to have adequate strength without waste of material are described and illustrated in this report, which applies engineering methods to house design. Fundamental data for wind, snow and floor loads are given, and convenient methods for computing applied loads are described. One purpose of the publication is to open the way for designers to introduce unconventional materials and unusual methods of fabrication by laboratory determination of strength of construction. Another is to indicate where careful engineering scrutiny shows superfluous quantities of material being used in houses constructed by traditional methods. The authors conclude as follows: "General

building materials. Preventing condensation on interior surfaces. Preventing condensation within walls and ceilings. Insulation and comfort. Sound insulation. Insulating farm structures. Index.

Note A practical book addressed to homeowners and farmers rather than to architects and contractors. Adequate descriptions of the types and varieties of insulating materials are given. Methods of application are also described, and in most instances the descriptions are detailed enough to serve the needs of readers who intend to apply the insulating themselves. However, methods which require specialized equipment are described in general terms only. An example is the blowing of loose insulation into the walls of existing buildings. The book contains little if any information that has not been published before, but it is a handy compilation for its intended readers.

DALZELL, J RALPH

Remodeling guide for home interiors planning, materials, methods. New York McGraw-Hill Book Company Inc. 1956. 345 p. illus. 24 cm. $4 95 5632

Contents: Wants. Fasteners. Insulation. Ceilings. Walls. Floors. Basements. Kitchens. Attics. Bathrooms. Storage spaces. Index. Bluepoints.

Note: This book deals with the repair and reconstruction of the interior of dwelling houses. It is directed to homeowners and amateur [illegible] more than to professional builders and is a combination [illegible] of the book and reference book of factual information on materials, construction details and techniques. The problems of remodeling are accomplished nevertheless, the book contains [illegible] wide range of useful information.

DAY LOUIS J

Standard plumbing details for architects, engineers, contractors plumbers and students. New York John Wiley & Sons, Inc., 1938 119 p. illus. 30 cm. $9.50 5633

Contents: Plumbing fixtures. Plumbing equipment. Plumbing systems. Plumbing layouts. Index.

Note. A collection of reproductions of diagrams whose purpose is to show how plumbing fixtures are connected. In some of the drawings dimensions of fixtures are also supplied, but in general they are omitted because the author expects that architects and engineers will obtain exact information on dimensions from manufacturers. The diagrams depict not only installations in dwelling houses, but installations in industrial, office, and public buildings.

DUNLAP MATTHEW ELBRIDGE

Condensation control in dwelling construction, by Forest Products Laboratory Forest Service, U S. Department of Agriculture in collaboration with the Division of Standardized Building Codes and Materials Office of the Administrator Housing and Home Finance Agency Washington D C. Government Printing Office, 1949 73 p. illus. 23 cm $0.25 5634

Contents Introduction Factors in the condensation problem. Vapor barriers. Sheathing paper or sheathing. Ventilation. Thermal insulation. Good practice recommendations. Condensation control zones. Sizes of ventilators. Closed spaces. Walls. Lofts or attics. Condensation control details. Appendices: Methods for computing recommended amounts of insulation. Literature cited. Glossary of condensation and heating terms.

Note How excessive condensation in the frames of dwelling houses may be controlled by means of vapor barriers and proper ventilation [illegible] the subject of this pamphlet. The methods described are based upon studies and observations made over [illegible] period of years on buildings involved in moisture problems. Pages 6–44 are occupied by drawings and specifications drawn by J C Killebrew showing various building details involved in condensation control. The publication is of interest to architects, builders, and home owners.

EMERICK, ROBERT HENDERSON

Heating design and practice. New York McGraw Hill Book Company Inc. 1951 453 p. illus. 24 cm. $9.00 5635

Contents. Terms and definitions. How heating loads are calculated. Designing [illegible] steam heating system. Heating boilers and steam generators. Designing [illegible] hot water heating system. Boiler firing equipment. Water heaters and how to size them. Designing [illegible] warm air heating system. Panels, baseboards, and unit heaters. Fans and district heating. Space heaters, domestic and industrial. District steam heating. The heat pump. Fuels and fuel handling. Combustion. Chimneys, stacks and flues. Heat insulation and refractories. Fireplace design and performance. How to choose [illegible] heating system. Incinerators and destructors. Specifications and the analysis of bids. Index.

Note. A practical, largely descriptive book for such readers as vocational-school students and men who design or install heating systems. Residential heating equipment such as is currently used in the United States of America is emphasized, but there is some discussion of larger equipment. A special feature is the inclusion of information on new developments such as the heat pump and panel heating. A range of data useful in practical design is included. There are many illustrations but no bibliography.

EWING CLAUDE H. AND HARRY A. HARRIS

Practical instruction for paper hanging complete textbook covering tools processes and elements for hanging paper on walls, ceilings and panels. Chicago Frederick J Drake & Company 1946 223 p. illus. 19 cm. $2 00 5636

Contents Paste table work and hanging sample patterns. Hanging special papers. Hanging paper around doors and windows. Hanging ceiling papers. Hanging panel paper. Preparation of surfaces.

Note Except for the final chapter, the instruction in this trade school text is given in the form of 63 practice jobs for the student to accomplish. Each such project covers [illegible] different phase of the paper-hanging process and includes, objectives of the job, preliminary information, equipment and handtools, materials, and procedures. A second edition [illegible] published in 1957 230 p. $3 00.

FAHSBENDER MYRTLE

Residential lighting. New York D Van Nostrand Company Inc. 1947 269 p. illus. 29 cm. $12.50 5637

Contents Part [illegible] Residential lighting equipment. The influence of period styling on lighting fixture design. Portable lamps and lamp shades. Designs and materials in portable lamps. Fluorescent lighting in the home. Lighting the rooms of the house. Home [illegible] wiring. Garden lighting. Christmas lighting. Part [illegible] Light and vision. Electrical and illumination terms. Light sources. Color and light in the home. Bibliography. Index.

Note Residential lighting, that is, the proper selection and placing of electric lamps and fixtures in [illegible] house so as to harmonize with the furnishings and to provide the correct amount and quality of illumination, is the principal subject of this manual book. The many excellent illustrations show indoor and outdoor lighting appliances, methods, and arrangements. About one-third of the text is devoted to an easily understandable treatment of technical details such as the various types of lamp bulbs and their uses, the properties of light, how to make minor repairs to wiring, etc. The work should be useful to homeowners, interior decorators, architects, and builders.

GAY CHARLES MERRICK AND OTHERS

Mechanical and electrical equipment for buildings. Third edition. By Charles Merrick Gay Charles De van Fawcett, and William J McGuinness. New York John Wiley & Sons Inc., 1955 564 p. illus. 22 cm. $8.50 5638

Contents (abridged) Water supply. Sanitation. Heating. Air conditioning. Electrical equipment. Acoustics. Appendix: Articles of the National Electrical Code. Supplementary textbook references. Index.

Note: A treatise on plumbing which is written on the engineering college level. The basic theory is covered in such chapters as that on hydraulics and pneumatics, but most of the space is given to descriptions of the elements of plumbing systems, and to practices which are in line with such codes as the *Plumbing manual* of the National Bureau of Standards and the *Housing code* of the Housing and Home Finance Agency of the United States Government. In connection with the descriptions of practices much engineering data are presented chiefly in the forms of graphs and tables. Although addressed more to sanitary engineers who will be responsible for the design of plumbing systems in public buildings, dwellings, etc., and to college students preparing for careers in sanitary engineering, than to practical plumbers, the book does include much information of value to the latter group. The first edition was published in 1928. In preparing this edition the author thoroughly revised the book and added more than 100 pages of material.

BARROWS, WILLIAM EDWARD

Light, photometry, and illuminating engineering Third edition. New York McGraw Hill Book Company, Inc., 1951 415 p illus 24 cm. $8 50 5626

Contents. Light and vision. Photometric standards, units, and nomenclature. Sources of light. Gas, vapor and fluorescent lamps. Principles of photometry and photometers. Photometric measurements and illumination surveys. Light-flux calculations and spherical photometry Principles of interior lighting. Illumination calculations and design. Light control and application. Interior lighting practice. Lighting for sports and recreation. Principles of street and highway lighting. Lighting streets, highways, and airways. Problems. Index.

Note An engineering college textbook with a venerable lineage. It traces back to the author's *Electrical illuminating engineering* published in 1908. However in counting editions the publisher has started with that published in 1925. Each new edition has usually represented an extensive revision of the preceding one, and the edition at hand is no exception. A considerable part is new or extensively revised in comparison to the preceding edition (1938) The book is now an introductory and fairly comprehensive treatment on the engineering-college level. A good share of the text is descriptive and practical. A fair grasp of the book's contents should prepare the reader to design common types of lighting systems.

BERRY, C HAROLD

Flow and fan—principles of moving air through ducts, elements of fan selection and control, duct arrangement and resistance, system characteristics and flow analysis, clearly stated for students or practicing engineers New York Industrial Press 1954 226 p illus 23 cm. $4 00 5627

Contents Factors in gas flow measurement. Pressure and loss calculations. Losses in straight uniform ducts. Losses in diverging passages. More about losses The system considered as a whole. Effect of flow and field. Fan performance. Effect of variables on fan performance. Fan and system. Selecting a fan. Fan selection and rating. Fan operation and control. Index.

Note The matter in this book is not only clearly stated as claimed in the title, but it is also written from the viewpoint of the engineer (not a specialist in fans and ventilation) who must select a fan or design a duct system for maximum performance and economy The various factors that may affect performance and efficiency are skillfully described, in most instances without the use of mathematics for instance A damper in a duct is strictly analogous to a resistance included in an electric circuit to control current flow Such a resistance dissipates work in warming the surroundings However mathematics, especially graphic methods, are used when necessary The contents of the book appeared originally as articles in *Heating and ventilating*

BOAST, WARREN B

Illumination engineering Second edition New York McGraw Hill Book Company Inc. 1953 340 p. 23 cm $7 00 5628

Contents The spectroradiometric function The luminosity function. The illumination system. Entities in the illumination system and their units. Measurement of illumination. Geometric graphs and their application. Determination of illumination from surface and line sources. Absorption, reflection, and transmission of luminous flux. Electric-light sources and their operating characteristics. Illumination standards. Lumen method of design of interior lighting systems using commercial luminaires. Illumination and brightness design by the interreflection method. Luminous architectural elements. Testing of illumination systems. Color specifications. Design of floodlighting systems—of street-lighting systems. Ultraviolet and infrared sources and applications. Wiring. Appendix. Index.

Note. A rigorous treatment of the scientific bases of illumination engineering. All the essentials for the design of efficient lighting systems are covered, but there are no illustrations of lamps or of lighting installations. The general scope and arrangement of this edition remains the same as in the 1942 edition, but the material has been revised to conform with latest illuminating standards. New chapters have also been added on the interreflection method of design color ultraviolet and infrared sources, and wiring standards. The author is Professor of Electrical Engineering in Iowa State College.

CARRIER, WILLIS HAVILAND, AND OTHERS

Modern air-conditioning, heating and ventilating, by Willis H. Carrier, Realto E. Cherne and Walter A. Grant. New York Pitman Publishing Corporation, 1950 574 p. illus. 26 cm. $10 00 5629

Contents: Introduction. Psychrometrics and comfort. Estimating requirements. Economics. Heat-producing equipment. Heat-distributing equipment. Steam heating systems. Hot-water heating systems. Automatic controls and sizing for heating. Fans, heaters, and collators. Air-cleaning devices and humidifiers. Design of air-duct systems. Cooling and dehumidification. Central and unit systems. Refrigeration systems and equipment. Refrigeration piping. Air distribution and sizing. Automatic controls for air conditioning. Noise and vibration. Application practice. Residential heating and air-conditioning systems. Appendix. Air-conditioning glossaries. Index.

Note. A standard treatment from the practical standpoint. It is suitable for use as a self-instruction text as well as a reference manual for practicing engineers, architects, and others in the field. The first edition was published in 1940. The most obvious change in the present edition lies in the improved format of the volume. The page size is larger and the typographical design of text, tables and charts is more pleasing. Revisions in contents include a new section on radiant and panel heating and expanded discussions of oil burners and air-cleaning devices, and the rewriting of the chapter on psychrometrics.

CLOSE, PAUL DUNHAM

Building insulation, principles and application of heat and sound insulation for buildings. Fourth edition Chicago American Technical Society, 1951 402 p. illus. 22 cm. $5 25 5630

Contents Introduction. Types of thermal building insulations. Methods of application. Fundamentals of heat transfer through building materials. Transmission coefficients and tables. Calculating heat losses. Effect of building insulation on heating plant size. Fuel saving. Economics of insulation Insulating efficiencies and expansion of roofs. Preventing condensation on interior surfaces. Preventing condensation within walls and ceilings. Insulation and comfort. Pipe and duct insulation. Sound insulation. Machinery isolation. Architectural acoustics and noise quieting Insulating farm structures. Appendix questions pertaining to building insulation. Index.

Note A standard reference book for the information of builders, engineers, architects, homeowners, etc. Also, it is used to some extent as a textbook in trade school courses. In it are discussed the various kinds of heat and sound insulating materials, their uses and methods of application, trade names, names of manufacturers and related topics such as the economics of heat insulation. The third edition was published in 1946. In this edition much of the text is unchanged, but important revisions have been made in such parts as the chapters on condensation and in the lists of manufacturers and trade names.

CLOSE PAUL DUNHAM

How to insulate homes and farm buildings. Chicago American Technical Society, 1952 204 p illus. 22 cm. $3 25 5631

Contents. Introduction. Types of thermal building insulations. Methods of application. Fundamentals of heat transfer through

KEMLER, EMORY NEUDECK AND SABERT OGLESBY JR.

Heat pump applications. New York Mc Graw-Hill Book Company Inc., 1950 300 p illus. 24 cm. $6.50 5644

Contents: Introduction. Commercial heat-pump installations. Industrial heat-pump installations. Residential installations. Thermodynamics of refrigerants and cycles. Heat-pump cycles. Heat sources. Compressors. Fans and ducts. Electric motors. Heat exchangers. Temperature and design data. Storage and hot-water [illegible]. Patent abstracts. Index.

Note: A technical survey of the status of heat pump engineering, especially in applications to commercial and residential heating, as of the year 1948. It [illegible] addressed to such readers as refrigeration and heating engineers. It is drawn partly from the literature and partly from the authors' own work in the field. Particular attention [illegible] given to describing the solutions which have been attempted to such problems as the capacity control of compressors under the conditions imposed on heat pumps in average installations. Short bibliographies are included in the chapters. The chapter on patents contains abstracts of 34 United States of America patents.

KNUDSEN VERN OLIVER AND CYRIL M HARRIS

Acoustical designing in architecture. New York. John Wiley & Sons, Inc. 1950 457 p. illus. 22 cm. $7.50. 5645

Contents: Properties of sound. How we hear. Speech and music. Reflection and diffraction of sound in rooms. Open-air theaters. Sound-absorptive materials. Special sound-absorptive constructions. Principles of room acoustics. Acoustical design of rooms. Noise control. Reduction of air-borne noise. Reduction of solid-borne noise. Control of noise in ventilating systems. Sound-amplification systems. Auditoriums. School buildings. Commercial and public buildings. Homes, apartments, and hotels. Church buildings. Radiobroadcasting, television, and sound-recording studios. Appendix: Coefficients of sound absorption. Tables of sound-insulation data. Conversion factors and physical constants. Index.

Note: A practical guide intended for architects, students of architecture, and others who wish [illegible] nonmathematical but comprehensive treatise on the subject. The authors cover the technological principles of architectural acoustics and show how to apply these principles [illegible] practice. They emphasize that acoustical designing begins with the preliminary sketches on the drafting board and continues throughout all stages of planning and construction. Design data are presented in such [illegible] manner that the book can serve as [illegible] convenient reference in the solution of most problems encountered in architectural acoustics.

KRAEHENBUEHL, JOHN OTTO

Electric illumination. Second edition New York. John Wiley & Sons, Inc., 1951 446 p. illus. 24 cm. $8.00 5646

Contents: Introduction. Objective specification of illumination. Subjective specification of illumination. Color and shadow. Illumination from point, line, and surface sources. Electrical incandescent and gaseous vapor-light sources. Light control. General illumination design (lumen method). Luminous architectural elements (lumen method). Floodlighting (lumen method). Novelty lighting. Maintenance and economy—automatic control. Wiring. Appendix. Index.

Note: A college textbook that is useful also to architects and other nonspecialists whose work requires the understanding of the principles of illumination and the specifications of lighting systems. Commercial, industrial, and theatrical, rather than residential, lighting, are dealt with. In addition to discussions of the general principles of the subject, there is [illegible] wide variety of tabulated engineering data useful in design and specification work. There are generous lists of references to other literature. The book has been rearranged, the type reset, and there is [illegible] substantial amount of new material in this edition.

MADISON RICHARD D., editor

Fan engineering. An engineer's handbook on air its movement and distribution in air conditioning, combustion, conveying and other applications employing fans. 5th edition, rewritten and reset. Buffalo Buffalo Forge Company 1948 808 p. 18 cm. $6 00 5647

Contents (abridged): Part I: Properties of air and air-vapor mixtures. Heat transmission. Fluid flow. Air distribution. Part II: Centrifugal fans. Axial flow fans. Laws of fan performance. Fan testing. Sound. Fan dynamics. Fan power equipment. The jet pump. Part III: Heating. Ventilation. Humidifying and dehumidifying. Cooling and refrigeration. Drying. Combustion and mechanical draft. Air cleaning. Exhausting and conveying. Part IV: Problems and selection of equipment. Multiblade ventilating fans. Centrifugal fans in industry. Axial flow fans. Heaters. Coolers. Air conditioners. Evaporative coolers. Air cleaning and humidifying. Appendix. General index.

Note: A standard handbook of information and engineering data on industrial fans and air flow. It is designed for engineers and other technically trained persons [illegible] who select fans for industrial uses or design systems in [illegible] which fans are employed to move air. In preparing the present edition the work was extensively revised. Greater attention is now paid to basic engineering, and [illegible] somewhat more comprehensive treatment of air conditioning has been incorporated. The numerous charts and tables have been revised and modernized [illegible] with new data [illegible] wherever possible. Selective bibliographies are included throughout the volume.

MANLY HAROLD PHILLIPS

Drake's heating, cooling and air conditioning handbook a reference manual and practical instruction book. Chicago Frederick J Drake & Co., 1947 758 p. illus. 19 cm. $4.00. 5648

Contents (abridged): Winter heating and summer cooling. Heat transfer. Evaporation and relative humidity. Psychrometric tables and charts. Heating and cooling loads. Ventilation, leakage, and moisture. Heating load calculations. Heating with hot [illegible] air. Heating with steam. Heating with warm air. Cooling loads and their calculation. Air filters. Air flow and pressure loss. Duct design and construction. Fan performance and selection. Oil burners. Gas burners. Coal stokers. Automatic controls. Radiant heating. Index.

Note: This book is intended for workers [illegible] who are engaged in the installation and maintenance of heating and air conditioning equipment. It presents [illegible] simplified, practical exposition. The computations introduced require only [illegible] knowledge of simple arithmetic.

MATTHIAS ARTHUR JOHN JR.

How to design and install plumbing materials and methods of standard practice. Revised by Esles Smith, sr Third edition. Chicago American Technical Society 1952 444 p. illus. 22 cm. $4.25 5649

Contents (abridged): Municipal sewage disposal. Private sewage disposal. Materials used for sewer pipe and fittings. Joints in clay and iron sewer-waste and vent. The house sewer. The house drain. House drain appliances. Storm drainage. Soil pipe. Waste pipe. Traps used on plumbing systems. Ventilation. Soil, waste, and vent pipe principles. Inspection and test. Water supply. Materials used for water distribution. The house water supply. Pumps and lifts. Cold-water distribution systems in tall buildings. Domestic hot water supply. Hot-water distribution systems. Cross-connections. Fire line installation. Plumbing fixtures. Questions pertaining to plumbing. Index.

Note: A practical book that has been widely used as [illegible] vocational school text and general source of information about plumbing practices since the appearance of the first edition in 1940. It covers both the plumbing of residences and of industrial buildings. A considerable range of material has been added in this edition. However, it is obvious that the revision was handled so that as many as possible of the plates that were used to print the second edition could be used again. The result has been the retention of some outdated material.

PAINTING AND DECORATING CONTRACTORS OF AMERICA

Painting and decorating craftsman's manual and textbook. New York Theo. Audel & Co., 1949 430 p. illus. (part col'd) 17 cm. $2.00. 5650

Note. A standard book on the fixed-in-place equipment of residential, office and industrial buildings. The field is covered from the standpoint of engineering, and one of the uses of the book is as a text in engineering schools. However much information is included which is useful also to architects, real estate operators and superintendents of buildings. A wide range of typical equipment is described, but the main emphasis is on principles, applications and capacities. The second edition was published in 1945. This third edition has been extensively revised and enlarged. New developments, such as electronically controlled automatic elevators for office buildings, are now included. Various sections have been revised to make them conform to the current edition of the National Electrical Code.

HAINES, JOHN E

Automatic control of heating and air conditioning New York McGraw Hill Book Company Inc., 1953 370 p illus 24 cm. $6 75 5639

Contents Fundamentals of control. Definitions. Fundamentals of measurement. Electric-control circuits. Pneumatic-control circuits. Electric-control units. Control of domestic heating. Zone control—commercial heating. Control of unit heaters and unit ventilators. Control of commercial central-fan heating systems. Control of commercial central-fan cooling systems. Control of commercial refrigeration. Control of radiant-panel heating. Index.

Note. A descriptive treatment of control problems and control devices used in connection with heating and air conditioning systems. The mathematical aspects of control ar not covered Instead, the space is devoted to the arrangements and mechanisms of variety of devices ranging from the simple house thermostat used to control the dampers f a coal-fueled furnace to the refined systems of thermostats and electrically actuated valves used in connection with large air-conditioning systems. The author is a Vice-President of the Minneapolis-Honeywell Regulator Company major manufacturer of controls f the kinds described, but there is no particular emphasis on the devices manufactured by this company Men associated with the heating and air-conditioning industries will find the book of particular interest.

HOLMES, RICHARD E

Air conditioning in summer and winter Second edition. New York McGraw Hill Book Company, Inc., 1951 352 p illus. 24 cm $6 00 5640

Contents Air conditioning and the atmosphere. Psychrometry Requirements for comfort. Air-conditioning systems. Winter air conditioning load—air-infiltration heat loss—heat-transmission loss—total heating and humidifying load. Heating systems. Humidifiers. Air filters. Application of winter air-conditioning equipment. Introduction to refrigeration principles. Refrigerants and refrigerant tables. Refrigeration systems. Compressors. Condensing equipment. Low-side equipment. Dehumidifiers. Field-assembled systems. Self contained air conditioners. Summer air-conditioning load. Application of summer air-conditioning equipment. Temperature and humidity controls. Index.

Note. A textbook and self-instruction book written for installers, maintenance men, salesmen and other persons who need an elementary practical treatment. The fundamentals of the subject are covered and typical apparatus is described The first edition was published in 1938. Many changes and additions were made in preparing this edition including somewhat more technical treatment f such topics as the refrigeration cycle.

HUTCHINSON F W

Design of heating and ventilating systems. New York The Industrial Press 1955 308 p illus. 24 cm. $7 00 5641

Contents. Introduction. Load determination—transmission losses—intermittent heating—ventilation and humidification—losses from ducts, pipes and tubes. Fuels and combustion Air distribution. Conventional heating system design procedure. Panel heating design procedure. Solar heating design procedur Appendix. Bibliography Index to graphs. Subject index.

Note: In preparing this book, the author gav little emphasis to, or ignored entirely aspects of heating and ventilating system design which have become standardized and, instead, devoted the space to matters such as the design of heating systems used in conjunction with solar heating. The chapter on solar heating design runs to 32 pages. Air distribution and panel heating design are two other topics treated at considerable length. Throughout, the book consists of two somewhat independent though interpaged parts, a concisely written text and series of charts. The text is for reading and instruction. The charts are designed to simplify computations. Each chart is printed on full right-hand page, while on the facing left hand page is an explanation of it and other information designed to facilitate its use. The book is of interest to graduate engineers, architects and others who design heating and ventilating systems for residences, schools and other buildings.

ILLUMINATING ENGINEERING SOCIETY

IES lighting handbook, the standard lighting guide. Second edition. New York Illuminating Engineering Society, 1952 977 p. illus. 23 cm. $8 00 5642

Contents: The physics of light. Light and vision. Standards, nomenclature, abbreviations, and symbols. The measurement of light. Color Light control. Daylighting. Light sources. Lighting calculations. Interior lighting. Exterior lighting. Sports lighting. Street and highway illumination. Aviation lighting. Transportation lighting. Miniature lamp applications. Photographic, reproduction, projection, television and radar screen lighting. Miscellaneous applications of radiant energy Appendix: Conversion factors for lighting units. Conversion equations for angular measure, temperature, power and pressure. Greek alphabet. Glare factors. Procedure for obtaining I.C.I. specifications from spectrophotometric curves. Central Munsell notations for each I.S.C.C.-N.B.S. color-name block. Tristimulus values of the spectrum. Brightness of various light sources. Procedure for computing coefficients of utilization. Constants for use in zonal method of computing luminous flux from candlepower data. Nomogram for determining angle of incidence. Nomogram for obtaining zonal lumens from average zonal candlepower. Constants for converting beam candlepower of projector-type luminaires into lumens. Coefficient of utilization computation sheet. Multiplying factors for direct components of utilization coefficients. Calculations with line and surface sources. Complete expense analysis. Equations of common curves. Areas of plane figures. Properties of the circle. Trigonometric formulas. Specular and diffuse reflection factors of common papers and ink. Manufacturers' data. Index.

Note. A manual which provides essential information on light and lighting in simple terms and condensed style for the practical use of engineers, architects, contractors, and manufacturers. This edition is the result f detailed review and revision of the first edition published in 1947 The work of revision was carried on largely by technical committees of the I.E.S. Over three-fourths of the material is new or revised. Two new sections are included, those on street and highway illumination and iation lighting. A feature is the 173-page section of manufacturers' reference data containing data from 85 manufacturers on products supplied by them, the contents of which comply with the specifications and standards established by the Illuminating Engineering Society for such information.

JENNINGS, BURGESS H.

Heating and air conditioning Scranton International Textbook Company 1956 598 p. illus. 24 cm. $8.50 5643

Contents. Basic concepts and instrumentation. Thermodynamics and steam and gas properties. Air and humidity calculations. Heat transfer and transmission coefficients. The heating load. Principles f steam heating. Piping and steam-system design. Hot water heating. Heat-transfer elements. Boilers, fuels, and combustion. Warm air heating. Fluid flow duct design, and air-distribution systems. Fans and air distribution. Physiological reactions to heating and cooling. The cleaning of air Panel (radiant) heating Cooling load and air-conditioning calculations. Refrigeration and the heat pump. Controls and control systems. Index.

Note. A college textbook designed for the instruction of advanced undergraduate students of heating and entilating engineering. It provides reliable introduction to contemporary practice in the United States of America in residential and small-scale industrial heating and ventilating. Both equipment and design are covered. Although some attention is paid to summer air conditioning, especially the calculation of cooling loads and other design aspects, the primary objects are winter heating and associated control of the humidity and cleanness of the air within buildings. The author is Director of Research, American Society of Heating and Airconditioning Engineers.

Trane Company

Trane air conditioning manual. Revised edition. LaCrosse Wis. The Trane Company 1955 380 p. illus. 28 cm. $6.50. 5657

Contents. Heat. Comfort. Heat gain. Properties of air and the psychrometric chart. Calculations for the conditioned air supply. Refrigeration for air conditioning. Water for air conditioning. Ducts and fans. Reference tables. Answers to problems. Index.

Note: A well-written practical textbook. It covers both the science the basis of air conditioning and the technology of air conditioning equipment. It is written in a direct, elementary style in which the symbols and terminology of the subject are freely used. A considerable range of reference information is embodied in the text and, in addition, there is a 72-page section of tables of engineering data. Although published by one of the leading manufacturers in the United States of America of equipment for air conditioning, there is no emphasis on the equipment made by this manufacturer. The first edition was published in 1938, and there have been many reprintings and three revisions.

Wilkes, Gordon Ball

Heat insulation. New York John Wiley & Sons, Inc., 1950. 224 p. illus. 21 cm. $6.00 5658

Contents: Purpose of heat insulation. Fundamental terminology. Methods of determining heat transfer coefficients. Factors affecting the coefficient of thermal conductivity. Types of insulating materials. Reflective insulation. Specific heat of insulating materials. Moisture in insulation. Economics of insulation. Appendix: Coefficients of thermal conductivity. Specific heat and thermal diffusivity. Emissivity and reflectivity of various substances. Coefficients of heat transmission for building walls. Calculated U values. Water-vapor permeability of various materials. Bibliography. List of figures. Index.

Note: A compact summary of useful information on various aspects of heat insulation. The information included has application not only to the insulation of dwelling houses but to the insulation of refrigeration storage rooms and other structures where the insulation demands are more severe. The book is particularly valuable for the data it provides on such topics as reflective insulation, the effects of moisture, and the control of water vapor.

CONCRETE

American Society for Testing Materials

Significance of tests and properties of concrete and concrete aggregates a resume of present information on the significance of the properties of concrete and concrete aggregates and the tests by which they are studied and determined. Philadelphia American Society for Testing Materials, 1956 387 p. illus. 23 cm. $6.00. 5659

Contents: Part I, General. Concrete and concrete aggregates: Techniques, procedures and practices of sampling, by C. E. Proudley. Size and number of samples and statistical considerations in sampling, by W. A. Cordon. Evaluation of test results, by H. A. Frank. Needed research, by A. T. Goldbeck. Part II, Tests and properties of concrete. Freshly mixed concrete. Uniformity segregation and bleeding, by I. L. Tyler. Dimensions and unit weight, by M. A. Swayze. Workability and plasticity by F. Hubbard. Setting time, by E. W. Scripture. Air content, by F. F. Bartel. Hardened concrete: Petrographic examination, by K. Mather. Static and fatigue strength, by C. E. Kesler and C. P. Seiss. Elastic properties, by L. W. Teller. Dynamic tests, by E. A. Whitehurst and W. E. Parker. Volume changes and creep, by G. W. Washa. Thermal properties, by L. J. Mitchell. Pore structure, by G. J. Verbeck. Bond with reinforcing steel, by H. J. Gilkey. Abrasion resistance, by R. L. Kennedy and M. E. Prior. Resistance to weathering, general aspects, by C. H. Scholer. Resistance to weathering, freezing and thawing, by T. C. Powers. Resistance to chemical attack, by L. H. Tuthill. Resistance to fire and radiation, by P. H. Petersen. Air content and unit weight, by S. B. Helms. Cement content, by H. F. Kriege. Special categories. Ready-mixed concrete, by S. Walker. Lightweight concrete and aggregates, by R. E. Davis and J. W. Kelly. Part III, Tests and properties of concrete aggregates. Concrete aggregates: Petrographic examination, by R. C. Mielenz. Grading and surface area, by W. M. Price. Shape, surface texture and coatings, by B. Mather. Weight, density absorption and surface moisture, by A. G. Timms. Porosity and absorption, by D. W. Lewis and W. L. Dolch. Toughness, hardness, abrasion, strength, and elastic properties, by B. G. Woolf. Thermal properties, by H. K. Cook. Chemical reactions, by W. Lerch. Soundness and deleterious substances, by D. L. Bloem. Part IV Tests of properties of other materials. Other materials: Water for mixing and curing concrete, by W. J. McCoy. Curing materials, by J. H. Swanberg. Air-entraining admixtures, by C. E. Wuerpel. Mineral admixtures, by H. F. Meissner.

Note: A report composed of the individual papers whose authors and titles are listed above. Taken together these papers constitute an authoritative and useful survey of the various tests for concrete and of the properties of concrete and its ingredients except cement. Literature references are included in the individual papers.

American Society for Testing Materials

Symposium on use of pozzolanic materials in mortars and concretes, presented at the first Pacific Area national meeting of the American Society for Testing Materials San Francisco, Calif October 10–14 1949 Philadelphia American Society for Testing Materials 1950 203 p. illus. 23 cm. (American Society for Testing Materials. Special publication no. 99) $2.50. 5660

Contents: Introduction, by T. E. Stanton. Pozzolanic materials and their use in concrete, by R. E. Davis. Pozzolans used in mass concrete, by H. S. Meissner. Experience with pozzolanic materials in Kansas, by C. H. Scholer and R. L. Peyton. Effect of calcination on natural pozzolans, by R. C. Mielenz and others. Effect of the use of diatomite treated with air-entraining agents upon the properties of concrete, by R. E. Davis and A. Klein. Summary of methods for determining pozzolanic activity by W. T. Moran and J. L. Gilliland. Strength, volume change and sulfate resistance of mortars containing portland-pozzolan cements, by R. E. Davis and others. Studies of some method of avoiding expansion and pattern cracking associated with the alkali-aggregate reaction, by W. C. Hansen. Studies of use of pozzolans for counteracting excessive concrete expansion resulting from reaction between aggregates and alkalies in cement, by T. E. Stanton.

Note. Most of the papers in this volume relate to work done in the western and middle western states of the United States, particularly California, Colorado, Kansas, and Illinois. The first presents a general review of present-day knowledge of pozzolans, their effect upon some of the properties of concrete, and their use in concrete construction. The papers that follow deal in more detail with various aspects of the topic. Most of them contain bibliographies.

Bauer, Edward Ezra

Plain concrete. Third edition. New York McGraw Hill Book Company Inc., 1949 441 p illus. 24 cm. $7.50. 5661

Contents: Part I: Introduction. Standard Portland cement. Special cements. Mineral aggregates, admixtures, and water. Theories of proportioning. Applied proportioning. Factors affecting concrete strengths. Making of concrete. Placing, finishing, and curing concrete. Durability workability and watertightness. Field control of concrete. Specifications. Sampling. Testing. Part II: Instructions for performance of laboratory tests. Appendices. Index.

Note: A standard engineering college textbook on plain (as contrasted to reinforced) concrete. It is a combination of descriptive material and fundamental engineering information. The descriptive matter gives the book some value as a general reference book on the subject for homeowners, small contractors, etc. In the present edition, a considerable part of the older matter has been revised, and many new illustrations have been added. Revised specifications have been substituted for those which have been superseded.

Blanks, Robert F and Henry L. Kennedy

The technology of cement and concrete. Volume 1 Concrete materials. New York

Contents (abridged) Book I, Materials Composition and properties of basic materials. Synthetic resins. Modern paint formulations. Other basic coatings and finishes. Book II, Brushes, equipment, safety health Brushes and bristles. Spray painting. Ladders, scaffolds and rigging. Mechanical appliances. Health. Book III Painting specifications—practical procedure: Preparation of the surface, New exterior work. New interior work. Refinishing previously coated surfaces. Practical painting procedure. Marbleizing and graining. Wood finishing. Book IV Paint failures and their remedies: Factors that cause paint failures. Seasons for painting. Book V Color Color harmony Color mixing and matching. Color and light. Psychology of color. Styling with painted color Book VI, Wallpaper. Book VII, Estimating. Book VIII, Dictionary of trade terms. Book IX, Historical supplement.

Note. An official textbook of the sponsoring organization. It is designed for the instruction of apprentices who are learning the trade by combining classroom study with practical work. The discussions of some topics are rather brief, probably because they are intended to be supplemented by the personal instruction but as whole the book offers a wide range of practical information on materials and techniques. It should be useful not only to apprentices but to anyone who desires practical information about painting. It is patterned on *Painting and decorating working methods*, 1932, but it has been so thoroughly revised and expanded that it is essentially a new work.

PLUM, SVEND MUNK

Plumbing practice and design New York John Wiley & Sons, Inc , 1943 2 v illus 23 cm. $7 00 per vol. 5651

Contents (abridged) Volume I Corrosion. Materials. Pipes and fittings. Valves and controls. Fixtures and accessories. Pumps. Fire protection. Air piping and equipment. Appendix. Index. Volume II Definitions of physical and chemical terms. Codes and regulations. Architectural practice. Pipe work. Water supply Water piping. Drainage. Sewers. Sewage disposal and treatment. Gas piping and appliances. Water heating. Index.

Note These two volumes consolidate the data on the subject of plumbing, and present in uniform terminology the technical material scattered through architectural, mechanical, sanitary and civil engineering literature. The material is organized, terms defined, and the whole presented in handbook form. Default procedure and information are given on design of various pipe systems, equipment hook-ups, etc. Specifications are included only where they aid in describing particular mode of installation. Principles are thoroughly explained, and the data given are supplemented by numerous tables and drawings.

RABER, BENEDICT FREDERICK, AND FRANCIS W HUTCHINSON

Panel heating and cooling analysis. New York John Wiley & Sons, Inc., 1947 208 p illus 22 cm. $5 00 5652

Contents Introduction. Types of heating panels. Advantages of panel heating and cooling. Disadvantages of panel heating and cooling Radiation equations. The comfort relationship. The mean radiant temperature. Evaluation of shape factor planar surfaces. Evaluation of shape factor the human body Evaluation of shape factor approximations and examples. Heat-balance equations. Simplified heat-balance equations. The equivalent conductance design procedure. Index.

Note A valuable addition to the literature of panel, or radiant, heating. The book contains three fairly distinct although complementary parts In the first, the advantages and disadvantages of this method of heating and cooling are discussed in learned but non-technical terms in the second, the design of heating and cooling panels is analyzed mathematically and in the third, somewhat simpler procedures for design are presented. Except for the first part which may be read by anyone who is interested, the work is definitely for persons with previous training in mathematics and engineering. It is not intended for the practical installer of heating systems and such topics as boilers, furnaces, controls, or even the practical construction of panels, are not treated.

SEVERNS, WILLIAM HARRISON, AND JULIAN R. FELLOWS

Heating, ventilating and air-conditioning fundamentals Second edition. New York John Wiley & Sons Inc. 1949 666 p illus 24 cm. $7 00 5653

Contents (abridged) Essential definitions, laws, and properties of various media. Psychrometric properties of air—humidification and dehumidification. Factors affecting human comfort. Heat transmission and heat losses from buildings. Heating with warm-air furnaces. Heating boilers and appurtenances. Heating with steam. Heating with hot water Panel heating. Air conveying and distribution, fans, duct design, and diffusion. Ventilation and air purification. Mechanical refrigeration—applications to cooling and heating. Estimation of cooling loads. All-year air-conditioning methods and equipment. Automatic controls—pressure, temperature, and humidity Appendix. Index.

Note. Primarily this work is an engineering college textbook. Besides its textbook use, it has some value as a reference book for such persons as heating contractors, architects, and engineers. For this audience it provides concise and authoritative descriptions of modern design procedures and typical present-day heating and cooling equipment. Very substantial changes, including a large amount of newly added material, appear in this second edition.

SHARP, HOWARD M

Introduction to lighting New York Prentice Hall, Inc., 1951 334 p illus. 22 cm. $5.50 5654

Contents Nomenclature. Basic concepts. Electric lamps. Ballasts, transformers, and starters. Control of light. Luminaries. Measurements of light and lighting. Candlepower distribution curves. Coefficients of utilization. Principles of lighting design. Vision. Offices and schools. Factories. Stores. Lighting design—specialized techniques. Lighting cost analysis. Index.

Note A practical book suitable for engineering college students and practicing engineers who desire only a working knowledge of lighting principles and design. A good deal of the text is descriptive, but the mathematics that might be needed by practicing engineer or architect in designing lighting systems is included. The chapters are supplemented by literature references. There are a large number of illustrations and numerous tables of engineering data.

SHOEMAKER, RICHARD WOOLSEY

Radiant heating, including cooling and heat pump applications Second edition. New York McGraw Hill Book Company, Inc., 1954 346 p illus. 24 cm. $8 00 5655

Contents. General considerations. Structural and other advantages. Examples of commercial application. Examples of residential application. The radiant heating plant. Control systems for radiant heating. Design of radiant heating systems. Installation of radiant heating systems. Radiant cooling including heat-pump applications. Electrical applications. Miscellaneous applications. Precise method of designing radiant heating systems. Appendix. List of symbols. Index.

Note A useful survey of method of heating which has gained considerably in popularity in recent years. In it, the basic science is explained briefly and nontechnically and numerous examples of residential and commercial applications are illustrated and discussed. Typical equipment is shown. Except for the final chapter the treatment is descriptive and in the most difficult passages only semitechnical. The book is addressed primarily to such readers as architects, builders, and homeowners. However, the chapter on design is intended for heating engineers. The first edition was published in 1948. There are two new chapters in this second edition, and enough material has been added in chapters carried over to make a total of about 70 pages. Revisions have been made in both text and illustrations.

SPORN PHILIP *AND OTHERS*

Heat pumps by Philip Sporn E R Ambrose and Theodore Baumeister New York John Wiley & Sons Inc. 1947 188 p. illus. 22 cm $5 50 5656

Contents Thermodynamic principles. Basic heat-pump designs. Design factors. Equipment design. Equipment selection. Defrosting cycle and system control. Industrial applications. Economics of the heat pump Its effect on the power-system load curve. Heat-pump installations. Index.

Note. The heat pump is reversible refrigeration system arranged so that it can be employed for either cooling or heating. This book is essentially a survey for engineers and technicians, although the interested layman will find that he can grasp most of the exposition.

Contents: General considerations. Physical properties of materials used for prestressed concrete structures—steel—concrete—deformations. Theory of design of prestressed structures—changes of tension and stresses in prestressed structures due to shrinkage and plastic flow—method of design—Illustrative problems—prestressed trussed beams—Illustrative problems—prestressed trussed girders—prestressed shells—Illustrative problems. Representative prestressed structures. Appendix. Index.

Note: The heart of this book is the 130-page third chapter, in which the design of prestressed concrete structures is presented in practical manner for the use of graduate engineers. The two preliminary chapters present background information, and the final chapter contains illustrations and descriptions of prestressed concrete structures of various types, such as bridges, domes, and tanks. There are 130 figures and occasional footnote references to the source literature, mostly German.

LARGE, GEORGE ELWYN

Basic reinforced concrete design a problems method approach. New York The Ronald Press Company 1950. 340 p. illus. 24 cm. (*A volume of a series in civil engineering* Advisory editorial committee Lorenz G Straub and others) 5669

Contents: Introduction. Beams. Bond, shear, diagonal tension and anchorage. Columns. Continuity Buildings—design of beams and girder floors. Two-way and flat slab floors. Footings. Appendix. Index.

Note: An introductory textbook for college students of civil engineering which is organized for easy comprehension. In most of the chapters terms such as "bending moment" are explained concisely but clearly, and the definitions are followed by a series of worked examples of typical problems in reinforced concrete design. Problems for students to solve also are included. The illustrations include portraits of engineers who have made substantial advances in reinforced concrete design. A second edition was published in 1957 [illegible] p. [illegible]

LIN T Y

Design of prestressed concrete structures. New York John Wiley & Sons, Inc., 1955 456 p. illus. 24 cm. $11.50. 5670

Contents: Introduction. Materials. Prestressing systems—end anchorages. Loss of prestress—friction. Analysis of sections for flexure. Design of sections for flexure. Shear, bond, bearing. Beam deflections and cambers. Partial prestress and non-prestressed reinforcement. Continuous beams. Slabs. Tension and compression members. Circular prestressing. Allowable stresses and load factors. Economics. Special problems. Appendixes: Definitions, notations, abbreviations. Design data for some prestressing systems. Constants for beam sections. Criteria for prestressed-concrete bridges. Index.

Note: In the United States of America, prestressed concrete has made headway more slowly but it has gained sufficiently in acceptance to justify the publication of a book based on American engineering principles. This new work by Professor Lin of the University of California is such a book. Graduate American civil engineers who are familiar with design in plain and reinforced concrete are the intended readers. Primarily about practical design, it expounds methods adapted to American engineering, covering both elastic and ultimate designs. It includes in addition a good deal of useful "know-how" on such matters as the transport of precast prestressed concrete members and the application of loading to prestressed structures. Tensioning devices and anchorage hardware are described and illustrated, and other special aspects, such as the resistance of prestressed concrete to corrosion and fire, are discussed. Well-selected lists of literature references are included.

NATIONAL RESEARCH COUNCIL HIGHWAY RESEARCH BOARD

Curing of concrete, 1925–1955 a bibliography Washington, D C. National Academy of Sciences—National Research Council 1956 98 p. 28 cm. (National Research Council. Publication 430. Highway Research Board. Bibliography 18) $1.80 5671

Contents: Foreword. Significance of curing. General. Effects of curing on the properties of concrete. Theory of curing. Chemical aspects. Physical aspects. Factors affecting curing: Temperature. Time. Moisture. Miscellaneous. Curing practice—methods of curing: Field curing. Plant curing. Cold weather curing. Special curing methods. Comparison of methods. Miscellaneous. State practice: United States of America. Foreign. Curing specifications. Curing equipment (including laboratory). Miscellaneous. Author index.

Note: This bibliography for engineers, technicians, and research men concerned with concrete highways, is organized into five main and many subordinate subject groupings, as noted in the above contents. The pertinent literature of the United States of America and of Canada is covered comprehensively and that of other countries selectively. After each of the 518 listed articles appears an annotation that describes the contents of the article.

PARKER HARRY

Simplified design of reinforced concrete. New York John Wiley & Sons, Inc., 1943 249 p. illus. 20 cm. $4 75 5672

Contents: Materials. Proportioning and mixing. Shear and bending moments in beams. Formulas for bending. Shear and bond stresses. Design of rectangular beams. Design of T-beams. Beams reinforced for compression. Reinforced concrete floor systems. Reinforced concrete columns. Foundations. Retaining walls. Miscellaneous members. Index.

Note: This book confines itself to simple, succinct explanations. The treatment is not intended to be exhaustive. It covers only the most common structural elements in both plain and reinforced concrete design. Enough of the theory is given to make sure that the reader has a thorough knowledge of the essential principles involved. Only the basic formulas are derived. The usual tables needed in the design of reinforced concrete are included.

PEABODY DEAN

The design of reinforced concrete structures. Second edition. New York John Wiley & Sons, Inc., 1946 532 p. illus. 22 cm. $6.50 5673

Contents: General principles. Rectangular beams. Slabs with one-way steel. Shear bond, anchorage and diagonal tension. Rectangular beam design. Rectangular beams reinforced with tension and compression steel. The beams. Deflection and torsion. Shrinkage, flow and prestress. Two-way and flat slabs. Columns. Footings and retaining walls. The reinforced concrete structure. The structure as rigid frame. Arches and rigid frame bridges. Appendix. Index.

Note: The first edition was prepared for use in a course given at the Massachusetts Institute of Technology. The special feature of the book is that the discussion has been purposely made full, so that the student will not have to take notes while listening to lectures. This fullness of treatment makes the book suitable also for home study and for use as a reference book. A number of important changes have been made in this edition. A plastic theory of design is presented as an alternate to older theory. New material has been added on prestressed concrete, and on the design of forms. Discussions and designs have been revised to conform to the American Concrete Institute's *Building regulations for reinforced concrete*, Detroit, 1941, or the Joint Committee on Standard Specifications for Concrete and Reinforced Concrete's *Recommended practice and standard specifications*, Detroit, 1941.

SUTHERLAND HALE, AND RAYMOND C. REESE

Introduction to reinforced concrete design. With chapters on concrete by Inge Lyse. Second edition based on the first edition by Hale Sutherland and the late Walter W Clifford. New York John Wiley & Sons, Inc., 1943 559 p. illus. 23 cm. $6.50. 5674

Contents: Introduction. Concrete materials. Designing concrete mixes. Manufacture of concrete. Properties of concrete. Forms. Beams. Compression members. Formulas, diagrams, and tables. Retaining walls. Highway bridges. Continuous beams and rigid frames. Building design—individual members. Problems in rigid frame design. Foundations and footings. Slab construction: ribbed, two-way flat, and stair slabs. Example of building design. Check building design by rigid frame analysis. Lateral loads on frames. Arches. Plans and details. Economy in design. Appendix. Index.

John Wiley & Sons, Inc. 1955 422 p illus. 24 cm $11 75 5662

Contents. Part I, Introductory Part II, Cementing materials and admixtures Portland cements. The manufacture of Portland cement. Pozzolanic cements. Other hydraulic cements. Additions and admixtures. Part III, Concrete aggregates. Concrete aggregate materials. Geology and petrography of concrete aggregates. Effect of aggregate properties on concrete. Prospecting, exploration, sampling, and testing for concrete aggregates. Processing concrete aggregates. Index.

Note. The first volume published of a two-volume survey of the accumulated technical knowledge on concrete and its ingredients. It states the facts about the types and properties of cement and presents a thorough discussion of aggregate materials from the standpoint of their use in concrete. The manufacture of Portland cement is described. An unexpected feature is the inclusion between Chapters II and III of a nine-page directory of Portland cement manufacturing and distributing plants in the United States of America, Canada, Cuba and Mexico. Also included are technical descriptions of special cements such as antibacterial cement, and special concrete mixes, such as air-entrained concrete. Selected literature references are given. The book will be of interest to specialists in concrete, civil engineers concerned with concrete specifications and masonry contractors operating on a large scale. The second volume will deal with properties and uses of concretes produced by different combinations of basic ingredients, in other words with the uses and products of various mixes.

Boguslavsky, Boris W

Design of reinforced concrete. New York The Macmillan Company, 1956 428 p illus. 24 cm. $7 50 5663

Contents: Reinforced concrete. Structural analysis. Beams. Bond, shear and diagonal tension. Columns. Two-way and flat slabs. Footings. Retaining walls. Bridge arches. Prestressed concrete beams. Maximum moments in building frames. Design of a building. Appendix. Index.

Note. Designed both as a textbook for use in engineering college courses and a manual for practicing engineers, this book has several features that justify recommending it to graduate engineers. It is well organized, clearly written, and comparatively short. In addition to basic matter it contains a large number of useful formulas and practical design methods, some of which are new and some of which have been published heretofore only in professional journals. It contains also lucid discussions of such matters in engineering design as allowance for loss of prestress in prestressed concrete. The expository text includes a fair number of fully worked examples and a generous number of diagrams.

Collins, F Thomas

Manual of precast concrete construction. Fourth edition San Gabriel Calif The author 1955 102 p illus. 28 cm. $12 50 5664

Contents Brief review of history Flat cast vs thin shell. Patents. Casting surfaces and molds. Bond breaking Painting precast concrete. Construction schedule Field layout. Forms. Panel fabrication. Joinery Erection. Costs. Sandwich type panel construction. Addendum.

Note. Bearing on the cover the title *Manual of tilt up construction* this work is an informal but detailed and practical description of current techniques of constructing buildings of reinforced concrete wall panels which are cast in a horizontal position—often on the floor of the building under construction—then tilted into position. The history of this method of construction and the United States patents covering it are outlined in the first three chapters. The remainder of the book is devoted to concisely written textual descriptions and many illustrations. Many of the illustrations are reproductions of photographs showing buildings being constructed by the tilt-up method. Others are informal cartoon type drawings that "give the idea" of specific technical points. A three-page bibliography is included. A complementary book *Design of tilt-up buildings,* written by the same author and published by Know How Publications, San Gabriel, California, was issued in 1957 159 p., $17.50.

Cross, Hardy, and Newlin Dolbey Morgan

Continuous frames of reinforced concrete. New York John Wiley & Sons, Inc., 1932 343 p illus 23 cm. $7 50 5665

Contents Introduction. Statics of deflected structures. Geometry of deflected structures. Moment distribution. Haunched beams. Continuous girders—maximum moments, shears and reactions. Rigid frames. Influence lines—graphical construction. Rigid arches of reinforced concrete. Index.

Note. This is not a book on design, but a development of a single fundamental, geometrical method of moment and shear distribution in analyzing statically indeterminate structures, particularly of reinforced concrete. The text applies almost equally well to steel structures. A special effort has been made to help the engineer to picture deformations, numerous diagrams being employed for that purpose. Throughout the book, effective use is made of figured expressions in the form of graphs, diagrams, tabular and partly tabular-partly graphic presentments. The book is notably free from difficult mathematics.

Dalzell, James Ralph, and Gilbert Townsend

Concrete block construction for home and farm. Illustrations by Arthur E. Burke. Chicago American Technical Society 1952 216 p illus. 22 cm 5666

Contents. Mortar types, properties, and uses. Concrete characteristics and mixing. Concrete formwork. Design and construction of footings. Foundations and waterproofing. Concrete masonry Index.

Note. A simple manual for farmers and other persons who desire practical information on the building of farm buildings, dwelling houses, and other small structures of concrete blocks. It is based on the authors' more comprehensive *Masonry simplified,* Chicago, 1948 2 v The numerous illustrations include reproductions of many drawings showing structural details in three dimensions. Specific information is given on proportioning mortar waterproofing, etc., as well as on laying up the blocks. A second edition was published in 1957 216 p., $3.60

Dunham, Clarence W

The theory and practice of reinforced concrete. Third edition New York McGraw Hill Book Company Inc. 1953 499 p. illus. 24 cm. (McGraw Hill civil engineering series Harmer E Davis consulting editor) $7.50 5667

Contents Properties and manufacture of concrete. Beams subjected to bending. Bond. Shear and web reinforcement in beams. Composite beams. Columns. Combined bending and compression. Retaining walls. Footings. Large slabs. Forms. Precast concrete. Prestressed concrete. Architectural and miscellaneous details. Design problems. Appendix. Index.

Note In its first two editions, this established textbook contained an elementary part designed as an introduction to the subject and a more advanced part addressed to advanced students and practicing engineers. When the revision for the third edition was undertaken, it was decided to divide the work in two volumes, one to cover introductory and elementary aspects and the other to cover advanced topics. At the time this review was written (1957) the advanced volume of the third edition has not appeared. Considered by itself the present volume is a well-written introduction to the design of uncomplicated concrete structures and to information on materials, methods of mixing, proportioning, etc. of concrete. It includes short chapters on precast and prestressed concrete A style that is easy to read, an adequate number of worked examples of design problems, and explicit discussions of such common problems as the design of stone-faced retaining walls give it potential usefulness to builders and engineers who are not specialists in reinforced concrete but occasionally design a structure in this material.

Komendant August E

Prestressed concrete structures New York McGraw Hill Book Company Inc. 1952 261 p. illus. 24 cm. $6 00 5668

Civil Engineering

Soil Mechanics

Contents. Introduction, by G. W. McAlpin and L. E. Gregg. [illegible] Engineering [illegible] by E. B. Eckel. [illegible] by J. D. Dowling. [illegible] by E. A. Abdun-Nur and J. D. Dowling. [illegible] by L. A. [illegible] and A. M. Johnson. [illegible] by T. M. Thornburn. [illegible] Application of aerial photographs [illegible] by R. D. Miles. The preparation of [illegible] soil survey of New Jersey by D. R. Lueder. [illegible] by E. R. LeRoy [illegible] by D. [illegible]. Application of [illegible] by W. J. [illegible] and R. H. [illegible] exploration, by A. M. Johnson and R. H. [illegible] in New York State, by F. H. [illegible] by D. [illegible] by I. [illegible] method. General discussion.

Note. These papers describe and evaluate the geological, geophysical, soil photogrammetric techniques which may be applied to determine the physical characteristics and structure of surface and subsurface soils. The material has been prepared by experts in the [illegible] for the guidance of civil engineers concerned with the location, design, and construction of engineering works. Bibliographies are included.

American Society for Testing Materials

Symposium on the identification and classification of soils. Presented at the fifty third annual meeting, American Society for Testing Materials, Atlantic City N J., June 29 1950. Philadelphia. American Society for Testing Materials, 1951 91 p. illus. 23 cm. (Special technical publication no. 113) $1.65 5681

Contents. Introduction, by G. W. McAlpin. Identification and classification of soils [illegible] by D. M. Burmister. A standard classification of soils as prepared by the Bureau of Reclamation, by E. A. Abdun-Nur. [illegible] of highway subgrade materials [illegible] by the Highway Research Board, by W. F. Abercrombie. Soil classification for highway purposes, by E. A. Willis. [illegible] by E. J. [illegible]. General discussion.

Note. These papers describe the techniques and procedures [illegible] by engineers for identifying and classifying soils. The purpose of the symposium was to [illegible] discussion of differences in procedures and to encourage the acceptance of standard methods. The authors are experts in the field of soil mechanics and have had wide experience [illegible] the particular method described.

Andersen, Paul

Substructure analysis and design. Second edition. New York The Ronald Press Company 1956. 336 p. illus. 24 cm. $7.00. 5682

Contents. Earth pressures. Sheet piling. Soil bearing power. Footings. Piles of steel, timber, and concrete. Pile groups. Cellular cofferdams. [illegible] Open and pneumatic caissons. Floating caissons. Breakwaters. Wharves and piers. Bridge piers and abutments. Appendix. Index.

Note. The varieties of substructures treated in this book are usually treated briefly or omitted altogether from the standard books on structural analysis and foundation design. All of the types of structures treated in the chapter titles are considered from the standpoint of structural analysis and engineering design. The book is primarily [illegible] for use in engineering college courses. However it is written [illegible] that makes it useful to engineers [illegible] not specialists in substructures but occasionally need information about them. The [illegible] includes more worked examples of problems in analysis and design, and scattered footnote references to the literature. The illustrations include [illegible] number of photographs of caissons, breakwaters, cofferdams, etc.

Chellis Robert Dunning

Pile foundations theory—design—practice. New York McGraw Hill Book Company Inc., 1951 680 p. illus. 24 cm. $14.00 5683

Contents (abridged). Basic principles of pile foundations. Pile driving analysis. Hammer speeds, strokes, and driving stresses. Driving equipment. Selection of pile and methods of driving. Pile groups and spacing. Structural design of piles. Wood piles. Concrete and pipe piles. Caisson-type piers and columns. H piles and other metal piles. Sheet piling. Deterioration and preservation of piles. Solidification of soils. Pile load tests. Failures of pile foundations. Tables. Group I—Temporary [illegible]. Group II—[illegible] data on hammers, extractors, and related equipment. Group [illegible] data. Group V—Jetting equipment data. —Pile data. Group VI—[illegible] data. Numerical Appendixes. Numerical examples using [illegible] data. Numerical examples using field data. Summary of comparative results of tests. Applications of methods of determining pile loads under eccentric loadings. Application of method of designing precast concrete piles. Pile [illegible] reports and data. Standard specifications. Bibliography. Index.

Note. A practical book [illegible] contains so much information that it is in effect an engineering handbook. It is useful not only in understanding and designing pile foundations but also in locating them and protecting them after they are built. There are [illegible] range of engineering data and an adequate number of illustrations. The classified bibliography includes [illegible] list of catalogues of piles and piledriving equipment.

Chellis Robert Dunning

Pile-driving handbook theory design, practice of pile foundations. New York Pitman Publishing Corporation 1944 276 p. illus. 21 cm. $6.50. 5684

Contents. The philosophy of pile foundations. Pile-driving analysis and application of formulas. Speed, stroke, and driving stresses. Selection of driving equipment. Selection of type of pile and selection of [illegible]. Effects of pile spacing and grouping. Design methods of driving. Effects of pile spacing and grouping. Deterioration of piles by loadings. Types of concrete piles. Deterioration and preservation of piles. Tables. Appendix. Bibliography. Index.

Note. Covers the theory and design of pile foundations and practical aspects of the subject, giving data needed by civil engineers, construction engineers, pile-driving operators, and architects. Formulas and standard specifications are given in the appendixes, and there is a five-page classified bibliography.

Crum Roy Winchester, and others editors

Soil exploration and mapping presented at the twenty ninth annual meeting, 1949 Highway Research Board, Division of Engineering and Industrial Research, National Research Council. Editorial staff Roy W Crum, Fred Burggraf W N Carey Jr Washington D C. Highway Research Board, 1950. 121 p. illus. 25 cm. (Highway Research Board. Bulletin no. 28) $1.50. 5685

Contents. Introduction, by F. R. Olmstead. A system for designating map-units on engineering soil-maps, by D. R. Lueder. Drainage pattern significance in airphoto identification of soils and bedrocks, by M. Parvis. Maps for construction materials, by F. E. Byrne. Development of geophysical methods of subsurface exploration in the field of highway construction, by R. W. Moore. Influence of topographic position in airphoto identification of permafrost, by R. E. Frost and O. W. Mintzer.

Note. The papers published in this bulletin bear on the status of geological and agricultural soil mapping in the United States of America and also describe methods [illegible] highway engineers may obtain from geological and soil maps and related sources of information such as aerial photographs information that is valuable in making [illegible] surveys in advance of road-building. Certain tables in the introduction supplement information on soil surveys published in the Board's Bulletin no. 22 described below.

Note The fundamentals of the subject are presented as simply as possible, with emphasis upon practical considerations. The book illustrates by actual application in typical problems the modern methods of continuity. Complete designs have been made for several types of structure and complete designs of portions of the structures have been made in several alternative methods.

URQUHART, LEONARD CHURCH, AND OTHERS

Design of concrete structures. Fifth edition By Leonard Church Urquhart, Charles Edward O Rourke and George Winter New York McGraw Hill Book Company, Inc., 1954 514 p illus 24 cm. 5675

Contents Section I, Plain concrete. Section II, General properties of reinforced concrete. Section III, Beams and slabs. Section IV Columns. Section V Bending and axial stress. Section VI, Continuous beams and frames. Section VII Footings. Section VIII, Reinforced concrete buildings. Section IX, Retaining walls. Section X, Arches. Section XI, Slab, beam, and girder bridges. Section XII, Modern developments in concrete design. Appendixes Standard notations. Allowable unit stresses (ACI code) Flat slabs with square or rectangular panels (ACI code) Tables and diagrams. Columns subjected to axial load and bending. Index.

Note. This book is used primarily for the instruction of engineering college students, and it covers the design of reinforced concrete structures, with the exception that some highly specialized types f structures, such as shells. The primary emphasis is on theory but materials and practical design are adequately described in view of the book's purpose. The fourth edition was published in 1940. For this edition the book was very extensively rewritten so as to bring it into accord with changes in the building codes and current design practices. The treatments of some topics, such as the design of rigid frames, have been rewritten. The terminal section or chapter now discusses such modern developments as plastic design, prestressed concrete, and the design of pre-tensioned and post-tensioned beams. The sixth edition was published in 1958, 546 p., $8.00.

VOLLMER, H C

Annotated bibliography on calcium chloride in concrete (chronologically arranged) Washington D C National Academy of Sciences—National Research Council, 1952 57 p 28 cm. (National Research Council. Publication 217 Highway Research Board Bibliography 13) $0 60 5676

Contents Foreword. Bibliography Author index. Subject index.

Note This annotated bibliography records 186 numbered literature references dated between 1885 and 1951 Given are the title of each reference, its author place, date, and medium of publication, and note, in many cases extensive, summarizing the contents and conclusions of the article. In some cases, there is also reference to abstracts. The items listed concern the effects of calcium chloride on the properties of Portland cements as well as on concrete. Material in all languages has been included with titles translated into English. The foreword contains summary of the history of research investigations on the effect of calcium chloride on cements.

WILLIAMS, CLIFFORD D , AND CHARLES E CUTTS

Structural design in reinforced concrete. New York The Ronald Press Company 1954 308 p illus. 24 cm. $6 00 5677

Contents Concrete. Moments and shears for continuous structures. Bending. Bending and direct stress. Retaining walls and footings Miscellaneous structures. Prestressed concrete. Concrete construction. Concrete design for ultimate stress. Appendix. Index.

Not A relatively short, introductory treatment designed for use by civil engineering and architectural students. The authors have paid special attention to clear definitions of terms and to the relating of design problems to the basic theory They has also derived the chief formulas and introduced the standard specifications which the practical designer must use. The expository text includes numerous worked examples. The chapters on prestressing and on design for ultimate stress are bare outlines of these techniques, but their inclusion in an introductory book is worthy of note.

SOIL MECHANICS, FOUNDATIONS, AND ENGINEERING GEOLOGY

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on consolidation testing of soils Presented at the fifty fourth annual meeting, American Society for Testing Materials, Atlantic City, N J., June 18, 1951 Philadelphia American Society for Testing Materials, 1952 109 p illus 23 cm. (Special technical publication no 126) $1 75 5678

Contents. Introduction, by D M. Burmister. Report of consolidation tests with peat, by J B. Thompson and L. A. Palmer. Consolidation and related properties of loessial soils, by W G. Holtz and H. J Gibbs. Settlement of a railroad embankment crossing the Morganza floodway Louisiana, by W G. Shockley and C. I Mansur Aids in the interpretation of the consolidation test, by H. Matlock and R. F Dawson. A rapid technique of consolidation testing. by R. H. Karol. The effect of temperature on the consolidation characteristics of remolded clay by F N Finn. Observed settlements of highway structures due to consolidation of alluvial clay by E. S. Barber The application of controlled test methods in consolidation testing, by D M. Burmister.

Note. These papers describe and evaluate the various tests currently employed to determine the consolidation characteristics and behavior of soils under stress. The material has been prepared by professional civil engineers and is based both on laboratory research and practical experience in the field. As with most of the American Society for Testing Materials symposia, the discussions following each paper constitute vital part of the presentation.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on load tests of bearing capacity of soils Fiftieth annual meeting American Society for Testing Materials Atlantic City, N J., June 16–20, 1947 Philadelphia American Society for Testing Materials, 1948 148 p illus. 23 cm (Special technical publication no. 79) $3 00 5679

Contents. Introduction to symposium, by W S. Housel. Final report of the symposium committee. Field loading tests for the evaluation of the wheel load capacities of airport pavements, by L. A. Palmer Methods of testing soils for runways and foundations, by E. E. Seelye, W D Bailey and S. D. Teetor Use of load tests in the design of flexible pavements, by W H. Campen and J. R. Smith. Field bearing tests applied to pavement design, by R. E. Phillippe. A cyclic load-test procedure, by J. E. Hittle and W H. Goetz. A Canadian investigation of load testing applied to pavement design, by N W McLeod. General discussion.

Note. Under the impetus of World War II, load-test measurement of the bearing capacities of soils, particularly in relation to airport construction, became an increasingly important engineering practice This pamphlet brings together information on load-testing procedures, methods of analysis, and means of applying test results in the design of pavements. A general bibliography of seventy-six entries is provided in addition to the references cited by individual authors.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on surface and subsurface reconnaissance. Presented at the fifty fourth annual meeting American Society for Testing Materials Atlantic City N J., June 19 1951 Philadelphia American Society for Testing Materials 1952 228 p. illus. 23 cm. (Special technical publication no 122) $3 00. 5680

[illegible] textbook for engineering college students, this book will be useful to practicing civil engineers as well. Methods of testing soils in the laboratory are described separately and many techniques and examples of apparatus are shown in illustrations. The more standard tests are evaluated from the engineer's standpoint. The author is a member of the faculty of the Massachusetts Institute of Technology.

NATIONAL RESEARCH COUNCIL. HIGHWAY RESEARCH BOARD

Frost action in soils a symposium presented at the thirtieth annual meeting January 9–12, 1951. Washington, 1952. 384 p. illus. 25 cm. (National Academy of Sciences. National Research Council. Publication 213 Highway Research Board. Special report no. 2) $3.75. 5692

Contents. Climate and distribution of soil. Major soil profiles and their occurrence with climate, by A. C. Orvedal and others. Climatic aspects of frost heave and related ground frost phenomena, by R. A. [illegible]. Soil temperature and thermal properties of soils. Soil temperature, a review of the literature, by C. B. Crawford. Field measurements of soil temperature in Indiana, by E. J. Yoder and C. R. Lowrie. An absolute method of determining thermal conductivity and diffusivity of soils, by A. D. Misener. The thermal conductivity probe, by F. C. Hooper. Discussion of soil temperature, by E. E. Miller. Soil moisture and moisture movements. Methods for measuring the moisture content of soils under field conditions, by G. J. Bouyoucos. The measurement of soil moisture and temperature by heat-diffusion moisture cell, by W. M. Aldous and K. L. Lawton. The measurement of soil moisture and density by neutron and gamma-ray scattering, by D. J. Belcher [illegible]. Water in highway subgrades and foundations, by F. N. Hveem. Soil moisture under concrete pavement of an airport, by T. B. [illegible]. Distribution of capillary moisture at equilibrium in stratified soil, by M. C. Spangler and W. T. Pien. Moisture conditions under flexible airfield pavements, by J. F. Redus and C. R. Foster. Basic data pertaining to frost action: Heat transfer and temperature distribution in soils for transient heat flow due to cylindrical sources and sinks, by Y. S. Touloukian and others. Thermal properties of soils, by M. S. Kersten. Relation of frost action to the clay mineral composition of soil materials, by R. E. Grim. A theory of ice-blocked drainage as a principal factor in frost heave, slump, and subsidence, by P. A. Siple. Soil instability on slopes in regions of perennially frozen ground, by R. S. Sigafoos and D. M. Hopkins. Calculation of depth of thaw in frozen ground, by H. Carlson. Interpretation of permafrost features from airphotographs, by R. E. Frost. Cold room studies of frost action in soils, by J. F. Haley and C. W. Kaplar. Frost action and spring breakup. The nature and extent of damage to New Hampshire highways from frost action, by P. S. Otis. Frost action and spring breakup in Colorado, by R. E. Livingston. Frost action in Michigan, by O. L. Stokstad. Frost damage to roads in Great Britain, by D. Croney. Load-carrying capacity of roads affected by frost action, by T. R. Lawrence. Pre-action studies of thirty soils in New Jersey, by F. C. Rogers and K. C. [illegible]. Investigation of the effect of frost action on pavement supporting capacity, by K. A. Linell and J. F. Haley. Remedies and treatments. Calcium chloride treatment of frost action, by H. R. Smith. Controlling the effects of frost action in Michigan, by O. L. Stokstad. Remedies and treatments for the frost problem in Nebraska, by O. L. Lund. Remedies and treatments by the Connecticut Highway Department, by F. Keene. The influence of frost on highway foundations, by K. L. Fraser. The Norwegian State Railways' measures against frost heaving, by Sv. Skaven-Haug. Results of questionnaire on remedies and treatments, by E. L. [illegible]. Needed research pertaining to frost action. Results of questionnaire on needed research, by F. Olmstead. Needed research pertaining to frost action and related phenomena, by A. W. Johnson. Discussion on the frost symposium, by M. S. Kersten.

Note. Taken together, the papers in this volume present a fairly comprehensive picture of the contemporary status of knowledge of the subject, the currently useful techniques of measurement, the relation of frost action to highway design and maintenance, and the unsolved questions which await research. The style of the papers is technical, and most of them are slanted toward the interests of engineers concerned with highway design.

NATIONAL RESEARCH COUNCIL. HIGHWAY RESEARCH BOARD

Laboratory analysis of soils grain size and liquid limit. Presented at the thirty-third annual meeting January 12–15 1954 Washington D C. National Academy of Sciences—National Research Council 1955 37 p. illus. 25 cm. (National Research Council. Publication 343 Highway Research Board. Bulletin 95) $0.60 5693

Contents. Dispersing agents for particle-size analysis of soils, by A. M. Wintermyer and E. B. Kinter. Deflocculating agents for mechanical analysis of soils, by T. Y. Chu and D. T. Davidson. Appendix: Nomenclature of sodium polyphosphates. Rapid methods for determining liquid limits of soils, by F. R. Olmstead and C. M. Johnston. Discussion, by R. V. LeClerc and W. J. Eden.

Note: These technical papers on soils are here published for the information and interest of engineers responsible for testing soil samples for highway construction and maintenance.

NATIONAL RESEARCH COUNCIL. HIGHWAY RESEARCH BOARD

Stabilization of soils. Presented at the thirty-third annual meeting, January 12–15 1954 Washington D C. National Academy of Sciences—National Research Council 1955 52 p. illus. 25 cm. (National Research Council. Publication 346 Highway Research Board. Bulletin 98) $0.75 5694

Contents. Effect of petrographic variations of southwestern Iowa loess on stabilization with portland cement, by R. L. Handy and others. Appendices. Stabilization of bank-run gravel by calcium chloride, by F. O. Slate and A. S. Yalcin. Strength of soil-cement as a function of degree of mixing, by C. V. Baker, Jr. Discussion, by J. H. Reynolds and others.

Note. Soil stabilization refers to the techniques by which an increase in the bearing capacity of soils can be obtained. The technique may be satisfactorily applied in the construction of bases and sub-bases of paved or unpaved roads. In this publication are printed three papers describing laboratory investigations on different aspects of soil stabilization and the conclusions of the authors. The publication is chiefly of interest to highway engineers and technicians concerned with the improvement of materials for road construction.

NATIONAL RESEARCH COUNCIL. HIGHWAY RESEARCH BOARD

Soil and soil-aggregate stabilization. A symposium presented at the thirty fourth annual meeting January 11–14 1955 Washington, D C. National Academy of Sciences—National Research Council, 1955 175 p. illus. 25 cm. (National Research Council. Publication 359 Highway Research Board. Bulletin 108) $3.00. 5695

Contents. The science of soil stabilization, by H. F. Winterkorn. Inheritance factor in origin of clay minerals in soil, by F. B. Van Houten. Engineering pedology and soil stabilization, by F. L. D. Wooltorton. Soil stabilization and colloid science, by E. A. Hauser. Prediction of the consistency limits of soils and soil mixtures, by M. [illegible]. Exchange adsorption by clays of large organic cations, by J. E. Gieseking. Discussion, by E. H. [illegible]. Microbiological factors in soil stabilization, by P. C. T. Jones. Stabilization of laterite soils, by A. Remillon. Soil stabilization with lime-fly ash mixtures—preliminary studies with silty and clayey soils, by T. Y. Chu and others. Soil stabilization with resins and chemicals, by R. C. Mainfort. Effect of calcium on the consistency of [illegible], by R. L. Rollins. Elastic behavior of soil-cement mixtures, by F. Reinhold. Factors influencing physical properties of soil-cement mixtures, by E. J. Felt. Stabilization of Tennessee gravel and chert bases, by E. A. Whitehurst. Discussion, by E. H. Miller.

Note. This bulletin contains contributions to a symposium on the science of soil stabilization attended by engineers from the United States, Europe, and Africa. Collectively the papers portray the present state of soil stabilization as an organized field of

CRUM, ROY WINCHESTER, AND OTHERS, editors

The use of agricultural soil maps and the status of agricultural soil mapping in the United States, presented at the twenty-eighth annual meeting, 1948, of the Highway Research Board, Division of Engineering and Industrial Research, National Research Council. Editorial staff R. W Crum, Fred Burggraf, W N Carey, jr Washington, D C Highway Research Board, 1949 128 p illus 25 cm. (Highway Research Board. Bulletin 22) $1 80 5686

Contents Review of the problem and selected bibliography by F R. Olmstead. Status of county agricultural soil mapping in the United States—tabulation by states and counties. Use of agricultural soil maps in making soil surveys, by L. D Hicks. Significance of the soil survey report in the selection and preliminary assessment of sites for airplane landing strips by G. B Bodman.

Note The cover-title of this bulletin is Engineering use of agricultural soil maps. It gives information to enable highway engineers to make use of county soil maps and the soil profile method as sources of engineering data for soil survey work. The tabulation by states and counties shows the 1948 status of agricultural soil mapping in the United States, indicates dates and ratings for the counties having maps, and lists libraries by states where the maps may be consulted.

DUNHAM, CLARENCE WHITING

Foundations of structures. New York McGraw Hill Book Company, Inc., 1950 679 p illus 23 cm. (Civil engineering series, F T Mavis, consulting editor) $9 00 5687

Contents Introduction. Soils as foundation materials. Exploration of site. Some principles of foundation action. Spread footings. Foundation walls. Mats. Foundations subjected to overturning forces. Piles. Pile foundations. Cofferdams and other aids for open excavations. Caissons. Bridge piers. Bridge abutments. Underpinning. Planning the foundation for a large stack. Appendix. Index.

Note An authoritative work on the design of foundations for most of the important types of structures. The author stresses the fact that the civil engineer who designs foundations is confronted with a new set of conditions each time he undertakes a job, and therefore must exercise a high order of creative ability in order to produce a safe, practical, and economical design. Numerous worked design problems are included, and case histories involving the construction—and sometimes the failure—of particular foundations are incorporated also. The book is intended primarily for engineering college students, but it should be useful to many young graduate engineers and also to older graduates who have not specialized in foundations but find themselves forced to design an unusual one.

GEOLOGICAL SOCIETY OF AMERICA

Application of geology to engineering practice. Berkey volume Sidney Paige, chairman New York The Geological Society of America, 1950 327 p illus (part col d) 25 cm $2 75 5688

Contents Introduction, by S. Paige. Charles Peter Berkey by J L. Savage and R. Rhoades. The geologist in the engineering organization, by E. B. Burwell, jr and G. D Roberts. Geology in dam construction, by E. B. Burwell, jr and B. C. Moneymaker Engineering geology in the design and construction of tunnels, by J F Seaborn. Mechanics of landslides, by K. Terzaghi. Faults and engineering geology by G. D Louderback. Geology and engineering in the production and control of ground water by O. E. Meinzer Engineering geology of highway location construction, and materials, by E. F Bean. Geological aspects of beach engineering, by W C. Krumbein. Petrology of concrete affected by cement-aggregate reaction, by D McConnell and others. Geologic engineering in the petroleum industry by K. C. Heald. Geology in the discovery development, and exploitation of mineral deposits, by M. H. Gidel. Military geology by C. B. Hunt.

Note. A volume of original contributions in the field of engineering geology which was written and published in honor of Dr. Charles Peter Berkey Newberry Professor Emeritus of Columbia University former secretary and president of The Geological Society of America. The various papers, each of which has its own table of contents, illustrations, and bibliographical references, stress underlying principles rather than engineering or geologic detail. The work is addressed to those with technical training in engineering or geology or both, and will particularly interest the geologist he may be retained as consultant on large engineering projects.

HOOL, GEORGE ALBERT, AND W S KINNE, editors

Foundations abutments and footings, compiled by a staff of specialists editors-in-chief, George A. Hool and W S Kinne, revised by R. R Zipprodt and E J Kilcawley Second edition. New York McGraw Hill Book Company, Inc., 1943 417 p. illus. 23 cm. $6.50. 5689

Contents Soil investigation. Excavation. Foundations. Spread footings. Underpinnings. Foundations requiring special consideration. Bridge piers and abutments. Application of the law relative to the engineer Appendixes. Characteristics of soils. Formulas for bearing power of piles. Index.

Note A discussion of the engineering of foundations of all types, footings and piers, land and underwater, describing each type of structure, its suitability for various purposes, factors of design, design methods, construction pointers, and other facts to aid the engineer and construction man in their work in this field. In this second edition, there has been complete revision of the text and appendixes, with new methods indicated and new illustrations provided. I the section on spread footings, the design of isolated spread footings has been revised to conform to the 1941 building regulations for reinforced concrete of the American Concrete Institute.

KRYNINE, DIMITRI PAVLOVITCH

Soil mechanics its principles and structural applications. Second edition New York McGraw Hill Book Company Inc., 1947 511 p illus. 23 cm. $7 50 5690

Contents Part I, Elements of soil physics: Origin and general characteristics of soils. Soil moisture—and plasticity and consistency. Seepage phenomena and frost action in soils. Part II, Elements of the mechanics of earth masses. Stresses in earth masses. Shearing resistance and conditions of failure of an earth mass. Compression strains—theory of consolidation. Review of parts and II—and introduction to part III. Part III, Structural applications: Stability of foundations. Stability of cuts and embankments. Stability of retaining walls and cofferdams. Pressure on tunnels and conduits. Highway and runway subgrades. Settlement of structures. Soil sampling and field soil testing. Appendices. Author index. Subject index.

Note. Much of the literature on soil mechanics is too theoretical to be of use to the average engineering student or practicing civil engineer. This work is designed to interpret the theoretical knowledge in practical terms and, also, to describe established practices, some of which are not yet completely buttressed by laboratory data. Since the publication of the first edition in 1941 it has been used both as textbook in organized courses and as a reference handbook by engineers. This edition has been rather extensively revised. The two chapters dealing ith soil pressures on tunnels and culverts, and ith highway and airport runway subgrades are new Throughout the text, there are many smaller revisions.

LAMBE THOMAS WILLIAM

Soil testing for engineers. New York John Wiley & Sons Inc. 1951 165 p illus. 29 cm. $5 50 5691

Contents Introduction. Specific gravity test. Atterberg limits and indices. Grain size analysis. Compaction test Permeability test. Capillary head test. Capillary-permeability test Consolidation test. Direct shear test on cohesionless soil. Triaxial compression test on cohesionless soil. Unconfined compression test. Triaxial compression test on cohesive soil. Direct shear test on cohesive soil. Appendixes. Specific gravity of water Viscosity of water Conversion factors. Specific gravity of water Viscosity of water Proving rings. Drawing of liquid limit device Derivation of equations. Index.

Civil Engineering

Soil Mechanics

TAYLOR, DONALD WOOD
Fundamentals of soil mechanics. New York. John Wiley & Sons, Inc. 1948 700 p. illus. 22 cm. $7.50. 5702

Contents: Introduction. Preliminary considerations. Simple soil test and soil classification tests. Classifications. Subsurface investigations. Permeability. Weights, stresses and heads, seepage forces. Capillarity. Seepage. One-dimensional consolidation. Use of elastic theory for [illegible] stresses in soils. Settlement analysis. Strength theory. Shearing [illegible] testing methods, shearing characteristics of sands. Shearing strength of cohesive soils. Stability of slopes. Lateral pressures. Stability of retaining walls. Soil mechanics considerations relating to dams. Action of shallow foundations, bearing capacity. Action of piles, pile foundations. References. Index.

Note: The same publisher has now made available Terzaghi's Theoretical soil mechanics, 1943; Terzaghi's and Peck's Soil mechanics in engineering practice (see below); and the present title. The new addition to the literature is written by an Associate Professor of Soil Mechanics at the Massachusetts Institute of Technology and is specifically designed for use in courses offered to graduate engineering students. It contains [illegible] less extensive treatment of theory than Terzaghi's book published in 1943 and is not so full on the practical aspects as the work by Terzaghi and Peck. It does, however, offer different treatments of many topics; hence, parts of it should be of interest to engineers.

TERZAGHI, KARL
Theoretical soil mechanics. New York John Wiley & Sons, Inc., 1943 510 p. illus. 23 cm. $7.50. 5703

Contents: Section A. General principles involved in the theory of soil mechanics: Introduction. Stress conditions for failure in soils. Plastic equilibrium in semi-infinite mass with plane surface. Application of general theories to practical problems. Section B, Conditions for shear failure in ideal soils. Arching in ideal soils. Retaining wall problems. Passive earth pressure. Bearing capacity. Stability of slopes. Earth pressure on temporary supports in cuts, tunnels, and shafts. Anchored bulkheads. Section C, Mechanical interaction between solid and water in soils. Effect of seepage on the conditions for equilibrium in ideal sand. Theory of consolidation. Capillary forces. Mechanics of drainage. Section D, Elasticity problems of soil mechanics. Theories involving coefficient of subgrade, soil, or pile reaction. Theory of semi-infinite elastic solids. Theory of elastic layers and elastic wedges on rigid base. Vibration problems. Appendix. Influence values for vertical stresses in semi-infinite elastic solid due to surface loads. References. Author index. Subject index.

Note: Here are presented the theories on which the computation of earth pressure, bearing capacity, stability of slopes, and settlement of foundations are based. The author has limited his discussion to those theories whose practical usefulness has already been demonstrated by field experience. Throughout the volume he emphasizes the decisive influence of the fundamental assumptions of the computations on the final results, and the text leaves no doubt concerning the limits of the validity of each theory.

TERZAGHI, KARL, AND RALPH B PECK
Soil mechanics in engineering practice. New York John Wiley & Sons Inc. 1948. 566 p. illus. 23 cm. $7.50 5704

Contents: Part A, Physical properties of soils: Index of properties of soils. Hydraulic and mechanical properties of soils. Drainage of soils. Part B, Theoretical soil mechanics: Plastic equilibrium in soils. Settlement and contact pressure. Hydraulics of soils. Part C, Problems of design and construction. Soil exploration. Earth pressure and stability of slopes. Foundations. Settlement due to exceptional causes. Appendix. Miscellaneous problems of design and construction. Index.

Note: The senior author's *Theoretical soil mechanics* is well known as [illegible] major contribution to the current knowledge of soil mechanics. It is, however, too theoretical and mathematical for the typical practicing engineer. In this new work, the treatment is less mathematical, and the emphasis has been shifted to the practical analysis and solution of soil problems encountered in building. Nevertheless, approximately half of the book deals with general principles and phenomena; it [illegible] only in Part C that such structures [illegible] retaining walls, embankments, earth dams, footings, and the causes of settling are considered. Highway, airport and tunnel problems are not discussed specifically but much of the material is applicable to them.

TRASK, PARKER DAVIES, editor
Applied sedimentation. Prepared under direction of Committee on Symposium on Sedimentation Division of Geology and Geography National Research Council, Washington D C. New York John Wiley & Sons, Inc., 1950. 707 p. illus. 24 cm. $8.00 5705

Contents (abridged): Part I, Basic principles of sedimentation: Dynamics of sedimentation, by P. D. Trask. Origin of soils, by H. Jenny. Geophysical problems in applied sedimentation, by R. F. Brown. Principles of soil mechanics as [illegible] by [illegible] geologist, by C. A. Kaye. Sedimentation and ground water, by F. C. Foley. Part II, Engineering problems involving strength of sedimentary foundation problems of sedimentary rocks, by S. S. Philbrick. Earth dams, by T. A. Middlebrooks. Geologic aspects of soil ground tunneling, by K. Terzaghi. Sedimentary geology of the alluvial valley of the lower Mississippi River and its influence on foundation problems, by W. J. Turnbull and others. Part III, Applications of processes of sedimentation. Relation of landslides to sedimentary features, by D. J. Varnes. Permafrost, by R. F. Black. Geology in shore-control problems, by M. A. Mason. Stream-channel control, by S. C. Happ. Sedimentation in reservoirs, by A. S. Fry. Problems of irrigation canals, by A. R. Golzé. Effects of soil conservation, by C. B. Brown. Part IV, Applications involving nature of constituents: Influence of sedimentation on concrete aggregate, by E. Rhoades. Application of studies of the composition of clays in the field of ceramics, by R. E. Grim. Foundry sands, by H. Ries. Part V, Economic mineral deposits: The field of economic geology of sedimentary mineral deposits, by V. E. McKelvey. Sedimentary iron deposits, by S. A. Tyler. Geochemical prospecting for ores, by H. E. Hawkes. Part VI, Petroleum geology problems: Subsurface techniques, by D. A. Busch. Porosity, permeability and capillary properties of petroleum reservoirs, by C. D. Russell and P. A. Dickey. Carbonate porosity and permeability, by W. C. Imbt. Part VII, Military applications. Sedimentary materials in military geology, by F. C. Whitmore, Jr. Applications of sedimentation to naval problems, by R. D. Russell. Author index. Subject index.

Note: Mainly [illegible] survey of the aspects of sedimentation, sedimentary rocks, and other sedimentary deposits [illegible] hich are of practical concern to engineers. The typical chapter is essentially an outline of high spots, coupled with [illegible] good list of references for those [illegible] ho wish to read further. An unusual feature is the inclusion in most chapters of [illegible] few paragraphs on research [illegible] hich is still needed.

TREFETHEN JOSEPH MUZZY
Geology for engineers. New York D Van Nostrand Company Inc. 1949 620 p illus. 24 cm. $7.00. 5706

Contents: Geology and engineering. Minerals. Rocks, an introduction. Igneous rocks. Rock weathering and the regolith. The consolidated sediments. Metamorphism and the metamorphic rocks. Geological structures. Geological field work. Geophysical exploration in engineering. Earth history. Geologic maps. The atmosphere. Subsurface water. Earth movements. Earthquakes. Streams. Dam sites and reservoirs. Soil erosion. Shorelines. The work of glaciers. Geologic interpretation of topographic maps and airplane photographs. Appendixes: Sources of geologic information. The physical properties of some common rock types. Tables for the identification of some of the common minerals. Author index. Subject index.

Note: In this college textbook the aim is to give the student broad background which will enable him to understand the geological problems involved in excavation work, foundation design, etc.; hence, the highly developed geological applications of engineering, such as soil mechanics, are touched upon only incidentally. The book is well organized and clearly written. The illustrations are as effective as the text in relating geology to engineering.

TSCHEBOTARIOFF GREGORY P
Soil mechanics, foundations and earth structures an introduction to the theory and practice of design and construction. New York McGraw Hill Book Company Inc., 1951 655 p illus. 24 cm. (Civil engineering series Frederic T Mavis, consulting editor) $7.50. 5707

Contents: Special features of foundation and soil engineering. The formation of soils, geology agricultural soil science, and civil engi-

knowledge important in its engineering applications. The individual papers contain introductions, figures, tables, and references.

PECK, RALPH B, AND OTHERS

Foundation engineering By Ralph B Peck, Walter E Hanson, and Thomas H Thornburn New York John Wiley & Sons, Inc., 1953 410 p illus. 24 cm. $8 00 5696

Contents Part A, Properties of subsurface materials: Identification of soils and rocks. Physical properties of soil and rock. Techniques of subsurface investigation. Character of natural deposits. Program of subsurface exploration. Part II, Types of foundations and methods of construction. Excavating and bracing. Drainage and stabilization. Footing and raft foundations. Pile foundations. Pier foundations. Pier shafts, retaining walls, and abutments. Shoring and underpinning. Part III, Selection of foundation type and basis for design. Factors determining type of foundation. Foundations on sand. Foundations on clay. Foundations on silt and loess. Foundations on nonuniform soils. Damage due to construction operations. Part IV Structural design of foundation elements. Individual column and wall footings. Footings subjected to moment. Combined footings and rafts. Retaining walls and abutments. Problems. Index.

Note An excellent introduction to present-day foundation engineering. It is intended for undergraduate students in engineering colleges, but it will be of value also to such readers as contractors and architects who are occasionally called upon to design a foundation and to civil engineers who graduated from college before the recent advances in theoretical soil mechanics. There is no discussion of theoretical soil mechanics as such, but this science forms the background for the practical descriptions of soil characteristics, properties and classification in the first two chapters. Special emphasis is given to the selection of the best type of foundation for particular site and use, the selection to be based on a sound understanding of the engineering properties of soils and rocks.

PRENTIS, EDMUND ASTLEY, AND LAZARUS WHITE

Underpinning its practice and applications Second edition, revised and enlarged. New York Columbia University Press, 1950 374 p illus 25 cm. $10 00. 5697

Contents Foreword, by W A. Starrett. General considerations. Preliminary support. Underpinning methods. Examples of underpinning. Applications of underpinning methods to other work. Raising and moving structures. An introduction to the science of foundations. The White House. Appendices. Specifications (including payments) Legal aspects of underpinning and foundation work. Rates of pay. Glossary of terms used in underpinning. Index.

Note. This work has been the standard engineering treatise on the support of buildings and other existing structures while adjacent construction is going on since the publication of *Modern underpinning* in 1917 The title was changed to *Underpinning* in the edition published in 1931 The major change in the present edition is the addition of the chapter on the raising and moving of existing structures.

SCHULTZ, JOHN R, AND ARTHUR B CLEAVES

Geology in engineering With a chapter on Soil mechanics by E J Yoder New York John Wiley & Sons, Inc. 1955 592 p illus. 23 cm $8 75 5698

Contents Geology and its relationship to civil engineering. Minerals. Rocks. Geologic structure. Subsurface water. Rock weathering and soils. Erosion and deposition by streams. Desert land forms. Shore lines and beaches. Glaciers and glaciation. Frost action in soils. Landslides and related phenomena. Volcanoes and earthquakes. Historical geology. Geologic maps and sections. Aerial photographic interpretation of soils. Soil mechanics. Subsurface exploration. Dams and reservoirs. Tunnels. Highways and airfields. Concrete aggregates. Author index. Place name index. Subject index.

Note. The chapter titles indicate the wide range of topics covered in this book. However in numerous instances, only the high points of a topic are included, and the reader is expected to turn to the cited literature for more detail, if more is needed. The book's primary value lies in its relation of the principles and phenomena of geology to problems and practices of civil engineering. The actual design of engineering structures is not covered, but geological matters which should be considered in design are discussed. In addition, there is a good deal of both general and specific information about landscape features and geologic processes which is not related directly to engineering but is helpful as background knowledge for engineers in the field. There is no discussion of foundations for structures (except dams) because adequate treatments of them are already available in books for engineering students and engineers.

SEELYE, ELWYN E

Foundations, design and practice. With special acknowledgment to Philip P Page, jr New York John Wiley and Sons, Inc., 1956 494 p. illus. 26 cm $16.00 5699

Contents Introduction. Push-button design of spread footings and pile caps. Detail foundation design. Retaining walls. Bridge piers and abutments. Foundations for pipes, conduits, and culverts. Dams and reservoirs. Evaluation of bearing power of soil. Waterproofing. Construction methods. Foundations for light masonry. Soil mechanics. Embankments and pavements. Field practice. Costs. Specifications. Exercising engineering judgment. Factual data and appendix. Glossary Index.

Note In this substantial work, the whole field of foundations from earthen beddings for sewer pipes to foundations for large dams is covered. Simple retaining walls and foundations for small houses are included. The author, a construction engineer of long standing and a member of a prominent engineering firm in New York City has addressed the book to civil engineers concerned with foundation design, contractors and builders of foundations, building inspectors, architects etc. The necessity for correlating a knowledge of field and site conditions with design procedures is stressed. Many chapters of the book contain a section labeled "Red lights," in other words, dangers to be guarded against in designing specific foundations for specific conditions. The book contains all the expected information and in addition is a treasury of useful but unusual information gleaned from the author's practice and life-long interest in foundations. The volume is well illustrated and adequately indexed.

SOWERS, GEORGE B, AND GEORGE F SOWERS

Introductory soil mechanics and foundations New York The Macmillan Company 1951 284 p. illus. 24 cm. $6 00 5700

Contents The nature of soils. The physical properties of soils. Soils and soil deposits. Seepage drainage, and frost action. Foundations. Deep foundations. Problems in earth pressure. Construction of fills and subgrades. Stability of earth masses. Underground investigation. Index.

Note A short, simplified treatment suitable for engineering college students and graduate engineers who want only a general working knowledge of the subject. Little mathematics is used, and applications are stressed. The chapters are supplemented by good lists of references for those who need further information on specific topics.

SPANGLER, MERLIN GRANT

Soil engineering Scranton International Textbook Company 1951 458 p. illus. 24 cm. $8 00 5701

Contents Introduction. The origin and nature of soil. The soil profile. Soil structure and texture. Soil density. Soil surveying and sampling. Soil water Hygroscopic moisture and the colloidal fraction. Capillary water Gravitational water and seepage. Flow nets and seepage forces. Soil-water consistency. Engineering soil classification. Frost action in soil. Granular soil stabilization. Thickness of flexible pavements. Stress distribution in soil. Consolidation and settlement of structures. Shearing resistance and strength. Stability of slopes. Embankments, levees, earth dams. Pressure on retaining walls. Bearing capacity Piles and pile-driving formulas. Underground conduits. Index.

Note. A comprehensive introduction to soil topics that are of interest in civil engineering. The scope is wider than is usually embraced in soil mechanics, and the style is less technical than is typical of the basic works on soil mechanics. The book is organized as a college text. However some practicing engineers may find it useful as a simple introduction to such topics as permafrost, especially in view of the selected reference lists that accompany the chapters. The author is Research Professor of Civil Engineering at Iowa State College.

The hydraulic dredging and pumping of lake crest deposits, by W. H. [illegible] The [illegible] and their correction, [illegible] Great Lakes [illegible], by L. J Fuch. Shock pressure on [illegible], by C. W Ross. Some dynamic aspects in the design of [illegible] structures on the Great Lakes, by L. A. Mueller, and others. Experimental studies of forces on piles, by J R. Morison and others. Hydraulic model tests for Indiana harbor development, by L. G. Straub and E. Y. Hudson. Maintenance of navigable channel through [illegible] area, by A. T Ippen and D. R. F. Harleman. Tsunamis, by P Danel.

— Proceedings of Fifth Conference on Coastal Engineering, Grenoble France September 1954 Edited by J W Johnson. Richmond, Calif Council on Wave Research The Engineering Foundation 1955 669 p. illus. 26 cm. $7.50. 5712

Contents: Part 1, Theoretical and observed wave characteristics. [illegible] waves in enclosed bodies of water by R. W Burling. The [illegible] instability of waves on surface of the sea, by J R. D. French. [illegible] hydrodynamique d'une houle en profondeur [illegible], by R. Barrois and C. Chartier. The shoaling and breaking of the solitary wave, by A. T. Ippen and G. Kulin. [illegible] Part 2, Field and laboratory instruments and equipment: [illegible] A capacitance wave recorder for small waves, by M. J. Tucker and H. Charnock. [illegible]

Note. There have been five conferences on this important subject. The first was held in 1950, and the second in 1951. The proceedings of both were published by the Council on Wave Research, and the first of these was still available, price $4.50, when this note was written. The second was out of print. The contents of the latest three volumes of the series, all of which are in print, are listed above. Many of the papers as published contain illustrations and most include literature references.

CONFERENCE ON COASTAL ENGINEERING INSTRUMENTS

Proceedings of the First Conference on Coastal Engineering Instruments Berkeley California, October 31–November 2, 1955 Edited by R. L. Wiegel. Richmond, California Council on Wave Research, The Engineering Foundation, 1956 302 p. illus. 26 cm. $5.00 5713

Contents. Optical measurements of sea surface roughness, by C. Cox. Some laboratory-wave instruments, by M. J Wilde. Capacitive wave profile recorder, by J. M. Killen. Parallel wire resistance wave meter, by R. L. Wiegel. The step-resistance wave gage, by J. M. Caldwell. Mark IX shore wave recorder, by F. E. Snodgrass. Thermopile wave meter, by J. D. Isaacs and R. L. Wiegel. The Mark VIII strain gage wave meter, by J D. Isaacs and others. A ship-borne wave recorder, by M. J. Tucker. A selective period wave recorder, by W. G. Van Dorn. Mechanical recording of waves in the Gulf of Mexico, by H. Flinsch. Progress report on the U S Navy's development of wave recording and analyzing equipment, by F. J. Costello and A. G. Alexion. The N.I.O. wave analyser, by M. J. Tucker. Mooring cable force meter for models, by K. E. Beebe. A prototype mooring force meter, by J. T. O'Brien and R. E. Jones. [illegible] force meter by G. A. Schiemann. An ocean wave force meter, by K. E. Beebe and K. R. Morison. Shock pressure meters, by C. W Ross. Hydrodynamic impact measurements, by V. G. Szebehely and E. E. Zarnick. Instrumentation for investigation of seaplane impact loads in waves, by F. M. Edge, Jr. The principal tide and current measuring instruments used by the Coast and Geodetic Survey, by R. W. Knox. Orbital wave velocity meter and recording system, by D. G. Severn. A miniature current meter and free running rotary flowmeter, by R. R. A. Dodge. Carruthers current meter and wire angle gage, by J. N. Carruthers. C. B. I. salinity-temperature meters, by G. Emerson and D. W. Pritchard. The use of free diving equipment as a tool in coastal engineering and scientific studies, by R. F. Dill. A deep water instrument station, by W. M. Ramsey. List of papers on instruments of the Council on Wave Research published in previous publications.

Note. The conference whose *Proceedings* are published in this volume was concerned with instruments used to obtain data necessary to the design of structures along seacoasts, seaplanes and ships. A number of recently developed instruments are described as to their principles, applications and methods of using. Several papers deal with instruments still under development. Numerous illustrations and diagrams of the instruments and their components are included. There are also some photographs of complete instruments. The papers are technical in style and are addressed to such readers as practicing civil engineers, naval architects, and physicists and engineers engaged in research pertaining to coastal engineering, wave measurement, etc.

LINSLEY RAY K. JR. AND JOSEPH B FRANZINI

Elements of hydraulic engineering. New York McGraw Hill Book Company Inc., 1955 582 p. illus. 24 cm. (McGraw Hill civil engineering series Harmer E. Davis, consulting editor) $9.00. 5714

Contents Part [illegible] Introduction. Descriptive hydrology. Quantitative hydrology. Groundwater. Frequency analysis in hydrology. Water law. Part II, Reservoirs. Dams. Spillways, gates, and outlet works. Open channels. Pressure conduits. Hydraulic machinery. Some economic aspects of hydraulic projects. Part III, Irrigation. Water supply and purification. Hydroelectric power. River navigation. Drainage. Sewerage and sewage treatment. Flood control. Multiple-purpose projects. Appendix. Index.

Note A well-organized textbook for advanced undergraduate students of civil engineering. It provides a broad view of the field with emphasis on its fundamental principles and techniques. Only enough [illegible] included of descriptive engineering to illustrate the applications of principles. Selected literature references are given and the book is adequately illustrated. The authors are members of the faculty of Stanford University

UNITED STATES BEACH EROSION BOARD

Shore protection planning and design. Washington D C. Government Printing Of

neering. Definitions and tests related to the properties of the solid soil particles. Definitions and tests related to the density and to the consistency of soils. Capillary phenomena. Permeability of soils. Ground-water movements. Frost action. The consolidation of soils. The shearing strength and the shearing deformation of soils. The stability of vertical cuts and of slopes. The stress distribution in soils. The bearing capacity of soils. Lateral earth pressures. The compaction and the stabilization of soils. Exploration and classification of soils. The selection of suitable type of foundation. Spread foundations. Excavations. Pile and caisson foundations. Sheet piling. Underpinning. Earth-retaining structures. Cofferdams. Tunnels and conduits. Some soil engineering aspects of dam construction. Effects of vibratory and of slow repetitional loading of soils. Machinery foundations. Some soil engineering aspects of highway and airport construction. References. Name index. Subject index.

Note An engineering college textbook in which the theoretical knowledge of soil mechanics gained in the last few decades is applied directly to practical problems in civil engineering. Although the main theme is practical application of the theoretical knowledge, the author makes it clear that the theoretical knowledge is not complete and that many problems in foundation design must still be solved empirically. Much attention is given to the techniques of field and laboratory testing. Many instances of structural failures due to the vagaries of soils are mentioned. The style is exceptionally clear and the book is well illustrated. The bibliography runs to 448 references. The author is Professor of Civil Engineering in Princeton University

WHITE, LAZARUS, AND EDMUND ASTLEY PRENTIS

Cofferdams. Second edition, revised and enlarged. New York Columbia University Press 1950 311 p. illus (part col'd) 24 cm $10 00 5708

Contents Hydrodynamics of cofferdams. Erosion in streams. Lateral earth pressures. Land cofferdams. Practical considerations. Examples of cofferdams. Appendixes Miscellaneous photographs. Wages and prices. Glossary Bibliography Index.

Note Apparently this work is the only full-scale treatment in book form of its subject. It covers both basic theory and practice. It is used chiefly as a survey and reference book by practicing engineers and contractors who are directly concerned with the construction of cofferdams. The chapter on examples contains specific descriptions of 15 cofferdams of various types. The first edition appeared in 1940. A considerable amount of new material has been added in the present edition.

HYDRAULIC ENGINEERING

CREAGER, WILLIAM PITCHER, AND OTHERS

Engineering for dams, by William P Creager Joel D Justin and Julian Hinds New York John Wiley & Sons Inc., 1945 3 v illus 24 cm Vol I $7 25, vol II, $9.25, vol III $8 50 5709

Contents Volume I General design Investigation of dam sites. The choice of type of dam. Preparation and protection of the foundation. Hydraulic model studies. Flood flows. Spillways. Volume II, Concrete dams Forces acting on dams. Requirements for stability of gravity dams. General procedure for the design of gravity dams. The design of solid nonoverflow gravity dams The design of solid spillway gravity dams. Internal stresses and stress concentrations in gravity dams. Arch dams. Buttressed concrete dams. Concrete for concrete dams. Volume III, Earth, rock-fill, steel, and timber dams Soil tests and their utilization. Earth dams—general principles of design. Stability of earth dams. Details of earth dams. Rock-fill dams. Steel dams. Timber dams. Details and accessories. Headwater control.

Note During recent years many large dams have been built, and dam building has become more of an exact science than formerly *Engineering for dams* has been written in an effort to provide engineers and engineering students with an understanding of the modern dam design theory and practical construction methods The treatment is detailed and includes abundant drawings and data tables which among other things show graphical stress analysis techniques, profiles and plans of typical dams, minor parts of dam structures, and hydrographic information. Photographs of dam construction equipment such as earth movers, and of some of the more important dams in the United States of America are given. Bibliographies are appended to some of the chapters, and the index in each volume covers all three volumes. The work is based in part on Creager's *Engineering for masonry dams*, second edition, New York, 1929, and Justin's *Earth dam projects*, New York, 1932.

CONFERENCE ON COASTAL ENGINEERING

Proceedings of Third Conference on Coastal Engineering, Cambridge, Massachusetts, October, 1952 Edited by J W Johnson. Richmond Calif Council on Wave Research, The Engineering Foundation 1953 343 p. illus. 26 cm. $4 50 5710

Contents. Part I, Basic oceanographic information: Waves and breakers in shoaling water by H. W Iversen. The solitary wave, by J W Daily and S. C. Stephan, Jr. Accuracy of hydrographic surveying in and near the surf zone, by T Saville, Jr and J. M. Caldwell. Environmental aspects of the ebb side and flood side of tidal estuaries as factor in harbor locations, by F E. Elliott and others. The salt wedge, by H. G. Farmer and G. W Morgan. Circulation in estuaries, by B. H. Ketchum. Notes on the generation and growth of ocean waves under wind action by G. Neumann. The theory of the refraction of a short crested Gaussian sea surface with application to the northern New Jersey coast, by W J. Pierson, Jr. and others. Part II, Coastal sediment problems Geology in shoreline engineering and its application to Massachusetts beach problems, by L. W Currier. Artificially nourished and constructed beaches, by J V Hall, Jr. Measures against erosion groins and jetties, by P Bruun Inter-relations between jet behavior and hydraulic processes observed at deltaic river mouths and tidal inlets, by C. C. Bates and J C. Freeman, Jr Part III, Design of coastal works. Spanish practice in harbor design, by R. Iribarren and C. Nogales. New confirmation of the formula for the calculation of rock fill dikes, by R. Iribarren and C. Nogales. Some aspects of shore protection in Boston harbor by G. L. Wey Substructure design of the new Mystic Pier No. 1 Boston, by H. B. Seed. Part IV Factors affecting the life of coastal structures Life of steel sheet pile structures in Atlantic coastal states, by A. C. Rayner. Exposure research on concrete and sea water by H. K. Cook. Corrosion studies of steel piling and sea water in Boston harbor by G. L. Wey Prevention of deterioration in water front structures, by G. E. Kent. Part V, Case histories of coastal projects: Case history of the Cape Cod Canal, by J E. Allen. Development of modern port terminal facilities in the port of Boston, by G. L. Wey Case history of Fire Island inlet, by S. Gofseyeff Development of the New Jersey shore, by J K. Rankin. Case history of St. John's River in Jacksonville harbor Florida, by O. G. Rawls. Case history of shore protection at Presque Isle Peninsula, Pa., by C. E. Leach.

—— Proceedings of Fourth Conference on Coastal Engineering Chicago Illinois, October 1953 Edited by J W Johnson. Richmond Calif Council on Wave Research, The Engineering Foundation, 1953 398 p. illus 26 cm $5 00 5711

Contents. Part I, Basic information for shoreline investigation Hindcast, wave statistics for the Great Lakes, by T Saville. Statistical analysis of wave records, by R. R. Putz. Wind tide and seiches in the Great Lakes, by D. L. Harris. The mechanism of seiches in Table Bay harbor Capetown, by B. W Wilson. Part II, Shore line sediment problems: Geologic history of Great Lakes beaches, by J L. Hough. Source materials for Lake Michigan beaches, by W E. Powers. Some characteristics of bottom sediments along the Illinois shore line of Lake Michigan, by R. O. Fisher The motion of sediment along the south shore of Lake Erie, by H. J Pincus. Statistical problems of sample size and spacing on Lake Michigan beaches, by W C. Krumbein. Characteristics of natural beaches, by W N. Bascom. Field investigation of suspended sediment in the surf zone, by G. M. Watts. The development of a sand beach by deep-water waves, by H. Flinsch. Effect of ice on shore development, by J. H. Zumberge and J T Wilson. Part III, Shore line protection problems Principles of shore protection for the Great Lakes, by M. A. Mason. Low cost shore protection used on the Great Lakes, by E. F Brater Filling pattern of the Fort Sheridan groin system, by C. E. Lee. Variation in Great Lakes levels in relation to engineering problems, by W K. McDonald. The disaster in the Netherlands by the storm flood of February 1 1953 by P J Wemelsfelder The reconstruction of the Netherlands dikes after the storm of February 1953 by J D Schijf. Part IV Design of shore line structures: The influence of subsurface conditions on the design and foundations for waterfront structures in the Great Lakes area, by R. B. Peck.

The hydraulic dredging and pumping of lake ... deposits, by W. H. Flower. The ... unloading dock failures and their correction, ... Great Lakes region, by E. J. Fuch. Shock pressures on breaking waves, by C. W. Ross. *Some dynamic aspects in the design of* ... structures on the Great Lakes, by L. A. Mueller, and others. *Experimental studies of forces on piles*, by J. R. Morison and others. Hydraulic model tests for Indiana harbor development, by L. G. Straub and [illegible]. Maintenance of ... navigable channel through ... breakthrough area, by A. T. Ippen and D. R. F. Harleman. Tetrapods, by P. Danel.

—— Proceedings of Fifth Conference on Coastal Engineering Grenoble, France September 1954 Edited by J W Johnson. Richmond, Calif Council on Wave Research, The Engineering Foundation 1955 669 p. illus. 26 cm. $7.50. 5712

Contents: Part 1, Theoretical and observed wave characteristics. Seiches [illegible] in enclosed bodies of water by R. W. Barlow. The [illegible] instability of waves on surface of the sea, by J. R. D. Francis. Champ hydrodynamique d'une houle en profondeur [illegible], by R. Barnave and C. Chartier. The shoaling and breaking of the solitary wave, by A. T. Ippen and G. Kulin. Remarques sur le calcul des amplitudes de la houle linéaire engendrée par un batteur, by J. Kravtchenko. Sur les phénomènes [illegible] dans un canal ... houle, by J. Kravtchenko and L. Santon. Étude du coefficient de réflexion d'une houle sur un obstacle constitué par un plan incliné, by L. Greslou and Y. Mahe. Seiche in ports, by A. E. Ippen and C. Marcou. The significance of scale models for the study of [illegible] ... harbors, by F. Biésel. Two-dimensional seiches in [illegible] subjected to incident waves, by B. Le Méhauté. Caractéristiques du déferlement [illegible] des vagues ... by A. D'Arrigo. Part 2 Field and laboratory instruments and equipment. Wave-measuring by means of the [illegible], by P. J. Vanderkleij. Les appareils [illegible] ... pour la mesure de la houle naturelle, by J. Valembois. A capacitance-wire recorder for small waves, by M. J. Tucker and H. Charnock. Enregistrement graphique du profil d'une houle de laboratoire [illegible], by L. Santon. Le courantographe R.B.T.—Verjoux, by [illegible] and M. J. Rigaud. La représentation des phénomènes marins sur [illegible], by H. Orlandi. Déformation de la houle devant un [illegible], by R. Remy... Harmonics of ... waves, by A. E. Ippen. Plage d'amortissement pour canal ... houle, by C. Marcou. Part 3, Coastal sediment problems. Migrating sand waves or sand humps, with special reference to investigations carried out on the Danish North Sea coast, by P. Bruun. Transport littoral formation de flèches et de tombolos, by M. G. Sauvage de Saint Marc and M. G. Vincent. *The history of ... tidal lagoon inlet and its improvement* (the case of Aveiro, Portugal) by C. K. Abecasis. Le régime de la baie de Tanger by J. Larras. Observations sur le colmatage de l'anse de l'Aiguillon (France) by M. F. Verger. Observations on the trend of shore sediment along ... chalk formation, by H. W. Coulter. Essais d'entraînement de matériaux solides sous l'effet de la houle et du clapotis, by A. Marlhiot-Lagarde and A. Fougnot. Comparaison entre des turbulences calculées ... partir d'essais en laboratoire, by A. Weibel. Part 4, Design and construction of coastal works. About the estimation of the number of days with favourable meteorological and oceanographical conditions for engineering operations on the sea coast and in estuaries, by F. Santema. Le vent et la houle, leur valeur ... by P. A. Gillis. Remarques générales sur les [illegible] français proposés pour la défense des côtes, by A. de Rouville. Some sea defence works in England, by C. H. Dobbie. Fundamentals of coast erosion and defence, by R. R. Minikin. The Dutch problems of investigations on storm surges in the North Sea, by J. R. Schalf. L'utilisation d'un brise-lames pour la défense d'une plage, by G. Delage. Problèmes de défense des [illegible] de [illegible] de quelques ouvrages, by M. Duryfond... Les ouvrages de défense contre la mer sur la côte française de l'ouest entre la Loire et la Gironde, by F. Blondeau and A. Louis. Reconstruction de la digue du Port ... Dunkerque, by V. Le Cocq and R. Gustavson. Research in coastal engineering, by W. F. van Asbeck. Le Laboratoire du Havre pour la mesure des efforts des ... houles, by P. D. Cot. Les ouvrages [illegible] et leur application ... la protection des ports, by J. Valembois and C. Renard. Les [illegible] d'extraction, by F. Angles d'Auriac. La protection contre le vent des ouvrages ... quais, by J. Valembois.

Note: There have been five conferences in this important series. The first was held in 1950, and the second in 1951. The proceedings of both were published by the Council on Wave Research, and the first of these was still available, price $4.50, when this note was written. The second was out of print. The contents of the latest three volumes of the series, all of which are in print, are listed above. Many of the papers as published contain illustrations and some include literature references.

Conference on Coastal Engineering Instruments

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Contents: Optical measurements of sea surface roughness, by C. Cox. Some laboratory ... wave instruments, by M. J. Wilkins. Capacitive wave profile recorder by J. M. Killen. Parallel ... resistance wave meter by R. L. Wiegel. The step-resistance wave gage, by J. M. Caldwell. Mark IX shore wave recorder by F. E. Snodgrass. Thermopile wave meter, by J. D. Isaacs and R. L. Wiegel. The Mark VIII strain gage wave meter, by J. D. Isaacs and others. A ship-borne ... wave recorder by M. G. Tucker. A selective period ... wave recorder, by W. G. Van Dorn. Mechanical recording of waves in the Gulf of Mexico, by M. Fileisch. *Progress report on the U. S. Navy* development of ... wave recording and analyzing equipment, by V. J. Cornelle and A. G. Alexion. The M.I.O. wave analyzer by M. J. Tucker. Mooring cable force meter for models, by K. E. Beebe. A prototype mooring force meter, by J. T. O'Brien and R. E. Jones. Storm wave force meter by G. A. Schermann. An ocean wave force meter by K. E. Beebe and K. E. Morison. Shock pressure meters, by C. W. Ross. Hydrodynamic impact measurements, by V. G. Szebehely and E. E. Zarnick. Instrumentation for investigation of seaplane impact loads in waves, by P. M. Edge, Jr. The principal tide and current measuring instruments used by the Coast and *Geodetic Survey by E. W. Kane. Orbital ... wave velocity meter and* recording system, by D. G. Stevens. A miniature current meter and [illegible] free running rotary flowmeter by H. R. A. Dodow. Carruthers's current meter and wire angle gage, by J. M. Carruthers. C. R. L. salinity-temperature meters, by G. Emerson and D. W. Pritchard. The use of free diving equipment as ... tool in coastal engineering and scientific studies, by E. F. Dill. A deep water instrument station, by W. M. Ransom. *List of papers on instruments of the Council on Wave Research* published in previous publications.

Note: The conference ... *Proceedings are published in this* volume was centered on instruments used to obtain data necessary to the design of structures along seacoasts, seaplanes and ships. A number of recently developed instruments are described as to their principles, applications and methods of using. Several papers deal with instruments still under development. Numerous illustrations and diagrams of the instruments and their components are included. There are also some photographs of complete instruments. The papers are technical in style and are addressed to such readers as *practicing civil engineers, naval architects, and physicists and engi*neers engaged in research pertaining to coastal engineering, wave measurement, etc.

Linsley Ray K. jr., and Joseph B Franzini

Elements of hydraulic engineering New York McGraw Hill Book Company, Inc., 1955 582 p. illus. 24 cm. (McGraw Hill civil engineering series Harmer E. Davis, consulting editor) $9.00. 5714

Contents: Part I: Introduction. Descriptive hydrology. Quantitative hydrology. Groundwater. Frequency analysis in hydrology. Water law. Part II: Reservoirs. Dams. Spillways, gates, and outlet works. Open channels. Pressure conduits. Hydraulic machinery. Some economic aspects of hydraulic projects. *Part III:* Irrigation. Water supply and purification. Hydroelectric power. River navigation. Drainage. Sewerage and sewage treatment. *Flood control.* Multiple-purpose projects. Appendix. Index.

Note: A well-organized textbook for advanced undergraduate students of civil engineering. *It provides* ... broad view of the field with emphasis on its fundamental principles and techniques. Only enough is included of descriptive engineering to illustrate the applications of principles. Selected literature references are given and the book is adequately illustrated. The authors are members of the faculty of Stanford University.

United States. Beach Erosion Board

Shore protection planning and design. Washington, D C. Government Printing Of

fice, 1954 v p illus. 26 cm. (U S Department of the Army Office of the Chief of Engineers Beach Erosion Board Technical report no 4) $2 25 5715

Contents Part I Functional planning Physical factors. Littoral processes. Planning analysis. Part II, Structural design Physical factors. Structural analysis. Appendices Glossary of terms. List of common symbols. Bibliography Miscellaneous tables and graphs. Miscellaneous derivations. Example beach erosion control study

Note. A report based on the experience of the Beach Erosion Board and its staff which "have been engaged in the study of shore erosion problems since 1930 and since then have pursued an intensive program of research and development with a view to improving shore protection techniques. The report is written from the practical standpoint hence, although a considerable range of basic information is included, the main emphasis is on principles and techniques of value in the design and construction of protective devices for shores which it is desired to protect against erosion. Considerations in design, examples of design procedures and computations, and typical structures are described specifically In addition, there are a useful glossary and an extensive bibliography as well as an example of a complete beach erosion control study

BRIDGES

AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS

Standard specifications for highway bridges, adopted by the American Association of State Highway Officials Sixth edition Washington, D C Published by the Association, 1953 328 p illus. 23 cm $4 00 5716

Contents (abridged): Division I, General provisions. Division II, Construction. Division III, Design. Division IV Materials. Appendices. Index.

Note The specifications published in this series are used primarily as guides for the preparation of specifications by the various states of the United States of America and for reference by bridge engineers. Some states adopt them without change or with slight modifications. New editions of the book are published frequently and the seventh edition was published in 1957 284 p. $5.00.

CLARK, JAMES G

Comparative bridge designs. Cleveland The James F Lincoln Arc Welding Foundation 211 p illus. 23 cm. $2 00 5717

Contents Introduction. Continuous beams and girders. Simple beam spans. Simple trusses. Continuous trusses. Arches.

Note The material in this book has been selected from papers and designs in an award program sponsored by the James F Lincoln Arc Welding Foundation in 1951 Unlike the award program which resulted in the publication of *Welded highway bridge design*, described below there were no limits on span or width but the contestants were required to design an all-welded bridge paralleling in its dimensions and other conditions a highway bridge of riveted construction. The winning designs are not presented as such in the book. Instead, the details are illustrated and discussed under the chapter headings listed above.

CLARK, JAMES G, editor

Welded highway bridge design. Cleveland The James F Lincoln Arc Welding Foundation 1952 240 p illus. 23 cm $2 00 5718

Contents Introduction. Structural types. Floor systems. New sections. Special connections and details. Quantities and costs.

Note. The contents of this volume have been selected from material submitted in an "award program" sponsored by the James F Lincoln Arc Welding Foundation in 1950. The rules and conditions of the contest limited the contestants to bridges meeting the specifications set forth in a set of rules and conditions, hence all of the bridges in the book are for highway bridges of identical length and roadway width. As indicated by the chapter titles listed above, details of the designs submitted are discussed rather than complete designs. However the types of bridges represented are described in the chapter entitled "Structural types. The book contains many ingenious and sound ideas for the details of welded steel bridges.

HAYDEN, ARTHUR GUNDERSON, AND MAURICE BARRON

The rigid frame bridge. Third edition. New York John Wiley & Sons, Inc., 1950 240 p. illus 24 cm $8 00 5719

Contents Principles of the rigid-frame bridge. Indeterminacy Theory of indeterminate analysis. Calculations for symmetrical single-span concrete frame bridge, hinged-end conditions. Calculations for unsymmetrical single-span concrete frame bridge. Calculations for symmetrical single-span steel-girder frame bridge. Theory and design of double-span frame bridge. Theory and design of skewed concrete frame bridges. Practical points of design and construction. General notes on rigid-frame bridges. Research in rigid-frame bridges. Architecture of short-span bridges.

Note. The principal engineering book on a type of bridge which is much used these days to carry roads and streets over parkways and other arterial highways. The book is addressed to engineers who are concerned with the design of such bridges. The important changes made in preparing this edition include a new simplified method for analysis of skewed arch and frame bridges. The illustrations include photographs of several of the rigid-frame bridges constructed over the parkways of Westchester county in the state of New York.

HOOL, GEORGE ALBERT, AND W S KINNE, editors

Movable and long-span steel bridges, compiled by a staff of specialists editors-in-chief, George A. Hool and W S Kinne revised by R. R. Zipprodt and H. E Langley Second edition. New York McGraw Hill Book Company, Inc., 1943 497 p illus 23 cm. $9 00 5720

Contents (abridged): Bascule bridges, designs and types, selection, superstructure design and erection problems. Foundations for bascule spans. Structural design of double-leaf simple-trunnion deck bascule highway bridge. Design of operating machinery. Vertical-lift bridges. Swing bridges. Continuous bridges, design and erection, stresses. Cantilever bridges. Suspension bridges. Steel arch bridges. Analysis of three-hinged arch bridges. Analysis of fixed arches. Analysis of two-hinged arches.

Note. A comprehensive reference work for the practicing engineer and student. Deals with the problems relating to the design and construction of the various types of bridges listed above. In this edition, errors have been corrected, and developments since the first edition (1923) are covered in paragraphs added at the end of each section. These additions account for 17 additional pages of text. The volume contains numerous photographs illustrating the type of bridge under discussion.

MCCULLOUGH, CONDE BALCOM, AND EDWARD S THAYER

Elastic arch bridges New York John Wiley & Sons, Inc. 1931 372 p. illus. 24 cm. $10 00 5721

Contents. Introduction. Résumé of fundamental theory Preliminary arch design. Analysis of fixed arches. Hinged arch bridges. Multi-span arches on elastic piers. Mechanical methods of stress analysis. Arches with rigidly connected superstructure. Freyssinet and other recent European methods for stress control in elastic arch ribs. Appendix. Index.

Note. Written for engineers by engineers. The authors discuss the mathematical theory of elasticity as applied to the design of arch bridges, with special reference to recent developments in the field of arch analysis. The book includes numerous plans and diagrams, as well as photographs of famous bridges, ancient and modern. The appendix gives useful references and problems arising out of special cases of arch construction which are discussed.

NATIONAL RESEARCH COUNCIL. HIGHWAY RESEARCH BOARD

Distribution of load stresses in highway bridges. Presented at the thirty first annual meeting, January 1952 Washington, D C. National Academy of Sciences—National Research Council, 1952 85 p. illus. 25 cm. (National Research Council. Publication 253 Highway Research Board. Research report 14-B) $1.50. 5722

Contents: Effect of trucks upon [illegible] few bridge floors in Iowa in 1932 and in 1948, by A. H. Fuller. Test on rolled-beam bridge using H20-S16 loading, by G. M. Foster. Load distribution between girders on San Leandro Creek bridge, by T. Y. Lin and R. Horonjeff. Load distribution on highway bridges having adequate transverse diaphragms, by G. S. Paxson. Distribution of loads to girders. Slab-and-girder bridges—theoretical analyses and their relation to field tests, by C. P. Siess and A. S. Veletsos. Reactions of two-span, skewed, rigid-frame bridges, by G. P. Fisher and W. C. Lyon. Discussion.

Note: A selection of six illustrated technical papers, written by engineers and addressed to engineers who are concerned with the design of highway bridges.

NATIONAL RESEARCH COUNCIL. HIGHWAY RESEARCH BOARD

Vibration and stresses in girder bridges. Presented at the thirty fourth annual meeting, January 11–14 1955 Washington D C. National Academy of Sciences—National Research Council, 1956 134 p. illus. 25 cm. (National Academy of Sciences—National Research Council. Publ. 411 Highway Research Board. Bulletin 124) $2.55 5723

Contents: Vibration measurements on simple-span bridges, by J. M. Biggs and H. S. Suer. Dynamic load analyses and design of highway bridges, by C. T. Schilling. Dynamic studies of two continuous plate-girder bridges, by R. C. Edgerton and G. W. Beecroft. Vibration study of three-span continuous I-beam bridge, by J. M. Biggs and J. A. Bernstein. Vibration and deflection of rolled-beam and plate girder bridges, by G. M. Foster and L. T. Oehler. Highway-bridge impact problems, by T. P. Tung and others.

Note: The six papers listed above are contained in this publication. For the most part they are based on measurements and research carried out by engineers. The results of measurements on specific bridges are included in several of the papers, and apparatus setups for the tests are described and illustrated.

STEINMAN DAVID B

A practical treatise on suspension bridges their design, construction and erection. Second edition, revised. New York John Wiley and Sons, Inc., 1929 299 p. illus. 22 cm. $9.25 5724

Contents: Progress in suspension bridges. Types and details of construction. Typical design computations. Erection of suspension bridges. Appendices: Design charts for suspension bridges. The Florianopolis bridge. The Ohio River suspension bridge at Portsmouth. The deflection theory. Chronological table of suspension bridges. Index.

Note: An authoritative work which is still useful although it has not been revised since 1929. It is addressed to advanced students of engineering who are preparing for careers in bridge design and to graduate engineers. The elements of suspension bridges, their design, and techniques of erection are covered explicitly. Case histories of [illegible] number of suspension bridges are included. The author, an eminent bridge engineer, is an internationally known authority on suspension bridges.

TAYLOR, FREDERICK WINSLOW, AND OTHERS

Reinforced-concrete bridges with formulas applicable to structural steel and concrete, by the late Frederick W Taylor Sanford E. Thompson and Edward Smulski New York John Wiley & Sons, Inc., 1939 456 p. illus. 23 cm. $12.00. 5725

Contents: Characteristics and use of reinforced-concrete girder bridges. Clearances—live loads—impact—distribution of live loads by slabs. Formulas for concentrated truck loads. Slab bridges. Deck girder bridges. Through girder bridges. Cantilever bridges. Description of continuous girder and multi-span frame bridges. Design of continuous girders of equal spans. Continuous girders, fixed-point method. Multi-span rigid frames, fixed point method. Special problems in rigid-frame design, fixed-point method. One-span rigid frame bridges. Flat-slab bridges. Miscellaneous general details. Abutments and piers. Index.

Note: The prime object of this book is to furnish complete information for logical design of bridges other than trusses and arches. It offers comprehensive treatment of slab bridges, simple deck and through girder bridges, cantilever and continuous girder bridges, rigid frames, and flat-slab bridges. The treatment includes discussion of the relative economy and usefulness of these types for different conditions and also the procedure to be followed in developing designs best fitted for any specific requirement.

VINCENT G S

Investigation of wind forces on highway bridges. Presented at the thirty-second annual meeting January 13–16 1953 Washington D C. National Academy of Sciences—National Research Council 1953 30 p. illus. 28 cm. (National Research Council. Publication 272 Highway Research Board. Special report 10) $0.60 5726

Contents: Introduction. Specifications. Nomenclature. Program of tests. Models. Tests at David Taylor model basin. Interpretation of coefficients. Presentation of data. Effect of abutments and ground board. Resultant wind forces. Maximum transverse force. Maximum longitudinal force. Maximum overturning effect. Chester Bridge. Downward reaction due to overturning. Appendices.

Note: A technical paper in which is reported in detail the results of tests of wind forces on model highway bridges, especially as to maximum transverse and longitudinal load forces.

ROADS AND RAILROADS

ALLEN CALVIN FRANCIS

Railroad curves and earthwork. Seventh edition, revised. New York McGraw Hill Book Company Inc. 1931 235 p. illus. 17 cm. $7.50 5727

Contents: Reconnaissance. Preliminary survey. Location survey. Simple curves. Compound curves. Reversed curves. Parabolic curves. Turnouts. Connecting tracks and crossings. Spiral easement curve. Setting stakes for earthwork. Methods of computing earthwork. Special problems in earthwork. Earthwork tables. Earthwork diagrams. Haul. Mass diagram. Spring laying of curves. Diagrams.

Note: This work has been standard textbook and engineers' reference book for many years. In this edition, the chapter on turnouts has been extensively revised, and the chapter on string lining of curves is new. A companion work is the author's Field and office tables, especially applicable to railroads, fourth edition, revised, New York, McGraw-Hill Book Company Inc., 1931 390 p. $4.00.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on mineral aggregates (1948) Fifty first annual meeting, American Society

for Testing Materials, Detroit, Michigan, June 21–25, 1948 Philadelphia American Society for Testing Materials, 1948 233 p illus 23 cm. (Special technical publication no 83) $3 00 5728

Contents. Introduction to symposium, by K. B. Woods. Distribution of mineral aggregates, by K. B. Woods. Petographic and mineralogic characteristics of aggregates, by R. Rhoades and R. C. Mielenz. Physical and chemical tests of mineral aggregates and their significance, by H. S. Sweet. Sampling of mineral aggregates, by C. E. Proudley Production and manufacture of fine and coarse aggregates, by N C. Rockwood. The grading of aggregates for bituminous construction, by J R. Benson. Grading of mineral aggregates for Portland-cement concrete and mortars, by W H. Price. Influence of mineral aggregates on the strength and durability of concrete by C. W Allen. Lightweight aggregates, by R. E. Davis and J W Kelly Mineral aggregates for bituminous construction, by J T Pauls and C. A. Carpenter Mineral aggregates for low cost roads and water-bound macadams, by E. A. Willis and J A. Kelley jr Mineral aggregates for railroad ballast, by A. T Goldbeck. Mineral aggregates in the chemical and processing industries and in certain other uses, by H. F Kriege. Needed research, by D O Woolf.

Note. A collection of technical papers addressed to engineers, purchasing agents, and persons concerned with the establishment of standards and specifications for industrial materials. Most of them are devoted to aggregates for use in road construction, and most are accompanied by lists of references and reports of the discussion at the meeting.

AMERICAN SOCIETY FOR TESTING MATERIALS

Triaxial testing of soils and bituminous mixtures A compilation of papers presented at the first Pacific Area national meeting San Francisco, Calif , October 10 1949 and fifty third annual meeting, Atlantic City, N J , June 28, 1950, of the American Society for Testing Materials. Philadelphia American Society for Testing Materials 1951 303 p illus. 23 cm. (American Society for Testing Materials. Special technical publication no 106) $3 50 5729

Content Introduction, by W G. Holtz. The history and theory of triaxial testing, and the preparation f realistic test specimens report of the Triaxial Institute, by V A. Endersby Some concepts concerning triaxial compression testing of asphaltic paving mixtures and subgrade materials, by F N Hveem and H. E. Davis. Application of the triaxial test to bituminous mixtures California Research Corporation method, by V R. Smith. Application of triaxial testing to the design of bituminous pavements, by N W McLeod. Triaxial design correlated with flexible pavement performance in Kansas, by H. E. Worley Triaxial testing adapted to soils, flexible bases, and foundations, by R. J Hank. A triaxial apparatus for testing large soil specimens, by E. B. Hall. Shear testing at the Waterways Experiment Station, by S. J Johnson. A triaxial shear investigation on partially saturated soil, by D W Taylor Shear characteristics of remolded earth materials, by A. A. Wagner Application of triaxial compression test results to highway soil problems, by E. S. Barber and C. L. Sawyer The importance of natural controlling conditions upon triaxial compression test conditions, by D M. Burmister Interpretation of triaxial compression tests on granular mixtures, by W S. Housel. General discussion.

Note The method of testing which forms the central theme of this book is defined in Endersby's paper as follows. "the word triaxial" is applied to form of mechanical test under which load is applied axially to cylindrical specimen, while supporting pressure is maintained against its sides by water air or other means. The stress-resistant properties of the material tested triaxially are derived from the relation between the testing load and the supporting pressure. Taken together the papers present the current status of this method of testing as applied to road materials in the United States of America.

BATEMAN JOHN HENRY

Introduction to highway engineering a textbook for students of civil engineering Fifth edition. New York John Wiley & Sons, Inc., 1948 538 p illus. 24 cm. $7 75 5730

Contents. Development of highways. Highway subgrade soils. Drainage. General features of highway design. Grading operations and construction of subgrades. Bituminous materials. Theory of structural design of flexible pavements. Earth, gravel, traffic-bound macadam, and stabilized soil base courses and surface courses. Broken-stone base and surface courses. Bituminous surface treatments and low-cost bituminous surfaces. Theory of structural design of concrete pavements. Concrete pavements and base courses. Sheet asphalt and asphaltic concrete pavements. Rock asphalt pavements. Block pavements. Highway and street maintenance. Surveys, plans, specifications, and supervision of construction. Economics of highway improvement. Highway planning, financing, and administration. Appendices. Determination of street intersection elevations. Tables for determining volumes of earthwork. Problems. Index.

Note: A standard textbook for college students of civil engineering. It is outstanding for its thorough coverage of modern road-building materials and techniques. In the present edition, the work has been extensively revised, and such chapters as those on highway subgrade soils, bituminous construction, grading operations, concrete, soil-cement and bituminous soil bases has been expanded to include recent developments. Many of the bibliographies collected at the ends of the chapters are brought up to date, and the collection of review problems has been revised and enlarged. There ar now over 170 figures, many of which are reproduced from photographs of actual steps in the building of roads.

BRUCE, ARTHUR GARFIELD, AND JOHN CLARKESON

Highway design and construction. Third edition. Scranton International Textbook Company, 1950 734 p. illus. 23 cm. (International textbooks in civil engineering Benjamin A. Whisler, consulting editor) $8.50. 5731

Contents (abridged) Highway administration. Highway location. Design of roads. Design of intersections. Low-cost roads. Bituminous surface treatments. Bituminous-macadam pavements. Portland-cement concrete pavements. Brick and block pavements. General highway and street maintenance. Estimates, contracts, and specifications. Control and testing of construction materials. Transportation surveys. Airport design. Appendixes: Bureau of Public Roads soil groups. Highway Research Board soil classifications. Classification of soils for airport construction—Civil Aeronautics Administration. Index.

Note. A standard engineering college textbook which has been thoroughly revised and modernized in this edition—the first in which Clarkeson appears as co-author. It is introductory but comprehensive enough to be of reference also in libraries. The presentation is only semitechnical hence, the greater part of the book can be readily understood by lay readers seeking information on highway engineering. Each chapter ends with a list of pertinent advanced literature. It should be noted that maintenance operations such as periodic oiling of dirt roads are covered, as are strictly engineering operations.

CRUM, ROY WINCHESTER, AND OTHERS, editors

Symposium investigations of the design and control of asphalt paving mixtures and their role in the structural design of flexible pavements by Corps of Engineers Department of the Army Presented at the twenty eighth annual meeting 1948, of the Highway Research Board Division of Engineering and Industrial Research National Research Council Editorial staff R W Crum Fred Burggraf W N Carey jr Washington, D C. Highway Research Board 1949 115 p. illus. 25 cm (Highway Research Board. Research report no. 7 B) $1.80 5732

Civil Engineering

Roads and Railroads

Contents: Introduction, by G. McFadden and W. C. [illegible]. Laboratory study of [illegible] of test equipment, by J. M. Griffith. Laboratory [illegible] asphalt paving mixtures, by W. K. Boyd. Asphalt stability test [illegible], by C. L. [illegible]. Correlation of laboratory and field data, by [illegible]. Detailed test procedures for design and field control [illegible]. The practical application of asphalt paving mixtures, by J. M. Griffith. The practical application of the design method of asphaltic mixtures to pavement construction, by W. K. Boyd. Design of asphalt mixes as related to [illegible], by W. J. Turnbull. [illegible] flexible pavement design, by [illegible] Smith. [illegible]. Glossary of terms. Discussion, by [illegible]. Discussion, by J. T. [illegible]. Discussion, by [illegible]. Discussion, by W. H. Campen.

Note: The papers here published present the results of an extensive study of asphalt paving mixtures by the Corps of Engineers, U. S. Army, and comments thereon by highway engineers and other [illegible]. Most of the experimental work, including laboratory study, field investigations, traffic tests, and the establishment of pavement criteria, was carried on by the Corps of Engineers Flexible Pavement Laboratory located at the U. S. Waterways Experiment Station, Vicksburg, Mississippi. While the reported projects were directed toward the design of airfield pavements, the results obtained are also applicable to the design of road and street pavements, particularly those subjected to considerable traffic of heavy vehicles.

HAY, WILLIAM W.

Railroad engineering. Volume one. New York, John Wiley & Sons, Inc., 1953. 483 p. illus. 24 cm. $8.50. 5733

Contents (abridged): Part I, Principles of location and operation: Importance of the railroad industry. The nature of railroad traffic. [illegible]. Cost of traffic—operating expenses. The location process—effects of [illegible]. Train resistance. Tractive effort—the steam [illegible]. Acceleration and deceleration. Problems in gradients. [illegible]. Part II, Principles of maintenance and construction: Roadway design. Rail [illegible]. [illegible] construction and maintenance. [illegible] Subgrades and sidings. Drainage. Ballast. Ties. [illegible]. Track fastenings. Track. Organization and work programs. Index.

Note: Although such factors as the changed economic situation and the primary importance of freight as a source of railroad income have brought about major changes in railroad engineering [illegible] the past few decades, most of the text and treatises in the field are more than 20 years old. The publication of this book [illegible]. Most of the matter in it was [illegible] when the other books were written. The [illegible] aspects of route location, curves, etc., are discussed [illegible]. The engineering and maintenance practices described are those which are currently in use on efficient roads. The author [illegible] Associate Professor of Railway Civil Engineering at the University of Illinois, and the work was developed in the course of his teaching.

HEWES, LAURENCE I.

American highway practice. New York, John Wiley & Sons, Inc., 1941–42. 2 v. illus. 23 cm. $10.50 per vol. 5734

Contents: Volume [illegible]: Highway location. Design of roadway. Grading the roadbed. Highway landscape. Sand-clay and stabilized roads. Macadam roads. Gravel and fine-crushed rock roads. Intermediate bituminous surfacings. Appendices. Index. Volume II: Penetration macadam. Sheet asphalt. Asphaltic or bituminous concrete. Construction of Portland-cement concrete roads. Design of cement concrete pavement mixtures. Design of concrete road slabs. Brick roads. Miscellaneous structures. Appendices. Index.

Note: These books provide detailed discussion of both theory and practice of highway location, design, and construction. Enough historical background is given to show the development of each type of road surface and pavement. The results of all important research and experimentation for 25 years are incorporated [illegible] the discussion. Both volumes are liberally illustrated with photographs, charts, and line drawings. Tables of condensed information supplement the text.

HEWES, LAURENCE I. AND CLARKSON H. OGLESBY

Highway engineering. New York, John Wiley & Sons, Inc., 1954. 658 p. illus. 24 cm. $8.00. 5735

Contents: Introduction. Highway systems, organization, and [illegible]. Highway economy. Highway finance. [illegible]. Highway planning. Highway surveys and plans. Rights of way. Highway design. Highway drainage. Roadside development. Traffic engineering. [illegible]. Subgrade structure. Constructing the roadway. Gravel and crushed rock roads—stabilized roads. Base courses. Macadam surfaces—macadam bases. Bituminous pavements. Portland-cement-concrete pavements. Highway maintenance. Index.

Note: Highway design, traffic engineering and highway construction are all co-ordinated in this excellent text. The main theme is good design in the light of what is known about driver psychology, highway and street capacities, sight distances, etc. Systems for continuing traffic are described. Also included is much information on the incidental aspects of highway design, such as the [illegible] costs of collecting tolls, and the costs of stopping and starting automobiles at intersections. In contrast to older texts, there is reduced emphasis on actual construction techniques, although all the methods of current interest are described in fair detail. The book is written in a style which is reasonably easy to read; therefore, it can be recommended to writers and other nonengineers who require technical and semitechnical information about modern highways and traffic problems. Literature references are included and the index is [illegible].

JOHNSON, A. W.

Frost action in roads and airfields: a review of the literature. Washington, D. C., National Academy of Sciences—National Research Council, 1952. 287 p. illus. 28 cm. (National Research Council. Publication 211. Highway Research Board. Special report no. 1) $3.00. 5736

Contents: Foreword. Historical introduction. Definition of frost action. The physical processes of soil freezing and thawing. Magnitude of frost heave and increase in soil moisture. [illegible] of ice and frozen soils. Magnitude of reduction in load bearing capacity. Factors influencing magnitude, rate, and nature of frost action and reduction in load carrying capacity. Penetration of frost. Design methods for preventing detrimental frost action. Construction practices relative to frost action. Permafrost. Heat [illegible]. Thermal properties of materials. Bibliography. Index.

Note: A technical summary of scientific information on frost action taken from the literature of the subject in all languages, including Swedish and Russian, from 1765 to 1951 inclusive. It contains 242 figures (graphs, charts, diagrams, line drawings, photographs) and 70 tables. The bibliography extends to 29 pages.

JUMIKIS, ALFREDS R.

The frost penetration problem in highway engineering. New Brunswick, Rutgers University Press, 1955. 162 p. illus. 26 cm. $5.00. 5737

Contents: Part one: Introduction. The highway and its design. The frost problem. Theoretical bases. Part two: The steady-state flow of heat. Heat conduction in the unsteady-state. Sudden change of temperature. F. Neumann's theory. Sudan's solution. Frost penetration considering upward flow of soil [illegible]. Neumann's theory. The suction force theory. Part three: Some remedial measures against frost damage to roads. Factors to be studied in frost action research. Frost criteria. Summary. Appendices. References and bibliographical notes. Index.

Note: In this useful book various theories applicable to the study of frost penetration in the soils under highways, airport paving, cold storage warehouses, etc., are explained and evaluated. The theories considered are: (1) the steady-state flow of heat; (2) the unsteady-state flow of heat; (3) Neumann's theory; ( ) Sudan's theory; and (5) the suction force theory. The author shows that the last-mentioned theory offers the best approach to the analysis of frost penetration because it takes into account such factors as the geotechnical and thermal properties of soils, and the position of the ground water table. Although primarily [illegible] of theory the book is addressed to practicing engineers and the mathematics has been made as simple as is possible. The chapter on remedial measures against frost damage to roads is [illegible] short but useful summary. Fifty-eight references to the international literature are included in the list of references.

KURTZ, CHARLES MEARS

Track and turnout engineering, a hand book on design details of railroad turnouts and crossings, with mathematical treatments of track layouts and connections. New York Simmons-Boardman Publishing Corporation, 1945 461 p illus. 19 cm. $5 50 5738

Contents: Accepted definitions of general track terms. Design of split switches. Design of frogs. Design of movable point crossings and slip switches. Design of crossings. Design of split switch turnout layouts. Turnouts in paved streets. Turnout engineering. Turnouts connecting with divergent tracks. Connecting tracks. Wye tracks. Siding connections. Crossovers. Yard layouts. Crossing layouts. Solution by traverse. Vertical curves. Easement curves and superelevation. Tables. Index.

Note. An advanced treatment of the subject of track design and layout for engineers connected with maintenance of way or track construction departments of railroads. Numerous illustrative diagrams, worked examples, and tables for making the necessary mathematical calculations are included. Corrections and minor revisions have been made in this edition, and an index has been added.

LABATUT, JEAN, AND WHEATON J LANE, editors

Highways in our national life, a symposium. Princeton Princeton University Press, 1950 506 p illus. 25 cm. $7.50 5739

Contents: (abridged): Part I, Historical: The highway and the anthropologist, by J O. Brew The highway system in the Near East from 3000 B.C., to 300 B.C., by K. Heichelheim. The Roman Empire highway system, by M. P Charlesworth. The early highway in America, to the coming of the railroad, by W J Lane. History of the modern highway in the United States, by S. Miller jr Part II, Analytical The highway and social problems, by F E. Merrill. The fusion of urban and rural, by W Firey and others. The Pan American highway by J L. Harrison. The highway from the point of view of the economist, by S. Peterson. The motor vehicle and the highway some historical implications, by O. Rooney The relation of the highway to rail transportation, by J H. Parmelee and E. R. Feldman. Freight transportation on the highway by W A. Bresnahan. Mass transit on the highway by L. Williams. The planning of the highway by G. D Kennedy The design of highway intersections, by R. H. Baldock. The highway as a park way by H. J Neale. Highway engineering, by L. I. Hewes. Highway construction, by H. C. Coons. Maintenance of the highway by S. O. Linzell and H. D Metcalf. Visibility and highway lighting, by S. G. Hibben. Automotive safety on the highway by N Damon. The service of the highway by O. L. Kipp. Summation, by J Labatut. Selected references. Biographical sketches of contributors. Index.

Note. In this book, prepared under the sponsorship of the Bureau of Urban Research of Princeton University the highway is viewed as an important element in the social structure. Altogether there are 44 chapters, and the majority of them deal with historical or sociological aspects. On the other hand, there are valuable chapters on technical aspects. Those chapters that bear on highway engineering are limited more or less to practices in the United States of America, but the historical and sociological articles are of international interest. There is an extensive but not comprehensive list of references arranged by chapters.

MATSON, THEODORE M, AND OTHERS

Traffic engineering By Theodore M Matson, Wilbur S Smith and Frederick W Hurd. New York McGraw Hill Book Company Inc. 1955 647 p illus 24 cm. (McGraw Hill series in civil engineering Harmer E Davis consulting editor) $12 50 5740

Contents: Introduction. Section I, Characteristics. The road user The vehicle. Speed. Volume. Origin and destination. Stream characteristics. Parking characteristics. Accident characteristics. Section II, Regulations: Basic considerations in traffic regulation. Driver controls. Vehicle controls. General controls. Speed controls. One-way streets. Curb-parking regulations. Miscellaneous regulations. Section III, Control devices and aids. Traffic control devices. Traffic signs and markings. Traffic signals. Road lighting. Section IV Design: Factors in traffic design. Road surface. Cross section. Sight distances. Vertical alignment. Horizontal alignment. The design of maneuver areas. Geometric elements of intersection design. Intersection design. The traffic design of parking terminals. Section V, Administration and planning: Traffic engineering functions and organizations. Traffic factors in administrative decisions. Traffic and planning. Off-street parking. Traffic engineering interests in highway finance. Index.

Note An important treatise developed out of the work of the Bureau of Highway Traffic of Yale University Although it deals with the whole problem, including the characteristics of automobile traffic, police regulations, and other non-engineering aspects, it includes valuable discussions of the traffic factors in highway design. Also included are details of such highway elements as dividers. The entire book is of interest to civil engineers who specialize in highway design.

NATIONAL RESEARCH COUNCIL. HIGHWAY RESEARCH BOARD

Bituminous paving mixtures fundamentals for design Washington, D C. National Academy of Sciences—National Research Council, 1955 45 p illus. 25 cm. (National Research Council Publication 355 Highway Research Board. Bulletin 105) $0 75 5741

Contents: Properties required of bituminous paving mixtures. Uses of bituminous paving mixtures. Types of bituminous paving mixtures. Voids. Methods of mixture design. Effects of variations in characteristics and gradations of aggregates on physical properties of mixtures. Effects of variations in bitumen content and characteristics of bitumen on physical properties of mixtures. Practice in designing bituminous paving mixtures. References. Appendixes: Proposed tentative method of test for stability and flow value of bituminous mixtures. Proposed tentative methods of test for resistance to deformation and cohesion of bituminous mixtures. Resistance to deformation. Cohesion. Kneading compaction method for bituminous mixtures to be tested in the H eem Stabilometer. Method of test for determination of bulk-impregnated specific gravity of aggregate for use in bituminous paving mixtures. Method of test for measurement of maximum theoretical specific gravity of a bituminous mixture by solvent immersion. Method of test for maximum specific gravity of bituminous paving mixtures by vacuum-saturation technique using uncompacted samples. Special instructions for mixtures containing porous aggregate not completely coated. Determination of specific gravity of bituminous concrete mix for field density control. Skid resistance of bituminous pavement.

Note: In this bulletin are discussed the fundamentals governing the design of bituminous paving materials. The publication is especially intended for practicing engineers needing concise, up-to-date material on the design and construction of bituminous paving materials.

NATIONAL RESEARCH COUNCIL. HIGHWAY RESEARCH BOARD

Experimental concrete pavements. Presented at the thirty fourth annual meeting, January 11–14 1955 Washington, D C. National Academy of Sciences—National Research Council, 1956 71 p illus. 25 cm. (National Research Council. Publication 403 Highway Research Board Bulletin 116) $1.35 5742

Contents: Report on pavement research project in Indiana, by W T Spencer and others. Report on pavement research project in Ohio, by C. W Allen and L. D. Childs. Appendix.

Note: The pumping action of concrete pavement slabs is a phenomenon which under certain conditions of heavy traffic leads to the breakdown of the pavement. Two four-mile test roads, one in Indiana, one in Ohio, were constructed for the research study of this pumping action. The object was to study the effectiveness of sub-bases in the control of pumping. This bulletin, which is of chief interest to highway engineers, contains illustrated reports describing the location, design, materials, construction, traffic, and early performance of these experimental pavements.

NATIONAL RESEARCH COUNCIL. HIGHWAY RESEARCH BOARD

The WASHO road test. Final report in two parts. Washington D C. National Academy of Sciences—National Research Council, 1954–55 illus. 28 cm. (National Academy of Sciences—National Research Council. Publication 310, 360. Highway Research Board Special report 18 22) Part I $2.25 part II $3.60. 5743

Contents: Part I, Design, construction, and testing procedures: Background and general description. Construction and construction control. Test vehicles and operations. Instrumentation, procedures, and general research. Appendices: Analysis of construction contract. Summary of construction costs. Control and inspection of subgrade construction. Control and inspection of gravel plant and [illegible] and base construction. Construction and control of bituminous surfacing and studies of the asphaltic concrete. Subgrade moisture content studies, 1952. Identification and stability tests on typical subgrade soil. Transverse position of test vehicles. Part II, Test data, analyses, and findings: Introduction. Primary objectives, principal test considerations, and synopsis of findings. Operation of test traffic. Performance of test pavements. Special observations and measurements. Special studies of pavement material. Maintenance of test pavement. Summary discussion. Appendices: Statistical methods of analysis. List of available supplemental information. Glossary of terms, symbols and conventions, and identification of test sections.

Note: The WASHO road test was a study of the behavior of certain flexible pavements under the repeated application of a number of selected heavy axle loads. It was carried out in 1952 and 1953 on specially constructed pavement sections on a site in southern Idaho. The test was under the sponsorship of the Western Association of State Highway Officials and under the administration and direction of the Highway Research Board. The report includes a comprehensive description of the project, the methods of test operation, and instrumentation procedures. Part I is a report on the construction of the test road and provides the basis for thorough understanding of the test. Part II gives the details of the behavior of the pavement under the controlled heavy truck traffic. Both parts contain technical data presented in text, figures, graphs, tables, and photographic illustrations.

NATIONAL RESEARCH COUNCIL. HIGHWAY RESEARCH BOARD COMMITTEE ON FLEXIBLE PAVEMENT DESIGN

Design of flexible pavements. Presented at the thirty-third annual meeting January 12–15 1954 Washington, D C National Academy of Sciences—National Research Council 1954 77 p. illus. 25 cm. (National Research Council. Publication 321 Highway Research Board, Research Report 16-B) $1 05 5744

Contents: Foreword, by W. S. Housel. Triaxial tests in analysis of flexible pavements, by C. McDowell. Appendix: Triaxial compression test, Texas Highway Department, THD-1. Discussion, by R. C. Herner. Flexible-pavement design as evolved for heavy traffic, by L. D. Hicks. Flexible-pavement design by the group-index method, by W. C. Davis and W. G. Jones. Modified C. B. R. flexible-pavement design, by D. J. Olinger. Designing flexible pavements (Virginia), by D. D. Wandrey?. Flexible-pavement design correlated with road performance, by D. L. Lacey?. General discussion, by W. S. Housel and others.

Note: The Committee on Flexible Pavement Design by acting as clearing house for the various state highway departments keeps in touch with methods of flexible-pavement design currently used throughout the United States of America. In 1954, a conference was held at which highway engineers of the states—Texas, North Carolina, Missouri, Wyoming, Virginia, Kansas—reported the results of recent experience with methods adopted as a result of their association with the work of the committee. In this report the proceedings of the conference are published with illustrations and bibliographical references for the information of highway engineers concerned with flexible-pavement design.

NATIONAL RESEARCH COUNCIL. HIGHWAY RESEARCH BOARD COMMITTEE ON FLEXIBLE PAVEMENT DESIGN

Design and testing of flexible pavement. Presented at the thirty fourth annual meeting, January 11–14, 1955 Washington, D C. National Academy of Sciences—National Research Council 1955 87 p illus. 25 cm (National Academy of Sciences—National Research Council Publication 401 Highway Research Board. Bulletin 114) $1.65 5745

Contents. Wheel-load-stress computations related to flexible pavement design, by C. McDowell. Discussion, by R. G. Ahlvin and R. M. Fergus. Design, construction and evaluation of heavy-duty runways, by W. H. Campen and J. R. Smith. Discussion, by R. C. Herner and others. Flexible-pavement design: the cone device, by W. A. Wise. Appendix: method of determining bearing power of soil: the cone device. Discussion, by C. W. Johnston and E. B. Hall. Pavement deflections and fatigue failures, by F. N. Hveem. Discussion, by E. C. Sutherland and others.

Note. In this bulletin are published four technical papers on different phases of the design and testing of flexible concrete pavement for highways and airports. Each paper includes tables and illustrations and is followed by formal discussion presented by engineers in attendance at the Conference where the papers were first presented.

NATIONAL RESEARCH COUNCIL. HIGHWAY RESEARCH BOARD COMMITTEE ON MATERIAL SURVEYS

Highway materials surveys. Presented at the thirty first annual meeting, January 1952 Washington, D C. National Academy of Sciences—National Research Council, 1952 113 p. illus. (part col d) 25 cm. (National Research Council Publication 247 Highway Research Board. Bulletin 62) $1 50 5746

Contents Foreword, by E. A. Finney. How to use airphotos and maps for material surveys, by O. W. Mintzer and R. E. Frost. Geologic considerations in relation to a materials survey by J. L. Young, Jr., and L. K. Gregg?. Geophysical methods of subsurface exploration applied to material surveys, by R. W. Moore. Material inventories, by T. E. Shelburne.

Note: The problem of obtaining suitable aggregates and granular materials for highway-construction purposes having become critical in some regions of the United States of America, the Highway Research Board in 1947 established the Committee on Material Surveys to study the problem. The scope of work of the committee was to include all aggregate materials emanating from natural gravel deposits or rock formations. The first task of the committee was to bring the art of material surveys up to date by adding geophysical exploration and aerial photography to the older methods. This publication gives recent information and developments on material surveys in such a manner as to be readily usable by those connected with state highway departments in immediate need of such information. The symposium where the contributions were first presented covered only the newer methods, as current practice involving hand test holes and mechanical boring methods were so well known to highway engineers that it was believed unnecessary to repeat them. Each of the four papers is accompanied by a list of references. The first paper, which makes up about half the bulletin, also includes a bibliography of 18 pages on the use of aerial photographs in soil surveys.

NATIONAL RESEARCH COUNCIL. HIGHWAY RESEARCH BOARD COMMITTEE ON NIGHT VISIBILITY

Night visibility 1955 Presented at the thirty fourth annual meeting January 11–14 1955 Washington, D C. National Academy

of Sciences—National Research Council, 1956 65 p illus. 25 cm (National Research Council Publication 415 Highway Research Board Bulletin 127) $1.20 5747

Contents Sign brightness and legibility by T M. Allen and A. L. Straub. Candle power of rear lights on trucks, by K. R. Ricker. Specifications and performance of new sealed-beam headlamp, by W F Sherman. Discussion, by O. W Richards. Co-operative road tests of night visibility through heat-absorbing glass, by H. C. Doane and G M. Rassweiler Discussion, by O. W Richards. Discussion, by O. W Richards. Safety hazard of tinted automobile windshields at night, by H. Haber Visual efficiency in monocular driving, by T Shipley Stray light in the eye, by R. M. Boynton.

Note A collection of technical papers reporting experiments and studies, pertaining to visibility in automobile driving at night. Five of the papers are concerned with the efficiency and effects of such devices as sealed-beam headlamps and tinted windshields. The other two deal with the seeing ability of the human eye under specific conditions, including that of excessive light from the headlamps of meeting automobiles.

NATIONAL RESEARCH COUNCIL HIGHWAY RESEARCH BOARD COMMITTEE ON RIGID PAVEMENT DESIGN

Joint spacing in concrete pavements 10-year reports on six experimental projects. Washington, D C National Academy of Sciences—National Research Council, 1956 159 p illus 25 cm (National Research Council Publication 417 Highway Research Board Research report 17 B) $2 70 5748

Content Analysis of data from state reports, by E. C. Sutherland. Report on experimental project in—California, by F N Hveem. Kentucky by D H. Sawyer Michigan, by H. C. Coons. Minnesota, by E. C. Carsberg and P G. Velz. Missouri, by F V Reagel. Oregon, by G S. Paxson.

Note. In 1940 and 1941 experimental concrete pavements several miles in length were constructed on a comparative research basis in six states—California, Kentucky Michigan, Minnesota, Missouri, Oregon—to allow data to be collected on joint spacing in concrete pavements. These pavements embodied experimental features and were kept continuously under observation for period of 10 years. This publication contains detailed engineering reports after the first 10 years by highway engineers from the six states, introduced by a comparative engineering study of the data by an engineer of the United States Bureau of Public Roads. The publication is of interest to engineers concerned with the performance of concrete pavements under traffic, especially with the performance of expansion joints and contraction joints in concrete pavements under traffic.

NATIONAL RESEARCH COUNCIL HIGHWAY RESEARCH BOARD COMMITTEE ON SURFACE DRAINAGE OF HIGHWAYS

Culvert hydraulics. Presented at the thirty second annual meeting January 13–16 1953 Washington D C National Academy of Sciences—National Research Council, 1953 71 p illus. 25 cm (National Research Council Publication 287 Highway Research Board Research report 15-B) $1 05 5749

Contents Model studies of tapered inlets for box culverts, by R. H. Shoemaker Jr., and L. A. Clayton. Appendix Identification of experiments. Discussion, by W O Ree and C. F Izzard. Importance of inlet design on culvert capacity by L. G. Straub and others. Discussion, by F T Mavis and others. Closure, by L. G. Straub and others.

Note. Published here are two significant contributions to knowledge of culvert hydraulics. the first, a report on tests made on a 4-inch, round, lucite culvert model for the Minnesota State Highway Department and the Bureau of Public Roads the second, report on tests made on 4-inch, square, lucite culvert model for the Oregon State Highway Commission and the Bureau of Public Roads.

RENCH, WALTER FREEMAN

Roadway and track. Third edition. New York Simmons Boardman Publishing Corporation, 1946 350 p illus. 23 cm. $5.50. 5750

Contents (abridged) Part I, Roadway The right of way Drainage of roadbed and track. Vegetation for banks. Economics of roadway machines. Labor saving methods and devices in roadway work. Part II, Track Program for maintenance of way and structures work. The track obstruction. Power machines and equipment. Labor saving methods in track work. Track materials and their uses. Practice in rail renewals. Practice in rail repair and inspection. Maintenance of main tracks. Maintenance of yards and terminals. Part III, Special problems and duties. Tables. Index.

Note A standard authority on the maintenance of railroad tracks, roadbeds, and rights-of-way Although the practices described are chiefly those employed on the Pennsylvania Railroad, practices that have proved successful on other railroads are also described. In this edition the original material has largely been retained but has been augmented with descriptions of new methods and new mechanical equipment. The new equipment described includes such power machines and labor-saving devices as ditch-diggers, snow removers, and equipment for melting snow at switches. The chapter on track materials has been lengthened by adding information on the care of ties and on repairing rails by welding. The revision and the inclusion of new illustrations account for approximately 80 additional pages. The copies of this book offered as this bibliography goes to press contain a ten-page supplement which covers developments through June, 1948.

RENCH, WALTER FREEMAN

Simplified curve and switch work. Valuable and necessary information for engineers, supervisors and foremen. Fifth edition. New York Simmons-Boardman Publishing Company, 1947 212 p. illus. 18 cm U S. A., $2 00, other countries, $4 50 5751

Contents. Relining of curves with a string. Preliminary study of the curve. Solution of string lining problems. Superelevation of curves. The spiral. The vertical curve. Economics of curves. Essential elements in the design of switch connections. Rules for computing switch dimensions. Rules for various functions of turnouts. Practical considerations in installing turnouts Methods in installing and maintaining switches. Simplified field work in siding location. Special practices. Index.

Note. A standard handbook for railway track foremen and supervisors of maintenance work. It is based on the practice of the Pennsylvania Railroad and other railroads. Complex algebraic calculations are reduced to their simplest form and as nearly as possible to simple arithmetic. Drawings and tables supplement the text. Five editions have been published since 1923. Changes from one edition to another are usually small.

RITTER, LEO JOHN, JR., AND R. J PAQUETTE

Highway engineering New York The Ronald Press Company 1951 721 p. illus. 24 cm (A volume of a series in civil engineering advisory editorial committee Lorenz G Straub and others) $8 00 5752

Contents. Introduction. Highway administration. Highway economics and finance. Highway planning. Geometric design of highways. Highway soil engineering. Drainage and drainage structures. Surveys and plans. Contractual documents and supervision of construction. Earthwork operations and equipment. Bituminous materials. Thickness design of flexible pavements and bases. Stabilized soil roads. Macadam roads. Bituminous surface treatments—rock and soil roads. Road-mix and intermediate-type bituminous pavements. Asphalt pavements. High-type bituminous pavements. Portland cement concrete pavements—design—construction—brick and block pavements. Highway maintenance. Bibliography Index.

Note A textbook for junior and senior civil engineering students for colleges. Various phases of highway engineering are covered with some emphasis on the economic, legal, and administrative aspects. The nature and function of many major pieces of modern construction equipment are described. The bibliography lists 166 references.

APPLIED HYDROLOGY

AMERICAN SOCIETY OF CIVIL ENGINEERS HYDRAULICS DIVISION HYDROLOGY COMMITTEE

Hydrology handbook. Prepared by The Hydrology Committee of the Hydraulic Division Hydrology Committee Merrill Bernard, chairman. Subcommittees Precipitation Merrill Bernard, chairman. Infiltration S. W Jens, chairman. Runoff W B Langbein chairman. Evaporation and transpiration Adolph F Meyer chairman. Ground water storage. Donald M. Baker chairman. New York: American Society of Civil Engineers, 1949 184 p. illus. 23 cm. (American Society of Civil Engineers. Manuals of engineering practice. No. 28) $4.00 5753

Contents: Historical summary. Foreword. Precipitation. Infiltration. Runoff. Evaporation and transpiration. Ground water storage. Glossary.

Note: A manual of technical information and data on the behavior of water as it occurs in the atmosphere, on the surface, and underground. It was published as an aid to engineers concerned with the regulation, control, and utilization of water. The five chapters were prepared by five subcommittees of the Hydrology Committee, each covering a phase of the hydrologic cycle. The 11-page bibliography arranged to correspond to the chapters. The handbook is of especial value to engineers planning flood control and water supply projects and designing land drainage and storm sewers. It is useful also as a source of information on the character and scope of hydrology for engineers outside this field.

FOSTER, EDGAR E.

Rainfall and runoff New York The Macmillan Company 1948 487 p. illus. 24 cm. $9.00. 5754

Contents: The field of hydrology. Atmospheric moisture and its precipitation. Air masses. Storms which produce precipitation. Distribution of precipitation. Frequency of precipitation. Snow. Evaporation. Runoff. Floods. Ground water. The utilization of hydrologic data. Bibliography. Index.

Note: During the past quarter-century the methods which have been developed for collecting and evaluating data relating to rainfall, snowfall, flood peaks, runoff, depth of ground water etc. have reached the proportions of a science. This volume describes the methods and basic principles of hydrology but its primary purpose is to show how statistical methods may be employed in the study and correlation of hydrological data, particularly those dealing with precipitation and runoff. It is assumed that the reader has knowledge of general statistical methods. The work is addressed to persons with professional interest in the subject, especially engineers concerned with flood control, water power, irrigation, and water supply projects.

HOYT WILLIAM G., AND WALTER B LANGBEIN

Floods. Princeton Princeton University Press, 1955 469 p. illus. 25 cm. $7.50. 5755

Contents: Flood problems. Why we have flood problems. Life history of a flood. Damage from floods. Man adaptation to floods. Protection through control of water. Floods and the Constitution. Our present flood-control policy. Basin problems, projects, and plans. Flood history. Bibliography. Index.

Note: An authoritative book on the causes of floods, how they do damage, methods of controlling them, and flood control as a national policy are all discussed. In addition, major flood control programs, accomplished and projected, are described. *Finally* there is detailed description of major floods which have occurred in the United States of America. The book is interesting and informative reading for anyone interested in flood control, and is essential background for any engineer working in the field.

JOHNSTONE, DON, AND WILLIAM P CROSS

Elements of applied hydrology New York The Ronald Press Company 1949 276 p. illus. 24 cm. $5.00. 5756

Contents: Introduction. Collecting and presenting precipitation data. Collecting and presenting runoff data. Elementary relationships between precipitation and runoff. The role of the land. Analysis and synthesis of the hydrograph by unitgraph methods. Flood routing. Infiltration theory and the analysis of the hydrograph. The hydrograph as a function of drainage basin characteristics. Applications of statistical analysis to hydrology. Problems, questions, and special assignments. Subject index. Index of names.

Note: A well-planned textbook designed for students of civil or other branches of engineering who do not plan to specialize in hydrology but who recognize the need of some knowledge of the subject. It provides a good general view of the field, with emphasis on its applications and basic methods. A good part of the book is devoted to methods of recording, analyzing and synthesizing data, and to the application of statistical methods. The unitgraph is discussed as a means for predicting time distribution of flow during flood periods.

LINSLEY RAY K., JR., AND OTHERS

Applied hydrology by Ray K. Linsley jr Max A. Kohler and Joseph L. H. Paulhus. New York McGraw Hill Book Company Inc. 1949 689 p. illus. 24 cm. (Civil engineering series Frederick T Mavis, consulting editor) $9.50 5757

Contents: Introduction. Climate. Temperature in the atmosphere. Atmospheric humidity. Winds. Precipitation. Snow, ice, and frost. Evaporation and transpiration. Streamflow. The basin. Surface retention and detention and overland flow. Soil physics. Sedimentation. Groundwater. Hydrograph analysis. Runoff relations. Runoff distribution. Waves. Streamflow routing. Design criteria. Design and operation of water-control works. River forecasting. Appendices: Graphical correlation. Sources of hydrologic and meteorological data. Physical constants, conversion tables, and equivalents. Index.

Note: An inclusive work which is designed for use both as a text in engineering courses and as a reference book for engineers concerned with the design of highways, airports, storm-sewers, water supply projects, etc. Basic theory, methods of collecting data, and equipment used are discussed, but emphasis is placed on the interpretation of data and practical applications. The treatment requires knowledge of simple statistical methods and of elementary calculus.

MORGAN ARTHUR ERNEST

The Miami Conservancy District. Yellow Springs, Ohio Community Service, Inc., 1951 504 p. illus. 24 cm. $6.50. 5758

Contents: The Miami valley. The Miami river flood of March, 1913. Relief. Emergency government. Flood control. The Ohio conservancy act. Organization of the Miami Conservancy District. The official plan. The engineering staff. The appraisal and assessment. Preparing for construction. By-products and incidentals. Methods and policies of construction. Industrial relations. The construction period. As the years pass. The influence of the Miami Conservancy District. Bibliography. Index of names. Index.

Note: The complete history of a major engineering undertaking is told in this book written by one of its chief engineers. The Miami Conservancy District, organized following the disastrous 1913 flood, has since that date protected the citizens of Dayton, Ohio, and vicinity from a repetition of flood conditions in the Miami River valley. The engineering, social, and legal aspects of this great flood-control project are all treated in full detail. A feature of the table of contents is that the author has there indicated the sections of the book of most interest to the general reader. The work is well illustrated with photographs, maps, plans, and tabulations. A comprehensive bibliography and adequate indexes conclude the book.

THOMAS HAROLD EDGAR

The conservation of ground water A survey of the present ground-water situation in the United States. Sponsored by The Conservation Foundation. New York McGraw

Hill Book Company, Inc., 1951 327 p 24 cm. $7 00 5759

Contents Introduction. Hydrologic principles and basic data. Problems resulting from ground-water development and use. Ground-water problems resulting from land occupancy Our increasing requirements for water Current deficiencies and future needs for effective ground-water development. Better ground-water management, by A. Wolman. Appendixes Pumpage from major ground-water reservoirs in order of magnitude. Index of localities. Selected bibliography of areal ground-water studies. Subject index.

Note. An authoritative study particularly applicable to the United States of America, of current and probable future demands for well water the problems that arise when too much water is pumped from underground reservoirs, and means of conserving and replenishing underground water Included are many case histories of ground-water reservoir exploitation. Related aspects, such as the pollution of underground water by sewage and chemical wastes, are covered. The author argues strongly for government management of important ground-water reservoirs.

TOLMAN, CYRUS FISHER

Ground water New York McGraw Hill Book Company, Inc , 1937 593 p illus. 23 cm $9 00 5760

Contents. Introduction. Résumé of elements of ground-water hydrology and application to ground-water litigation. Brief review of rainfall, runoff, evaporation, and transpiration. Hydrologic properties of water-bearing materials, except soils. The soil. Occurrence of water and forces acting in the zone of aeration. Influent seepage including water spreading. Percolation, ground-water turbulent flow and permeability The water table in granular pervious material. Ground water in fractures and solution openings. Confined water. Geological classification of artesian aquifers. Wells. Oil-field fluids. Springs. The ground-water inventory Ground-water provinces of the United States of America and Hawaiian Islands.

Note A technical treatment of the science of locating and estimating supplies of water underground and their availability for use at the surface, giving in detail the information needed by the student or practicing engineer or geologist who wishes to work out problems in ground water hydrology

WISLER, CHESTER OWEN, AND E F BRATER

Hydrology New York John Wiley & Sons, Inc. 1949 419 p illus. (part col'd) 22 cm. $7 50 5761

Contents Introduction. The hydrograph. The drainage basin. Precipitation. Water losses. Infiltration. Ground water. Runoff. Floods. Stream-flow records. Index.

Note Knowledge of the basic principles and methods for obtaining data regarding fluctuation in stream flow flood conditions, rainfall and runoff, and of the processes governing the depletion and replenishment of water resources have become increasingly important in the fields of civil engineering, forestry and agriculture. This volume, planned for use as college text and based on courses given at the University of Michigan, provides a comprehensive and up-to-date discussion of these principles and methods. The treatment assumes knowledge of simple statistical methods and of the fundamentals of calculus. No formal bibliography is included, but pertinent literature is cited in footnote references.

SANITARY ENGINEERING

AMERICAN PUBLIC HEALTH ASSOCIATION

Standard methods for the examination of water, sewage, and industrial wastes. Prepared and published jointly by the American Public Health Association, American Water Works Association, Federation of Sewage and Industrial Wastes Associations. Tenth edition. New York American Public Health Association, 1955 522 p. illus. 24 cm. $7.50. 5762

Contents (abridged). Part I. Physical and chemical examination of natural and treated waters in the absence of gross pollution. Part II. Physical and chemical examination of sewage, treatment plant effluents, and polluted waters. Part III. Physical and chemical examination of industrial wastes. Part IV. Physical and chemical examination of sludge and bottom sediments in sewage treatment processes and in polluted rivers, lakes or estuaries. Part V. Routine bacteriologic examination of water to determine its sanitary quality. Part VI. Biologic examination of water, sewage, sludge, or bottom materials. Index.

Note. A carefully compiled and well sponsored reference manual. Under each of the headings listed above, it presents detailed procedures (and related directions and information) for laboratory determinations of chemical elements, odors, microorganisms, etc., in water, sewage and industrial wastes. This edition, the first since 1946, not only presents new and revised methods, but has also been reorganized and has a new more readable format. "Nonstandard" and "tentative" methods are no longer included, but only those accepted as standard and a few designated as "tentative." The Federation of Sewage and Industrial Wastes Associations appears as sponsor for the first time.

AMERICAN WATER WORKS ASSOCIATION

Water quality and treatment a manual prepared by the American Water Works Association. Second edition. New York American Water Works Association, Inc., 1951 451 p. illus. 24 cm. $5.00. 5763

Contents: Characteristics of available water sources. Organisms in water. Standards of quality. Pollution and self-purification of surface water supplies. Control of impounding reservoirs. Aeration of water. Coagulants and coagulation. Mixing and sedimentation basins. Chlorination and other disinfection practices. Taste and odor control. Filtration. Scale and corrosion control. Softening. Occurrence and removal of iron and manganese. Treatment of water for steam generation. Chemical treatment of water for physiological benefits. Treatment plant control. Appendixes: The water supply library. American Water Works Association code of practice. Chemicals used in water treatment. Conversion equivalents for water. Index.

Note. An authoritative treatment and reference book sponsored by the chief society in the water supply field in North America. Contemporary standards and practices are compactly described, and the descriptions are supplemented by selected references to the literature. The work is intended for water supply engineers and others who are professionally concerned with water purification and standards of quality for potable water. Important revisions and additions have been made in the present edition.

BABBITT HAROLD E.

Engineering in public health. New York McGraw-Hill Book Company Inc., 1952 582 p. illus. 23 cm. (McGraw Hill civil engineering series Frederic T Mavis, consulting editor) $9.50. 5764

Contents Engineering in public health. Values and costs in public health. Public health administration. Disease and immunity. Epidemiology of communicable diseases. Biostatistics. Diseases transmitted by insects, the lower animals, and birds. Disinfection. Pesticides, poisons, and fumigants. Food sanitation. Milk. Water and the public health. Housing. Plumbing. Ventilation and heating. Light, sound, and odor. Sanitation of hospitals. Sanitation of city air. The city streets. The collection and disposal of municipal refuse. Industrial hygiene. Swimming pools and bathing places. Sewage and industrial wastes treatment. Pollution of surface waters. Rural and camp sanitation. Sanitary engineering in disasters. Index.

Note. This work is intended for the professional engineer practicing in fields related to public health. Although written for persons with basic education in civil engineering and with knowledge of water works and sewerage principles, most of the text would be comprehensible to others with basic training in mathematics and the sanitary sciences. The book was developed principally from notes, references, and lectures used in graduate courses conducted by the author at the University of Illinois over a period of [illegible] years. It is a complete and detailed exposition of the subject, emphasizing the breadth of knowledge required by the sanitary or public health engineer. For the sake of brevity, discussions have been omitted of fundamentals in the major branches of professional engineering, such as the procurement of water and the collection of sewage. References are given at the ends of the chapters.

BABBITT HAROLD E.

Sewerage and sewage treatment. Seventh edition. New York John Wiley & Sons, 1953 674 p. illus. 24 cm. $8 75 5765

Contents Introduction. Developmental and preliminary work. Quantity of sewage. Hydraulics of sewers. Design of sewer systems. Appurtenances. Materials. Loads on buried pipes. Construction of sewers. Trenches and tunnels. Laying and constructing sewer pipe and backfilling trenches. Pumping. Maintenance of sewers. Sewage treatment. Characteristics of sewage. The disposal of sewage. Screening. Sedimentation. Chemical treatment. Septic tanks and Imhoff tanks. Sewage filtration. Intermittent sand filters and other filters. Activated sludge. Sludge handling and disposal. Sludge digestion. Sludge drying and incineration. Industrial wastes. Summary of sewage-treatment processes. Operation. Appendix. Index.

Note A standard text and reference manual for engineering students and graduate engineers. As in the preceding editions, emphasis is on fundamentals rather than details of practice, although illustrations from practical work are freely used. The scope and arrangement of the sixth edition have been retained, but many revisions have been made to incorporate recent developments in equipment design and sewage treatment; thus, there are new sections on the disposal of radioactive wastes, locating lost sewers, detergents, internal combustion engines, and revised data on design standards, scum control, filter loading, etc. Footnote references have replaced the bibliographies of the earlier editions.

BABBITT HAROLD E., AND JAMES J DOLAND

Water supply engineering. Fifth edition. New York McGraw Hill Book Company Inc., 1955 608 p. illus. 24 cm. $8.50. 5766

Contents: Introduction. Hydraulics. Demand for water. Ground water. Location, construction, and maintenance of wells. Meteorology and hydrology. Dams. Intakes. Aqueducts. Streams in pipe. Impounding reservoirs. Pumping stations. Electrical equipment. Pumping engines. Centrifugal, rotary and other pumps. Well pumps. Materials for and the design of pipes. Valves, gates, hydrants, and meters. Metallic corrosion. Storage and distributing reservoirs. Design of distribution systems. Construction and maintenance of distribution systems. Relation of the quality of water to health and to industry. Measures of the quality of water supplies. Living organisms in water. Plain sedimentation. Sedimentation with coagulation. Slow sand and rapid sand filtration. Water softening. Disinfection. Miscellaneous methods of water purification. Appendices. Index.

Note. A standard text on water plant design and on the background knowledge essential to good design. Most of the engineering aspects of water plants are covered in detail, including those aspects of operation within the province of specialists in water supply engineering. There are several hundred diagrams and other illustrations, and many footnote references to the literature. The first edition was published in 1929 and the fourth edition in 1949 In this fifth edition, the organization of the book is the same nevertheless, the book has been adequately revised. Both deletions and additions were made in most of the chapters.

BAKER, MOSES NELSON

The quest for pure water, the history of water purification from the earliest records to the twentieth century New York The American Water Works Association, Inc., 1948 527 p illus 24 cm $5 00 5767

Contents (abridged) From the earliest records through the sixteenth century Seventeenth century Eighteenth and early nineteenth centuries. Four centuries of filtration in France. British contributions to filtration. Inception and widespread adoption of rapid filtration in America. Upward filtration in Europe and America. Drifting-sand rapid filters. Plain sedimentation. Coagulation: ancient and modern Disinfection. Distillation. Aeration in theory and practice. Algae troubles and their conquest. Softening. Cause and removal of color Iron and manganese removal. Taste and odor control. Medication by means of the water supply Bibliography Index.

Note A comprehensive history of civilized man's long quest for potable water It records the story of the many complex problems which underlie the task of providing supplies of pure water for human consumption, especially for the residents of cities. The methods of purifying water which were employed in early times in Europe and America are all described and usually depicted. Careful attention has been given to tracing out the history of such developments. The book ends with a rich bibliography of the literature which shows library location in selected libraries in the U.S.A. and Europe. The author was formerly associate editor of *Engineering news-record* and has had long interest in the subject of water supply

BESSELIEVRE, EDMUND BULKLEY

Industrial waste treatment. New York McGraw Hill Book Company, Inc., 1952 391 p. illus 23 cm $9 00 5768

Contents What constitutes waste problem? Who starts waste-treatment problem? The first steps to take in the solution. The place of the engineer or specialist. Cooperation between enforcing agencies, industrialist, and technician. Factors in the solution of waste problem. The interests concerned in industrial-waste problems. Districts for industrial-waste treatment. Sampling and analysis of wastes. Combining wastes from several plants to reduce costs. The pollutional effect of various wastes. Methods of waste treatment. Equipment for waste treatment and its selection. Coagulants and chemicals. Handling industrial wastes in municipal systems and charges therefor Factors in the development of low-cost plants. Reuse of wastes and recovery of values. Appendixes. Author index. Subject index.

Note. Liquid wastes produced in industrial processes are discussed in this book primarily from the viewpoint of executives and engineers who are concerned with the disposal of wastes, so as not to violate the law pollute streams, and adversely affect public relations. There is of course some discussion of the public health aspects, but this is subordinate. The general phases of the problem and the general methods of solving them are given most of the space, but the treatment of specific types of waste is described in the chapters entitled Methods of waste treatment" and "Reuse of waste and recovery of values." Bibliographies are included. Considerable attention is given to the reclaiming of water from liquid wastes for re-use in manufacturing processes and in cooling.

CONFERENCE ON BIOLOGICAL WASTE TREATMENT

Biological treatment of sewage and industrial wastes Edited by Joseph McCabe and W W Eckenfelder Jr Papers presented at the Conference on Biological Waste Treatment sponsored by Manhattan College New York, April 13–15 1955 Volume I Aerobic oxidation New York Reinhold Publishing Corporation, 1956 393 p illus. 24 cm $10.00 5769

Contents: Part I Theory and mechanism of biological waste treatment. Bacterial nutrition and synthesis, by C. N. Sawyer. Kinetics of biological oxidation, by W W Eckenfelder, Jr and R. F Weston. Principles of biological oxidation, by N. Porges and others. Factors affecting efficiency and solids production in the activated sludge process, by K. Wuhrmann. A study of the equilibria and kinetics of adsorption by activated sludge, by W J. Katz and G. A. Rohlich. Biological flocculation, by R. E. McKinney Biochemical oxidation of glucose by dispersed growth aeration, by N L. Nemerow and J. Ray Factors influencing development of biological flocs, by J. B. Lackey and D. R. Smith. Biophysical processes in slime film and floc formation, by C. E. Renn. The application of the logarithmic equation in biological oxidation, by H. E. Orford. References to Part I. Part II, Aeration—theory and design: The nature of the oxygen transfer coefficient in aeration systems, by W E. Dobbins. Absorption of oxygen in bubble aeration, by C. E. Carver Jr. Aeration and oxygen transport in biological systems—basic considerations, by E. L. Gaden, Jr. Preliminary investigations into the effect of oxygen tension on biological sewage treatment, by H. A. Okun and W R. Lynn. Oxygen supply as the limiting factor in activated sludge purification, by A. Pasveer E aluating proprietary aeration devices, by R. R. Kountz. Theory and development of aeration equipment, by D. E. Dreier. Practical design considerations in the application of aeration equipment, by J A. Tapleshay Aeration of biological systems using mixing impellers, by J Y Oldshue. Mechanical air dispersers for sewage and waste treatment, by A. A. Kalinske. References to Part II. Part III, Sewage treatment A rational approach to the design of activated sludge plants, by T R. Haseltine. Effect of BOD loadings on activated sludge plant operation, by R. F Logan and W E. Budd. The utilization of the kinetics of activated sludge in process and equipment design, by A. W Busch and A. A. Kalinske. Principles of activated sludge operation, by W N Torpey and A. H. Chasick. High-rate filters of biofiltration type and their application to biological treatment of sewage, by R. S. Rankin. Some aspects affecting biological oxidation of domestic sewage, by J W Hood. Final clarifiers and clarifier mechanisms, by C. N Sawyer References to Part III. Part IV Industrial waste treatment Design of waste treatment plants for the pulp and paper industry by T L. Moore and E. A. Kass. Activated sludge at high temperatures and high pH values, by H. W Gehm. Dairy waste treatment plant design, by R. R. Kountz. The evaluation and design of biological treatment facilities for pharmaceutical wastes, by F E. Dyden and others Biological oxidation of petroleum phenolic wast waters, by W K. Ross and A. A. Sheppard. Cannery waste oxidation by activated sludge, by W W Eckenfelder Jr and E. R. Grich. References to Part IV Author index. Subject index.

Note. The papers published in this volume are listed by title and author above. Both the breadth and the detail of the book are apparent. The authors of the papers are eminent specialists, and they have addressed themselves to graduate engineers and scientists who are concerned in practical ways with the treatment of municipal and industrial wastes. The typical paper is a short, concisely written statement based partly on the author's own experience and partly on the literature. A second conference and companion volume of papers on anaerobic treatments is planned.

COX, CHARLES RAYMOND

Laboratory control of water purification a handbook of laboratory practice in the water works plant, prepared particularly for the man who has not had the advantages of extended training in chemistry and bacteriology New York Case-Shepperd Mann Publishing Corporation 1946 386 p. illus. 21 cm. $3 50 5770

Contents I troduction. Principles of chemistry Dissolved oxygen and aeration. Micro-organisms, their identification and control. Control of tastes and odors. Mineral constituents of water Hydrogen ion concentration or pH value. Alkalinity Carbon dioxide. Turbidity Color Residual aluminum. Coagulation. Flocculation, sedimentation and filtration. Residual chlorine. Free ammonia. Chlorination. Hardness. Magnesium. Softening. Iron. Manganese. Iron and manganese removal. Corrosion. Bacteriology

Note: The intended audience for this manual is indicated in its subtitle. The principles of water purification processes are explained and standard treatment equipment is described. Laboratory procedures for making routine tests of various qualities of water are

pos- deal. The material appeared originally as series of articles. Water works engineering, but it has been somewhat revised here. The book contains no index.

EHLERS, VICTOR MARCUS, AND ERNEST W STEEL

Municipal and rural sanitation. Fourth edition. New York McGraw Hill Book Company Inc., 1950. 548 p. illus. 23 cm. $8.00. 5771

Contents (abridged). Communicable diseases. Excreta disposal without water carriage. Excreta disposal with water carriage. Treatment of water. Function of water supply. Refuse disposal. Milk sanitation. Fly control. Rodent control. Milk sanitation. Food sanitation. Plumbing. Ventilation and air conditioning. Lighting. Swimming pools. Rural sanitation. Industrial hygiene. Disinfectants and insecticides. Vital statistics. Public-health organizations. Appendixes: How to make good concrete. Maximum allowable concentrations for various industrial poisons. Index.

Note. A successful college textbook. The first edition was published in 1927, and each revised edition has included improvements and additional material. A broad view is taken of the scope of sanitation; hence, the inclusion of chapters on ventilation and lighting is appropriate. Besides its intended use, the book is suitable for reference use by practicing engineers, public health officials, and others. Many of the discussions have direct application to sanitation problems in rural areas and small villages. A fifth edition was published in 1958, 596 p. $9.00.

FAIR, GORDON MASKEW AND JOHN CHARLES GEYER

Water supply and waste-water disposal. With a chapter on Water chemistry by John Carrell Morris. New York John Wiley & Sons, 1954 973 p. illus. 24 cm. $16.00. 5772

Contents. Elements of water sanitation. Water-supply systems. Waste-water disposal systems. Statistical analysis of quantitative information. Quantities of water and waste water. Elements of hydrology. Rainfall and runoff. Storage and regulation of runoff. Ground water. Collection of surface water. Collection of ground water. Transmission of water. Distribution of water. Water supply and drainage of buildings. Flow in sewers and their appurtenances. Collection of sewage and storm drainage. Physical properties of water. Elements of water chemistry. Biology of water and waste water. Examination of water and waste water. Standards of water quality and unit operations of water and waste-water treatment. ... Chemical coagulation, precipitation, ... and stabilization. Filtration. Biological flocculation and precipitation. Sludge treatment and disposal. Disinfection, destruction of aquatic growths, and removal of odors and tastes. The ... of self-purification of water. Industrial water supply and waste-water disposal. Rural water supply and waste-water disposal ... Appendix. Bibliography. Index.

Note. An engineering college textbook in which broad and fairly detailed view of the fundamentals of present-day sanitary engineering is presented. There is much less description of water works and sewage disposal plants than is customary in such texts. ... such as sewers, filters, water softeners are adequately described as to operating principles. Sewage disposal is presented as an aspect of the broader problem of the collection, treatment and disposal of waste waters. Subjects, such as the hydrodynamics of wells, are treated with thoroughness. The bibliography is extensive.

GARVER, HARRY L.

Safe water for the farm. Washington, D.C. Government Printing Office, 1948. 46 p. illus. 23 cm. (United States. Department of Agriculture. Farmers' bulletin no. 1978) $0.20. 5773

Contents. Importance of safe water supply. Quality of water. Quantity of water required. Sources of water. Ground water. Springs. Wells. Surface water. Pumps and pumping. Water storage. Pipes and pipe fittings.

Note. Superseding Farmers' bulletin 1448, *Farmstead water supply*, the present bulletin was first issued in 1946 and is slightly revised here in 1948. Farmers in need of an abundant and dependable supply of water will find practical information in this pamphlet regarding the sanitary and engineering principles required to provide safe fresh water.

GURNHAM C FRED

Principles of industrial waste treatment. New York John Wiley & Sons, Inc., 1955 399 p. illus. 24 cm. $9 50 5774

Contents. Introduction. The over-all waste picture. Effects of wastes on streams. Effects of industrial wastes on sewerage systems. Criteria of pollution—physical properties—chemical properties—organic and biological properties. Pretreatment of wastes. Physical treatment—sedimentation—flotation—heat transfer operations. Chemical treatment—pH adjustment—oxidation and reduction—coagulation and chemical reaction—adsorption and ion exchange. Miscellaneous treatment methods. Aerobic biologic treatment—biological filtration—activated sludge—lagoons. Anaerobic biological treatment. Ultimate disposal of wastes. Industrial waste disposal programs. Wastes from specific industries. Index.

Note. Primarily addressed to college students of chemical engineering and sanitary engineering, this book is also of interest to graduate chemists and engineers and manufacturers. The basic problems of stream pollution by industrial wastes are explored at some length in the early chapters. From the eighth chapter on, however the book is devoted to treatment methods and waste disposal systems which avoid or mitigate pollution. As shown by the chapter titles, the material is organized according to "unit processes," a feature that will facilitate its use by chemical engineers. The final chapter is a very concise review of the waste problems of specific industries. Selected lists of literature references appear throughout the book and are a special feature of this last chapter.

HARDENBERGH WILLIAM ANDREW

Sewerage and sewage treatment. Third edition. Scranton International Textbook Company 1950. 467 p. illus. 23 cm. (International textbooks in civil engineering Benjamin A. Whisler consulting editor) $6 75 5775

Contents (abridged). Hydraulics of sewers. Pipe sewers. Sewers built in place. Sewer appurtenances. Planning of sewerage systems. Design of sanitary sewers. Design of storm and combined sewers. Pumping of sewage. Construction of sewers. Records and estimates. Fundamentals of sewage treatment. Dilution and irrigation. Grit removal and screening. Sedimentation. Chemical treatment of sewage. Activated-sludge process. Sludge digestion and disposal. Chlorination of sewage. Industrial wastes. Industrial-waste treatment. Selecting the method of treatment and designing the plant. Operation of sewage-treatment plants. Typical design of sewage-treatment plant. Index.

Note. A standard text written by the editor of *Public works magazine*. The treatment is compact, and much attention is given to such practical matters as basic engineering data and construction details of sewer systems. The book has special application to the design of small plants. In this edition, there are revised discussions of industrial wastes, trickling filters, and a few other topics. Citations to recently published literature have been added to some chapter bibliographies.

HARDENBERGH WILLIAM ANDREW

Water supply and purification. Third edition. Scranton International Textbook Company 1952 516 p. illus. 21 cm. $6 75 5776

Contents. General considerations in planning water-supply systems. Consumption of water. Rainfall. Evaporation, percolation, and absorption. Surface water. Ground water. Storage reservoirs. Distributing reservoirs. Gravity conduits. Pipe conduits. Pipe appurtenances. Laying pipe and maintaining lines. Planning the distribution system. Hydraulics of flow. Design of dead-end distribution system. Design of continuous-flow system. Pumps and pumping. Factors in water purification. Physical tests of water. Chemical analysis of water. Bacteriological examination of water. Microscopical examination. Screening. Sedimentation and coagulation. Filtration. Disinfection. Removing dissolved minerals. Control of corrosiveness. Taste and odor control. Fluoridation of water. Water for industrial uses. Typical design of treatment plant. Appendixes. Index.

Note. An established textbook for engineering college students. It has a strong practical slant and is therefore used also by beginning engineers and operators of water plants. Operations such

as the laying of pipe lines are described specifically and the descriptions usually include detailed procedures for suboperations, such as the testing of a new line for leaks. The preceding edition was published in 1943 In the present edition the chapter on *fluoridation of water is new and certain other chapters—for instance* those on laying pipe, on maintaining lines, and on filtration—have been extensively rewritten. Recent literature has been added to the selected lists of references which appear at the ends of many of the chapters.

HIRSCH, A. ADLER

Manual for water plant operators Brooklyn, N Y Chemical Publishing Company, Inc , 1945 386 p illus. 22 cm. $6 50 5777

Contents. General considerations. Section I, Procurement: Ground water Wells. Surface water Section II Methods of treatment. General aims and methods of water treatment. *Storage. Aeration. Coagulation and sedimentation. Filtration. Disinfection.* Section III, Other special treatments: Iron removal. Softening. Corrosion control. Taste and odor removal. Section IV Distribution system Pumping. Reservoirs. Piping and connections. Hydraulic measurement devices. Section V Control tests Plant arithmetic. Chemical tests. Water bacteriology Section VI, Miscellaneous: Operation during emergencies. Records and operator policy Useful literature. Useful water plant data and factors. Index.

Note. The author is an instructor in water purification with the Sectional School on Water Supply and Sewerage maintained by the State Department of Education of Louisiana, and this book grew out of the need for a self-instruction text to supplement the class instruction of that school. The result is a compact, up-to-date survey of water-plant chemistry and techniques that will be useful to many operators of small and medium-sized water-supply systems. A few practice problems are included and there are lists of books, documents, and manufacturers' literature for further reading.

HOPKINS, EDWARD SCOTT, AND WILMER HENRY SCHULZE

The practice of sanitation Second edition Baltimore The Williams & Wilkins Company 1954 466 p illus. 24 cm $8 00 5778

Contents Fundamental concepts. Administration of sanitation programs. The sanitary survey Principles of hydrogen ion concentration. Principles of disinfection. Food sanitation. Sanitation of eating places. Milk and milk products. Public water supplies. Rural water supplies. Refuse disposal. Rural sewage disposal. Urban sewage disposal. Stream pollution and industrial wastes. Air pollution. Ventilation. Housing. Industrial sanitation. Public transportation. Camps and motor courts. Swimming pools. Insect control. Rodent control. Subject index.

Note A manual of fundamental practices according to the best public health standards. Such matters as the sanitary handling of food in restaurants and such devices as incinerators for the disposal of garbage are described. The descriptions are cast in a simple, readable style and are only semitechnical. However the chapters are all supplemented with well-selected references to the technical literature. The book is suited to use as an elementary text in courses offered to medical, nursing and public health students and as a reference book in public health in general libraries. The first edition was published in 1951 In this second edition, written with the aid of another co-author the book has been revised, somewhat reorganized, and considerably expanded. There are now 131 figures, most of which are reproductions of photographs of devices of public health interest or of practices such as the construction of sanitary land fills.

IMHOFF KARL, AND GORDON MASKEW FAIR

Sewage treatment. Second edition New York John Wiley & Sons Inc. 1956 338 p illus 21 cm $7 50 5779

Contents General considerations. Composition of sewage. Screening and skimming. Sedimentation. Chemical precipitation. Elements of biological treatment. Treatment on soil. Trickling filtration. The activated-sludge process. Chlorination. Sewage sludge. Sludge digestion. Sludge gas and its utilization. Sludge treatment, disposal, and utilization. Unsewered household wastes. Water-borne industrial wastes. Self-purification of receiving waters. Disposal of sewage in receiving waters. Appendices References and bibliography Abbreviations and symbols, weights and measures. Index.

Note: A simplified but nevertheless authoritative and useful manual of information on sewage treatment methods and plants. It is addressed primarily to operating personnel and is suitable also for other classes of readers whose needs are served by descriptive treatment. Only simple mathematics is used in the exposition, and the verbal text is written in a clear explicit style. The preceding edition was published in 1940. The organization of this second edition and its purpose are much the same, but new information has been added wherever changes in practice have made it necessary Furthermore, the text has been generally rewritten, and the clarity of many passages and sentences improved. The book is related to but is by no means an adaptation or translation of Imhoff' *Taschenbuch der Stadtentwässerung*, which enjoys wide use in Europe.

MAGILL, PAUL L , AND OTHERS, editors

Air pollution handbook. Edited by Paul L. Magill Francis R. Holden and Charles Ackley Editorial consultant Frederick G. Sawyer New York McGraw Hill Book Company, Inc., 1956 670 p. illus. 24 cm. $15.00. 5780

Contents Air pollution sources and their control. City planning, industrial-plant location, and air pollution. Chemistry of contaminated atmospheres. Physics of the atmosphere. Evaluation of weather effect. Visibility and air pollution. The epidemiology of air pollution. The effects of air pollutants on farm animals. Effect of air pollution on plants. Sampling procedures. Analytical methods. Experimental test methods. Equipment and processes for abating air pollution. Air pollution control by legislation. Table of conversion factors. Index.

Note. In this volume a group of experts in the field, chemists, physicists, biologists, engineers and meteorologists, summarize what is known regarding the causes, effects, and control of air pollution. Both theoretical and practical aspects of the subject are presented, but the major portion of the book deals with the practical effects of air pollution on man, animals and plants, and the remedial measures which have been developed thus far. Each section is complete in itself and includes an extensive bibliography in some cases running to more than 150 references.

MALLETTE, FREDERICK S , editor

Problems and control of air pollution. Proceedings of the First International Congress on Air Pollution Controls, the American Society of Mechanical Engineers. New York Reinhold Publishing Corporation, 1955 272 p. illus 23 cm $7 50 5781

Contents. The growth of public opinion, by H. E. C. Barnes Management aspects of air pollution, by G. R. Fandrey Gaps in the available knowledge on air pollution. Biological aspects of air pollution, by N Nelson. Administrative needs and patterns of air-pollution control, by L. Silverman. Meteorological problems in air-pollution control, by E. W Hewson. Biological systems for the identification and distribution of air pollutants, by J. T Middleton. Associated health implications in air-pollution control, by R. A. Wattleson. Current developments in air pollution: Exhaust gases from diesel engines, by R. F Davis and J. C. Holtz. Research findings in standards of incinerator design, by A. H. Rose and H. R. Crabaugh. Measurement of average particle size in aerosols by light scattering, by D Sinclair The sulfur survey: Action without compulsion, by R. C. Newbury Sulfur dioxide treatment and recovery: The world supply of sulfur by J. C. Cardington. Removal of sulfur dioxide from power-plant stack gases, by R. L. Rees. Recovery of sulfur dioxide from coal combustion stack gases, by L. B. Hein, A. B. Phillips, and R. D. Young. Ammonia process for removal of sulfur dioxide from flue gas, by H. E. Newall. Recovery of refinery sulfur in air-pollution control, by G. R. Smalley and J W Kiehr Sulfur in iron- and steelmaking, by T P Colclough. Recovery and utilization of sulfur dioxide from coke oven gas, by J. K. Kurtz. Use of a sulfur dioxide scrubbing system in air-pollution control, by W C. Lasier Experience in air pollution abroad Influence of the size of the dust outlet on the efficiency of cyclones, by J. J. van E. Terbergen. Air pollution in Holland, by A. J ter Linden. Abietic disease in forest species, by N F dos Santos de Azevedo. Industrial atmospheric pollution in Italy by G. Fanchesi. Air pollution by dust fume, and smoke, by A. P Avy

Note. The many facets of the air pollution problem are discussed by experts in this book. Generally speaking, each author has at-

tional hazard to persons with professional or technical interests or to those who are not specialists in the specific area of his paper. Literature references are included for most papers. There is an index. The section on sulfur dioxide recovery is of interest to chemical engineers.

Metcalf Leonard and Harrison P Eddy

American sewerage practice. Third edition revised by Harrison P Eddy New York McGraw-Hill Book Company Inc., 1915–35 3 v illus. 23 cm. Vol. I II, o.p. vol. III, $10.00 5782

Contents (abridged) Volume I, Design of sewers: The general arrangement of sewerage systems. Hydraulics: Flow of water and sewage. Quantity of sewage. Separate sewers. Precipitation. Storm drains and combined sewers. Gaging storm-water flow in sewers. Sewer pipe. Masonry sewers. The analysis of stresses in sewer sections. Catchbasins and manholes. Regulators. Ventilation. Pumps and pumping stations. Index. Volume II, Construction of sewers. Engineering work and inspection during construction. Excavation. Machinery for trench excavation. Methods of rock excavation. Explosives and blasting. The sheeting and bracing of trenches and tunnels. Purchasing, handling and laying sewer pipe. Construction of brick and block sewers. Construction of concrete sewers. Contracts, specifications and drawings. Operation and maintenance of sewerage systems. Index. Volume III, Disposal of sewage: Characteristics and behavior of sewage. Elements of sewage analysis. Composition of municipal sewage. Pollution and self-purification of natural waters. Sewage disposal by dilution. Sewage disposal by irrigation. Racks and screens. Grit chambers, skimming tanks. Sedimentation. Chemical precipitation. Septic tanks. Contact beds. Disposal of industrial wastes. Operation and maintenance of sewage and treatment plants. Index.

Note For many years this work was recognized as the standard comprehensive treatise on its subject. It is now of historical interest only except for Volume III which was published in a third edition in 1935 and describes some sewage treatment practices still in use.

Nordell, Eskel

Water treatment for industrial and other uses. New York Reinhold Publishing Corporation, 1951 526 p. illus. 24 cm. $12.00 5783

Contents: Industrial water supplies. Dissolved mineral matter. Dissolved gases. Turbidity, sediment, color, organic matter, tastes, odors and microorganisms. Water requirements. Boiler feed waters. Cooling waters. Aeration. Deaeration. Chemical feeders. Sedimentation, coagulation, settling, and filtration. Iron and manganese removal. Zeolite (sodium cation-exchanger) water-softening process. Hydrogen cation-exchanger processes. Demineralization and distillation. Cold lime-soda water-softening processes. Hot lime-soda water-softening process. Silica removal. Appendix section. Index.

Note. The treatment of natural waters in order to render them more suitable for industrial and domestic uses is a subject of wide interest. This is a comprehensive work on the subject, with 120 tables of reference data, approximately the same number of illustrations, and long bibliographies. It is written on a professional level, and it is of interest to chemists, process engineers, and many others whose work involves the use of water in industry

Phelps, Earle Bernard

Public health engineering a textbook of the principles of environmental sanitation. Volume I. New York John Wiley & Sons Inc., 1948. 655 p. illus. 22 cm. $8.50 5784

Contents Man and his environment. Part I, The air contact: Weather and climate—heating. The air supply of enclosed places. The thermal environment of the human body. Heating, ventilation, and air conditioning. Illumination and lighting. Atmospheric pollution—smoke. Insects and insect control, by H. D. Pratt. Part II, The water contact, with C J Velz: Hydrology. Water quality. Water supply. Sewage disposal and the pollution and self-purification of watercourses. Treatment of polluted waters—principles—domestic water supply—sewage and wastes. Rural sanitation. Appendix. Index.

—— Volume II The food contact In collaboration with Walter D Tiedeman New York John Wiley & Sons Inc., 1950 213 p. illus. 22 cm $5.50 5785

Contents: The relation of food to disease. Food control administration. Milk production. Pasteurization of milk. Auxiliary processes and equipment. Plant layout. Milk plant inspection and control. Shellfish production and control. Public eating and drinking places. The handling and disposal of garbage, refuse, and municipal wastes. Rodent control. Index.

Note. In order to indicate the broad scope of this work, the author used the title "Public health engineering" instead of the more customary "Sanitary engineering." The work is intended for public health officers and students who have either engineering or medical backgrounds. It presents a detailed study of man's physical environment, how it may be controlled or modified, and its relationship to man's health, with emphasis on the biological and chemical aspects. It completely supersedes the author's earlier work, Principles of public health engineering, 1925, in which somewhat similar scope and purpose were introduced. The second volume deals with the food sanitation phase, with emphasis on the handling and control of shellfish and milk. Particular attention is given in it to such details as the design and sanitation of valves in dairy plants.

Phelps Earle Bernard

Stream sanitation with a chapter on stream microbiology by James B Lackey New York John Wiley and Sons, Inc. 1944 276 p. illus. 22 cm. $6.00 5786

Contents The life history of a stream. Biology of growth and decay. Aerobic decomposition—oxidation. Anaerobic decomposition—digestion. The oxygen balance. Public health aspects—bacterial pollution. Stream microbiology. Index.

Note A discussion of the manner in which streams, serving various types of communities, become polluted, the forms and tests of pollution, and the natural and artificial means of purification. The book is of interest to public health officials, sanitary engineers, and persons concerned with the conservation of natural resources.

Prescott Samuel Cate, and others

Water bacteriology with special reference to sanitary water analysis by Samuel Cate Prescott, Charles-Edward A Winslow and Mac Harvey McCrady Sixth edition. New York John Wiley & Sons Inc., 1946 368 p. 22 cm. $5.25 5787

Contents (abridged) The bacteria in natural waters. The collection of samples for bacteriological examination of water. Determination of the number of organisms developing at room temperature. Determination of the number of organisms developing at body temperature. Coliform organisms and methods for their detection. Differentiation of organisms of the coliform group. Significance of the presence of coliform organisms in water. Other intestinal bacteria which have been used as indices of pollution. The significance and applicability of the bacteriological examination. Bacteriology of sewage and sewage effluents. Bacteriological examination of shellfish. Appendix: Tables for obtaining the most probable number from dilution data. Index.

Note In its sixth edition, this standard work is essentially a digest of the knowledge of water pollution by bacteria from extraneous sources and of the methods of testing for such pollution. The subject is treated from the public health standpoint; hence, the bacteriology of harmless bacteria indigenous to water is not treated. This edition has been extensively revised. References to recent literature were incorporated in the text, the volume has been reset, and the number of pages has been increased by about 150, as compared to the fifth edition (1931) The bibliography contains 33 pages.

Rudolfs Willem

Industrial wastes their disposal and treatment. New York Reinhold Publishing Corporation 1953 497 p. illus. 24 cm. $9.50 5788

as the laying of pipe lines are described specifically and the descriptions usually include detailed procedures for suboperations, such as the testing of a new line for leaks. The preceding edition was published in 1945 In the present edition the chapter on fluoridation of water is new and certain other chapters—for instance those on laying pipe, on maintaining lines, and on filtration—have been extensively rewritten. Recent literature has been added to the selected lists of references which appear at the ends of many of the chapters.

HIRSCH, A. ADLER

Manual for water plant operators. Brooklyn, N Y Chemical Publishing Company, Inc., 1945 386 p illus 22 cm $6 50 5777

Contents General considerations. Section I, Procurement Ground water Wells. Surface water Section II, Methods of treatment General aims and methods of water treatment. Storage. Aeration. Coagulation and sedimentation. Filtration. Disinfection. Section III, Other special treatments. Iron removal. Softening. Corrosion control. Taste and odor removal. Section IV Distribution system Pumping. Reservoirs. Piping and connections. Hydraulic measurement devices. Section Control tests Plant arithmetic. Chemical tests. Water bacteriology Section VI, Miscellaneous. Operation during emergencies. Records and operator policy Useful literature. Useful water plant data and factors. Index.

Note. The author is an instructor in water purification with the Sectional School on Water Supply and Sewerage maintained by the State Department of Education of Louisiana and this book grew out of the need for a self-instruction text to supplement the class instruction of that school. The result is a compact, up-to-date survey of water-plant chemistry and techniques that will be useful to many operators of small and medium-sized water-supply systems. A few practice problems are included and there are lists of books, documents, and manufacturers' literature for further reading.

HOPKINS, EDWARD SCOTT, AND WILMER HENRY SCHULZE

The practice of sanitation. Second edition Baltimore The Williams & Wilkins Company, 1954 466 p illus. 24 cm $8 00 5778

Contents Fundamental concepts. Administration of sanitation programs. The sanitary survey Principles of hydrogen ion concentration. Principles of disinfection. Food sanitation. Sanitation of eating places. Milk and milk products. Public water supplies. Rural water supplies. Refuse disposal. Rural sewage disposal. Urban sewage disposal. Stream pollution and industrial wastes. Air pollution. Ventilation. Housing. Industrial sanitation. Public transportation. Camps and motor courts. Swimming pools. Insect control. Rodent control. Subject index.

Note A manual of fundamental practices according to the best public health standards. Such matters as the sanitary handling of food in restaurants and such devices as incinerators for the disposal of garbage are described. The descriptions are cast in a simple readable style and are only semitechnical. However the chapters are all supplemented with well-selected references to the technical literature. The book is suited to use as an elementary text in courses offered to medical, nursing and public health students and as reference book in public health in general libraries. The first edition was published in 1951 In this second edition, written with the aid of another co-author the book has been revised, somewhat reorganized, and considerably expanded. There are now 131 figures, most of which are reproductions of photographs of devices of public health interest or of practices such as the construction of sanitary land fills.

IMHOFF KARL AND GORDON MASKEW FAIR

Sewage treatment. Second edition New York John Wiley & Sons Inc. 1956 338 p illus 21 cm $7 50 5779

Contents General considerations. Composition of sewage. Screening and skimming. Sedimentation. Chemical precipitation. Elements of biological treatment. Treatment on soil. Trickling filtration. The activated-sludge process. Chlorination. Sewage sludge. Sludge digestion. Sludge gas and its utilization. Sludge treatment, disposal, and utilization. Unsewered household wastes. Water-borne industrial wastes. Self-purification of receiving waters. Disposal of sewage in receiving waters. Appendixes References and bibliography Abbreviations and symbols, weights and measures. Index.

Note. A simplified but nevertheless authoritative and useful manual of information on sewage treatment methods and plants. It is addressed primarily to operating personnel and is suitable also for other classes of readers whose needs are served by descriptive treatment. Only simple mathematics is used in the exposition, and the verbal text is written in a clear explicit style. The preceding edition was published in 1940. The organization of this second edition and its purpose are much the same, but new information has been added wherever changes in practice have made it necessary Furthermore, the text has been generally rewritten, and the clarity of many passages and sentences improved. The book is related to but is by no means an adaptation or translation of Imhoff's *Taschenbuch der Stadtentwässerung*, which enjoys wide use in Europe.

MAGILL, PAUL L , AND OTHERS, editors

Air pollution handbook. Edited by Paul L. Magill, Francis R. Holden and Charles Ackley Editorial consultant Frederick G Sawyer New York McGraw Hill Book Company, Inc., 1956 670 p illus. 24 cm. $15 00. 5780

Contents Air pollution sources and their control. City planning, industrial-plant location, and air pollution. Chemistry of contaminated atmospheres. Physics of the atmosphere. Evaluation of weather effect. Visibility and air pollution. The epidemiology of air pollution. The effects of air pollutants on farm animals. Effect of air pollution on plants. Sampling procedures. Analytical methods. Experimental test methods. Equipment and processes for abating air pollution. Air pollution control by legislation. Table of conversion factors. Index.

Note: In this volume a group of experts in the field, chemists, physicists, biologists, engineers and meteorologists, summarize what is known regarding the causes, effects, and control of air pollution. Both theoretical and practical aspects of the subject are presented, but the major portion of the book deals with the practical effects of air pollution on man, animals and plants, and the remedial measures which have been developed thus far. Each section is complete in itself and includes an extensive bibliography in some cases running to more than 150 references.

MALLETTE, FREDERICK S , editor

Problems and control of air pollution. Proceedings of the First International Congress on Air Pollution Controls the American Society of Mechanical Engineers. New York Reinhold Publishing Corporation 1955 272 p illus. 23 cm. $7 50 5781

Contents The growth of public opinion, by H. E. C. Bever Management aspects of air pollution, by G. E. Pendray Gaps in the available knowledge on air pollution: Biological aspects of air pollution, by N Nelson. Administrative needs and patterns in air-pollution control, by L. Silverman. Meteorological problems in air-pollution control, by E. W Hewson. Biological systems for the identification and distribution of air pollutants, by J. T Middleton. Associated health implications in air-pollution control, by E. A. Wahlstrom. Current developments in air pollution: Exhaust gases from diesel engines, by R. F Davis and J. C. Holtz. Research findings in standards of incinerator design, by A. H. Rose and H. R. Crabaugh. Measurement of various particle sizes in aerosols by light scattering, by D. Sinclair The sterile survey Action without compulsion, by R. C. Newbury Sulfur dioxide—treatment and recovery The world supply of sulfur, by J. C. Carrington. Removal of sulfur dioxide from power-plant stack gases, by R L. Ross. Recovery of sulfur dioxide from coal combustion stack gases, by L. B. Hein, A. B. Phillips, and R. D Young. Ammonia process for removal of sulfur dioxide from flue gas, by H. E. Newall. Recovery of refinery sulfur in air-pollution control, by G. E. Smalley and J W Klahr. Sulfur in iron- and steelmaking, by T P Colclough. Recovery and utilization of sulfur dioxide from coke oven gas, by J. K. Kurtz. Use of sulfur dioxide scrubbing system in air-pollution control, by W C. Lawler Experience in air pollution abroad Influence of the size of the dust outlet on the efficiency of cyclones, by J. J. van K. Turbergen. Air pollution in Holland, by A. J ter Linden. Abiotic disease in forest species, by V F dos Santos de Azevedo. Industrial atmospheric pollution in Italy by G. Fanchiotti. Air pollution by dust fume, and smoke, by A. P A Y

Note. The many facets of the air pollution problem are discussed by experts in this book. Generally speaking, each author has ab-

MECHANICAL ENGINEERING

GENERAL

AMERICAN SOCIETY OF MECHANICAL ENGINEERS

ASME handbook, engineering tables. Edited by Jesse Huckert. Sponsored by the Metals Engineering Handbook Board of the American Society of Mechanical Engineers. New York. McGraw Hill Book Company Inc., 1956. 714 p. illus. 25 cm. $12 00. 5793

Contents: Bar stock and shafting—conversion factors—formulas for areas and stress—properties of sections and cylinders. Bearings—[illegible] load analysis. Spur gears. Helical and herringbone gears—bevel gears. Worm gears. Cylindrical fits—standard tapers. Keys and keyseats. Bolts—[illegible]—screw threads—[illegible]—broached, drilled, reamed, and tapped holes. Serrations and splines, by E. [illegible]. [illegible]—washers—wrench [illegible] openings. [illegible], by A. M. Wahl. Aircraft and mechanical tubing—pressure tube—pipe—pipe threads and fittings. Electric motors—graphical symbols—welding. Gaskets—hydraulic standards and symbols—O-rings—packings—seals. Bibliography.

Note: An authoritative compendium, organized under the headings listed above. Most of the tables have been taken from other publications, such as the standards of the American Standards Association, the Handbook of the Society of Automotive Engineers, and manufacturers' literature. The compilation is one of wide scope, but has been planned to supplement other compilations rather than supersede them. The editor's statement on this point reads as follows: [illegible] collection of tables, up-to-date and generally accepted as standard, such are often wanted by engineers and technicians, which are not commonly found in handbooks. Thus, a table of [illegible] functions is included; tables of squares and cubes and trigonometric functions, being readily found elsewhere, are not. Methods for finding the loads on ball bearings are included; the loads that ball bearings can safely carry are not. Data upon bars and tubes suitable for reworking into gears, levers, shafts, or struts are included; the sizes of rolled sections as used in structures are not. The volume is organized in 15 separately paged sections. The number of pages given following the title of this entry was arrived at by adding the pagination of the individual sections.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS

ASME handbook metals engineering design. Edited by Oscar J Horger Sponsored by the Metals Engineering Handbook Board of the American Society of Mechanical Engineers. New York McGraw Hill Book Company Inc., 1953 405 p. illus. 25 cm. $10.00. 5794

Contents: Part I, Selection of material, by H W Gillett. Part II, Mechanical properties of metals in design, by H W Gillett and others. Part III, Mechanical factors influencing corrosion, by H. R. Copson and G. Sachs. Part IV Metallurgical factors in design, by C. E. Sims and others. Part [illegible] Processing considerations in design, by R. W. Bolz and J. A. Brandeton. Part VI, Design procedure, by C. Lipson and others. Index.

Note: A well-sponsored and carefully edited reference book of information useful in the design of structures, machine elements, etc., in metals. The titles of the six parts into which [illegible] is organized are given above. These parts are further subdivided to make [illegible] total of 48 sections in the volume, and each of the sections is the work of [illegible] specialist whose name is given. Thus, Part II contains 29 sections on such topics as "High-temperature considerations in design," "Plasticity considerations in design," "Residual stresses," "Types of stresses," "Surface finish," "Shot peening," "Press-fitted assembly" and "Wear considerations in design." In the typical section, fundamental information and data are presented compactly in [illegible] verbal text, tables and graphs, and literature references are given. In appropriate sections, there are examples of computations typical of the design procedure under discussion.

AMERICAN SOCIETY FOR TESTING MATERIALS AND SOCIETY FOR EXPERIMENTAL STRESS ANALYSIS

Symposium on testing of parts and assemblies presented at the forty ninth annual meeting American Society for Testing Materials, Buffalo, N Y., June 26 1946. Philadelphia American Society for Testing Materials, 1947 86 p. illus. 23 cm. (Technical publication. No 72) $1.50. 5795

Contents: Introduction, by L. L. Wyman. The fatigue strength of lap joints in some magnesium sheet alloys, by H. J. Grover and L. R. Jackson. Fatigue characteristics of magnesium castings, by G. H. Found. Endurance—a criterion of design, by W T Bean. Pneumatic fatigue machines, by F. R. Quinlan. Automotive rear axles and means of improving their fatigue resistance, by O. J. Horger and C. M. Lipson. Stress concentration and the fatigue strength of engine components, by C. Gadd and others.

Note: The principal aim of these papers is to aid in establishing material tests that will more accurately predict the serviceability of mechanical parts before they are placed in service. Charts, diagrams, photographs of test equipment, and photomicrographs of metals are included. Each paper is accompanied by [illegible] report of the discussion of it at the meeting. The volume is directed at metallurgical and mechanical engineers.

BURWELL, JOHN T JR. editor

Mechanical wear being the proceedings of a summer conference on this subject held in June, 1948 at the Massachusetts Institute of Technology Cambridge Mass. Cleveland American Society for Metals 1950 287 p illus. 23 cm. $6.50. 5796

Contents: Dimensional considerations in friction and wear, by C. F. Taylor. Wear in Diesel engines, by C. G. A. Rosen. Wear of automotive engines—cylinders and rings, by P. R. Lane. Fuel and lubrication factors in piston ring and cylinder wear, by A. O. Cattaneo and E. R. Starkman. Chemical aspects of wear and friction, by R. O. Larsen and G. L. Perry. The vapor-lubrication of graphite in relation to carbon brush wear, by R. H. Savage. The wear and damage of metal surfaces with field lubrication, no lubrication and boundary lubrication, by F. P. Bowden and D. Tabor. Wear in steam turbines, by N. L. Mochel. The need for studies of "real" hydrodynamic lubrication, by R. W. Dayton. The dielectric strength of oil film in plain bearings, by C. M. Allen. Gear wear as related to the viscosity of the gear oil, by H. Blok. Surface deterioration of gear

Contents The problem, by W Rudolfs. Stream pollution and self-purification, by H. Heukelekian. Milk products waste, by E. F Eldridge. Canning, freezing and dehydration, by N H. Sanborn. Slaughterhouse and meat packing wastes, by W Rudolfs. The fermentation industries, by C. S. Boruff Corn starch processes, by W D. Hatfield. Wastes from the tanning, fat processing, and laundry soap industries, by E. W Moore. Textile dyeing and finishing, by S. K. Coburn. Pulp, paper and paperboard, by H. W Gehm. Acid and explosives wastes, by R. P Logan. Steel pickling, by R. D Hoak. Plating wastes, by M. G. Barford and J W Masselli. Waste disposal problems in the coal mining industry by W W Hodge. Water disposal problems of the petroleum industry by R. F Weston and others. Treatment and disposal of liquid radioactive wastes, by C. P Straub. Miscellaneous wastes, by W Rudolfs. Index.

Note Eighteen experts in the fields of sanitation and sewage disposal have collaborated to prepare this description of present day methods for utilizing and treating industrial wastes. The problem as a whole and the principles of stream pollution and purification are discussed in the introductory chapters. The remaining chapters deal with the sources of waste materials, recovery techniques, quantity and characteristics of the wastes, and methods of treatment for specific industries. Extensive bibliographies are included, but the book is based on the experience of the authors, rather than on review of the literature of the subject. An authoritative work for industrialists, chemical engineers, municipal officials and others concerned with the disposal of both industrial and domestic wastes.

RYAN, WILLIAM JOHN

Water treatment and purification Second edition. New York McGraw Hill Book Company, Inc., 1946 270 p illus. 21 cm. $5 50 5789

Contents The impurities in water. Sedimentation and coagulation. Filtration. The analysis of water The lime and soda-ash process. Ion exchangers. Boiler feed-water treatment—general considerations. Boiler feed-water treatment—methods used. Disinfection of water Tastes and odors. Miscellaneous treatments. Prevention of corrosion. Appendix. Index.

Note A simple, descriptive manual of water treatment processes and equipment. It is designed for the instruction of engineers who are not specialists in the field, students, and operating men. Added in this edition are new discussions of the use of organic ion exchangers, the processing of boiler feed water and the stabilization of water so as to lessen the deposition of scale in pipe lines.

STEEL, ERNEST W

Water supply and sewerage. Third edition New York McGraw Hill Book Company Inc. 1953 582 p illus 24 cm $8 75 5790

Contents. Introduction. Quantity of water and sewage. Rainfall and runoff Ground water Aqueducts and water pipes. Collection and distribution of water. Pumps and pumping stations. Quality of water supplies. Treatment of water—clarification—filtration. Miscellaneous water treatment methods. Sewerage—general considerations. Amount of storm sewage. Sewer pipes. Flow in sewers. Sewer appurtenances. Design of sewer systems. Sewer construction. Maintenance of sewers. Characteristics of sewage. Sewage disposal. Screens and skimming tanks. Sedimentation of sewage. Sewage filtration. Activated sludge. Sludge treatment and disposal. Miscellaneous sewage treatment problems. Financing and management. Appendix U.S.P.H.S. drinking water standards. Index.

Note A comprehensive work used both as a text by college students f engineering and as reference manual for practicing engineers. By careful combination of related topics and compact writing, a great deal of ground is covered. The second edition was published in 1947 In preparing this third edition, numerous small revisions were made in arious chapters to bring them into conformity with current practice, and the chapter on rainfall and runoff was rewritten. Literature references were added to support the new matter. The author is Professor of Sanitary Engineering on the faculty of the University of Texas.

UNITED STATES PUBLIC HEALTH SERVICE. SANITARY ENGINEERING DIVISION

Manual of recommended water-sanitation practice, recommended by the United States Public Health Service. Prepared by direction of the Surgeon General. Washington, D C. Government Printing Office, 1946 40 p. illus. 23 cm. (United States Public Health Service. Public health bulletin no 296) $0 20 5791

Contents. Introduction. Physical features of water-supply systems and their sanitary protection. Scope of requisite information as to source and protection. Recommended sanitary requirements for water-treatment systems. Recommended general sanitary requirements for water-distribution systems. Discussion of the chemical and bacteriological requirements for potable water as exemplified by the 1946 Drinking Water Standards. References.

Note. A technical committee of U S. Public Health Service officers wrote this manual. Its primary function is to serv as a guide to Public Health Service engineers in evaluating the sanitary features of water supplies with hich they are concerned. In preparing it the committee took advantage of criticisms by various sanitary engineers of the earlier text which appeared in 1941 as Reprint no. 2440 from the Public health reports. The pamphlet, although it "does not have the effect of law regulation, or ruling, should be useful not only to Public Health Service engineers but also to state departments of health and others concerned ith water sanitation.

WRIGHT, FORREST B

Rural water supply and sanitation. Second edition. New York John Wiley & Sons, Inc., 1956 347 p. illus 22 cm. $4 95 5792

Contents (abridged) Part I, Importance of water. The nature and sources of water Development of sources of water. Water treatment. Problems of head and pressure. Pumps, types and principles of operation. Water systems, types and principles of operation. Typical water system installations. Maintenance of water systems. Plumbing systems for homes and farms. Sewage and garbage disposal. Part II, Making joints in copper tubing. Repairing faucets. Determining pipe sizes. Building septic tank. Index.

Note A practical book on water supply and sewage disposal systems and equipment for farm homes and other individual residences located where community systems are not ailable. It is organized so that it may be used as text in college classes in agricultural engineering, and it is also suited to use as reference book by farmers and other rural residents, and by plumbers and contractors who install individual water systems and sewage disposal systems. Basic information, useful engineering data, and specific information on systems and equipment are covered. The title of the chapters in the first part is given above. The second part contains 15 jobs, illustrating various operations, such as the cutting and threading of pipes. The first edition was published in 1939 In this second edition the book has been thoroughly revised in both expository text and illustrations and has been much enlarged.

[illegible] are [illegible] and are supplemented with [illegible]. The [illegible] [illegible] through [illegible]. Older material which has been carried over has been systematically revised, and the newly added material on such subjects as atomic power, gas turbines, jet propulsion, heat pumps, plastic materials, and [illegible] quality control.

LE GRAND RUPERT, editor

The new American machinist's handbook. Based upon earlier editions of "American machinists' handbook," edited by Fred H. Colvin and Frank A. Stanley New York McGraw-Hill Book Company Inc. 1955 1,556 p. illus. 22 cm. $11.00. 5802

Contents: Part 1. Machining methods. Broaches and broaching. Drills and drilling. Files and burrs. Gears, splines, and serrations. Grinding, honing, lapping, and superfinishing. Milling and milling [illegible]. Planing and shaping. Reamers and reaming. Saws and [illegible]. Threading processes and thread systems. Taps and tapping. Turning and boring. Screw-machine work. Part 2. Metal-forming methods. Metal spinning. Press-working and cold-roll forming. Forging, upsetting, and cold heading. Cold working of metals. Die casting. [illegible] of bearings. Part 3. Assembly methods. Arc welding and cutting. Gas welding and oxygen cutting. Resistance welding. Brazing, soldering and soft solders. Part 4. Materials: Steels and irons. Nonferrous metals. Heat-treatment of metals. Cast [illegible] and weights of metal products. Part 5. Finishing of metals. [illegible] processes. Plating and metal coatings. Paints and [illegible]. Electrolytic and chemical finishes for metals. Part 6. [illegible]: Limits, fits, and tolerances. Measuring and gaging equipment. Tapers and dovetails. Part 7. Fastening devices. Bolts, screws, [illegible], and washers. Keys and pins. Part 8. Tool engineering and drafting practice: Jig and fixture details. Drafting practices and [illegible]. [illegible]. Part 9. Machine-tool standards. Standard machine-tool elements. Machine-tool inspection. Part 10. Power-transmission equipment: Chains, V-belts, and motors. Part 11. Mathematics and tables: Mathematics. Reference tables. Index.

Note: This book [illegible] successor to the original American machinists' handbook, rather than [illegible] revised edition of it. The work is still [illegible] reference book intended for use by machinists, machine and product designers, draftsmen and mechanical engineers. However [illegible] has been reorganized and largely rewritten. It has been printed from new type, and both text and tables are more legible than in the latest edition of the predecessor work. The page size also [illegible] larger. Undoubtedly it will become as standard as its widely used predecessor.

LITTLETON CHARLES T

Industrial piping. Special chapter on estimating by R. A. Dickson. New York McGraw-Hill Book Company Inc., 1951 394 p. illus. 23 cm. $9.00. 5803

Contents: Flow sheets, plot plans, and design procedure. Steam piping. [illegible]. Water piping. Oil piping and the Foraking formula. Gas, air, and instrument piping. Alloy piping. Miscellaneous process materials. Insulation. Piping cost estimation, by R. A. Dickson. Index.

Note: A textbook and guidebook for industrial piping presenting the technical information on the subject needed by practicing pipe designers, [illegible], and engineering students. The author has not attempted to cover the theoretical aspects of hydraulics, thermal expansion, and radiation, but sets forth practical methods currently in use for solving such problems as the sizing of pipes and the determination of pressure drop. Much information is presented in tabular form. It is assumed that the user of the book has command of algebra and elementary physics.

MARKS LIONEL SIMEON editor

Mechanical engineers handbook. Fifth edition. New York McGraw Hill Book Company Inc., 1951. 2,236 p. illus. 24 cm. $16.50. 5804

Contents: Mathematical tables. Weights and measures. Mathematics. Mechanics of solids. Friction. Mechanics of fluids. Thermal properties of bodies and thermodynamics. Transmission of heat by conduction, convection, and radiation. Mechanical properties of materials. Mechanics of materials. Vibration problems. Iron and steel. Non-ferrous metals. Fuels. Gas producers and gas cleaning. Industrial furnaces. Machine elements. Gearing. Bearings. Pipes and pipe fittings. Steam engines and turbines. Internal-combustion engines and turbines. Hydraulic turbines. Hoisting and conveying. Automobiles. Railway engineering. Marine engineering. Aeronautics. Building construction. Heating, ventilation, and air conditioning. Illumination. Machine-shop practice. Industrial management and cost accounting. Statistical quality control. Pumps, compressors, and fans. Electrical engineering. Electron tubes and radio. Measuring instruments. Automatic control. Surveying. Mechanical refrigeration. Index.

Note: One of the outstanding engineering handbooks published in the United States of America. More than 50 specialists in the various branches of mechanical engineering have written or revised the signed sections and subsections. Generally speaking, each section includes theory and factual information presented in easy form and also reference data presented in tables. In this edition the general scope and arrangement are the same as in the preceding edition, but the format has been improved by the use of larger type and pages. The inclusion of new or expanded material on such topics as [illegible], dynamics, aircraft jet propulsion, solar heating, heat pumps, dust explosions, [illegible], and atomic power accounts for approximately 400 additional pages.

OBERG ERIK AND F D JONES

Machinery's handbook for machine shop and drafting room a reference book on machine design and shop practice for the mechanical engineer draftsman, toolmaker and machinist. Fifteenth edition Holbrook L. Horton editor New York Industrial Press, 1954 1 911 p. illus 19 cm. $9.00 5805

Note: A reference book which has become a standard fixture in machine shops, drafting departments, and the offices of machine designers. Apparently the publisher has determined that it shall remain a handbook—though a thick one—for the last three editions have contained the same number of pages. In comparison to the 14th edition, the 15th has been revised in several sections, notably in those dealing with gearing, screw threads, [illegible] cutting and [illegible]. Less extensive but nevertheless important revisions have been made in numerous sections, for example, in the tables on alloy steels. In all cases, the new material has been inserted by deleting or condensing material that appeared in the 14th edition. The majority of pages are unchanged.

PLANT ENGINEERING HANDBOOK. Prepared by a staff of specialists. William Staniar editor in-chief. New York McGraw Hill Book Company Inc., 1950 2,007 p. illus. 24 cm. (McGraw Hill Industrial organization and management series L. C. Morrow consulting editor) $17.00. 5806

Contents (abridged) Basic industrial costs and cost reduction. Management engineering. Foundations and reinforced concrete. Materials of construction. Industrial water purification and treatment. Power plants. Refrigeration. Industrial instrumentation and control. Industrial piping. Welding. Industrial-plant power distribution and lighting. Mechanical power transmission. Antifriction bearings. Electrical speed control. Hydraulic power systems. Lubrication. Mechanical packings. Materials handling. Industrial process air conditioning. Crushing and grinding. Drying. Trade waste disposal. Physics in the industries. Graphical mathematics. Vibration control and noise silencing. Industrial containers and packaging equipment. Plastics. Patents and copyrights. Index.

Note A one-volume encyclopedia for plant engineers and others who are responsible for the organization, construction, operation or maintenance of factories and other industrial establishments. Most of the chapters are devoted to engineering and mechanical phases of the large field. However, costs, work simplification, administration of job evaluation plans, etc., are given some space. The treatment of each subject is compact but, in general, there is enough information under each heading to orient the plant engineer and to provide him with the basic facts about the subject under discussion. Literature references are appended for those who wish to read further. The sections and subsections of the book are signed, and the authors, recognized authorities, are affiliated with universities or industrial organizations.

teeth, by J O. Almen. Recent roll tests on endurance limits of materials, by E. Buckingham and G. J Talbourdet. Hardness and its influence on wear by R. Holm. Wear of metals against smooth refractory materials, by L. H. Milligan. Friction and wear of some powder metallurgy bronzes, by J Dedrick and J Wulff. Summary of factors in the wear process, by J T Burwell, Jr Bibliography Index.

Note. The papers in this volume present a broad survey of research methods and current knowledge regarding the causes and control of wear of metals. The authors are specialists associated with universities, research institutions, and industrial corporations and the material has been drawn from reports of laboratory investigations and studies of machines in actual service, as well as from published literature. The book is generously illustrated, and there is a 10-page bibliography It is of interest to mechanical engineers in general and to lubrication experts and machine designers in particular.

CROCKER, SABIN

Piping handbook. Fourth edition New York McGraw Hill Book Company, Inc., 1945 1,376 p. illus 18 cm $12 00 5797

Contents List of collaborators. List of abbreviations. Definitions, formulas, and tables. Fluids—properties of fluids. Metallurgy of piping materials. Pipe, valves, and fittings. Heat insulation. Hangers and supports. Expansion and flexibility Steam power-plant piping. Building heating systems. Plumbing systems. Underground steam piping. Water-supply piping. Fire-protection piping. Oil piping. Gas piping. Refrigeration piping. Corrosion. Hydraulic power transmission piping. Index.

Note The purpose of this manual is to assemble and co-ordinate authoritative data relevant to piping design for engineering and industrial applications. This edition has been enlarged by more than 475 pages, part of which include the new chapters on gas and refrigeration piping, hydraulic power transmission and corrosion. Material dealing with water supply piping and flow of water in pipes has been expanded existing codes, dimensional standards, and specifications have been revised. Previous editions were published under joint authorship ith J H. Walker

GEMANT, ANDREW

Frictional phenomena. New York Chemical Publishing Company, Inc., 1950 497 p. illus 23 cm. $12 00 5798

Contents (abridged) Part A, Frictional processes in general Review of the concept of friction in physics and engineering. Outline of the mathematical treatment of frictional processes. Part B Frictional processes in gases. Theory and experimental facts. Absorption of sound waves and of supersonics. Part C, Frictional processes in liquids Structural viscosity The flow of fluids. Applications of liquid viscosity to electrical insulating liquids, particularly in high-voltage cables. Lubrication. Part D Frictional processes in solids. The plastic flow of solids. Correlation between elastic moduli and viscosity of liquids and plastics. Engineering applications of the plastic flow of solids. Internal friction in solids. Reduction of vibrations by use of materials of high damping capacity Stress-dependent plastic resistance and damping capacity of alloys. External friction of solids. Part E, Problems with solutions. Index.

Note Essentially this is a monograph on the physics of frictional phenomena, but examples of engineering applications are introduced frequently Many topics are discussed rather briefly For example, the chapter on lubrication is only 15 pages long, but bibliography of 36 references to books and papers is appended to it. The treatment is on graduate level. The book is of interest to many fields of science and industry The author is Staff Physicist in the Research Department of the Detroit Edison Company

HEATING, PIPING AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION

Standard manual on pipe welding [Second edition] New York Heating Piping and Air Conditioning Contractors National Association, 1951 506 p illus. 23 cm. $7 50 5799

Contents. Welding—a tool of the contractor Description of welding processes. Welding equipment maintenance. Selection and training of operators. Scope of pipe welding. Materials and filler metals. Testing and inspection. Code welding—procedures—specifications. Templets and jigs. Layout and fabrication details. Estimating pipe welding costs. Co-ordination of facilities. Fabricating shop organization. Field welding shop organization. Alloy steels—chrome moly-stainless. Aluminum and aluminum alloys. Copper and copper alloys. Nickel and nickel alloys. Cast iron. Lead welding and burning. Hard facing materials. Welding terms. Welding symbols. Tables and formulas Index.

Note. A standard work in which the fabrication of piping installations in factories, office buildings, etc., by the use of welding techniques is treated primarily from the viewpoint of contractors who build piping systems. Techniques of fabrication in the shop and on the job are both described. Most of the space is given over to descriptions of materials and techniques, but other phases such as selling welded installations in competition with those put together with mechanical joints, selection of welding operators, etc., are covered as well. As a source of information on the welding of pipe the book is potentially useful to anyone concerned with the subject, whether he is a contractor architectural engineer, or practical welder.

KELLOGG, M W, COMPANY

Design of piping systems. Second edition. New York John Wiley & Sons, Inc., 1956. 365 p illus. 29 cm. $15.00 5800

Contents Strength and failure of materials. Design assumptions, stress evaluation, and design limits. Local components. Simplified method for flexibility analysis. Flexibility analysis by the general analytical method. Flexibility analysis by model test. Approaches for reducing expansion effects—expansion joints. Supporting, restraining, and bracing the piping system. Vibration—prevention and control. Appendixes. History and derivation of piping flexibility analysis. Derivation of acoustic vibration formulas. Charts and tables. Index.

Note. A substantial treatise and practical manual on the structural design of piping systems, such as are characteristic of present-day oil refineries, steam plants, chemical manufacturing plants, etc. The chapters on flexibility analysis are the heart of the book. They present an approach which has become known as the Kellogg general analytical method. The chapters on the handling of expansion effects, supporting, bracing and the control of vibration are especially useful ones for practical engineers. The first appendix is devoted to an extensive account of the historical development of the analysis of piping flexibility and derivation of the equations used. The third appendix contains 18 charts and tables of reference information. The first edition of the book was published by the M. W Kellogg Company itself in 1941, and has been widely used. In this second edition, the scope of the book has been considerably extended and much useful material added. Also, an index has been provided.

KENT, WILLIAM

Kent's Mechanical engineers handbook twelfth edition. Power volume, prepared by a staff of specialists, J Kenneth Salisbury editor Design and production volume, prepared by a staff of specialists, Colin Carmichael, editor New York John Wiley & Sons, Inc. 1950 2 vol. $10 00 per vol. 5801

Contents (abridged) Power volume: Air by J Kay and others. Heat and heat exchange, by C. O. Mackey and others. Steam, water, and ice, by J K. Salisbury and others. Hydrodynamics, hydraulics, and pumps, by G. E. Barnes and others. Piping, by E. J. Wheeler and others. Steam-generating units, by E. M. Powell and others. Steam turbines and engines, by A. G. Christie and W Tobias. Condensers and cooling equipment, by K. S. Brundige and J. G. Dunn. Combustion gas turbines, by W A. Wilson. Refrigeration and ice-making, by B. H. Jennings. Heating, ventilating, and air conditioning, by J. W James and others. Internal-combustion engines, by J W Anderson and others. Electric power by D. L. Beeman and others. Atomic power by D. Cochran. Instrumentation, by D. P Eckman. Index. Design and production volume General properties of materials, by N B. Pilling and H. W Gillett. Corrosion and corrosion resistance, by F N. Speller and H. H. Uhlig. Nonmetallic materials, by C. R. Austin and others. Mechanics, mechanics, and machine elements, by V L. Doughtie. Vibration and machine control, by R. O. Fehr Fasteners, by C. Carmichael. Mechanical springs, by A. M. Wahl. Machine hydraulics, by L. S. Linderoth, Jr Gearing, by S. L. Crawshaw Control mechanisms, by C. K. S. Smith and others. Metal molding and casting processes, by E. C. Clarke and others. Plastic working of metals, by C. W Obert and others. Dimensional control, by H. S. Shaw and others. Joining of materials, by T D Perry and J E. Falcon. Working of nonmetallic materials, by M W Potts. Index.

Note: A long-established reference book in mechanical engineering. The titles given above are those of sections. Each section contains several parts in which the fundamentals of specific area of mechanical engineering are treated.

[illegible] strength of materials, and related basic subjects. It is [illegible] reference book to graduate engineers and machine [illegible]. Various machine parts are discussed at some length [illegible] of the various details with the designing of specific machine elements, such as are named in the chapter titles. The [illegible] edition was published in 1943. This second edition is the result of considerable reorganization and augmentation of the original text. The length of the book has been extended by approximately 1[illegible] pages.

Bradford, Louis Jacquelin, and Paul B Eaton

Machine design. Fifth edition. New York John Wiley & Sons, Inc., 1947 283 p. illus. 22 cm. $4.50. 5814

Contents: Fundamental definitions and considerations. Friction and lubrication. Bearings and sliding surfaces. Friction clutches and [illegible]. Belts. Fans and [illegible]. Screws and screw fastenings. [illegible] Springs. Flywheels. Miscellaneous machine elements. Tables. Index.

Note: A college textbook designed for use in short, intensive courses in machine design. It includes, therefore, only part of the [illegible] found in more extensive texts, but it does aim to give the student [illegible] good background, and to help him to analyze and [illegible] problems. Most of the revisions in the current edition [illegible] to the [illegible] of metals and to new ideas concerning friction and lubrication. The problems presented by the use of aluminum machine parts are discussed.

Buckingham Earle

Analytical mechanics of gears. New York McGraw Hill Book Company Inc., 1949 546 p. illus. 23 cm. $12.00. 5815

Contents: Conjugate action on spur gears. Conjugate action on [illegible] gears. Toothed, with [illegible], and [illegible]. The involute curve and its properties. Involutometry of spur gears. Involutometry of [illegible] gears. Conjugate action on helical gears. Involutometry of [illegible] gears. Involutometry of spiral gears. Helicoid surfaces. Contact on worm-gear drives. Design of worm-gear drives. [illegible] drives. Conjugate tooth action on bevel gears. The actual form of bevel gears. Spiral bevel gears. Skew bevel or hypoid gears. Gear [illegible]. Efficiencies of gears. Analysis of dynamic loads on [illegible] teeth. Dynamic loads on gear teeth. Beam strength of gear teeth. [illegible] limits of materials. Limiting loads for wear on gears. Index.

Note: An important contribution to the literature of gears. The author [illegible] widely known for his books on gear design. However, this [illegible] deals, not with practical design but with the basis of design. In it are presented clearly mathematical analyses of the actions of gears of the many types [illegible] are mentioned in the chapter titles. [illegible] topics, such as the ways in which gears wear and the functions of lubricants under various conditions, are not discussed. The book [illegible] largely on the author's own work, and there are no literature citations.

Buckingham, Earle

Dimensions and tolerances for mass production. New York. Industrial Press 1954 164 p. illus. 29 cm. $8.00. 5816

Contents: Need for an adequate system of dimensioning with tolerances. Production design. Dimensioning and tolerances for the detail drawing. Tolerances on conditions of size. Tolerances on conditions of form—profiles—tapers and angles. Tolerances on conditions of position. Specifications by means of functional gages. Specifying [illegible] limits. Production design of [illegible] check. Production design of [illegible] valve. Summary. Appendix.

Note: The author of this book has had [illegible] intimate interest in the problems of manufacturing interchangeable machine parts, and his Principles of interchangeable manufacturing, 2nd edition, 1941, is well known. Interchangeability is, of course, based on manufacturing to specified dimensions and shapes within acceptable limits of variation (tolerances). Under the present title he has offered [illegible] both analyses of two problems: (1) the specifying of dimensions and tolerances for parts to be manufactured on [illegible] basis (in contrast to [illegible]) basis, and (2) the representation of these on drawings. He makes specific recommendations as to solutions, although he admits that the specification of certain properties, for instance [illegible] finish, can not yet be standardized. Much of the book appeared as articles in Machinery.

Buckingham Earle

Manual of gear design. New York The Industrial Press 1937 3 v. illus. 28 cm. $3.50 per vol. set $9.00 5817

Contents: Section I, Mathematical tables: Table of trigonometrical functions to eight decimal places and to degrees and hundredths of a degree. Converting degrees into radians. Involute functions. Table for converting minutes into decimals of a degree. Gear ratios and decimal equivalents. Factors of all numbers up to 6000. Section II, Spur and internal gears. Terms and definitions. Plane trigonometry. Involute trigonometry. Spur gears—14½ degree composite system. 14½ degree full-depth involute system. 20-degree full-depth involute system. 20-degree stub involute system. Internal gear drives. Differential gears. Planetary gears. Internal gear type clutches. Backlash. Gear tooth loads. Non-metallic gears. Clock and instrument gears. Section III, Helical and spiral gears. Terms and definitions. Helical gear mathematics. Teeth for helical gears. Internal helical gears. Planetary drives. End thrust and bearing loads. Herringbone gears. Backlash. Speed reducers. Helical gear-tooth loads. Efficiency of helical gears. Spiral gears. Milled and hobbed spiral gears. Load capacity and efficiency.

Note: A useful companion for engineers and technicians who design or cut gears. Formulas are accompanied by practical examples worked out in detail to show the solutions and the way each formula is actually applied in gear-designing practice.

Buckingham Earle

Principles of interchangeable manufacturing a treatise on the basic principles involved in successful interchangeable manufacturing practice. Second edition. New York The Industrial Press, 1941 258 p. illus. 23 cm. $4.50. 5818

Contents: Terms used in interchangeable manufacturing. Machine design in interchangeable manufacturing. Purpose of models. Principles in making component drawings. Practice in making component drawings. Economical production. Equipment for interchangeable manufacturing. Gages in interchangeable manufacturing. Inspection and testing. Manufacturing for selective assembly. Small quantity production. Service factor in interchangeable manufacturing.

Note: A treatise on the basic principles involved in successful interchangeable manufacturing practice in the machine and metal-working fields, covering design, tolerances, drawings, manufacturing equipment, gaging and inspection. The author has gathered the information on which this book is based from a study of many manufacturing plants, both large and small, in the United States of America and Canada, and every method described has been seen in successful operation. In the second edition the chapter on gages in interchangeable manufacturing has been enlarged.

Colvin Fred Herbert and Frank A. Stanley

Gear cutting practice methods of producing gears for commercial use. Third edition. New York McGraw Hill Book Company Inc., 1950 532 p. illus. 23 cm. $7.50. 5819

Contents (abridged): Introduction to gear cutting. Cutting spur gears with circular cutters. Shaping external and internal gears. [illegible] with circular cutters. Shaping external and internal gears and cutters. Worms and worm gearing. Involute and straight-sided splines. Finishing gear teeth and bores. Heat treatment of gears. Gear-inspection methods and equipment. Index.

Note: A well-known book for practical mechanics. It is planned for beginners in gear cutting, but the discussions of practice are carried far enough to make the book of interest to many men with substantial experience in the field. All of the standard practices are covered and, in addition, there are good descriptions of the principal gear-cutting machines. In this edition the length of the book has been increased very substantially. New machinery is described, and there are additional data on many topics, such as carbide-tipped hobs, hobbing speeds, new methods of cutting and finishing gears, and new standards.

WAGENER, ALBERT M , AND HARLAN R ARTHUR

The machinists' and draftsmen's handbook. New York D Van Nostrand Company, Inc., 1945 662 p illus 21 cm $6 95 5807

Contents Symbols and mathematics. Parts of the circle. Areas. Volumes. Geometrical constructions. Weights and measures. Triangulation. Drills. Threads. Spur gearing. Milling tables. Tapers. Miscellaneous tables. Speeds, feeds, and cutting tools. Dies and presses. Metals. Strength of materials. Mechanics. Logarithms. Index.

Note A compact reference work designed to provide the basic information required by machinists and draftsmen in most of their routine assignments. It contains tables, charts, terminology formulas, and directions for calculating standard problems in shop mathematics. The last one-third of the book represents a revision from Peder Lobben's *Machinists' and draftsman's handbook*, New York, 1899

WOODSON, WESLEY E

Human engineering guide for equipment designers Berkeley University of California Press, 1954 253 p. illus 27 cm. $3 50 5808

Contents Design of equipment and workspace. Vision. Audition. Body measurement. Other factors. Bibliography for design applications. Suggested reference library Subject index.

Note. A wide range of information pertaining to the design of mechanical equipment for convenient, efficient and saf use by human operators is contained in this book. Preferred design of numerals for readability preferred shapes of control knobs, tactile coding of controls, good dimensions for seats in airplanes, factors affecting visibility the sensitivity of the senses, and speeds of reactions to various stimuli are some of the topics on which recommendations and data are furnished. Extensi e use is made of graphics in conveying the information. The 16-page bibliography is extensive and classified. Preparation of the book was sponsored by the Elec tronics Design and Development Division, Bureau of Ships, U S. Navy

YORK, JOHN EDMUND

Methods of joining pipe, standard and special joints for different classes of pipes and pipe materials including steel, cast iron, dur iron brass copper, lead, chemical tile vitreous tile, synthetic resin plastic, concrete, glass, transite and wood. New York The Industrial Press, 1949 236 p illus 22 cm $3 00 5809

Contents Screwed joints for ferrous and brass pipe. Flanged pipe joints. Welded and brazed pipe joints. Methods of joining cast iron pipe. Joints for thin wall tubes. Joints for plumbing and chemical-resistant pipe. Joints for vitreous tile and concrete pipe. Joints for transite pipe. Joints for wood pipe. Joints to permit movement. Index.

Note. Not all of the methods which have been devised for joining pipe are described in this book, but most of the practical ones are here. The larger part of the space is devoted t joints for metal pipes, but onmetallic piping systems, such as transite, ood, and glass, are adequately covered. Each type of joint is discussed as to design, construction, advantages and disadvantages. Numerous line drawings show details of joints. American Water Works Association Society of Automotive Engineers, and American Petroleum Institute specifications are frequently cited.

MECHANISM AND MACHINE DESIGN

BEGGS, JOSEPH STILES

Mechanism New York McGraw Hill Book Company Inc. 1955 418 p illus. 23 cm. (McGraw Hill series in mechanical engineering Richard G Folsom, consulting editor) $7.50 5810

Contents Introduction. Position velocity and acceleration. Gears. Cams. Rotary drives. Linkages. Tension and flexural links. Compression links—fluids. Computing mechanisms. The control of mechanisms. Special topics. Newtonian mechanics of rigid bodies. A repertory of mechanisms. Appendixes: Inventions and patents. Placing the decimal point in slide-rule calculations. Glossary Bibliography Index.

Note. An advanced work on mechanisms, or machine elements. It was developed in a course offered by the University of California at Los Angeles to graduate students and to engineers employed in industry Although its coverage is not cyclopedic, it describes a considerable range of mechanisms from gears to calculating machines. Mechanical principles of the mechanisms are described, but the main emphasis is on their properties. These are covered in a manner that combines physical description and mathematical analysis. Books predominate in the classified bibliography but some periodical articles are included.

BERARD, SAMUEL J , AND OTHERS

Principles of machine design By Samuel J Berard, Everett O Waters, and Charles W Phelps. New York The Ronald Press Company, 1955 534 p illus. 24 cm. $7 50 5811

Contents Part I, Introduction: Fundamentals. Engineering materials. Elements of theoretical design. Part II, Screws, bolts, and other fasteners: Screws and bolts. Pins, keys, and other fasteners. Welding processes. Welding design. Part III, Shafting, couplings, clutches, and bearings. Shafting. Couplings and clutches. Sliding bearings. Rolling bearings. Part IV Belt, chain, and gear drives. Belt and chain drives. Parallel-shaft gearing. Bevel gearing. Worm gearing. Screw gearing. Part V Mechanisms and other elements Cams. Linkages. Springs. Brakes. Curved beams and miscellaneous elements. Tables. Index.

Note Written by members of the faculty f Brown University and Yale University this book is designed for the instruction of engineering college students who have completed courses in strength of materials and kinematics. It is an introduction to machine design and covers the standard elements. Welding as method of fastening is treated rather fully and about 100 pages are devoted to gearing. Many worked examples of design problems are included, and there are several hundred illustrations.

BILLINGS, J HARLAND

Applied kinematics for students and mechanical designers Third edition. Princeton, N J D Van Nostrand Company Inc., 1953 352 p illus 23 cm. $5 00 5812

Contents Motion in machines. Mechanisms and centros. Inversion in mechanisms. Parallel and straight-line mechanisms. The phorograph—a device for finding velocities in mechanisms. Centro and component methods for velocity Accelerations in mechanisms. Cams. Spur gearing Bevel and helical gearing. Gear combinations. Flexible connectors. Miscellaneous mechanisms. Automatic control and its mechanisms General references. Appendix. Index.

Note Although this textbook for advanced undergraduate students presents rigorous exposition of principles, it is particularly valuable for its extensive analytical studies of common machine elements. T ch examples, thirty-six pages are devoted to cams, 106 pages to gears. The book is ell illustrated with diagrams and reproductions of photographs of basic mechanisms. The second edition was published in 1943 The newly added chapter on automatic control is the principal change in this third edition.

BLACK, PAUL H

Machine design Second edition. New York McGraw Hill Book Company Inc. 1955 471 p illus 23 cm. $7 75 5813

Contents Introduction. Machine-design computations. Loading induced stresses, and failure. Stress concentration in machine members. Allowable stresses. Members that fail by buckling. Engineering materials. Mechanical fabrication and processes. Detachable fastenings. Springs. Pressure cylinders. Translation screws. Shafting. Belt drives and hoists. Power-transmission chains. Shaft couplings. Clutches and brakes. Spur and parallel helical gears. Gears for nonparallel shafts. Surface finish, friction, and wear Sliding bearings and lubrication. Rolling contact bearings. Metal fits and tolerances Vibration and fixation control Motor selection. Appendixes. Questions and problems. Author index. Subject index.

Note A textbook designed for the instruction of advanced undergraduate engineering students ho has background knowledge of

Mechanical Engineering

[illegible] by coil diameter of from ½ inch to 4 inches. Instructions [illegible] to using the torsion spring tables. Step-by-step examples of how the tables are used. Table of life, stress, and material conversion [illegible]. Chart for determining initial tension in tension springs. [illegible] styles of tension spring ends. Tables of tension springs arranged by coil diameter of from ¼ to 2 inches.

Note: A reference handbook for the use of machine designers and others who, though not specialists in spring design, must occasionally [illegible] design springs as machine elements or for other purposes. [illegible] the tables of compression springs and of torsion springs cover [illegible] considerable range of spring sizes so as to enable the designer to [illegible] quickly to select [illegible] spring of suitable diameter, length, [illegible] from [illegible] table. All of the tables are calculated for springs made of spring steel wire; however, conversion factors are included for adapting the data to springs made of chromium vanadium steel wire, high carbon steel wire, and music wire. Full directions for using the tables, both as specifications and design, are included.

GIBBS, JOSIAH WILLARD

The early work of Willard Gibbs in applied mechanics, comprising the text of his hitherto unpublished Ph.D thesis and accounts of his mechanical inventions. Assembled by Lynde Phelps Wheeler Everett Oyler Waters, & Samuel William Dudley New York Abelard Schuman, Inc., 1947 78 p. illus. 24 cm. (Yale University School of Medicine. Historical Library Publication no. 17) $3.00 5827

Contents: Preface, by L. P. Wheeler. Introduction, by L. P. Wheeler. On the form of the teeth of wheels in spur gearing, by Willard Gibbs: [illegible] dissertation submitted to the Sheffield Scientific School in fulfillment of the requirements for [illegible] Ph.D degree in 1863. Commentary upon the Gibbs monograph, "On the form of the teeth of wheels in spur gearing," by E. O. Waters. An improved railway car brake, by S. W. Dudley. The Gibbs governor for steam engines, by L. P. Wheeler.

Note: The centennial anniversary of the Sheffield Scientific School, Yale University in 1947 was the occasion for the publication of this book by and about Willard Gibbs, the distinguished Professor of Mathematical Physics at Yale University from 1871 until his death in 1903. It reproduces his Ph.D. thesis (Gibbs was one of the earliest recipients in the United States of America of the Ph.D. degree), and gives accounts of two other early contributions by Gibbs in the field of applied mechanics.

HAMPTON ROY E.

Introduction to the basic mechanisms. Annapolis United States Naval Institute, 1956 249 p. illus. 23 cm. $4.50 5828

Contents: Introduction—basic definitions. Vectors. Velocity and acceleration analyses of plane motion. Linkages. Rolling bodies. Cams. Gearing. Gear trains. Flexible connectors. Miscellaneous mechanisms. Bibliography. Answers. Index.

Note: An introductory textbook written by [illegible] member of the faculty of the United States Naval Academy. It offers [illegible] relatively compact treatment with emphasis on basic definitions and principles. The detail that would be included in [illegible] book on the subject written for students preparing for careers in machine design [illegible] lacking. Appropriately, some of the problems illustrate applications to shipboard machinery and the handling of ships. The chapter on "Flexible connectors" deals [illegible] with ropes, chains and belts for the transmission of forces in tension.

HARTMAN JAMES B

Dynamics of machinery New York McGraw Hill Book Company Inc. 1956 283 p. illus. 24 cm. (McGraw Hill series in mechanical engineering Richard G Folsom consulting editor) $7.50. 5829

Contents: Some preliminary considerations. Some principles of dynamics. Inertia forces. Mechanical vibrations. Balancing of machinery. Engine dynamics. Mechanical transients. Dynamics of automatic-control systems. Appendix. Bibliography. Answers to selected problems. Index.

Note: A college textbook in which the topics covered are more advanced than those taken up in the usual introductory courses in dynamics. Vector notation is introduced in the first chapter, and the Laplace transform is introduced in [illegible] late chapter. However the Laplace transform is presented only as [illegible] tool for engineers. Along with the mathematics, the book contains much verbal explanation of basic principles, descriptions of techniques and machines, some worked examples, and numerous problems for the reader to solve. It is addressed primarily to advanced undergraduate students and graduate students of mechanical engineering. It will be of interest to some graduate mechanical engineers as [illegible] refresher or as an introduction to such fields as engine dynamics.

HINKLE ROLLAND T

Kinematics of machines. Englewood Cliffs, N J Prentice-Hall Inc. 1953 231 p illus. 24 cm. $4 75 5830

Contents. Terminology and basic concepts. Equations of motion. Velocities in mechanisms: relative motion, and transmission of motion. Velocity polygons. Accelerations, instant centers and resolution. Velocity and acceleration graphs, special constructions, analytical methods. Cams. Rolling contact. Gearing. Flexible connectors. Gear trains, translation screws. Miscellaneous mechanisms. Index.

Note: A well-organized textbook for engineering college students who have completed basic courses in engineering mechanics. Its purpose is to introduce such students to the analysis of problems in the relative motion of machine parts. It is compact and written in [illegible] terse but not difficult style. Analytical techniques, such as the use of velocity and acceleration polygons, are clearly explained and numerous examples are included. The chapter on miscellaneous mechanisms considers four-bar linkages, universal joints, escapements, and [illegible] number of other ingenious mechanisms. The author is Professor of Mechanical Engineering on the faculty of Michigan State College.

HOLOWENKO A. R.

Dynamics of machinery New York John Wiley & Sons Inc., 1955 464 p. illus. 24 cm. $7.50. 5831

Contents. Introduction. Velocities and accelerations. Relative velocities. Application of the relative velocity equation. Special methods of velocity solution. Relative accelerations. Application of the relative acceleration equation for two points on [illegible] rigid link. Acceleration equation for two coincident points. Special methods of acceleration solution. Equivalent mechanisms. Review of static forces and graphic statics. Static forces in machines. Inertia forces. Dynamic analysis. Analytic determination of accelerations in slider-crank mechanism. Flywheel analysis. Balancing rotating masses. Balancing machines. Balancing masses reciprocating in [illegible] plane. Balancing masses reciprocating in several planes. Vibrations in shafts. Gyroscopes. Index.

Note: A textbook designed for undergraduate engineering students. Its scope and the detail of the exposition reflect the increased attention now paid to dynamics in curricula on machine design. The subject is treated analytically and proofs are included. There is much emphasis on the use of free-body diagrams as [illegible] graphic approach to solution of dynamics problems. An insight into the problems of graduate machine designers working on today's high-speed machinery is afforded by discussions of the balancing of aeronautical and automotive engines and by [illegible] chapter on gyroscopic actions in high-speed engines as airplanes, automobiles, etc.

HRONES JOHN ANTHONY AND GEORGE L. NELSON

Analysis of the four bar linkage its application to the synthesis of mechanisms. New York Technology Press of the Massachusetts Institute of Technology and John Wiley & Sons, Inc., 1951 730 p. 44 cm. $22 00. 5832

Note: The 730 large-scale charts comprising this volume show the trajectories of various points on the connecting rod of [illegible] four-bar linkage as the driving crank of the linkage rotates through 360°. For each set of link ratios, there are five charts from which the displacement and velocity of points on [illegible] given linkage may be read directly. Introductory pages explain how the charts were compiled and the manner of their use. The book is of interest to mechanical engineers and machine designers.

CORNETET, WENDELL H , AND DANIEL W FOX

Applied fundamentals of machines Bloomington McKnight & McKnight, *1944* *323* p illus 25 cm. $3 00 5820

Contents (abridged): Properties of materials. Measurement. Precision instruments. Theory of machines. Pulley systems. Gears and gearing. Hydraulics. Elasticity Viscosity Surface tension. Lubrication. Solutions and emulsions. Internal combustion engines. Forces. Heat. Refrigeration. Chemistry of combustion. Petroleum.

Note. A beginner's textbook and laboratory manual suitable for use in vocational schools. The treatment is designed for students who are taking short courses in preparation for or along with, work in industry The work is well illustrated and is supplemented with questions for the student to answer and lists of related material.

CROSSLEY, F R ERSKINE

Dynamics in machines. New York The Ronald Press Company, 1954 463 p. illus. 24 cm $7 50 5821

Contents Introductory kinetics. Equations of motion. Simple harmonic motion. Balance of rotors and critical speeds. Vibrations—damped and forced. Three-dimensional rotation. Static and dynamic forces in machines (rigid) Flywheels and engine balancing. Flexible machine members in motion. Governors. Answers to selected problems. Index.

Note A college text designed for advanced undergraduate students. It is an introduction to the dynamic analysis of machines. Appropriately the presentation is mathematically simple and is related to familiar machines, for example, the V-8 internal combustion engine The author is Assistant Professor of Mechanical Engineering in Yale University

DAYTON, RUSSELL WENDT, editor

Sleeve bearing *materials A series of* educational lectures on sleeve bearing materials presented to members of the A S M during the twenty-eighth National Metal Congress and Exposition, Atlantic City Cleveland American Society for Metals, 1949 256 p. illus 23 cm. $5 00 5822

Contents Part I, The characteristics of bearing materials Fundamental considerations concerning the behavior of bearings, by R. W D yton. Some general comments on bearings, by C. E. Swartz. British thought and practice how they differ from American, by W H Tait. Discussion of paper by W H. Tait, by S. D. Heron. Part II, Specific bearing materials Newer bearing materials, by I. C. Sleight and L. W Sink. Aluminum alloy bearings—metallurgy design and service characteristics, by H. Y Hunsicker. Porous metal bearings, by A. J Langhammer. Monel Duras 100 engine bearings, by J A. Lignian. Cast bronze bushings, by L. M Long. Discussion of Satco metal, by R. J Shoemaker Discussion of wrought (or rolled) bushings and bushing materials, by H. P Croft and others. Discussion of cast bronze bearings, by J S. Toursey Part III, Bearing structures and fabrication methods Mechanical features of steel-backed bearings, by R. Cruikshaw Lubrication, by R. Cruikshaw and J Mearath. Bronze-backed bearings, by B. J Emery Electroplated bearings, by R. A. Schaefer Preparing cast iron surfaces for bonding, by J H. Shoemaker Part IV Factors involved in the application of bearings The selection of bearing materials, by A. F Underwood. Aircraft engine bearings, by J Palsulich and R. W Blair Selection of bearing materials in the electrical industry by D F Wilcock. Railroad journal bearings, by E. S. Pearce. Index.

Note The papers collected in this book are addressed to metallurgists, engineers, and other men who have a practical interest in bearings and bearing materials. Several of these are supplemented by summaries of the discussion that followed their original presentation. Six of them contain lists of related literature.

DOUGHTIE, VENTON LEVY AND WALTER H JAMES

Elements of mechanism. New York John Wiley & Sons, 1954 494 p illus 22 cm. $6 00 5823

Contents Introduction. Motion. Velocity analysis. Acceleration analysis. Linkages. Transmission of motion by direct contact. Cams. Bodies in pure rolling contact. Gears. Belts, ropes and chains. Trains. Miscellaneous mechanisms. Laboratory problems. Index.

Note. The lineage of this book goes back to Professor Peter Schwamb's anonymously issued *Notes on the elements of mechanism* (1885) The first trade edition appeared in 1904, with Professor A. L. Merrill as co-author There are three authors of the third edition (1920) Professor W A. James being the newcomer. All three are members of the faculty of Massachusetts Institute of Technology Professor Doughtie's name appeared first on the title page of the sixth edition, published in 1947 Apparently because the present book represents such an extensive revision and reorganization, it is presented as a new work rather than a new edition however It is still an introduction for engineering students to the analysis of mechanical movements. All of the common types of mechanisms are described in passing, but the emphasis is on the use of physics and mathematics in studying cams, gears, linkages etc. The "Miscellaneous" chapter covers a variety of such mechanisms as pulley blocks, jack screws, ratchet wheels and clock escapements.

DUDLEY, DARLE W

Practical gear design. *New York* McGraw Hill Book Company, Inc., 1954 335 p. illus *24* cm $7 00 *5824*

Contents Gear-design trends. Preliminary design considerations. Design formulas. Gear materials. Gear-manufacturing methods. Design of tools to make gear teeth. The kinds and causes of gear failures. Special design problems. Index.

Note A manual for such readers as engineers engaged in the design of machinery and draftsmen responsible for some mechanical designing. It provides view of the field, with special emphasis on those factors hich are most important in selecting gear types and materials and in designing gears for specific uses. All kinds of gears are described, from simple stamped gears used in toys and cheap clocks to complex marine gearing. Techniques of gear manufacturing are covered in the same inclusive way The chapter on gear failures is an important one for the nonspecialist designer Each chapter has its literature references for those readers who need more specialized information. The author is Supervisor of Gear Advance and Development Information for the General Electric Company

FAIRES, VIRGIL MORING

Design of machine elements. Third edition. New York The Macmillian Company, 1955 550 p illus. 23 cm. $10 00 5825

Contents: Stress analysis—simple stresses. Materials and their properties. Tolerances and allowances. Variable loads and stress concentrations. Screw fastenings. Thin-shell cylinders, riveted joints. Springs. Columns and power screws. Combined stresses. Shaft design. Keys and couplings. Journal and plane-surface bearings. Ball and roller bearings. Flat belts and pulleys. V-belts, chains, and wire ropes. Spur gears. Helical gears. Bevel gears. Worm gearing. Brakes and clutches. Welding. Miscellaneous problems. List of references. Index.

Note A long-established textbook for college students of engineering. The first edition was published in 1934 and the second edition in 1941 In its third edition the book is an introduction to machine design, but substantial one It teaches the basic theory and relates it to practical design. Numerous worked examples of design computations are included in the expository matter There are 403 figures, 54 tables, and nine-page list of references. The publisher makes available with the book J. G H. Thompson and V M. Faires, editors, Case studies in engineering design, third edition, January 1955 [illegible] pages, pamphlet in which 111 studies of specific problems in engineering design are briefly discussed.

GAYER JOHN D , AND PAUL H. STONE, JR.

Helical spring tables an easy to-use index of ready-designed compression and tension springs from which selections may be made with minimum calculation. New York The Industrial *Press 1955 165 p. 24 cm* $5.00. 5826

Contents Simplifying helical spring design. How the data were compiled. Instructions for using the compression spring tables. Step-by-step examples of how the tables are used. Table of life, stress, and material correction factors. Tables of compression springs ar-

MAURER, EDWARD ROSE, AND OTHERS

Mechanics for engineers statics and dynamics by Edward R. Maurer Raymond J Roark, and George W Washa. New York. John Wiley & Sons, Inc., 1945 425 p. illus. 22 cm. $4.50. 5839

Contents: Force and force systems. Composition and resolution of forces. Forces in equilibrium. Simple frameworks. Friction. Center of gravity and centroid. Cables. Rectilinear motion. Curvilinear motion of a particle. Rotation of a rigid body. Plane motion of a rigid body. D'Alembert's principle. Work, power, energy. Momentum and impulse. Three-dimensional (or mixed) motion of a rigid body. Appendix. Systems and dimensions of units. Moment of inertia and radius of gyration. Mechanical vibrations. Problems. Tables. Index.

Note: The revision of a long-established engineering college text (the last edition was published in 1931) has been recent and almost completely rewritten, as compared to the fifth edition (1928). Topics introduced for the first time are virtual work and mechanical vibrations; topics amplified or treated in a new way include dynamics, relative motion and relative motion, and d'Alembert's principle. Many new problems are introduced and answers are now furnished for most of the more difficult ones. Throughout, sentences and paragraphs have been revised and reworded for the sake of clarity. Earlier editions were entitled Technical mechanics.

PETERSON R. E.

Stress concentration design factors charts and relations useful in making strength calculations for machine parts and structural elements. New York John Wiley & Sons, Inc., 1953. 155 p. illus. 29 cm. $8.50. 5840

Contents: List of symbols. Definitions and design relations. Grooves and notches. Shoulder fillets. Hole in a plate or shaft. Miscellaneous design elements. Appendix: Stress relations for member with single groove or notch. Application of Mohr theory for fatigue of brittle materials. Derivation of relations for limited number of cycles. Derivation of combined stress relations. References.

Note: Primarily a reference book for the office libraries of engineers engaged in machine and structural design. It is devoted to the factors of stress concentration caused by holes, grooves, notches, keyways, fillets, etc., in machine parts and structural elements. The heart of the book is a series of graphs in which stress concentration factors for a variety of dimensions are presented. The information presented graphically is discussed in an accompanying text, which includes the necessary mathematical computations. The text and data contained in it are keyed to the bibliography of 174 literature citations. The author is manager of the Mechanics Department of Westinghouse Research Laboratories.

ROTHBART HAROLD A.

Cams design, dynamics, and accuracy New York. John Wiley & Sons, Inc., 1956 350 p. illus. 23 cm. $9.50. 5841

Contents: Introduction. Basic curves. Cam size determination. Cam profile determination. Additional cams and followers. Advanced curves. Polydyne cams. The dynamics of high-speed cam systems. Force analysis. Surface materials, stresses, and accuracy. Special cams and mechanisms. Appendix. Index.

Note: A broad and at the same time detailed treatise on cams and associated mechanisms, particularly followers and follower springs. The subject is covered from the viewpoint of specialists in machine design. There is considerable emphasis on the dynamics of cam systems. Often several rather than one method of attack on each problem, as the analysis of follower response are presented. Such aspects as the influence of materials and conditions of surfaces are also thoroughly explored. The chapter on special cams presents descriptions and diagrams of a number of unusual cam systems, for instance, variable-angular-velocity cams. The book is well illustrated and includes citations of related literature.

SAHAG, LEON MARK

Kinematics of machines. Revised printing. New York. The Ronald Press Company 1952. 249 p. illus. 24 cm. $4.50 5842

Contents: Fundamental conceptions. Motion in machines. Instant centers. Linear and angular velocities. Accelerations in machines. Velocity and acceleration diagrams. Cams. Rolling friction surfaces. Gears. Gears on intersecting and nonintersecting shafts. Gear trains. Flexible links. Other useful mechanisms. General instructions for drawing room problems. References. Index.

Note: A text designed for use in introductory but thorough courses offered to mechanical engineering students. The treatment takes into account the present-day demands upon the basic knowledge of machine designers due to the increasing use of complex and high-speed machinery. Problems in accelerations and velocities are solved graphically rather than by analytical mechanics. The major change in this revised printing is a thorough rewriting of the chapter on accelerations. This chapter is now 12 pages longer. The additional pages have been inserted without alteration in the page numbers in the balance of the book.

SHAW MILTON C AND E. FRED MACKS

Analysis and lubrication of bearings. New York McGraw Hill Book Company Inc., 1949 618 p. illus. 24 cm. (McGraw Hill publications in aeronautical science Jerome C. Hunsaker consulting editor) $11.00. 5843

Contents: Principal notation. Introduction. Bearing-load analysis. Dimensional analysis. Aircraft-engine bearing loads. Hydrodynamic lubrication. Dynamically loaded bearings. Journal bearings. Hydrodynamic thrust bearings. High-speed considerations. Rolling-contact bearings. Boundary considerations. Bearing evaluation. Appendix. Problems. References and selected bibliography. Index.

Note: A comprehensive technical treatise designed for use both by advanced students of engineering and practicing engineers. Instead of assuming bearings rotating at constant speeds under ideal dynamic conditions, the authors have endeavored to present an analysis of bearing conditions as they actually exist in operating machinery. The analysis of bearing loads in reciprocating aircraft engines is especially detailed. Many subtopics, such as testing machines for bearings and special kinds of lubricants, are discussed though not mentioned in the table of contents. The selected bibliography runs to nearly 430 entries and contains references to books, periodicals, and a few patents.

SHIGLEY JOSEPH EDWARD

Machine design. New York McGraw Hill Book Company Inc., 1956 523 p. illus. 24 cm. (McGraw Hill series in mechanical engineering Richard G. Folsom, consulting editor) $7 75 5844

Contents: Part 1, Fundamentals of machine design: Introduction. Stresses in machine parts. Deflection of machine parts. Materials and their properties. Principles of machine design. Part II, The design and selection of machine elements: The design of screws, fasteners, and joints. Mechanical springs. Antifriction bearings. Lubrication and journal bearings. Spur gears. Helical, worm, and bevel gears. Clutches, brakes, and couplings. Flexible machine elements. Miscellaneous machine elements. Appendix. Index.

Note: In this introductory textbook for engineering-college students, there is more than the usual emphasis on the scientific knowledge that underlies successful machine design. However, the standard elements of machines, such as are named in the chapter titles, are all included and are discussed as to their properties, uses, methods of manufacture, as well as considerations in design. A considerable range of engineering data is presented in tables. The volume has an attractive format and is well indexed.

SOCIETY OF AUTOMOTIVE ENGINEERS INC.

Manual on design and application of helical and spiral springs for ordnance. Second edition. New York Society of Automotive Engineers, Inc., 1945 38 p. illus. 28 cm. $8.00. 5845

Contents: Introduction. Fundamental considerations. Factors of importance in spring design. Spring materials and maximum design stresses. General spring tolerances. Spring design formulae. Appendix.

—— Manual on design and application of leaf springs. New York Society of Automotive Engineers, Inc., 1945 89 p. illus. 28 cm. $5.00. 5846

JEFFERSON, THEODORE BREWSTER, AND WALTER J BROOKING

Introduction to mechanical design. New York The Ronald Press Company, 1951 612 p illus 24 cm $7 00 5833

Contents Glossary Abbreviations. Machine types and their functional design. Fundamental concepts and terminology Engineering materials and their properties. Forming and fabrication in design. Bolted and riveted connections, screws. Welded fastenings and joints. The machine frame and its elements. Shafting, keys, and couplings. Bearings and lubrication. Friction gearing, brakes and clutches. Gears and flywheels. Belt, rope, and chain drives. Cams, linkages, and miscellaneous devices. Springs. Piping and containers for machines. Styling, streamlining, and finishing of machines. Standard machine elements and standardizing agencies. Appendix. Index.

Note. An outstanding textbook in which the authors have made a special effort to present the subject so that the reader will get a clear picture of actual problems and operations in the professional designing of machines. The book won the first award in the Machine Design Division of the Competitive Program for Modernized Textbooks on Design sponsored by the James F Lincoln Arc Welding Foundation. Recently developed machine elements, such as ball-bearing sleeve bearings, are covered, as well as the expected order elements. The book is exceptionally well illustrated, and there are approximately 100 tables of engineering data.

JONES, FRANKLIN DAY

Gear design simplified, a series of gear-designing charts illustrating by simple diagrams and examples the solutions of practical problems relating to spur gears straight tooth bevel gears, spiral bevel gears, helical gears for parallel shaft drives, helical (spiral) gears for angular drives, herringbone gears and worm gears. Second edition. New York The Industrial Press, 1940 139 p illus. 29 cm. $4 50 5834

Contents Gear-tooth standards. Spur gears—full depth teeth. Spur gears—stub teeth. Internal gearing. Bevel gears for right-angle drives. Bevel gears—acute and obtuse angles. Straight-tooth bevel gears—Gleason system. Spiral bevel gears—Gleason system. Bevel gears of parallel-depth type. Helical gears. Herringbone gears. Worm gearing. Gearing ratios and speeds. Power-transmitting capacity Definitions of gear terms. Checking spur gears by chordal measurement. Steels for industrial gearing. Index.

Note. A book of working rules and formulas in gear design for shop men and designers. Gear problems are presented in simple chart forms, and worked-out examples of gear design illustrate the application of rules in obtaining the essential dimensions, angles, or other values. Material new in this edition includes definitions of gear terms, table for spur gear sizes, and a discussion of steels for industrial gearing.

JONES, FRANKLIN DAY, editor

Ingenious mechanisms for designers and inventors New York The Industrial Press 1930–36 2 v illus 23 cm $6 50 per vol. 5835

Contents (abridged) : Cams and their applications. Special cam designs. Intermittent motions. Tripping or stop mechanisms. Reversing mechanisms for rotating parts. Overload relief mechanisms and automatic safeguards. Interlocking devices. Driving mechanisms for reciprocating parts. Reciprocating motions derived from cams, gears, levers, and special mechanisms. Quick-return motions for tool slides. Speed-changing mechanisms. Differential and straight line motions. Hydraulic transmissions for machine tools. Automatic feeding mechanisms and hopper design. Design of magazine loading attachments, carriers and slides. Special transmissions and over running clutches. Self-centering pivoted levers and sliding members. Multiple-lever mechanisms. Val diagrams. Index.

—— Volume III. Edited by Holbrook L. Horton New York The Industrial Press 1951 536 p illus. 24 cm $6 50 set of 3 vol. $16 00 5836

Contents Cam applications and special cam designs. Intermittent motions from gears and cams. Intermittent motions from ratchet and Geneva mechanisms. Overload, tripping, and stop mechanisms. Locking, clamping, and locating devices. Reversing mechanisms of special design. Reciprocating motions derived from cams, gears, and levers. Crank actuated reciprocating mechanisms. Variable stroke reciprocating mechanisms. Mechanisms which provide oscillating motion. Mechanisms providing combined rotary and linear motions. Speed changing mechanisms. Speed regulating mechanisms. Feed regulating, shifting, and stopping mechanisms. Automatic work feeding and transfer mechanisms. Feeding and ejecting mechanisms for power presses. Hoppers and hopper selector mechanisms for automatic machines. Miscellaneous mechanisms. Index.

Note: The first two volumes of this series have been invaluable to machine designers and inventors. The mechanisms have been selected because they are ingenious and have stood the test of practical use. The third volume contains only mechanisms that did not appear in the first two volumes, otherwise its organization and scope are identical. They are not only described but their essential and unique elements are diagrammed in line drawings.

LAUGHNER, VALLORY H , AND AUGUSTUS D HARGAN

Handbook of fastening and joining of metal parts. New York McGraw Hill Book Company, Inc., 1956 622 p. illus. 29 cm. $15 00. 5837

Contents Screw threads and pipe threads. Screws, bolts, and nuts. Locking nuts, washers, and retaining rings. Practical considerations in the design of screw fastenings. Riveting, stitching, and staking. Welding with pressure. Gas, arc, and thermit welding. Brazing and soldering. Adhesives and adhesive-bonded joints. Collars, couplings, and clutches. Keys, splines, and interference fits. Other assembly methods, integral fastenings, and specialty fasteners. Supplement. Index.

Note. A reference book of particular interest to designers of machines and other manufactured products. All kinds of joining and fastening methods and devices applicable to metal are covered, including stitching, clamps, spring clips, turnbuckles, etc., in addition to those mentioned in the chapter titles. A considerable part of the space is devoted to tabulated reference information, such as the dimensions of standard bolts. There is also good deal of descriptive text in which methods and devices are described and discussed as to characteristics, advantages and disadvantages. The "supplement" listed in the contents contains illustrations and descriptions of about 1,500 unusual though practical "ideas" for fastening and joining. The volume is well indexed.

MALEEV, VLADIMIR L , AND JAMES B HARTMAN

Machine design. Third edition. Scranton International Textbook Company, 1954 706 p illus 24 cm $8.50 5838

Contents. Part I, Stresses and materials. Introduction. Static stresses in machine parts. Dynamic stresses and stress concentrations. Engineering materials. Machine design calculations. Part II, Manufacture of machine parts. General manufacturing considerations. Design of castings. Design of weldments. Design of riveted constructions. Design of forgings. Part III, Fastenings: Screw fastenings. Keys, pins, and cotters. Press, shrink, and friction joints. Springs. Part IV Details for handling fluids: Cylinders, heads, and cover plates. Packings and seals. Part Hoisting machinery: Chains and wire ropes. Brakes. Screws for power transmission. Part VI, Power transmission machinery Shafts. Couplings and positive clutches. Friction clutches. Bearings with sliding contact. Bearings with rolling contact. Crankshafts. Flywheels. Belt drives. Chain drives. Friction gearing. Straight and helical spur gearing. Bevel gearing. Worm gearing. Screw gearing. Appendix. Index.

Note This book has been outstanding among engineering college texts in machine design since the publication of the first edition in 1939 It is introductory to the field but the exposition is carried far enough to prepare the reader for practical work. In addition to the expected exposition of principles and procedures, large amount of information of reference and semi-reference nature has been included. This third edition is the first one to bear the name of co-author In comparison to the second edition (1944) the book is 125 pages longer contains several new chapters and many revised or added sections in chapters carried over.

ating gears. Incomplete pairing. Graphic solutions. Layouts. Mating gears in contact and instantaneous motion. Relative velocities in link work. Velocity diagrams. Wrapping connectors. Direct-contact mechanism. Toothed wheels or gears. Trains of mechanism. Cams. Links.

Note: Intended as a companion volume to the author's *Machine design* (see above), this book emphasizes the fundamental theory of the subject. An elementary knowledge of trigonometry and some ability in mechanical drawing are assumed.

LUBRICATION

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on functional tests for ball bearing greases. Presented at the fifty first annual meeting, American Society for Testing Materials, Detroit, Michigan, June 23 1948 Philadelphia. American Society for Testing Materials, 1949 103 p. illus. 23 cm (Special technical publication no. 84) $1 00. 5855

Contents: Introduction, by R. C. Adams. Development of functional grease test methods for the aircraft industry by D. H. Moreton. Summary of machines for bearings, by D. F. Wilcock and E. Anderson. Laboratory performance tests for antifriction bearing greases, by M. Kelso and others. Service experience with greases, by E. T. Lessel and C. L. Pope. Factors affecting simulated service tests of greases, by S. M. Collegeman and J. R. Batt. General discussion.

Note: The papers in this symposium are written for manufacturers and users of antifriction bearing greases. Prepared by authors who represent both points of view, they describe the methods and apparatus used for evaluating and selecting lubricating greases. Discussions of the results and conclusions derived from each type of test are included.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on methods of measuring viscosity at high rates of shear Presented to the API Committee on Petroleum Products, Chicago, Ill., November 7 1949 and to Research Division VII on Flow Properties ASTM Committee D-2 on Petroleum Products and Lubricants, Washington, D C February 24 1950. Philadelphia American Society for Testing Materials, 1951 47 p. illus. 22 cm. (Special technical publication no. 111) $1.35 5856

Contents: Introduction, by J. C. Geniesse. Viscosity-shear behavior of two non-Newtonian polymer-blended oils, by M. R. Fenske and others. The Kingsbury tapered-plug viscometer for determining viscosity variations with temperature and rate of shear, by S. J. Needs. The comparison of viscosity-shear data obtained with the Kingsbury tapered plug viscometer and the PRL high shear capillary viscometer.

Note: These papers report on studies of studies which were made to determine the viscosity of special oils and lubricants under various rates of shear. Resulting data are tabulated, and the techniques and equipment employed in the tests are described in detail. Of particular interest to lubrication experts and mechanical engineers.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on synthetic lubricants. Fiftieth annual meeting, American Society for Testing Materials, Atlantic City June 16–20 1947 Philadelphia American Society for Testing Materials, 1947 33 p. illus. 23 cm. (Special technical publication no. 77) $0.50 5857

Contents: "Ucon" synthetic lubricants and hydraulic fluids, by J. M. Russ, Jr. Synthetic lubricants from diesters, by F. J. Glavis and H. R. Stringer Synthetic lubricants for military aircraft, by C. C. Singleterry

Note: The present papers, written by experts in synthetic lubricant manufacture, critically discuss the composition, properties, and uses of a number of modern organic lubricants which are not of petroleum origin. Brief reference lists are provided.

BASTIAN EARL L. H.

Metalworking lubricants their selection application and maintenance. New York Mc Graw Hill Book Company Inc., 1951 357 p. illus. 24 cm. $6 00 5858

Contents: An introduction to metalworking lubricants. Types of metalworking lubricants. Cutting fluids. Drawing fluids and compounds. Extrusion and extrusion lubricants. Mold coatings. Forging and forging lubricants. Rolling oils. Metal-coating processes. Heat-treating—quenching and tempering mediums. Machine-tool lubrication. Lubrication of press, drawbench, and forge equipment. Application of lubricants. Lubricant quality control. Lubricant test methods and specifications. Appendixes. Index.

Note: This book covers not only cutting oils but all varieties of lubricants used in metal working, as well as some material on the lubricants in the working of such nonmetallic materials as plastics. The treatment is practical, and the book is suitable for such uses as engineers in charge of metalworking processes. Compact discussions of the processes are included, along with discussions of appropriate lubricants. The text is generously illustrated, selected references are appended to the chapters, and there are numerous tables of engineering data.

BONDI ARNOLD AARON

Physical chemistry of lubricating oils. New York Reinhold Publishing Corporation 1951 380 p. 24 cm. $12 00. 5859

Contents: Pressure-volume-temperature (P-V-T) properties. Rheology. Surface phenomena. Optical and electrical properties. The hydrocarbon type analysis of lubricating oils. Phase equilibria. Reaction kinetics. Synthetic lubricants. Index.

Note: An authoritative survey of the general status of the physical chemistry of the hydrocarbons used chiefly for lubrication. The main emphasis is on the relation between chemical structure and physical properties and on the means for measuring these properties. There is also some discussion of the chemical reactions of lubricating oils and greases with such substances as oxygen and sulfuric acid, since these reactions affect the properties that are important in lubrication. The text is supplemented by much tabulated data, and each chapter is accompanied by a fairly extensive bibliography that includes patents as well as books and articles. The author is associated with the Shell Development Company

BONER, C J

Manufacture and application of lubricating greases. New York Reinhold Publishing Corporation, 1954 977 p illus. 24 cm. $18.50 5860

Contents: Introduction. Structure and theory. Additives other than structure modifiers. Raw materials. Manufacturing processes. Equipment for lubricating grease manufacture. Aluminum base lubricating greases. Barium base lubricating greases. Calcium base lubricating greases. Lithium base lubricating greases. Sodium base lubricating greases. Lead soap lubricating greases. Strontium base lubricating greases. Miscellaneous metal soaps as components of lubricating greases. Mixed base lubricating greases. Complex soap lubricating greases. Non-soap thickeners for lubricating fluids. Fillers in lubricating greases and solid lubricants. Residua and petrolatums as lubricants. Analysis of lubricating greases. Tests of lubricating greases and their significance. Application of lubricating greases. Trends in lubricating greases. Index.

Note: A comprehensive work based in large part on the literature published since 1937. It covers structure, raw materials, manufacturing processes and equipment, the various classes of lubricating greases based on the thickening agents now used, analyses and testing, methods of applying greases to machines, and a view of probable future developments. Most of the space is devoted to aspects of the field which are primarily of interest to manufacturers of lubricating greases. The group of 11 chapters which begins with the chapter on raw materials accounts for 471 of the book's pages. However these chapters do contain some information potentially useful to engi-

Contents General data. Nomenclature and specifications. Design elements. Design calculations. Interleaf friction. Materials. Flat springs.

—— Manual on design and manufacture of torsion bar springs. New York Society of Automotive Engineers, Inc., 1947 30 p illus. 28 cm $4 00 5847

Contents Introduction. Design calculations. Design of end fastening. Processing.

—— Manual on design and manufacture of volute springs. New York Society of Automotive Engineers, Inc., 1945 25 p illus. 28 cm $3 00 5848

Contents Introduction. Manufacture. Design. Supplement.

Note. Each of the above manuals presents basic data and formulas which are of value to engineers and machinists concerned with the design, construction, and uses of various types of springs.

SPOTTS, M F

Design of machine elements. Second edition Englewood Cliffs, N J Prentice-Hall, Inc., 1953 504 p illus. 23 cm. $8 00 5849

Contents Fundamental principles. Working stresses. Shafting. Springs. Screws. Belts, clutches, brakes. Welded and riveted connections. Lubrication. Ball and roller bearings. Spur gears. Bevel, worm and helical gears. Miscellaneous machine elements. Dimensioning and details. Engineering materials. Index.

Note. A successful text designed primarily for use by advanced undergraduate college students of mechanical engineering. It is introductory to the subject of machine design. However the treatment is mature enough to make the book useful to graduate engineers who are not specialists in machine design but occasionally need information on some problem in it. Emphasis is placed on the fundamental principles pertaining to the design of separate machine elements rather than on complete machines. Useful data regarding stress factors, coefficients of friction, and standard dimensions, etc., are tabulated throughout the book. Many illustrative examples of problems in design with their solutions are included in the expository text and review problems for students are included also. The first edition was published in 1948. In the second edition, the length of the book has been increased by 100 pages. Changes included the rewriting of several chapters and the revision and augmentation of sections of others. Again, fairly extensive bibliographies are included.

STEWART, HARRY L

Hydraulic and pneumatic power for production, how air and oil equipment can be applied to the manual and automatic operation of production machinery of all types with numerous existing installations explained in step-by step circuit analysis By Harry L. Stewart, assisted by Floyd D Jefferis. New York Industrial Press 1955 406 p illus 24 cm $8 50 5850

Contents The evolution of fluid power Hydraulic fluids. The hydraulic power unit. Hydraulic accumulators. Fluid power lines. Hydraulic valves and their functions. Hydraulic cylinders, intensifiers, and motors. Heat exchangers for hydraulic systems. Synchronizing the movement of fluid power rams. Dual pressure hydraulic systems. Safety controls for hydraulic circuits. Sequencing of hydraulic cylinder motion. Packings and seals. Air filters, lubricators, and regulators. Pneumatic controls. Air cylinders and their design. Power-operated holding devices. Pneumatic safety circuits. Remote control pneumatic systems. Combination of fluids in single system. Index.

Note A practical book addressed to engineers and high-level technicians who are concerned with the application, selection and/or maintenance of fluid power transmission systems. Both air and oil systems are covered, but the latter type is given most of the space because of its greater adaptability The principles of systems and the principles and mechanical details of system elements are well explained. A wide variety of applications is illustrated. Specialized maintenance operations, such as the replacements of packings, are described explicitly

TAYLOR, FRANK A.

Catalog of the mechanical collections of the Division of Engineering, United States National Museum. Washington D C. The Smithsonian Institution, 1939 203 p. illus. 23 cm. (Smithsonian Institution. United States National Museum Bulletin no. 173) Gratis. 5851

Contents Introduction. Mechanical elements. Animal power. Power from the wind. Water power. The steam engine. Rotary steam engines. Steam-engine valves and valve gears. Inventions of George H. Corliss. Engine governors. Condensers. Engine indicators. Miscellaneous steam-engine accessories. Air and hydraulic engines. Mechanical transmission of power Steam boilers, accessories and burners. Boiler feed-water pumps and injectors. Steam pumps. Fire engines. Miscellaneous pumps. Internal-combustion engines. Carburetors. Internal-combustion engine accessories. Caloric or hot-air engines. Air-and-steam ("aerator") engines. Refrigerating machines. Selected bibliography Index.

Note A descriptive catalogue of the mechanical devices and inventions, roughly designated as prime movers with their accessories and auxiliaries, which are in the collections of the United States National Museum. Each object is briefly described. Patent Office models include date of submission and application of patent, purpose of the design, actual functioning, and, in some instances, a short historical note on the later commercial development of the device. Many of the objects are illustrated in photographs, and there are 74 bibliographic entries.

VALLANCE, ALEX., AND VENTON LEVY DOUGHTIE

Design of machine members. Third edition. New York McGraw Hill Book Company, Inc., 1951 500 p 24 cm $7 75 5852

Contents. Introduction. Engineering materials. Stresses in elementary machine members. Design stresses and factor of safety Cylinders, pipes, and tubes. Metal fits and tolerances. Flat plates and cylinder heads. Riveted joints. Welded joints. Threaded fasteners and power screws. Keys, cotters, and knuckle joints. Shafts. Sliding bearings. Roller and ball bearings. Couplings and clutches. Brakes. Springs. Spur gears. Bevel and screw gears. Belts and belt conveyors. Rope drives. Hoisting and power chains. Miscellaneous machine members. Index.

Note. A standard engineering college textbook. The discussions of some topics are full enough to make it useful also to men out of college who are not professional machine designers but who must occasionally design a machine part. The present edition is 59 pages shorter than the preceding edition. This change has been accomplished chiefly by resetting the type so that the typical page contains more matter New material has been added on such topics as stresses, riveted joints, threaded fasteners, and gears.

WINSTON, STANTON EDWIN

Machine design. A text presenting those fundamentals of theory and analysis which are basic to the field of machine design. Chicago American Technical Society, 1939 333 p. illus. 21 cm $3 95 5853

Contents Simple and compound stresses. Bolts and screws. Cylinders and riveted joints. Shafting and keys. Couplings and clutches. Wrapping connectors and their pulleys, sheaves or sprockets. Friction drives and spur and bevel gears. Miscellaneous details of design. Index.

Note Fundamentals of theory and analysis basic to the field of machine design are treated in this text for beginners. The calculus is not resorted to, as several rational formulas are included for which no derivations are given. Practical examples are furnished with detailed solutions.

WINSTON, STANTON EDWIN

Mechanism fundamental theory of the modification and transmission of motion. Chicago American Technical Society 1941 372 p. illus. 21 cm $4 25 5854

Contents. Mechanism. Machines. Frame. Constrained motion. Turning and Links. Driver and follower Higher and lower pairing.

[illegible] of symbols, etc., but also the visualization of the object represented by the drawing on the blueprint. It is fully illustrated, and the illustrations include some reproductions of blueprints [illegible] their usual color and size. The first edition was published [illegible] 1941 and the second in 1944. The new step-by-step method helps the student to visualize from [illegible] blueprint is one of the features of this third edition.

INTERNATIONAL BUSINESS MACHINES CORPORATION

Blueprint reading. Prepared by the Department of Education, International Business Machines Corporation. Syracuse Syracuse University Press, 1946. 81 p. illus. 29 cm. $4.75. 5867

Contents: Making the blueprint. Learning the language of blueprint reading. Visualizing the object. Using fractions and decimals. Engraving [illegible]. Blueprint reading procedure. Sectioning. Lines, arcs and circles. Using standards. Practicing blueprint reading. Reading assembly blueprints. Abbreviations. Table of decimal equivalents.

Note: A textbook specifically designed for the instruction of [illegible] and others whose work involves the reading of blueprints. In other words, its purpose is the instruction of technicians and [illegible] rather than engineers. The volume is thoroughly illustrated, and the illustration section includes numerous reproductions of actual blueprints. Accompanying the blueprints in some [illegible] is [illegible] reproduction of [illegible] photograph of the actual article [illegible] on the blueprint. The book was developed and tested [illegible] the training program of the International Business Machines Corporation.

SPENCER, HENRY CECIL, AND HIRAM E. GRANT

The blueprint language of the machine industries. New York The Macmillan Company 1947 255 p. illus. 29 cm. $5.50 5868

Contents: [illegible] prints. Views of objects. Normal surfaces and edges. Inclined and oblique surfaces and edges. Cylindrical surfaces and edges. Sectional views. Auxiliary views. Screw threads and fasteners. Dimensioning. Shop processes. Reading micrometer calipers and height gages. Fine-angle drawings. Right-hand and left-hand drawings. Welding representation. Gears. Commercial blueprints. Appendix. Index.

Note: The primary purpose of this book is to provide basic training in blueprint reading for industrial operators of machine tools. The volume [illegible] directly [illegible] practical use, containing [illegible] of [illegible] and [illegible] of text, with emphasis on development of the student's ability to visualize objects in three dimensions. The book is [illegible] loose-leaf form and is suitable for both self-instruction and class-instruction purposes. Review problems are attached to each chapter.

UNITED STATES. DEPARTMENT OF THE NAVY BUREAU OF NAVAL PERSONNEL

Blueprint reading and sketching. Washington, D. C. Government Printing Office, 1956 275 p. illus. 20 cm. (Navy training courses. Navpers 10077 A) $1.00. 5869

Contents: Making and handling blueprints. Blueprint views. Lines and sections. Dimensions. Title blocks, numbers, and bills of material. Technical sketching. Curve or bend allowance. Templates. Electrical and electronic blueprints. Mechanical and piping symbols. Welding symbols. Architectural and structural drawings. Appendix. [illegible] to [illegible]. Standard abbreviations. Fractions and decimal equivalents. Index.

Note: One of [illegible] series of basic Navy training courses, this book is designed for the instruction of enlisted men whose duties require knowledge of blueprint reading and sketching. Beginning with [illegible] general discussion of the uses and kinds of blueprints, the text explains the terms used in blueprinting. Technical sketching is described and illustrated, and ways are suggested for the production of correct and effective sketches. The sections on wiring and schematic diagrams are extensive, in order to meet current demands in electric and electronic equipment engineering.

WEIR JOHN J

Blueprint reading for the machine trades. New York McGraw Hill Book Company Inc. 1941 82 p. illus. 28 cm. $3 96 5870

Contents: Blueprint reading. More complicated objects. Cylinders, curves, and combinations. Measurements. Dimensions. Titles and notes. Sections. Threads. Detail and assembly prints. Machine operations and finishes. Screws, rivets, keys, keyways, and pins. Fits, limits, tolerances, and allowances. Auxiliary views. Gears and gearing. Reading commercial prints.

Note: An elementary text offering [illegible] complete course in blueprint reading as applied to the machine trades. Gives step-by-step instruction in principles and methods and practical problems of the type constantly encountered in shop and industry

TOOLS

AMERICAN SOCIETY OF TOOL ENGINEERS

Tool engineers handbook a reference book on all phases of planning control design tooling and operations in the mechanical manufacturing industries. Frank W Wilson, editor in-chief. New York McGraw Hill Book Company Inc. 1949 2 070 p. illus. 23 cm. $15.00 5871

Contents (abridged): Tool engineering economics. Production analysis and cost estimating. Job planning and control. Quality planning and control. Time study and rate setting. Plant layout. Identifying codes and numbering systems. Drafting-room standards and practices. General structure and properties of metals. Heat-treating and hardening. Principles of metal cutting and machinability. Properties and workability of woods. Properties and workability of plastics. Sand casting. Metal mold casting. Plaster casting. Investment casting. Powder metallurgy. Extrusion of metals. Single-spindle automatic lathes. Single-spindle automatic screw machines. Multiple-spindle automatic bar and chucking machines. Vertical boring mills and turret lathes. Planing, shaping and slotting. Gear milling and hobbing. Thread grinding. Hobbing. Power broaching. Circular-saw friction cutting. Grinding. Superfinishing. Press-brake bending. Metal spinning. Rotary swaging. Drop, machine, and press forging. Press-working of metals. Oxygen (flame) cutting. Resistance welding. Assembly methods for bolts, screws, and rivets. Wire stripping and stitching. Gluing. High-frequency dielectric heating. Plastic joining of materials. Shot peening. Static and dynamic balancing. Allowances and tolerances for cylindrical fits. Inspection equipment and methods. Non-destructive testing and inspection. Master tooling. Limited production tooling. Hydraulic equipment. Pneumatic equipment. Electronic drives and controls. Ball and roller bearings. Springs. Mathematics. Reference tables. Index.

Note: An encyclopedic compendium of information useful in tool engineering. Because tool engineering touches upon most of the processes employed in the forming of metals and other materials, the book is also virtually an encyclopedia of machine shop techniques. There are 113 sections, each one the work of an outstanding authority. The sections are signed and, furthermore, the names of the specialists who reviewed each section is given. The book is generously illustrated. There is an exceptionally detailed index. Various parts of the book have been issued separately by the same publisher.

AMERICAN SOCIETY OF TOOL ENGINEERS ASTE NATIONAL BOOK COMMITTEE

Die design handbook a practical reference book on process analysis product design, metal movements, materials and proved die designs for every class of sheet metal press-working. Francis J Sehn, chairman. New York McGraw Hill Book Company Inc., 1955 732 p. illus. 24 cm. $14.50 5872

Contents: Pressworking terminology. Stampings design. Process planning for presswork tooling. Shear action in metal cutting. Cutting dies. Bending of metals. Bending dies. Metal movement in forming. Forming dies. Displacement of metal in drawing. Draw dies. Dies for large and irregular-shaped stampings. Rubber-pad and hydraulic-action dies. Compound dies. Progressive dies. Com-

neers, purchasing agents, and technicians who are interested in lubricating greases from the standpoint of use, and the terminal chapters on analysis testing and application are primarily for users. Extensive bibliographies to which important textual statements are keyed are a valuable feature.

BREWER, ALLEN F

Basic lubrication practice. New York Reinhold Publishing Corporation, 1955 286 p illus. 24 cm. $7 50 5861

Contents. The operating conditions affecting lubrication. Physical tests of petroleum lubricants and their significance. Plain or sleeve-type bearings and cams. Bearing materials. Ball and roller bearings. Thrust bearings. Gears. Chains. Wire rope lubrication Flexible couplings. Methods of sealing. Automatic lubrication. Rust preventive lubricants. Steam turbine service. Steam cylinder lubrication. Internal combustion engine oils. Power plant auxiliaries. The electric motor. Air compressors and pneumatic tools. Refrigeration compressor lubrication. Hydraulic power Careful storage and handling prevents contamination. Lubricating oil reconditioning. Nonpetroleum lubricants. Subject index.

Note In this book, the lubrication of machinery used in industry is treated from the viewpoint of plant engineers and supervising operating personnel. Theory is not covered, but the book is more than a manual of practice. Reasons behind practices are explored at some length, as for instance in the 18 pages on how gears wear Considerable information on the testing of lubricants, on their care in handling and storage and on their reconditioning is included. The reference lists include not only regularly published books and articles but also selections of manufacturers literature.

FORBES, WILLIAM GORDON

Lubrication of industrial and marine machinery Second edition Revised by C L Pope and W T Everitt. New York John Wiley & Sons, 1954 351 p illus. 24 cm $7 00 5862

Contents Chemistry of petroleum. Distillation. Distillation of lubricating oils. Refining light distillates and lubricating oils. Fatty oils. Blending. Solid lubricants. Additives for lubricants. Physical tests. Functional tests. Greases. Synthetic lubricants. Specifications. Bearing lubrication and the formation of oil films. Ball and roller bearings. Methods for applying lubricants. Oil purification and reclaiming. Machine storage and shipment. Steam engines. Steam turbines. Hydraulic turbines. Hydraulic systems and fluid couplings. Air compressors and vacuum pumps. Pneumatic tools. Refrigerating machines. Reduction gears. Internal-combustion engines. Gasoline engines. Internal-combustion engine lubricating oil. Heat treating oils. Cutting oils. Lubrication of equipment. Lubrication engineering. Appendix. Index.

Note. A standard text designed to aid mechanical engineers and other technicians in understanding lubrication and in selecting and testing lubricants. The initial chapters describe the methods of preparation and characteristics of oils and greases, and their behavior under various operating conditions. Part two discusses the application of these lubricants to meet the needs of specific types of machines. In this second edition the original material has been revised and rearranged to incorporate recent developments in the field. New chapters on fatty oils and solid lubricants have been added, and such topics as additives and cutting oils are discussed at greater length

FULLER DUDLEY D

Theory and practice of lubrication for engineers. New York John Wiley & Sons Inc 1956 432 p illus. 24 cm $10 50 5863

Contents Fundamentals of viscosity and flow Viscosity and its variables. Hydrostatic lubrication. Hydrostatic squeeze films. Hydrodynamic lubrication. Hydrodynamic lubrication of journal bearings. Friction and power losses in journal bearings. Some typical industrial bearings. Air-lubricated bearings. Dry friction. Boundary friction. Bearing materials. Index

Note Although it has strong practical bias, the presentation of theory is an important feature of this new text on lubrication The equation for flow of a viscous liquid through wide rectangular slot is derived in the first chapter and is used repeatedly throughout the rest of the book. The reader is shown how to apply the concepts and methods of hydrodynamic analysis to lubrication problems. Applications of the basic ideas and equations to such problems as the analysis of friction and power losses in bearings is illustrated specifically with a number of worked examples supplementing the discussions. Considerable space is given to such practical matters as the deformation of bearing shells under conditions of machine operation. Several types of bearings important in industrial machines are analyzed, but the author does not attempt to cover all types. For example, there is little discussion of ballbearings. Extensive bibliographies are feature. The author is Professor of Mechanical Engineering in Columbia University and the book is designed for use as text for advanced engineering students. It is potentially of interest also to graduate engineers.

HOBSON, PAUL D

Industrial lubrication practice. New York Industrial Press, 1955 555 p. illus. 24 cm. $8 00 5864

Contents: Principles of lubrication. Running in new bearings. Types of lubricants and their use. Physical and chemical characteristics of lubricants. Methods of lubricant supply Plain bearings. Anti-friction bearings. Organization of lubrication department. Storage and handling of lubricants. The purification and reclamation of oil. Hydraulic systems and equipment. Electric motors and generators. Two-stroke gasoline engines. Four-stroke gasoline engines. Diesel engines. Compressors. Refrigeration equipment. Pneumatic tools. Reciprocating steam engines. Steam turbines. Metal forming machines. Metal cutting machines. Cutting fluids. Gears for power transmission. Chains, ropes, belts, and couplings. Storage preservation of machinery Appendix. Glossary Index.

Note. A practical rather than theoretical treatment, this book is potentially of interest to engineers in many fields of machine design, operation and maintenance. It describes in simple terms the lubrication requirement and problems of the kinds of bearings used in industrial machinery and particular classes of machines. There is also much related material of interest in machine design. The chapter of anti-friction bearings—to take an example—contains discussions of not only the lubrication of ball roller and needle bearings but also describes their mounting, enclosures and seals. A number of diagrams showing the principles of such things as labyrinth enclosures to retain lubricants are included. Chapters on cutting fluids and on the storage of machinery—which also involve the use of oils and greases—are included, even though in such applications the oils and greases are not used primarily as lubricants. There is a detailed index but there are no references to other literature.

SLAYMAKER, R. R.

Bearing lubrication analysis. New York John Wiley & Sons, Inc., 1955 108 p. illus. 24 cm. $5 00 5865

Contents Introduction. Viscosity and other properties of oil. Hydrodynamic journal bearings—load-carrying capacity Friction torque. Oil flow and temperature rise. Examples of sleeve bearing design. Bearing materials, construction and life. Boundary conditions, the coefficient of friction, and oilless bearings. Index.

Note. An introductory work addressed primarily to engineering college students who are preparing for work in machine design. It is limited to sleeve bearings that is to say such types as ball and roller bearings are not considered. There are two chapters on hydrodynamic journal bearings subdivided as indicated above. These are the analytical core of the book, and they are supplemented by concrete examples of bearing design, discussion of bearing materials and a final chapter on the special case of oilless bearings.

BLUEPRINT READING

IHNE, RUSSEL W, AND WALTER E. STREETER

Machine trades blueprint reading Third edition. Chicago American Technical Society 1956 172 p. illus. 28 cm. $3 50 5866

Contents. Blueprints—from design to product. From blueprint to visualization. Understanding the various lines. Reading the working drawing. Understanding supplementary information. Using special views and assembly drawings. Reading industrial blueprints. Appendix. Glossary of common machine trade terms. List of common abbreviations. Decimal equivalent chart. Problems in shop arithmetic.

Note A standard, elementary text used in vocational and trade schools for the instruction of young men who are preparing to become machinists. It teaches not only the reading of dimensions,

Beary portions. Principles of dimensioning. Determination of the sequences and conditions of process. Determining the ... of ... process. Determining the sequence of operations of process. Principles of locating. Tool design. Clamping principles. ... analysis. Index.

Note: One of the essential preliminary steps in the manufacture of any metal product is "tooling up." If the article is to be manufactured economically in commercial quantities, not only must it be designed that it can be produced without waste of material and labor, but special tools—such things as fixtures, jigs and dies—must be designed and made so as to render rapid and accurate manufacturing possible. This book provides an over-all introductory view of the problems and methods of these operations. There is no attempt to show how the special tools are made by the tool maker. The book will be useful to students preparing for tool engineering, ... and tool engineers, and machinists who wish to gain ... into tool engineering. It is suitable either for classroom or home study.

GILL, JAMES PRESLEY AND OTHERS

Tool steels, by J P Gill, R. S. Rose G A. Roberts, H. G. Johnstin and R. B George. Cleveland. American Society for Metals, 1944. 577 p. illus. 23 cm. $7.50. 5880

Contents (abridged): Manufacture of tool steel. Classification of tool steels. Testing of tool steels. General properties and selection of tool steels. General principles of heat treatment of tool steels. Purpose and effect of alloying elements on tool steels. Carbon, chromium and silicon tool steels. Tungsten finishing steels. Chromium die steels for cold work. Die steels for hot work. High speed steels.

Note: Intended for the users of tool steels rather than the metallurgist, the work offers theoretical and practical information concerning the more commonly manufactured tool steels. There is an extensive bibliography and an index.

GIESES GERHARD J

Tool engineers data book. New York Reinhold Publishing Corporation, 1953 219 p. illus. 24 cm. $6.50. 5881

Contents: Standard specifications. Physical constants of metals and alloys. Chemical properties of metals and alloys. Mechanical properties of metals and alloys. General properties of special alloys. General properties of plastics. Weights of metals and alloys. Heat treatment of metals and alloys. Rapid identification of metals and alloys—of plastics. Working properties of metals and alloys. Operational tables. Standard formulas. Conversion tables. Mathematical tables. Definitions of metallurgical terms. Index.

Note: A handy compilation of specifications, formulas, constants and other technical data required by machinists and tool designers. The information relates primarily to the properties and utilization of metals and plastics, but selected mathematical tables and conversion factors are included. Since the book is designed for use as a quick reference tool, theoretical discussions and explanatory paragraphs are lacking almost entirely. The exceptions to this policy occur in the cases of definitions and of methods for identifying metals and plastics.

GWIAZDOWSKI, ALEXANDER PETER

Tool engineering. Appleton, Wis. C C Nelson Publishing Company 1951 306 p. illus. 24 cm. $6.00. 5882

Contents: The engineer—creator of abundance. Industrial organization. Limits, tolerances, and allowances. Measuring and gaging. Precision used in tool design. Grinding and lapping process. Milling process and fixtures. Work-holding fixtures. General rules for the design of jigs and fixtures. The broaching process. The drilling process. The reaming and tapping processes. The extrusion of metals. The stamping process. Cost calculations and shop drawings of gears. Cutting tools. High-speed and commercial tool steels. Heat treatment of ferrous alloys. Jigs and fixtures made by welding process. Jig boring and ... methods. Review questions and suggestions. References for further reading. Names and addresses of manufacturers who supplied illustrations. Index.

Note: An introductory textbook for engineering students, especially students who are preparing for careers in the manufacturing of interchangeable parts. The design of tools for the manufacture of particular parts—a connecting rod cap for an internal combustion engine—is used as ... thread on which to string the exposition. However, the student is introduced to ... wide range of topics which are of concern to the tool engineer. Many illustrations of modern machine tools are included. The author, now deceased, is Professor of Industrial Engineering in Tri-State College.

HINE CHARLES R.

Machine tools for engineers. New York McGraw Hill Book Company Inc., 1950 355 p. illus. 23 cm. $6 00 5883

Contents: The engineer and the machine tool. Cutting tools. Measurement. The lathe. Threads and threading. Hole making and the drill press. The shaper. The planer. The milling machine. Broaching. Abrasives and grinding. Microfinishing. Boring machines. Gear making. Jig boring. Sawing. Turret lathes. Appendix. Index.

Note. An introductory work designed primarily for students of engineering. It describes the major machine tools, their principles of operations, uses, and limitations. Certain operations and processes such as measuring and superfinishing are described in conjunction with the discussion of the instruments or the machines used in the operations. Numerous reproductions of photographs of present day machine tools are included. The material is presented from the engineer's rather than the machine tool operator's viewpoint.

HINMAN CHAUNCEY WEED

Die engineering layouts and formulas, a reference book illustrating and describing the key designs of punches and dies based on precept and formulas. New York McGraw Hill Book Company Inc., 1943 497 p. illus. 23 cm. $7 50 5884

Contents. Sheet metal economy in the pressroom. Types of blanking dies. Progressive dies. Bending and forming dies. "Cut-and-carry" progressive dies. Laying out dies in consecutive order. Perforating and piercing. Methods of feeding. Drawing shells. Calculating shell blank sizes. Fabricating aircraft parts. Hydrostatic dies. Forging, coining, swaging, extruding. Welding. Miscellaneous pressroom equipment and materials. Tables and charts.

Note. A practical guide and reference for the tool engineer explaining the basic mechanical principle of assembled die designs and describing clearly their attendant operating details. The book includes all the necessary mathematical formulas for laying out the assembled dies in clearly rendered drafting technique. Nearly 400 drawings and photographs are shown representing about 90 per cent of the key designs used in tools for presswork.

HINMAN CHAUNCEY WEED

Practical designs for drilling, milling and tapping tools an illustrated reference book for designing drafting and using modern types of drilling milling and tapping tools. Second edition. New York McGraw Hill Book Company Inc., 1946 416 p. illus. 23 cm. $7.50. 5885

Contents: Drafting and designing. Fundamental types of drill jigs. Typical drill jigs and accessories. Work clamps and supports for drilling or milling. Centralization and equalization of work. Locking work with cams and keys. Commercial jigs and fixtures. Special vise jaws for milling. Clamps and supports for milling. Milling fixtures. Fixtures and methods for tapping. T bit drills and milling cutters. Special and standard machine operations. Shop mathematics. Speeds, feeds, lubricants, and coolants. Tool engineering tables. Correlated list of visual aids. Index.

Note: A useful book for practical tool designers and also for operators of machine tools. The second edition is greatly improved over the first edition (1938). The amount of textual material has been more than doubled, and many new illustrations have been added. A number of the photographs show details of recently developed American tools.

JEFFRIES WILLIAM R.

Tool design. New York Prentice-Hall, Inc., 1955 217 p. illus. 22 cm. $4 00 5886

Contents. Introduction. Drill jigs. Mill fixtures. Lathe fixtures. Weld fixtures. Tool masters. Sheet metal presswork. Cutting tools. Locating—clamping. Design of product for economical production.

pound and combination dies. Miscellaneous dies. Die sets and maintenance. Pressworking lubricants. Safety in pressworking. Press data. Ferrous die materials. Nonferrous and nonmetallic die materials. Ferrous stamping materials. Nonferrous stamping materials. Index.

Note. A well-sponsored reference book intended for everyday use by experienced die-makers. Essentially it is a handbook of successful die designs. Dies are considered from the viewpoint of type or purpose. Most of the sections devoted to a type of die are further subdivided so that related sub-types or species are all discussed within the space of a few pages. For example the section on cutting dies is subdivided under such subheads as "Piercing and perforating dies," "Horn-type cutting dies," "Blanking dies," "Dinking dies," "Trim dies," etc. The discussion of each species of die is compact, and in many instances more space is given to reproductions of drawings of proved dies than to textual descriptions. The sections on die types are supplemented by sections on general considerations, such as terminology, metal movement, lubricants and safety. The sections include selected list of references and there is a good general index.

BAKER, WARREN, AND JOSEPH S KOZACKA

Carbide cutting tools, how to make and use them. Chicago American Technical Society 1949 416 p illus 22 cm $6 00 5873

Contents: Machine tools and the carbides. Converting to carbides. Tool angles, machinability. Tipping a carbide tool. Grinding single-point tools. Cutting power speeds, feeds. Carbide tool design. Coolants and carbide tools. Carbide forming tools. Carbide milling cutters. Sharpening milling cutters. Multiple-edge carbide tools. Cutting speeds, feeds, forces. Multiple-edge tool design. Selection of a carbide. Tool materials, assembly. Grinding and use of tools. Index.

Note An impressive compendium of information on carbide cutting tools. It was written for use as text in vocational schools, and as self instruction book by practicing machinists and tool designers. It provides an inclusive treatment of the subject from the practical viewpoint. The educational value of the text is increased by very liberal number of illustrations, which show tools and machining operations, and by numerous tables of reference data. Review questions and helpful lists of references are appended to the chapters.

BENSON, ELMER B

Elementary tool design Peoria Chas. A Bennett Company, Inc , 1954 224 p. illus 26 cm $4 76 5874

Contents. Introduction. Shop practice. Related subjects. Specifying material and its treatment. Tool design interpretation. Tool design details. The tool assembly drawing. Clamping. The drill jig. The fixture. Continuous milling. Fixed gages. Cutting die classification. Cutting die design. Forming die classification. Forming die design. Multiple operation dies. Associated subjects. Appendix. Index

Note An introductory text for students who have completed courses in mechanical drawing and general machine shop practice. It is written at the vocational-school level and from the viewpoint of students who will be practically concerned with the design of such tools as jigs, fixtures, and dies. The practical fundamentals of the field are covered, but it is obvious that the author expects his readers to turn to other books for much essential information. A "List of references for further study" is included in each chapter The book is generously illustrated.

BRYANT, LELAND ADAM, AND T A DICKINSON

Jigs and fixtures for mass production. New York Pitman Publishing Corporation, 1947 222 p illus 23 cm $4 20 5875

Contents The need for jigs and fixtures. Tooling procedures. Designing jigs and fixtures. Types of jigs and fixtures. Master tools. Master tooling dock. Construction of jigs and fixtures. Pneumatic and hydraulic mechanisms. Plastics. Miscellaneous jigs and fixtures. Glossary Appendix. Index.

Note A reference work for production engineers and machinists. In addition to describing typical jigs and fixtures and their uses, the authors trace the history of these devices and indicate their importance to industry as a whole as well as to the individual shop The appendix tabulates useful shop data such as wire gage dimensions, drill sizes, etc.

COLE, CHARLES BRADFORD

Tool design fundamental principles of design as applied to tooling for production. Chicago American Technical Society, 1941 498 p. illus. 21 cm. $5 00 5876

Contents Practice and procedure. Materials. Jig, fixture and tool design standards. Commercial standards. Cutting tools. Tooling for production. Drill jigs. Fixtures. Dies. Gages. Appendix. Common abbreviations for the tool designer symbols for welds, American and National screw threads, terminology relating to threads, screw-thread fits. Index.

Note This text on tool making stresses design of fixtures and tools rather than the method of making them. The style is simple and direct. Questions at the end of chapters make the book valuable for home study or school work.

COLVIN, FRED HERBERT, AND LUCIAN L. HAAS

Jigs and fixtures a reference book showing many types of jigs and fixtures in actual use, and suggestions for various cases. Fifth edition New York McGraw Hill Book Company, Inc., 1948 410 p illus. 23 cm. $6.00. 5877

Contents. Introduction. Section I, Standardizing fixture design Designing jigs and fixtures. Advantages of tool-design standards. Details of fixture design. Welded, cast-iron, and light metal fixtures. Section II, Details in fixture design Locating schemes for drill jigs and fixtures. Machine vises and vise jaws. Clamps and clamping methods. Section III, Accuracy in drilled holes. Drilling jigs and fixtures. Drill-jig bushings. Types of drill jigs and fixtures. Pneumatic fixtures for holding work. Section IV Methods for production milling Milling fixtures. Grinding-machine fixtures. Section V Handling large subassemblies: Welding and assembling fixtures. Section VI, Inspection and toolroom systems: Fixtures for inspecting work. System in the toolroom. Index.

Note. In the manufacturing industries the efficient use of properly designed machine fixtures is an important factor in reducing the cost of producing an article. This volume, through the use of numerous practical illustrations, provides the tool design and construction, and offers suggestions and data on reducing the costs of new fixtures. In this edition the material has been rearranged, the wartime supplement of the fourth edition, dealing with welding and assembly fixtures, has been enlarged and incorporated as new chapters and new data regarding drill jig bushings and fixtures for large assemblies have been added.

DONALDSON, CYRIL, AND GEORGE H. LE CAIN

Tool design New York McGraw Hill Book Company Inc 1943 443 p. illus. 24 cm 5878

Contents Drafting room practice. Manufacturing processes as they affect the designer Properties of materials. Tolerances and allowances. Springs. Welding Cutting tools. Punch and die design. Gage and gage design. Elementary jigs and fixtures. Practical design of jigs and fixtures. Construction of Brown and Sharpe automatic screw machine. Tools used on Brown and Sharpe automatic screw machine. Cam design. Turret lathes. Index.

Note This is practical work for both students and experienced workers in the tool designing, tool engineering, tool making and drafting fields, intended to meet specific problems in industry Concise but practical units deal with manufacturing processes, materials, and welding. It is illustrated with 534 line drawings and halftones. A second edition was published in 1957 560 p., $6.75.

DOYLE LAWRENCE EDWARD

Tool engineering analysis and procedure. New York Prentice-Hall Inc., 1950. 499 p. illus 22 cm $9.35 5879

Contents The nature and scope of tool engineering. Principles of economics. Problems of economy Planning and tooling for economy Principles of estimating. Short cuts and variations in estimating. Manufacturing principles applicable [illegible] process and tool planning

WAGENER, ALBERT M., AND HARLAN R. ARTHUR

Hand tools. New York D Van Nostrand Company Inc., 1943 174 p. illus. 21 cm. $2.56 5893

Contents Rules and scales. Dividers and calipers. Combination squares and try squares. Miscellaneous small-precision tools. Precision gages. Specialized precision tools. Indicators. Lead screws, hammers, and marking tools. Turning and gripping tools. Tools for laying work at the bench. Miscellaneous holding aids. Tools of machinists. Hand-forming tools. Machine cutters and tool holders. Miscellaneous tools. Types of fasteners.

Note The volume covers in detail the many hand tools found in the machine shop of the large factory. The use of each tool is explained, with many photographs that show how it is held and manipulated. These illustrations and directions have been prepared to instruct the novice, but, at the same time, they are sufficiently detailed to serve the special needs of the experienced mechanic and home craftsman.

WALKER, JAMES, AND CARL C. TAYLOR

Simplified punch and diemaking. New York. The Macmillan Company 1946 235 p. illus. 22 cm. $5.00. 5894

Contents Introduction. Plain round blanking die. Typical blanking die. Emergency dies. Sectional blanking dies. Compound blank and pierce dies. Multiple blanking dies. Progressive dies. Punching and trimming dies. Bending and forming dies. Drawing dies. A manufacturing problem and its solution. Machine equipment. Summary. Reference. Index.

Note Dies for cutting sheet metal and dies for changing the shape of sheet metal by bending, forming, and drawing are covered in the book. Besides the descriptions of various die constructions and types, the reader is told about the layout and design, die materials and treatment, and the machine tools, including the Keller machine, such as used in die making. Many well-chosen photographs, showing all phases of diemaking, are included. The work is intended for both experienced and beginning machinists, tool and diemakers, industrial workers, and product designers.

MACHINE SHOP PRACTICE

AMERICAN SOCIETY FOR METALS

Machining—theory and practice. A series of thirteen educational lectures presented to members of the A.S.M. during the thirty-first National Metal Congress and Exposition, Cleveland. Cleveland American Society for Metals, 1950. 504 p. illus. 23 cm. $6.50 5895

Contents Metal cutting: art to science, by H. Ernst. Metal cutting research—theory and application, by M. E. Merchant. Cutting fluid theory, by M. C. Shaw. Materials and machinability by F. W. Boulger. Development of the microstructure of metals by machining, by L. M. Clarebrough and G. J. Ogilvie. Metallurgy and machinability of steels, by J. D. Armour. Tool steels, by G. A. Roberts. Cemented carbide tool materials, by J. C. Redmond. Heat in metal cutting, by A. O. Schmidt. Evaluation of machinability of steel, brass, bronze and cast irons, by M. Field and M. Zlatin. Tool life testing, by G. W. Boston. Some metallurgical aspects of grinding, by L. P. Tarasov. Economics of machining, by W. W. Gilbert.

Note The keynote of this volume is the application of the findings of research to practical metal-cutting techniques. The great advances which have been made in recent years in the understanding of what happens when metals are machined and how factors affect machinability are evaluated and interpreted for the benefit of engineers and metallurgists. The papers are addressed primarily to graduate students at work in metal-working industries. They are supplemented by illustrations and references to related literature.

AXELROD AARON

Machine shop mathematics. Second edition. New York. McGraw Hill Book Company Inc., 1951. 359 p. illus. 24 cm. $4.60. 5896

Contents Shop arithmetic. Measuring tools of the machine shop. Weights and measures. Practical instruments. Percentage and its applications. Ratio and proportion. Geometric constructions. Shop trigonometry. Speeds of pulleys and gears. Speeds and feeds. Lathe work. Gears. Milling-machine work. Appendix. Index.

Note A standard elementary text for use in vocational school courses and for home study purposes. Emphasis is placed on the practical applications of mathematical procedures at the high-school level. Numerous illustrative exercises and review problems constitute an important feature of the exposition. In this edition new chapters have been added on basic arithmetic operations, ratio and proportion, and percentage.

BURGHARDT HENRY D., AND AARON AXELROD

Machine tool operation. Part I, Safety measuring tools bench work, the drill press the lathe forge work. Fourth edition. New York McGraw Hill Book Company Inc., 1953 585 p. illus. 21 cm. $5.50 5897

Contents (abridged) The machinist's tools. Safety in the machine shop. Measuring tools of the machine shop. Bench work: Hammers, screw drivers, wrenches, hacksaws. Chipping, filing, scraping. Laying out. The drill press. The lathe: Lathe construction and manipulation. Cutting tools and cutting speeds. Centering. Facing. Chucking work. Threads and thread cutting. Faceplate work. Forge work. Annealing, brazing, and hardening. Hand forging in machine shop. Appendix. Index.

—— Part II The shaper the planer the milling machine the grinding machine, hydraulics, metal band saws metallurgy cutting fluids. With the assistance of James Anderson. Third edition. New York McGraw Hill Book Company Inc., 1954 677 p. illus. 21 cm. $5.00. 5898

Contents (abridged) Shaper construction. Shaper work. Planer construction. Planer work. The milling machine: Milling-machine construction. Milling cutters and their holding devices. Speeds, feed, and depth of cut. Typical milling setups and sample operations. The index head and indexing operations. Helical or spiral milling. Spur gears and bevel gears. The grinding machine: Grinding heads. Grinding practices and practice. Hydraulic power transmission. Metal-cutting band saws. Metallurgy. Cutting fluids. Appendix. Index.

Note An introductory fully illustrated text, which has been widely used in the training of young machinists since the appearance of the first edition in 1922. It is used primarily in organized classes, but is useful also in self-instruction. It is written in simple, practical style and contains approximately one illustration per page. The pictures show machine tools and typical operations on them. In comparison to preceding editions, the editions listed here represent extensive revision and augmentation in both text and illustrations.

COLVIN FRED HERBERT

New American machinist's dictionary the authoritative handbook of terms, definitions, and accepted standards of the machinists craft and industry New York. McGraw Hill Book Company 1956. 496 p. illus. 22 cm. $7.50 5899

Note Terms used in the literature on machine shop work are defined in this reference book. Most of the terms pertain directly to machine tools and to the operations performed on them, but few terms from related fields are included. An example of the latter is "gold leaf." Abbreviations are included in the main alphabet. Definitions are adequate and are expressed insofar as possible in the common language. Pertinent illustrations are numerous.

COLVIN FRED HERBERT AND FRANK A. STANLEY

Drilling and surfacing practice drilling, reaming tapping, planing shaping, slotting,

Appendixes Drafting practice. Standard drill bushings. Standard die sets. Standard parts. Decimal parts of an inch. Wire gauge standards. Hardness conversion tables. Index.

Note A thorough introduction to the principles of tool design is provided in this small book. The tools concerned are not the hand implements such as saw and hammer which the layman knows as "tools" or even machine tools such as the lathe. They are the endless variety of holding, positioning and shaping devices which tool designers in modern industry design for the mass production of special parts. Although the design of each such tool is a custom job related to a specific operation or operations on a particular part, a number of general principles and techniques having broad application have been evolved. These are the subject matter of this book. The classes or varieties of tools covered are named in the chapter titles. Surprisingly each class is covered in considerable detail, especially in regard to matters of some general applicability. The book is fully illustrated and contains literature references. It is intended primarily for use as a text. It is equally suitable for home study and reference by men who are beginners in tool design or who are preparing for this field on the basis of experience in machine shop work or drafting.

JONES, FRANKLIN DAY

Die design and diemaking practice. Third edition New York Industrial Press, 1951 1,083 p illus 24 cm $8 00 5887

Contents (abridged): Dies for cutting blanks from flat stock. Laying out blanking dies and general diemaking practice. Materials used in diemaking. Punch and die details. Sectional punch and die construction. Piercing and perforating dies. Sub-press or self-guiding dies. Bending and forming dies. Classes of drawing dies and general designing information. Dies for drawing shallow cups or shells. Dies for drawing deep shells. Drawing dies for conical or tapering forms. Drawing dies for spherical and oval shapes. Drawing square and rectangular shapes. The use of rubber in conjunction with press tools. Dies for special operations. Heat-treatment of die steels. Designing dies for powdered-metal parts. Index.

Note A practical and fairly comprehensive manual for beginners in diemaking and also for those who have had some experience in the craft. The third edition has been printed from the same type (or plates) as the second edition. Nevertheless, a considerable amount of new material has been added. Four new chapters, three at the end of the book and one at the end of the third chapter deal with diemaking materials, special pointers on the design of stampings, heat treatment of die steels, and dies for powdered-metal work. In addition, there are several insertions of additional pages in other chapters.

JONES, FRANKLIN DAY, editor

Jig and fixture design, a treatise covering the principles of jig and fixture design the important constructional details and many different types of work holding devices. Fourth edition New York The Industrial Press 1955 406 p illus. 23 cm. $5 00 5888

Contents Principles of jig design. Design of open drill jigs. Design of closed or box jigs. Jig bushings. Locating points and adjustable stops. Jig clamping devices. Examples of drill jig design. Boring jigs. Milling and planing fixtures. Adjustable fixtures for turret lathes and vertical boring mills. The floating principle as applied to fixture work. Application of the three-point principle in fixtures. Special jig and fixture mechanisms. Providing for upkeep in designing jigs and fixtures Arc welded jigs and fixtures. Jigs of the automatic type. Design of universal drill jigs. Plastic jigs and their application Special locating and clamping arrangements. Index.

Note The principles underlying the various kinds of jigs and work holding devices are expounded in this book and examples of numerous specific designs are described and illustrated. The third edition was published in 1941 The three chapters listed just before "Index" in the above table of contents are new in this edition.

OWEN, HALSEY F

Introduction to tool engineering New York Prentice-Hall Inc. 1948 149 p. illus. 24 cm. $3 00 5889

Contents. Introduction to tool engineering. Manufacturing methods and equipment. Methods and parts analysis. Operation sheets and bills of material. Designing for production. Manufacturing cost. Tooling programs and the economics of tooling. Tool design. Interchangeable manufacture. Estimating tool costs. Index.

Note. A brief survey of the responsibilities and techniques of tool, or production, engineers in American industry It deals with the selection of manufacturing methods and equipment, and with the planning of operation sequences in the production of specific articles. The necessity of taking into account in each case all relevant factors, such as available equipment, financial considerations and quality requirements, is emphasized. The operation of machine tools is not covered, but standard tools and special tools are both outlined from the viewpoint of the production engineer.

ST CLAIR, LEO J

Design and use of cutting tools. New York McGraw Hill Book Company, Inc., 1952 437 p. illus. 24 cm $8 00 5890

Contents: The single-point cutting tool. The side relief angle. How to measure angles. The end relief angle. The nose radius and point angle relief. The angle of clearance. Peripheral grinding. The side rake angle. The back rake angle. The side cutting edge (SCE) angle. The end cutting edge angle. The nose radius and the point angle. The cutting rake angle. The proper choice of cutting tools. The cutting edge and chip formation. Chip breakers. Speeds and feeds. Grinding cutting tools. Appendix. Index.

Note. An exceptionally detailed treatment of cutting tools used in the machining of metals. As the chapter titles indicate, much attention is given to such points as relief clearance, rake and cutting edge angles. These matters and other pertinent ones are discussed in detail and are shown in numerous illustrations. Full consideration is given to differences in tools made of the various cutting materials, such as the tool steel, stellite and cemented tungsten carbide. The book will be valuable both to practical machinists and to mechanical engineers in charge of machine-shop operations.

STANLEY, FRANK ARTHUR

Punches and dies layout, construction and use. Fourth edition New York McGraw Hill Book Company, Inc., 1950 583 p. illus. 24 cm. $7.50 5891

Contents (abridged) Section I, Blanking and piercing dies and other tools Types and applications of press tools. Dies for piercing and blanking. Carbide dies and their uses. Section II, Compound dies and other cutting dies. Principles of compound dies. The sub press and its dies. Section III, Dies for shaving and trimming. Section IV, Drawing processes and tools Drawing dies and drawing methods. Combination dies and compound dies. Section V Bending and forming tools and operations Methods of bending and forming. Selfoperating tools. Section VI, Horn dies, embossing and indexing dies, and mechanisms. Section VII, Presses and dies for large parts. Section VIII, Tool standards, layout and construction methods. Punch and die standards. Laying out and making templets and dies. Locating holes accurately in die work. Contour machines on die work. List of references. Index.

Note A well-known handbook written for the guidance of machinists and tool designers. It is competently written and fully illustrated. Technical developments which have occurred since 1943 have been incorporated into the text of this edition, and new chapters have been added on carbide dies, drawing dies, and contour machines. The chapter arrangement has been altered, and the data previously found in "Various supplements" is now included in the appropriate sections.

THOMPSON, TORGER G, AND ROSS A. PETERSON

Illustrated jig-tooling dictionary New York The Macmillan Company 1947 349 p. illus. 24 cm. $1 95 5892

Note The technique of visual education has been successfully applied to these definitions of basic terms, tools, parts, operations, and procedures associated with jig building and tool making. Items are presented pictorially with brief textual explanations. In many instances the tool or unit is shown both in operation and assembled. There is no instruction in techniques. Nevertheless the student and inexperienced toolmaker should find this book an extremely useful source of information. The appendices contain many convenient tables including cutting speeds, thread dimensions, tap drill sizes, typical heat treatments for SAE steels, stresses and deflection of beams, and information on keys and bushings.

Fisher, Charles Aurand

Shop mathematics. Revised edition. Milwaukee: The Bruce Publishing Company 1955. 395 p. illus. 23 cm. $3.24 5907

Contents: Common fractions. Decimal fractions. Square root. Measuring instruments and [illegible] cylinders. Applied algebra. Measuring instruments. Applied geometry—constructions—angles. Logarithms. Shop geometry. Taper and taper turning. Screw threads. Pulley and gear speeds. Thread cutting on [illegible] lathe. Speeds and feeds. Gearing. Cutting speeds. Computations on work, power, and energy. The slide rule. Tables. Glossary of shop terms. Index.

Note: An extended text for use in vocational schools and vocational departments of general high schools. It [illegible] useful also as a [illegible] book. Shop mathematics is correlated [illegible] shop practice by means of practice material, questions on shop practice, and [illegible].

Henry Ford Trade School

Shop theory: the Shop Theory Department of the Henry Ford Trade School Dearborn Michigan. Revised by Fred Nicholson. Fourth edition. New York McGraw Hill Book Company Inc., 1955 329 p. illus. 28 cm. $6.95 5908

Contents: Small tools. Chisels and chipping. Hack saws and sawing. Files and filing. Soldering. Measuring tools. Drills and drilling operations. Tapers. Threads. Gearing. Cutting tools. Shaper. Planer. Lathes. Turret lathes. Milling machines. Gages and gage [illegible]. Heat-treatment. Abrasives and grinding [illegible]. Grinding [illegible]. Testing of bench and work. Appendix. Corrected list [illegible]. Index.

Note: Developed at the Henry Ford Trade School in Dearborn and originally published by that school, this book has been one of the most successful introductory texts on machine shop work. The first trade edition was published by McGraw-Hill in 1942, and the fourth edition [illegible] revision of it. The book is intended for use [illegible] courses offered to young men [illegible] are preparing for careers in machine tool operation. No previous acquaintance [illegible] the field [illegible] assumed, and the exposition begins with descriptions of hand tools and progresses to the standard machine tools and operations on them. This fourth edition contains much new material, both text and illustrations, and the publisher has given the book [illegible] and more attractive format. A majority of the chapters are organized in the form of questions and answers.

Hine, Charles Oliver

Machine tools at work: applications of modern machine tools of various types illustrated by selected examples from actual practice in many different shops, accompanied by close-up action photographs and condensed descriptions including outstanding features of each job, with speed, feed and other practical shop data. Second edition. New York The Industrial Press 1953 554 p. illus. 23 cm. $6.50. 5909

Contents (abridged): Operations on machine tools of the lathe type. Lathes designed for turning duplicate parts. Typical machining operations on turret lathes. Automatic machines which turn parts from bar stock. Automatic machines which turn parts held in chucks. Cutting external screw threads with dies. Milling external and internal screw threads. Grinding screw threads. Tapping with single- and multiple-spindle machines. Drilling holes with machines of single-spindle type. Drilling holes with machines of multiple-spindle type. Boring with standard and special machines. Rifling gun barrels. Planetary milling operations on bars and plates. Punching and forming sheets and plates. Planing, shaping and slotting operations. Milling with machines of horizontal-spindle type. Milling with vertical machines and attachments. Multiple-spindle milling operations. Milling irregular forms by reproducing [illegible] model. Broaching with vertical and horizontal machines. Grinding external surfaces of circular cross-section. Grinding holes or internal surfaces. Centerless grinding operations. Grinding flat or plane surfaces. Honing and superfinishing processes. Examples of gear cutting and gear-tooth finishing. Machine tools designed for [illegible] purposes. Miscellaneous operations of standard and special tools. Index.

Note: Unusual operations such as the contour machining of propeller blades on [illegible] planer, forming of internal splines [illegible] gear shaper, and the high-speed milling of aluminum are described in this book. Hundreds of photographs of the tools in use are included. Some information is included on speeds, rates of feed, etc., and there are numerous descriptions of special tools. The first edition [illegible] published in 1942. This second edition contains [illegible] new chapters.

International Business Machines Corporation

Precision measurement in the metal working industry. Prepared by the Department of Education of International Business Machines Corporation. Revised edition. Syracuse N Y Syracuse University Press, 1952 365 p. illus. 26 cm. $6.50. 5910

Contents: History and basic principles. Line measurement. Fixed gages. Screw threads and thread gages. Dial gages and test indicators. Micrometers and verniers. Precision gage blocks. Surface plates and accessories. Angular measurement. Comparison measurement. Optical instruments. Measuring machines. Surface roughness. Hardness testing. Non-destructive testing. Index.

Note: The instruments and techniques of precision measurement in machine shop work and in the inspection of manufactured metal articles are described in this outstanding book. Techniques are described concisely and pictures are included of all instruments. The book is organized for use as [illegible] text in vocational courses and is useful also for elementary reference. The first edition [illegible] published in 1943 in [illegible] volumes, and various revised versions were issued subsequently. In this edition, first published in 1952, it was given new and attractive one-volume format.

Johnson, James Francis

Applied mathematics. Milwaukee The Bruce Publishing Company 1939 438 p. illus. 21 cm. $2.20. 5911

Contents: Fractions. Decimal fractions. Money. Percentage. Linear measure. Board measure. Square measure. Cubic measure. Shop formulas. Summary of tables and formulas.

Note: A text for home study, high schools, vocational and trade schools, and apprenticeship courses. The book deals with the practical applications of mathematics to everyday problems in industrial activities, manufacturing, and trade work. Illustrations and drawings are used to provide training in the interpretation of shop sketches and working drawings.

Keal, Harry Morton and Clarence J Leonard

Technical mathematics. Second edition. New York John Wiley & Sons, Inc., 1938. 3 v illus. 18 cm. Vol. I, $3 96 vol. II $3.24 vol. III $2 96. 5912

Contents: Volume I, The equation, the formula, and the graph. The equation. Formulas. Positive and negative numbers. Fractions. Ratio, proportion, and variation. Cutting speed, pulleys, and gears. Powers and roots. Right triangle. Radicals. Quadratic equations. Simultaneous equations. The graph. Index. Volume II, Geometric proof, and use of the natural functions. Triangles. Parallel lines. Similar polygons. Right triangulation. Circles. Areas. Planes [illegible] not all in the same plane. Shop problems involving [illegible]. Area [illegible]. Miscellaneous constructions. Volumes. Surfaces and solids of revolution. Appendix. Index. Volume III, Trigonometry applied problems, and the slide rule. Right triangles. Logarithms. Trigonometric equations. Identities, and formulas. Oblique triangles. Miscellaneous applications. Slide rule. Appendix. Formulas for reference. Index.

Note: A work designed to demonstrate to the student the connection between the mathematics class and the shops, laboratories, and drawing rooms. The matter is so arranged that it may be used as [illegible] whole or in individual units. Problems have been selected with view to their practicality.

McMackin Frank Joseph and John H. Shaver

The mathematics of the shops. Second edition. Princeton D Van Nostrand Company

milling, and broaching Third edition. New York McGraw Hill Book Company, Inc. 1948 523 p illus 23 cm $7 50 5900

Contents (abridged) Section I, Drilling Drills and drilling machines. General drilling information Deep-hole drilling. Section II, Reaming and tapping Design construction and use of reamers. Taps and screw threads. Section III, Planers and shapers: Planers, shapers, and slotters. Planer tools. Shapers. The slotting machine. Section IV Milling: Primary milling operations. Types of milling machines. Universal indexing centers. Milling-machine attachments. Section VI, Broaching General information about broaches. Commercial broaching. Index.

Note. A practical instruction and reference book for apprentice machinists. The construction uses, care, and operation of the various machine tools are described and useful data regarding sizes, speed, and power required for drills and cutters are included. In this edition, most chapters have been expanded to cover new machines and practices, particularly those dealing with milling cutters, deep-hole drilling, taps and screw threads, and commercial broaching. The data contained in the wartime supplement of the previous edition have now been incorporated into the appropriat chapters.

COLVIN, FRED HERBERT, AND FRANK A. STANLEY

Grinding practice, typical machines and methods used in a wide variety of work. Third edition New York McGraw Hill Book Company, Inc., 1950 419 p illus. 24 cm $6 00 5901

Content The grinding machine in industry Typical grinding machines. Automatic and semiautomatic equipment. Cylindrical grinding in general External and internal grinding. The centerless grinder Centerless-grinding operations. Size control in precision grinding. Examples of precision grinding. Surface grinders and their work. The magnetic chuck. Grinding crankshafts and other motor work. Grinding heavy rolls. Cutter and tool grinding methods. Types and uses of grinding wheels. Mounting and dressing heels. Lapping and honing machines. Polishing and buffing. Index.

Note This standard text for vocational school courses provides general view of the machines and methods used in modern grinding practice. The more widely used machines are described and illustrated, and typical grinding operations are discussed in detail. Data regarding operating speeds, sizes, and types of wheels are tabulated throughout the book. The general scope and purpose of this edition remain the same as in the previous edition, but the chapters have been rearranged and the Wartime supplement of the 1943 edition has been incorporated into the body of the text. Revisions and additions account for 70 additional pages.

COLVIN, FRED HERBERT, AND FRANK A. STANLEY

Running a machine shop Second edition. New York McGraw Hill Book Company, Inc. 1948 521 p illus 21 cm $7 50 5902

Contents Modern machine-shop practice. Planning shop. Shop equipment. Shop transport and materials handling. Toolrooms and tool cribs. Work in the shop. Estimating. Apprenticeship and training. Management. Foremen and personnel relations. Inspection systems. Postwar supplement. Index.

Not A ell-known, standard ork on the organization and management of machine shops. The new material in this edition is all in the 67-page section entitled Postwar supplement. Here many subjects are touched upon, but the emphasis is on job evaluation and time and motion studies.

COLVIN, FRED HERBERT, AND FRANK A STANLEY

Turning and boring practice. Third edition. New York McGraw Hill Book Company Inc., 1948 531 p illus 24 cm $6 50 5903

Contents Section I, Lathes (in general) Modern machine-shop practice. The lathe. Chucks and chucking. Tapers—turning and boring in the lathe. Thread cutting. Fundamentals of accuracy with V block, mandrel, arbor and surface plate. Examples of modern lathes. Section II, Turret and semi-automatic lathes: The turret lathe. Other modern turret lathes. Semi-automatic lathes. Section III, Automatic screw machines: Automatic screw-machine work. Setting up and operating automatic screw machines. Brown and Sharpe automatic screw machines. Multiple-spindle automatic screw machines. Collets, chucks, and tools. Screw-machine taps and dies. Miscellaneous tools and methods. Section IV Boring machines: Boring machines. Section V Cutting tools for different materials. Single-point tools. Sintered-carbide tools. Speed and machinability Suggestions for machining various metals. Machining nonmetallic materials. Functions of cutting oils. Index.

Note. A practical guide for machinists, apprentices, shop executives, and others interested in the operation of machines used in turning and boring of metals. Discussions of essential principles and of major problems involved in the different operations are followed by descriptions of the more important types of machines and methods of operation. Useful data regarding speeds and feeds, cutting alloys and materials, and use of coolants are included. In this revision the material contained in the "Wartime supplement of the previous edition has been incorporated into the text proper, and new data have been added on mandrel and taper work on lathes, precision boring, and carbide tools.

DICK, ARTHUR A.

Shop mathematics, with basic and functional applications New York The Ronald Press Company, 1943 230 p illus. 21 cm. $3 00 5904

Contents Arithmetic fundamentals: Fractions and decimal fractions. Review of fundamentals. Addition of tabulations. Scales and spacing problems. Conversion of decimals and fractions. Reading the micrometer Square root, using square and cube root table Algebraic equations. Addition type of equation. Subtraction type Division type. Multiplication type. Combination types. Illustrative problems using the algebraic equation. Geometrical constructions Areas, volumes, surfaces, arcs, flats, sides, of rectangle, square trapezoid, cube, circle, ellipse, sphere, triangle, hexagon, octagon cone prism, cylinder, etc. Applications to floor areas, lumber measure, rings, composite figures, hollow cylinders, balls, sectors etc. The right triangle principles, its applications. Mechanics applications. Tapers, belts, pulley speeds, threads, spur gears, introducing proper terminology Practical trigonometry: Sine and cosine formulas.

Note. A textbook for shop mathematics courses and vocational subjects of high-school equivalence. The predominant philosophy of the book is that mastering basic fundamentals is not in itself sufficient, but must be correlated and integrated with practical applications.

EDWARDS, WILLIAM HERBERT

Precision shop mathematics. Boston D C. Heath and Company, 1947 314 p illus. 23 cm $3 00 5905

Contents Precision shop arithmetic. Mathematics of the shop formula. Precision shop geometry Precision shop trigonometry The mathematics of shop tapers. Machine operation formulas. Screw threads. Standard gear dimensions. Index.

Note. A sound, practical introduction to the accurate methods of computing hich are required in present-day machine-shop work. The mathematics is directly related to the practical use of such instruments as gage blocks, micrometer calipers, snap gages, toolmakers' buttons, and machine tools found in modern shops. The book is intended for trade-school students and for beginning machinists.

FELKER CHARLES AURAND

Machine-shop technology Milwaukee Bruce Publishing Company 1952 491 p. illus 23 cm $4.80 5906

Contents Hand-tool operations. Power saw The drill press. Center drilling and straight turning on the lathe. Facing and other lathe operations. Turning and boring tapers. Cutting screw threads. The shaper The planer The milling machine. Milling-machine indexing. Helical milling. Gears and gear cutting. Grinding machines. Metals used in the machine shop. Appendix. Index.

Not An introductory text for use in practical courses in vocational schools, general high schools, industrial training programs, etc. Except for the first chapter, it is devoted to machine tools and basic operations on them. A considerable number of the 319 illustrations are photographs the others are reproductions of line drawings. Both are ell reproduced.

For an introductory textbook designed for use in trade schools and vocational courses in high schools. It combines descriptions of tools and working tools with explicit instructions for carrying out operations with them. Machine tools rather than hand tools are explained. There are more than 330 illustrations.

STIERI, EMANUELE

Fundamentals of machine shop practice. Englewood Cliffs, N J Prentice-Hall, Inc. 1956. 322 p. illus. 29 cm. (Prentice-Hall technical-industrial-vocational series Claude H. Ewing, editor) $6.65 5920

Contents: Machinists' hand and bench tools. Measuring and layout tools. Construction and basic operation of the bench or engine lathe. Lathe cutting tools. Fundamental lathe operations. Plain turning. Taper turning. [illegible] machining procedures. Threads and thread-cutting fundamentals. Spinning lathe. Drilling machines. Drilling procedures on upright or vertical drills. Milling machines. [illegible] milling machines. Shapers. Fundamental shaper operations. Planers. Grinding fundamentals. Grinding operations. Tool and cutter grinding. Appendix. Index.

Note: A simplified introductory text. The standard hand and machine tools used in machine shops are identified both by verbal descriptions and illustrations. The parts of tools, also, are named and shown in pictures, for instance one of the figures identifies each part of a portable electric drill as the trigger switch and the chuck. Uses and operating techniques are described in the same [illegible] and detailed manner. Illustrations are clearly reproduced. The book should be useful for home study personnel in connection with formal instruction course or with apprentice work in machine shop.

TURNER, WILLIAM PAYSON AND HALSEY F OWEN

Machine-tool work fundamental principles. Second edition. New York McGraw Hill Book Company Inc., 1945 364 p. illus. 23 cm. $5.00. 5921

Contents: General shop instruction. Safety in the shop. Machine-shop materials. Cutting speeds and feeds. Measurement and measuring devices. The lathe. Lathe-tool shapes. Lathe operations—straight turning. Lathe operations—taper turning. Boring and facing. Knurling. [illegible] Lathe operations—screw [illegible] threads. The shaper. The planer. The milling machine. Milling [illegible]. Gears and gear cutting. Turret lathes and their [illegible]. Automatic and semiautomatic lathes. Drilling and drilling machines. The grinding machine and grinding methods. Broaching and broaching machines. Problems in machine-tool work. Appendix. [illegible] list of motion pictures. Index.

Note: This textbook is based on material used in courses at Purdue University. Its primary purpose is to present an introductory survey of machine-shop tools and processes for engineering college students. When used in the classroom it is intended to be supplemented with lecture, pictures and laboratory work. Nevertheless, it is also an excellent book for individuals who wish a compact, profusely illustrated introduction to the subject for self-instruction. It has been extensively rewritten and revised from the first edition (1932)

WAGENER, ALBERT M. AND HARLAN R. ARTHUR

Machine shop theory and practice. Second edition. New York D Van Nostrand Company Inc., 1950 306 p. illus. 28 cm. $3 60. 5922

Contents: Rules and scales. Semi-precision and common precision tools. Shaper—planer. Lathe. Tool room lathes. Lathe work. Milling machines. Mill operations. Dividing head work. Vertical mill. Cylindrical grinders. Internal grinders. Surface grinders. Cutter grinding. Grinding wheels. Bench hand tools and their operations. Bench: materials — lay-out drilling—threading—scraping—heat treating. Formulas and tables. Index.

Note: A textbook designed to teach the elements of shop work to beginners, including both adults who are being trained to do mechanical work and also high school and vocational students. It was developed by the authors in teaching activities at the Henry Ford Trade School and the neighboring Naval Training School. Standard machine tools and operations on them are described in simple, straightforward style and are illustrated in well-reproduced photographs and drawings.

WOLFE, JOHN H, AND OTHERS

Simplified industrial mathematics by John H. Wolfe William F Mueller and Seibert D Mullikin. New York McGraw Hill Book Company Inc., 1942 281 p. illus. 20 cm $3 75 5923

Contents: Common fractions. Addition and subtraction of decimals. Multiplication and division of decimals. Square root. Precision instruments. Geometry symbols and formulas. Ratio and proportion. Tapers. Percentage. Geometry. Trigonometry right triangles. Trigonometry oblique triangles. Screw threads. Gears. Table of trigonometric functions. Greek alphabet. Answers. Index.

Note: Presents an abundance of practical problems of the type found in the everyday activities of industry. The chapter on precision instruments and measurement contains illustrations and drawings that aid the student in reading the rule, micrometer, vernier caliper and vernier protractor. Screw threads and standard types of gears are fully treated. A special feature is the series of original formulas which simplify the solution of many shop problems.

METALWORKING AND FOUNDRY WORK

AMERICAN FOUNDRYMEN'S SOCIETY

Analysis of casting defects. Chicago American Foundrymen s Association 1947 133 p. illus. 23 cm. $2 75 5924

Contents: Outline of causes of gray iron casting defects. Blows—gas holes, porosity, pin holes and blisters. Scars, seams and plates. Shot iron or cold shots. Shrinkage cavities and depressions. Hot tears and cracks. Mass hardness. Hard spots—hard areas and chilled spots. Warped castings. Open grain structure. Misruns and cold shuts. Inclusions—dirt, slag and other material. Cuts and washes. Erosion scabs. Expansion scabs—buckles, [illegible], blacking scabs and pull-downs. Crushes, [illegible] and [illegible]. Drops. Stickers or [illegible]. Rough surfaces. Metal penetration. Fusion. Swells, fins, strains and [illegible]. Shifts. Core raise. Runout or runaway. Cores—wrong cores. Improperly set cores and omission of cores. Runouts and bleeders. Broken castings. Inverse chill. Poured short. Kish. Defective test specimens. Index.

Note: In this book each one of the casting defects listed in the contents above is illustrated in one or more photographs. Accompanying each photograph, or set of photographs, is a tabulation of the causes of the particular defect. The book is intended for foundrymen and its purpose is to aid in reducing the number of defective castings produced.

AMERICAN FOUNDRYMEN S SOCIETY

Cast metals handbook. 1944 edition. Des Plaines, Ill. American Foundrymen s Society 1944 756 p. illus. (part col d) 23 cm. 5925

Contents (abridged): Recommendations to designers of castings. Design of pattern equipment. Selection of alloys. Bibliography. Recommendations to buyers of castings: Data required for intelligent estimation of casting costs. The significance of strength and ductility tests of metals. Cast steel: General information. Methods of manufacture. Metallurgy. Properties and applications of carbon cast steels—low alloy cast steels—high alloy cast steels. Heat treatment of steel castings. Testing methods for cast steel. Bibliography. Malleable iron: Metallurgical features. Methods of manufacture. Cupola malleable iron. Pearlitic malleable iron. Cast iron: Methods of manufacture. Metallurgy. Heat treatment. Bibliography. Non-ferrous alloys: Copper and copper-base alloys. Aluminum-base alloys. Magnesium-base alloys. Lead-base alloys. Nickel-base alloys. Appendix. Index.

Note: An authoritative reference book used by foundrymen, metallurgical engineers and machine designers. It contains discussions of the various aspects of castings covered in the chapter titles listed above and presents a wide range of data in graphical and tabular form. The 1944 edition was the third. The fourth edition was published in 1937 [illegible] p., $10.00.

Inc., 1947 468 p illus. 22 cm. $4 25 5913

Contents Measurement. Common fractions. The micrometer and decimal fractions. Measuring surfaces and finding volumes and capacities. Formulas and important ideas from algebra. Computation, accuracy and the use of the slide rule. Pulleys, belts, and gears. Some ideas from geometry Screws, bolts, nuts. Work, power energy and stresses. Some ideas from trigonometry The mathematics of the building trades. The mathematics of the electrical shop. The mathematics of the machine shop. The steel square and its use. Appendix. Index.

Note. A practical textbook which describes and illustrates many of the calculations required in the machine shop the electrical shop, and the various building trades. Brief reviews of the methods of arithmetic, algebra, geometry and trigonometry are distributed throughout the text, immediately preceding the use of these mathematical methods in solving technical problems.

MOORE, RICHARD F , AND FREDERICK C VICTORY

Holes, contours and surfaces located, machined, ground and inspected by precision methods. Including Woodworth circular tables Bridgeport The Moore Special Tool Company, Inc., 1955 422 p. illus. 26 cm $7 50 5914

Contents The problem of location. Improvised location equipment and methods. The foundation of accuracy Engineered location equipment standards. The coordinate locating system. Jig boring principles and applications. Jig boring practices. Jig grinding principles and applications. Jig grinding holes. Jig grinding contours. Linear form grinding principles and applications. Linear form grinding practices. Inspection methods. Precision pays dividends. Woodworth circular tables. Index.

Note. Accurate location and production of holes, contours and surfaces is essential in making tools for the precision manufacturing of interchangeable parts. This book presents techniques for location and generation which are based on the use of four machines developed and manufactured by the sponsoring company Traditional methods, such as buttoning and transferring, are briefly described and their faults pointed out then the newer methods are described in full detail. The textual descriptions are supplemented by over 300 illustrations, most of which illustrate either techniques or tools produced by them. Almost 200 of the volume's pages are devoted to the "Woodworth circular tables" which are tables of co-ordinate factors and angles for laying out from 3 to 100 holes on a circle. The book supersedes an out-of-print publication of the same company published in 1946 under the title *Precision hole location for interchangeability in tool making and production.* Much new material has been added in this volume, including that on contours and surfaces, the chapters on linear form grinding, and on inspection methods.

PORTER, HAROLD W , AND OTHERS

Machine shop operations and setups. By Harold W Porter, Charles H Lawshe and Orville D Lascoe. Chicago American Technical Society, 1954 397 p illus. 22 cm $5 50 5915

Contents Machine shop—preparing for opportunities. Measuring tools—semiprecision and precision. Bench tools, including layout and power saws. Drill press—construction, types, setups, and operations. Engine lathe—construction, cutting tools, and accessories—setups and operations. Shaper and planer setups and operations. Milling machine construction, cutting tools, and accessories. Milling machine setups and operations. Grinding machines—surface, cylindrical, and internal grinding. Quiz questions. Index.

Note A carefully planned and well-organized introductory text intended for use by men who are preparing for careers as machinists. The basic measuring tools, bench tools, and machine tools are described in simple, explicit language. The main emphasis is on how work is set up and how the machines are operated in the basic machining operations. The book is thoroughly illustrated, and the illustrations are clear and well reproduced.

SCHLARMAN, H.

Manual of die head thread cutting. New York McGraw Hill Book Company, Inc., 1949 266 p illus. 21 cm $4.50. 5916

Contents. Producing threads—equipment and methods. Unusual die-head adaptations. Types of die heads and chasers. Die-head troubles and maintenance. Chaser facts for the thread man. Principles and methods of sharpening the radial chaser Principles and methods of sharpening the tangent chaser. Principles and methods of sharpening the circular chaser. General information on chaser usage. Gaging external threads. Thread troubles. Thread samples and analysis. The draftsman and the thread. Appendix. Index.

Note A detailed description of the basic principles and methods of cutting threads by the use of self-opening die heads and chasers. The manual is intended to serve as a practical guide for the man on the job, and deals largely with the construction and operation of the machines and thread-gaging instruments. Special attention is given to methods of locating and eliminating the causes of poor workmanship, and to the proper maintenance of machines and tools. The book is well illustrated with numerous photographs and diagrams, thread formulas and pertinent standards and specifications are included in the appendix.

SHUMAN, JOHN THEODORE, AND OTHERS

Machine shop work, a comprehensive treatise on approved shop methods, including construction and use of tools and machines, details of their efficient operation and a discussion of modern production methods by John T Shuman in collaboration with Horace H. Lowell, Lewis H. Brado, J O Corbin. Chicago American Technical Society, 1942 499 p illus. 21 cm $6 00 5917

Contents Common hand tools. Chipping. Filing and scraping. Hand threading. Linear measurement. Fixed gages and their uses. Layout tools and how to use. Drilling machines. Engine lathes. Grinding. Planers, shapers, milling machines. Gearing. Broaching. Turret lathes. Index.

Note. A practical book with emphasis on the fundamental use of tools, especially the operation of standard tools. Questions supplement each chapter

SLADE, SAMUEL, AND LOUIS MARGOLIS

Mathematics for technical and vocational schools Fourth edition. New York John Wiley & Sons, Inc. 1955 574 p. illus. 20 cm. $4 48 5918

Contents. Common fractions. Decimal fractions. Percentage. Ratio and proportion. Mensuration. Practical computation. Logarithms. The slide rule. Miscellaneous problems. Graphs. Measuring instruments. Practical algebra. Geometrical constructions. The essentials of trigonometry Strength of materials. Work and power. Woodwork. Tapers. Speed ratios of pulleys and gears. Screw threads. Cutting speed and feed. Gears. Milling machine work. Belting. Tables. Index.

Note This textbook, intended for self-instruction as well as for class use in vocational high schools, covers the essentials of arithmetic, algebra, geometry and trigonometry needed in the drafting room and shop. Sixty-three pages of mathematical tables are included. The fourth edition retains the same scheme of organization as previous editions, but some sections have been rewritten and many new problems have been added.

SMITH, ROBERT ERNEST

Machining of metal Revised edition. Bloomington McKnight & McKnight, 1949 224 p illus. 27 cm. $3 60 5919

Contents (abridged): Safety Measurements and measuring instruments. The tool grinder and its operation. Drills and drilling. The lathe and its operation. The shaper and its operation. The milling machine and its operation. The power hack saw and its operation. Metal cutting band saws and their operation. Surface grinding machines and grinding. Appendices Reference list. Projects. Appendix. Index.

industry machinery and tools, and related subjects, including the oxy-acetylene welding and cutting process, with a special course in elementary and advanced sheet metal work and pattern drafting for technical and trade school instructors and students also for reference and study by sheet metal workers and apprentices, by J S. Daugherty Chicago F J. Drake & Company 1941 542 p. illus. 18 cm. $3.00. 5932

Contents: The sheet metal industry. Sheet metal working materials. Sheet metal working tools. Sheet metal working school shop equipment. Course in elementary and advanced sheet metal work and pattern drafting. Outline course in sheet metal work—emergency or trade. Oxy-acetylene welding and cutting. Electric welding. Outline course in [illegible] practice. Outline course [illegible] and welding—emergency or training. Bending. Pipe bending. Properties of metals and their alloys. Practical geometry and [illegible]. Useful tables. Stainless steel. Index.

Note: A manual for practical workers and vocational students. Course in sheet metal work and pattern drafting, large practice, and [illegible] and welding are presented in outline form, with special emphasis on training for war work.

Bruce, Leroy Fowler

Sheet metal shop practice. Chicago American Technical Society 1951 251 p. illus. 22 cm. $4.00. 5933

Contents: Sheet metal working tools and machinery. Sheet metals [illegible]. Using patterns and cutting metal. Punching, drilling and riveting. Folding edges. Forming, crimping, beading and [illegible]. Notching, clipping, and wiring. Soldering. Turning, [illegible], and seaming. Basic principles of pattern development. Parallel line development. Radial line development. Triangulation. Welding. Index.

Note: A timely edition, well-illustrated book which is suitable for use as text in vocational courses and as [illegible] for mechanics in need of specific information on how to do particular metalworking operations. Each chapter is complete in itself (or nearly so) and therefore can usually be used without reading the others. All of the more [illegible] tools and operations performed in small shops are described in the text and shown in the illustrations.

Campbell, Harry Linn

Metal castings. New York John Wiley & Sons, Inc., 1936 318 p. illus. 23 cm. $5.00 5934

Contents: The metal-casting industry. Materials for the foundry. Molding practice. Core practice. Melting processes for cast iron. Methods and equipment for cleaning and [illegible] castings. The [illegible] of cast iron. The properties of cast iron. The classification of iron castings. Calculation of the metal charges for the cupola. Malleable iron castings. Steel castings. Non-ferrous metal castings. The design of metal castings. Comparative properties of the cast metals. Appendix. Index.

Note: A treatise on the materials and processes employed in the production of metal castings. The reasons for the selection of materials and the procedures used in the manufacturing processes are explained. Special consideration is given to the constitution, properties, and classification of the cast ferrous and non-ferrous alloys. The relationship of design to the production of metal castings is an important division of this study. A bibliography is appended to each chapter. An appendix presents tabulated data, standard specifications for cast metals, and foundry control methods. The book may be used as [illegible] guide and reference for foundry managers and operators and also for mechanical engineers.

Campbell, James S. jr.

Casting and forming processes in manufacturing. New York McGraw Hill Book Company Inc., 1950 536 p. illus. 23 cm. $7.00. 5935

Contents (abridged): Molding materials and equipment. Molding techniques. Making the [illegible] molds. Solidification and cleaning. Gating. Sand testing. Pattern equipment. Molding machines. Cores and coremaking. Metals for sand casting. Melting. Cleaning and finishing. Mechanization. Inspection. Sand-casting design. Centrifugal casting. Precision investment casting. Permanent-mold casting. Die casting. Plastics, molding and forming. Powder metallurgy. Rolling. Forging. Sheet-metal working. Punch-press work. Index.

Note: A condensed survey of modern foundry processes and certain alternative processes such as forging. Substantially more than half of the space is devoted to the casting of metals and to the finishing of the [illegible] products. Rolling, forging, sheet metal working, etc., are given less space, but enough is said about each technique to convey [illegible] idea of it and its uses. The book is designed chiefly as a [illegible] for upperclass engineering students. A generous general introduction [illegible], a number of illustrations has been used, and the chapters conclude with short bibliographies. The book is intended as a companion to *Machine tools for engineers*, by C. R. Hine (see Index)

Dietert Harry W

Foundry core practice. Second edition Chicago American Foundrymen s Society, 1950 548 p. illus. 23 cm. $10 00 5936

Contents. Introduction. Core sands—types of locations. Core binding materials. Core mixtures. Storage and conditioning of core materials. Mixing equipment, operations, distribution and storage. Coremaking methods and equipment. Coremaking methods and equipment. Factors affecting coremaking. Core ovens and their equipment. Core finishing operations. Core coatings. Core handling. [illegible]. Core [illegible] properties of cores and core mixtures. [illegible] for determining the properties of cores and core mixtures. Controlling core properties. Core setting. Core knock-out. Core sand reclamation. Casting surface as affected by core-sand mixtures. Economics of core production. Defects caused by faulty cores. Bibliography. Index.

Note: Materials and techniques of making foundry cores for the casting of metals are described in detail in this well-sponsored book. Originally the material was prepared for delivery as lectures in [illegible] offered at the annual convention of the sponsoring association. The school lectures were first published in book form in 1942. and this revised edition, including descriptions of subsequent developments such as the dielectric baking of foundry cores was published in 1950.

Doe, Edwin W

Foundry work. Prepared in cooperation with the Textbook Committee of the Educational Division American Foundrymen s Society New York John Wiley & Sons Inc. 1951 109 p. illus. (part col d) 24 cm. $1 96 5937

Contents: The foundry industry. Fundamental foundry processes. Foundry tools and equipment. Patterns. Sand molding. Baked sand cores. Melting and pouring metals and alloys. Cleaning and finishing castings. Occupational advantages in the foundry. Glossary of foundry terms. References and visual aids. Index.

Note: A textbook especially prepared for use in high schools and vocational schools. It contains a clear description of the common foundry processes and techniques. There are about 100 illustrations, a high proportion of these being reproductions of photographs of operations in foundries.

Doehler, H. H

Die casting. New York McGraw-Hill Book Company Inc., 1951 502 p. illus. 24 cm. $8.50 5938

Contents: Die-casting machines. Die-casting dies. Theoretical and practical aspects of die casting. Design of die castings. Comparison of die castings with other production processes. Die metals. Die-casting alloys. Finishing of die castings. Machining of die castings. Trimming and [illegible] of die castings. Inspection of die castings. Estimating the cost of die castings. Safety in the die-casting plant. Glossary of terms used in die casting. Index.

Note: A comprehensive manual written by one of the outstanding authorities on the subject. In addition to full discussions of the main aspects named in the chapter titles, there are discussions of such topics as spectrographic control of alloy composition, ultrasonic inspection of die parts, and inspection procedures for finished castings. There are literature references and an adequate number of illustrations.

AMERICAN FOUNDRYMEN'S SOCIETY

Foundry sand handbook. Sixth edition Chicago American Foundrymen's Society, 1952 265 p illus. 24 cm $5.25 5926

Contents (abridged) Introduction. Mode of occurrence of sands and clays. Methods for sampling foundry sands and clays. Preparing foundry sand mixtures for testing. Methods for determining fineness of foundry sands—standard. Determining moisture in foundry sand mixtures—standard. Determination of permeability of foundry sands. Strength of foundry sand mixtures. Method for determination of green surface hardness—standard. Determining the sintering point of sand mixtures. Elevated temperature tests on foundry sand mixtures. Chemical analysis of sand—non-standard tests. Tentative method of testing core binders (tensile strength) Mechanical properties of core sand mixtures. Method for determining strength of core paste—tentative standard. Non-standard tests. Interpretation of room temperature sand tests. Comments on maintenance of testing equipment. Foundry molding sand mixtures. Conversion tables. Terms used in foundry sand work. Bibliography on sand testing and control. Subject index.

Note. A standard manual of sand testing methods, tests, and testing equipment. The previous edition appeared in 1944 The present edition is an extensive revision which includes both new and revised tests. The useful bibliography contains chronological arrangement of papers and reports which hav appeared in the *Transactions* of the sponsoring society bibliography of the sand resources of the states of the United States of America and Canada, and an international bibliography arranged by country of publication on sand and sand testing.

AMERICAN FOUNDRYMEN'S SOCIETY

Handbook of cupola operation Second edition. American Foundrymen's Society, 1954 332 p illus 24 cm. $10 00 5927

Contents Section I, Introduction The history of the cupola. Calculating the cupola chart. Refractory lining and daily maintenance. Coke bed. Charge preparation in charging the cupola. Fluxing and slag control. Tapping and slagging. Control of melting temperature and melting rate. Composition control and manipulation of mixtures. Alkali desulfurizers and desulfurizing. Some operating problems and techniques. Cupola records. Chemical and physical controls. Economics of cupola operation. Basic cupola. Cupola melting of malleable iron Section II, Equipment The conventional cupola. Mechanical charging equipment. Forehearths and ladles. Blowing and blast control equipment. Blast conditioning. Slag and cupola drop disposal methods. Equipment for measuring temperature of molten iron. Control of cupola emissions. Special cupolas and accessories. Section III, Materials Pig iron. Scrap for cupola mixtures. Alloys and cupola melting. Cupola fuels. Cupola fluxes. Cupola flame. The cupola refractory lining. Section IV Principles related to operations Principles of fluxing and slag control. Combustion in the cupola. Thermochemistry and the heat balance. Metallurgy of cast irons. Appendix Classified references on cupola practice. Bibliography on cupola practice. General information tables. Index.

Not A full-scale treatise and reference manual on the operation of the cupola furnace in the melting of metals. It describes all the operations mentioned in the chapter titles and provides many tables of reference data. There are 325 figures in this edition and many of them are reproductions of photographs of actual foundry scenes. An extensi e bibliography of literature published 1925–1943 is included. The work is addressed to practical foundry workers and others who need technical information on the operation of the cupola. The first edition as published in 1946 This second edition contains much new matter and is the result of several years' work by reactivated committee under the chairmanship of H. Bornstein

AMERICAN SOCIETY OF MECHANICAL ENGINEERS

Manual on cutting of metals with single-point tools. Prepared by the ASME Research Committee on Metal Cutting Data and Bibliography New York The American Society of Mechanical Engineers 1952 546 p illus 22 cm $10 00 5928

Contents (abridged) Part I, Types, uses and preparations of single-point tools. Part II, Metallurgical and mechanical factors in using single-point tools. Part III, Cutting fluids used with single-point tools. Part IV The machining of various metals. Part V Forces, power and cutting speeds for specific conditions, turning ariety of metals. Part VI, The economics of metal cutting. Part VII, Tabular data on cutting speeds and horsepower (from the first edition). Bibliography Index.

Note. An authoritative ork used by mechanical engineers, foremen, machinists and other technical personnel concerned with the production of metal parts. It is based on a comprehensive survey of all available data, both published and unpublished, and on the results of experiments made under the direction of the Committee. It presents very ide range of data from descriptions of cutting tools to specific data on cutting speeds. The information is presented in a concise text, many graphs and large number of tables. A first edition was published in 1939 This second edition is the result of thorough revision and reorganization. It includes many new data, some topics not represented in the first edition, and is more than 200 pages longer

BENEDICT, OTIS

Manual of foundry and pattern shop practice. New York McGraw Hill Book Company, Inc., 1947 361 p illus. 19 cm. $5.00. 5929

Contents Foundry practice. Molding practice. Molding tools and equipment. Molding operations. Cores and coremaking. The cupola. Pouring molds and cleaning castings. Technological control. Structure of cast iron. Testing cast iron. Nonferrous. Patternmaking. Pattern allowances. Pattern materials. Cores, core prints, and core boxes. Construction methods. Band saws, circular saws, and machine knives. Characteristics of ood. Seasoning lumber Glues. Plywood and veneers. Metal patterns. Problems for pattern design and pattern construction. Appendix. Bibliography List of visual aids. Index.

Note This introductory text is outstanding for its detailed descriptions of tools, materials, and methods. Tools, down to the most commonplace, are not only described but illustrated. The discussion of materials includes not only principal materials, but minor ones as well, such as the adhesives used in making laminated wood for use in pattern making. Processes such as preparing mold for simple casting are described step by step. There is also some material on foundry recordkeeping.

BOSTON, ORLAN WILLIAM

A bibliography on cutting of metals, 1864–1943 New York American Society of Mechanical Engineers 1945 547 p. $6.50. 5930

Note. An annotated bibliography of the literature of metal cutting. Citations include the author, title, name of periodical, volume, date and pagination and are followed in each instance by short note which describes the scope of the article. The work incorporates the earlier bibliographies of the same author *A bibliography on the cutting of metals*, New York, 1930, and *A bibliography on the cutting of metals, Part II*, Ann Arbor 1935 and has several thousand new entries in addition. The main arrangement is chronological, but there are good author and subject indexes.

BOSTON ORLAN WILLIAM

Metal processing Second edition. New York John Wiley & Sons, Inc. 1951 763 p. illus 24 cm $8 50 5931

Contents (abridged) An introduction to the study of machines, tools, and processes. Lathes. Shapers. Planers. Nomenclature and materials for single-point tools. Cutting fluids. Machinability. Milling. Sawing. Drilling, boring, reaming, and threading. Turret lathes, screw machines, and hand-controlled production turning machines. Automatic turning machines. Broaching. Gears and their manufacture. Grinding, polishing, buffing, honing, and lapping. Presses, punches and dies, and formed parts. The quality of surface finish. Drives for machine tools. Accounting and costs. Index.

Note. A treatise on machine tools, machinability and metal cutting ritten for college students of engineering. For the noncollege reader the book's special virtue is that it gives more comprehensive view of the subject from the engineer's viewpoint than is provided in books written for men who operate the machine tools. In the edition, there is fair amount of new material including the chapter on surface quality

BROEMEL, LOUIS

Sheet metal workers' manual a complete practical instruction book on the sheet metal

Mechanical Engineering

Metalworking

HOFFMAN OSCAR, AND GEORGE SACHS
Introduction to the theory of plasticity for engineers. New York McGraw Hill Book Company Inc., 1953 276 p. illus. 23 cm. $7.50. 5945

Contents: Part I. Basic laws and theories. State of stress. State of strain. Elastic behavior of metals. Theories of strength. Plastic stress-strain relations. Experimental data. Part II. Problems in [illegible] Thick-walled spherical [illegible] for [illegible] plastic materials. Thick-walled tube under internal [illegible] pressure. Thick-walled tube. Torsion and bending. Two-[illegible] rotating cylinders and disks. Torsion and bending. Two-[illegible] Part III. Problems in plastic flow [illegible] plane-flow problems. Torsion and bending in the strain-[illegible] Instability in tension. [illegible] Buckling of compressed bars. Drawing and extruding [illegible] Theory of metal-forming processes: Drawing and extruding [illegible] Drawing and extruding of cylindrical bodies. Drawing and extruding through tapered dies in condition of plane [illegible] Drawing and extruding through stationary tools of circular [illegible] condition of plane strain. Rolling of sheet and strip in [illegible] of plane strain. Nonsymmetric plastic flow through the [illegible] of plane strain. Forging. Forming of thin-walled [illegible] in plane strain. [illegible] Index.

Note: A well-organized introduction to the basic theory of elastic behavior of ductile metals and to the application of this knowledge [illegible] forming, extruding, rolling, forging, etc., of these metals. It is [illegible] textbook for advanced students of engineering and as [illegible] for graduate engineers who are concerned with metal [illegible] Although much of the exposition is mathematical, the [illegible] does not assume the knowledge of mathematics beyond [illegible] Tensors are employed, but their mathematics is developed [illegible] the book. Literature references are included.

HULL, DANIEL R.
Casting of brass and bronze some practical aspects of brass and bronze casting in America, 1900 to 1950. Cleveland The American Society for Metals 1950 186 p. illus. 23 cm. $3.50. 5946

Contents: Things as they were. Melting. Pouring. The bronze. [illegible] hydrogen and deoxidizers. The mold. The mold dressing. [illegible] Conclusion. Index.

Note: An expert, very readable review of brass and bronze foundry [illegible] Although changes in the industry are sketched briefly in the first chapter, most of the text deals with current practices. The [illegible] at the time of writing, Assistant Technical Manager of the American Brass Company and his book reflects long experience with brass and bronze casting.

KAMERLEIN JOSEPH J
Short cuts for round layouts a textbook and working guide with practical and modern methods for laying out and forming patterns for round and oblong fittings, T's, elbows, and hoods mathematical formulas applied to sheet-metal work. Milwaukee The Bruce Publishing Company 1947 288 p. illus. 24 cm. $4.00 5947

—— Triangulation short-cut layouts a textbook and working guide with practical and modern methods for laying out and forming patterns used for blower-exhaust sytems, heating, and air conditioning mathematical formulas applied to sheet-metal work. Milwaukee The Bruce Publishing Company 1948. 288 p. illus. 26 cm. $5.50 5948

Note. These books, together with the author's *Air conditioning sheet metal layout*, Milwaukee, Bruce Publishing Company 1941, 308 p., $4.00, [illegible] set that is designed for the practical instruction of students in vocational schools and beginners in the sheet-metal trades. Each book consists mainly of [illegible] series of plates that illustrate rapid, geometric methods of laying out typical sheet-metal constructions. Each plate is accompanied by one or more paragraphs of step-by-step instructions.

KILEY HENRY E. AND JOHN H. PAUSTIAN
Pattern design. Second edition. Scranton Pa. International Textbook Company 1952 193 p. illus. 21 cm. (International texts in mechanical engineering Charles Fayette Taylor consulting editor) $4 75 5949

Contents. Pattern details. Molding details. Metals used in pattern construction. Construction work and joints. Design for low cost production. Pattern department management. Special designs. Explanation of work required in planning pattern equipment. Problems in pattern design. Glossary Index.

Note An established practical text, used both in the instruction of engineering students and the vocational training of men preparing to become pattern makers. It is an introduction to the design and construction of wooden patterns used in the casting of metal parts. There are more than 200 illustrations. The first edition written by R. R. Hall and Henry E. Kiley was published in 1939

KYLE, P E.
The closed die forging process. With co-operation of the Technical Committee of the Drop Forging Association. New York The Macmillan Company 1954 140 p. illus. 22 cm. $1.50 5950

Contents: Introduction. Fundamentals of hot working. Forging processes and equipment. Heating for forging. Preliminary and [illegible] forging operations. Making of drop forging die. Preliminary forging operations. [illegible] of drop forgings. Testing and inspection. Forged metals. Typical closed die forgings. Glossary of forging terms. Index.

Note An introductory description of one of the most important present-day metalworking techniques. It is intended for such readers as vocational school students, engineering college students and graduate engineers hence, technical terminology is freely used. Die-making is not covered, but all other aspects of closed die forging, including the importance of forgings, are at least touched upon. Not [illegible] in the table of contents but present in the book is section of tables of data on properties of steel and other metals used in forgings. There is an occasional footnote reference to other literature, but no attempt at bibliography There are more than 50 illustrations.

LUDWIG OSWALD A.
Metalwork technology and practice. A first course for the metal trades. Third edition. Bloomington Ill. McKnight & McKnight, 1955 399 p. illus. 26 cm. $4.00. 5951

Contents: Planning the job. Sawing and bench work. Getting acquainted with metals. Care of equipment. Drill press work. Threads, dies, taps. Fitting and assembling. Work with sheet metal. Heating metal. Tool sharpening. Finishing and inspecting. Machine tools. Index.

Note An outstanding vocational school text. It contains large amount of elementary basic information on tools, materials and operations. The style is straightforward and easy to understand. There are over 1200 illustrations, and all are clearly reproduced, often in large scale. An exceptionally full index makes the book useful also for elementary reference—to find description of "tolerance" for example.

MCCASLIN HERBERT JOHN
Wood patternmaking a textbook. Fourth edition. New York McGraw Hill Book Company Inc., 1946. 366 p. illus. 19 cm. $4.50. 5952

Contents (abridged) Machines and tools. Part I, Bench work: Pattern woods. The plane. A word model. Pattern features. Machine finish. Pattern [illegible] Dowel pins. Core box for the clamp pattern. Core box for the guide pattern. The planning of core [illegible] Core boxes for the pedestal pattern. Core box for the support pat-

Du Mond, T C

Shell molding and shell mold castings. New York Reinhold Publishing Corporation, 1954 128 p illus. 18 cm $2 00 5939

Contents. What is shell molding? Advantages and limitations of shell molding. What about costs? Selection factors—materials, sizes, quantities, tolerances and finishes. Designing for shell molds. How shell molding compares with competitive processes. Cores by shell molding. The process and equipment for its use. Materials for shells and patterns. Applications of shell molding. Appendix. Selected references. Index.

Note The casting of metal parts in thin shells made of sand and a plastic resin is a process which has already gained wide acceptance in the United States of America, although it was not known here until 1947 Shell molding' is the accepted term for it, although it has been known also as the "C-Process" and Croning-Process. This small book is both a survey of the present status and an expert discussion of advantages and disadvantages. Numerous case histories on the use of the process for the production of specific parts are described, usually with data on tolerances and costs included. The illustrations depict both steps in the making of shell molds and parts cast in them. The short bibliography includes some literature published as late as the first half of 1954

Giachino, Joseph William, and John L Feirer

Basic bench-metal practice and precision measuring Peoria Chas A Bennett Co, Inc., 1943 160 p illus 26 cm $3 68 5940

Contents Fields of metal work Finding size of stock for cutting. Cutting metal. Scribing a layout. Chiseling metal. Filing metal. Drilling metal. Reaming holes. Grinding, sharpening, and buffing metal. Bending, twisting, and forming metal. Decorating and finishing metal. Joining metal. Caliper and gauge reading. Producing, processing, and identifying iron and steel. Safety in the shop. Tabular appendix. Index.

Note. The material in this textbook for industrial education courses consists of 31 job units presented in the form of controlled and detailed guide to the exploration, study and mastery of the fundamental operations of the metalworking field. The ork is divided into two parts: first, hat a student must be able to do, and second, what student must know in order to perform successfully the given tasks. The methods are fully illustrated with step-by-step drawings and photographs.

Hanel, Alexander V

Text in patternmaking Milwaukee The Bruce Publishing Company 1949 314 p illus. 24 cm $2 96 5941

Contents (abridged) Molding and pattern allowances. Tools. Lumber Pattern supplies and their use. Machinery Pattern layout. Pattern joinery Segmental and staving construction. Core prints and core boxes. Gear patterns. Cast construction. The foundry Job Hexagonal block. Cylinder Link. Surface plate. Anvil base. Base bearing. Bracket bearing. Angle bracket. Bearing caps. Double bearing. Tapered column. Quadrant. Screw propeller Glossary of patternmaking and molding terms. Index.

Note A clearly written ell-illustrated text on wood pattern making. It is designed for use in a full year course in vocational high schools. Also, it can be read for information by beginning workers in foundries. All of the fundamental tools and processes are covered, and the Job" section gives detailed directions for the construction of the patterns for 40 typical castings.

Heine, Richard W, and Philip C Rosenthal

Principles of metal casting Prepared in cooperation with the Textbook Committee of the Education Division American Foundrymen's Society Des Plaines Illinois. New York McGraw Hill Book Company Inc. 1955 639 p illus 24 cm $7.50 5942

Contents: Introduction. Patterns. Molding processes and materials. Molding equipment and mechanization. Molding sands. Cores. Core materials. Solidification of metals. Pouring and feeding castings. Metals cast in the foundry Aluminum foundry practice. Aluminum casting alloys. Copper-alloy foundry practice. Copper-base casting alloys. Special casting alloys. Steel-foundry practice. Steel melting in the foundry Metallurgy of cast steel. The family of cast irons. Melting of cast irons. Gray-iron foundry practice. Metallurgy of gray iron. Malleable iron. Cleaning and inspection. Casting-design considerations. Index.

Note. In this well-sponsored book, the casting of metals is treated from the viewpoint of college students of engineering who are preparing for careers in mechanical engineering or in metallurgical engineering. Both basic theory and practical techniques are covered, with somewhat more emphasis on the latter. Specialized terms are defined, and foundry practices are described in unexpected detail. Recently accepted techniques such as shell molding are included. The book contains extensive literature references and hundreds of illustrations as ell as many tables of useful reference data. Although designed as textbook, it should be useful also to technicians already at work in the foundry industry and to engineers and technically trained people in other fields who find themselves in need of authoritative information on present-day techniques of metal casting The authors are faculty members of the University of Wisconsin.

Herb, Charles Oliver

Die-casting, the die-casting process and its application in modern manufacture, die-casting machines, design of different types of dies, composition and properties of die-casting alloys, and the die-casting of zinc, aluminum brass, and other non ferrous alloys. Second edition. New York The Industrial Press, 1952 310 p. illus. 24 cm. $5 00 5943

Contents The die-casting process and its applications. Die-casting machines and their development. Alloys for die-casting. Die-casting dies and their operation. Multiple cavity dies for duplicate castings. Dies with auxiliary slides for exterior cores. Sliding cores in movable and stationary dies. Adjustable dies for parts of different dimensions. Standards for designing die-casting dies. Steels for die-casting dies. Die-casting ith semi-automatic machines. Die-casting thin sections. Die-casting brass. Die-casting by the vacuum process. The salt system of die-casting. Die-casting cast iron. Index.

Note. A standard descriptive treatment, ritten by the editor of the periodical *Machinery* It is useful survey of the die-casting process and of die-casting machines and dies. There are many excellent illustrations, most of which show details of equipment. The first edition appeared in 1936. Although the titles of several chapters have been reworded, no new chapters have been added in this edition. Parts of the book, for instance the chapter on die-casting machines, have been revised to bring them up to date. The book is only 10 pages longer, but somewhat more than 10 pages of material has been added because certain obsolete material has been dropped.

Hinman, Chauncey Weed

Pressworking of metals a reference book illustrating and describing the uses of metal-working presses and many types of press tool designs. Second edition New York McGraw Hill Book Company, Inc. 1950 551 p. illus. 24 cm $9.00 5944

Contents Standard types of power presses. Pressworking commonly used materials. Press accessories and feeding equipment. Designing chutes, magazines, and hoppers. Automatic stops and die accessories. Blanking and cutting dies. Two-step or tandem dies. Progressive dies. Blank and scrap strip developments. Perforating and piercing. Shaving, burnishing, and trimming. Sectional dies and inserts. Bending, forming, and embossing. Dies for assembling work parts. Swaging, coining, and cold-sizing. Dies for drawing and redrawing. Unusual dies and novel operations. Formulas and reference tables. Index.

Note A clearly written and practical guide to the art of power working ferrous and nonferrous metals. The workability of various materials and the selections of machines are discussed, but the book deals mainly with the design, construction use, and operation of presses and dies. This edition has been largely rewritten and includes information regarding press tools, accessories, and new operating practices which ha been developed since 1941 Progressive dies and machines are described in more detail, and a chapter on perforating and piercing has been added. Again, numerous photographs and diagrams of equipment are included.

...ing Corporation, 1950. 286 p. illus. 24 cm. $7.00. 5959

Contents (abridged). Structure of fluids and the phase rule. Structure of the solid state. Specific heat. Changes of state and latent heat. Free energy and binary equilibrium. Supercooling. Electric heat. Free energy and binary equilibrium. Carbon and hydrogen combustion and heat losses in steady state. Heating of furnace charges. Heat transfer in unsteady state. Heating of furnace charges. Rate of movement of high temperatures. Direction of reactions. Macrostructures. Origin and control of carbon in ferrous alloys. Macrostructure of non-carbon alloys. Effect of alloying elements on microstructure of non-carbon alloys. Fluid mechanics of casting. Gating and feeding. Statistical control of processes. Supplementary reading. Some notes. Subject index.

Note: Rather than a text on foundry practice, this book is an exposition of fundamental chemical and physical phenomena and principles that affect metal-casting processes. It is based on a series of lectures on theoretical metallurgy and foundry physics given by the author at the Case Institute of Technology. Although the original lectures were addressed to graduate engineering students, the material has been somewhat simplified in the book, and can now be studied at least by foundry engineers and supervisory personnel as well as by engineering students.

Simpson, Bruce L.

Development of the metal castings industry. Chicago, American Foundrymen's Association, 1948. 246 p. illus. 27 cm. $6.00 5960

Contents: Prehistoric development of metal. Far Eastern foundry development. Casting development in the Mediterranean basin. Molding and melting methods of the Renaissance. Casting of bells and guns. Sand castings of direct blast-furnace iron. The early iron foundry. Colonial foundries in the New World. Metals and melting in the nineteenth century. Development of foundry mechanization. Bibliography. Index.

Note: A broadly illustrated history of founding. It begins with the earliest records and carries the story to about the beginning of the present century, although a few later innovations, such as the invention of the high-frequency induction furnace, are included. The text is essentially an outline, but some care has been taken to give the origin and dates of important developments and inventions. The pictures show both founding processes and products of foundries and are of general interest.

Steel Founders' Society of America

Steel castings handbook. 1950 edition. Prepared under the direction of the SFSA Handbook Committee. Charles W. Briggs, editor. Cleveland, Ohio, Steel Founders' Society of America, 1950. 511 p. illus. 23 cm. $1.50 5961

Contents: A brief history of the steel casting industry. Classes and advantages of steel castings. Commercial applications and industrial uses of steel castings. Steel casting design. The manufacture of steel castings. Heat treatment. Variables affecting the mechanical properties of steel castings. Mechanical properties of carbon cast steels. The properties of low alloy cast steels. Heat and corrosion resistant cast alloys. Austenitic manganese cast steel. Physical values pertaining to cast steel. Engineering properties of cast steel. Recommendations to purchasers of steel castings. Steel casting specifications. Definitions of foundry terms. Appendix: Chemical compositions of standard steels. Index.

Note: A reference manual and practical treatise for foundry workers, engineers, and others whose work requires a technical knowledge of steel castings. A factual text is supplemented by many excellent photographs of castings and equipment, and by tabulated data regarding the composition and properties of various steels. This edition has been revised to include the technological developments which have occurred since 1941. The chapters on low alloy cast steels and heat treatment, in particular, have been rewritten, and material has been added on pattern making and new types of alloys. The chapter bibliographies have also been brought up to date.

Wood, Rawson L., and Davidlee Von Ludwig

Investment castings for engineers. New York, Reinhold Publishing Corporation, 1952. 477 p. illus. 23 cm. $10.00. 5962

Contents: History and description of investment casting. The master pattern and pattern die. Making soft metal dies. Wax versus plastic patterns. Frozen mercury for disposable patterns. Gating, runnering, clustering, venting wax and plastic patterns. Investment materials and techniques. The ceramic shell mold or mercast process. Melting and casting methods. Selection of low-temperature nonferrous alloys for investment casting purposes. Selection of ferrous and refractory alloys. Foundry finishing investment castings. Foundry inspection operations. How to machine investment castings. Product design development by means of investment castings. Castings to replace fabricated parts. Design suggestions for investment castings. Investment castings for chemical and high temperature resistant applications. Some metallurgical observations of investment cast alloys. Some machinability tests on stainless steel. Bibliography. Index.

Note: The special slant of this treatise is indicated by the title. In other words, the book is written not from the viewpoint of founders but of engineers who design products to be cast or are responsible for the finishing of them after casting. The various investment processes, including not only "the lost wax" process but those in which other materials are used for the disposable pattern, are fully described, and particular attention is given both to their advantages and their limitations. Supplementary topics, such as the selection of alloys for products to be made by investment castings, are adequately covered. The text is supplemented by a substantial number of tables of engineering data. The book is based on a series of articles written by the authors and published in *Iron Age* and other journals from 1948 through 1951. Only a short bibliography is included.

MANUFACTURING

Begeman, Myron Louis

Manufacturing processes. Third edition. New York, John Wiley & Sons, Inc., 1952. 608 p. illus. 24 cm. 5963

Contents (abridged): Foundry practice. Pattern work. Metal casting. Special casting methods. Heat treatment of steel. Welding and allied processes. Hot forming of metals. Cold forming of metals. Powder metallurgy. Plastic molding. Inspection. Lathes and lathe tools. Turret and automatic lathes. Threads and thread cutting. Shapers and planers. Drilling and boring machines. Milling machines and cutters. Gears and gear-cutting machines. Metal sawing. Broaching machines and tools. Abrasives, grinding wheels, and grinding machines. List of tables. Index.

Note: A comprehensive, descriptive survey of present-day manufacturing methods and machines. Its purpose is to inform upperclass engineering students and also engineers and management personnel in industry about the available processes and their applications. Most of the book is devoted to manufacturing with metals, but the author has included one chapter on plastics. A fourth edition was published in 1957. 612 p. $8.00.

Clapp, William Howard, and Donald Sherman Clark

Engineering materials and processes: metals and plastics. Second edition. Scranton, International Textbook Company, 1949. 526 p. illus. 24 cm. (International textbooks in mechanical engineering, Edward F. Obert, consulting editor) $8.00. 5964

Contents: Part I, Materials: Properties of engineering materials. The structure of metals and alloys. Cooling curves and equilibrium diagrams. Metallurgy, properties, and uses of ferrous metals and alloys—the manufacture of iron and steel—control of properties—the alloy steels and cast iron. Metallurgy, properties, and uses of non-ferrous metals and alloys. Plastics, rubber, and synthetic elastomers. Part II, Processes: The production of castings. Hot-working of metals. Cold-forming of metals. Joining of metals. Machine shop production methods. Lathes, boring mills and screw machines. Milling and drilling operations. Shapers, slotters, planers, broaching machines, and saws. Gears, gear cutting and gear-cutting processes. Abrading, grinding, and finishing processes. Index.

Note: A standard engineering college textbook. Its compact but clear descriptions of standard materials, machine tools, and manufacturing methods give it some value as a reference book. The changes made in preparing the second edition were not major, but they include descriptions of a fair number of new processes and a completely rewritten chapter on plastics and synthetic rubber. At the time of writing, the authors were members of the faculty of the California Institute of Technology.

tern. Core box for the tool-rest slide pattern. Core frame for the bracket pattern. Part II, Lathe work. Face-plate turning. Mounting the material for turning parted patterns. The checking and the inspection of patterns. Glossary of patternmaking and molding terms. Visual aids. Index.

Note Designed for students in practical courses, this textbook in its enlarged and modernized fourth edition contains directions for making 64 typical patterns. There are many new illustrations, and the glossary contains additional terms.

MAREK, CLARENCE THOMAS

Fundamentals in the production and design of castings New York John Wiley & Sons, Inc., 1950 383 p illus 20 cm $5 25 5953

Contents Casting processes. Green sand molding. Foundry sands and sand control. Patterns and related equipment. Cores and their applications. Foundry production equipment. Production planning. Physical and metallurgical properties of cast metals. Properties and uses of ferrous cast metals. Properties and uses of nonferrous cast metals. Melting of cast metals. Cleaning and inspection. Design for economical molding. Design to eliminate defects. Bibliography Appendix. Index.

Note A general introductory survey of the metal-casting processes, written for engineering students and graduate engineers who need some knowledge of these processes but are not directly concerned with foundry practices or management. All the commercially used processes are described, including slush molding, the lost wax process, etc. but most of the space is given to casting in sand molds and to the products of this process. The book is well organized and admirably illustrated. Its purpose is to enable engineers to design cast parts so that they can be produced economically

NAUJOKS, WALDEMAR, AND DONALD C FABEL

Forging handbook Cleveland The American Society for Metals, 1939 630 p illus. 23 cm. $7 50 5954

Contents. Forging industry Forge plant equipment. Die block and process operations steels. Forge dies and tools. Forging practice. Finishing operations. Heat treatment of forgings. Cleaning forgings. Testing and inspection of forgings. Materials handling. Forge plant design. Forge plant maintenance. Furnaces and furnace design. Designing the forged part. Forging materials. Job estimating. Costs and cost engineering. Forge shop safety Forging definitions.

Note Much of the information and data contained in this volume has been obtained directly from manufacturers and is based on their actual experience. Except for brief history of the forging industry attention is directed entirely towards the practical aspects of the subject—forging materials and processes, and the design and operation of forging equipment. Some attention is given to the design of the plant, maintenance routines, and job estimating. The final section contains collection of useful tables, such as weights of metals and alloys, melting points, and die block weights. There are glossary of terms in general use in the forging industry and an index.

RITCHEY, JAMES

Pattern making A practical treatise for the pattern maker on woodworking and wood turning, tools and equipment construction of simple and complicated patterns modern molding machines and molding practice. Revised by Walter W Monroe Charles Wm Beese and Philip Ray Hall Chicago American Technical Society 1938 233 p illus. 21 cm $3 00 5955

Contents Working medium. Hand cutting tools. Measuring tools. Small tools. Machine tools. Molding practice. Patterns. Metal pattern making. Index.

Note This text aims to show the tools and equipment necessary for pattern making, to give design details of simple and complicated patterns for typical cases, to discuss the use of green and dry sand cores and the construction and design of typical molding machines. A new section on metal pattern making is a feature of this revised edition of a ork last published in 1933

RUSINOFF, S E

Foundry practice. Chicago American Technical Society, 1955 261 p. illus. 22 cm. $6.50 5956

Contents Metal casting—a basic manufacturing process. Patterns—their function in sand molding. Sand-molding materials and equipment. Sand-molding processes and core making. Typical molding problems. Machine molding. Sand-handling and conditioning equipment. Metal casting and foundry materials. Metal-melting equipment. Metal-handling and cleaning equipment. Metallurgy of cast metals. Testing cast metals. Other casting processes. Safety in the foundry Bibliography Index.

Note. An elementary practical introduction to present-day techniques of metal casting. Most of the space is devoted to describing the sand casting of ferrous alloys, but other casting processes and other families of alloys are at least mentioned. Also included are explanations and descriptions of techniques incidental to casting, such as testing. It is written in style which is easy to read, and the verbal material is supplemented by numerous illustrations. There are a few footnote references to literature and a selected bibliography The book is useful not only to trade-school students, for hom it is primarily intended, but also to new employees in the casting industries.

SACHS, GEORGE

Fundamentals of the working of metals. New York Interscience, Publishers, Inc., 1954 158 p. illus. 22 cm. $4 75 5957

Contents Effects of temperature & speed on forming. Relations between chemical composition, phase changes, & forming characteristics. Effects of grain structure on forming. Some general concepts of metal forming. Basic types of forming methods. Program fabricating. Bibliography Index.

Note. Articles which appeared originally in *Modern industrial press* have been collected in this volume and supplemented by selected bibliography and an index. The articles are written from the iewpoint of engineers and technicians concerned ith metal fabricating by such processes as forging, bending, and drawing. From this viewpoint, basic facts of chemical composition, crystallization, etc., both in general and in direct relation to specific forming processes, are explained. The book is suitable for young mechanical engineers and designers ho ish basic understanding of metal-orking processes in order to get the "feel of hat can be done with metals in the factory

SACHS GEORGE

Principles and methods of sheet metal fabricating New York Reinhold Publishing Corporation 1951 526 p illus. 24 cm. $11 00. 5958

Contents (abridged) Part I, Sheet metal and sheet-metal parts. Part design and metal properties. Formability tests. Sheet metals. General properties of sheet metals Part II, Principles of forming various part types. Bending and straight flanging. Contour forming of sections Forming of deep recessed parts. Forming of shallow recessed parts Part III, Principles of deep drawing Drawing of thin walled cylindrical cups. Redrawing of tubular parts (sinking) Drawing of thick alled cylindrical cups. Dra ing of box shaped parts. Part Press-die forming of sheet-metal parts Press-die forming of parts from developed blanks. Press die forming of recessed parts. Cartridge case fabricating. Impact extrusion and coining. Part V, Various sheet metal forming methods Drop hammer forming of sheet metal parts Rubber forming of sheet metal parts. Stretch forming of smoothly contoured sheet metal parts. Contour forming and roll bending Spinning and roller flanging Index.

Note A treatise written on higher level than the typical text in the field. The main theme is the metallurgical bases for particular techniques. The book is therefore of more interest to engineers in charge of design and production methods in large manufacturing establishments than to workers in small shops. Nevertheless, the treatment is eminently practical, and fabricating techniques are described in explicit detail. There is liberal number of illustrations and the chapters are accompanied by selected bibliographies.

SCHWARTZ HARRY ADOLPH

Foundry science fundamentals underlying foundry practice. New York Pitman Pub-

[illegible] as lead. Recently developed processes, such as shell molding, are included. There are few pages on processes employed in the forming and fabricating of plastics materials, but the coverage of these processes is adequate, in view of their current importance. [illegible] Bibliographies, literature references are included. In addition to its usefulness as a text, the book is useful in libraries as a source of detailed information not only on such techniques as milling and [illegible] but also on how gears are [illegible] [illegible], etc.

RILEY MALCOLM W

Plastics tooling. New York Reinhold Publishing Corporation, 1955 123 p. illus. 18 cm. $2.50. 5972

Contents: Why plastics tooling? Pros and cons of plastics tooling. Plastics—an orientation. The plastics tooling resins. Fabricating [illegible]. Metal forming die tools. Checking, locating and assembly fixtures. Metal forming [illegible]. Plastics forming tools. Die models and prototypes. Experimental tools and the future. Selected bibliography. Index.

Note: An informative survey of a rather new development in manufacturing, the use of plastics instead of metals—or in some cases in combination with metals—in dies and other special [illegible]. The topic is covered primarily from the standpoint of [illegible]. Some information is included on how plastic tools are [illegible], but not enough to guide the tool maker who has had no experience with plastics. On the other hand, advantages and disadvantages from the cost and production angles, life of plastic tools, etc., are discussed in more detail. There is an index, but there are no literature references.

RISENOFF SAMUEL EUGENE

Manufacturing processes Chicago American Technical Society 1949 2 v illus. 22 cm. Vol. 1, $6.25 5973

Contents: Volume 1, Materials. The foundry and sand molding. Production of sand castings. Other casting processes. Hot forming of metals. Cold forming of metals. Welding, brazing, and soldering. Heat treatment of metals. Powder metallurgy. Plastics and plastic molding. Index. Volume 2, Production. The machine shop and metal cutting. Lathe operations and thread cutting. Lathes and screw machines. Milling machines. Drilling, boring, and reaming machines. Shapers, slotters, and planers. Metal-sawing and metal-filing machines. Broaching machines and broaching operations. Gears and gear manufacturing. Grinding and finishing machines. Inspection and quality control. Index.

Note: A practical survey of the major manufacturing techniques. The materials volume is concerned with the processes which generally precede fabricating techniques. The production volume describes the chief machine tools and the principal fabricating and finishing techniques. The work is liberally illustrated, and the chapters are supplemented by review questions and bibliographies. It is suitable for vocational school students and engineering college students. An overall introduction to modern manufacturing. The second edition of Volume II, Production was published in 1957 [illegible] p., $[illegible].

SEAMAN, ROBERT G., AND ARTHUR M MERRILL, editors

Machinery and equipment for rubber and plastics. Volume 1. Primary machinery and equipment. New York India Rubber World, 1952. 804 p. illus. 24 cm. $15.00. 5974

Contents (abridged): Mills. Mill accessories. Mixers. Calenders and accessories. Extruders. Extruder accessories. Presses, compression. Press accessories. Presses, injection. Molds and mold accessories. Web coating and handling equipment. Pressure vessels. Heaters, dryers, and coolers. Tire and tube machinery. Hose and belting machinery. Footwear machinery. Wire and cable machinery. Heel and [illegible] machinery. Latex machinery. Special plastics machinery. Appendix. Index.

Note: The first volume published of a projected two-volume work. It contains signed articles in which kinds of machines are discussed from the standpoint of their characteristics and uses. Systematic descriptions of the machines offered by various manufacturers in the United States of America are given, and a few advertisements included. In the first volume, there are 2 of the signed general articles bearing such titles as "Extrusion and applications of extruders" and "Hard chromium plating of plastic and rubber molds."

SIMONDS, HERBERT RUMSEY, AND OTHERS

Extrusion of plastics, rubber and metals. By Herbert R. Simonds, Archie J Weith and William Schack. New York Reinhold Publishing Corporation, 1952 454 p. illus. 24 cm. $11.00. 5975

Contents (abridged): Part 1, Extrusion of plastics: The plastics extrusion industry. Custom extrusion. Plastic materials for extrusion. Equipment for plastics extrusion. Theoretical aspects. Conditioning of compounds. Design and use of dies. Instrumentation. Monofilaments. Shapes and tubes. Sheeting and films. Plastic coatings on wire and other products. Part II, Extrusion of rubber, metal and miscellaneous materials. Appendix. Glossary. Manufacturers of extruded products. Manufacturers of extrusion equipment. Tables and conversion factors. General index.

Note: A practical survey of extrudable materials and extrusion processes. It is devoted mainly to the extrusion of synthetic plastic materials, but other materials are included as indicated in the title. It is intended for production engineers and others with practical interests in the subject. There are many tables of engineering data, and the numerous illustrations include photographs of extrusion equipment and operations. Possibly because the book is based primarily on a survey of current industrial practices, literature references have been omitted.

SOCIETY OF THE PLASTICS INDUSTRY INC

SPI plastics engineering handbook. New York Reinhold Publishing Corporation 1954 813 p. illus. 24 cm. $15.00. 5976

Contents: Section 1, Materials and processes: Classification of rigid molding materials. Molding. Preforming, drying and preheating. Extrusion and extrusion machines. Forming, drawing and postforming. Reinforced plastics. Casting. Tooling with plastics. Embedding. Vinyl dispersions. Laminated products. Section II, Design: Design of molded articles. Standards for tolerances on molded articles. Design standards for inserts. Mold design and recommended [illegible]. Section III, Finishing and assembly: Machining, finishing, and decorating. Cementing, welding, and assembly. Assembly [illegible]. Section IV, Testing: Testing plastics articles. Section [illegible], SPI standards. Voluntary commercial standards of the trade. Index.

Note: In essence this is the official handbook of technological information for the plastics fabricating industries. The actual authors of the various sections are not identified, but presumably they are included among the members of the 20 subcommittees whose membership is listed in the book in full. Starting materials, machinery, fabricating processes, finishing and decorating and testing are all covered with much specific detail. There are occasional lists of suppliers of materials. However literature references are not given. The first edition was published in 1948 and consisted of only 18 chapters totalling 431 pages. This edition with 20 chapters and 813 pages is organized differently and most of the contents is new.

WENDT ROBERT ERNEST

Foundry work a text on molding, dry sand coremaking, melting and mixing of metals, and problems in foundry management. Fourth edition. New York McGraw Hill Book Company Inc., 1942 261 p. illus. 19 cm. $4.00 5977

Contents (abridged): Preface to the fourth edition. Preface to the first edition. Part 1, Groups of casting metals—tools—flasks—molding sand—fundamental principles of molding. Part II, Exercises in bench and floor molding. Part III, Pattern equipment—standard pattern colors—designing castings—molding machinery—mass production. Part IV Dry-sand coremaking. Part [illegible] Cupolas—melting and mixing metals. Part VI, Non-ferrous metal founding. Part VII, Problems of foundry management—inspection of castings—defective castings—causes of defects—safety in foundries. Index.

Note: A text for vocational schools and for use by apprentices in commercial shops. The fundamental principles of foundry work are explained along with a general description of current foundry practice, including instructions for molding, coremaking, and other foundry work. The making of coke, the operation of blast furnaces, and the chemical analyses of iron have also been added. The fourth edition includes new exercises in molding, a study of the causes of defective castings, safety suggestions, and a glossary and bibliography

CRANE, EDWARD VILLEROY

Plastic working of metals and non metallic materials in presses. Third edition. New York John Wiley & Sons, Inc., 1944 540 p illus 22 cm $9 00 5965

Contents Mass production. Essential metallurgy Shearing metal in dies. The shearing group of press operations. Bending operations. Expanding, contracting and curling. Cold-working of plastic metals. The drawing group of press operations. Drawing speed, lubrication annealing. Cold operations of the squeezing group. Extrusion. Hot press forging. Press characteristics and modifications. Automatic production. Diversified production. Plastic states, metallic and nonmetallic. Molding and forming. Appendixes Problems. Index.

Note. In earlier editions this book was entitled *Plastic working of metals and power press operations*. It constitutes handbook of the mass methods of press working materials, telling how and why metals move and are moved, for use in planning operations, dies, and molds, and in making them function. In this edition the original discussion of sheet metal working and forging has been expanded to include powdered metals, synthetic plastic powders, ceramics, papers, sheet plastics, and laminated materials of many types. Illustrations are given of tools, equipment, and methods.

DELMONTE, JOHN

Plastics molding New York John Wiley & Sons, Inc., 1952 493 p illus 24 cm $10 00 5966

Contents Introduction to plastics molding materials. Hydraulic pumps for molding presses. Mechanical pressure systems. Hydraulic accumulators and packings. Valves for the molding plant. Distribution of gases and fluids. Heat for the molding of plastics. Material preparatory equipment. Compression and transfer molding equipment. Design f compression and transfer molds. Injection molding machines. Design features of injection molds. Extrusion equipment for plastics materials. Finishing accessories for the plastics molding plant. Instrumentation for the molding plant. Plant layout. Author index. Subject index.

Note. A thorough book on the plant and equipment aspects of the plastics molding industry In most of the chapters particular process is described concisely then the machines and equipment for carrying out the process are discussed. However the emphasis is on principles and uses, and the author does not attempt to describe all available machines. Such topics as molds are discussed from the engineering and design viewpoints. The book is of interest to trained engineers concerned either with the organization of plastics molding plants or with their management.

DU BOIS, JOHN HARRY, AND W I PRIBBLE

Plastics mold engineering the fundamentals of plastics mold design and construction. Chicago American Technical Society 1946 494 p illus (part col'd) 22 cm. $7 50 5967

Contents Plastics molding. Plastics product design. Types of molds. Tool-making equipment and methods. Materials for mold making. Designing and drafting practice. Compression molds. Transfer molds. Injection molds. Cold-mold and extrusion die design. Special fixtures. Mold sampling and maintenance. Appendix. Abbreviations and symbols. Index.

Note A relatively thorough treatment. It is intended for designers of plastics articles and for mold-makers. Mold designing and making are treated at length, and there is good deal of useful supplementary material such as tabular statements of the properties of moldable plastic materials, tables of mold pin sizes, ram pressures, screw threads, etc. The book is copiously illustrated with photographs and diagrams of molds and mold-making equipment.

DUMOND THEODORE C

Fabricated materials and parts. New York Reinhold Publishing Corporation, 1953 332 p illus 23 cm. $6 50 5968

Contents The problem of selecting methods for small parts. Cost as a factor in selecting fabricated materials and parts. Production and design factors. Sand castings. Permanent mold castings. Plaster mold castings. Die castings. Investment castings. Drop forgings. Press forgings. Upset forgings. Cold headed parts. Stampings and press formed parts. Impact extrusions. Extruded shapes. Powder metal parts. Spun shapes. Screw machine parts. Electroformed parts. Sectioned tubing. Welded, brazed and adhesive bonded parts. Molded plastics. Formed nonmetallic materials. Index.

Note. In this book, the chief methods available for the manufacture of small parts and shapes are reviewed from the standpoint of design engineers and other technologists concerned with the selection of manufacturing methods. The material in a typical chapter is organized as follows a concise description of the process; primary and secondary operations cost factors advantages and limitations; materials, dimensions and tolerances; design considerations; and a final summary paragraph of advice on how to select the particular process in preference to others. Also included in the book is a long chart entitled, "Cost design and production factors in selecting fabricated materials and parts. The author is editor of *Materials & methods* and the book is based on articles that were published in that magazine.

EPSTEIN, GEORGE

Adhesive bonding of metals. New York Reinhold Publishing Corporation, 1954 218 p. illus 18 cm $2 95 5969

Contents. Introduction—the place of industrial adhesives in metal fabrication. Basic materials for adhesives. Formulation—some typical adhesives. Special high temperature adhesives. Design and testing of adhesive joints. Bonding techniques. Adhesives for metals in sandwich constructions. Appendix: Requirements of Specifications (MIL-A-8431 USAF) Mechanical properties. Selected references. Index.

Note. The joining of metals by adhesives rather than by welding or riveting is already an established technique in certain fields. This small book is an introduction to the kinds of adhesives available, to the methods of using them and to related data of interest in structural and design engineering. No aspect of the topic is treated exhaustively but the information presented is specific and includes exact descriptions of techniques and of adhesives. A list of references is included for the guidance of those who need more information on particular points, but the text is not keyed to the bibliography.

HESSE, HERMAN CARL

Engineering tools and processes, a study of production technique. New York D Van Nostrand Company Inc. 1941 627 p. illus. 23 cm. $7 00 5970

Contents. Engineering materials. Engineering elements. Power transmission elements. Unit-production system measurement. Sand casting processes. Forging and allied processes. Sheet metal working processes. Machining and surface finishing principles. Woodworking processes. Drilling and allied processes. Lathe processes. Single-point tool machining processes. Milling processes. Surface finishing processes. Welding and allied processes. Miscellaneous unit-production processes. Mass-production system measurement. Production system processes. Mass-production casting processes. Appendix Index.

Note This textbook combines the material usually covered in the college shop course, with discussions of the techniques and operations of mass production. It teaches the student the facts and methods about the basic shop processes which are taught to every mechanical engineer and it correlates with these discussions the further developments which have produced the mass production industries. The operating principles of each machine are shown by specially prepared diagrams, and in several instances the illustrations are grouped in series to demonstrate the operational sequence in a particular process.

MORRIS, JOE LAWRENCE

Modern manufacturing processes. Englewood Cliffs N J Prentice-Hall Inc. 1955 533 p. illus. 24 cm. $7 00 5971

Contents The manufacturing synthesis—equipment, methods, and products. Foundry materials. The development of iron and steel products. Foundry practices. Special casting methods, forming plastics, powder metallurgy Working of metals. Heat treatments of metals. Testing of engineering materials. Welding processes and applications. The lathe. Turret lathes and screw machines. Automatic and semi-automatic turning machines. Drilling, boring, reaming. Milling machines. Shapers and planers. Threading. Jigs. Broaching. Gear and gear making. Abrasive processes. Presses and press forming. Gaging and inspection. Index.

Note: A college textbook in which practically all the processes employed in present-day manufacturing of metal articles are at least mentioned. Reasonably detailed descriptions of the major processes and tools are given, but for minor processes the descrip-

GRAHAM, A. KENNETH editor

Electroplating engineering handbook. Prepared by a staff of specialists. Editor A. Kenneth Graham. Assistant editor H. L. Pinkerton. New York Reinhold Publishing Corporation, 1955 650 p. illus. 27 cm. $10.00 5983

Contents Glossary by F A. Lowenheim. Part I, General processing data: Tables of data, by E. B. Bowerman, Jr. Design for plating, by C. F. Kern and others. Metal surface preparation and cleaning, by H. J. Read and others. Typical processing and operating sequences, by A. H. DuRose. Water requirements for plating, by C. E. Fisher and L. R. Sperry. Plating bath compositions and operating conditions, by A. K. Graham. Plating standards and specifications, by F. Ogburn. Trouble shooting, by R. B. Saltonstall. Analysis of plating baths, by M. B. Diggin. Testing electrodeposited coatings, by H. J. Read and others. Waste disposal, by H. L. Pinkerton. Plating and metal finishing costs, by L. J. Durney. Industrial hygiene and safety, by A. D. Brandt. Metallurgy for the electroplater, by H. J. Read. Surface protection and finishing treatments, by A. Durey and others. Part II, Engineering fundamentals and practices: Plant location and layout, by A. K. Graham. Floor-plans and construction, by R. R. Pearce. Tanks, by J. V. Ross and A. K. Graham. Linings, by M. Glover. Heating and cooling practices and equipment, by R. F. Ledford and H. L. Pinkerton. Racks—design, construction, insulation, and maintenance, by E. E. Seago. Manually operated installations, by A. K. Graham. Barrels, by E. G. Salzberg. Semi- and fully-automatic plating machines, by M. J. Mell. Continuous plating equipment for steel mill products, by E. M. Wick. Anode and cathode rod and bus systems, by A. K. Graham. Exhaust systems, by A. P. Brandt. Anodes and rubber-type ... components, and related data, by H. L. Pinkerton. Low voltage D-C generators, by C. Beyer. Rectifiers, by L. W. ... Periodic reverse current plating, by M. Coronn. Rinsing, by H. L. Pinkerton. Drying practices and equipment, by H. L. Pinkerton. Filtration, by H. W. Pratt and A. K. Graham. Auxiliary equipment for the plating room, by H. L. Pinkerton. Maintenance, by R. B. Saltonstall and others. Index.

Note A well-rated, and authoritative reference book. It is addressed to engineers and technicians who are concerned with electroplating from the industrial rather than the academic viewpoint. The contributors are all associated with industrial firms, universities or government units in capacities that indicate authority on the topics about which they have written. In the second part of the volume, electroplating is treated as a chemical engineering process within the purview of chemical engineers as well as technicians. Selected literature references are included in most chapters.

POWELL, C. F., AND OTHERS

Vapor-plating; the formation of coatings by vapor-deposition techniques. By C. F. Powell, I. E. Campbell, and B. W. Gonser. Sponsored by the Electrochemical Society Inc. New York John Wiley & Sons, Inc. 1955, 158 p. illus. 24 cm. $5 50 5984

Contents Introduction. Metals. Carbides. Nitrides. Borons and borides. Silicon and silicides. Oxides. Author index. Subject index.

Note This book is a survey of the present state of vapor-plating, the art of formation of coatings by chemical reduction or decomposition of volatile compounds of the coating materials upon heated surfaces. Physical methods, such as "sputtering" under vacuum, are not included. The historical development, general techniques, and apparatus and applications are treated briefly in the introduction. The chapter entitled "Metals" summarizes for each of the metals—beginning with copper and including less-common ones, such as tungsten and uranium—procedures for forming volatile compounds and for depositing them from the vapor state. Succeeding chapters deal in the same way with the vapor deposition of the major classes of compounds. All of the chapters are based on extensive literature surveys and include lengthy bibliographies to which the texts are keyed. The authors, members of the staff of Battelle Memorial Institute, have themselves made numerous published contributions to the field.

SIMONDS HERBERT RUMSEY AND ADOLPH BREGMAN

Finishing metal products. Second edition. New York McGraw Hill Book Company Inc., 1946 352 p. illus. 21 cm. $9.50 5985

Contents (abridged) Commercial aspects of finish and appearance. Preparation for the finish of metal products. Polishing and buffing. Plating and spray coating. Organic coating. Special finishes. Index.

Note This book is designed primarily for manufacturers and designers of industrial products. It points out the sales value of good finishes, and then reviews finishes and finishing methods from a practical viewpoint. The usual types of finishing are considered, including sprayed-metal coating, enameling, lacquering, and the dyeing of aluminum. In this revision, the entire subject as treated in the first edition (1935) has been brought up to date, and two new chapters added on metal coloring, and electroplating costs and estimating. Of special interest also are the new pages devoted to plating on plastics, special metal coating processes, and electrolytic polishing.

WELDING

ALTHOUSE ANDREW DANIEL, AND CARL H TURNQUIST

Modern welding practice. With the collaboration of George E. Tabraham and Burl E. Ott. Second edition. Chicago Goodheart Willcox Company Inc., 1951 498 p. illus. (part col'd) 22 cm. $5.00 5986

Contents Oxy-acetylene welding theory and practice. Oxy-acetylene welding equipment and supplies. Electric welding theory and practice. Electric direct current arc welding practice, equipment, and supplies. Alternating current arc welding. Electric resistance welding practice, equipment and supplies. Inspecting and testing welds. Soldering and brazing. Non-ferrous welding. Pipe and tube welding. Cast iron welding. Special ferrous metal welding. Cutting. Special forms of welding. Manufacture of metals. Properties and identification of metals. Heat treatment of metals. The welding shop. Modern welding, brazing and soldering applications and equipment. Technical data. Index.

Note This book is used both as a text in vocational schools and as an elementary reference book. All types of welding are covered in a simple, practical style, and the discussions are supplemented by 349 figures and numerous tables of data. The coverage is not encyclopedic but is adequate for beginners. The first edition appeared in 1942. One entirely new chapter has been added in this edition, and there are other useful revisions.

AMERICAN WELDING SOCIETY COMMITTEE ON BRAZING AND SOLDERING

Brazing manual. New York Reinhold Publishing Corporation 1955 193 p. illus. 24 cm. $4 75 5987

Contents Brazing processes, equipment and procedures. Properties of base metals. Brazing filler metals. Fluxes and atmospheres. Drafting room practices. Joint design. Precleaning and surface preparation. Assembly. Techniques of brazing. Postbraze operations. Inspection. Aluminum and aluminum alloys. Magnesium. Copper and copper alloys. Low-carbon and low-alloy steels. Stainless steels. High-carbon and high-speed tool steels. Cast irons. Heat-resistant alloys. Nickel and high-nickel alloys. Precious metal contacts. Other metals. Safety and health protection. Appendix: Properties of brazeable metals and alloys. Index.

Note Brazing is an old method of joining metals, and it is still as important today as it was many years ago. This book is the only modern full-scale treatment of it in English. Each of the chapters—the titles of which are given above—is a concise presentation of information on techniques or of relevant reference data. The 20-page table in the appendix provides data on composition, yield strength, elongation, hardness, melting range, etc., of metals and commercially available alloys which may be joined by brazing. The book is authoritative and complete, except that it does not cover brazing of jewelry or of plastic materials. It is of interest not only to technicians in the metal fabricating industries but also to engineers, product designers and other persons who are interested in metal manufacturing techniques.

AMERICAN WELDING SOCIETY RESISTANCE WELDING COMMITTEE

Resistance welding: theory and use. New York Reinhold Publishing Corporation 1956 163 p. illus. 24 cm. $4.50 5988

FINISHING OF METALS

American Society for Metals

Surface treatment of metals. This book contains the papers and discussions constituting the symposium on the surface treatment of metals presented before the twenty second annual convention of the American Society for Metals held in Cleveland, October 21 to 25, 1940 Cleveland American Society for Metals, 1941 427 p illus 23 cm $5 00 5978

Contents Anodic treatment of aluminum, by J D Edwards. The passivation and coloring of stainless steel, by G. C. Kiefer The surface treatment of magnesium alloys, by H. W Schmidt and others. Corrosion resistance of tin plate—influence of steel base composition on service life of tin plate containers, by R. R. Hartwell. Zinc coatings—unit operations, costs and properties, by J L. Bray and F R. Morral. Diffusion coatings on metals, by F N Rhines. Surface reactions and diffusion, by J E. Dorn and others. Heat treating with induction heat, by E. Blasko. Inherent characteristics of induction and hardening, by M. A. Tran and H. B Osborn Jr Flame pretreatment of structural steel surfaces for painting, by J G. Magrath. Shot blasting and its effect on fatigue life, by F P Zimmerli. Effect of surface conditions on fatigue properties, by O. J Horger and H. R. Neifert. Chip formations, friction, and high quality machined surfaces, by H. Ernst and M. E. Merchant. Observations on the tarnishing of stainless steels on heating in vacuo, by V C. F Holm. The tracer method of measuring surface irregularities, by E. J Abbott.

Note The papers in this volume are for specialists. Most of them are accompanied by bibliographies, and all of them are accompanied by discussion.

Blum, William, and George B Hogaboom

Principles of electroplating and electroforming (electrotyping) Third edition. New York McGraw Hill Book Company, Inc. 1949 455 p illus. 24 cm. $8 00 5979

Contents (abridged) Principles of chemistry Principles of electricity and electrochemistry Factors that govern the character and distribution of electrodeposits. Analysis of solutions. Preparation for electroplating. Electrical equipment. Tanks and their equipment. Types of metals and solutions. Alloy deposition. Appendix. Author index. Subject index.

Note In the 20 years that passed between the second and third editions of this well-known book the basic knowledge of electroplating was greatly extended and the techniques of plating considerably modified. These developments are adequately reflected in this edition. The book is designed for practical workers in the industry and for chemists and engineers who are not specialists in plating but who need, on occasion, a concise and reliable description of plating principles and techniques. Chapters 12 to 21 the titles of which are not listed above, discuss specific metals. Numerous formulas are incorporated in the text, and a selection of pertinent literature is cited in footnotes.

Burns, R M and W W Bradley

Protective coatings for metals Second edition New York Reinhold Publishing Corporation 1955 643 p illus 24 cm. $12.50 5980

Contents Principles of corrosion and corrosion control. Surface preparation for coatings. Types of metallic coatings and methods of application Sprayed metal coatings. Production and properties of zinc coatings. Protective value of zinc coatings. Cadmium coatings and their protective value Tin coatings. Nickel and chromium coatings. Coatings of copper lead, aluminum, miscellaneous metals and alloys. Coatings of noble and rare metals. Methods of testing metallic coatings. Organic coatings—chemistry and composition—performance and evaluation Application and use of protective organic coatings. Chemical conversion and anodized coatings. Special-purpose coatings. Corrosion inhibitors. Author index. Subject index.

Note. Known familiarly as Burns and Schuh, this useful manual has maintained a firm place in most technical libraries for fifteen years. In this second edition, with a new co-author, the book's purpose and the general scheme of organization remain the same. Historical, theoretical and practical information on useful methods of protecting metals against corrosion is presented concisely with emphasis on the practical aspects. The level of treatment is appropriate to an audience composed of such readers as engineers, industrial chemists and product designers. Literature references including patents are cited in footnotes and the names of the authors of the cited literature are assembled in the author index. This second edition represents very extensive revision and augmentation. Certain of the chapters, particularly those dealing with organic coatings and anodized coatings, are new and most of the chapters contain numerous revisions even in those cases where the titles are identical with the first edition. The subject index now runs to 25 pages.

Electrochemical Society, Inc.

Modern electroplating Edited by Allen G. Gray Sponsored by The Electrochemical Society, Inc , New York, N Y New York John Wiley & Sons Inc., 1953 563 p. illus. 24 cm $9 50 5981

Contents General principles, by W Blum and W R. Meyer. Methods of control, by R. A. Schaefer and others. Alloy plating, by C. L. Faust. Brass, by L. E. Weeg and H. J. Wiesner. Cadmium, by K. G. Soderberg and L. R. Westbrook. Chromium Tri-chromium plating process, by G. Dubpernell. Properties of chromium plate, by C. A. Snavely and C. L. Faust. Cobalt, by H. B Linford. Copper Rochelle copper by A. K. Graham and H. L. Read. High efficiency cyanide copper by R. R. Bair and D. Swalheim. Pyrophosphate copper by J E. Stareck. Acid copper electroplating and electroforming, by W H. Safranek and J. Winkler Gold, by L. Weisberg and A. K. Graham. Indium, by H. B Linford. Iron, by C. T Thomas and V A. Lamb. Lead by A. H. Du Rose and W Blum. Nickel, by W L. Pinner and others. Platinum group metals, by E. Schumpelt. Silver by K. Fromkel. Tin Stannate tin, by F Basch and F F Oplinger Acid tin, by P R. Pine and A. H. Du Rose. Immersion tin by F A. Lowenheim. Tin alloys, by F A. Lowenheim. Zinc Acid zinc, by E. H. Lyons, Jr and H. P Munger Cyanide zinc by R. R. Bair and L. J Schmolk. Uncommon metals, by F A Lowenheim. Plating on aluminum and magnesium. Uranium alloys, by F Keller Magnesium alloys, by H. K. DeLong. Appendix, by L. D McGraw and A. E. Tripler Jr Index.

Note. A well-edited reference handbook of background knowledge and specific information on techniques. Each chapter is written by a recognized expert and is based on the literature. The style is concise however, references to source articles are carefully cited for the guidance of those readers in need of fuller discussions of particular topics. The book is a successor to one of the same title published by The Electrochemical Society in 1942 Although some authors contributed to both books, this 1953 volume is essentially new work.

Enyedy, Ralph

Handbook of barrel finishing New York Reinhold Publishing Corporation 1955 255 p. illus. 26 cm. $8.25 5982

Contents. The economics of barrel finishing. Room layout for barrel finishing. Finishing compounds and media. Barrel types. Auxiliary handling equipment. Cleaning and derusting with sawdust. Self-tumbling. Barrel tumbling with chips. Barrel finishing with soft metal grinding forms. Polishing and burnishing in barrels. Barrel finishing with the multibarrel. Self-tumbling in tilt barrels. Parts applicable to chip tumbling. Finishing in small horizontal barrels. Parts applicable to larger horizontal barrels. Parts applicable to triple action barrels. Coloring, polishing and burnishing. When machining comes between operations. Interesting applications of barrel finishing. Index.

Note The finishing process with which this book deals is also called tumbling. In various modifications it is used for a considerable range of operations on metal parts including descaling, deburring, polishing and cleaning. This book, written by a specialist associated with the Westinghouse Electric Corporation, is a comprehensive practical manual of the process and covers its use not only for rough finishing but also for precision work. Aspects, such as equipment and finishing compounds, are covered concisely and explicitly A considerable part of the space is devoted to reproductions of specification sheets that cover a wide variety of finishing operations. These are filled out completely as they would be for actual factory jobs.

[illegible] Arc welding [illegible] by [illegible] and [illegible] Section [illegible] Arc-welded [illegible], by [illegible] Arc-welded [illegible] freight locomotives, by [illegible] Locomotive boilers, by John F. [illegible] Arc-welded passenger cars, by J. E. [illegible] Construction of rail [illegible] cars, by J. C. [illegible] Section [illegible] Small boats arc welded, by William [illegible] and boat [illegible], by [illegible] Section [illegible] Welded [illegible] by [illegible] Steel and [illegible] compared, by [illegible] Welded steel [illegible] for subways, by [illegible] Section [illegible] Furniture and fixtures: Arc welding of [illegible] by [illegible] Bed [illegible] and bed springs, by [illegible] by [illegible] Section [illegible] Commercial welding. Section [illegible] Section [illegible] Machinery: [illegible] by [illegible] welding [illegible] by W. G. [illegible] Arc-welded [illegible] by Richard [illegible] by [illegible] Tractor [illegible] by [illegible] Modern welded [illegible] by [illegible] Arc welding in [illegible] machinery, by [illegible] Index.

Note. A [illegible] of 51 technical papers on various phases of the arc welding process. The authors are executives, engineers, [illegible] of production, construction and maintenance, and each has had considerable experience in his particular field. The papers were chosen from among the hundreds submitted in the Foundation's award program which is designed to stimulate the use of arc welding in industry through research and education in the [illegible] and practical applications of the process.

Jefferson T B., and G. Woods

Metals and how to weld them. Cleveland The James F Lincoln Arc Welding Foundation, 1954 322 p. illus. 22 cm. $2.00 in the U.S.A. $2.50, other countries. 5995

Contents. What's this all about. Mechanical properties of metals. Physical properties of metals. The metals we use. Non-ferrous metals. Methods of welding. Fundamentals of metallurgy. Metallurgy and heat treating. Metallurgy and welding. Welding low-carbon steel. Medium carbon steel. High carbon steel. Welding alloy steels. Cast iron properties and welding. Stainless steels and high chromium [illegible]. Austenitic manganese steel. Non-ferrous metals and alloys. Hardfacing. Tool and die steels. How to make good welds. Appendix. Index.

Note. The first eight chapters of this book are devoted to basic metallurgical knowledge. In the remaining twelve chapters, the basic knowledge is related to welding and welding techniques are described explicitly and in detail. The presentation is elementary and the book is for such readers as vocational school students, [illegible] and practical welders. It is fully illustrated.

Lincoln Electric Company

Procedure handbook of arc welding design and practice. Ninth edition. Cleveland Lincoln Electric Company 1950 1,200 p. illus. 22 cm. 5996

Contents (abridged). Arc welding history, processes, equipment and nomenclature. Weldability of metals. Techniques, procedures, speeds, and costs for welding mild steel. Basic design data for welded construction. Machinery designed with arc welded construction. Designing of arc welded structures. Inspection and testing of weld metal and welding operators. Miscellaneous applications of arc welding and manufacture, construction and maintenance. Index.

Note. A comprehensive reference book on electric arc welding. It describes techniques thoroughly, includes a wide range of reference data, discusses the design of structures to be built by arc welding, and illustrates the applications of arc welding in a variety of fields. The 11th edition was published in 1957. $3.00.

Linde Air Products Company

The oxy-acetylene handbook. A manual on oxy-acetylene welding and cutting procedures. New York. The Linde Air Products Company Unit of Union Carbide and Carbon Corporation, 1943 587 p. illus. 24 cm. $2 70. 5997

Contents (abridged). Part I. General principles of oxy-acetylene process. Historical development of the oxy-acetylene process. The oxy-acetylene flame. Set-up and operation of equipment. General procedures in welding and cutting work. Metal properties important in welding. Tests for identifying metals. Expansion and contraction. Part II. Oxy-acetylene welding of ferrous alloys. The constitution and properties of iron alloys. Fusion welding sheet steel. Fusion welding and steel pipe. Welding steel pipe. Welding wrought iron, high-carbon steel, and cast steel. Welding alloy steels. The [illegible] of bronze-welding. Welding cast iron. Part III. Oxy-acetylene welding of non-ferrous alloys. Welding aluminum. Welding copper and copper alloys. Welding nickel and nickel alloys. Welding magnesium. Welding lead. Part IV. Miscellaneous applications. Bronze surfacing. Hard-facing. Lengthening the [illegible] of wearing parts. Bronze-brazing. Oxy-acetylene heating and flame-treating. Part [illegible] Oxy-acetylene cutting. Principles of oxygen cutting. Manual flame-cutting operations. Machine flame-cutting. Part VI. Inspection and management. Inspecting and testing welds. The business side of welding. Part [illegible] (Appendix). Welding and cutting data. The oxy-acetylene flame and its uses. Index.

Note. Intended primarily as a book of instruction in vocational schools and shops, this manual covers, in a comprehensive manner, most aspects of oxy-acetylene welding and cutting. It has been reprinted many times. [illegible] 1943.

Linde Air Products Company

Welding and cutting manual how to use your oxy-acetylene outfit. Welding cutting heating bending, brazing, soldering. New York Linde Air Products Company 1949 203 p. illus. 24 cm. $1.50. 5998

Contents. The hottest flame on earth—wherever you need it. Forming, bending, and straightening metals. Soldering and brazing with the oxy-acetylene flame. Steel and cast iron cut as easily as wood. Repairing and rebuilding by welding. Hard-face wearing parts for long life. Welding and cutting steel pipe. Points to remember in welding most common metals. 100 things you can make. How to set up and operate your outfit. Appendix. Index.

Note. Addressed to men who are not professional welders, this practical book describes the basic techniques and a variety of applications of oxy-acetylene welding. It is directed to such users of welding as farmers, automobile mechanics, and amateur craftsmen. It is clearly written and very fully illustrated. The chapter entitled "100 things you can make" gives directions and shows illustrations of 100 small devices ranging from domestic inventions to ornamental signs.

Morris Joe Lawrence

Welding principles for engineers. New York Prentice-Hall, Inc., 1951 511 p. illus. 22 cm. $9.00. 5999

Contents. Welding metallurgy. A survey of the welding processes: characteristics and applications. Testing and inspection of welds. Welding of commercial metals. Braze welding, brazing, soldering. Surfacing. Metal spraying. Filler materials. Flame heat-treatment. Oxygen cutting. Stress and distortion. Design for welding. Factors affecting welding production economy. Index.

Note. The special viewpoint of this book is evident from the title and table of contents. Welding is treated as a technique of metal fabrication. All of the practical welding processes are described. Welding techniques are discussed in some detail, but the discussions are directed to design and production engineers rather than to welders. The book was written for use as a text in engineering colleges, but it is suitable also for engineers in industry who desire an over-all view of the subject. There are 33 tables and 245 figures.

Morris Joe Lawrence

Welding processes and procedures. New York Prentice-Hall Inc., 1954 255 p. illus. 22 cm. $5.35 6000

Contents. Electric arc welding. Oxy-gas welding. Electric resistance welding. Miscellaneous welding processes. Welding metallurgy. Welding of commercial metals. Testing and inspection. Stress and distortion. Welding design. Metal spraying and surfacing. Braze welding, brazing, and soldering. Oxygen cutting. Factors in welding economy. Welding exercises. Bibliography. Index.

Note. A relatively short book which is also easy to read. The established methods of welding are described, and related subjects, such as the inspection of finished weld and design for welding, are

Contents Definitions of resistance-welding terms. Principles of resistance welding. Resistance-welding processes. Resistance-welding equipment. Welding symbols. Weldability of metals and precautions required. Weld quality Procedure specifications and qualification. Inspection and testing. A.W.S. standards and books. Index.

Note An authoritative handbook on terminology principles, processes, testing methods, etc. It is addressed to welding technicians, welding inspectors, and also to engineers and designers who are interested in resistance welding as manufacturing technique. Much of the material has been taken from previous publications of the American Welding Society however it is rendered more available and convenient to use in this manual. The volume is well organized and is adequately illustrated and indexed.

AMERICAN WELDING SOCIETY WELDING HANDBOOK COMMITTEE

Welding handbook. Third edition. New York American Welding Society, 1950 1 651 p illus 24 cm. 5989

Contents (abridged) Fundamentals of welding Standard welding terms and their definitions. Physics of welding. Fundamentals of welding metallurgy Gas welding processes. Arc welding processes. Resistance welding processes. Miscellaneous welding processes Forge welding. Thermit welding. Induction welding. Surfacing and metallizing. Brazing. Soft soldering. Cutting processes. Metals Iron wrought iron and carbon steels. Chromium irons and steels. Aluminum and aluminum alloys. Magnesium and magnesium alloys. Copper and copper alloys. Nickel and high-nickel alloys. Lead and zinc. Clad steels. Design and cost considerations. Inspection and quality control. Applications. Buildings. Bridges. Machinery construction. Pressure vessels and boilers. Railroads. Automotive products. Aircraft. Transmission pipe lines. AWS standards. Standard welding symbols. Standard methods for mechanical testing of welds. Author index. Subject index.

Note A standard encyclopedia of information about welding. Pictures of equipment and techniques are included, as are bibliographies of pertinent literature. In this edition the work has been substantially revised with much added material. The type was reset, and the book is now printed two columns to the page. The subject index ally revised with much added material. The type was re-set, and the alone runs to 69 pages. The fourth edition is being published in five sections. The first section appeared in 1957 560 p., $9.00.

AUSTIN, JOHN BENJAMIN

Electric arc welding Chicago American Technical Society, 1952 280 p illus. 22 cm. $4 00 5990

Contents History and scope of welding. Arc welding machines. Electric arc welding accessories. Fundamentals of arc welding. Lessons in electric arc welding. How to weld common metals and alloys. Hard facing. Pipe welding. Arc-welding symbols. Machinery welding Structural welding. Common methods of testing welds. Special metal arc processes. Index.

Note A simply written, practical text for vocational school students and beginning welders. In addition to the descriptions of arc welding equipment and general techniques, information is included on number of specialized techniques, such as bell hole welding in pipeline construction. The book is generously illustrated.

BRUCKNER, WALTER H

Metallurgy of welding New York Pitman Publishing Corporation 1954 290 p illus 24 cm. $7 50 5991

Contents Heat flow in metals. Metallic arc welding Torch welding with gases and gas Arc welding with carbon and tungsten electrodes, protective and inert gases. Pressure welding. Thermit welding. Resistance welding. Bonding with brazing, bronze and eutectic. Surface treatments hard facing, flame hardening and metal spraying Residual stresses, distortion, and stress-relieving methods. Specifications for base metal, electrodes. Weldability of metals. The economics of welding and design. Appendixes Metallurgical principles. Special digests of welding literature. General reference books. National standardizing agencies. Index.

Note In this book, established welding processes and related processes such as brazing, metal-spraying, and hard-facing are discussed from the metallurgical and production viewpoints. Processes are described for the benefit of engineers and metallurgists rather than welders; and subtopics, such as weldability and the effects of welding heat upon metal properties, are discussed in terms of metallurgical principles. However the book is not full-blown treatise on metallurgical aspects as the title implies. It is instead a well-written and useful account of welding in general, with emphasis on those aspects of the welding and related processes that are of most concern to graduate engineers. The author is Research Associate Professor of Metallurgical Engineering in the University of Illinois.

GREEN, ROBERT S , AND OTHERS, editors

Design for welding Editor, Robert S. Green, associate editors, Douglas C. Williams and Charles B Smith. Cleveland The James F Lincoln Arc Welding Foundation, 1948 1042 p illus. 22 cm $2 50 5992

Contents (abridged): The James F Lincoln Arc Welding Foundation—creation, objectives and activities. Section I, Aircraft: Arc welded assembly of the B-36 engine mount, by E. C. Casmedine. Section II, Automotive Design of an all welded bus body by H. C. Woods. Casting vs weld fabrication, by N. E. Wheeler. Section III, Railroad: Improvements in welding of Diesel electric locomotives, by R. H. Macy Low-alloy welded box cars, by Max Seel. Section IV Watercraft 67 ft. 0 in. commercial fishing dragger by E. Manhans Jr Section V Containers: Arc welded vacuum drying ovens, by C. H. J Cooley Container for the transportation of liquid chemicals, by A. F Meyer. Section VI, Furniture: Tele cabinet, by Victor Weidner Section VII, Structures: A five span all welded viaduct, by J. F Willis. A welded ore handling bridge, by R. E. Mumma. Arc welded steel column assemblies for coil forms and stucco houses, by A. Ban. Section VIII, Machinery A new type concrete mixer by J P Woods. Automatic forming, boring and drilling machine, by E. M. Barrett. Design and manufacture of welded centrifugal pump, by V E. Meyers. Fabricated gears, by R. F Fay Arc welded steam platens, by H. O. Lehman. An arc welded mining machine, by E. Schmierer. Section IX, Welding Index.

Note Each chapter in this book shows how a special problem in machine or equipment design was solved by the use of welding. Welding techniques applied in actual engineering structures and products are described by professional engineers. The book is of interest to design and production engineers.

HENRY, OTTO HAZELTON, AND G E CLAUSSEN

Welding metallurgy iron and steel, revised by G E Linnert. Second edition New York American Welding Society, 1949 505 p. illus. 20 cm. $3 00 5993

Contents. Metallurgy of welding. Types of steel and their manufacture. Welding methods and processes. Temperature changes in welding. The structure of metals. The mechanical properties of metals. Effects of alloying elements. Fluxes and slags. Simple welds in iron and steel. Shrinkage in welds. Preheating and postheat treatment. Difficulties and effects. Welding plain-carbon and low-alloy steels. Welding stainless and heat-resisting steels. Welding tests. Appendixes Metallurgical data. Questions and problems. Abbreviations and chemical symbols. Index.

Note A practical discussion for welders of the structure, properties, and composition of steels and other ferrous alloys. The material in the previous edition has been consolidated, rearranged, and amplified. A new chapter on welding tests has been included, and an index has been added. Other additions are the suggested reading given at the end of each chapter 60 new figures throughout the text, and new review questions. In accordance with general usage the Fahrenheit temperature scale has been substituted for the Centigrade.

JAMES F LINCOLN ARC WELDING FOUNDATION

Studies in arc welding design manufacture and construction. Cleveland, O The James F Lincoln Arc Welding Foundation 1943 1295 p illus 22 cm $2.50 5994

Content (abridged) Section I, Automotive Low-cost grading and hauling, by John F Dillon, Jr Universal joint drive shafts, by D. F ... by W W Knight. Arc welding in bus construction, by E. W Jacob Wagner. Wheel mounting for racing automobile, by G. J. Martinson and F F Vanew High-speed dirt movers, by ... economically Section II, Aircraft Welding aircraft engine mounts ... Erik K. by Peter F Rossmann. Aircraft propeller blade, by

June 27 1949 Philadelphia. American Society for Testing Materials, 1950 95 p. illus. 23 cm. (Special technical publication no. 96) $1.75. 6007

Contents: Introduction, by L. W. Ball. Recent progress in flash radiography, by J. C. Clark. [illegible] X-ray technique, by D. T. O'Connor and others. Radiography and autoradiography by [illegible], by D. T. O'Connor and W. R. Maddy. Modifying the [illegible] generator for [illegible] radiography, by R. A. Barrill. A [illegible] exposure calculator for [illegible] radiography and its application [illegible] radiographic films and techniques, by M. A. Kahn and others. A discussion of radiographic sensitivity, by C. H. Hastings. A [illegible] procedure for establishing radiographic standards, by L. W. Ball. An investigation of radiography in the range from 0.5 [illegible], by W. W. Buechner and others.

Note: A collection of reports on new developments in the application of X-rays to the observation of internal structures of engineering parts and to nondestructive testing techniques. Descriptions are given of the apparatus and methods used by the authors in their research work carried on at such points as the Naval Ordnance Laboratory and the Massachusetts Institute of Technology. Written for engineers, physicists, and manufacturers of engineering materials.

American Society for Testing Materials

Symposium on the rôle of non-destructive testing in the economics of production. Presented at the fifty-third annual meeting, American Society for Testing Materials Atlantic City N. J., June 27 1950. Philadelphia, American Society for Testing Materials, 1951. 157 p. illus. 23 cm. (Special technical publication no. 112) $2.50 6008

Contents: Introduction, by R. H. Lester. A basic guide for management's choice of non-destructive tests, by R. C. McMaster and S. A. Wenk. Discontinuities in cast and wrought products that can be revealed by non-destructive tests, by K. R. Van Horn. The rôle of non-destructive testing in the economics of castings, by J. W. [illegible]. The economics and practical applications of cobalt 60 in the radiographic inspection of steel weldments, by W. L. Schertz. The economics of wrought steel inspection, by C. D. Moriarty. Management responsibility for [illegible] on nondestructive testing [illegible] the development of new engineering products and processes, by L. W. Ball.

Note: The general purpose of this symposium was to acquaint [illegible] and management engineers with the value of non-destructive testing [illegible] improving the quality of manufactured products. Specific tests and their fields of application are described and discussed in each paper. However, the bulk of the material is contained [illegible] the first paper where the basic principles and features of 13 test methods are summarized. Included are [illegible] tabulation of 150 [illegible] methods and [illegible] bibliography of approximately 520 references.

American Society for Testing Materials

Symposium on ultrasonic testing, presented at the fifty-second annual meeting of the American Society for Testing Materials, Atlantic City N. J., June 28, 1949 Philadelphia. American Society for Testing Materials, 1951. 133 p. illus. 23 cm. Special technical publication no. 101) $2.00 6009

Contents: Introduction, by H. C. Arnsberg. Ultrasonic wave propagation in materials [illegible] guide to theoretical results, by L. Gold. Inspection, processing, and manufacturing control of metals by ultrasonic methods, by C. H. Hastings and S. W. Carter. Basic principles of pulsed ultrasonic testing, by J. C. Smack. Ultrasonics in the heavy forging industry, by J. C. Hartley. The application of ultrasonics to the inspection of aluminum, by J. V. Carroll. Ultrasonic testing in railroad work, by R. D. Hall. Ultrasonics in the electrical industry, by B. M. Lehman. Ultrasonic testing of bronze bearings and liners, by A. Finch. Pulse techniques applied to dynamic testing, by J. L. Locke. The measurement of dynamic modulus in adhesive joints at ultrasonic frequencies, by A. G. H. Dietz and others. General discussion.

Note. The technique of ultrasonic testing employs ultra high frequency sound [illegible] to detect internal or external flaws or foreign bodies in otherwise homogeneous masses. The papers and discussions in this technical publication present [illegible] summary of the history, theoretical aspects, basic principles of practical testing, and practical applications for the ultrasonic testing of materials. Ten of the papers [illegible] are presented at the meeting, and two at the 1950 annual A.S.T.M. meeting under the sponsorship of Committee E 7 on Non-Destructive Testing. The paper by Hastings and Carter is more extensive than the rest and contains [illegible] bibliography of 142 references, each reference being classified as to its general subject content.

Johnson Jack

Precision measurement methods and formulas. New York Pitman Publishing Corporation, 1948 181 p. illus. 24 cm. $3.50 6010

Contents (abridged): Checking taper. Measuring the angle between splines. Checking the angles of [illegible] tapered recess. Checking the included angle of [illegible] profile gage. Measuring the angle of [illegible] V groove. Checking the round clearance of [illegible] die. Measuring the angle of [illegible] cutter. Finding the radius of [illegible] circle segment. Finding the radius of [illegible] concave surface. Checking the amount of arc in [illegible] circular groove. Measuring the degrees of [illegible] cam lobe. Accurate layout method for index plates. Measuring the diameter of [illegible] recessed hole. Checking the [illegible] of [illegible] small concave surface. Checking an internal dovetail. Checking the [illegible] of [illegible] V groove with one wall perpendicular. Determining the best size of wire for checking threads. Helix-angle correction on three-wire measuring. Index.

Note: Fifty-seven relatively difficult inspection operations, such as are listed above, are considered in this book; and the equipment and procedure for carrying out each one are explicitly described. In each case, methods that require only standard instruments and simple accessories, such as balls, pins and discs, are shown. The measurements made [illegible] these simple tools must in most cases be supplemented by mathematical calculations. T[illegible] aid in these calculations the elements of trigonometry and square roots are reviewed in preliminary chapters.

Kennedy Clifford W

Inspection and gaging: a training manual and reference work. New York Industrial Press, 1951 502 p. illus. 24 cm. $9 00. 6011

Contents: The need and function of inspection. How specifications and the inspector. Tolerances and allowances. How standards aid the inspector. Basic principles and techniques of measurement. Fixed gages. Surface plate methods and equipment. Mechanical indicating equipment. Electrical and air indicating equipment. Optical measuring and inspection equipment. Gaging and inspection of screw threads. Special measuring and inspection problems. Gage checking and calibration. 100 per cent inspection. Quality control and sampling. Process inspection. Hints for making [illegible] good job better. Index.

Note: A clearly written introduction to the inspection procedures and instruments used in present-day precision manufacturing. For an introductory work it is unusually comprehensive. For example, the reader is told not only how to use gages but how to check their accuracy. However, subjects such as quality control are only outlined. The book is well illustrated. It can be recommended to anyone from vocational school student to factory executive [illegible] he is making his first acquaintance [illegible] inspection. It is well suited to home study.

Michelon Leno Ceno

Industrial inspection methods. Revised edition. New York Harper & Brothers, 1950. 566 p. illus. 24 cm. $6.00 6012

Contents (abridged): Section I, Basic concepts in industrial inspection. Section II, Dimensional control: Nonprecision measurement. Precision measurement: micrometers and verniers. Fixed, [illegible] and snap gages. Precision gage blocks. Comparison measurement: dial indicators and indicating gages. Precision angle measurement. Screw threads and thread gages. Comparators and automatic gaging. Optical instruments. Surface plates and inspection [illegible]. Statistical methods of quality control. Section III, Testing for physical and mechanical properties: Mechanical properties and destructive testing. Hardness testing. Industrial radiography. Section IV, Superficial inspection methods. Section [illegible] Inspection organization and personnel. Section VI, Appendix: Bibliography. Manufacturers' catalogs and technical bulletins. Tables. Index.

discussed. Allied processes, such as metal spraying and oxygen cutting, are also covered. The treatment is introductory and the book is particularly suited to the needs of such readers as engineering college students and graduate engineers who are interested in welding, metal cutting, etc., as fabrication processes. The author is Associate Professor of Mechanical Engineering in Georgia Institute of Technology

PRIEST, H MALCOLM

The practical design of welded steel structures New York American Welding Society, 1943 153 p illus. 20 cm. $1 00 6001

Contents Editorial note. Introduction. Welding processes. Welding rods and electrodes. Forms of joints. Gas cutting. Qualification and inspection. Codes and reports. Stress distributions and stress paths. Temperature effects. Design considerations. Symbols. Girders. Trusses. Columns. Beam connections. Continuous structures. Rigid frames. Fatigue. Conclusion. Bibliography

Note. A consideration of welding practice in the jointing of girders, trusses, columns, and beam connections. A reprint in book form of an article in *The Welding Journal* September 1943 with additions from the author's *Engineering essentials for welders* which appeared in the April 1943 issue of the same journal.

RIGSBY, HERBERT PRENTICE

Welding fundamentals. New York Pitman Publishing Corporation, 1948 178 p illus. 24 cm $4.25 6002

Contents Welding fundamentals History of welding—its place in industry Safe practices in welding. Arc welding equipment. Oxyacetylene welding equipment. Electrical-resistance welding equipment. Heliarc welding equipment. Atomic-hydrogen arc welding equipment. Welding gases. Welding rods and fluxes. Types of joints. Standard welding symbols. Metallography Weldability of metals. Testing of welds. Design for welding. Glossary of welding terms. Exercises in welding practice Practice lessons. Appendices Table of melting points. Iron-carbon equilibrium diagram. Bibliography Index.

Note The information presented in this work is intended for engineering students and engineers rather than for students who wish to make welding their vocation. Accordingly the instructions are general and theoretical, and aim to show how arc welding may best be used on engineering projects. Such topics as where arc-welding may be most profitably used what is the most easily welded steel main functions of electrode coating materials and the kinds of metals which are welded by the heliarc process are discussed. The chapter on tests is fairly complete and deals with the guide bend, free-bend, nick-break, tension radiograph, and other tests for welds.

ROSSI, BONIFACE E

Welding engineering New York McGraw Hill Book Company Inc 1954 786 p illus 24 cm $9 00 6003

Contents Processes A survey of the different welding processes and their basic principles Gas welding. The electric arc and its application to welding. Equipment and materials for bare and shielded metal-arc welding. Bare and shielded metal-arc welding. Submerged arc welding. Inert-gas-shielded arc welding. Atomic-hydrogen welding. Resistance welding Soft soldering, brazing and braze welding Oxygen and arc cutting of metals. Safe practices and health precautions in welding and cutting. Metals and their weldability Metallurgy of welding. Weldability of metals. Design and fabrication considerations Welded design and its field of applications. Designing for welding types of joints, welds, and stress distribution. Layer sequence, deposition rates, and welding costs. Expansion, contraction, and residual stresses in welding structures Welding jigs. Standard welding symbols and their uses. Testing and inspection Testing and inspection of welds. Appendices. Index.

Note An introductory but comprehensive survey of present-day welding techniques. Besides full descriptions of welding processes and tools, some information is included on designing of parts and structures for welding and on the inspection of welds. Also included is a wide range of reference information such as data on the weldability of metals, a glossary of welding terms, and an extensive classified bibliography Probably the book will be used most in school courses. However it includes much information that has reference value for vocational school graduates who are beginning practical work and for engineers and technicians who occasionally are in need of practical information on welding. The book is a development of a course taught by the author at the Industry Training School of the Stevens Institute of Technology

UDIN, HARRY, AND OTHERS

Welding for engineers. By Harry Udin, Edward R. Funk, and John Wulff. New York John Wiley & Sons, Inc., 1954 430 p. illus 23 cm. $7.50 6004

Contents The welding processes. Cold welding. Hot pressure welding. Resistance welding. Metallurgical reactions in resistance welding. Heat and temperature during fusion welding. Permanent-electrode arc-welding processes. Consumable-electrode processes. Welding with chemical heat sources. Metallurgy of fusion welding—transformations—weldability Braze welding. Metallurgy and mechanics of brazing. Thermodynamics and hydromechanics of brazing. Mechanical effects encountered in welding. Principles of weld inspection and testing. Glossary Problems. Index.

Note. An engineering college textbook developed at the Massachusetts Institute of Technology It is addressed primarily to students of mechanical engineering, both those who after graduation will be concerned with welding as a fabricating technique and those who will go on to do fundamental research in the field. It can be recommended also to graduate engineers who wish to acquire a broad fundamental knowledge of welding in home study The various welding processes, including the recently developed Koldweld process, are described very specifically and their potentialities and limitations are indicated. The physical and chemical principles that underlie them are explained, often in terms of atomic and molecular structure. The high points of related techniques, such as inspection of welded joints, are described. Occasional footnote references to papers of interest appear throughout the book.

UNITED STATES NAVY DEPARTMENT BUREAU OF SHIPS

Underwater cutting and welding manual Washington, D C Government Printing Office 1954 106 p. illus 26 cm. (Navships 250-692 9) $0 55 6005

Content Underwater cutting and welding. Safety in underwater cutting and welding. Arc-oxygen method of underwater cutting. Metal arc method of underwater cutting. Oxy-hydrogen method of underwater cutting. Underwater welding.

Note Much of the contents of this book is based upon experience gained by the Navy of the United States of America in ship-raising operations during and after World War II. An extensive development program in underwater cutting resulted in improved equipment, simplification and standardization of the operating techniques, and increased safety and efficiency of operation, all of which are embodied in the present manual, which supersedes previous Bureau of Ships publications entitled *Summary of recent advances in underwater cutting* and *Manual on underwater welding*.

THE WELDING ENCYCLOPEDIA, completely revised and re-edited by T B Jefferson. Originally compiled and edited by L. B Mackenzie Thirteenth edition New York The McGraw Hill Publishing Company, 1951 1008 p illus (part col d) 22 cm. $7.50 6006

Contents An encyclopedia of welding. Appendixes. A dictionary of trade names. The welding industry buyers' manual. Index.

Note A standard reference work of descriptions and discussions of welding equipment, materials, and techniques. In its original and revised forms the work has been in use by welders, engineers and students since 1921 and the twelfth edition as published in 1947 The format and scope of the book are the same in this edition, but about one-seventh of the text is revised or new Fifty pages are devoted to advertising.

TESTING AND INSPECTION

AMERICAN SOCIETY FOR TESTING MATERIALS

Papers on radiography Presented at the fifty second annual meeting, American Society for Testing Materials Atlantic City N J,

HEAT AND POWER ENGINEERING

GENERAL

ASSOCIATION FOR APPLIED SOLAR ENERGY

Applied solar energy research a directory of world activity and bibliography of significant literature. Edited by E. J. Burda. Stanford. Published and distributed by Stanford Research Institute for The Association for Applied Solar Energy 1955 298 p. 22 cm. ap. 6015

Contents: Part 1, World research activities: Research. Solar [illegible]. Part 2, Bibliography on solar energy utilization: Topical [illegible], Bibliography. List of journals and publications.

Note: The importance of developing, within the next few decades, practical methods of wide utilization of the sun's energy is [illegible]. One of the fruits of this recognition is the existence of the Association for Applied Solar Energy, sponsors of this [illegible] volume. Part [illegible] of the book lists both organizations and individuals who are [illegible] recently or currently engaged in research [illegible] solar energy utilization [illegible]. Although worldwide in scope, the part runs to only 40 pages. The second and much longer part [illegible] of an annotated international bibliography of journal articles and patents of interest in connection with the utilization of solar energy. A detailed topical index to this bibliography is included. A new edition [illegible] in progress.

AYRES, EUGENE AND CHARLES A. SCARLOTT

Energy sources—the wealth of the world. New York McGraw Hill Book Company Inc., 1952. 344 p. illus. 24 cm. $5.00 6016

Contents (abridged): Energy our priceless heritage. How much [illegible]. How much coal. How much of other fossil fuels. [illegible] of energy use. Waste. Life expectancy. The nucleus. Power from the sun. Windows. How much [illegible]. Rain. Wind and [illegible]. Energy balance sheet. Appendices. Bibliography. Index.

Note: A very readable study of the energy resources available [illegible] mankind. Discussions of coal, oil, and natural gas take up about half of the space, and the rest is devoted to such topics as [illegible] materials, direct use of solar energy, the use of vegetation [illegible], and the power in wind and waves. The authors come to the conclusion that mankind['s] energy needs will have to be met [illegible] than is generally supposed by the use of solar energy. They [illegible] that more research could well be done in this field. A wide range of data on fuel resources and other energy topics is included.

CABLE, J WESLEY

Induction and dielectric heating New York. Reinhold Publishing Corporation, 1954 576 p. illus. 24 cm. $12.50. 6017

Contents: Introduction—history and present status. Theory of induction heating. Sources of electrical energy for high-frequency induction heating. Elements of coil design. Metallurgical applications of induction heating. Brazing and welding by induction heating. [illegible] soldering by induction heating. Induction heating for forging. Induction melting. The importance of jigs and fixtures in induction heating. Machine design as applied to induction heating. Specialized applications of induction heating. Theory of dielectric heating. Sources of electrical energy for dielectric heating. Electrodes and accessory equipment for dielectric heating. General applications of dielectric heating. Dielectric heating in the plastics industry—in the woodworking field—for baking foundry cores—in the food-processing field—as applied to sterilization and allied processes—for moisture removal. Specialized applications of dielectric heating. Mechanization of dielectric heating applications. The future of dielectric heating. Addendum: Radio interference aspects of induction and dielectric heating equipment. Index.

Note: A comprehensive and rather detailed description of basic principles, equipment, techniques and applications. It is designed for wide use as [a] source of information on these two important methods of electrical heating, hence, even in the chapters on theory the treatment is descriptive rather than analytical. Both solidly established techniques and those which are still experimental or at least have not gained wide acceptance are described. Typical commercial equipment is described, but the author has not attempted to cover all of the apparatus on the market. The author's style is easy to read and can be understood by technicians and others who lack formal engineering education. There is no bibliography.

COMPRESSED AIR AND GAS INSTITUTE

Compressed air handbook a reference book on all phases of industrial air and gas compressors and compressed-air-powered portable tools and rock drills used by industry Second edition. New York McGraw Hill Book Company Inc. 1954 408 p. illus. 23 cm. $8.00. 6018

Contents (abridged): Typical applications of compressed air and gas. Air-operated portable tools and rock drills. The compressed-air system. Positive-displacement compressors. Dynamic-type blowers and compressors. Compressed-air engineering data and test procedure. Index.

Note: A standard reference book on compressed air equipment, its uses and maintenance. All varieties of equipment are covered from portable hand drills to large scale compressor plants. The full range of applications is described, but there is no attempt to catalog the equipment currently offered by manufacturers. Instead, the space is devoted to basic topics and data of interest to engineers who also have access to manufacturers' catalogs. The first edition was published in 1947 by the sponsoring Institute. This second edition contains [a] wide range of newly added information and many new illustrations.

CURTIS FRANK W

High-frequency induction heating. Second edition. New York McGraw Hill Book Company Inc., 1950 389 p. illus. 21 cm. $7.00 6019

Contents: Principles of induction heating. Induction-heating equipment. Design of induction-heating coils. Brazing, soldering, and joining. Hardening and heat-treatment. Fixtures for induction heating. Miscellaneous induction-heating applications. Designing for induction heating. Dielectric heating. Index.

Note: A survey of the applications of high-frequency induction heating in industrial processes. Though the chapter titles are essentially the same as in the first edition, the book has been thoroughly revised and now contains much material that did not appear in the original edition. A considerable part of this material relates to new fixtures and assemblies which have been developed as the applications of induction heating have been extended. However the chapter on dielectric heating is still essentially an outline of the subject and is not intended to be comparable in thoroughness to the

Note A practical introduction to modern inspection instruments and methods. The first edition proved to be very useful in training new recruits in war plants. This edition is largely new in content. The work now includes good accounts of all the instruments commonly used in factory inspection, of the chief testing methods, and a concise description of quality control from the inspector's viewpoint. It is organized as a textbook and undoubtedly its chief use will be in conjunction with organized courses in technical institutes and other schools. However it is suitable for the beginning worker and others who want to instruct themselves.

ST JOHN, ANCEL, AND HERBERT R. ISENBURGER

Industrial radiology X rays and gamma rays Second edition New York John Wiley & Sons, Inc , 1943 298 p illus 23 cm. $6 50 6013

Contents Introduction. The infancy of radiology The history of industrial radiology Nature and properties of X-rays. Influence of matter on X-rays. Influence of X-rays on matter Production, detection, and recording of X-rays. X-ray generators. An installation for industrial radiography Making a radiograph. Photographic procedure. Interpreting radiographs. Industrial fluoroscopy Radiography of large castings and forgings. Radiography of welded vessels and structures. Radiography of small objects. Some interesting examples. Radiography with gamma rays. Radiographic specifications and inspectors. Operating and cost data. Looking ahead. Appendices. Radiographic rules. Tables. Charts. Bibliography Index.

Note. This book discusses the examination, by means of X-rays and gamma-rays, of castings, forgings, welded joints, packaged materials, assemblies such as vacuum tubes and other industrial products. The subject matter is practical and intended for use by engineers.

SWEENEY, R. J

Measurement techniques in mechanical engineering New York John Wiley & Sons, Inc., 1953 309 p illus 24 cm. $6 00. 6014

Contents Introduction. Mensuration. Mass. Time and speed. Electrical measurements. Dynamometers. Pressure. Temperature. Fluid flow Calorimetry Chemical analysis. Automatic controls. Appendix. Index.

Note. A well-organized and clearly written survey of instruments and techniques used in measuring such properties as length, area, time, speed, pressure, temperature and hydrogen ion concentration. It is designed for mechanical engineers who are concerned with the performance testing of power equipment. A wide range of instruments is covered, including such unexpected ones as micrometers, platform scales, clocks, and valves for controlling the flow of fluids. Descriptions of the instruments and of the measurement techniques based on them are preceded by a useful discussion of various factors that affect the accuracy of measurements.

For a practical text and reference book of approved methods of using engines, turbines, boilers, and auxiliary equipment found [illegible]

Putnam, Palmer Cosslett

Energy in the future. Princeton D Van Nostrand Company Inc., 1953 556 p. illus. 24 cm. $15.00. 6025

Contents (abridged): Is population growth predictable—the [illegible]. Maximum possible populations to [illegible], A.D. 1950 to 2050. Energy-output relations in the eight great [illegible] energy systems and in the world, A.D. 1860 to 1950, with [illegible] of the efficiency of use. Maximum plausible demands for energy, A.D. 1950 to 2050. How much longer can we live high off [illegible] energy? Can we live high off income energy? The maximum [illegible] of income fuels. Summary. Epilogue and conclusions. [illegible]. Table of conversion factors. Bibliography. Index.

Note: This book [illegible] the report of [illegible] painstaking study of the [illegible] possible use that nuclear fuels may be called on to [illegible] the next fifty years or so. It estimates the non-nuclear [illegible] of energy available to the world, including such largely [illegible] sources as wind power and solar energy, and the energy requirements of the world in the immediate future. By [illegible] the gap between the energy needs of the world and the energy available from the non-nuclear sources will have to be [illegible] by nuclear energy. Among the author's conclusions, "It does not seem likely that the forms of uranium or thorium could [illegible] more than 15 to 20 per cent of the energy systems of the world from [illegible] as at present. The figures for the [illegible] would [illegible] be higher. The possibility of [illegible] has been not yet considered.

Putnam, Palmer Cosslett

Power from the wind. New York D Van Nostrand Company Inc., 1948. 224 p. illus. 24 cm. $3.00. 6026

Contents: Formulation and history of the Smith-Putnam wind-turbine project, 1934-1945. How does wind behave—[illegible] [illegible]. The special wind-research program, 1940-1945. Behavior of wind in the mountains of New England, 1940-1945. The power in the wind and how to find it. Designs of other big windmills, 1922-1935. Development, fabrication, and erection of the test unit, 1939-1941. Test and operation of the Smith-Putnam [illegible], 1941-1945. The [illegible] for [illegible] large wind-turbines. The design of [illegible] preproduction model, 1943-1945. Economics of [illegible] windpower. Ways to reduce the cost of windpower. The future of windpower. Bibliography. Index.

[illegible] in the main, this volume is [illegible] record of the experiments [illegible] wind power to generate electrical energy on [illegible] commercial [illegible] that were carried out from 1939 to 1945 by [illegible] distinguished [illegible] of engineers and scientists under the sponsorship of the S. Morgan Smith Company, York, Pennsylvania. It describes from an engineering viewpoint both the design and the performance of the [illegible], 1,250 kilowatt unit that was erected on Grandpa's Knob [illegible] Rutland, Vermont. However, the work goes beyond this single [illegible] and discusses the whole problem of utilizing wind as [illegible] of power. A good account is given of other experiments carried out by other individuals and groups.

Zerban, Alexander H., and Edwin P Nye

Power plants. Second edition. Scranton, Pa. International Textbook Company 1956. [illegible]55 p. illus. 23 cm. $8.50. 6027

Contents: An introduction. The steam power plant cycle. Fuels. Combustion. Steady state heat transfer. Furnace heat transfer. Steam generators. Steam power turbines. Fluid handling. Instruments and [illegible]. Care of heat transfer surfaces. Hydraulic power plants. I.C. power plants. Power plant economics. Problems and possibilities. Appendices. Index.

Note: A book designed primarily for use as a text for upperclass [illegible] students of mechanical or electrical engineering. It provides [illegible] introduction to the mechanical engineering aspects of power generation at the present time. The first edition was limited [illegible] steam plants and was entitled Steam power plants. In this edition, [illegible] four years after the first, the scope has been enlarged by inclusion of chapters on hydraulic power plants, power plant economics, and the problems and possibilities of large-scale power generation. The last mentioned chapter is [illegible] stimulating discussion of the needs for power in the United States of America in the near future and of new methods to meet these needs, such as solar energy and atomic energy. The book is concisely but clearly written and adequately illustrated. It still retains the chapters on the building and maintenance of steam boilers that were [illegible] special feature of the first edition.

Zimmerman, Oswald Theodore, and Irvin Lavine

Industrial Research Service's psychrometric tables and charts. Dover N. H. Industrial Research Service 1945 162 p. illus. 22 cm. $7.50 6028

Note: Data on the properties of dry air and air-water vapor mixtures under [illegible] pressure of 29.921 inches of mercury are presented in 33 tables and 22 charts. The range of temperatures is —100 to 1000° F. Most of the data represent original calculations by the authors. In addition to the tables and charts, there are [illegible] short preliminary chapter on the fundamental principles and formulas pertaining to the behavior of air and air-water vapor mixtures, and another chapter of problems designed to illustrate the use of the tables and charts.

APPLIED THERMODYNAMICS

Brown, Aubrey I., and Salvatore M Marco

Introduction to heat transfer. Second edition. New York McGraw Hill Book Company Inc., 1951 267 p. illus. 24 cm. $6.75 6029

Contents: Modes of heat transfer. Heat transfer by conduction. Equations for the calculation of heat transfer by conduction (steady state). Radiation. Introduction to the study of convection. Forced convection. Free or natural convection. Heat transfer to boiling liquids. Condensing vapors. Over-all transfer of heat. Application of the principles of heat transfer to design problems. Variable heat flow. Appendix. Index.

Note: An established textbook the first edition of which was published in 1942. It is used primarily in introductory courses in heat transfer offered to engineering college students. Emphasis is placed on acquiring [illegible] clear conception of the manner in which heat is transmitted and on development of the fundamental mathematical expressions used in heat transfer calculations. In this second edition, the organization and level of the book are unchanged from the first edition, but important changes including the rewriting of some sections and the addition of information to others have been made in several chapters. Also the problems included for students to solve have been revised and much increased in number.

Croft, Terrell Williams

Practical heat. Revised by R. B. Purdy. Second edition. New York McGraw Hill Book Company Inc., 1939 726 p. illus. 21 cm. (Power plant series) $8.00. 6030

Contents: Force, pressure, work, energy, power. Matter, heat, temperature. The source of heat. Heat—its measurement and transformations. Transfer of heat. Effects of heat. Expansion and contraction of solids and liquids. Heat phenomena of gases. Melting and freezing of substances. Vaporization. Steam and other vapors. Gas and vapor cycles. Fuels. Combustion. Steam power plants. Internal-combustion-engine power plants. Refrigerating. Ventilating. [illegible]. Instruments. Solutions for problems. Index.

Note: This text is intended for the practical student of limited mathematical training and stresses the practical applications of heat. Fundamental theory, such as the laws of thermodynamics, the heat-transfer equations, the laws of gases, the Carnot cycle, and coefficients of expansion, is expounded in [illegible] simple manner that requires only [illegible] working knowledge of arithmetic for its understanding. The work is well adapted for self-study.

rest of the book. The book is of wide practical interest in manufacturing industries.

DANIELS, FARRINGTON, AND JOHN A. DUFFIE, editors

Solar energy research. Madison University of Wisconsin Press, 1955 290 p illus. 24 cm $4 00 6020

Contents Introduction by F Daniels. Expected world energy demands Maximum plausible demands for energy in the future, by P C. Putnam. The nature and availability of solar energy: Meteorology and the utilization of solar energy by W A. Baum. Notes on spectral quality and measurement of solar radiation, by F A. Brooks. Space heating and domestic uses of solar energy: House heating and cooling with solar energy by G. O. G. Löf. Solar heating design problems, by L. B. Anderson and others. Solar heat storage, by M Telkes. Applications of solar energy for heating, air conditioning, and cooking, by M L. Ghai. The heat pump, by R. A. Morgen. Use of solar energy for heating water by F A. Brooks. Solar power Small solar power plants, by M. L. Ghai. Power generation with solar energy by H. C. Hottel. Solar power from collecting mirrors, by C. G Abbot. Notes on solar power and other uses of solar energy by E. J Drake. Solar evaporation and distillation: Solar distillation, by E. D Howe. *Distillation* with solar energy by M. Telkes. Solar evaporation of salt brines in open pans, by K. S. Spiegler Solar distillation of sea water in plastic tubes, by J T Herisby and F Daniels. Atmospheric phenomena, and conversion of solar to electrical energy Utilization of solar energy in some geophysical processes, by O. R. Wulf Maximum plausible energy contributions from wind power by P C. Putnam. Solar thermoelectric generators, by M. Telkes. Maximum efficiency of solar energy conversion by quantum processes, by D Trivich and P A. Flinn. Photovoltaic cells in solar energy conversion, by D Trivich and others. Solar furnaces Utilization of solar energy for the attainment of high temperatures, by J Farber Solar furnaces for attaining high temperatures, by W M. Conn. Development of large-scale solar furnaces, by F Trombe. *Photosynthetic* utilization of solar energy Efficiency of photosynthesis, by F Daniels. Biological cycles in the transformation of solar energy into useful fuels, by R. L. Meier Economic aspects of algae as potential fuel, by A. W Fisher Jr Photochemical utilization of solar energy Photochemical utilization of light energy by E. Rabinowitch. Photochemistry of cerium perchlorates in dilute aqueous perchloric acid, by L. J Heidt. High-energy *intermediates* in some photochemical processes, by H. Linschitz. A British viewpoint Solar energy applications, by H. Heywood. Miscellaneous applications of solar energy and suggestions *for further* research: Conversion of agricultural products to power by F Daniels. Storage of intermittent power by F Daniels. Seasoning of timber with solar energy by M. L. Ghai. Storage of solar energy in the ground, by F A. Brooks. Some ideas on solar energy utilization, by L. M. K. Boelter Conclusions, by F Daniels. Appendix A survey of United States patents pertaining to utilization of solar energy by J A. Duffie. Bibliography Index.

Note Although the origin of this book was symposium held in Madison, Wisconsin in September 1955 the published volume is not the usual formal record of proceedings. The contributions published in it range all the way from informal notes to formal papers of considerable length. Included also are several contributions by scientists who did not attend the meeting and hose papers are not presented there. Research done and in progress is surveyed and many ideas on promising lines of investigation are presented. Both the survey of United States patents on devices for the utilization of solar energy and the 14-page bibliography are useful features.

GILL, THOMAS T

Air and gas compression New York John Wiley & Sons, Inc. 1941 181 p illus. 23 cm $5 50 6021

Contents Definitions and fundamental units. Barometric pressure and altitude above sea level. Fundamental gas laws. Energy relations—single-stage compression. Compressor capacity Volumetric efficiency and clearance. Indicated horsepower Two-stage compression Multistage compression. Exponent of compression. Volumetric efficiency and compressor brak horsepower Compressor problems. Supercompressibility or deviation from the ideal gas laws. Compressors. Compressor plant. Gas lift and pressure maintenance. Flow of gas in pipe lines. Gas measurement by orifice meter. Use of alignment charts Appendix Index.

Note. A great deal of original research went into the preparation of this book, and much of the material appears here in book form for the first time. In addition to the theory of compression, there is also offered a chapter on the flow of gas in pipe lines, which is based on the Weymouth equation. A new series of tables is included which greatly reduces the labor required in computing pressure drop in pipe lines. The solution of problems is based on equations, tables, and alignment charts—an arrangement which will enable the reader to check nearly all computations in seven different ways.

HALL, JAMES DOYLE

Industrial applications of infrared. New York McGraw Hill Book Company, Inc. 1947 201 p illus. 23 cm. $3 50 6022

Contents. Introduction. Advantages of infrared heat. The incandescent lamp as source of infrared radiation. Radiant-heat equipment. Planning and design of infrared installation. Special application problems. Paints and other surface finishes. Industrial applications. Miscellaneous uses of infrared radiation. Appendix. Index.

Note Except for the introductory chapter, this volume is concerned entirely with the practical applications of infrared heat. The text is mainly descriptive. Approximately half the book consists of photographs and accompanying explanatory texts, which illustrate industrial and miscellaneous applications and equipment. The author is Advisory Engineer for the Lamp Division, Westinghouse Electric Corporation.

LEONARD, CARROLL M, AND VLADIMIR L MALEEV

Heat power fundamentals. New York Pitman Publishing Corporation, 1956 527 p illus. 23 cm $7.50 6023

Contents. The vapor power-plant cycle. Fundamentals. Steam Prime movers—the steam engine—the steam turbine. Heat transfer. Heat removal—condensing equipment. Water conditioning—heating—pumping. Steam generation—boilers and superheaters. Fuels and combustion. Heat generation—furnaces and fuel-burning equipment—draft and draft equipment. Vapor cycles. The internal combustion engine power plant. Gas-turbine power plants. Mechanical refrigeration. Appendixes. Index.

Note. An established engineering college textbook used in introductory courses in heat-power engineering. It combines elementary basic theory with descriptions of prime movers and power plant equipment, including techniques and devices for the treatment of feedwater Basic computations are illustrated, but the book is by no means an analytical treatment from the thermodynamic viewpoint. The first edition was published in 1949. In this edition, the book has been printed from new type and has new and more attractive format. The quality of the illustrations is markedly improved. There has been considerable reorganization and revision of the text. Discussions of results by new developments such as superpressure power plants, and atomic power plants, have been added.

MOYER, JAMES AMBROSE

Power plant testing a manual of testing steam generating equipment, engines, turbines, pumps, refrigerating machinery fans, fuels lubricants etc. Fourth edition, rewritten enlarged New York McGraw Hill Book Company Inc. 1934 614 p. illus. 23 cm. $7.50 6024

Contents. Measurement of pressure Measurement of temperature. Determination of the moisture in steam. Measurement of areas. Engine indicators, reducing motions, and speed-measuring instruments. Measurement of power—dynamometers. Flow of fluids. Calorific value of fuels—solid, liquid, and gas. Flue-gas analysis. A.S.M.E. code on general instructions regarding power plant tests. Testing of boilers and other steam-generating units. Steam-engine testing. Testing steam turbines and turbogenerators. Methods of correcting steam-turbine and engine tests to standard conditions. Tests of complete steam power plants—coal fired. Gas and oil engine and producer testing. Testing of ventilating fans or blowers and air compressors. Testing of refrigeration plants. Testing of condensers and feed-water heaters. Testing atmospheric water-cooling equipment—cooling towers, spray-nozzle installations and cooling ponds. Tests of hoists, belts, and friction wheels. Testing of lubricants. Tests of hydraulic machinery Testing of governors. Outline of suggested tests. Appendix. Steam tables. Properties of common substances. Metric conversion table. Pressure equivalents. Index.

[illegible]ty of Michigan. Engineering Research Institute. Special publications—Symposia) $5.00. 6037

Contents: Conference in heat transfer problems which create high thermal stress, by A. S. Freud[illegible]. Behavior of materials under conditions of thermal stress, by S. S. Manson. Liquid-metal heat transfer, by R. F. Poppendiek. Heat transfer with evaporation, by [illegible] E. R. [illegible]. Recent developments in convective heat transfer with special reference to high-temperature combustion chambers, M. [illegible]. Convective heat transfer at high velocities, by E. R. [illegible]. Transpiration and film cooling, by E. R. G. Eckert. Heat transfer from nonisothermal surfaces, by M. Tribus and [illegible]. Theoretical considerations in rarefied-gas dynamics, by [illegible]. Experimental methods and results in rarefied-gas dynamics, by S. A. Schaaf. Computation of temperatures in solid bodies and their [illegible], by R. V. Churchill.

Note: The purpose of the symposium mentioned in the title of the book was to inform faculty, graduate students, and attending engineers from industry about some of the then recent advances in heat transfer. The papers presented are published in this volume together with literature references and illustrative matter. Many of the developments covered are related to high-speed aerodynamics, rocket development, and nuclear reactor engineering. The authors of the papers are specialists, and many of them had taken part in the research which they described.

HUTCHINSON, FRANCIS WILLIAM

Industrial heat transfer. New York, Industrial Press, 1952. 326 p. 24 cm. $6.00. 6038

Contents (abridged): Conduction. Radiation. Convection. Combined heat transfer. Forced convection. Appendix. Bibliography. Index to graphs. Subject index.

Note: The heart of this work is a series of graphs—123 in number—that provide direct solutions for a wide variety of problems in heat transfer. The make-up of the book places each graph on a right-hand page with explanatory matter on the facing left-hand page. The matter includes the title of the chart, the equation on which it is based, reference to the section of the text where the relationships expressed by the equation are discussed, a statement of assumed conditions, an example problem and its solution. A useful reference book for chemical engineers and others whose work includes heat transfer computations.

JAKOB, MAX

Heat transfer. Volume I. New York, John Wiley & Sons, Inc., 1949. 758 p. illus. 24 cm. $13.50. 6039

Contents (abridged): The basic equation of heat conduction. The basic equations of heat convection. The basic equations of heat radiation. Theory. Thermal conductivity. Emissivity (absorptivity). Heat conduction in steady state without heat gains or losses. Heat conduction in steady state, including internal heat generation. Heat conduction in non-periodic temperature changes without heat losses or gains. Heat conduction in periodic temperature changes without heat losses or gains. Heat conduction at variable temperature, including internal heat generation and heat dissipation to the environment. Special mathematical methods used in heat conduction. Numerical methods for the solution of heat-conduction problems. Graphical methods for the solution of heat-conduction problems. Experimental analogy methods for the solution of heat-conduction problems. Analytical solutions of the convection equations. Similarity theory for heat convection. Experiments on free convection and their correlation. Experiments on forced convection and their correlation. Optical methods of determining heat transfer by convection. Analogy between heat convection and mass exchange. Heat transfer in evaporation. Heat transfer in condensation. Appendices: Problems. Nomenclature. Conversion factors. Bibliography and author index. Subject index.

Note: The first volume published of a treatise of considerable dimensions. The treatment is historical in the sense that the development of each important step in the understanding of heat transfer phenomena is traced back to its origin, but the account is brought down to the present time, and the final effect is a statement of heat transfer knowledge as it exists today. The physical properties of matter which influence heat transfer are emphasized, and important experiments and useful experimental techniques are described in detail. The space is about evenly divided between the presentation of empirical knowledge and mathematical analyses. However, the author has avoided very advanced mathematical techniques, hence, the work is not beyond the level of advanced engineering students and graduate engineers. The bibliography although extensive is not well organized. Volume II was published in 1957. $15.00.

JAKOB, MAX, AND GEORGE A. HAWKINS

Elements of heat transfer and insulation. Second edition. New York, John Wiley & Sons, Inc., 1950. 230 p. illus. 23 cm. $5.00. 6040

Contents (abridged): Conduction of heat in the steady state. Conduction of heat in the unsteady state. Steady-state heat conduction in bodies with heat sources. Introduction to the dimensional analysis of convection. Heat transfer by free convection. Heat transfer by forced convection. Heat transfer in condensing and boiling. Experimental determination of conductivities and emissivities. Heat transfer in temperature measurements. Heat transfer and fluid friction. Index.

Note: An introductory textbook designed for use in undergraduate courses in engineering colleges. Technically trained persons who are out of college sometimes find it useful as an introduction or refresher because of its elementary discussions. Although still intended for undergraduate use, a few advanced topics have been added in this edition, and the level of difficulty of the problems has been raised somewhat.

KERN, DONALD QUENTIN

Process heat transfer. New York, McGraw-Hill Book Company, Inc., 1950. 870 p. illus. 24 cm. $13.50. 6041

Contents (abridged): Process heat transfer. Conduction. Convection. Radiation. Temperature. Counterflow—double-pipe exchangers. 1-2 parallel-counterflow—Shell-and-tube exchangers. Flow arrangements for increased heat recovery. Gases. Streamline flow and free convection. Calculations for process conditions. Condensation of single vapors. Condensation of mixed vapors. Evaporation. Extended surfaces. Direct-contact transfer—cooling towers. Batch and unsteady state processes. Furnace calculations. The control of temperature and related process variables. Appendix of calculation data. Author index. Subject index.

Note: An advanced engineering college textbook in which practical problems in heat transfer are directly related to industrial processes and industrial heat transfer apparatus. Though the fundamentals of thermodynamics are never lost sight of, the valuable and unique parts of the book are those which are devoted to discussions and calculations pertaining to such apparatus as shell-and-tube heat exchangers and to such processes as the heating or cooling of batches of materials. These "apparatus calculations" are brought out in a special index preceding the text. The book will be valuable not only to chemical engineers but to all engineers in industry who are concerned with heat transfer problems.

KIEFER, PAUL J., AND OTHERS

Principles of engineering thermodynamics. Second edition. New York, John Wiley & Sons, Inc., 1954. 539 p. illus. 23 cm. $7.75. 6042

Contents: Part I, Energy—its classification and accounting: Energy in transition. Stored energy. Energy equations. Part II, The availability of energy: Reversible processes and cycles. The Carnot principle. The absolute temperature scale. Entropy. Part III, Properties of fluids: Properties and property relations—Solid, liquid, and vapor states—Ideal gases. Property and property relations—low-pressure gas and gas-vapor mixtures. Thermodynamic properties—non-ideal gases and vapors. Thermodynamics of combustion. Part IV, Engineering applications: Power-generation cycles—Condensing fluids—Non-condensing fluids. Heat-pump and refrigeration cycles. Flow of compressible fluids. Dynamic forces. Index.

Note: A successful textbook developed at the United States Naval Post-Graduate School. Although organized so that it may be used in undergraduate courses by omitting certain portions, the level of treatment can properly be described as first-year graduate. Fundamental aspects are definitely emphasized and are given the larger share of the space, but practical applications in the design of power plants and other machines based on thermodynamic principles are also treated rather thoroughly. The first edition was published in 1930. Changes made in preparing this second edition are both extensive and important. They include the chapters on nonideal gases and vapors, thermodynamics of combustion, the heat pump and flow of compressible fluids, all of which are new additions to the book.

DOOLITTLE, JESSE SEYMOUR, AND ALEXANDER HAMILTON ZERBAN

Engineering thermodynamics, theory and applications. Second edition Scranton, Pa. International Textbook Company, 1954 494 p illus 23 cm. $8 00 6031

Contents: Introduction. Equations of state for perfect gases. Energy equations for non-flow processes. Steady flow Carnot cycle, available energy and entropy Vapors. Steam power cycles. Steam engines. Flow in nozzles. Steam turbines. Gas compressors. Refrigeration. Gaseous mixtures and combustion. Imperfect gases. Air conditioning. Gas cycles. Internal combustion engines. Gas turbines. Steady state heat transfer. Problems. Appendices. Index.

Note: Good organization and lucidity of style characterize this engineering college textbook. The greater part of the space is devoted to basic principles and phenomena, but important applications are described in sufficient detail for beginning students. The first edition was published in 1948. The chapter on steady state heat transfer is new in this second edition, the problems have been moved to a new section at the end of the book and their number has been increased, and other changes of pedagogical interest have been made.

ECKERT, ERNST R. G

Introduction to the transfer of heat and mass With an appendix on property values by Robert M. Drake, jr New York Mc Graw Hill Book Company, Inc., 1950 284 p illus 23 cm. $6 50 6032

Contents Fundamental principles of heat transfer. Heat conduction. Heat transfer by convection Basic conceptions of the flow theory Forced convection in laminar flow Forced convection in turbulent flow Free convection. Condensation and evaporation. Thermal radiation. The exchange of mass. Appendix. Index.

Note In this relatively brief treatise the reader is shown how to obtain mathematical solutions to complex problems in heat transfer which will check with the results of empirical observations. Prandtl's boundary-layer theory is the basis of most of the work. In the final chapter transferrals of mass such as occur when moist material is dried by a moving stream of air are shown to be boundary-layer phenomena analogous to the transfer of heat. The book is of interest in many branches of engineering where fairly precise calculations of heating and cooling are essential.

ELLENWOOD, FRANK OAKES, AND CHARLES O MACKEY

Thermodynamic charts, steam, water, ammonia, "Freon 12", and mixtures of air and water vapor, also special tables for turbine calculations Second edition. New York John Wiley & Sons, Inc., 1944 46 p. illus. 21 cm. $4 75 6033

Contents Note regarding enthalpy Index chart for steam. Steam charts. Water charts. Low-quality steam chart. Ammonia charts. "Freon-12" charts. Psychrometric charts. Examples of the use of the charts. Tables I, II, and III, corrections of barometric readings. Table IV jet velocity from an ideal nozzle for each BTU Table v jet velocity from an ideal nozzle for each tenth of BTU Table VI, squares of numbers. Table VII, common logarithms.

Note This book comprises charts on steam, water ammonia, "Freon-12" and mixtures of air and water vapor also special tables for turbine calculations. In the second edition, plates 8 and 9 have been redrawn in order to include the pressure scale for the saturated liquid. For the ammonia and "Freon" charts scales to give the specific volumes for the saturated liquids have been added. An entirely new form of chart, plate 10, has been made for steam and water mixtures having qualities less than 80 per cent. Values for qualities above 80 per cent may be found from the original charts. In plate 10, the coordinates are quality as abscissa with saturation pressure and temperature as ordinates. This arrangement enables the entire area of the chart to be effectively utilized and the values of enthalpy entropy pressure, temperature, and volume for low qualities may be easily read. For all these properties this chart permits linear interpolation to be correctly used for any constant pressure or constant temperature line. The previous edition was entitled *Vapor charts.*

FAIRES, VIRGIL MORING

Applied thermodynamics. Revised edition New York The Macmillan Company 1947 480 p. illus. 24 cm. (Engineering science series, Earle Raymond Hedrick editor) 6034

Contents: The general energy equation. Characteristic equation of a perfect gas. Energy equations of a perfect gas. Reversible non-flow processes of gases. The Carnot and Ericsson cycles. Entropy and the second law of thermodynamics. Cycles for internal combustion engines. Performance of internal combustion engines. Compression and expansion of air Flow of gases. Mixtures of gases. Combustion and the products of combustion. Variable specific heats. Liquids and vapors. Processes of vapors. The steam power plant and auxiliary apparatus. Vapor cycles. Reciprocating steam engines. Modern cycles for steam power plants. Flow of steam in nozzles and turbines. Refrigeration. Mixtures of vapors and gases. The transfer of heat. Index.

Note: This standard text, designed for full-length college courses, provides an introduction to the basic theories of thermodynamics, and discussions of typical applications in engineering. This edition has been revised and enlarged to include an expanded discussion of the second law of thermodynamics and heat transfer, new material on the gas turbine, and extra illustrations. A third edition entitled *Thermodynamics*, was published in 1957 543 p., $7.50. The author's *Elementary thermodynamics*, third edition, New York, The Macmillan Company intended for use in short courses in thermodynamics, 1957 379 p., $4.75.

FAIRES, VIRGIL MORING

Theory and practice of heat engines. Ne York The Macmillan Company 1948. 388 illus. 24 cm $6 00 603

Contents. Characteristic equation of perfect gas. Forms energy Heat, work, and internal energy Thermodynamic process Compressors. Internal combustion engines. The second law of therm dynamics. Liquids and vapors. Steam turbines. Nozzles. Reciproca ing steam engines. Steam generators. Miscellaneous steam pow plant equipment. Fuels and combustion. Refrigeration. Index.

Note A concise exposition that is particularly designed f courses offered to engineering students who do not plan to ta additional courses in the subject. The major machines are describ and illustrated, but the author's method is to emphasize the teach ing of theory particularly the law of conservation of energy Th book contains many extracts from the author's well-known *Appli thermodynamics* (see above)

HAWKINS, GEORGE ANDREW

Thermodynamics Second edition. New York John Wiley & Sons Inc., 1951 563 p. illus 22 cm $7 00 6036

Contents. Fundamental concepts. The first law of thermodynamics. Solids, liquids, and gases. The ideal or perfect gas. Equations of state for real gases. Specific heat of gases. The use of tables for computing the properties of vapors. Frictionless or reversible non-flow ideal gas and vapor changes. The second law of thermodynamics and the Carnot cycle. Available energy, unavailable energy, and entropy Entropy changes for reversible ideal gas and vapor processes. Mixtures of ideal gases and vapors. Combustion. The flow of gases and vapors through nozzles and orifices. Ideal cycles of internal combustion engines. Air compressors and air engines. The gas turbine and jet propulsion. Vapor cycles. Mechanical refrigeration. General thermodynamic equations. Introduction to heat transfer. Appendix. Index.

Note: An introductory textbook for students in engineering colleges. While the chapter arrangement and general approach remain the same as in the first edition, the new edition has been revised by the author and considerably enlarged. Six of the chapters have been completely rewritten. Many minor changes have been made in other chapters, and additions have been made to the lists of references.

HEAT TRANSFER A SYMPOSIUM HELD AT THE UNIVERSITY OF MICHIGAN DURING THE SUMMER OF 1952 Ann Arbor University of Michigan, 1953 286 p. illus. 24 cm. (Univer

ment. Transient numerical method. Experimental analogic method. Appendix. Comparison tables. Index.

Note: A graduate-level text, authored by a member of the Department of Mechanical Engineering at the University of Minnesota. Its subject is the analysis of temperature fields, when solid bodies [illegible] of study which is of fundamental importance in most of the major fields of engineering. Analytical, graphical, numerical and experimental methods of studying the predicting these temperature fields are covered. The treatment is thorough from the engineering point of view but not always mathematically rigorous. Readers are expected to be familiar with calculus and differential equations. Selected literature references are included in most of the chapters.

SHORT BYRON E., AND OTHERS
Engineering thermodynamics. By Byron E. Short, Harry L. Kent, Jr and Burnette F Treat. New York. Harper & Brothers, 1953 452 p. illus. 24 cm. $6.00. 6050

Contents: Fundamentals. Energy transformation principles. Thermodynamic properties and processes for pure substances—of liquids and vapors. Properties and processes of ideal gases. Mixtures of fluids. The flow of substances. Combustion. Heat transmission. Gas analysis. Compression of gases and vapors. Internal combustion engines. The gas turbine. Vapor cycles. Steam or vapor turbines. Refrigeration and air cooling. Index.

Note: A well-organized textbook, designed for use in first courses in engineering thermodynamics offered to engineering college students. It presents a broad view of the field, with a good correlation of theory and applications to heat-power machines. The expository matter includes numerous worked examples of problems. When the book was published, the authors were all members of the faculty of the University of Texas.

SKROTZKI, BERNHARDT G A. AND WILLIAM A. VOPAT
Applied energy conversion a text in power plant engineering. New York McGraw Hill Book Company Inc., 1945 509 p. illus. 23 cm. $3.00. 6051

Contents: Raw energy. Steam power plant—combustion theory and equipment. Steam power plant—steam-generating units. Steam power plant—prime movers. Steam power plant—condensers and feedwater systems. Steam power plant—application. Diesel- and gas-engine plants. Hydraulic power plants. Power plant development. The general economic problem. Load curves. Selection of plant. System performance and operation characteristics. Specific [illegible] energy problems. Energy rates. Appendix. Index.

Note: This [illegible] places more emphasis on the economic aspects of power plant design and operation than is common in textbooks written for engineering college students. The coordination of equipment for the most economic production of useful energy is stressed. Types of plant and equipment are well described. Some types still in the developmental stage are discussed.

SOLBERG, HARRY LELAND AND OTHERS
Elementary heat power By Harry L. Solberg, Orville C. Cromer and Albert R. Spalding. Second edition. New York John Wiley & Sons, Inc., 1952 624 p. illus. 24 cm. $6.50 6052

Contents: Matter and energy. Fuels and combustion. Internal-combustion engines. Fuel-burning equipment. Steam generation. Steam power-plant cycles. Steam turbines. Steam engines. Pumps, fans, blowers, and compressors. Feed-water heaters and condensers. The gas-turbine power plant. Mechanical refrigeration. Appendix. Index.

Note: An introductory textbook written so that it may be used both by college students who will take no further work in the subject and by students of mechanical engineering who will pursue advanced courses. It covers both the fundamental theory and the operating principles of the chief heat power devices. The first edition appeared in 1946 and was an outgrowth of wartime needs. The increased length of the present edition is due both to added discussions of such devices as the heat pump and to an expansion of the theoretical material. The authors are members of the faculty of Purdue University.

STOEVER HERMAN JULIUS
Engineering thermodynamics. New York John Wiley & Sons, Inc., 1951 458 p illus. 24 cm. $6.00 6053

Contents: Part I, The first law of thermodynamics: Pressure, specific volume, and temperature. Mechanical work and heat. The first law of thermodynamics. The internal energy and enthalpy of fluids. The analysis of simple processes. Part II, The second law of thermodynamics: Power cycles and refrigeration cycles. The second law of thermodynamics. The thermodynamic scale of temperature. Entropy. Part III, Applications: Steam power plants. Internal-combustion engines. Refrigeration. Compressors. Nozzles and turbines. Venturi meters, flow nozzles, orifices, and pitot tubes. Air conditioning. Appendix. Index.

Note. An introductory textbook for engineering college students. It is arranged so as to emphasize basic thermodynamic principles rather than characteristics of systems. The author is Professor of Thermodynamics at Iowa State College.

SWEIGERT RAY L. AND MARIO J GOGLIA
Thermodynamics. New York The Ronald Press Company 1955 355 p. illus. 24 cm. $6.50. 6054

Contents: Introduction. The first law of thermodynamics. First law applications. The second law of thermodynamics. Properties of the pure substance and the perfect gas. Processes in the perfect gas. Gas dynamics. Gases and vapors. Mixtures. Thermodynamics and chemistry. Applied thermodynamics. Appendixes. Index.

Note. An introductory textbook written by two members of the faculty of Georgia Institute of Technology. It is addressed to engineering students rather than to students of physics, and it covers the traditional ground of such courses. The main emphasis is on theory; however there are incidental references to engineering applications, and most of the problems are concerned with such applications. A special feature of the exposition is the inclusion of a high number of "illustrated examples" of computations of various kinds of problems.

YOUNG VINCENT WILLARD
Basic engineering thermodynamics. New York McGraw Hill Book Company Inc., 1952 358 p. illus. 24 cm. $7 00. 6055

Contents: Fundamental definitions and concepts. The first law and the closed system. The first law and the open system. The reversible process and the reversible cycle. The second law of thermodynamics. Entropy—a property of the system. The pure substance. General thermodynamic equations for the pure substance. The perfect gas. Mixtures of gases and vapors. Steady flow of fluids—the turbine. Power—gas systems. The reciprocating steam engine. Power—vapor systems. Refrigeration. The evaluation of irreversibility. The steady flow of fluids in pipes and ducts. Real gases. Thermodynamics of combustion. The transmission of heat. Appendix. Index.

Note: An introductory treatment designed for use in college courses offered to undergraduate students of mechanical engineering. The basic theory is adequately covered and is related to familiar engineering applications. The discussions of most points are explicit and fairly full, hence more of the text can be comprehended by the student without the assistance of an instructor than of texts written in a condensed style. The author was formerly Professor of Mechanical Engineering in Oklahoma Agricultural and Mechanical College.

YOUNG VINCENT WILLARD AND GILBERT A. YOUNG
Elementary engineering thermodynamics. Third edition. New York McGraw Hill Book Company Inc., 1947 268 p. illus. 23 cm. $7.50. 6056

Contents: Introduction. General laws and equations. Thermodynamic characteristics of gases. Frictionless nonflow processes—gas systems. The Carnot cycle—entropy. Heat-engine cycles—gas systems. Air compressors. Properties of vapors—vapor tables. Frictionless nonflow processes for vapors. Steady-flow processes for gases and vapors. Vapor cycles. Refrigeration. Mixtures of air and water vapor. Appendixes. Index.

Note: The third edition of this college textbook reflects wartime changes in emphasis on some of the applications of thermodynamics.

KNUDSEN, JAMES G, AND DONALD L KATZ
Fluid dynamics and heat transfer Ann Arbor, Mich. University of Michigan Press 1954 247 p illus 23 cm. (University of Michigan Engineering Research Institute Bulletin no 37) $3 50 6043

Contents (abridged) Part I, The mechanism of fluid flow Part II, The energy relationships of flowing fluids. Part III, Convection heat transfer Conclusion. Table of nomenclature. Bibliography Index.

Note A fundamentally different approach to the analysis of heat transfer processes in chemical engineering is presented in this work. The mechanisms, or phenomena, of fluid flow in circular tubes and closed conduits of various other shapes are studied from the standpoint of their usefulness in the solution of heat transfer problems. Also studied from the same standpoint are flows past plates, cylinders, spheres, flows through tube banks, and other flow situations encountered in chemical processing equipment. Equations and graphs for predicting velocity profiles for the different types of flow are included. The work was based both on the literature and on the authors' research.

LEE, JOHN FRANCIS, AND FRANCIS WESTON SEARS
Thermodynamics. Reading Mass Addison Wesley Publishing Company 1955 543 p illus. 24 cm. $8 50 6044

Contents Fundamental concepts. Equations of state. The first law of thermodynamics. Some consequences of the first law The second law of thermodynamics. Entropy Combined first and second laws. Fluid flow Heat transfer Single-phase and two-phase mixtures. Vapor power cycles. Thermodynamics of internal combustion engine processes. Refrigeration processes. Thermodynamics of reactive systems. Collateral reading Appendixes Thermodynamic properties of steam. Thermodynamic properties of air Thermodynamic properties of mercury Thermodynamic properties of refrigerants. Miscellaneous tables and charts. Systems of units. Index.

Note A textbook designed for use in first courses in thermodynamics in engineering colleges and other schools where separate courses in thermodynamics are offered. It covers basic principles and related computations. The working principles of standard applications, such as refrigeration machines, are described, but the authors have not attempted to cover or even mention a wide range of applications.

LICHTY LESTER CLYDE
Thermodynamics Second edition New York McGraw Hill Book Company Inc. 1948 341 p. illus 23 cm $6 75 6045

Contents Thermodynamic mediums and their coordinates. Energy and energy terms. The energy equation and processes. Properties of mediums. Thermodynamic processes. Mixtures of mediums. Availability of energy Thermodynamic cycles. The combustion process. Internal-combustion engine and gas-turbine processes. The flow of fluids. Thermodynamic relations and properties of mediums. Index

Note A textbook for engineering students with the purpose of presenting, as simply as possible, explanations of fundamental theory and principles rather than the mathematical formulas and mechanical methods based on them. There are many examples, with their solutions, to illustrate the applications of the principles, and additional exercises upon which the student can test his understanding The general plan of organization of the material in the first edition has been followed. Taking into consideration recent scientific developments, however and experience in the use of the text in courses as well, some sections have been rewritten, some simplified. The section on properties of media has been expanded. An entire chapter devoted to thermodynamic processes has been added, and also section on gas turbines.

MCADAMS WILLIAM H
Heat transmission Sponsored by the Committee on Heat Transmission National Research Council Third edition New York McGraw Hill Book Company Inc 1954 532 p. illus. 24 cm. (McGraw Hill series in chemical engineering, Sidney D Kirkpatrick, consulting editor) $9 00 6046

Contents Introduction to heat transmission. Steady conduction Transient conduction. Radiant-heat transmission. Dimensional analysis. Flow of fluids. Natural convection. Introduction to forced convection. Heating and cooling inside tubes—outside tubes. Compact exchangers, packed and fluidized systems. High-velocity flow rarefied gases. Condensing vapors. Boiling liquids. Applications to design. Appendix. Bibliography and author index. Subject index.

Note. An authoritative work, used since the publication of the first edition as a textbook for students and a reference book for practicing engineers. It is outstanding for its integration of experimental data and for its relation of the experimental results to problems of practical design. Fundamental approaches to design problems rather than the details of solution of individual specific problems are emphasized. However some worked examples of specific problems are included as illustrations. The second edition was published in 1942 A wide range of new information derived from experimental investigations made since the first edition was written, and including extensive studies made under government sponsorship during World War II and later has been added in this edition, while some older material was deleted. The literature has been covered through 1952 with a few references to 1953 publications.

MOONEY, DAVID A.
Introduction to thermodynamics and heat transfer Englewood Cliffs N J Prentice-Hall, Inc., 1955 429 p illus. 23 cm. $6.50. 6047

Contents. Introduction. Work. Temperature and heat. Properties of systems. First law of thermodynamics. Flow processes—first law analysis. Second law of thermodynamics. Basic applications of the second law Properties of pure substances. Tabulated properties—steam tables. Properties of gases. Properties of gaseous mixtures. Vapor cycles. Combustion processes—first law analysis. Gas cycles. Fluid flow—nozzles and turbines. Gas compressors. Refrigeration. Heat transmission. Appendix tables and graphs. Index.

Note. The author's *Mechanical engineering thermodynamics* was published in 1953 It is a rather substantial introductory text for engineering students. The present book is a shorter one. Its terminal chapter on heat transmission does not appear in the earlier book otherwise, the matter in it has largely been taken over from the predecessor The reduction in length has been achieved by omitting chapters and sections of chapters on the 1953 book. Readers who use the book outside of college courses may prefer the earlier one, because of the aid to comprehension afforded by its more abundant illustrations of applications of the theoretical material.

MORSE, FREDERICK TRACY
Elements of applied energy Princeton D Van Nostrand Company, Inc., 1947 444 p. illus. 24 cm. $6 00 6048

Contents Introduction to applied energy Thermodynamic properties. Fuels and combustion. Energy in action. Mechanical elements of heat engines. Air and energy Refrigeration and air conditioning. Spark ignition engines. Compression ignition engines. Gas turbines. Jet propulsion. External combustion power plants. Steam generation. Steam power. Conclusion. Index. Supplement (tables and chart)

Note A textbook for engineering college students. It is intended to serve either as a preparation for more rigorous courses, or as terminal course for students not intending to pursue thermodynamics beyond an introductory course. The emphasis is upon applications of thermodynamics. The work is generously illustrated with reproductions of photographs and diagrams, and each chapter concludes with number of practical problems.

SCHNEIDER P J
Conduction heat transfer Reading, Mass. Addison-Wesley Publishing Company, Inc., 1955 395 p illus. 24 cm $10 50 6049

Content Introduction. Steady one-dimensional systems. Differential equations of Bessel and Legendre. Extended surface. Fourier series and integration of partial-differential equations. Steady two-dimensional systems. Steady-state numerical method. Steady heat-source systems. Steady porous systems. Transient systems—Heating and cooling—Unsteady boundary conditions, stationary and moving

Steam

HIGGINS, ALEX

Boiler room questions and answers. New York: McGraw Hill Book Company Inc. 1945. 139 p. illus. 29 cm. $5.00. 6063

Contents (abridged) Boiler regulations and methods of study. Fire-tube boilers—heating surface. Construction materials and details—attachments and processes. Stays, stay bolts, boiler calculations. Steam gauges and water columns. Safety valves, water-level alarms, fusible plugs. Boiler-feed and blowoff accessories, valves. Boiler construction, cleaning and inspection. Boiler foundations and settings. Some typical boiler repairs. *Flue-gas analysis:* method and meaning. Draft and its control. Hand firing and stoker firing. Facts about pulverized fuel, gas, oil and combustion. Boiler feed-water heating and treatment (Part). Heat facts, laws and problems. How to use steam tables. Injectors and pumps. Pipe and piping accessories. Index.

Note This book, written for power plant operating personnel, is designed primarily to help men prepare for written examinations for engineers' licenses. The exposition, in question-and-answer form, is supplemented by a generous number of illustrations. The exceptionally thorough index makes the book useful also as a reference manual to operating engineers on the job.

KEENAN JOSEPH HENRY AND FREDERICK G. KEYES

Thermodynamic properties of steam including data for the liquid and solid phases. New York. John Wiley & Sons, Inc., 1936 [illegible] p. illus. 26 cm. $5.50 6064

Contents Introduction. Symbols used in tables. Table i, Saturation: temperatures. Table ii, Saturation: pressures. Table iii, Superheated vapor. Table iv, Compressed liquid. Table v, Saturation: solid-vapor. Table vi, Viscosity. Table vii, Heat conductivity. Table viii, Correction factors. Table ix, Thermometer calibration tables. Table x, Logarithms to the base of 10. Table xi, Logarithms to the base of [illegible]

Note This edition incorporates general revisions of the values adopted as a basis for the evaluation of the properties of water. In addition, the range of temperatures and pressures has been extended to [illegible] degrees F and 1500 lbs. per square inch. Tables giving viscosity, heat conductivity, specific heat, compressed liquid properties, data on ice and its vapor, as well as other physical tables are included.

MACNAUGHTON EDGAR

Elementary steam power engineering. Third edition. New York John Wiley & Sons, Inc., 1948. 640 p. illus. 23 cm. $7.50 6065

Contents (abridged) Thermodynamic principles and processes. Properties of air, water and steam. Steam boilers and settings. Superheaters, desuperheaters, attemperators, purifiers and steam cycles. Fuels. Coal handling and ash-handling equipment. Combustion, flue gas analysis, boiler losses. Methods of burning coal, smoke prevention, furnaces, and refractories. Methods of burning gas, oil, and pulverized fuel. Rating, efficiency and testing of steam boilers. Draft and methods of producing draft. Heat-saving equipment. Boiler feed-water conditioning, scale removal, evaporators, deaerators, and tube cleaners. Reciprocating steam engines—simple engines. Slide-valve engines, valve diagrams, and slide-valve setting. Multi-valve engines. Compound, multi-expansion, and uniflow engines. Steam turbines. Condensers and condenser auxiliaries. Steam-driven and power-driven pumps. Modern power plants and factors related to their design and operation. Appendix tables. General references. Index.

Note An engineering college textbook in which practical aspects are emphasized, but which contains also adequate expositions of the theory. All of the major and auxiliary types of steam generating equipment and steam power machinery are described. In most chapters the discussions of theory follow the descriptive material. A considerable portion of the book can be understood without mathematics and therefore is suitable as home study material for practical workers. Numerous changes have been made in this edition. There are now 43 tables and almost 500 illustrations.

POTTER, PHILIP JOHN

Steam power plants. New York The Ronald Press Company 1949 503 p. illus. 24 cm. (A volume of a series in mechanical engineering Burgess H. Jennings, editor) $7.00 6066

Contents: Introduction. Flow of fluids. Pumps. Theory of heat transfer. Fuels and combustion. Steam generators. Boiler auxiliaries—fuel-burning equipment—draft equipment—feedwater treatment. Heat exchangers—condensers—feedwater heaters—evaporators and miscellaneous heat exchangers. Steam turbines. Steam engines. Heat balances. Economics of steam power plants. Appendix. Index.

Note: An engineering college textbook in which the emphasis is on the fundamental principles of fluid flow heat transfer, etc rather than on the description of a large range of power-plant equipment. However the operating principles and characteristics of a considerable range of typical equipment are described. There is also a fair amount of material on the classification and analysis of fuel. The chapters are supplemented by good lists of problems and by short bibliographies.

POWELL, SHEPPARD T

Water conditioning for industry New York McGraw Hill Book Company Inc. 1954 548 p. illus 24 cm. $10.00 6067

Contents. Natural waters and their impurities. Removal of suspended solids by settling. About chemical coagulants. Chemical coagulation—theory. Application of coagulants, flocculation, and settling. Filtration. Cold-process softening by chemicals. Hot-process softening by chemicals. Softening and demineralization by ion-exchange materials. Evaporators—their design and operation. Deaeration of feedwater. Internal treatment by chemicals—theory. Equipment for secondary chemical treatment. Water conditioning for recirculation systems. Steam contamination and means for correction. Determination of steam purity. Corrosion of metals—causes and control. Corrosion problems in high-pressure boilers. Electrolytic processes for corrosion control. Caustic embrittlement of boiler steel. Boiler scales and their identification. Chemical cleaning of power plant equipment. Determination of solids in boiler water. Miscellaneous treatments. Analytical procedures. Appendix. Index.

Note Primarily devoted to the problems and techniques of preparing feedwater for high pressure boilers, this book describes also numerous water conditioning processes applicable to other fields of manufacturing. All of the industrially important processes of feedwater treatment are described in considerable detail with literature references to sources of additional information. The book is addressed to engineers and chemists who are concerned with water quality and treatment incidentally rather than to specialists in water treatment. The 40-page chapter on analytical tests describes a selection of standard tests.

SALISBURY JOHN KENNETH

Steam turbines and their cycles. New York John Wiley & Sons, Inc., 1950 645 p illus. 23 cm. $9 50 6068

Contents (abridged) Part i, Fundamentals of turbine design. Power-plant cycles. Flow of fluids. Turbine external characteristics. Stage efficiency. Design of turbine stage. Steam path design. Part ii, The regenerative cycle. Regeneration and non-extraction performance. Modern heat-balance practice. Conventional heat balance. Shortcut to turbine-cycle heat rate. Part iii, Cycle analysis: Heater cycle losses. Cycle equations for homogeneous arrangements. Single-heater formulas. Other heater arrangements. Distribution loss. Distribution loss in flashed heaters. Terminal difference and pressure-drop loss. Miscellaneous cycle corrections. Part iv Application engineering. Design details. Estimating steam rates. Estimating heat rates. Appendix. Index.

Note: A substantial treatise on the engineering aspects of steam turbines. The subject is treated mainly from the standpoint of design, but much of the information is of interest also to engineers who are concerned with the specification of turbines for specific applications or with general supervision of power plant operating and maintenance programs. Adequate attention is paid to thermodynamics and fluid flow and much emphasis is given to cycle analysis. The section on the regenerative cycle is a considerable extension of a paper which, when presented before the American Society of Mechanical Engineers in 1943, won the Melville medal for the best original contribution of the year. There is a three-page selected bibliography.

SEVERNS WILLIAM H. AND OTHERS

Steam, air and gas power By William H. Severns, Howard E Degler and John C.

It also provides revised discussions of certain topics, among which are Joule's law and entropy The format remains the same as before, as does the purpose—namely to provide the engineering student with an introduction to the basic theory of heatwork apparatus. Problems are included with each chapter

STEAM ENGINEERING

BUTTERFIELD, THOMAS EDWARD, AND OTHERS

Steam and gas engineering by Thomas E. Butterfield, Burgess H. Jennings, and Alexander W Luce. Fourth edition. New York D Van Nostrand Company, Inc., 1947 588 p illus. 24 cm. $7 00 6057

Contents (abridged) Energy units, laws of thermodynamics. The steam engine. Properties of steam. Steam cycles. Fuels and power. Combustion. Combustion equipment for steam generation. The steam boiler. Boiler plant auxiliary apparatus. Steam turbine types and performance. Turbine nozzle and blading calculations. Condensers and condensing equipment. Steam power plant cycles, heat balances. Gas properties. Gas cycles. The internal combustion engine. Gas and gasoline engine types. Oil engines. The gas turbine. Compression and refrigeration. Index.

Note An established textbook for students in engineering colleges. The treatment assumes that the reader will have had introductory college courses in physics, chemistry and calculus. As in previous editions, the greater part of the space is given to steam engineering. Emphasis is upon operating characteristics rather than mathematical analysis, but the treatment is not merely descriptive. In this edition, the chapters on steam turbines, combustion equipment, compression in connection with combustion and refrigeration have all been expanded and the work as whole has been extensively revised and rearranged. The chapter on gas turbines is a new addition and several useful tables have been added.

CHURCH, EDWIN FAYETTE, JR.

Steam turbines. Third edition. New York McGraw Hill Book Company, Inc. 1950 531 p illus 24 cm. $8 50 6058

Contents Types and characteristics. Steam-turbine cycles. Flow of steam in nozzles. Nozzle proportions and tests. Impulse-blading velocity diagrams. Impulse-blading proportions. Reaction-blading velocity diagrams and blading proportions. Effects of use, capacity speed, and steam conditions on the arrangement of turbine elements. Aerodynamic considerations. Elements of supersonic flow Vibrations. Structural elements, materials, and stresses. Losses. Efficiency reheat factor and condition line. Output variation and governing. Turbine performance. Design. Problems. References. Index.

Note. A standard engineering college textbook. In this edition, much new material, both textual and pictorial, has been added, and some of the material in the earlier editions has been discarded. The level of treatment has been raised somewhat, so that the book is now suitable for use in graduate as well as advanced undergraduate courses. Also, it will now be more useful to engineers out of school who are in need of an introductory and up-to-date survey. The bibliography seven pages long, consists mainly of periodical articles.

CROFT, TERRELL WILLIAMS editor

Steam boilers revised by R. B Purdy Second edition New York McGraw Hill Book Company Inc., 1937 417 p illus 21 cm $6 00 6059

Contents Function, classification and requirements of the steam boiler. Evolution of the steam boiler Steam generation and boiler capacity Fire-tube boilers. Water-tube boilers Super-heaters. Water walls. Materials used in steam boiler construction. Stresses in and strength of steam boilers. Joints. Braces and stays. Fire tubes and water tubes. Manholes and handholes. Boiler accessories. Fuels. Combustion and hand firing. Stokers and pulverized coal. Petroleum and gaseous fuels. Boiler settings and furnaces. Draft and its production. Chimneys, breechings and dampers. Mechanical draft. Economizers and air preheaters. Feed water and feed-water treatment. Management, inspection, and maintenance of steam boilers. Selection of steam boilers. Index.

Note This book covers the functions, types, construction, accessories, capacities, ratings, and selection of steam boilers. Code and inspection regulations are also discussed, and changes in code requirements are reflected in this new edition. Other changes occur in the treatment of types of boilers, stokers, pulverized coal, oil burning, boiler settings, furnaces, etc.

CROFT, TERRELL WILLIAMS, editor

Steam-engine principles and practice. Revised by E J Tangerman. Second edition New York McGraw Hill Book Company, Inc., 1939 513 p. illus. 21 cm. (Power plant series) $6 50 6060

Contents: Function and principle of the steam engine. Steam-engine mechanisms and nomenclature. Steam-engine indicators and indicator practice. Slide valves and their setting. Corliss and poppet valves and their setting. Fly-ball steam-engine governors, principles and adjustment. Shaft steam-engine governors, principles and adjustment. Compound and multi-expansion engines. Condensing and non-condensing operation. Steam-engine efficiencies and how to increase them. Steam engines of later types. Steam-engine testing. Reciprocating-engine management, operation, and repair. Use of superheated steam in engines. Selecting an engine. Steam-engine lubrication. Solutions to problems. Index.

Note: A practical text and reference book for the operating engineer or plant superintendent. It is limited to discussion of the uses and practical applications of steam engines and their selection, operation, care, and methods of repair. No attempt has been made to include mathematical theory of operation or principles of design. A large number of drawings illustrate the text, and there are descriptive expositions with worked-out arithmetical examples and a number of review questions following each chapter. The second edition incorporates data on newer types of engines and describes applications developed between 1922-1939

CROFT, TERRELL WILLIAMS, editor

Steam power plant auxiliaries and accessories, revised by D J Duffin. Second edition. New York McGraw Hill Book Company, Inc., 1946 583 p. illus. 21 cm. $7.50. 6061

Contents Pump theory and calculations. Reciprocating pumps. Centrifugal and other impeller-type pumps. Injectors. Methods of boiler feeding. Feed-water heaters, deaerators, evaporators. Economizers and air preheaters. Steam condensers. Spray ponds and cooling towers. Steam piping of power plants. Steam separators. Steam traps. Appendix. Solutions to problems. Index.

Note. This work is designed as practical reference book for operating men in power plants and as textbook for students. Compared with the first edition (1922) the present edition is extensively revised and considerably enlarged. There is new material on such topics as deaerators, air preheaters, piping, maintenance and cavitation. The appendix of steam-engineering data also is a new addition.

GAFFERT, GUSTAF A.

Steam power stations. Fourth edition. New York McGraw Hill Book Company, Inc., 1952 637 p illus. 24 cm. $8.50 6062

Contents. Introduction. Equipment of power station. Steam engines. Steam turbines. Heat transfer Condensers. Feed-water heaters and evaporators. Feed-water treatment. Fuels and combustion. Steam-generating units. High-pressure and binary-cycle boilers. Dust collectors. Economizers and air heaters. Superheaters and reheaters. Fuel-burning equipment. Ductwork and piping. Draft system. Coal and ash handling. Pumping equipment. Steam-station costs. Load curves and plant location. Selection of prime movers and steam-generating equipment. Cycle arrangement. Binary vapor cycles. Station design. Index.

Note An engineering college textbook which has been widely used since the publication of the first edition in 1937 It provides thorough introductory treatment in which theory and description are combined. Steam-operated prime movers, steam-generating equipment, power house auxiliary machinery steam-power economics, power station layout, etc., are covered, but the structural design of power houses and electrical machinery are omitted. In other words, the scope is steam-generating machinery and the machines which are auxiliary to steam generation. In comparison to the third edition, the book has been rather extensively revised.

ELLIOT, P M.

High-speed combustion engines design, production, tests. Sixteenth edition of *The gasoline motor* Philadelphia Chilton Company 1956. 805 p. illus. 22 cm. $12.00. 6075

Contents: The Otto cycle. Conversion of reciprocating into rotary motion. Layout of engines. Combustion-chamber design—detonation and turbulence. Engine cylinders. The crankcase—engine mounting. Friction of engine blocks. Pistons, piston rings, and piston pins. The connecting rod. Crankshafts and flywheels. Determination of bearing loads. Torsional vibration and vibration dampers. Engine valves. Valve-actuating mechanism. Camshaft and accessories drives. The mixing medium—gasoline and air. The carburetor. Ignition equipment. Bearings and lubrication. Water-cooling. Air-cooling. Manifolds and muffler. Speed control—the governor. Power output and other characteristics. Two-stroke-cycle engines. Engine tests and testing equipment. Thermodynamics of the combustion engine. Appendix. Plate supplement. Index.

Note: The first edition of this work appeared in 1912 under the title *The gasoline motor*. It was then and [illegible] now intended specifically [illegible] reference manual for mechanical engineers and as [illegible] text for engineering students. Details of engines and engine subassemblies made by many of the leading British and American manufacturers are described in addition to generalized discussions of [illegible] engine theory and construction. There are numerous illustrations [illegible] the text and [illegible] 11-page Plate supplement of larger drawings. The 15th edition was published in 1937. The major change [illegible] the 16th edition is the deletion of the chapter on unconventional engines and the return to the book of [illegible] chapter on thermodynamics which appeared in earlier editions but was omitted [illegible] the 15th edition. Minor changes to cover new developments in engine design, especially in automotive engines, have been made [illegible] various chapters and many new illustrations have been added.

ELLIOT, P M.

High-speed Diesel engines, for automotive, marine, railroad and industrial use, with a chapter on gas turbines. Seventh edition. Philadelphia. Chilton Company 1953 472 p illus. 22 cm. $7.50. 6076

Contents: Nature of the engine and its fields of application. Thermodynamic and other characteristics. Combustion phenomena. Fuels for Diesel engines. Fuel injection and sprays. Injection pumps, their principles and characteristics. Modern injection pumps and nozzles. Precombustion-chamber engines. Direct-injection engines. Turbulence-chamber engines. Auxiliary-chamber engines. Two-stroke engines. Loop-scavenged engines. Supercharging. Some details of engine design. Methods of starting Diesel engines. Lubrication. Operation and maintenance. Gas turbines. Index.

Note: The purpose of this standard work is to describe the more important principles of Diesel-engine design and to illustrate the application of these principles by reference to various engines [illegible] them. Thus, [illegible] is essentially an account of typical and promising designs and mechanisms. It is directed to engineers and Diesel-engine users who have [illegible] professional interest in Diesel engine design. The first edition was published in [illegible] and the sixth edition in 1952. The former chapters on aircraft engines and [illegible] types were dropped in preparing this seventh edition, and such new material was added.

JENNINGS, BURGESS H., AND WILLARD L. ROGERS

Gas turbine analysis and practice. New York. McGraw Hill Book Company Inc., 1953 487 p. illus. 23 cm. $8.50. 6077

Contents: Development of the internal-combustion engine and turbine. Thermodynamics and air properties. Gas-turbine cycles and [illegible] analyses—types and design features. Axial-flow compressors. Centrifugal and displacement compressors. Aircraft propulsion and jet engines. Power plant and transportation turbines. Fuels, combustion and combustion chambers. Stresses in turbine [illegible] components. Vibration and balancing. Materials and metallurgy. Appendix. Index.

Note: A useful, clearly written introduction, designed for use as an engineering college textbook. As implied in the title, both theory and descriptive matter are included. However, somewhat more space is given to mathematical analyses than to descriptions of turbines and related devices. Selected literature references are included. The authors are members of the faculty of the Technological Institute of Northwestern University.

JONES, C MORGAN

Diesel operator's guide. New York McGraw Hill Book Company Inc. 1956 377 p. illus. 24 cm. $7 00 6078

Contents: The modern Diesel engine. Trouble shooting. Engine starting systems. Fuel-injection systems. Pistons, piston rings, and rods. Cylinder liners. Valves and valve gears. Crankshafts and bearings. Engine governors. Cooling systems. Lubrication. Air-intake systems. Exhaust systems. Pumps and pumping systems. Engine drives. Fuel storage. Dual-fuel engines. Engine foundations. Engine maintenance schedules. Index.

Note: A practical introduction to Diesel engine principles and mechanisms, and [illegible] manual of trouble shooting and repair operations. As the title indicates, it is addressed to men [illegible] who are in charge of Diesel engines. There is no emphasis [illegible] however on specific makes of engines, however, the mechanisms common to all and also the chief variations of these mechanisms are covered.

KATES EDGAR J

Diesel and high-compression gas engines—fundamentals. Chicago American Technical Society 1954 396 p. illus. 22 cm. $5.50. 6079

Contents: What [illegible] Diesel engine is. Distinguishing features of Diesel engines. Basic construction of [illegible] Diesel engine. Basic terms of physics and engineering. Heat and combustion. Oil and gaseous fuels. Engine power and fuel consumption. Engine rating and performance. Engine types. Stationary parts—frames, cylinders, and heads. Major moving parts. Valve gear and scavenging systems. Injecting fuel. Burning the fuel. Lubricating the Diesel. Governing. Typical Diesel engines. High-compression gas-burning engines. Auxiliary systems. Operation and maintenance. Index.

Note: A textbook for practical students. Although familiarity with spark-ignition engines would be helpful, the author has not assumed that his readers will have this knowledge. He has started the exposition with the very elements of Diesel engines and of combustion in such engines. Mechanical details of modern Diesel engines are described generally without reference to particular makes. Liberal use is made of illustrations. The inclusion of [illegible] chapter on high-compression gas-burning engines—which are [illegible] type of increasing importance in regions [illegible] where natural gas is cheap and abundant—is [illegible] useful feature. The book [illegible] suitable for home study as well as for use in organized classes.

LEE, JOHN F

Theory and design of steam and gas turbines New York McGraw Hill Book Company Inc., 1954 502 p. illus. 24 cm. $9.50. 6080

Contents: Steam-turbine types. Gas-turbine types. Fundamentals of thermodynamics. Steam-turbine cycles. Gas-turbine cycles. Elementary gas dynamics. Design of nozzles. Energy interchanges in fluid machinery. Design of turbine flow passages. Mechanical aspects of turbine design. Steam-turbine control and performance. The centrifugal compressor. The axial-flow compressor. Combustion. The regenerator. The gas-turbine power plant. Appendix. Index.

Note: A new engineering textbook in which fundamental theory and current design are the main topics. Little descriptive material is included. Steam and gas turbines are viewed as different versions of the same fundamental machine and [illegible] is shown that much of the basic theory is applicable to both. The chapter on the centrifugal compressor—a necessary accessory to the gas turbine—is [illegible] full one. In addition to its intended use as [illegible] text, the book will be useful to graduate engineers who are well versed in the steam turbines and need [illegible] basic understanding of the gas turbine.

LICHTY LESTER CLYDE

Internal-combustion engines. Sixth edition. New York McGraw Hill Book Company Inc., 1951 598 p. illus. 24 cm. $7.50. 6081

Contents: The internal-combustion-engine process. Thermodynamics for engine analysis. The combustion process. Air-standard cycle

Miles Fifth edition New York John Wiley & Sons Inc 1954 502 p illus 22 cm $6 50 6069

Contents Basic definitions. Heat power plants. Principles of thermodynamics. Steam and steam calorimetry Fuels and combustion Steam boilers and generators. Steam boiler auxiliaries. Feed-water heating and conditioning. Draft apparatus—chimneys and fans. Reciprocating steam engines. Steam turbines. Steam-condensing equipment. Pumps. Compression f air and gases. Gas turbines. Internal-combustion engines. Mechanical refrigeration. Appendix. Additional tables. Index.

Note. A standard engineering college textbook. It is designed for use in introductory courses, especially courses offered to students who do not plan to specialize in this branch of engineering and therefore require a general rather than a rigorous course. Elementary theory is covered and the principal types of heat-power devices are described. The fourth edition was published in 1948. The chapters on gas turbines and mechanical refrigeration are new in this fifth edition. Chapters carried over from the fourth edition have been revised in varying degrees, some f them extensively There is somewhat less emphasis on the steam engine.

SPRING, HARRY MORTIMER

Boiler operator's guide, construction operation, inspection, and maintenance of steam boilers, with 310 typical steam engineer's examination questions and answers. New York McGraw Hill Book Company, Inc. 1940 353 p illus 23 cm $5 75 6070

Contents Preface. Abbreviations and symbols. General construction and stress calculations. Fire-tube boilers. Watertube boilers (straight tube) Watertube boilers (bent tube) Watertube boilers (bent tube)—special service and European. Boiler appliances and auxiliaries. Boiler-plant management. Problems of plant operation. Appendices Glossary of boiler terms. Materials. Boiler scale. Instructions for riveted patches. Boiler safety rules. Index.

Note A text and reference book on boilers and boiler equipment covering the design construction, installation, operation, and maintenance f a variety of boilers from fire-tube type to high-pressure steam generators in the United States and abroad. A discussion of plant management including personnel problems and work schedules is also given. The text is written in nontechnical terms for the benefit of the beginner Questions and answers, typical f examinations gi en for boiler inspectors' and engineers' licenses by various states of the United States of America, are given at the end of each chapter

WOODRUFF, EVERETT BOWMAN, AND HERBERT B LAMMERS

Steam plant operation. Second edition New York McGraw Hill Book Company, Inc. 1950 543 p illus 25 cm. $8 00 6071

Contents Boilers. Construction f boilers. Combustion of fuels. Settings, combustion equipment and heating surfaces. Boiler accessories. Operation and maintenance of steam boilers. Pumps. Reciprocating steam engines. Valve-operating mechanisms. Operation and maintenance of steam engines. Construction of steam turbines and auxiliaries. Operating and maintaining turbines and auxiliaries. Auxiliary steam-plant equipment. Appendices. Index.

Note A standard work for stationary engineers and firemen. It provides a fairly comprehensive description of present-day steam plant equipment, together with clear expositions of such matters as the principles of combustion and the practices of handfiring and stoker operation. This edition has been extensively revised and enlarged to cover advances since 1935 Particular attention is given to the operation of new types of equipment thus, the chapters on boilers and boiler construction now include discussions of heat recovery equipment, steam separators, new types f stokers, dust collecting systems, etc. The chapter on fuel combustion has been doubled in length, and the description of steam turbines now runs to two chapters. Review questions and problems are again included.

INTERNAL COMBUSTION ENGIN

ADAMS, ORVILLE L

Diesel operation and maintenance. N York Prentice-Hall, Inc., 1946 366 p. il 24 cm $6 65 6

Contents Fundamental problems. Problems of application. problems of operation. Metallurgical problems. The fuel-mixing lems. Basic maintenance problems. Inspection procedure. Piston maintenance and inspection. Piston and liner maintenance. Be failures and maintenance problems. Problems of lubricatio. oil and combustion problems. Appendices. Metallurgical da Tables and formulas. Lubricating oil specifications. Index.

Note. A skillfully written introduction to the basic princ and problems of Diesel engines, together with practical direc for Diesel engine operation, upkeep, and repair. The author cusses the advantages, limitations, and the arious types of D engines, as well as major and minor overhaul procedures. Oper details, however are not as specific as those found in manu turers' instruction manuals for particular makes of engines. volume is intended for technical school classrooms or for instruction and it assumes that the reader will be able to u stand engineering terms and graphs. The author was an office the U S. Navy during World War II and had charge of D engine instruction and ship repairs for a fleet of Diesel-driven s

DUSINBERRE, G M

Gas turbine power Scranton Internatio Textbook Company, 1952 256 p. illus. cm (International textbooks in mechani engineering E F Obert, consulting edito $6 25 60

Contents. An introduction. Thermodynamics. The basic gas t bine cycle. Variations on the basic cycle. Gas flow Turbines. C pressors. Combustion. Heat transfer. Part-load operation. Fut variations of the basic cycle. Appendix Tables. Bibliography Ind

Note. Thermodynamic and heat balance aspects of the gas turb are emphasized in this book. Design aspects, such as the stresses turbine blades, are covered also. Applications to small turbines, s as are used in airplane engines, are not predominant, instead, t book is written so that most of its contents are as applicable large stationary turbines as to the smallest ones in use. The tre ment is introductory to the subject, and the book is designed p marily for students in engineering colleges he have completed b courses in thermodynamics, heat transfer strength of materials, e The bibliography contains about 130 references.

GILL, PAUL W , AND OTHERS

Fundamentals of internal combustion e gines as applied to reciprocating, gas turbin and jet propulsion power plants. By Paul W Gill, James H. Smith Jr and Eugene Ziurys. Revised edition 1954 Annapolis Th United States Naval Institute, 1954 543 p illus. 24 cm. $5 00 607

Contents Introduction to reciprocating engines. Engineering thermodynamics. Power cycles. Engine power Fuels. Carburetion Spark ignition Combustion in the SI engine. Cooling. Spark ig tion engine performance. The compression ignition engine and fu injection Combustion in the CI engine. Compression ignition en gine performance Comparison of SI and CI engines. Lubrication The theory and fundamentals of gas turbines. Jet propulsion engines Rocket engines. Hydrogen peroxide for propulsion power. Nuclear power for ship propulsion Appendices. Index

Note. This textbook was prepared primarily for use in a cour given to first year midshipmen of the United States Naval Academy It is a presentation of the basic theory fundamental principles, an performance characteristics of the three major categories of interna combustion engines. It covers the nomenclature, the arious com ponents of these engines, the capabilities and limitations of th various types of power plants, tests, and recent developments. Th second edition was published in 1952 The present third edition written at the same level and covers essentially the same materia as the preceding one. However the book has been reorganized, and number of chapters, including the one on uclear power for ship propulsion, hav been extensively rewritten.

[illegible], Harry A.
Gas turbines. New York The Ronald Press Company 1951 460 p. illus. 23 cm. (A volume of a series in mechanical engineering, Burgess H. Jennings, editor) $7.00. 6088

Contents: Introduction. Principles of thermodynamics. Simple [illegible] gas turbines. Variations of the basic cycle. Closed-cycle [illegible] gas turbines. [illegible] parts. The axial-flow compressor. Centrifugal and [illegible] compressors. Axial-flow turbines. Combustion systems. [illegible] design. Plant performance. Miscellaneous plants. [illegible]. Index. Appendix. Properties of air and combustion gases.

Note: A well-rounded introductory exposition of gas turbine theory and current practice. The book is designed chiefly as [illegible] for the use of upperclass engineering students. However, [illegible] organized and written that it can serve equally well as [illegible] book on the subject for engineers out of college who have the [illegible] knowledge of basic thermodynamic concepts and terminology. The [illegible] range of gas turbine practice is covered from the [illegible] to the largest stationary units.

Taylor, Charles Fayette, and Edward S. Taylor
The internal combustion engine. Revised edition. Scranton International Textbook Company 1948. 339 p. illus. 24 cm. (International textbooks in mechanical engineering) $6.75. 6089

Contents: Engine capacity and efficiency. The air cycle. Thermodynamics of the [illegible] medium. Fuel-air cycles. Combustion in [illegible] engines. Detonation in the spark-ignition engine. [illegible] Combustion in the compression-ignition engine. Direct heat losses. [illegible] requirements of the spark-ignition engine. Fuels for the [illegible] combustion engine. Engine friction. Lubrication and [illegible] systems. Air capacity of four-cycle engines. Two-stroke engines. Engine performance. The gas turbine. Bibliography. Index.

Note: An engineering [illegible] text that has been planned for [illegible] students who are preparing to work in engine research and design. Many of the experimental data have been developed from original work carried out by the authors at the Massachusetts Institute of Technology. The bibliography is extensive [illegible] to engineers actually at work in the field. The chapter on the gas turbine is new in this edition, and there are many minor changes throughout the text. The bibliography has been [illegible].

Vincent, Edward Thomas
The theory and design of gas turbines and jet engines. New York McGraw Hill Book Company Inc., 1950. 606 p. illus. 23 cm. $9.00. 6090

Contents: Some thermodynamic principles. Fundamentals of gas flow. Jet propulsion. Power plant cycles. Jet-propulsion devices. The turbine power plant. The fundamental principles of [illegible] machines. The centrifugal compressor. The design of centrifugal compressors. The axial-flow compressor. Design of axial compressors. Turbine theory. Turbine design. Combustion chambers, fuel systems, and fuels. Materials. Regenerators. Bibliography. Index.

Note: A textbook intended chiefly for upperclass undergraduate and graduate students in engineering schools. Its purpose is to present the theory which is essential in practical design of turbines and [illegible] the theory to the solution of specific design problems. The principles and characteristics of the chief types of gas turbines and jet units are described in engineering terminology including mathematical equations and graphs.

ATOMIC ENERGY AND REACTORS

Beckerley, James G., editor
The Geneva series on the peaceful uses of atomic energy Nuclear fuels. Edited by David H. Gurinsky and G. J Dienes. Princeton, N J D Van Nostrand Company 1956 364 p. illus. 24 cm. $7.50 6091

Contents: Part I. The metallurgy of uranium and thorium. The preparation of uranium metal. The physical metallurgy of uranium. The alloys of uranium. Casting and fabrication of uranium and its alloys. The production of thorium. The metallurgy of thorium and its alloys. Part II. Radiation effects: Basic considerations in radiation effects. The effect of radiation on structural materials. Radiation effects in fissionable materials. Part III. Solid and fluid fuels: The technology of reactor fuels. A uranium base fuel element (details of the fabrication of the Brookhaven fuel element). Dispersion type fuel elements. Fluid fuel systems. Additional chapter references. General bibliography. Subject index. Name index.

—— Exploration for nuclear raw materials. Edited by Robert D Nininger Princeton, N J D Van Nostrand Company 1956. 293 p. illus. 24 cm. $8.00. 6092

Contents: Part I. The geology of uranium and thorium. The natural occurrence of uranium in the United States. The genesis of uranium deposits. Uranium provinces. Influence of regional structure on uranium occurrence in western United States. Part II. Techniques of prospecting for uranium and thorium: Introduction—survey of prospecting techniques. Geologic prospecting. A systematic method of exploration for and evaluation of uranium deposits in France. Radiometric prospecting. Surface radiometric techniques. Aerial radiometric techniques. Geophysical prospecting. Geophysical-geochemical prospecting. Geochemical prospecting. Botanical prospecting. Hydrogeochemical prospecting. Exploration drilling. Subsurface radiometric techniques. List of conference papers. Subject index. Name index.

Note: Listed above are the titles and contents of the volumes published to the end of 1956 in this publisher's Geneva series on the peaceful uses of atomic energy an edited selection of papers presented at the Geneva Conference. Some of the chapters in the volumes are taken from single conference papers, but [illegible] number of them are made up of sections or complete texts of more than one paper. Two additional volumes in the series were published in 1957 Nuclear reactors for research, edited by C. K. Beck, 243 p., $5.50; Nuclear power reactors, edited by James K. Pickard, 333 p., $6.50. Also published in the United States of America, although the principal places of publication are in other countries, are Progress in nuclear energy, an edited selection in eight volumes, New York, Pergamon Press, and [illegible] complete collection in 16 volumes, Proceedings of the International Conference on the Peaceful Uses of Atomic Energy Columbia University Press, 1955–56.

Commonwealth Edison Company and others
Reports to the U S. Atomic Energy Commission on nuclear power reactor technology by Commonwealth Edison Company, Public Service Company of Northern Illinois, Dow Chemical Company Detroit Edison Company Monsanto Chemical Company Union Electric Company Pacific Gas & Electric Company and Bechtel Corporation. Washington, D C. Government Printing Office, 1953 88 p. illus. 23 cm. $0.25 6093

Contents: Introduction. Report on power generation using nuclear energy by Commonwealth Edison Co. and Public Service Co. of Northern Illinois. Gas-cooled reactor. Liquid-cooled reactor. Economics. Future requirements and possibilities. Conclusions. Study of materials and power-producing reactors, by Dow Chemical Co. and Detroit Edison Co.: Specifications for economical nuclear power. Discussion of specifications. Reactor types. Allowable investment in reactors. Reactor type of known technology considered. Plutonium-power reactor feasibility study by Monsanto Chemical Co. and Union Electric Co.: Selection of reactor types for study. Description of first-choice reactor. Power plant. Economics of producing power in [illegible] combination power and plutonium-plant. Other aspects of the study. Developmental problems. Industrial reactor study, by Pacific Gas and Electric Co. and Bechtel Corp.: General considerations. Selection of reactor. Economic studies. Summary.

Note: The articles comprising this booklet are the declassified versions of reports made to the Atomic Energy Commission under agreements by four teams of nongovernmental industrial representatives. Beginning in 1951 these teams spent 11 months inside the

analysis. Internal-combustion-engine-process analysis. Deviations from ideal processes. Fuels. Combustion knock and knock rating. Carburetion and fuel injection. Manifolds and mixture distribution. Valves and valve mechanisms. Ignition of the charge. Combustion-chamber design. Engine lubrication. *Heat transfer and engine cooling.* Engine performance. *Mechanics of principal moving parts. Engine vibration and balance. Engine design. Appendix.* Index.

Note: A long-established engineering college textbook. Its coverage of specific topics, such as engine vibration and balance, is sufficiently inclusive to make the book useful to graduate engineers who find themselves in need of an introductory discussion. A special feature is the inclusion of charts that depict the results of numerous laboratory experiments and measurements on internal-combustion engines. Although this edition is a few pages shorter than the preceding edition, the work has been substantially revised. New material on such topics as throttling, supercharging, icing, and combustion-chamber design has been added.

MALEEV, V L

Diesel engine operation and maintenance, the construction, operation, maintenance, and repair of modern Diesel engines. New York McGraw Hill Book Company, Inc., 1954 504 p illus 24 cm. $8 50 6082

Contents (abridged): Part I, Introduction General description and construction. Diesel-engine principles. Part II, Diesel-engine components: Frames, cylinders, and heads. Running gear Bearings. Flywheels. Valve gear Fuel injection. Governors. Part III, Fundamentals of diesel engine work Fuels and combustion. Lubrication and lubricants. Engine cooling. Air-intake system. Exhaust system. Starting and reversing methods. Vibrations and balancing. Part IV Engine installation and operation Operating a diesel engine. Engine performance. Rating and testing. Part V Maintenance and repairs. Maintenance records and data. Engine overhauling. Special repairs and salvaging. Appendix. Glossary of terms used in diesel engineering. List of visual aids. Index.

Note A well-written introductory text. In it, Diesel engine principles, mechanical elements and systems, operation, maintenance, and repairs are all treated in a descriptive style that requires on the part of the reader no previous acquaintance with engineering terminology and comprehension of only simple mathematics. There are numerous illustrations, and most of these are reproductions of the drawings of engine sections and parts. Both the narrative text and the illustrations have been chosen to impart fairly detailed practical knowledge such as is needed by engine operators and repairmen.

MALEEV, VLADIMIR LEONIDAS

Internal-combustion engines theory and design Second edition. New York McGraw Hill Book Company, Inc 1945 636 p illus. 22 cm $8 00 6083

Contents (abridged) Principles of thermodynamics. Fuels. Combustion. Theoretical engine cycles. Combustion in spark-ignition engines. Combustion chambers of compression-ignition engines. Engine performance. Four-stroke engines. Two-stroke engines. Engine efficiencies. Four-stroke intake and exhaust. Supercharging. Two-stroke exhaust and scavenging Cooling. Cylinders—cylinder heads. Reciprocating-rotary motion. Vibration and balancing. Lubrication. Crankshafts. Flywheels and governors. Starting—reversing. Rating—testing. Gas turbines. Index. Answers to even-numbered questions.

Note. A technical treatment used both as an engineering college textbook and as review for young design engineers. Familiarity on the part of the reader with thermodynamics and engineering mechanics is assumed, although the essentials of these subjects are briefly reviewed in the preliminary chapters. This edition is more than 200 pages longer than the first edition and includes newly added material on such subjects as fuels, combustion, and gas turbines. Pertinent literature is cited in occasional footnotes.

OBERT, EDWARD FREDERIC

Internal combustion engines analysis and practice. Second edition Scranton International Textbook Company 1950 596 p illus. 23 cm $8 75 6084

Contents. Basic engine types and their operation. Engine testing. Thermodynamics. Theories of combustion and detonation. Pressure and pressure measurement. Idealized cycles and processes. Combustion charts. Fuels. Knock and the engine variables. Exhaust gas and the air-fuel ratio. Carburetion. Injection. Engine characteristics and valve timing. Spark-ignition engines. Compression-ignition engines. Lubrication. Compressors, gas turbines, and jet propulsion. Appendix. Index.

Note. A standard textbook for use in engineering colleges. Basic phenomena and principles are discussed rather thoroughly. Engine types and systems are described, but the author has not attempted to include descriptions of specific makes of engines. The discussion of selected topics—of which fuels is an example—is full enough to be useful to graduate engineers reading outside the field of their own specialty. The first edition of the book was written by Jennings and the present author. Much new material has been incorporated in this second edition.

POLSON, JOSEPH ALBERT

Internal combustion engines. Second edition. New York John Wiley & Sons, Inc., 1942 548 p. illus. 23 cm. $6.00 6085

Contents. Internal combustion engines—general discussion. Fuels. Combustion. Ideal engine cycles; constant specific heats. Ideal engine cycles variable specific heats. Gas engines. Automobile engines. Carburetors. Electric ignition. Valves and cams. Airplane engines. Diesel engines. Superchargers. Combustion chambers. Diesel fuel injection. Engine cooling. Gas turbines. Appendix. Index.

Note: A college textbook for junior or senior mechanical engineering students, describing the various cycles and types of engines in general use today A thorough knowledge of fundamental thermodynamics is assumed. In developing the subject each cycle is first described and illustrated. Theoretical development is then discussed both by the air standard constant specific heat method and by the variable specific heat method. Performance is presented and analyzed, and typical examples and problems are given. The second edition presents approximately 100 pages of new material on such subjects as specific heats of gases, cams, air cooling, aircraft engines, and gas turbines, plus new data in the appendix.

ROGOWSKI, A R.

Elements of internal-combustion engines. New York McGraw Hill Book Company, Inc., 1953 234 p illus 23 cm. $6.00 6086

Contents: Introduction. Physical principles. The air-cycle approximation. The fuel-air-cycle approximation. The actual engine cycle. Engine friction. Detonation. Air capacity Fuel-air-cycle requirements. Carburetors. Spark ignition. Heat rejection and cooling. Compression-ignition engines. Two-stroke engines. Performance and supercharging. Index.

Note A readable, well-organized survey of the mechanical and thermodynamic principles and the basic mechanisms of internal combustion engines. It was designed as a textbook for engineering college students who are not preparing to specialize in internal combustion engines but need a general knowledge of them. It is useful also to graduate engineers with similar need. Suggestions for further reading are included, and there are 116 figures.

SCHWEITZER, PAUL HENRY

Scavenging of two-stroke cycle Diesel engines New York The Macmillan Company, 1949 268 p illus. 26 cm. $3 45 6087

Contents Present status of the Diesel engine. Peculiarities of the two-stroke cycle engine. Terminology *Effect of scavenging on* brake mean effective pressure. Scavenging arrangements. Porting. Inlet ports. Exhaust ports. Superchargers. Compression. Intake system. Exhaust system. The Kadenacy system. Complete porting calculation. High supercharging of two-stroke cycle engines. Experimental investigation of scavenging. Constructional features of representative two-stroke cycle Diesel engines. *Tabulation of porting data.* Bibliography Abbreviations. Index.

Note. The key to greater efficiency in two-stroke cycle Diesel engines lies in the improvement of scavenging, which is the removal of the products of combustion from the cylinder between the combustion and the recharging parts of the cycle. This book is a thorough discussion of scavenging and of scavenging systems. It deals with all of the problems in detail and describes systems and elements of systems which have been used in both experimental and commercial engines. It is written for engine designers who are already engaged in practical engine design. Portions of it were published in the periodical *Diesel power and Diesel transportation* in 1942 and 1943.

SORENSEN, HARRY A.
Gas turbines. New York. The Ronald Press Company 1951 460 p. illus. 23 cm. (A volume of a series in mechanical engineering, Burgess H. Jennings, editor) $7 00 6088

Contents: Introduction. Principles of thermodynamics. Simple open-cycle gas turbines. Variations of the basic cycle. Closed-cycle gas turbine plants. The axial-flow compressor. Centrifugal and positive displacement compressors. Axial-flow turbines. Combustion systems. Structural design. Plant performance. Miscellaneous plants. Appendix. Properties of air and combustion gases. Index.
Note: A well-rounded introductory exposition of gas turbine theory and current practice. The book is designed chiefly as college textbook for the use of upperclass engineering students. However, it is organized and written that it can serve equally well as a text book on the subject for engineers out of college who have the requisite knowledge of basic thermodynamic concepts and terminology. The whole range of gas turbine practice is covered from the gas turbines used in current aircraft to the largest stationary units.

TAYLOR, CHARLES FAYETTE, AND EDWARD S. TAYLOR
The internal combustion engine. Revised edition. Scranton. International Textbook Company 1948. 339 p. illus. 24 cm. (International textbooks in mechanical engineering) $6.75. 6089

Contents: Engine capacity and efficiency. The air cycle. Thermodynamics of the fuel-air mixture. Fuel-air cycles. Combustion in the spark-ignition engine. Detonation in the spark-ignition engine. Combustion in the compression-ignition engine. Direct heat losses. Mixture requirements of the spark-ignition engine. Fuels for the internal combustion engine. Engine friction. Lubrication and oils. Two-stroke engines. Air capacity of four-stroke engines. Engine performance. The gas turbine. Bibliography. Index.
Note: An engineering college text that has been planned for use of students who are preparing to work in engine research and design. Many of the experimental data have been derived from original work carried out by the authors at the Massachusetts Institute of Technology. The bibliography is extensive enough to be useful to engineers already at work in the field. The chapter on the gas turbine is new in this edition; and there are many minor changes throughout the text. The bibliography has been revised.

VINCENT EDWARD THOMAS
The theory and design of gas turbines and jet engines. New York McGraw Hill Book Company Inc., 1950 606 p. illus. 23 cm. $9.00. 6090

Contents: Some thermodynamic principles. Fundamentals of gas flow. Jet propulsion. Power plant cycles. Jet-propulsion devices. The turbine power plant. The fundamental principles of rotating machines. The centrifugal compressor. The design of centrifugal compressors. The axial-flow compressor. Design of axial compressors. Turbine theory. Turbine design. Combustion chambers, fuel systems, and fuels. Materials. Regenerators. Bibliography. Index.
Note: A textbook intended chiefly for upperclass undergraduates and graduate students in engineering schools. Its purpose is to present the theory which is essential to practical design of turbines and to relate this theory to the solution of specific design problems. The principles and characteristics of the chief types of gas turbines and jet units are described in engineering terminology including mathematical equations and graphs.

ATOMIC ENERGY AND REACTORS

BECKERLEY JAMES G editor
The Geneva series on the peaceful uses of atomic energy. Nuclear fuels. Edited by David H. Gurinsky and G J Dienes. Princeton, N J D Van Nostrand Company 1956 364 p. illus. 24 cm. $7.50. 6091

Contents: Part I. The metallurgy of uranium and thorium. The preparation of uranium metal. The physical metallurgy of uranium. The alloys of uranium. Casting and fabrication of uranium and its alloys. The production of thorium. The metallurgy of thorium and its alloys. Part II. Radiation effects: Basic considerations in radiation effects. The effect of radiation on structural materials. Radiation effects on fissionable materials. Part III. Solid and fluid fuels: The technology of reactor fuels. A uranium base fuel element (details of the fabrication of the Brookhaven fuel element). Dispersion type fuel elements. Fluid fuel systems. Additional chapter references. General bibliography. Subject index. Name index.

—— Exploration for nuclear raw materials. Edited by Robert D Nininger Princeton N J D Van Nostrand Company, 1956 293 p. illus. 24 cm. $8.00 6092

Contents: Part I. The geology of uranium and thorium. The natural occurrence of uranium in the United States. The genesis of uranium deposits. Uranium provinces. Influence of regional structure on uranium occurrence in western United States. Part II. Techniques of prospecting for uranium and thorium: Introduction—survey of prospecting techniques. Geologic prospecting. A systematic method of exploration for and evaluation of uranium deposits in France. Radiometric prospecting. Surface radiometric techniques. Aerial radiometric techniques. Geophysical prospecting. Geophysical-geochemical prospecting. Geochemical prospecting. Botanical prospecting. Hydrogeochemical prospecting. Exploration drilling. Subsurface radiometric techniques. List of conference papers. Subject index. Name index.
Note: Listed above are the titles and contents of the volumes published to the end of 1956 in this publisher's *Geneva series on the peaceful uses of atomic energy*, an edited selection of papers presented at the Geneva Conference. Some of the chapters in the volumes are taken from a single conference paper, but a number of them are made up of selections or complete texts of more than one paper. Two additional volumes in the series were published in 1957: *Nuclear reactors for research*, edited by C. K. Beck, 367 p., $8.50; *Nuclear [illegible] reactors*, edited by James K. Pickard, 333 p., $8.50. Also published in the United States of America, although the principal places of publication are in other countries, are *Progress in nuclear energy*, an edited selection in eight volumes, New York, Pergamon Press, and a complete collection in 16 volumes, *Proceedings of the International Conference on the Peaceful Uses of Atomic Energy*, Columbia University Press, 1955–56.

COMMONWEALTH EDISON COMPANY AND OTHERS
Reports to the U S. Atomic Energy Commission on nuclear power reactor technology by Commonwealth Edison Company Public Service Company of Northern Illinois Dow Chemical Company Detroit Edison Company Monsanto Chemical Company Union Electric Company Pacific Gas & Electric Company and Bechtel Corporation. Washington, D C. Government Printing Office 1953 88 p. illus. 23 cm. $0.25 6093

Contents: Introduction. Report on power generation using nuclear energy by Commonwealth Edison Co. and Public Service Co. of Northern Illinois: Gas-cooled reactor. Liquid-cooled reactor. Economics. Future requirements and possibilities. Conclusions. Study of materials and power-producing reactors, by Dow Chemical Co. and Detroit Edison Co.: Specifications for economical nuclear power. Discussion of specifications. Reactor types. Allowable investment in reactor. Reactor type of known technology considered. Plutonium-power reactor feasibility study, by Monsanto Chemical Co. and Union Electric Co.: Selection of reactor types for study. Description of first-choice reactor. Power plant. Economics of producing power in a combination power and plutonium-plant. Other aspects of the study. Developmental problems. Industrial reactor study, by Pacific Gas and Electric Co. and Bechtel Corp.: General considerations. Selection of reactor. Economic studies. Summary.
Note: The articles comprising this booklet are the declassified versions of reports made to the Atomic Energy Commission under agreements by four teams of nongovernmental industrial representatives. Beginning in 1951 these teams spent 12 months inside the

analysis. Internal-combustion-engine-process analysis. Deviations from ideal processes. Fuels. Combustion knock and knock rating. Carburetion and fuel injection. Manifolds and mixture distribution. Valves and valve mechanisms. Ignition of the charge. Combustion-chamber design. Engine lubrication. Heat transfer and engine cooling. Engine performance. Mechanics of principal moving parts. Engine vibration and balance. Engine design. Appendix. Index.

Note. A long-established engineering college textbook. Its coverage of specific topics, such as engine vibration and balance, is sufficiently inclusive to make the book useful to graduate engineers who find themselves in need of an introductory discussion. A special feature is the inclusion of charts that depict the results of numerous laboratory experiments and measurements on internal-combustion engines. Although this edition is a few pages shorter than the preceding edition, the work has been substantially revised. New material on such topics as throttling, supercharging, icing, and combustion-chamber design has been added.

MALEEV, V L

Diesel engine operation and maintenance, the construction, operation, maintenance, and repair of modern Diesel engines New York McGraw Hill Book Company, Inc., 1954 504 p. illus. 24 cm. $8 50 6082

Contents (abridged): Part I, Introduction General description and construction. Diesel-engine principles. Part II, Diesel-engine components Frames, cylinders, and heads. Running gear. Bearings. Flywheels. Valve gear. Fuel injection. Governors. Part III, Fundamentals of diesel engine work Fuels and combustion. Lubrication and lubricants. Engine cooling. Air-intake system. Exhaust system. Starting and reversing methods. Vibrations and balancing. Part IV Engine installation and operation Operating a diesel engine. Engine performance. Rating and testing. Part V Maintenance and repairs. Maintenance records and data. Engine overhauling. Special repairs and salvaging. Appendix. Glossary of terms used in diesel engineering. List of visual aids. Index.

Note. A well-written introductory text. In it, Diesel engine principles, mechanical elements and systems, operation, maintenance, and repairs are all treated in a descriptive style that requires on the part of the reader no previous acquaintance with engineering terminology and comprehension of only simple mathematics. There are numerous illustrations, and most of them are reproductions of line drawings of engine sections and parts. Both the narrative text and the illustrations have been chosen to impart a fairly detailed practical knowledge such as is needed by engine operators and repair men.

MALEEV, VLADIMIR LEONIDAS

Internal-combustion engines, theory and design Second edition. New York McGraw Hill Book Company, Inc 1945 636 p illus. 22 cm. $8 00 6083

Content (abridged) Principles of thermodynamics. Fuels. Combustion. Theoretical engine cycles. Combustion in spark-ignition engines. Combustion chambers of compression-ignition engines. Engine performance. Four-stroke engines. Two-stroke engines. Engine efficiencies. Four-stroke intake and exhaust. Supercharging. Two-stroke exhaust and scavenging. Cooling. Cylinders—cylinder heads. Reciprocating-rotary motion. Vibration and balancing. Lubrication. Crankshafts. Flywheels and governors. Starting—reversing. Rating—testing. Gas turbines. Index. Answers to even-numbered questions.

Note. A technical treatment used both as an engineering college textbook and as review for young design engineers. Familiarity on the part of the reader with thermodynamics and engineering mechanics is assumed, although the essentials of these subjects are briefly reviewed in the preliminary chapters. This edition is more than 200 pages longer than the first edition and includes newly added material on such subjects as fuels, combustion, and gas turbines. Pertinent literature is cited in occasional footnotes.

OBERT EDWARD FREDERIC

Internal combustion engines analysis and practice. Second edition Scranton International Textbook Company 1950 596 p illus. 23 cm $8 75 6084

Contents Basic engine types and their operation. Engine testing. Thermodynamics. Theories of combustion and detonation. Pressure and pressure measurement. Idealized cycles and processes. Combustion charts. Fuels. Knock and the engine variables. Exhaust gas and the air-fuel ratio. Carburetion. Injection. Engine characteristics and valve timing. Spark-ignition engines. Compression-ignition engines. Lubrication. Compressors, gas turbines, and jet propulsion. Appendix. Index.

Note: A standard textbook for use in engineering colleges. Basic phenomena and principles are discussed rather thoroughly. Engine types and systems are described, but the author has not attempted to include descriptions of specific makes of engines. The discussion of selected topics—of which fuels is an example—is full enough to be useful to graduate engineers reading outside the field of their own specialty. The first edition of the book was written by Burgess Jennings and the present author. Much new material has been incorporated in this second edition.

POLSON, JOSEPH ALBERT

Internal combustion engines. Second edition. New York John Wiley & Sons, Inc., 1942 548 p illus. 23 cm. $6 00 6085

Contents Internal combustion engines—general discussion. Fuels. Combustion. Ideal engine cycles; constant specific heats. Ideal engine cycles variable specific heats. Gas engines. Automobile engines. Carburetors. Electric ignition. Valves and cams. Airplane engines. Diesel engines. Superchargers. Combustion chambers. Diesel fuel injection. Engine cooling. Gas turbines. Appendix. Index.

Note: A college textbook for junior or senior mechanical engineering students, describing the various cycles and types of engines in general use today A thorough knowledge of fundamental thermodynamics is assumed. In developing the subject each cycle is first described and illustrated. Theoretical development is then discussed both by the air standard constant specific heat method and by the variable specific heat method. Performance is presented and analyzed, and typical examples and problems are given. The second edition presents approximately 100 pages of new material on such subjects as specific heats of gases, cams, air cooling, aircraft engines, and gas turbines, plus new data in the appendix.

ROGOWSKI, A. R

Elements of internal-combustion engin New York McGraw Hill Book Compan Inc., 1953 234 p illus. 23 cm. $6 00 60

Contents. Introduction. Physical principles. The air-cycle approximation. The fuel-air-cycle approximation. The actual cycle. Engine friction. Detonation. Air capacity Fuel-air requirements. Carburetors. Spark ignition. Heat rejection and cooling. Compression-ignition engines. Two-stroke engines. Performance and supercharging. Index.

Note. A readable, well-organized survey of the mechanical and thermodynamic principles and the basic mechanisms of internal combustion engines. It was designed as textbook for engineering college students who are not preparing to specialize in internal combustion engines but need a general knowledge of them. It is useful also to graduate engineers with a similar need. Suggestions for further reading are included, and there are 116 figures.

SCHWEITZER, PAUL HENRY

Scavenging of two-stroke cycle Diesel engines. New York The Macmillan Company 1949 268 p illus. 26 cm $3 45 603

Contents. Present status of the Diesel engine. Peculiarities of the two-stroke cycle engine. Terminology Effect of scavenging on brake mean effective pressure. Scavenging arrangements. Porting. Inlet ports. Exhaust ports. Superchargers. Compressors. Intake system. Exhaust system. The Kadenacy system. Complete porting calculation. High supercharging of two-stroke cycle engines. Experimental investigation of scavenging. Constructional features of representative two-stroke cycle Diesel engines. Tabulation of porting data. Bibliography Abbreviations. Index.

Note. The key to greater efficiency in two-stroke cycle Diesel engines lies in the improvement of scavenging, which is the removal of the products of combustion from the cylinder between the combustion and the recharging parts of the cycle. This book is a thorough discussion of scavenging and of scavenging systems. It deals with all of the problems in detail and describes systems and elements of systems which have been used in both experimental and commercial engines. It is written for engine designers who are already engaged in practical engine design. Portions of its text were published in the periodical *Diesel power and Diesel transportation* in 1942 and 1943.

ed heat generation. Pumps. Valves. Instrumentation. Combustion [illegible] Long Camp. v. Safety and fire protection, edited by R. K. [illegible] vi. [illegible] sodium. Radioactive sodium. vi. Applications, [illegible] by C. B. Jackson: Castle project. MSA high temperature [illegible]. Experimental breeder reactor (EBR) heat transfer ex[illegible]. Index.

Note Although termed [illegible] third edition of the *Liquid-metals* [illegible], the supplement here described is [illegible] new publication and [illegible] of the second edition of the same title, described [illegible] 7143 in our 1948–52 supplement. It is concerned with [illegible] of sodium and sodium-potassium alloy [illegible] NaK) as high-temperature heat-transfer media. [illegible] connection with atomic reactors. Since practical ex[illegible] large-scale liquid-metal work has been chiefly with [illegible] two elements, and since [illegible] significant amount of experi[illegible] data and analyses in this field was primarily applicable [illegible] and NaK, [illegible] was deemed advisable to devote the third [illegible] to these two substances. Some 30 different authors [illegible] the volume's contents, and the [illegible] chapters include [illegible] references.

ROCKWELL, THEODORE, III
Reactor shielding design manual. Princeton, N. J. D. Van Nostrand Company Inc. 1956. 472 p. illus. 27 cm. $6.00. 6099

Contents: Introduction and outline of basic shielding theory. [illegible]. Shielding the reactor core. Shielding the reactor cooling system. Plant layout and other factors [illegible] total shield design. Shield engineering. Radioactivity of [illegible] (the accessibility problem). Effect of [illegible]. Effect of geometry on radiation. Basic data. Index.

Note: Procedures and data used in the design, construction and testing of nuclear reactors for the production of power, particularly [illegible] pressurized water reactor built for the Shippingport, Pennsylvania, plant, and reactors built under the Naval Reactors Program of the United States National Government are described in this book. A wide range of engineering data and information not previously [illegible] is covered. The book was first issued as [illegible] document of the United States Atomic Energy Commission, but in this trade edition [illegible] preface and [illegible] detailed index [illegible] which does not appear [illegible] original edition.

SCHULTZ, M. A.
Control of nuclear reactors and power plants. New York, McGraw Hill Book Company Inc., 1955 313 p. illus. 24 cm. (McGraw-Hill series in nuclear engineering Walter H. Zinn, consulting editor) $7.50 6100

Contents: Introduction. Elementary physics of reactor control. Reactor kinetics. Automatic reactor control. Reactor control mechanisms. Nuclear power plant control. Reactor control radiation detection. Operational control problems—Startup—power operation—[illegible]. Simulation. Index.

Note: In this book, the control of nuclear reactors is studied as [illegible] control system design rather than as [illegible] problem in reactor engineering. The author has assumed on the part of his readers [illegible] basic knowledge of reactor physics, and the one chapter [illegible] the topic [illegible] essentially an outline useful as review. In accordance with the basic approach of the book, only the solid-fuel heterogeneous type of reactor is considered in relation to control problems, but theory and design considerations have been developed [illegible] way that enables the practical engineer to adapt the material [illegible] other types of reactors. The four chapters on operational control problems present specific problems in operation from the standpoint of automatic control. The chapter on simulation deals with [illegible] kind of special purpose computing machine which has proved useful in the study and solution of problems in the design of reactor control. The book is suitable for use as [illegible] text in graduate courses and as self-instruction for graduate engineers [illegible] who are making their first acquaintance with the control of nuclear reactors.

SOODAK, HARRY AND EDWARD C CAMPBELL
Elementary pile theory New York John Wiley & Sons, Inc. 1950 73 p. 23 cm. $3 90 6101

Contents: Cross sections. Slowing down of neutrons. Slowing-down density. Slowing down with absorption. Introduction to diffusion theory. Solution of diffusion equations—boundary conditions. The albedo. Space distribution of slowing-down density. The pile equations—solutions. Critical pile dimensions for simple pile shapes. The neutron cycle. Pile with reflector—group theories. Two-group theory. Pile control. Time-dependent pile equations. Pile kinetics—transient behavior. Index.

Note A brief presentation of knowledge pertaining to the design and the phenomena of radioactive piles constructed for the production of radioactive isotopes and fissionable elements. It is based on [illegible] series of lectures [illegible] which were delivered by Dr. Soodak in connection with [illegible] training program for staff members [illegible] the Oak Ridge National Laboratory (Clinton Laboratories) during 1946 and 1947. Only the declassified portion of the lectures is contained in the book, but this portion is potentially useful to graduate physicists and other scientists in need of [illegible] basic outline.

STEPHENSON RICHARD
Introduction to nuclear engineering New York McGraw Hill Book Company 1954 387 p. illus. 24 cm. $8.50 6102

Contents: Nomenclature and abbreviations. Review of [illegible] physics. Nuclear fission. The nuclear chain reactor. Reactor theory. Reactor instrumentation and control. Radiation shielding. Materials of construction. The separation of stable isotopes. Chemical separations and processing. Special techniques of [illegible] engineering. Appendix. Index.

Note: A textbook suitable for use by engineering college students [illegible] who have completed the basic engineering courses, and by engineering graduates [illegible] who wish [illegible] general introduction to this special field preparatory to work in reactor design or some other branch of nuclear engineering. Except for the first two chapters, [illegible] which are brief reviews of the fundamental theory and phenomena of nuclear physics and [illegible] fission, it is devoted entirely to the special problems and techniques of the design and operation of nuclear reactors and their accessory systems. Such aspects as radiation shielding are covered both descriptively and analytically. Instrumentation and also special devices, such as scanning periscopes and [illegible] manipulators, are well covered. Selected references to released Atomic Energy Commission reports and other pertinent literature are supplied as footnotes.

THOMPSON A. STANLEY AND OLIVER E. RODGERS
Thermal power from nuclear reactors. New York John Wiley & Sons Inc., 1956 229 p. illus. 24 cm. $7.25 6103

Contents: Nuclear considerations. Reactor equations and critical mass. Reactor kinetics. Shielding of reactors. Reactor materials. Thermal stress. Power extraction from reactors. Thermal power cycles. Index.

Note: An authoritative book on the engineering of [illegible] reactors designed for the production of power. It is primarily an analytical treatment although, necessarily there is some descriptive matter in several of the chapters, notably in those on shielding and on materials. In addition to the engineering topics, some background topics in physics also are covered. For instance, there is an analysis of the "breeding" of fissionable materials in reactors. Reference information of the "handbook type" is absent. Selected literature references, mostly to other books, are supplied.

UNITED STATES. ATOMIC ENERGY COMMISSION
Research reactors. New York McGraw Hill Book Company Inc. 1955 442 p. illus. 27 cm. $6.50 6104

Contents: Light-water-moderated reactor: Type [illegible] Homogeneous—enriched fuel. Light-water-moderated reactor: Type II. Heterogeneous—enriched fuel. Light-water-moderated reactor Type III. Heterogeneous—enriched fuel. Light-water and oil-moderated reactor Heterogeneous—enriched fuel. Heavy-water-moderated reactor: Heterogeneous—enriched fuel. Graphite-moderated reactor: Heterogeneous—natural fuel. Appendix.

—— The reactor handbook. Volume 1 Physics. New York McGraw Hill Book Company Inc. 1955 790 p. illus. 27 cm. $12.00. 6105

atomic energy program appraising the prospect for private industrial participation in joint production of electric energy and fissionable material from reactors. Both technological and economic problems were examined and are appraised.

GLASSTONE, SAMUEL

Principles of nuclear reactor engineering. With the assistance of the following ORNL staff members E E Anderson, E P Blizard, W K. Eister, G E Evans, W H. Jordan, J A. Lane, N F Lansing, R. W Stoughton, W H. Sullivan, and J D Trimmer New York D Van Nostrand Company, Inc., 1955 861 p illus 24 cm $7 95 6094

Contents Scope of nuclear reactor engineering. Nuclear reactions and radiations. Reactor theory—the steady state—disturbance of the *steady state*. Nuclear reactor instrumentation. Control of nuclear reactors. Processing of nuclear reactor fuel. Nuclear reactor materials. Radiation protection. Shielding of nuclear reactor systems. *Thermal* aspects of nuclear reactor systems. Nuclear reactor design variables. Descriptions of nuclear reactors. Appendix. Index.

Note A textbook developed upon the recommendation of the American Society of Engineering Education Committee on Atomic Energy Education and sponsored by the United States Atomic Energy Commission. The author himself is a consultant to the AEC, and staff members of the Oak Ridge National Laboratory supplied much of the information which has been incorporated. A broad survey of the current state of reactor theory and engineering design is presented, except that knowledge not yet declassified is, of course, not included. No previous acquaintance with nuclear physics or reactor design has been assumed on the other hand the book is addressed to readers with substantial education in engineering.

GLASSTONE, SAMUEL, AND MILTON C EDLUND

The elements of nuclear reactor theory New York D Van Nostrand Company, Inc., 1952 416 p illus. 24 cm. $5 50 6095

Contents Nuclear structure and stability Nuclear reactions. Production and reactions of neutrons. The fission process. The diffusion of neutrons. The slowing down of neutrons. The bare homogeneous thermal reactor (sources determined by Fermi age theory) Homogeneous reactor with reflector—the group-diffusion method. Heterogeneous (natural uranium) reactors. Time behavior of bare thermal reactor Reactor control. General theory of homogeneous multiplying systems. Perturbation theory Transport theory and neutron diffusion. Index.

Note An introduction designed specifically for the instruction of graduate engineers and physicists who are preparing for practical work in connection with the design or operation of nuclear reactors. It was based upon the course of lectures originally given by M. C Edlund at the Oak Ridge School of Reactor Technology The first four chapters cover background information on nuclear reactions. The rest of the book is largely mathematical exposition of nuclear chain phenomena and reactions and of reactor control. Although not the first work for scientists and engineers in this field, it does contain range of information which was still classified when the earlier publications were written and therefore was not represented in them.

GOODMAN CLARK editor

The science and engineering of nuclear power Reading Mass Addison-Wesley Publishing Company, Inc. 1949–52 2 v illus. 27 cm $17 00 6096

Contents Volume I, Introduction to pile theory Fundamentals of nuclear physics, by R. D Evans. The fission process, by M. Deutsch. Neutron diffusion, by V F Weisskopf Nuclear chain reactions, by E. P Wigner Elementary pile theory by F L. Friedman. The application and experimental basis of pile theory by B. T Feld. Chemistry of the fission process, by C D Coryell. Control and operation of pile, by W J Ozeroff. Construction of nuclear reactors, by C. Goodman. Heat transfer by E. R Gilliland. Heavy elements and nuclear fuels, by J W Irvine, Jr Appendixes. Table of practice numbers. Loss of energy in elastic collisions. Neutron cross sections of the elements, by R. K. Adair. List of illustrations. Index. Volume II, Source materials for nuclear power, by R. D Parks. Isotope separation, by K. Cohen. Vacuum techniques in nuclear engineering, by F C. Armistead. Theoretical basis of some measurements useful in pile design, by F L. Friedman. Research in neutron physics at Chalk River by B. W Sargent. Calculation of neutron distribution in heterogeneous piles, by A. M. Weinberg. The concept of albedo in elementary diffusion theory by G. Placzek. Pile kinetics, by H. Soodak. Statistical aspects of pile theory by F de Hoffmann. Heat removal from nuclear reactors, by E. R. Gilliland and others. Rockets and other thermal jets using nuclear energy by Hsue-Shen Tsien. The shielding of nuclear reactors, by M. L. Goldberger Effects of radiation on materials, by A. O. Allen. Production of radionuclides, by J W Irvine, Jr Pile materials—metals, alloys and compounds, by A. R. Kaufmann. Health physics—instrumentation and hazard evaluation, by R. D. Evans. Future developments in nuclear energy by C. Goodman. Appendixes. Index.

Note The first volume of this work was originally published in 1947 and appeared in second edition in 1952. The second volume was published in 1949. The main change in the second edition of Volume I is in the addition of the third appendix, reprinted from *Reviews of modern physics, July 1950*. Both volumes are comprised of material that was presented in series of seminars at the Massachusetts Institute of Technology The style is advanced, and the books are addressed to graduate students and graduate engineers who have considerable preparation in mathematics and basic physics.

HAUSNER, HENRY H., AND STANLEY B ROBOFF

Materials for nuclear power reactors. Foreword by T Keith Glennan New York Reinhold Publishing Corporation, 1955 224 p illus 18 cm. $3 50 6097

Contents Introduction. Basic concepts of nuclear power reactors. Basic parts of a reactor Types of nuclear power reactors. Special material problems in nuclear power reactors. Nuclear fuels. Moderators and reflectors. Coolants. Control elements. Materials for reactor shielding. Special materials of construction. Special problems of radiation. Appendix Thermal neutron cross-section in barns for the elements and certain isotopes. Glossary of nucleonic terms. Index.

Note Although materials constitute the main topic of this book, enough information is included on other aspects of nuclear power reactors to make the book useful as a source of general information, especially on the engineering problems. No mathematics is used, and the style of even the most difficult sections is only semi-technical. References to other literature including research reports and journal papers, are given for the guidance of those readers who will need more technical discussions. The book is good one for engineers who wish to acquire quickly some knowledge of the specialized engineering problems presented by nuclear power reactors. Journalists, officials of insurance companies, executives in manufacturing firms and laymen who are interested in the problems and potentialities of this field also may find the book of interest.

JACKSON CAREY B , AND OTHERS, editors

Liquid metals handbook sodium—NaK supplement. Editor in-chief Carey B Jackson. Contributing editors R. R. Miller, R. C. Werner R. A. Tidball H E. Grantz, R. E. Lee. Sponsored by the Atomic Energy Commission and the Bureau of Ships, Department of the Navy Washington D C. Government Printing Office 1955 445 p. illus. 26 cm. $2 00 6098

Contents I, Properties, edited by R. R. Miller. Chemical properties. Physical properties. II, Fundamentals, edited by R. C. Werner Heat transfer Natural circulation. Forced circulation. Boiling. Condensation Chemical engineering Purity and purification. Inert gas. Leak detection. Liquid sodium-water reactions. Radioactive material transfer Behavior of sodium in graphite. III, System design, edited by R. A. Tidball Materials and fabrication. Flow characteristics. Thermal stress and thermal strain. Piping considerations. Thermal insulation. Operation and maintenance. IV Components, edited by H. E. Grantz. Heat exchangers

of water base by the research method, its standard D 908. The [illegible] of the pages are occupied by the appendixes, which have [illegible] stated above, and supply descriptions of test apparatus, and [illegible] for its operation and use. Diagrams and photographs of apparatus are included.

[illegible]HARDT, CHARLES H.

Domestic oil burners installation and servicing. New York, McGraw Hill Book Company 1951. 359 p. illus. 24 cm. $6.25 6112

Contents (abridged) High-pressure gun-type burners. Low-pressure gun-type burners. Rotary burners. Vaporizing burners. Determining the gallons-per-hour rate of the oil burner. Short methods of figuring gallons-per-hour rates for conversion installations. Combustion chambers. Installation of tanks and piping. Automatic oil-burner controls. Control systems. Zone control. Adjusting for higher combustion efficiency (CO₂ and stack temperature). Adjusting for higher combustion efficiency (draft). Firing the new oil burner. Customer problems. Excessive fuel-oil consumption. Servicing [illegible] oil-burners. Basic oil-burner service methods. [illegible]

Note: Men entering the oil burner servicing field and students preparing for [illegible] are the audience for this book. The chief types of oil burners, principal types of controls, and the [illegible] [illegible] are described practically and simply. There are many descriptions of the mechanisms of specific burners and controls, but the author has not attempted to describe the mechanisms of all such devices on the market. The book is based on [illegible] series of articles that appeared in the Sheet metal worker and the *Plumbing and heating journal* from 1947 to 1950.

CARMAN, E. P., AND OTHERS

Bibliography of Bureau of Mines investigations of coal and its products 1945 to 1950 by E. P. Carman, M. Opperman, S. Nishiyama, and L. Racoosin. Washington, D. C. Government Printing Office, 1954 60 p. 26 cm. (United States. Bureau of Mines. Bulletin 528) $0.40. 6113

Contents: General. Methods of sampling, analyzing, and testing: [illegible] Liquid. Gaseous. Occurrence, origin, microstructure, petrography, and classification. Physical and chemical properties of coal, [illegible] and ultimate analyses, calorific values, ash analyses and fusing temperatures, moisture and spontaneous heating; plastic properties, and minor and rare elements in coal. Gases and dusts: Origin, absorption, evolution, composition, sampling, and analysis. Inflammability and explosibility, including testing methods. Physiological effects, protective devices, and treatment. Mining, including [illegible] of [illegible] reserves: Ventilation. Explosions, mine fires, and their control. Explosives. Electricity, safety lamps, [illegible], and transportation. Mine safety. Mine water and [illegible]. Preparation—sizing, cleaning, drying, and briquetting, including testing methods. Storage, spontaneous heating, and oxidation of coal. Carbonization, including testing methods. BM-AGA and other test methods. High-temperature. Low-temperature. Coal [illegible]. Water gas, producer gas, other gases and blends. Synthetic liquid fuels from coal: Hydrogenation and products. Gas synthesis and products. Coke. Gas. Tar, light oils, and other coal [illegible]. Combustion. Industrial. Domestic. Boiler-water conditioning. Smoke abatement and air pollution. Economics and statistics. [illegible] Index of subjects. Index of authors.

Note: This bibliography [illegible] the fourth in [illegible] series. The three others cover the periods 1910-1935, 1935-1940, and 1940-1945, and were published respectively as Bureau of Mines Technical papers [illegible], [illegible], and [illegible]. These bibliographies list reports of investigations which have been published in printed or mimeographed form by the Government Printing Office or the Bureau of Mines and in articles by staff members published in books and periodicals. The 1945-1950 bibliography contains [illegible] total of [illegible] entries.

COWARD, H. F., AND G. W. JONES

Limits of flammability of gases and vapors. Washington, D. C. Government Printing Office, 1952. 155 p. illus. 26 cm. (United States. Bureau of Mines. Bulletin 503) $0.60 6114

Contents: Determinations of limits. Some theoretical considerations. Limits of individual gases and vapors. Limits of mixed flammable gases and vapors. Summary of limits of flammability. Bibliography. Index of authors cited. Index of subjects.

Note. The results of investigations of certain chemical and physical factors connected with the limitation and propagation of flame in different gases under various conditions are presented in this reference work. This is the fourth edition of it. It includes 133 different substances in the summary of flammability limits in air and in oxygen as compared with 26 in the first edition.

DE LORENZI, OTTO, editor

Combustion engineering a reference book on fuel burning and steam generation. New York Combustion Engineering Inc., 1947 1,025 p. illus. 23 cm. $7.50 $2.50 to libraries. 6115

Contents (abridged) Origin and production of coal. Stokers. Pulverizers. Pulverized fuel burners. Furnaces for coal firing. Burners and furnaces for liquid fuels. Burners and furnaces for gaseous fuels. Furnaces for wood refuse and bagasse. Fluid cycles. Steam generators. Marine boilers. Superheaters. Feedwater. Heat recovery equipment. Testing of steam generating units. Selection of equipment. Performance calculations. Instruments, controls and interlocks. Recovery units for pulp mills. Flash drying and incineration. Modern boiler manufacture. Steam tables. *Miscellaneous data.*

Note An encyclopedic survey of fuel burning and steam generation on an industrial scale. Enough historical data are given to place important developments in accurate perspective, but the text and illustrations are concerned chiefly [illegible] current practices. The book was written by 30 specialists on the staff of Combustion Engineering, Inc. There are many incidental references to this company's activities and products, but these do not detract from the usefulness of the book. The material is intended primarily for engineers and engineering students, and is therefore rather technical in nature.

FIELDNER, ARNO CARL AND W. A. SELVIG

Methods of analyzing coal and coke. Washington, D. C. Government Printing Office 1951 51 p. illus. 26 cm. (United States. Bureau of Mines. Bulletin 492) $0.50. 6116

Contents: Introduction. Preparation of laboratory sample with preliminary drying. Method of calculating and reporting analyses. Preparation of laboratory sample without preliminary air-drying. Relative merits of the two methods. Total moisture determination for lump coke. Methods of analysis. Determination of the calorific value of coal. Fusibility of coal ash. Tolerances. Determination of agglomerating index of coal. Classification of coals by rank. Determination of true specific gravity of coal and coke substance. Determination of apparent specific gravity. Shatter test for coke. Tumbler test for coke. Determination of free-swelling index of coal. Determination of agglutinating value of coal. Analysis of coal and coke ash. Determination of ferric oxide, ferrous oxide, and metallic iron in coal-ash slags and clinkers.

Note. Information is here provided on the methods currently used in the laboratories of the Bureau of Mines for analyzing coal and coke and determining their heating values.

GENERAL ELECTRIC COMPANY AIRCRAFT GAS TURBINE DEVELOPMENT DEPARTMENT

Properties of combustion gases, system CnH2n—Air New York McGraw Hill Book Company Inc., 1956 22 cm. 2 v $75.00 6117

Contents Volume I, Thermodynamic properties: Sources and accuracy. Symbols and definitions. Explanation of tables. Notes on interpolation. Applications. Thermodynamic properties. (Tables). Volume II, Chemical composition of equilibrium mixtures: Symbols and definitions. Explanation of tables of Volume II. Chemical composition of equilibrium mixtures. (Tables).

Note. In both of these volumes all but [illegible] small portion of the space is occupied by the tables. The [illegible] listed above represent, for the most part, prefatory material on symbols and directions for using the tables. In Volume [illegible] the tables provide data on the thermodynamic properties of fuel-air mixtures at temperatures ranging from 400° R. to 5000° R. and pressures from 0.01 to 30 atm. In volume II, data are given on the equilibrium chemical compositions for the same mixtures for [illegible] similar range of temperature and pressure. Source data on which the tables are based

Contents Section I, Reactor physics Experimental methods. Nuclear physics. Kinetic theory of neutrons. Reactor statics—theory and general results—experimental and numerical results. Reactor dynamics. Section II, Radiation shielding Sources of radiation. Permissible levels of radiation. Gamma-ray attenuation. Neutron attenuation. Geometry Ducts through shields. Heat generation in shields. Shield optimization with respect to weight. Shield materials. Appendixes. Index.

—— Volume 2, Engineering New York McGraw Hill Book Company, Inc., 1955 1,075 p illus. 27 cm $15 00 6106

Contents (abridged) Section I, Light and heavy-water-cooled systems Physical and thermodynamic properties of light and heavy water Heat transfer Steady-state heat removal. Transient generation and removal of heat. Thermal-stress analysis. Water decomposition. Fuel-element design. Section II, Liquid-metal-cooled systems Properties of liquid metal coolants. Heat-transfer correlations for liquid metals. Reactor cooling and power conversion cycles. Mechanical components and design considerations. Section III, Gas-cooled systems: Thermal cycles. Heat transfer and fluid flow for gases. Circulating systems. Radioactivity in coolants. Section IV Aqueous fuel systems General reactor characteristics. Properties of aqueous solution systems. Properties of aqueous slurry systems. Engineering design information. Section V Liquid-metal-fuel systems. Composition and properties of liquid metal fuels. Engineering design. Section VI, Fused-salt systems Composition of fused-salt systems. Properties of fused-salt systems. Section VII, Handling and control Remote handling. Remote viewing. Nuclear reactor instrumentation and control. Section VIII, Reactor designs Graphite-moderated heterogeneous reactors. Beryllium-oxide-moderated heterogeneous reactors. Light-water moderated heterogeneous reactors. Heavy-water-moderated heterogeneous reactors. Unmoderated heterogeneous reactors. Graphite-moderated homogeneous reactors. Light-water-moderated homogeneous reactors. Appendix. Index.

—— Materials General properties. Contributors Argonne National Laboratory [and others] New York McGraw Hill Book Company, Inc, 1955 610 p illus. 27 cm. $10 50 6107

Contents Functions of reactor materials. Aluminum and its alloys. Beryllia. Beryllium and its alloys. Beryllium carbide. Bismuth. Carbides. Cements and concretes. Graphite. Hydrides. Lithium and its alloys. Magnesium and its alloys. Molybdenum and its alloys. Nickel and its alloys. Plutonium and its alloys. Rare earths. Silicon carbide. Stainless steels. Thorium and its alloys. Titanium and its alloys. Tungsten. Uranium and its alloys. Vanadium and its alloys. Zirconium and its alloys. High-cross-section materials. Cobalt-base alloys. Appendix. Index.

—— Chemical processing and equipment. New York McGraw Hill Book Company Inc 1955 302 p illus 27 cm $6 00 6108

Contents Chemical processing of reactor fuel elements at the Idaho chemical processing plant Process. Plant facilities. Process equipment. Decontamination of equipment for maintenance. Analytical section of the Idaho chemical processing plant. Health physics at chemical processing plant. Costs. Laboratory equipment. Enclosures for radioactive operations. Viewing and optical equipment. Manipulators. Chemical equipment. Physical-measurement equipment. Machine tools. Materials-handling equipment. Decontamination and monitoring instrument arrangements. Irradiation facilities.

Note This set of volumes constitutes a basic library of declassified information on the design of atomic reactors for research and other peaceful purposes. All originated as AEC documents and were produced for presentation at the International Conference on Peaceful Uses of Atomic Energy This trade edition is a reprint of the original documents without revisions or changes. *Neutron cross sections* was first published as an AEC document in 1952 The version included here is a second edition with not only the data in the first edition but additional data published in three supplements to it and also in BNL 250 originally a classified document now declassified.

FUELS AND COMBUSTION

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on the significance of tests o coal Philadelphia The American Society f Testing Materials, 1937 125 p. illus. 22 cm (Reprint from *Proceedings* of the America Society for Testing Materials. Volume 3 part II, 1937) $1 50 610

Contents Interpretation of laboratory coal tests—proximate analysis and calorific value, by G. B. Gould. The significance to the consumer of sulfur in coal, by H. Kreisinger. The significance of ash softening temperature and ash composition in the utilization of coal, by A. W. Gauger Laboratory tests relating to coking, plastic, gas- and coke-making properties of bituminous coals, by O. O. Malleis. Significance of friability and size stability tests on coal, by R. E. Gilmore and J. H. Nicolls. Pulverizer performance as affected by grindability of coal and other factors by M. Frisch and A. C. Foster

Note: These technical papers are illustrated with charts and tables and each is followed by critical discussions.

ANDERSON, H. C., AND OTHERS

Bibliography of the Fischer Tropsch synthesis and related processes (in two parts) by H. C. Anderson, J L. Wiley, and A Newell. Washington, D C. Governmen Printing Office, 1954–55 965 p illus. 26 cm (United States. Bureau of Mines. Bulleti 544) Part I, $2 25, part II, $1 75 611

Contents Part I, Review and compilation of the literature on the production of synthetic liquid fuels and chemicals by the hydrogenation of carbon monoxide Introduction. Journal references. Literature abstracts. Subject index. Part II, Patents: Introduction Patents. Subject index. Numerical patent index.

Note A bibliography prepared at the Bureau of Mines to meet the needs of investigators in the field of chemistry of carbon monoxide. An abstract accompanies each entry There are 4,771 entries in the first part and 4,017 entries in the second part. Covered are writings on the history development, and commercial application of the Fischer Tropsch synthesis and related processes for the hydrogenation of carbon monoxide and the production of synthetic fuels and chemicals. Books, articles, reports, and patents in all languages are included. All titles and abstracts are rendered in English. The years of publication covered are 1919 through 1951, with some inclusion of 1952 in the first part and 1911 through 1953 in the second part.

ASTM MANUAL FOR RATING MOTOR FUELS AND MOTOR AND RESEARCH METHODS. Philadelphia American Society for Testing Materials, 1956 180 p. illus. 24 cm. $6 75 6111

Contents (abridged) Methods. Appendix I, Apparatus: Cooling and ventilation. Engine dimensions. Cylinder assembly Electrical system. Exhaust, fuel supply and induction systems. Detonation meter. Lubrication and crankcase. Power absorbing unit. Thermometers. Appendix II, Reference materials and blending accessories. Handling and blending of fuels. Handling and blending tetraethyllead. Reference material specifications. Suppliers. Appendix III, Operation. Appendix IV Maintenance Inspections. Cylinder assembly Crankcase. Lubrication. Induction and exhaust systems. Fuel system. Electrical system. Power absorbing unit. Instruments. Tolerances. Appendix Installation and assembly: Cooling and induction systems. Fuel and oil lines. Instruments and exhaust systems. Checking installation. Appendix VI, Building and utility requirements: Laboratory Engine foundation and service lines. Working conditions.

Note. The chief purpose of this manual is to guide engineers and technicians in the installation and operation of knock testing equipment for motor fuels. The first 28 pages are devoted to the introduction and to the current revisions of the American Society for Testing Materials' "Standard method of test for knock characteristics of motor fuels by the motor method," its standard D 357, and the Society's "Standard method of test for knock characteristic

[illegible] the results of an experimental investigation of detonation [illegible] as applied to metal in the [illegible]. The object of [illegible] was to determine the influence of various [illegible] parameters on the dynamic properties of [illegible] [illegible] [illegible]. Experimental techniques [illegible] and [illegible] of the apparatus are included.

NATIONAL RESEARCH COUNCIL. COMMITTEE ON CHEMICAL UTILIZATION OF COAL. DIVISION OF CHEMISTRY AND CHEMICAL TECHNOLOGY

Chemistry of coal utilization prepared by the Committee on Chemical Utilization of Coal, Division of Chemistry and Chemical Technology H. H. Lowry chairman. New York: John Wiley & Sons, Inc., 1945 2 v. [illegible] cm. $25.00 per set. 6124

Contents (abridged): Volume 1: The origin of coal, by T. A. Bench. Coal petrography, by G. H. Cady. Calorific value of coal, by [illegible] and [illegible]. Hardness, strength, and grindability of coal, by R. F. Yancey and M. R. Geer. Plastic, agglomerating, and swelling properties of coals, by R. [illegible]. Chemical constitution of coal—as determined by [illegible] methods, by J. F. Weiler. Chemical constitution of coal—[illegible] by reduction reactions, by J. F. Weiler. Forms of [illegible], by G. Thiessen. Composition and origin of the [illegible], by G. Thiessen. The cleaning of coal, by R. F. Yancey and M. R. Geer. Changes in coal during storage, by [illegible]. [illegible] distillation of coal, by H. C. Howard. [illegible] and carbonization, by F. Denig. The physical properties and [illegible] of coke, by Martin A. Mayers. Volume 2: Gas from [illegible], by A. R. Powell. Removal of sulfur compounds from coal gas, by H. A. [illegible]. Recovery of ammonia, cyanogen, [illegible], and other nitrogenous compounds from industrial gases, by [illegible]. Light oil from coke-oven gas, by [illegible]. [illegible] of coal gas, by L. Shnidman. The chemical [illegible] of coal tar, by [illegible]. Direct generation of electricity from coal and gas (fuel cells) by H. C. Howard. Producer and [illegible] gas, by [illegible] C. van der Hoeven. Water gas, by J. [illegible]. Hydrogenation of coal and tar, by H. H. Storch. Synthesis of hydrocarbons from water gas, by H. H. Storch. [illegible] synthesis from water gas, by [illegible]. Author index. Subject index.

Note: A collection of 42 papers written by 35 specialists, several of whom are associated with the Koppers Company, the Mellon Institute, the U. S. Bureau of Mines, and the Carnegie Institute of Technology. Most of the papers are based on the literature published through 1939, although there are some references to 1942 and 1943 publications. The literature pertinent to the subject of each paper is cited in footnote references. The work is intended [illegible] for fuel chemists.

SCHMIDT PAUL FRANK

Fuel oil manual. New York Industrial Press, 1951. 160 p. 23 cm. $3.50 6125

Contents: Introduction. Chemistry of petroleum. Petroleum refining processes. Grades and types of fuel oils. Gravity. Heat of combustion. Viscosity. Water and sediment. Carbon. Ash and salt water. Flash and fire points. Pour point. Sulphur. Color. Distillation. Pumping of oils. Sampling storage tanks. Stability of fuel oils. Fuel oil treatments. Reclaimed fuel oils. Blending of oils. Temperature and storage. Fuel oil specifications. Complaints and [illegible]. Index.

Note: A compilation of useful and clearly stated information for [illegible] engineers and other persons who are concerned with purchasing or burning fuel oil. The book is by no means exhaustive, but [illegible] practically all of the information that may be needed by purchasing agents, building superintendents, and engineers responsible for the handling of fuel oil in large heating installations and power plants. There are 34 tables of data on such matters as temperature volume corrections, [illegible] and [illegible] viscosity [illegible], heating values in relation to A.P.I. gravity, salt content of fuel oils, fuel oil additives, and fuel oil specifications.

SHNIDMAN LOUIS, editor

Gaseous fuels properties, behavior and utilization. Second edition, revised, corrected and enlarged. New York American Gas Association, 1954 453 p. illus. 28 cm. $6.00. 6126

Contents: The gas industry. The basic gas laws. Types of fuel gases. Physical properties and measurements. Components and properties of fuel gases. Applications of gas analyses. Atmosphere gas burners. Interchangeability of fuel gases. Controlled furnace atmospheres. Purging—principles and operating practices. Combustion products—flue gases. Deposits—distribution systems and appliances. Air and other atmospheres. Some recent technical developments. Selection of oils for gas production. Research in the gas industry. Appendix. Index.

Note: Essentially a reference book, this work is organized in such a way that it can be used also as a textbook in courses offered to graduate engineers and technicians who are concerned with the use of gaseous fuels in industry. A large amount of explanatory text is combined with a wide range of data presented in the form of graphs and tables. Extensive references are made to the literature. The first edition under this title was published in 1948. The second edition represents an extensive revision and augmentation which involved not only the correction of errors and the revision of tables and other representations of data to bring them up to date, but also the addition of four chapters and numerous tables. Literature references are included.

SMITH MARION L. AND KARL W STINSON

Fuels and combustion. New York McGraw Hill Book Company Inc., 1952 340 p. illus. 24 cm. $7.50. 6127

Contents: Fuels. Stoichiometric analysis. Thermochemical analyses. The process of combustion. Physical properties of fuels. Gas and oil burners. Coal-burning equipment. Combustion in engines. Index.

Note: A college textbook in which is combined a description of the common fuels, an exposition of the chemical and physical bases of combustion, and descriptions of the chief fuel-burning devices including internal combustion engines. The authors have assumed familiarity with basic engineering and chemical terminology and with elementary engineering mathematics on the part of their readers. Problems for the student to solve and literature references are included. The authors are members of the faculty of Ohio State University.

SPALDING D B

Some fundamentals of combustion. New York Academic Press, Inc., 1955 250 p. illus. 25 cm. (Gas turbine series general editor James Hodge. Volume 2) $7.50 6128

Contents: Thermodynamics. Fluid flow. Heat and mass transfer. Heat and mass transfer with chemical reaction. Chemical effects in combustion. Engineering applications. References. Index.

Note: This book is an intermediate-level introduction to the fundamental aspects of combustion and of heat and mass transfer. It is addressed to graduate engineers and to advanced students pursuing courses which lead to practical engineering design. Although the basic phenomena and relationships of thermodynamics are outlined in the first chapter readers need some previous education in thermodynamics. It has been published in a series dedicated to the gas turbine; however the viewpoint is broad and basic, and much of the expository matter pertains generally to combustion and to heat and mass transfer phenomena. The still incomplete knowledge of combustion processes is well covered in the fourth and fifth chapters. The final chapter on engineering implications is an outline of design considerations and experimental methods. The list of references runs to seven pages and includes literature published as recently as 1954.

STEINER, KALMAN

Oil burners. Second edition. New York McGraw Hill Book Company Inc., 1950 502 p. illus. 23 cm. $6.50. 6129

Contents: Hydrocarbons and petroleum. Fuel oil. Combustion of fuel oil. Comparative fuel data. Problems of oil-burner design. Shell- and pot-type burners. Domestic oil burners. Horizontal-rotary burners. Industrial oil burners. Fans and electric motors. Electric control devices. Electric control systems. Ignition methods. Fuel-oil pumps. Oil piping, strainers, and flow regulators. Capacity of boilers and warm-air furnaces. Refractories. Draft and combustion

were taken from the U S. National Bureau of Standards, *Tables of selected values f chemical thermodynamic properties* 1945. Although prepared primarily for use by engineers concerned with the design of jet engines and the analysis of their behavior the tables have applications to other types of air-breathing, internal combustion engines also.

GRISWOLD, JOHN

Fuels combustion and furnaces. New York McGraw Hill Book Company, Inc., 1946 496 p illus 24 cm. $8 50 6118

Contents Coal and coke. Petroleum and natural gas. Mixture properties of petroleum fractions. Combustion stoichiometry Temperature, enthalpy and heat of combustion. Equilibrium and kinetics. The combustion process. Manufactured gas. Gas burners. Oil burners. Stokers and pulverized coal burners. Introductory heat transmission. Furnace refractories. Firebox and chimney considerations. Tube heaters. Process furnaces and kilns. Appendix of data. List of visual aids. Author index. Subject index.

Note This book offers a clearly written survey of fuels and the equipment for utilizing them. The volume is intended chiefly for use as textbook by undergraduate students of chemical engineering, but it is also handy outline of the subject for graduate engineers who have not specialized in fuels. Each subject contains a list of references and review exercises.

HANDBOOK OF OIL BURNING Frank H. Faust, editor in-chief, G Theodore Kaufman editor New York Oil Heat Institute of America, 1951 978 p illus 24 cm $10 00 6119

Contents. Section I, Oil as a fuel. Section II, Combustion of fuel oil. Section III, Preparing oil for combustion. Section IV Oil burning equipment. Section V Elements of the heating system. Section VI, Controls. Section VII, Selection of equipment. Section VIII, Application, installation and maintenance f oil burners. Section IX, Standards. Biographies f authors and editors. Index.

Note A comprehensive work designed not only for the use of engineers but also for heating contractors and others with practical interest in oil burners and heating. In most parts, the presentation is less compact and considerably easier to understand than is typical of engineering handbooks. Detailed descriptions of the various types of oil burners, the various types of heating systems and of related matters such as the method of calculation f heat losses from building. Full directions are given for both the installation and maintenance of the various types of residential burners. Though the book's lineage includes the *Handbook of oil burning* published by the American Oil Burner Association in 1931 no matter has been carried over from that book.

HOTTEL, HOYT CLARKE, AND OTHERS

Thermodynamic charts for combustion processes. Part I and II by H C Hottel G C Williams and C. N Satterfield. New York John Wiley & Sons, Inc , 1949 2 v illus 29 cm. Part I, $3 15 part II $3 75 6120

Contents Part I, Text Introduction. The modified-air chart. The burned-mixture charts. Generalized thermodynamics charts. Appendix Basic thermodynamic data. References. Author reference index. Index. Part II, Charts Appendix II Some equilibrium gas compositions. Appendix III, Generalized thermodynamic data. Modified-air chart. Burned-mixture charts.

Note A reference book for engineers who are concerned with the combustion processes in gas turbine, jet propulsion unit, and rockets. In the text portion, the principles of cycle calculation are explained in detail. Older methods are reviewed, and new method devised by the authors is explained. Among the devices whose cycles are analyzed in the first part of turbo-compressor power plant, the compression ignition (Diesel) engine, the ignition engine (Otto cycle) the ram jet, and single- and two-fluid rockets. The second part contains, in addition to the appendix material, one chart for modified air and seven charts which show the proportions of products of combustion and other properties for various mixtures of hydrocarbons and air under various conditions of pressure.

JOHNSON, ALLEN JAQUITH editor

Fuels and combustion handbook. Editor Allen J Johnson, associate editor George H. Auth. New York McGraw Hill Book Company, Inc., 1951 915 p. illus. 24 cm. $15 00 612

Content (abridged) Section I, Solid fuels Fuel sources, trends and reserves in the United States and abroad. Pennsylvania anthracite and other anthracite coals. Bituminous coal, subbituminous coal and lignite. Peat, wood, wood wastes, charcoal, and agricultural wastes. Section II, Liquid and gaseous fuels and miscellaneous sources of heat and power Petroleum and petroleum derivatives. Gaseous fuels. Section III, Combustion Determination and calculation of heat balances. Drafts and chimneys. Smoke, fine particles and other combustion rejects, including slags. Section IV Selection of a fuel. Section V Preparation of coal for utilization. Section VI, Fuel-handling methods. Section VII, The transfer and generation of heat Heat transfer and insulation. Boilers and steam generators. Methods of firing solid fuels. Firing liquid and gaseous fuels. Some specific non-steam-making uses of fuel. Section VIII, General Boiler measurements and tests. Index.

Note. A handbook of interest in several fields. It provides in handy form not only wide range of data to engineers and operating personnel in powerplants but also much data on relatively minor fuel topics. Examples of the latter include information on the fuel value of bark and wet wood, description of the techniques of manufacturing briquettes and pellets from fine sizes of coal discussions of electric heating, solar heat, thermal springs, atomic energy and uses of fuel in the manufacture of metals, ceramic products, etc. There are footnote references to related literature but no attempt at a systematic bibliography

LEWIS, B , AND OTHERS, editors

Combustion processes. Editors B Lewis, R N Pease, and H. S Taylor Princeton Princeton University Press, 1956 662 p. illus. 25 cm. (High speed aerodynamics and jet propulsion. Volume II) $12 50 6122

Contents. Part I, Thermodynamics of combustion, edited by B. Lewis. High temperature equilibrium, by J. M. Carter and D. Altman. Expansion processes, by D Altman and J. M. Carter. Computational methods in combustion calculations, by S. R. Brinkley Jr Part II, Chemical kinetics of combustion, edited by H. S. Taylor and R. N Pease Fundamentals of chemical kinetics, by H. S. Taylor Kinetics of several oxidation reactions, by R. N. Pease. Part III, Flame propagation in gases, edited by B. Lewis. Mechanics of reaction continua, by J. M. Richardson and S. R. Brinkley Jr. Combustion waves in nonturbulent explosive gases, by B. Lewis and G. von Elbe. Combustion waves in turbulent gases, by B Karlovitz. Diffusion flames, by K. Wohl and C. W Shipman. Part IV Combustion of liquids and solids, edited by R. N Pease Combustion of liquid fuels, by J P Longwell. Combustion of solid fuels, by M. Gerstein and K. P Coffin. Combustion of liquid propellants, by D. Altman and S. S. Penner Combustion of solid propellants, by C. Huggett. Part V Detonation processes in gases, liquids, and solids, edited by R. N Pease. Part VI, Energy production by uclear reactions, edited by R. N. Pease. Index.

Note An authoritative presentation of knowledge on combustion processes, including some basic knowledge from general chemistry on such matters as equilibrium and chemical kinetics. Published in series devoted to high-speed aerodynamics and jet propulsion, it is particularly suitable for readers who have recently entered the field of jet engine research and design However its usefulness is not limited to this field, since the knowledge it contains is applicable in more or less degree to any chemical process involving combustion. The parts are not organized on set pattern, but generally speaking each one describes current theory refers to pertinent experiments, and cites the useful literature The final section is brief, expertly written essay on uclear reactions as source of energy

MORRISON, RICHARD BOYD

A shock tube investigation of detonative combustion Ann Arbor University of Michigan Press 1955 121 p. illus. 28 cm. (University of Michigan Engineering Research Institute. Special publications Reports) 6123
$3 50

Contents. Introduction. Theory of detonation processes. Analysis of detonation velocities. Shock tube theory as applied to detonative processes. Experimental equipment and instrumentation. Experimental results. Discussion. References. Bibliography

AMERICAN SOCIETY OF REFRIGERATING ENGINEERS

Air conditioning refrigerating data book applications volume. Sixth edition. New York: The American Society of Refrigerating Engineers, 1956. v p. illus. 24 cm. $10.00 6135

Contents (abridged): Frozen foods. Refrigeration in food industries. Refrigerated warehouse practice. Refrigerated food distribution. Low temperature applications. *Industrial applications of refrigeration.* Comfort air conditioning. Industrial air conditioning. Domestic ... air conditioning and refrigeration associations. Index.

Note: A well-prepared, comprehensive guide to the methods and ... of refrigeration as they are applied in a wide variety of fields, including air conditioning. It is directed to refrigerating engineers and others with technical interests in refrigerating and air conditioning. It contains both exposition and description ... style and tabular representation of data. In this edition, it is expanded in the eight principal sections whose titles are given above and in 60 chapters. The chapters have separate ... and the total number of pages is over 1,200. The names of editors responsible for the sections and of authors responsible for the chapters are given in the volume. Bibliographies and illustrations are included. Appended to the main part of the volume is a directory of refrigerating and air conditioning manufacturers, together with some advertising of such firms. A complementary volume, called the *Design* volume, is prepared and published by the same Society. The *Design* volume presents basic engineering ... and reference data pertinent to the design of refrigerating and air conditioning equipment and systems. It was published in ... edition in 1951, $10.00.

EMERICK, ROBERT HENDERSON

Basic refrigeration and air conditioning. New York, Prentice-Hall, Inc., 1948 259 p. illus. 24 cm. $4.25 6136

Contents: Terms and definitions. Refrigerants and how they act. Refrigeration by direct expansion. Refrigeration by ammonia and brine. Refrigeration by ammonia absorption. Refrigeration by the ... system. Spray ponds and cooling towers. Cold storage. Making ice—both wet and dry. Air conditioning—ways and means. ... Fans and ducts. Cabinet coolers. Refrigeration and air conditioning at sea. The heat pump. Making ... The ... chart. Bibliography. Index.

Note: A well-written, practical text which was originally designed ... to aid in training personnel of the United States Armed Forces, is ... suitable both for use in courses organized at the vocational ... level and as a self-instructing guide. The ... of the field and the basic theories are covered in the preliminary chapters, after which the space is devoted entirely to ... of refrigeration equipment and calculations that must be made in designing or selecting refrigeration systems. The chapters are supplemented by review questions, most of which are designed to illustrate practical refrigeration problems. The bibliography is ... for a book of this kind, and the entries are ...

JORDAN, RICHARD C AND GAYLE B PRIESTER

Refrigeration and air conditioning. Second edition. Englewood Cliffs, N J Prentice-Hall, Inc., 1956 555 p. illus. 24 cm. $8.00. 6137

Contents: Part I. Introduction. The history of refrigeration. Basic refrigeration cycles and concepts. Review of thermodynamics. Part II. Refrigeration cycle analysis and components: refrigeration ... Thermodynamics of vapor refrigeration. Refrigerants. Air cycle, ... and centrifugal refrigeration, and the heat pump. Components: refrigeration machines. Part III. Fluid flow, heat transfer, psychrometrics and their refrigeration applications. Fluid flow and heat transfer. Psychrometrics. Cooling load calculations. Condensers and evaporators. Refrigeration piping. Part IV. Advanced refrigeration topics. Multiple evaporator and compressor systems. Refrigeration control. Absorption refrigeration and chemical dehumidification. Low-temperature refrigeration. Part ... Refrigeration applications. Applications of refrigeration. Air conditioning. Food preservation. Appendix. Answers to problems. Index.

Note: A broad, practical view of refrigeration principles and applications is provided in this book. Some knowledge of basic physics and mathematics on the part of readers has been assumed. However mathematical analysis is not pursued beyond that required in ordinary refrigeration and air-conditioning engineering. Refrigeration cycles, mechanisms and principles and the applied mathematics used in the industry such as cooling-load calculations, are all clearly explained. The full range of applications of refrigeration machinery is covered, including relatively recent developments such as heat pumps for residential heating, cooling systems for passenger aircraft, and even the Collins helium cryostat. The first edition was published in 1948. The new material in this second edition covers new machinery and also some new basic information such as a description of calorimeter performance test. Literature references have been revised to include recent publications. New illustrations have been added and the number of tables increased.

KING GUY R.

Basic refrigeration principles practice, operation a simplified presentation of the fundamentals of refrigeration giving equal treatment to all common refrigerants. Design operation and servicing of the apparatus and system. Chicago Nickerson & Collins Company 1951 526 p. illus. 24 cm. $6.00. 6138

Contents: Fundamentals. Compression system of refrigeration. Refrigerants. Expansion valves. Evaporators. Compressors. Condensers. *Flow equipment. Electric controls and control valves. Lubrication.* Defrosting methods. Compressor drives. Food preservation. Operating. Servicing. Refrigerated cabinets. Instruments and meters. Heat calculations. Humidity in refrigeration. Compressor calculations. Refrigerant line—pressure drops. Brine in refrigeration. Liquid cooling. Complete systems. Carbon dioxide—dry ice. Altitude and its effect. Absorption systems. The refrigeration cycle. Appendix: Tables. Calculating overall heat leakage factors. Answers to problems in questions. Index.

Note: An introductory textbook designed for use in vocational schools and for home study by men interested in the trade of installing and maintaining refrigerating systems. Although both commercial installations and small household refrigerators are discussed, the larger systems are emphasized. The types and properties of refrigerants, the elements of refrigerating systems, such as condensers, and special problems, such as the exclusion of moisture from insulation, are all discussed clearly. Typical calculations are worked out. Numerous helpful tables of data are included.

MCCORMACK, ALEXANDER A.

Cold logic (refrigeration principles) Chicago Nickerson & Collins Company 1949 212 p. illus. 24 cm. $3.50. 6139

Contents. The "how" and "how much" of heat. Refrigeration as the removal of heat. The refrigeration cycle. The story of refrigerants. *Evaporators (often called coils or boilers)* Lubrication. Compressors. Condensers, receivers, interchangers and valves. Insulation. Introduction to air conditioning. Air conditioning calculations. Electricity's contribution to refrigeration. Applying theory to service work. *Topical index. Index to illustrations.*

Note: A self-instruction aid for men working in the refrigerating maintenance trade. The author endeavors to make the principle of refrigeration and the behavior of refrigerating machines clear to such readers. His explanations are clear without being oversimplified. Each chapter is supplemented by review questions and helpful discussions of them. The book is a useful supplement to full-scale introductory texts and to the service manuals issued by manufacturers.

MACINTIRE, HORACE JAMES AND F W HUTCHINSON

Refrigeration engineering. Second edition. New York John Wiley and Sons Inc., 1950 610 p. illus. 23 cm. $7 95 6140

Contents (abridged). Part I. Thermodynamics of reversed cycles. Energy relationships in refrigeration. Simple refrigeration cycles. Thermodynamic refinements of the simple refrigeration cycle. Special systems—the heat pump. Absorption and adsorption systems—

control. Oil preheating. Oil storage tanks and gauges. Service and maintenance. Control of the heating system. Appendix. Index.

Note A comprehensive survey of practical and engineering aspects of oil fuel and oil burners. A wide range of equipment is described, but the descriptions are incidental to the presentation of fundamental principles and data. Both residential and industrial burners are covered, but somewhat more attention is given to industrial types. Although the book contains material of interest to oil burner repairmen, it appeals particularly to engineers and power plant supervisory personnel. It is also useful as a reference book for architects, builders, and others who need technical information. The present edition represents a thorough revision.

SYMPOSIUM (INTERNATIONAL) ON COMBUSTION, 5TH

Fifth symposium (international) on combustion combustion in engines and combustion kinetics. At the University of Pittsburgh, Pittsburgh, Pennsylvania, August 30–September 3, 1954 Published for the Combustion Institute, under the auspices of the Standing Committee on Combustion Symposia. New York Reinhold Publishing Corporation, 1955 802 p illus 26 cm. $18 00 6130

Contents (abridged): Review of problems on combustion in engines and kinetics of combustion processes. Combustion of fuel droplets. Propellant burning. Combustion of solids. Diffusion flames and carbon formation. Combustion in engines. Special techniques. Kinetics of combustion reactions. Flame spectra and dissociation energies. Panel discussions.

Note. The number of papers in the various sections of this volume—the titles of which are given above—are first section, eleven papers second section, six, third section, nine fourth section, six fifth section, five; sixth section, eight seventh section, five eighth section, 43; and ninth section, six. Obviously the greater attention was given to the kinetics of combustion however the other sections also deal with important areas of present-day combustion research and are at least of equal interest to scientists and engineers working in this field. The book is concluded with condensed transcripts of two panel discussions devoted to (1) heterogeneous burning and (2) current status of the theory of the kinetics of combustion reaction. Literature references are included for the majority of papers. There is no volume index to either subjects or authors.

TRINKS, W

Industrial furnaces Volume I, fourth edition. Volume II, third edition. New York John Wiley & Sons, Inc. 1951–55 2 v illus. 23 cm. Vol I, $12 75, vol II, $10 00 6131

Contents: Volume I Introduction. The heating capacity of furnaces. The fuel economy of furnaces. Heat-saving appliances with particular reference to industrial furnaces. Strength and durability of furnaces. Movement of gases in furnaces. Appendices. Index. Volume II Introduction. Fuels and electric energy Combustion devices and heating elements. Control of furnace temperature. Control of furnace atmosphere. Labor-saving appliances. Critical comparison of fuels and of furnace types. Safety measures. Index.

Note. The outstanding American work on the design of industrial furnaces for such purposes as heat-treating and annealing of metals. Furnaces for the melting of metals are not included. Methods of calculating heat capacities and heat losses are covered in detail. Fuels, combustion devices, controls, and auxiliary equipment, such as conveyors for the materials to be treated in the furnaces, are covered with equal thoroughness. There are several hundred illustrations, including graphical representations of data, diagrams of furnace structures and elements, and photographs of complete furnaces. The two volumes may be used independently of one another A current set consists of the editions listed here.

TURNER, C C

The bottled gas manual. Philadelphia The Chilton Book Company, 1944 356 p illus. 23 cm. $6 00 6132

Contents: What is propane? The behavior of gases. Heat and temperature. What goes on within a propane cylinder The simple regulator. Regulator manifolds. Regulators—equipment selec and installation. LP-gas pipe lines. Testing for leaks and adj ing burners. Fundamentals of thermostats. Pilots and pilot c trols. Burner design and application. Appliance conversions. F about water and water heaters. Types of water heaters. Selec and installing the water heater. Competitive fuels—wood. C petitive fuels—coal. Competitive fuels—oil. Competitive fuel electricity—rates and refrigeration. Competitive fuels—electricity cooking and water heating. Gas lighting. Space heating. Conclus Index.

Note A detailed field guide for service men, salesmen, engineers, giving accurate information and data on approved me ods and processes of selling, installing and servicing liqu petroleum gas equipment and appliances. Deals particularly w the propane branch of the industry but is largely applicable the butane branch also.

UNITED STATES BUREAU OF MINES

Bibliography of Bureau of Mines investi gations of coal and its products, 1945–195 By E. P Carman, M Opperman, S. Nish yama, and L. Racoosin Washington, D C Government Printing Office, 1954 60 p. 2 cm. (United States. Bureau of Mines. Bu letin 528) $0 40 613

Contents. General. Methods of sampling, analyzing, and testi Occurrence, origin, microstructure, petrography and classificati Physical and chemical properties of coal proximate and ultima analyses, calorific values, ash analyses. Gases and dusts. Mini including investigations of minable reserves. Mine water and cor sion. Preparation: Sizing, cleaning, drying, and briquetting, includi testing methods. Storage, spontaneous heating, and oxidation of co Carbonization, including testing methods. Coal gasification: Wat gas, producer gas, other gases and blends. Synthetic liquid fu from coal. Coke. Gas. Tar Light oils, and other coal chemical Combustion. Smoke abatement and air pollution. Economics a statistics. Motion-picture films. Index of subjects. Index of autho

Note. A classified bibliography of publications including not onl printed and mimeographed publications issued by the Governmen Printing Office or the Bureau of Mines and articles by staff membe of the Bureau of Mines published in professional journals and i books. It is part of a continuing series which covers Bureau o Mines investigations of coal and its products since the Bureau wa established in 1910.

REFRIGERATION

ALTHOUSE, ANDREW D, AND CARL H. TURNQUIST

Modern refrigeration and air conditioning. Chicago The Goodheart Willcox Company, Inc. 1956 756 p illus. 24 cm $7 45 6134

Contents: Fundamentals of refrigeration. Refrigeration materials, service tools. The compression system. Compressor construction. Refrigerant controls. Motor controls. Electric motors. Refrigerants. Domestic refrigerator cabinets. Conventional compression systems. Servicing conventional systems. The refrigerator service shop. The absorption system. Absorption systems, construction features. Servicing absorption systems. Hermetic units. Servicing hermetic systems. Commercial refrigeration applications—systems, mechanisms—installation, servicing—calculations, heat loads. Air conditioning principles. Air distribution instruments. Heat loads. Air conditioning systems and controls. Heat pumps. Automobile air conditioning. Frozen food refrigerators. Technical characteristics. Answers to review questions. Index.

Note. A successor to the authors' *Modern electric and gas refrigeration*, fifth edition, 1950. Although it has been so extensively rewritten that publication under new title is justified, its purpose has not been changed. In its new form, it is still practical and suitable for use in vocational school classes and for the guidance of men who get into the work of maintaining and repairing refrigerators without formal education in the field. The thermodynamic fundamentals of refrigeration are presented in a simple, nonmathematical style. Then the elements of refrigerating systems, complete systems of various types, and applications of refrigeration are described in detail from the practical viewpoint and with emphasis on matters of importance in maintaining and repairing refrigerating systems. The volume is well illustrated.

WOOLRICH, WILLIS RAYMOND AND LUIS H. BARTLETT

Handbook of refrigerating engineering. Third edition. New York D Van Nostrand Company Inc., 1948. 730 p. illus. 19 cm. $12.75. 6146

Contents Fundamental units, definitions, conversion factors, and equations. Primary refrigerants. Primary refrigerant charts and tables of thermodynamic characteristics. Nomographs for refrigerants. Reciprocating compressors. Centrifugal refrigerant compressors. Jet compressors. Condensers. Refrigerating cycles. Absorption refrigeration. Secondary refrigerants. Heat transfer. Power drives and motors. Testing the refrigerating plant. Instruments and controls. Atmospheric water cooling. Filters and water softeners. Ice and ice making. Cold storage, food preservation and fur storage. Frozen storage. Quick freezing of foods. Locker storage, commercial and farm freezers. Storage house construction. Refrigeration of meat, fish and poultry. Refrigeration in the dairy industry. Refrigeration applied to air cooling. Marine refrigeration. Lubrication. [illegible] Pumps and [illegible]. Piping and tubing details and data. Accident prevention and safety in refrigeration. Index.

Note The third edition of this handbook, the first to appear [illegible], has not only been greatly enlarged but [illegible] revised, consequent upon the tremendous strides made in the field of refrigerating engineering since the publication of the second edition in 1934. Frozen vegetables, fruits, and meats, frozen locker plants, and air conditioning are the most notable of the types in which development has been rapid and [illegible] are given in detail. The book is an up-to-date manual of data, [illegible], and tables for the engineer concerned at any point and [illegible].

WOSTREL, JOHN FRANK, AND JOHN G PRAETZ

Household electric refrigeration including gas absorption system. Second edition. New York McGraw Hill Book Company Inc., 1948. 458 p. illus. 24 cm. $6.00. 6147

Contents Simple explanation of refrigeration theory. Compression systems for household refrigeration units. Absorption systems for household refrigeration units. Control devices. Equipment for installation, service, and testing. Installation instructions for compression types of refrigeration machines. Installation instructions for absorption type. Service operations and adjustments. Service complaints—diagnosis and remedy. Motors. Food preservation. Heat transfer and insulation. Appendix. Index.

Note A practical manual for refrigeration servicemen and other persons interested in the operation, construction, adjustment, and repair of household refrigerators. The explanation of refrigeration theory given in the first chapter is intended for persons without previous technical training in the field. The remainder of the book is largely descriptive and is intended to assist its readers in understanding and repairing the refrigeration systems used in household refrigerators. The book is especially useful in relation to the repair and maintenance of such refrigerators produced in the United States of America before World War II. The changes made in preparing the second edition are not extensive, but they do include new or expanded discussions of new devices such as capillary tubes for refrigerant control. Also service instructions for Copeland, Philco, and Stewart-Warner refrigerators, which were introduced to the market after the first edition of the book was prepared, are now included.

diffusion refrigeration. Refrigerants and properties of saturated and superheated vapors. Part II, Load determination Steady-state load calculations—insulation. Transient loads. Radiation—panel cooling. Psychrometric loads—air conditioning methods. Part III, Refrigeration equipment Compression refrigerating machines. Automatic refrigerating machines—household machines. Erection, operation, testing. Cold storage. Ice manufacture—dry ice. Special applications of refrigeration engineering. Index.

Note. An engineering college textbook which is introductory in the sense that no previous education or experience in refrigeration on the part f the reader has been assumed. However it is designed to prepare students for practical work in refrigeration engineering, and the treatment is full enough for this purpose and also to make the book useful to graduate engineers. Most of the text is devoted to discussions that a practicing engineer would be concerned with in the selection or design of refrigeration equipment. In deference to the professional use of the book, the range of data presented in graphs and tables has been greatly extended in this edition. Other new matter includes a treatment of the heat pump and practical design procedure for panel cooling systems.

MAGNUS, EDWARD R , AND GRACE D MARLOTT

The refrigeration serviceman's manual. Technical adviser, Franklin P Mason, illustrated by John Bayer and John J Rhoades. Chicago Wilcox & Follett Company, 1948 688 p illus. 19 cm $5 00 6141

Contents (abridged) Section I, The refrigeration system Parts that make up the refrigerating system. Fundamental principles and theory of refrigeration How the refrigerating system works. Temperature-pressure relations in the refrigerating system. Refrigerant lines and fittings. Section II, Major service operations Refrigerants. Condensers. Receivers. Strainers and dryers. Low-pressure controls. Compressors. Section III, Minor service operations. Section IV Shop operations Shop layout and equipment. Overhauling compressors. Overhauling condensers. Servicing motors. Household cabinet refinishing and repair. Section V Sealed units Servicing the sealed unit. Absorption and adsorption refrigerating systems. Appendix. Tables. Glossary Index.

Note Most of this book is devoted to very detailed explanations of practical operations in the maintenance and servicing of refrigerators, particularly household refrigerators. The section on shop operations is especially noteworthy Both electrically driven and gas-fired types are considered. A peculiarity f the treatment is that specific makes f refrigerators are not described, nor are manufacturers' cuts used as illustrations.

MANLY, H P

Drake s refrigeration service manual an instruction and reference book covering maintenance trouble shooting and repair domestic and commercial systems Chicago Frederick J Drake & Company, 1954 349 p illus 19 cm $2 50 6142

Content Mechanical refrigeration. Compressor construction. Refrigerant control valves and evaporators. Condensers and connections. Temperature and pressure controls. Multi-temperature systems. Temperature and pressure measurements. Tubing lines for refrigerants. Removing water air and dirt. Adding and removing refrigerant. Adding and removing oil. Compressor tests and service. Valves, evaporators and condensers. Cycling control service. Trouble shooting. Absorption refrigeration. Home and farm freezers. Repair of cabinet finishes Index.

Not A vocational school text and handbook for repairmen. Practical methods for repairing electrical refrigeration, both of the household type and those found in small commercial establishments, such as soda fountains and flower shops, are covered in detail. Both the descriptive text and illustrations treat the subject in generalized way and individual makes and models of refrigerators are not dealt with in particular However typical mechanisms are dealt with specifically The chapter on trouble-shooting contains series of twenty-three tables devoted to the causes and remedies for each recognized symptom of faulty operation The preceding edition was published in 1948. The chapters on freezers and repair of cabinet finishes were added in this edition.

RABER, BENEDICT FREDERICK, AND FRA CIS W HUTCHINSON

Refrigeration and air conditioning eng neering New York John Wiley & Sons, In 1945 291 p illus 23 cm. $6.50 614

Contents Thermodynamic principles. Fundamental cycles of up refrigeration systems. Complex compression cycles for single-la system. Analysis of actual cycles. The absorption cycle. Ready sta heat transfer Periodic heat transfer Transient heat flow Psychr metric principles. Supply state of conditioned air. Psychometr processes. Process combinations. Design state and design volum Ventilation systems. Fan performance and selection. Airway desig

Note This work, intended as a text for advanced students, an as reference tool for practicing engineers, is treatment o fundamental principles rather than description of actual practice and equipment. The use of graphical methods is stressed both i the presentation of data and in the solution of refrigeration-cycl problems. There is some material on comparatively new develop ments, such as radiant heating, the heat pump, and porous-cel humidifying. Problems and brief reference lists are furnished at the end of each chapter and there is an index.

SHARPE, NORMAN

Refrigerating principles and practices. New York McGraw Hill Book Company Inc., 1949 398 p. illus. 23 cm $7 50 6144

Contents. The refrigeration load. Properties of refrigerants. Refrigeration cycles. Compressors and their lubrication. Heat-transfer equipment. The expansion alve and the accumulator Accessories. Piping for refrigerating systems. Motors and their controls. Refrigeration applications. Appendixes: Commercial storage of fruits and egetables. Internal energy of fluid. Transferred heat. Pressure and volume relation for adiabatic compression. Work required for adiabatic compression. American standard safety code for mechanical refrigeration. Index.

Note. An introductory textbook for use in undergraduate engineering courses. It is designed so as to prepare the student for practical work in refrigeration engineering Thorough explanations of theory are integrated by means of the text and problems with illustrations of practical applications. The discussions of modern refrigeration practices include such minor details as various methods of defrosting. Although much of the general material is applicable to household refrigerators, there is no specific discussion of this type of refrigerating plant, such as there is of larger plants used for cold-storage cooling and commercial ice-making.

VENEMANN, HENRY GERALD

Refrigeration theory and applications a text book on fundamental principles involved in the process of refrigeration with applications to assist the student and engineer to design maintain and operate plants. Second edition Chicago Nickerson & Collins Co., 1948 336 p illus. 23 cm. $4 00 6145

Contents The compression refrigeration system or electric refrigeration. Energy transformations Refrigerant charts and their uses. Property changes during test Calculations of results of sample test. Analysis of actual plant performance Performance of compressors Instructions for starting plants in operation. Refrigerants. Miscellaneous methods of refrigerating Air as primary refrigerant. Air and water vapor mixtures. Plant analysis via theoretical cycle. Methods of accommodating variable loads. Heat exchangers for cooling air Heat exchangers for cooling liquids. Heat exchangers—condensers. Automatic controls. Estimating plant loads. Specifications for refrigeration plant. Index.

Note A practical but relatively thorough exposition that is intended for use in college and vocational school ourses and in self instruction Improvements in the second edition include are and smaller format, revision of the first thirteen chapters incorporating much new material, the inclusion of an index, and the inclusion of paged table of contents Basic principles of mechanical refrigeration and details of refrigeration plant operation and servicing are covered. Review problems are given ith each chapter and useful data regarding the properties of refrigerants and compressor operation are tabulated throughout the volume. The pressure-enthalpy charts are now contained in a cover pocket.

WOOLRICH WILLIS RAYMOND, AND LUIS H BARTLETT

Handbook of refrigerating engineering. Third edition. New York D Van Nostrand Company Inc., 1948. 730 p. illus. 19 cm. $11.75. 6146

Contents: Fundamental units, definitions, conversion factors, and literature. Primary refrigerants. Primary refrigerant charts and tables of thermodynamic characteristics. Nomographs for refrigerants. Reciprocating compressors. Centrifugal refrigerant compressors. Jet compressors. Condensers. Refrigerating cycles. Absorption refrigeration. Secondary refrigerants. Heat transfer. Power drives and motors. Testing the refrigerating plant. Instruments and controls. Atmospheric water cooling. Filters and water softeners. Ice and ice making. Cold storage, food preservation and fur storage. Freezer storage. Quick freezing of foods. Locker storage, economics and design factors. Storage house construction. Refrigeration of meat, fish and poultry. Refrigeration in the dairy industry. Refrigeration applied to air cooling. Marine refrigeration. Lubrication. Fire. Pumps and injectors. Piping and tubing details and data. Accident prevention and safety in refrigeration. Index.

Note: The third edition of this handbook, the first to appear since post war reconstruction, has not only been greatly enlarged but entirely rewritten, consequent upon the tremendous strides made in the field of refrigerating engineering since the publication of the second edition in [illegible]. Frozen vegetables, fruits, and meats, frozen locker plants, and air conditioning are the most notable of the topics in which development has been rapid and which the new edition covers in detail. The book is an up-to-date manual of text, figures, and tables for the engineer concerned at any point with refrigeration.

WOSTREL, JOHN FRANK, AND JOHN G PRAETZ

Household electric refrigeration including gas absorption system. Second edition. New York McGraw Hill Book Company Inc., 1948. 458 p. illus. 24 cm. $6 00 6147

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diffusion refrigeration. Refrigerants and properties of saturated and superheated vapors. Part II, Load determination Steady-state load calculations—insulation. Transient loads. Radiation—panel cooling. Psychrometric loads—air conditioning methods. Part III, Refrigeration equipment Compression refrigerating machines. Automatic refrigerating machines—household machines. Erection, operation, testing. Cold storage. Ice manufacture—dry ice. Special applications of refrigeration engineering. Index.

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MAGNUS, EDWARD R., AND GRACE D MARLOTT

The refrigeration serviceman's manual Technical adviser, Franklin P Mason, illustrated by John Bayer and John J Rhoades. Chicago Wilcox & Follett Company 1948 688 p illus. 19 cm. $5 00 6141

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Note. Most of this book is devoted to very detailed explanations of practical operations in the maintenance and servicing of refrigerators, particularly household refrigerators. The section on shop operations is especially noteworthy Both electrically driven and gas-fired types are considered. A peculiarity of the treatment is that specific makes of refrigerators are not described, nor are manufacturers' cuts used as illustrations.

MANLY, H P

Drake's refrigeration service manual an instruction and reference book covering maintenance, trouble shooting and repair domestic and commercial systems. Chicago Frederick J Drake & Company, 1954 349 p. illus 19 cm. $2.50 6142

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RABER, BENEDICT FREDERICK, AND FRANCIS W HUTCHINSON

Refrigeration and air conditioning engineering New York John Wiley & Sons, Inc., 1945 291 p. illus. 23 cm. $6.50 6143

Contents. Thermodynamic principles. Fundamental cycles of vapor refrigeration systems. Complex compression cycles for single-load system. Analysis of actual cycles. The absorption cycle. Steady state heat transfer. Periodic heat transfer Transient heat flow Psychrometric principles. Supply state of conditioned air. Psychrometric processes. Process combinations. Design state and design volume. Ventilation systems. Fan performance and selection. Airway design.

Note. This work, intended as a text for advanced students, and as a reference tool for practicing engineers, is treatment of fundamental principles rather than description of actual practices and equipment. The use of graphical methods is stressed both in the presentation of data and in the solution of refrigeration-cycle problems. There is some material on comparatively new developments, such as radiant heating, the heat pump, and porous-cell humidifying. Problems and brief reference lists are furnished at the end of each chapter and there is an index.

SHARPE, NORMAN

Refrigerating principles and practices. New York McGraw Hill Book Company Inc. 1949 398 p illus 23 cm $7 50 6144

Contents. The refrigeration load. Properties of refrigerants. Refrigeration cycles. Compressors and their lubrication. Heat-transfer equipment. The expansion valve and the accumulator Accessories. Piping for refrigerating systems. Motors and their controls. Refrigeration applications. Appendices. Commercial storage of fruits and vegetables. Internal energy of a fluid. Transferred heat. Pressure and volume relation for adiabatic compression. Work required for adiabatic compression. American standard safety code for mechanical refrigeration. Index.

Note: An introductory textbook for use in undergraduate engineering courses. It is designed so as to prepare the student for practical work in refrigeration engineering. Thorough explanations of theory are integrated by means of the text and problems with illustrations of practical applications. The discussions of modern refrigeration practices include such minor details as various methods of defrosting. Although much of the general material is applicable to household refrigerators, there is no specific discussion of this type of refrigerating plant, such as there is of larger plants used for cold-storage cooling and commercial ice-making.

VENEMANN, HENRY GERALD

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Note. A practical but relatively thorough exposition that is intended for use in college and vocational school courses and in self instruction Improvements in the second edition include new and smaller format, revision of the first thirteen chapters incorporating much new material, the inclusion of an index, and the inclusion of paged table of contents. Basic principles of mechanical refrigeration and details of refrigeration plant operation and servicing are covered. Review problems are given with each chapter and valuable data regarding the properties of refrigerants and compressor operation are tabulated throughout the volume The pressure-enthalpy charts are now contained in a cover pocket.

WOOLRICH, WILLIS RAYMOND AND LUIS H. BARTLETT

Handbook of refrigerating engineering Third edition. New York D Van Nostrand Company Inc., *1948* *730* p. illus. *19* cm. $12 75. 6146

Contents: Fundamental units, definitions, conversion factors, and abbreviations. Primary refrigerants. Primary refrigerant charts and tables of thermodynamic characteristics. Nomographs for refrigerants. Reciprocating compressors. Centrifugal refrigerant compressors. Jet compressors. Condensers. Refrigerating cycles. Absorption refrigeration. Secondary refrigerants. Heat transfer. Power drives and controls. Testing the refrigerating plant. Instruments and controls. Atmospheric water cooling. Filters and water softeners. Ice and ice making. Cold storage, food preservation and fur storage. Freezer storage. Quick freezing of foods. Locker storage, accessories and storage factors. Storage house construction. Refrigeration of meat, fish and poultry. Refrigeration in the dairy industry. Refrigeration applied to air cooling. Marine refrigeration. Lubrication. Fans. Pumps and injectors. Piping and tubing details and data. Accident prevention and safety in refrigeration. Index.

Note: The third edition of this handbook, the first to appear under joint authorship, has not only been greatly enlarged but thoroughly rewritten, consequent upon the tremendous strides made in the field of refrigerating engineering since the publication of the second edition in 1938. Frozen vegetables, fruits, and meats, frozen locker plants, and air conditioning are the most notable of the topics in which development has been rapid and which the new edition covers in detail. The book is an up-to-date manual of text, figures, and tables for the engineer concerned at any point with refrigeration.

WOSTREL JOHN FRANK, AND JOHN G PRAETZ

Household electric refrigeration including gas absorption system Second edition. New York McGraw Hill Book Company Inc., 1948 458 p. illus. 24 cm. $6 00 6147

Contents: Simple explanation of refrigeration theory. Compression systems for household refrigeration units. Absorption systems for household refrigeration units. Control devices. Equipment for installation, service, and testing. Installation instructions for compression types of refrigeration machines. Installation instructions for absorption type. Service operations and adjustments. Service complaints—diagnosis and remedy. Motors. Food preservation. Heat transfer and insulation. Appendix. Index.

Note: A practical manual for refrigeration servicemen and other persons interested in the operation, construction, adjustment, and repair of household refrigerators. The explanation of refrigeration theory given in the first chapter is intended for persons without previous technical training in the field. The remainder of the book is largely descriptive and is intended to assist its readers in understanding and repairing the refrigeration systems used in household refrigerators. The book is especially useful in relation to the repair and maintenance of such refrigerators produced in the United States of America before World War II. The changes made in preparing the present edition are not extensive, but they do include new or expanded discussions of new devices such as capillary tubes for refrigerant control. Also service instructions for Copeland, Philco, and Stewart-Warner refrigerators, which were introduced to the market after the first edition of the book was prepared, are now included.

diffusion refrigeration. Refrigerants and properties of saturated and superheated vapors. Part II, Load determination Steady-state load calculations—insulation. Transient loads. Radiation—panel cooling. Psychrometric loads—air conditioning methods. Part III, Refrigeration equipment Compression refrigerating machines. Automatic refrigerating machines—household machines. Erection operation, testing. Cold storage. Ice manufacture—dry ice. Special applications of refrigeration engineering. Index.

Note. An engineering college textbook which is introductory in the sense that no previous education or experience in refrigeration on the part of the reader has been assumed. However it is designed to prepare students for practical work in refrigeration engineering, and the treatment is full enough for this purpose and also to make the book useful to graduate engineers. Most of the text is devoted to discussions that practicing engineer would be concerned with in the selection or design of refrigeration equipment. In deference to the professional use of the book, the range of data presented in graphs and tables has been greatly extended in this edition. Other new matter includes a treatment of the heat pump and practical design procedure for panel cooling systems.

MAGNUS, EDWARD R., AND GRACE D MARLOTT

The refrigeration serviceman's manual. Technical adviser Franklin P Mason, illustrated by John Bayer and John J Rhoades Chicago Wilcox & Follett Company, 1948 688 p illus 19 cm $5 00 6141

Content (abridged) Section I, The refrigeration system Parts that make up the refrigerating system. Fundamental principles and theory of refrigeration. How the refrigerating system works. Temperature-pressure relations in the refrigerating system. Refrigerant lines and fittings. Section II, Major service operations. Refrigerants. Condensers. Receivers. Strainers and dryers. Low-pressure controls. Compressors. Section III, Minor service operations. Section IV Shop operations Shop layout and equipment. Overhauling compressors. Overhauling condensers. Servicing motors. Household cabinet refinishing and repair Section Sealed units Servicing the sealed unit. Absorption and adsorption refrigerating systems. Appendix. Tables. Glossary Index.

Note Most of this book is devoted to very detailed explanations of practical operations in the maintenance and servicing of refrigerators, particularly household refrigerators. The section on shop operations is especially noteworthy Both electrically driven and gas-fired types are considered. A peculiarity of the treatment is that specific makes of refrigerators are not described, nor are manufacturers' cuts used as illustrations.

MANLY, H P

Drake's refrigeration service manual an instruction and reference book covering maintenance trouble shooting and repair domestic and commercial systems. Chicago Frederick J Drake & Company 1954 349 p illus 19 cm $2 50 6142

Content Mechanical refrigeration Compressor construction. Refrigerant control valves and evaporators Condensers and connections. Temperature and pressure controls Multi-temperature systems. Temperature and pressure measurements Tubing lines for refrigerants. Removing water air and dirt. Adding and removing refrigerant. Adding and removing oil Compressor tests and service. Val es, evaporators and condensers Cycling control service. Trouble shooting. Absorption refrigeration. Home and farm freezers. Repair of cabinet finishes. Index.

Note A vocational school text and handbook for repairmen. Practical methods for repairing electrical refrigeration, both of the household type and those found in small commercial establishments, such as soda fountains and flower shops, are covered in detail Both the descriptive text and illustrations treat the subject in generalized way and individual makes and models of refrigerators are not dealt with in particular However typical mechanisms are dealt with specifically The chapter on trouble-shooting contains series of twenty-three tables devoted to the causes and remedies for each recognized symptom of faulty operation The preceding edition was published in 1948. The chapters on freezers and repair of cabinet finishes were added in this edition.

RABER, BENEDICT FREDERICK, AND FRANCIS W HUTCHINSON

Refrigeration and air conditioning engineering New York John Wiley & Sons, Inc. 1945 291 p illus. 23 cm. $6 50 6143

Contents. Thermodynamic principles. Fundamental cycles of vapor refrigeration systems. Complex compression cycles for single-load system. Analysis of actual cycles. The absorption cycle. Steady state heat transfer Periodic heat transfer Transient heat flow Psychrometric principles. Supply state of conditioned air. Psychrometric processes. Process combinations. Design state and design volume. Ventilation systems. Fan performance and selection. Airway design.

Note This work, intended as a text for advanced students, and as a reference tool for practicing engineers, is treatment of fundamental principles rather than description of actual practice and equipment. The use of graphical methods is stressed both in the presentation of data and in the solution of refrigeration-cycle problems. There is some material on comparatively new developments, such as radiant heating, the heat pump, and power-cell humidifying. Problems and brief reference lists are furnished at the end of each chapter and there is an index.

SHARPE, NORMAN

Refrigerating principles and practices. New York McGraw Hill Book Company Inc., 1949 398 p illus 23 cm. $7.50 6144

Contents The refrigeration load. Properties of refrigerants. Refrigeration cycles. Compressors and their lubrication. Heat-transfer equipment. The expansion valve and the accumulator Accessories. Piping for refrigerating systems. Motors and their controls. Refrigeration applications. Appendices: Commercial storage of fruits and vegetables. Internal energy of fluid. Transferred heat. Pressure and volume relation for adiabatic compression. Work required for adiabatic compression. American standard safety code for mechanical refrigeration. Index.

Note: An introductory textbook for use in undergraduate engineering courses. It is designed so as to prepare the student for practical work in refrigeration engineering Thorough explanations of theory are integrated by means of the text and problems with illustrations of practical applications. The discussions of modern refrigeration practices include such minor details as various methods of defrosting. Although much of the general material is applicable to household refrigerators, there is no specific discussion of this type of refrigerating plant, such as there is of larger plants used for cold-storage cooling and commercial ice-making.

VENEMANN, HENRY GERALD

Refrigeration theory and applications a text book on fundamental principles involved in the process of refrigeration with applications to assist the student and engineer to design maintain and operate plants. Second edition Chicago Nickerson & Collins Co., 1948 336 p. illus. 23 cm. $4 00 6145

Contents The compression refrigeration system or electric refrigeration Energy transformations. Refrigerant charts and their uses. Property changes during test. Calculations of results of sample test. Analysis of actual plant performance Performance of compressors Instructions for starting plants in operation Refrigerant. Miscellaneous methods of refrigerating. Air as primary refrigerant. Air and water vapor mixtures. Plant analysis via theoretical cycle Methods of accommodating variable loads Heat exchangers for cooling air Heat exchangers for cooling liquids. Heat exchangers—condensers. Automatic controls. Estimating plant loads. Specifications for refrigeration plant. Index.

Note A practical but relatively thorough exposition that is intended for use in college and vocational school courses and in self instruction Improvements in the second edition include new and smaller format, revision of the first thirteen chapters incorporating much new material, the inclusion of an index, and the inclusion of paged table of contents. Basic principles of mechanical refrigeration and details of refrigeration plant operation and servicing are covered. Review problems are given with each chapter and useful data regarding the properties of refrigerants and compressor operation are tabulated throughout the volume. The pressure-enthalpy charts are now contained in cover pocket.

WOOLRICH WILLIS RAYMOND AND LUIS H. BARTLETT

Handbook of refrigerating engineering. Third edition. New York D Van Nostrand Company Inc., 1948. 730 p. illus. 19 cm. $12.75. 6146

Contents: Fundamental units, definitions, conversion factors, and abbreviations. Primary refrigerants. Primary refrigerant charts and tables of thermodynamic characteristics. Nomographs for refrigerants. Reciprocating compressors. Centrifugal refrigerant compressors. Jet compressors. Condensers. Refrigerating cycles. Absorption refrigeration. Secondary refrigerants. Heat transfer. Power drives and controls. Testing the refrigerating plant. Instruments and controls. Atmospheric water cooling. Filters and water softeners. Ice and ice making. Cold storage, food preservation and fur storage. Freezer storage. Quick freezing of foods. Locker storage, economics and design factors. Storage house construction. Refrigeration of meat, fish and poultry. Refrigeration in the dairy industry. Refrigeration applied to air cooling. Marine refrigeration. Lubrication. Fans. Pumps and injectors. Piping and tubing details and data. Accident prevention and safety in refrigeration. Index.

Note: The third edition of this handbook, the first to appear under joint authorship, has not only been greatly enlarged but totally rewritten, consequent upon the tremendous strides made in the field of refrigerating engineering since the publication of the second edition in 1938. Frozen vegetables, fruits, and meats, frozen locker plants, and air conditioning are the most notable of the topics in which development has been rapid and which the new edition covers in detail. The book is an up-to-date manual of text, figures, and tables for the engineer concerned at any point with refrigeration.

WOSTREL, JOHN FRANK AND JOHN G PRAETZ

Household electric refrigeration including gas absorption system. Second edition. New York McGraw Hill Book Company Inc. 1948. 458 p. illus. 24 cm. $6.00. 6147

Contents. Simple explanation of refrigeration theory. Compression systems for household refrigeration units. Absorption systems for household refrigeration units. Control devices. Equipment for installation, service, and testing. Installation instructions for compression types of refrigeration machines. Installation instructions for absorption type. Service operations and adjustments. Service complaints—diagnosis and remedy. Motors. Food preservation. Heat transfer and insulation. Appendix. Index.

Note: A practical manual for refrigeration servicemen and other persons interested in the operation, construction, adjustment, and repair of household refrigerators. The explanation of refrigeration theory given in the first chapter is intended for persons without previous technical training in the field. The remainder of the book is largely descriptive and is intended to assist its readers in understanding and repairing the refrigeration systems used in household refrigerators. The book is especially useful in relation to the repair and maintenance of such refrigerators produced in the United States of America before World War II. The changes made in preparing the present edition are not extensive, but they do include new or expanded discussions of new devices such as capillary tubes for refrigerant control. Also service instructions for Copeland, Philco, and Stewart-Warner refrigerators, which were introduced to the market after the first edition of the book was prepared, are now included.

AUTOMOTIVE ENGINEERING AND REPAIR

ASHBURN, ANDERSON

Automotive trouble shooting and maintenance. New York McGraw Hill Book Company, Inc., 1950 305 p illus. 24 cm $5 50 6148

Contents: General procedure. Electrical system. Fuel system. Cooling system. The engine. The power train. The chassis. List of visual aids. Index.

Note: A fairly detailed guide to "trouble shooting" of faults in automobiles intended for the instruction of students in vocational school courses. The whole range of common troubles and repairs is covered, but the book is short on information about automatic transmissions, although it does contain good discussion of overdrives. The book is a revision of *Automotive trouble shooting*, an official text of the Ordnance School of the United States Army

ATHANSON, WILLIAM T

Automobile body repair and paint guide Princeton D Van Nostrand Company Inc., 1952 95 p illus 19 cm $2.25 6149

Contents. Book I, Automobile sheet metal repair guide Glossary—terms used in automobile body and fender repair trade. Common names of automobile body panels and sections. Technique in automobile body repair Book II, Automobile paint guide. Glossary—terms used in automobile painting trade. Automobile paint guide. Helpful hints, short cuts, time saving methods. Subject index.

Note. A brief book of elementary information and practical suggestions. Terms, tools, and practical techniques are described for beginners in the trade. The author is General Manager of the Parts and Refinishing Materials Division of the Briggs Manufacturing Company

BEKKER, M G

Theory of land locomotion the mechanics of vehicle mobility Ann Arbor University of Michigan Press 1956 520 p illus. 23 cm $12 50 6150

Content Introduction. Locomotion in nature. Locomotion on wheels. Morphology of motor vehicles and environment. Some problems of soil and snow mechanics. The mechanics of wheel. Crawlers of track-laying vehicles. Skis, sleighs, and toboggans. Mechanics of motor vehicle. The trafficability of soils, performance of vehicles, and the economy of locomotion. Scale-model testing and dimensional theory References. Index.

Note A basic analytical study of the relationships between self propelled vehicles operating on land without the benefit of prepared roadbed and the soil or snow on which they move. The relationship between vehicular wheels, crawler tracks, skis and toboggans, on the one hand, and soil and snow on the other hand are analyzed; and, in most instances, mathematical equations are derived to describe them. Practical considerations, for example, the lack of uniformity in snow cover as factor in the operation of vehicles on snow are discussed also. The chapter on scale-model testing presents concisely both the cost aspect of models versus full-size prototypes for research and the mathematical theory of dimensional analysis. The bibliography gives 346 references to the analytical literature.

CROUSE, WILLIAM H.

Automotive engines, construction, operation and maintenance. New York McGraw Hill Book Company, Inc., 1955 518 p. illus. 24 cm $7 95 6151

Contents Fundamental principles. Automobile components. Engine fundamentals. Engine-performance measurements. Engine types. Engine construction and components. Pistons and valves. Automotive-engine fuels and fuel systems. Automotive-engine cooling systems. Automotive lubricants and lubricating systems. Engine-testing procedures and tools. Diagnosing engine troubles. Valve and valve-mechanism service. Connecting-rod, piston, and ring service. Crankshaft and cylinder service. Shop practice. Index.

—— Automotive fuel, lubricating and cooling systems, construction, operation, and maintenance. New York McGraw Hill Book Company, Inc., 1955 421 p. illus. 24 cm. $5 75 6152

Contents. Automotive fundamentals. Fuel-system fundamentals. Fuel-system operation. Carburetor fundamentals. Automotive carburetors. Diesel and LPG fuel systems. Automotive-engine fuels. Diagnosing fuel-system troubles. Fuel-system service. Carburetor service. Engine lubricating systems. Lubricating-system service. Engine cooling system. Cooling-system service. Appendices. Index.

—— Automotive chassis and body, construction, operation, and maintenance. New York McGraw Hill Book Company, Inc., 1955 609 p illus 24 cm $7.50 6153

Contents Fundamental principles. Automotive chassis fundamentals. Automotive springs and suspension. Shock absorbers. Steering systems. Diagnosing steering and suspension troubles. Servicing steering linkage and front and rear suspension. Front-end alignment. Manual steering-gear service. Saginaw power-steering service. Gemmer hydraguide power steering service. Linkage-type power steering service. Coaxial power-steering service. Automotive brakes. Brake service. Power brake service. Tires and tire service. Chassis lubrication. Car frame and body Air conditioning. Servicing air conditioners. Glossary Index.

—— Automotive transmissions and power trains, construction operation and maintenance. New York McGraw Hill Book Company, Inc 1955 632 p illus 24 cm. $7.50 6154

Contents Power train components. Clutches. Clutch service. Transmissions. Overdrives. Standard transmission and overdrive service. Transmissions with fluid couplings. Transmissions with torque converters. Hydra-matic type transmission service. Hydramatic transmission service. Powerglide service. Fordomatic service. Powerflite service. Drive lines. Rear axles and differentials. Appendix. Glossary Index.

—— Automotive electrical equipment construction, operation, and maintenance. Third edition. New York McGraw Hill Book Company Inc., 1955 489 p. illus. 24 cm. $6.50 6155

Contents: The language of electricity. The storage battery. Battery maintenance. Cranking-motor fundamentals. Cranking-motor trouble-shooting. Cranking-motor service. Generator fundamentals. Theory of regulator operation. Quick check of generator-regulator system. Checking and adjusting auto-lite regulators. Checking and adjusting Delco-Remy regulators. Ford regulators. Generator trouble-shooting. Generator service. Horns. The gasoline engine and fuel requirements. The ignition system. Ignition-testing instruments. Ignition service. Switches. Indicating devices. Headlights. Accessories. Periodic inspection of the electric system. Appendices. Index.

Note: The ten books listed here constitute the publisher's Automotive mechanics series, [illegible] series which is widely used in the instruction of men who are preparing for work as mechanics on automobiles. The books are used both in vocational school classes and [illegible]. They are written in [illegible] simple, straightforward style and are fully illustrated. They are organized in [illegible] designed to facilitate comprehension, with the chapters including [illegible] of review questions and tests of progress that the [illegible]. Covered are the elementary basic principles of automobile mechanisms and the full range of repair and maintenance operations on them. The illustrations include many pictures of components of automobiles of United States of America manufacture, although there is no concentration on any one manufacturer's products.

CROUSE, WILLIAM H.

Automotive mechanics. Third edition. New York. McGraw Hill Book Company Inc., 1956. 726 p. illus. 24 cm. $7.00. 6156

Contents: Shop practice. Fundamentals of the automobile. Engine operation. Engine measurements and performance. Engine types. Engine construction. The electric system. Automotive fuel systems and fuels. Automotive-engine fuels. Engine lubricating systems—[illegible] systems—[illegible]—service. Electric-system service. Fuel-system service. Lubricating-system service. Cooling-system service. Clutches. Clutch service. Transmissions. Overdrives. Standard transmission and overdrive service. Transmissions with fluid couplings. Transmissions with torque converters. Automatic transmission service. Drive lines. Rear axles and differentials. Automotive springs and suspension. Steering systems. Steering and suspension service. Automotive brakes. Brake service. Tires and tire service. Air conditioning. Index.

Note: A widely used and well-known practical text on the mechanics of present-day automobiles. Its purpose is to serve as a guide in the instruction of students in vocational schools and in vocational courses in high schools. It is useful also as a self-instruction text. Although the technical terminology of the field is freely used, the author's style is exceptionally easy to comprehend. Also, the expository text is supplemented by a very great number of diagrams and reproductions of photographs. The first edition was published in 1946 and the second edition in 1951. The length of the book has grown with each edition. In this third edition, considerable [illegible] of information has been added on automotive developments introduced on American automobiles since the second edition was published. These include new automatic transmissions, power steering, automobile air-conditioning systems, and 12-volt electrical systems.

EVEREST RALPH JAY

Motor tune-up manual. New York The Macmillan Company 1949 355 p. illus. 22 cm. $6.00 6157

Contents: The field of motor tune-up. Basic principles. Storage batteries. Battery maintenance. Ignition. Spark plugs. Fuel pumps. Carburetors. Fuels. Engine principles. Starters. Generators. Voltage regulators. Motor tune-up procedure. Glossary of trade terms. Index.

Note: A practical book on "tune-up," or the adjustment of present-day automobile engines so that they will render maximum performance. It is intended for the use of automobile mechanics and students in trade schools. The various elements of systems that affect engine operation such as the carburetor are discussed clearly from the mechanic's viewpoint with, of course, the major emphasis on the correction of troubles. The final chapter includes brief directions on the use of various instruments that have been developed to facilitate engine tune-up.

FRAZEE, IRVING AND OTHERS

Automotive brakes and power transmission systems. By Irving Frazee Walter Billiett Philip V Eshelman. Co-ordination of illustrations by Arthur E Burke. Chicago American Technical Society 1956. 266 p. illus. 22 cm. (Automotive series edited by Irving Frazee and Earl L. Bedell) $6.95 6158

Contents: Brakes, by I. Frazee and W. Billiett. Power train assembly parts, by P. Eshelman and I. Frazee. Clutches, fluid couplings and torque converters, by I. Frazee and W. Billiett. Transmissions, by P. Eshelman and W. Billiett. Auxiliary transmissions, by I. Frazee and W. Billiett. Universal joints and drive lines, by P. Eshelman and W. Billiett. Driving axles, by P. Eshelman and W. Billiett. Index.

—— Automotive electrical systems. By Irving Frazee, William Landon and Ernest Venk. Contributors Raymond Jonassen Bennie Mirkin and Edward D Spicer Co-ordination of illustrations by Arthur E. Burke. Second edition revised. Chicago American Technical Society 1956 436 p. illus. 22 cm. (Automotive series edited by Irving Frazee and Earl L. Bedell) $6.25 6159

Contents: Electricity and magnetism. Storage batteries. Generators. Generator circuits and regulators. Generating system trouble shooting. Starting systems. Lighting systems. Horns and clocks. Instruments and gauges. Index.

—— Automotive fundamentals. By Irving Frazee, Ernest Venk, George Hafferkamp, William Landon and John H. Zich. Co-ordination of illustrations by Arthur E. Burke. Chicago American Technical Society 1949 538 p. illus. 22 cm. (Automotive series edited by Irving Frazee and Earl L. Bedell) $5.25 6160

Contents: Part 1, Fundamentals of science. Part 2, Operating principles: Automotive vehicles. Engines. Fuel systems. Ignition systems. Electrical systems and instruments. Power trains. Axles. Suspension and steering. Braking control, wheel alignment, and tires. Index.

—— Automotive maintenance and trouble shooting. By Irving Frazee, William Landon and Ernest Venk. Co-ordination of illustrations by Arthur E. Burke. Second edition. Chicago American Technical Society, 1954 505 p. illus. 22 cm. (Automotive series edited by Irving Frazee and Earl L. Bedell) $5.95 6161

Contents: Maintenance, by I. Frazee and E. Spicer. Electrical systems, by I. Frazee and R. Jonassen. Gasoline engines, by I. Frazee and B. Mirkin. Gasoline fuel system, by I. Frazee and B. Mirkin. Battery ignition, by I. Frazee and B. Mirkin. Magneto ignition, by I. Frazee and E. Venk. Cooling system, by I. Frazee and B. Mirkin. Instruments, by I. Frazee and W. Landon. [illegible] and the [illegible], by I. Frazee. Brakes, by I. Frazee and B. Mirkin. Radio troubleshooting, by I. Frazee. Heaters, by I. Frazee and E. Spicer. Windshield wipers, by I. Frazee. Automatic window and seat controls, by I. Frazee. Luxury accessories, by I. Frazee. Index.

—— Automotive suspensions, steering and wheel alignment By Irving Frazee, William Landon, George Hafferkamp Co-ordination of illustrations by Arthur E Burke. Second edition, revised. Chicago American Technical Society, 1955 338 p illus. 22 cm. (Automotive series, edited by Irving Frazee and Earl L Bedell) $5 75 6162

Contents Spring. Shock absorbers. Axles. Independent front suspensions. Steering gears and linkages. The factors of wheel alignment. Effects and influences. Measurement of wheel alignment factors. Diagnosis of wheel alignment. Corrections and adjustments. Wheel alignment specifications. Index.

Note Listed above are the contents and other details of selected volumes in this publisher's *Automotive series*. All volumes in the series are specifically designed for the vocational training of automobile mechanics. They are clearly written in straightforward, factual style and are fully illustrated. The illustrations depict typical mechanisms (and repair operations on them) of passenger automobiles and trucks manufactured in the United States of America. However since the purpose is to teach automotive maintenance and repairing in general, the illustration of all repair operations on individual makes of cars is not attempted. Other volumes in the series include *Automotive collision work* second edition, 1953 335 p., $6 ■ and *Automotive fuel and ignition systems* 1953 503 p., $6 95 Still another volume is listed below under Venk, Ernest, editor

GREY, ANDREW D, editor

Automobile repair manual Philadelphia Chilton Company, Inc., 1955 904 p illus 30 cm. 6163

Contents (abridged) Alphabetical index by car make. Buick service. Cadillac service. Chevrolet service. Chrysler service. De Soto and Dodge service. Ford & Mercury 1940–48 service. Ford 1949–55 service. Henry J service. Hudson service. Kaiser Frazer service. Lincoln service. Mercury 1949–55 service. Nash and Rambler service. Oldsmobile service. Packard service. Plymouth service. Pontiac service. Studebaker service. Willys service. General service section. Miscellaneous.

Note A practical reference book of specifications and directions for repair and maintenance operations on American automobiles. For most makes of cars, models manufactured from 1940 through 1955 are covered. In the first part of the book, the arrangement is by make. Here, directions are given for all of the standard repair operations, and illustrations of various assemblies and of operations on them are shown. Specifications, that is, measurements, for such things as clearances of brake linings are given. In the second part the arrangement is by automobile part, that is brakes, carburetors, clutches, transmissions, etc. Individual makes of transmissions, such as Fordomatic and Powerflite, are covered individually and in detail. The book is concluded with a miscellaneous section of information on such matters as engine tune-up, installing of windshields and servicing of windshield wipers. A new edition covering automobiles manufactured to 1957 was published in 1957 996 p., $6 95

HEITNER, JOSEPH

Automotive mechanics principles and practice. Princeton D Van Nostrand Company, Inc. 1953 501 p illus 23 cm $6 00 6164

Contents Unit I, The motor vehicle History and operation. Unit II, The power unit Principles of engine operation. Engine parts and their functions. Multiple-cylinder engines. Engine troubles and repairs. Unit III, Bearings and lubrications. Unit IV. The fuel system Combustion and engine fuels. The carburetor Full-feed, intake, and exhaust systems. Unit The cooling system Unit VI, The electrical system Fundamentals of magnetism and electricity Battery starting, and generating systems. Ignition, lighting, and electrical instruments. Unit VII, The power train The clutch Fundamentals of gear operation. Manually operated selected transmission. The Hydramatic transmission. Torque-converter transmissions. Propeller shafts, final drafts, and differentials. Unit VIII The running system Brakes, wheels and tires. Frame suspension, and steering systems. Index.

Note A well-organized and adequately illustrated introduction to automobile mechanisms, their mechanism and repair. It is designed primarily for the instruction of vocational school students who are preparing to become automobile mechanics. It is useful also as a book of general and specific information for individual automobile owners who wish to understand their cars. It does not deal with the mechanisms of any specific make of automobile and therefore is not a substitute for the car manuals put out by manufacturers. However a few mechanisms peculiar to single manufacturers such as the Hydra-matic transmission are described and discussed. The author is a teacher in the Department of Automotive Mechanics of the High School of Science in New York City

HELDT, PETER MARTIN

The automotive chassis (without power plant), frames, springs, axles, wheels tires, drives, steering gears, brakes, universal joints, differential gears, miscellaneous parts. Third edition Philadelphia Chilton Company 1952 616 p illus 22 cm. $9 00 6165

Contents: Chassis types and layouts. Power required for propulsion and acceleration. Frames and their brackets. Front axles. Steering gears. Propeller shafts and universal joints. Differential gears. Rear axles. Spiral bevel- and hypoid-gear drives. Double-reduction and two-speed axles. Front drive, all-wheel drive and six-wheelers. Worm-gear drive. Chain drive. Brakes. Power brakes and auxiliary energy dissipators. Types of chassis springs and their characteristics. Conventional suspension systems. Independent suspensions. Rubber suspensions. Wheels and tires. Appendices. Index.

Note. The broad scope of this volume is best indicated by saying that it deals with all parts of the automobile except the engine and body It is designed for use as a text in engineering courses, and as a reference tool by automotive engineers and designers. The theory of action and constituent materials of the various parts are discussed, but emphasis is placed on the fundamentals of design. Brief historical notes trace the origin and development of each major part. The first edition was printed in 1945. The only change made in this edition is the addition of an appendix wherein are described recent developments in chassis design, particularly as regards braking equipment and rubber and air suspension systems. The second edition was published in 1948. Many revisions were made in both text and illustrations for this third edition. Among the additions is the chapter on rubber suspensions.

HELDT, P M

Torque converters or transmissions for use with combustion engines in road and rail vehicles tractors and locomotives mechanical, hydraulic electric differential, stepped and continuously variable, hand-controlled, automatic and semi-automatic. Fifth edition. Philadelphia Chilton Company, 1955 496 p. illus 22 cm $8 00 6165A

Contents. Friction clutches. Automatic and power-operated clutches. Hydraulic and electric couplings. Overrunning clutches. Some principles of toothed gearing. Sliding-gear and constant-mesh transmissions. Bearing loads in geared transmissions. Planetary transmissions. Electric drive. Hydrostatic transmissions. Some principles of hydrodynamics. Hydrodynamic torque converters. Power shift and automatic control. Continuously-variable, hydro-mechanical transmissions. Automatic and power-controlled stepped transmissions. Differential or power-shunt transmissions. Inertia type transmissions. Variable-throw transmissions. Geared transmissions for different services. Index.

Note A standard work written from the engineering viewpoint. It deals with all kinds of torque converters or transmissions currently used in conjunction with internal combustion engines in self-propelled vehicles. Hand-operated transmissions are included as well as automatic ones, with the main emphasis on the latter. Earlier editions of the book included descriptions of some automatic transmissions, such as pneumatic transmissions, no longer in use but the present edition is limited to transmissions currently in use or presenting engineering interest for some other reason. Each type of transmission is fully described as to mechanical and engineering characteristics. Engineering problems such as the design of torque converters for specific engines are fully discussed. The torque

also was published in 1951. Various changes, including deletions, revisions and additions, were made in preparing the fifth edition. One chapter was condensed, other chapters were rewritten and expanded so as to include descriptions of such developments as the newer types of automatic transmissions for passenger automobiles.

KUNS, RAY FOREST

Automatic transmissions principles and maintenance. Milwaukee The Bruce Publishing Company 1951 466 p. illus. 24 cm. $4.00 6166

Contents Automatic transmissions—hydraulic drives. Buick dynaflow automatic transmission. Chevrolet automatic transmission—powerglide torque converter. Chrysler automatic transmission—gyro-fluid drive. Ford-Mercury automatic transmission. Oldsmobile hydra-matic drive. Packard ultramatic drive—torque converter design. Studebaker automatic transmission. Index.

Note The automatic transmissions now used on a considerable number of automobiles manufactured in the United States of America, are described in this book. Operating principles are explained and the various makes of transmissions are described completely and in detail. Maintenance and repair instructions are included for most of the transmissions. The book is useful as background information for automobile mechanics. It may be used as a text to be studied for preparation for work on automatic transmissions or as a supplement to manufacturers' repair manuals. There are more than 330 illustrations, and most of these are reproductions of photographs of transmission parts or of repair operations on transmissions.

PURVIS, JUD

Auto mechanic's manual on brakes and steering including wheel alignment. Chicago The Goodheart Willcox Company Inc. 1951 175 p. illus. 22 cm. $3.50 6167

Contents Part I: Brakes and [illegible] by they brake. Brake construction. Hydraulic brakes. Brake types. Power brakes. Brake service and adjustment. Trouble shooting. Part [illegible] Steering control and wheel alignment. Front wheel geometry. Adjustment and correction. Power steering. Index.

Note A practical manual in which the fundamental principles of automobile brake and steering systems are given equal emphasis with specific instructions on adjustment and repair operations. It is supplementary and complementary to the repair manuals issued by automobile and brake manufacturers for specific models. The text is relatively simple, and there are many clear illustrations, well reproduced in large scale.

SOCIETY OF AUTOMOTIVE ENGINEERS INC.

Maintenance of automotive engine cooling systems. New York Society of Automotive Engineers, Inc., 1948 106 p. illus. 22 cm. $4.00 6168

Contents Introduction. Cooling system construction, function, and operation. Driver preventive maintenance. Mechanic preventive maintenance. Trouble shooting. Index.

Note This little manual presents in clear and concise form the basic facts regarding the construction, operation, maintenance, and repair of automobile cooling systems. The material is based on extensive tests carried out by experts in the field, and the non-technical discussion of each phase of the subject will be of practical value to automotive mechanics and the average automobile owner. Many excellent diagrams and photographs further clarify the descriptive material.

SOCIETY OF AUTOMOTIVE ENGINEERS, INC

SAE handbook. 1956 edition. New York Society of Automotive Engineers, Inc., 1956. 1 172 p. illus. 21 cm. 6169

Note An authoritative reference book published annually. It contains recommended practices and official standards of the Society of Automotive Engineers [illegible] great range of tabulated data on metal alloys and on automotive parts and general information reports, as well as lists of officers and committees of the Society. The 1957 edition was priced at $20.00 for delivery in the U. S. A., $21.00 in other countries.

TOBOLDT WILLIAM K.

Automobile body rebuilding and refinishing Scranton International Textbook Company 1950. 464 p. illus. 21 cm. $5.50 6170

Contents (abridged) Part I, The rebuilding shop and its basic operations. Planning the layout. Repairs to damaged metals. Repair methods. Welding. Part II, Rebuilding methods: Repairs to wrecked automobiles. Repairing damaged frames. Part III, Repairing individual parts: Miscellaneous repair operations. Station-wagon bodies. Part IV The paint shop. Part [illegible] Preparation for spray painting: Cleaning and paint-removal. Masking. Part VI, Spray painting: Types of finishes. Causes of spray-painting troubles. Index.

Note: All of the operations in rebuilding and refinishing of damaged automobile bodies are covered in sufficient detail for practical use in body shops. Use of modern tools, such as dinging hammers and hydraulic straightening equipment, are described. The text descriptions are supplemented by numerous photographs and line drawings. The sections on painting account for approximately four-ninths of the book's length and are outstanding for their many practical points.

TOBOLDT WILLIAM K., AND JUD PURVIS

Motor Service's new automotive encyclopedia complete course in automotive mechanics, with special emphasis on fundamental principles, trouble shooting. Published by the former publishers of *Dyke's auto encyclopedia* Chicago The Goodheart Willcox Company Inc., 1956. 815 p. illus. (part col'd) 24 cm. $7.95 6171

Contents: Automotive engines. Carburetion, fuels. Starting, lighting, ignition. Steering control, wheel alignment. Clutches, transmissions, final drives. Automobile air conditioning. Body repairing, refinishing. Shop layout, tools, equipment. British, Australian cars. Twenty-five years mechanical and tune-up specifications. Glossary of automotive terms. Index.

Note. A practical book designed for the instruction of vocational students who are preparing to work as automobile mechanics. It is used also as a self-instruction text and reference book by mechanics already at work. It explains the principles of automotive engines and their auxiliary systems in [illegible] detailed, elementary style, then describes in fully as much detail the repair and maintenance operations which present-day automobiles require. The glossary is 17 pages in length. The section "Official mechanical and tune-up specifications" provides data on wheel base, tire size, number and dimensions of cylinders, compression ratio, maximum brake horsepower, valve tappet clearances, breaker point gap, spark plug gap, degrees of camber, etc., for all passenger cars of the United States of America manufactured from 1931 through 1956. There are perhaps 3,000 illustrations, and the majority of them depict automobile mechanisms or show repair operations.

VENK, ERNEST editor

Automotive engines maintenance and repair Co-ordination of illustrations by Arthur E. Burke. Chicago American Technical Society 1951 381 p. illus. 22 cm. (Automotive series edited by Irving Frazee and Earl L. Bedell) $4.95 6172

Contents: Operating principles. Cleaning and measuring. Disassembly Cylinder heads and oil pans. Cylinder block and crankcase. Crankshafts and flywheels. Pistons and connecting rods. Valves

and valve-operating mechanisms. Engine lubrication, cooling, and mounting. Assembly. Remachining. Index.

Note. A well-organized and admirably illustrated textbook. It has been prepared with the aid of a considerable body of leaders in vocational education and the automotive service industries. It is designed principally for use in vocational school courses offered to young men who are studying to become automobile mechanics. A special advantage over older books on the same subject is the inclusion of full descriptions of present-day methods of repairing and maintaining modern high-precision engines. A second edition was published in 1957 402 p., $5 95

WOHLFEIL, THEODORE A., AND OTHERS
Automobile body reconditioning New York McGraw Hill Book Company, Inc., 1952 157 p. illus. 26 cm. $4 00 6173

Contents: Basic hand tools and their application. Welding equipment and methods of application. Basic metal-straightening techniques. Types of body-panel aligning. Use of hydraulic body jacks. Body-panel straightening. Body-panel removal and replacement. Painting equipment and techniques. Upholstery replacement. Damage estimating. Index.

Note: A well-organized and thoroughly illustrated textbook for students in vocational schools and technical courses in high schools and for apprentice mechanics in the automobile body rebuilding trade. All procedures are described in numbered steps. The book is very generously illustrated. The illustrations are reproductions of line drawings or of photographs, and they have been well chosen.

ELECTRICAL ENGINEERING

GENERAL

BULLOCK, GROVER C.

Principles of electrical engineering. Third edition. New York. McGraw Hill Book Company Inc., 1950. 605 p. illus. 23 cm $7.50. 6174

Contents: Electric currents and circuits. Fundamental units, rates, theory. The direct-current electric circuit. Magnetism and the magnetic circuit. Electromagnetic induction. Dielectric fields and capacitance. Electrostatic induction. Direct-current motors. Dynamo design and construction features. Direct-current generators. Direct-current motors. Losses, efficiencies, heating and rating. Batteries. Direct-current applications. Alternating voltages and currents. Sine wave and vector relations. The alternating-current circuit. Single-phase voltages and circuits. Polyphase voltages and circuits. The transformer. Polyphase induction motors. Single-phase motors. Alternating-current generators. The synchronous motor. Alternating-current transmission, distribution and application. Rectifiers and converters. Illumination. Electronics. Electrical measuring instruments. Installation, operation and maintenance. The testing of electrical machinery. Appendix. Index.

Note: A balanced introductory view of principles and applications is provided in this textbook. The author is Professor of Electrical Engineering at Purdue University. The mathematical level is not advanced and much of the exposition of machinery is descriptive. The first edition was published in 1931 and the second edition in 1936. The chapter on dielectric fields and circuits was added in this third edition.

COOK, ARTHUR L., AND CLIFFORD C. CARR

Elements of electrical engineering: a text book of principles and practice. Sixth edition. New York. John Wiley & Sons, Inc., 1954 682 p. illus. 23 cm. $7.00. 6175

Contents (abridged): Part I, Fundamentals of electric and magnetic circuits: Resistance, rheostats and resistors. D-C circuits. Magnetism and magnetic circuits. Capacitance. Part II, Basic relations by electrical machines. General principles of electrical machines. Losses, efficiency and ratings of dynamos. Part III, D-C machinery: Commutation and flux relations. D-C motor-starting and protective devices. Special types of D-C generators. Batteries. Part IV, A-C circuits: Sinusoidal voltages and currents. Mathematical representation of vectors. Series A-C circuits (sinusoidal relations). Polyphase circuits (sinusoidal relations). Transmission and distribution. Part V, A-C machinery: Transformers, polyphase motors, convertors equipment. Single-phase motors. A-C motor-starting protective devices. Part VI, Instruments, electronics, special applications. Electric measuring instruments. Electron tube functions in circuits. Electric control systems. Appendix—tables. Index.

Note: The work is thoroughly established as a textbook for use in short and not-too-rigorous courses such as are offered to engineering college students who are not planning to specialize in electrical engineering. It is suitable for use also as a self-instruction text. The first edition was published in 1924 and the fifth edition in 1947. In the sixth edition, the book has been extensively reorganized and rewritten without, however, changing its level or over-all scope.

COOKE, NELSON MAGOR

Mathematics for electricians and radiomen. New York McGraw Hill Book Company Inc., 1943 604 p. illus. 23 cm. $5.00. 6176

Contents: Introduction. Literal numbers. Addition and subtraction. Multiplication. Division. Equations. The slide rule—powers of ten. Units. Ohm's law—series circuits. Resistance—wire sizes. Special products and factoring. Fractions. Fractional equations. Ohm's law—parallel circuits. Simultaneous linear equations. Generator, motor and battery circuits. Exponents and radicals. Quadratic equations. Kirchhoff's laws. Logarithms. Application of logarithms to decibels and transmission lines. Angles. Trigonometric functions. Tables of functions. Solution of right triangles. Periodic functions. Elementary plane vectors. Alternating currents—fundamental ideas. Alternating currents—series circuits. Alternating currents—parallel circuits. Vector algebra.

Note: A textbook designed to furnish the electrical and radio student with a sound mathematical foundation and to show him how to apply this knowledge to the solution of practical problems most frequently encountered. The mathematical scope of the book includes elementary algebra through quadratic equations, logarithms, trigonometry, elementary plane vectors, and vector algebra as applied to alternating current circuits. The book is equally suitable for classroom and self-instruction. Answers to the problems are included.

CORCORAN, GEORGE FRANCIS

Basic electrical engineering for students of electrical engineering. New York. John Wiley & Sons, Inc., 1949 449 p. illus. 23 cm. $6.50. 6177

Contents: Classification of physical quantities. Versatility of electrical charge. Voltage, current, and power. Electrical resistance and conductivity. Joule's law—heating effects. D-c circuit analysis (linear, bilateral circuit elements). The electric field. The magnetic field. Magnetic forces. Magnetically generated voltages. Ferromagnetic circuits. Inductance. Capacitance. Boundary electromotive forces (Faraday's laws of electrolysis). Non-linear circuit elements. Appendices. Index.

Note: The fundamental concepts and some of the basic techniques of electrical engineering are explained in this introductory textbook. As indicated in the title, it is designed for students who plan to pursue the subject beyond an introductory course. The emphasis is on basic concepts and techniques, such as the vector properties of electric field intensity, and practically no space is given to descriptive material. Rationalized Mks units are used throughout. A small amount of material has been carried over from Electrical engineering fundamentals, by the author and R. R. Kurtz, New York, 1941, but this is essentially a new work, although intended for the same class of readers.

CROFT, TERRELL

American electricians' handbook, a reference book for practical electrical workers revised by Clifford C. Carr. Seventh edition. New York McGraw Hill Book Company Inc. 1953 1 773 p. illus. 19 cm. $10.00 6178

Contents (abridged): Division I, Fundamentals. Division II, Properties and splicing of conductors. Division III, Circuits and circuit calculations. Division IV, General electrical equipment and batteries. Division V, Transformers. Division VI, Electron tubes and circuits. Division VII, Generators and motors. Division VIII, Outside distribution. Division IX, Interior wiring. Division X, Electric lighting. Division XI, Wiring tables. Index.

Note: A standard handbook of fundamental and practical information pertaining to the selection, installation, and operation of electrical materials and apparatus. It is designed particularly as a practical reference book for electrical contractors and electricians. However, it contains many data that are useful also to electrical engineers. In the present seventh edition, it has the same number of pages as it had in the sixth edition. Changes are limited to the correction of errors and to revisions made necessary by the publication of the 1951 edition of the National Electrical Code. Although these revisions are important to the book's users, they do not account for a large percentage of the present text.

DAWES, CHESTER L

A course in electrical engineering Fourth edition. New York McGraw Hill Book Company, Inc., 1947–52 2 v illus 23 cm. (Electrical engineering texts, Harry E Clifford, consulting editor) $7 50 per vol. 6179

Contents. Volume I Direct currents: Resistance. Ohm's law and the electric circuit. Battery electromotive forces—Kirchhoff' laws. Primary and secondary batteries. Electrical instruments and electrical measurements. Magnetism and permanent magnets. Electromagnetism. The magnetic circuit. Self- and mutual inductance. Electrostatics—capacitance. The generator Generator characteristics. The motor Losses efficiency operation. Transmission and distribution of power Appendixes. Questions and problems. Index. Volume II, Alternating currents Alternating current and voltage. Alternating-current circuits. Complex quantities. Alternating-current instruments and measurements. Polyphase systems. The alternator Alternator regulation and operation. The transformer The induction motor. Single-phase motors. The synchronous motor The synchronous converter. Transmission of power by alternating current. Electron tubes. Rectifiers. Appendices. Questions and problems. Index.

Note. A successful introductory text, designed particularly for such persons as trade school students and electricians who do not plan to become professional electrical engineers but who need, nevertheless, a broad survey It provides fuller treatment of principles than is common in texts of this class. Basic matters, such as the properties of magnetic fields, are not omitted but are treated in simple manner Although calculus is used in some parts, most of the text can be comprehended with a knowledge of mathematics no higher than elementary algebra.

DAWES, CHESTER L

Industrial electricity Volume I Direct currents Third edition New York McGraw Hill Book Company, Inc., 1956 431 p illus. 24 cm $5 50 6180

Contents Electricity and the electric circuit. Battery electromotive force Kirchhoff's laws. Resistance. Primary and secondary batteries Primary cells. Secondary cells. Electrical instruments and electrical measurements Types of instruments. Electrical measurements. Magnetism and permanent magnets. Electromagnetism. The magnetic circuit. Electrostatics capacitance. The generator Generator characteristics. The motor Losses efficiency operation. Appendices. Questions and problems. Visual aids. Index.

Note The first edition of this elementary practical text was published in 1925 and second edition appeared in 1939 This third edition will be complete in two volumes, the present one and second one on alternating currents. The early chapters of Volume I are devoted to an exposition of the elementary basic facts about electricity These are followed by chapters on electrical devices and elements of electrical systems. Only elementary mathematics is used and, although the author has not avoided technical terms, he has taken special pains to make his descriptions clear The work is suitable for use in technical schools and also for self-instruction. In comparison to the second edition, this third edition represents a substantial revision and moderate augmentation. Numerous important changes have been made in the text and illustrations.

ERICKSON WILLIAM H., AND NELSON H. BRYANT

Electrical engineering theory and practice. New York John Wiley & Sons, Inc., 1952 523 p illus. 24 cm $6 50 6181

Contents (abridged) Resistance. Electric circuit laws and d-c circuits Magnetics and magnetic circuits. Electromagnetic induction. Inductance and capacitance. Alternating currents. Single-phase a-c circuits. Polyphase a-c circuits. Electrical instruments and measurements. The d-c machine. D-c motor control. Transformers. The three-phase induction motor Three-phase synchronous machines. Single-phase motors. Introduction to electronics Gas discharge tubes. Single-phase rectifiers Thyratrons. Power rectifiers Pliotrons. Electronics in communications. Electronic control. Appendices. Index.

Note An introductory textbook designed for students majoring in other fields of engineering than electrical A considerable range of basic machines and circuits is covered with the emphasis on basic principles. Some mathematics appears in certain parts of the exposition but, generally speaking, the treatment is essentially descriptive, or as the authors describe it "physical.

FITZGERALD, ARTHUR EUGENE

Basic electrical engineering, circuits, machines, *electronics* New York McGraw Hill Book Company Inc., 1945 443 p. illus. 23 cm 6182

Contents (abridged) Electric-circuit analysis and circuit parameters. Alternating currents and voltages. Polyphase circuits. Transients. Magnetic circuits. Transformers. Qualitative concepts of machine performance. Polyphase induction motors. Polyphase synchronous machines. *Direct-current machines. Physical* aspects of high-vacuum tubes and their associated circuits. High-vacuum tubes as circuit elements. Gas tubes and phototubes. Instrumentation. Features of electrical control. Appendix. Index.

Note. This textbook for engineering college students who are not specializing in electrical engineering is designed to give such students an understanding of fundamental electrical principles and an insight into the engineering and *scientific applications of electronics,* electrical measurements, and control. The space is about equally divided among the three main topics mentioned in the subtitle. Problems are included. The author is Professor of Electrical Engineering at Massachusetts Institute of Technology A second edition was published in 1957 540 p., $7.50.

GALBRAITH, RALPH A., AND DAVID W SPENCE

Fundamentals of electrical engineering. New York The Ronald Press Company 1955 425 p illus 23 cm $6 00 6183

Contents Introduction. The direct-current circuit. Power and energy relations. Direct-current network theory Conduction phenomena and the calculation of resistance. Circuits with non-linear elements. Steady magnetic fields. Magnetic media. Ferromagnetic materials. Magnetic circuits. Induced and motional electromotive forces self-inductance. Magnetically coupled circuits, iron losses. Electrostatics. Dielectric media. Capacitance. Problems. Index.

Note A modern, introductory textbook in which there is more than the usual emphasis on the *scientific bases of electrical* engineering. The book begins with 67-page introduction in which is presented precise and rigorous treatment of electromagnetic theory Much of the exposition in the chapters that follow is based on the assumption that the reader will have comprehended the introduction. To facilitate learning the chapters include numerous worked examples and conclude with summaries. The senior author is Dean of the College of Engineering of Syracuse University and the co-author is Assistant Professor of Electrical Engineering in the same school.

GERR, STANLEY

Japanese-English glossary of electrical and electrocommunication terms, including radio telegraphy and telephony with a section in Kana. New York Hafner Publishing Company, 1944 205 p. illus. 23 cm. $1 75 6184

Note. This Japanese-English glossary of electrical and electrocommunication terms was prepared originally for the United States Army Signal Corps. Each term is listed in three columns: the Japanese character its Japanese pronunciation, and its English equivalent. Space is provided for the owner to insert additional terms. The work is intended as supplement to ordinary Japanese-English dictionaries for the use of translators in the fields of electricity and communications.

GRAY, ALEXANDER

Principles and practice of electrical engineering Revised by G A. Wallace. Seventh edition. New York McGraw Hill Book Company Inc. 1955 598 p. illus. 23 cm $7.50. 6185

Contents (abridged) Matter and electricity Magnets and magnetism. Electromotive force. Electric circuits and resistance. Ref.

[illegible] Magnetic circuits and magnetic properties of iron. The meter-kilogram-second (mks) [illegible] Mutual inductance and self-induction. Armature [illegible] for direct-current machinery. Construction and [illegible] of direct-current machines. Theory of commutation. Characteristics of direct-current generators. Characteristics of direct-current motors. [illegible] Special direct-current machines. [illegible] Direct-current transmission and [illegible] Alternating voltages and currents. Alternating-current [illegible] Polyphase induction motors. Alternating-current [illegible] characteristics. Single-phase motors. Converting and [illegible] Electric lighting. Thermionic tubes and photo-[illegible] Laboratory experiments. Index.

Note: A long-established textbook that is designed primarily as a text for [illegible] courses offered to students who are specializing in fields of engineering other than electrical but nevertheless need some knowledge of electrical engineering. It is an elementary presentation of basic principles and facts. Principles are described [illegible] rather than mathematical terms, and typical machines are described with emphasis on their underlying principles. In comparison [illegible] the sixth edition published in 1947 [illegible] have been made in both the expository text and the [illegible] without, however, changing the scope or level of treatment. The book is 20 pages longer and most of the increased length is accounted for by [illegible] short sections on new developments and on topics not included in previous editions.

HEHLER, VICTOR PETER, AND JOHN J CAREY

Fundamentals of electrical engineering New York McGraw Hill Book Company Inc., 1948. 241 p. illus. 24 cm. (McGraw Hill electrical and electronic engineering series Frederick Emmons Terman, consulting editor) $5.50. 6186

Contents: Fundamental concepts. Unit systems. The Mks [illegible] system of units. Electric circuits. Resistance and conductance. Electrolytic conduction and batteries. Complex circuits. [illegible] Magnetic fields. Air-core magnetic circuits. [illegible] Iron-core magnetic circuits. Electric [illegible] Capacitance. Transients. Energy stored in magnetic and electric fields. Magnetostatics. Curvilinear-square flux mapping. Appendix. Index.

Note: A novel feature of considerable value in this text is the [illegible] of each fundamental quantity or relation to indicate whether it is based on experimental data or is a definition, derivation, or postulate, thus: $I = E/R$ (Exp); $P = EI$ (Def). The [illegible] long chapters on units are also helpful. The book is designed for introductory courses. It is shorter than many texts written at the same level.

KNOWLTON ARCHER EBEN editor

Standard handbook for electrical engineers, prepared by a staff of specialists. R. M. Shoop assistant editor Eighth edition. New York McGraw Hill Book Company Inc., 1949 2,311 p. illus. 23 cm. $17.00 6187

Contents: Units and conversion factors, by A. E. Knowlton and [illegible]. Electric and magnetic circuits, by H. B. Dwight and [illegible]. Measurements, by G. Thompson and others. Properties of materials, by L. F. Hickernell and others. Circuit elements, by [illegible] and others. Transformers, regulators, and reactors, by [illegible] and W. M. Dann. Alternating-current generators and motors, by [illegible] and others. Direct-current generators and motors, by C. Lynn. Rectifiers and converters, by [illegible] and C. Lynn. Prime movers, by [illegible] and others. Power economics, by [illegible]. Power system electrical equipment, by [illegible] and others. Power transmission, by [illegible] and others. Power distribution, by H. B. Gear, revised by [illegible]. Wiring design—commercial and industrial buildings, by [illegible] revised by [illegible]. Illumination, by [illegible] and others. Industrial and commercial power, by [illegible] and others. Electric heating and welding, by [illegible]. Electricity in transportation, by [illegible] and others. Electrochemistry and electrometallurgy, by [illegible]. Batteries, by [illegible]. Wire telephony and telegraphy, by W. L. Everitt, revised by [illegible]. Electronics and electron tubes, by D. G. Fink. Radio, radar and carrier communication, by D. G. Fink and others. Codes and standard practices, by W. E. Smith and others. Electrophysics, by [illegible] McEachron and others. Index.

Note: The practical value of this reference book has been maintained since its first edition in 1907 by the publication of new editions at frequent intervals. Its purpose is to bring together in readily accessible form [illegible] vast amount of technical data in the electrical engineering field, including the most frequently used fundamental theory, systems of measurements, and formulas. In addition to the changes necessitated by the development of new standards and specifications, other changes in this edition include [illegible] descriptions of new magnets and insulating materials, new sections on rotary regulators, induction heating, and radar, and a rewriting of the sections on generators, transformers, conductors, and interior wiring. The bibliographies given in each section have been brought up to date.

KRAUS, JOHN D

Electromagnetics. New York McGraw Hill Book Company Inc. 1953 604 p. illus. 23 cm. (McGraw Hill electrical and electronic engineering series Frederick Emmons Terman consulting editor) $10.00 6188

Contents: The static electric field. Part I—Part II. The steady electric current. The static magnetic field of steady electric currents—of ferromagnetic materials. Charged particles in electric and magnetic fields. Time-changing electric and magnetic fields. The relation between field and circuit theory. Maxwell's equations. Plane waves in dielectric media—conducting media. Transmission lines. Wave guides. Antennas. Boundary-value problems. Appendix. Bibliography. Index.

Note: The author of this book is Professor of Electrical Engineering at Ohio State University and the book is designed primarily for the instruction of advanced engineering students. The first seven chapters are introductory and are limited to static fields; the remaining seven are devoted to more advanced topics and will be useful to graduate engineers. A variety of reference material, ranging from [illegible] table of fundamental dimensions to [illegible] table of data on dielectric materials, is given in the appendix. The bibliography is classified by subject and consists largely of references to books.

KUEHN MARTIN H.

Mathematics for electricians. Third edition. New York McGraw Hill Book Company Inc., 1949 372 p. illus. 21 cm. $5.65 6189

Contents (abridged): Solution of simple equations. Solution of series circuits. Fractions. Radical quantities. Multiplication and division of polynomials. Factoring. Solution of quadratic equations. The slide rule. Graphs. Parallel circuits. Constants and matter problems. Solution of literal and simultaneous equations. Kirchhoff's laws. Ratio and proportion. Exponents and logarithms. Fundamental alternating-current ideas. Vectors. Complex quantities. Three-phase circuits. Appendix. Answers to problems. Index.

Note: An elementary text in applied mathematics for use either in vocational school courses or for home study purposes. Emphasis is of course on the solution of electrical problems by means of arithmetic, but explanations of basic electrical principles are also included. As in the previous editions, numerous illustrative exercises and review problems constitute an important feature of the text. The major changes in this edition include new chapters on basic arithmetic operations, logarithms, and alternating-currents, and [illegible] writing of the chapter on power.

LA PIERRE WALTER

Introduction to electrical engineering New York Harper & Brothers, 1956 339 p. illus. 24 cm. $5.25 6190

Contents: Part I, Fundamentals of electrical engineering: Electrical engineering. The resistive circuit. The inductive circuit. The capacitive circuit. Circuits with two forms of energy storage. Polyphase circuits. Principles of electrical machinery. Part II, Production and distribution of electric energy. The polyphase synchronous machine. The operation of alternating-current generators. Electric power transmission. Industrial power distribution. Production of direct current. Part III, Utilization of electric energy. Lighting. Heating. Power—the three-phase motor—the direct-current motor—the single-phase motor. Electrical instrumentation. Electrical control. Index.

Note. A modern, well-written introductory textbook. As the chapter titles indicate, it provides [illegible] broad [illegible] of the field. At the same

time the treatment of some topics, for example, the inductive circuit, is rather detailed and analytical. The author is a member of the faculty of Columbia University

NADON, JOHN M., AND BERT J GELMINE
Industrial electricity, the fundamentals of electricity, machines, electronics, illumination, and controlling equipment. Second edition New York D Van Nostrand Company, Inc., 1951 710 p illus. 24 cm. $6.50 6191

Contents Electrical algebra. Fundamentals of electricity Wiring. Magnetism. Armature winding. Generators. Motors. Controllers. Geometry and trigonometry Alternating current. A-c circuits. Transformers. Polyphase systems. Alternators. Alternating-current motors. Stator winding. Multispeed induction motors. A-c controllers. Electrical instruments. Electron tubes. Welding systems. Illumination. Electrical drawing. Index.

Note. A practical introductory text designed for use in vocational and industrial schools. It is especially suited for students who are preparing to become electricians in industrial plants. Although some space is devoted to fundamental electrical theory the main emphasis is on typical methods of application of electricity and electronics to present-day industrial machines, controls, and other electrical devices such as welders. It is simply yet clearly written. The chapters are logically developed and well illustrated with numerous original diagrams and drawings. Only simple arithmetic is used in the exposition and no previous introduction to electrical science or mathematics has been assumed. The authors were, at the time of writing, instructors in the Training Department of the Ford Motor Company where the book was developed. The first edition was published in 1939. In the present edition, the book is about 100 pages longer and contains a considerable amount of revised and newly-added material, particularly in the chapters on electron tubes, welding systems, and illumination.

PEEK, R L, JR., AND H N WAGAR
Switching relay design Princeton D Van Nostrand Company, Inc, 1955 478 p illus 24 cm $9 50 6192

Contents Introduction. Part I, Fundamentals of switching relay design: Mechanical requirements for relays. Statics of electromagnets. Dynamic performance in operation and release. Relay design. Part II, Analytical background for switching relay design Spring design. Relay vibration. The magnetic field of electromagnets. The magnetic circuit. Analysis of magnetization and pull relations. Dynamics of electromagnets. The magnet coil. Index.

Note. Written by two members of the technical staff of the Bell Telephone Laboratories, Inc., this book is based primarily on experience and research related to the use of switching relays in telephone systems. However the approach adopted for the book is a broader one, with potential applications to all other fields in which switching relays are used, including digital computers and automatic control. The treatment is primarily analytical, especially in the second part. However the mechanical requirements and practical procedures for designing springs and armatures are presented at the level of practical design in the first part. The book is directed to graduate engineers who are concerned with relay design.

PENDER HAROLD, AND OTHERS, editors
Electrical engineers' handbook Electric power Fourth edition New York John Wiley & Sons Inc, 1949 1 700 p illus 23 cm $10 00 6193

Contents (abridged) Mathematics, units, and symbols. Electric circuits and electric lines. Measurements and measuring apparatus. Batteries. Direct-current machines and rotary energy converters. Alternating-current generators and motors Transformers. Power rectifiers and inverters. Switchgear and control equipment. Power transmission and distribution. Lighting and heating. Transportation. Electrochemical and electrothermal processes. Rural electrification distribution systems. Index.

—— Electric communication and electronics. Fourth edition. New York John Wiley & Sons, Inc., 1950 1,618 p. illus. 23 cm. $10 00 6194

Contents (abridged): Mathematics, units, and symbols. Resistors, inductors, and capacitors. Electron tubes. Electric circuits, lines, and fields. Passive circuit elements. Vacuum-tube circuit elements. Frequency modulation. Pulse techniques. Transmission circuits. Electrical measurements. Acoustics. Electromechanical-acoustic devices. Electro-optical devices. Sound-reproduction systems. Telephony Telegraphy Facsimile transmission and reception. Television. Electronic control equipment. Medical applications of electricity Index.

Note A standard American handbook of electrical engineering. Together, the two volumes cover all aspects of the field, providing both basic knowledge and engineering data. The titles given in the above tables of contents are section titles. Each of the sections contains several chapters in which fundamentals and current practice pertaining to a specific topic, such as X-ray tubes, are concisely presented. In comparison to the third edition published in 1936, the fourth edition is the result of an extensive revision. Numerous topics, such as electrolytic polishing of metals, permanent magnet materials, the heat pump, frequency modulation, pulse technique, and electro-optical devices, were either added or rewritten. The volumes have separate indexes and may be used independently

RASCH, WILLIAM EDWARD
Practical electrical mathematics. Boston D C. Heath and Company, 1946 357 p. illus. 19 cm. $3.20 6195

Note. Each of the 42 "assignments" in this practical textbook consists of a short discussion of some particular aspect of electrical theory or practice, a series of completely worked illustrative examples with explanations in words completely describing each of the mathematical steps involved, and a series of problems for the student to solve. Among the topics discussed are computing electric light and power bills, line drop and line loss, three-wire circuits, inductance, power factor direct-current generators and motors. The book is intended for use in trade school courses.

REED, MYRIL BAIRD, AND GEORGIA B REED
Mathematical methods in electrical engineering. New York Harper & Brothers, 1951 338 p 24 cm. $5 00 6196

Contents Imaginary numbers and hyperbolic functions. Linear algebraic equations—determinants. Matrix algebra. Zeros of polynomials—Graeffe method. Partial and continued fractions. Vector analysis. The Fourier series. Linear differential equations with constant coefficients. Transients in one-mesh electrical networks. Transients in multimesh networks. Bessel functions. Partial differential equations. Analytic functions of a complex variable. Index.

Note: A textbook in which the authors have made a special effort to present in compact form the mathematical knowledge essential to professional work in present-day electrical engineering. Mathematical concepts and techniques no longer in much use have been eliminated. On the other hand, such methods as matrix algebra are discussed at some length. The exposition includes numerous worked examples.

SCHILLING, EUGENE WASHBURN
Theory and application of electrical engineering Scranton International Textbook Company, 1951 402 p illus 23 cm. $7.50. 6197

Contents Abbreviations. Electricity Resistance. Electric circuits Energy and power. Magnetism and magnetic circuits. Induced electromotive force. Direct-current instruments and meters. Capacitance. The direct-current motor. Alternating currents. Alternating-current instruments and meters. Polyphase alternating currents. Transformers. Polyphase induction motors. Single-phase motors. Motor applications. Alternating-current generators. Synchronous motors and parallel operation of alternators. Electronics and electronic equipment. Electric rates. The d-c generator. Storage batteries. Illumination. Transmission and distribution. Appendix. Index.

Note. An introduction to the fundamentals of electrical engineering for use in all types of college engineering courses. The coverage is more inclusive and less detailed than is typical of books that were written specifically for electrical engineering students. Although the basic theories of electricity are outlined, a background knowledge of this subject is assumed together with a grounding in advanced algebra. Review problems conclude each chapter The author is Dean of Engineering in Montana State College.

Croft, Coates Walton

Croft's lessons in practical electricity. Eighteenth edition, revised and enlarged by Erich Hausmann. New York: D. Van Nostrand Company, Inc., 1948. 769 p. illus. 24 cm. $4.50. 6198

Contents (abridged): Electricity and matter. Magnets and magnetic fields. Primary cells. Storage batteries. Resistance. Series and parallel circuits. Electrical instruments. Electrical measurements. [illegible] Alternating currents. Networks and polyphase circuits. Direct-current generators. Direct-current motors. Synchronous machinery. Induction motors. Transformers and rectifiers. Lamps. Radio transmission. Radio reception. Television and associated aids. Appendix. [illegible] Index.

Note: This standard text affords a clear explanation of electrical principles, [illegible] problems, and descriptions of electric machines and apparatus. There are questions at the end of each chapter, and a selection of problems with answers. An excellent text for the beginner, and particularly for the student working by himself.

Lowe, William Henry

Basic electricity for communications: a textbook for workers in communications and industrial electronics. New York: John Wiley & Sons, Inc., 1943. 603 p. illus. 22 cm. $5.96. 6199

Contents: Some fundamentals. Ohm's law. Electrical power and energy. Electrical conductors. Measurement of resistance. Ohm's law extended. Kirchhoff's law. Batteries. Magnets and magnetic circuits. Generators and motors. Inductance. Capacitance. Alternating currents. Simplification of circuits by Thevenin's theorem. Vacuum tubes and gaseous conduction. Electrical communication systems. Appendix. Index.

Note: An elementary textbook intended for the worker in communications and industrial electronics who does not intend to undertake the formal study of engineering but who must be familiar with basic electrical principles. Application to practical problems and modern equipment is emphasized rather than formal theory and mathematical formulas. A survey is given of the broader principles as well as wire and radio transmission of telegraph signals and speech, and the application of Ohm's law to communications circuits is thoroughly explained.

Timbie, William Henry

Elements of electricity. Fourth edition. By William H. Timbie, assisted by Alexander Kusko. New York: John Wiley & Sons, Inc., 1953. 631 p. illus. 22 cm. $6.50. 6200

Contents: Ohm's law. Electrical power and energy. Conducting wire. Measurement of resistance. Magnetic and magnetism. The magnetic circuit. The generator. The operation of direct-current generators. Electric motors. Electrical and electrochemical action. Simplification of circuits. Inductance. Capacitance. Alternating currents. Electronics and vacuum tubes. Electrostatic behavior. Appendices. Index.

Note: A clearly written introductory text for first-year engineering college students. The discussion is limited to the basic principles of direct- and alternating-current generation, distribution, and utilization in lighting, power and communications. The treatment is [illegible] in this revision, the purpose and arrangement do not differ from the third edition (1937), but certain chapters have been rewritten and revised to reflect developments in the electrical and electronic fields. New material has been added on such devices as [illegible], transistors, [illegible] and gas rectifiers.

Timbie, William Henry, and others

Principles of electrical engineering. By William H. Timbie, Vannevar Bush, assisted by George B. Hoadley. Fourth edition. New York: John Wiley & Sons, Inc., 1951. 626 p. illus. 23 cm. $7.00. 6201

Contents: Some fundamental considerations. Kirchhoff's laws. Electric power and energy. Simplification of resistor networks. Conduction and resistors. Conduction in solids and liquids. Transients in electric circuits. Alternating-current circuits. The magnetic circuit. Interconnection between electric circuits and magnetic fields. The magnetic properties of iron and steel. Steady magnetic fields. Steady electric fields. Electronics. Electromagnetic waves. Appendix. Index.

Note: An introductory text, widely used in first-year college engineering courses. The treatment stresses basic principles and requires a background knowledge of calculus and physics. Although retaining the general scope and arrangement of the previous edition, this revision has been extensively rewritten to relate the fundamental theories to recent practical developments in the field. The chapters on conductors and conduction and transients, in particular, have been expanded, and a chapter on a-c circuits has been added. These changes and the inclusion of new material on [illegible], dry-rectifiers, [illegible] of electrons, electron guns, etc., account for almost 150 additional pages.

United States. National Bureau of Standards

Code for protection against lightning. Sponsors: American Institute of Electrical Engineers, National Fire Protection Association, National Bureau of Standards. Approved by the American Standards Association 1952 (ASA C5). Issued December 10, 1952. Washington, D. C.: Government Printing Office, 1952. 88 p. illus. 19 cm. (United States. National Bureau of Standards. Handbook 46) $0.40. 6202

Contents: Part I, Protection of persons: Introduction. Purpose. Personal conduct. Part II, Protection of buildings and miscellaneous property: Introduction. Scope, definitions, etc. Lightning protection for ordinary buildings. Miscellaneous structures. Buildings containing [illegible] materials. Smokestacks and chimneys. Hangars, balloons, and airships. Ships. Trees. Livestock in fields. Part III, Protection of structures containing flammable liquids and gases. Introduction. Scope, exceptions, etc. Protective measures. Protection of specific classes of structures. Appendices: Lightning, its origin, characteristics, and effects. Bibliography.

Note: Accepted specifications for the protection of structures and farm livestock against lightning are published in this code. Also included are discussions of safe conduct on the part of persons during thunderstorms, of the characteristics of lightning, and of the nature of damage done by it. The bibliography is 15 pages long.

Van Valkenburgh, Nooger & Neville, Inc.

Basic electricity. New York: John F. Rider Inc., 1954. 5 v. in 1. illus. 23 cm. $11.50. 6203

—— Basic electronics. New York: John F. Rider Inc., 1955. 5 v. in 1. illus. 23 cm. $11.50. 6204

Note: These sets are complementary introductory courses in elementary electricity and electronics which were originally developed for use at specialty schools of the United States Navy by a firm that specializes in the production of package training programs. Ideas are presented one at a time in logical sequence and practically everyone is presented both in words and pictures. Many of the pictures are cartoon-type drawings. The sets are well suited to the needs of young men who must study electricity and electronics in vocational schools or teach themselves. There is less matter in the sets than the five-volumes-in-one format might be taken to indicate.

Vinal, George Wood

Primary batteries. New York: John Wiley & Sons, Inc., 1950. 336 p. illus. 21 cm. $6.50. 6205

Contents: Historical introduction. Elementary theory of voltaic cells. Dry cells—materials and production. Operating characteristics of dry cells. Effect of low temperatures on dry cells, and low-temperature types. Standard cells, standards of electromotive force. Air-

time the treatment of some topics, for example, the inductive circuit, is rather detailed and analytical. The author is a member of the faculty of Columbia University

NADON, JOHN M., AND BERT J GELMINE
Industrial electricity, the fundamentals of electricity, machines, electronics, illumination, and controlling equipment. Second edition. New York D Van Nostrand Company, Inc., 1951 710 p illus. 24 cm. $6 50 6191

Contents: Electrical algebra. Fundamentals of electricity Wiring. Magnetism. Armature winding. Generators. Motors. Controllers. Geometry and trigonometry Alternating current. A-c circuits. Transformers. Polyphase systems. Alternators. Alternating-current motors. Stator winding. Multispeed induction motors. A-c controllers. Electrical instruments. Electron tubes. Welding systems. Illumination. Electrical drawing. Index.

Note: A practical introductory text designed for use in vocational and industrial schools. It is especially suited for students who are preparing to become electricians in industrial plants. Although some space is devoted to fundamental electrical theory the main emphasis is on typical methods of application of electricity and electronics to present-day industrial machines, controls, and other electrical devices such as welders. It is simply yet clearly written. The chapters are logically developed and well illustrated with numerous original diagrams and drawings. Only simple arithmetic is used in the exposition, and no previous introduction to electrical science or mathematics has been assumed. The authors were, at the time of writing, instructors in the Training Department of the Ford Motor Company where the book was developed. The first edition was published in 1949 In the present edition, the book is about 100 pages longer and contains a considerable amount of revised and newly-added material, particularly in the chapters on electron tubes, welding systems, and illumination.

PEEK, R. L, JR, AND H. N WAGAR
Switching relay design. Princeton D Van Nostrand Company, Inc., 1955 478 p illus. 24 cm. $9 50 6192

Contents. Introduction. Part I, Fundamentals of switching relay design: Mechanical requirements for relays. Statics of electromagnets. Dynamic performance in operation and release. Relay design. Part II, Analytical background for switching relay design Spring design. Relay vibration. The magnetic field of electromagnets. The magnetic circuit. Analysis of magnetization and pull relations. Dynamics of electromagnets. The magnet coil. Index.

Note: Written by two members of the technical staff of the Bell Telephone Laboratories, Inc., this book is based primarily on experience and research related to the use of switching relays in telephone systems. However the approach adopted for the book is a broader one, with potential applications to all other fields in which switching relays are used, including digital computers and automatic control. The treatment is primarily analytical, especially in the second part. However the mechanical requirements and practical procedures for designing springs and armatures are presented at the level of practical design in the first part. The book is directed to graduate engineers who are concerned with relay design.

PENDER, HAROLD, AND OTHERS, editors
Electrical engineers' handbook Electric power Fourth edition. New York John Wiley & Sons Inc 1949 1,700 p illus. 23 cm $10 00 6193

Content (abridged) Mathematics, units, and symbols. Electric circuits and electric lines. Measurements and measuring apparatus. Batteries. Direct-current machines and rotary energy converters. Alternating-current generators and motors. Transformers. Power rectifiers and inverters. Switchgear and control equipment. Power transmission and distribution. Lighting and heating. Transportation. Electrochemical and electrothermal processes. Rural electrification distribution systems. Index.

—— Electric communication and electronics. Fourth edition. New York John Wiley & Sons, Inc., 1950 1 618 p illus. 23 cm. $10 00 6194

Contents (abridged) Mathematics, units, and symbols. Resistors, inductors, and capacitors. Electron tubes. Electric circuits, lines, and fields. Passive circuit elements. Vacuum-tube circuit elements. Frequency modulation. Pulse techniques. Transmission circuits. Electrical measurements. Acoustics. Electromechanical-acoustic devices. Electro-optical devices. Sound-reproduction systems. Telephony Telegraphy Facsimile transmission and reception. Television. Electronic control equipment. Medical applications of electricity Index.

Note: A standard American handbook of electrical engineering. Together, the two volumes cover all aspects of the field, providing both basic knowledge and engineering data. The titles given in the above tables of contents are "section" titles. Each of the sections contains several chapters in which fundamentals and current practice pertaining to a specific topic, such as X-ray tubes, are concisely presented. In comparison to the third edition published in 1936, the fourth edition is the result of an extensive revision. Numerous topics, such as electrolytic polishing of metals, permanent magnet materials, the heat pump, frequency modulation, pulse techniques, and electro-optical devices, were either added or rewritten. The volumes have separate indexes and may be used independently

RASCH, WILLIAM EDWARD
Practical electrical mathematics. Boston D C. Heath and Company, 1946 357 p. illus. 19 cm. $3 20 6195

Note Each of the 42 "assignments" in this practical textbook consists of a short discussion of some particular aspect of electrical theory or practice, a series of completely worked illustrative examples with explanations in words completely describing each of the mathematical steps involved, and a series of problems for the student to solve. Among the topics discussed are computing electric light and power bills, line drop and line loss, three-wire circuits, inductance, power factor direct-current generators and motors. The book is intended for use in trade school courses.

REED, MYRIL BAIRD, AND GEORGIA B REED
Mathematical methods in electrical engineering New York Harper & Brothers, 1951 338 p 24 cm $5 00 6196

Contents: Imaginary numbers and hyperbolic functions. Linear algebraic equations—determinants. Matrix algebra. Zeros of polynomials—Graeffe method. Partial and continued fractions. Vector analysis. The Fourier series. Linear differential equations with constant coefficients. Transients in one-mesh electrical networks. Transients in multimesh networks. Bessel functions. Partial differential equations. Analytic functions of a complex variable. Index.

Note: A textbook in which the authors have made a special effort to present in compact form the mathematical knowledge essential to professional work in present-day electrical engineering. Mathematical concepts and techniques no longer in much use have been eliminated. On the other hand, such methods as matrix algebra are discussed at some length. The exposition includes numerous worked examples.

SCHILLING, EUGENE WASHBURN
Theory and application of electrical engineering Scranton International Textbook Company 1951 402 p. illus. 23 cm. $7.50 6197

Contents. Abbreviations. Electricity Resistance. Electric circuits. Energy and power Magnetism and magnetic circuits. Induced electromotive force. Direct-current instruments and meters. Capacitance. The direct-current motor Alternating currents. Alternating-current instruments and meters. Polyphase alternating currents. Transformers. Polyphase induction motors. Single-phase motors. Motor applications. Alternating-current generators. Synchronous motors and parallel operation of alternators. Electronics and electronic equipment. Electric rates. The d-c generator Storage batteries. Illumination. Transmission and distribution. Appendix. Index.

Note: An introduction to the fundamentals of electrical engineering for use in all types of college engineering courses. The coverage is more inclusive and less detailed than is typical of books that were written specifically for electrical engineering students. Although the basic theories of electricity are outlined, background knowledge of this subject is assumed together with a grounding in advanced algebra. Review problems conclude each chapter. The author is Dean of Engineering in Montana State College.

Networks

[illegible]

SMITH MELVILLE BIGHAM

Basic electrical measurements. New York Prentice-Hall, Inc., 1950. 504 p. illus. 22 cm. $6.75. 6212

Contents: Development of the electrical units. Experimental [illegible] ... Index.

Note: A fairly inclusive introduction to the basic electrical measurements and to standard measuring instruments is provided in this [illegible] ...

NETWORKS FIELDS, CIRCUITS

ATTWOOD STEPHEN STANLEY

Electric and magnetic fields. Third edition. New York John Wiley & Sons Inc., 1949 475 p. illus. 24 cm. $6 50. 6213

Contents: Part I, The electric field. The electrostatic field. [illegible] ... Index.

Note: An introduction to the principles and theory of electricity and magnetism for students in advanced electrical engineering [illegible] ...

BEWLEY LOYAL VIVIAN

Two-dimensional fields in electrical engineering. New York The Macmillan Company 1948. 204 p illus. 24 cm. $6 00. 6214

Contents (abridged): Theory of functions. Functions of complex variable. Cauchy-Riemann equations. Laplace equation. [illegible] ... Appendix. Model and analogy. Index.

Note: Graphical and mathematical methods of making calculations in relation to electrical fields are treated in this book for senior electrical engineering students and graduate engineers. [illegible] ... graphical representations of electrical fields.

BOAST WARREN BENEFIELD

Principles of electric and magnetic circuits. New York Harper & Brothers, 1950 367 p. illus. 24 cm. 6215

Contents: Part I, Basic electric circuits. Fundamental concepts of electric circuits. [illegible] ... Appendix. Index.

Note: This engineering college textbook covers in logical order the underlying principles of electric and magnetic circuits, [illegible] ... A second edition was published in 1957 [illegible]

CLARKE, EDITH

Circuit analysis of a-c power systems. New York John Wiley & Sons, Inc., 1943–50. 2 v illus. 24 cm. Vol. I $10.00 vol. II, $10.50 6216

Contents: Volume I: Introduction. Definitions and fundamental concepts. Symmetrical components. [illegible] ... Index.

Note: This work affords detailed guidance in the use of methods of symmetrical and related components in solving practical power problems. [illegible] ... Each volume can be used independently.

FICH SYLVAN

Transient analysis in electrical engineering. New York Prentice-Hall, Inc., 1951 306 p.

depolarized and other batteries. Copper and copper oxide cells. Silver oxide and chloride batteries. Lead cells having soluble reaction products. Mercuric oxide and vanadium dry cells. Fused-electrolyte cells. Index.

Note. A thorough treatise on a topic which is almost devoid of book literature. Most of the discussion has to do with the chemical and electrical principles and the operating characteristics of primary batteries. Although descriptions and diagrams of commercial cells are included, the book is less suitable for the occasional user of dry batteries than it is for engineers who need to understand primary batteries in connection with the design or specification of electrical apparatus. The literature of the subject is cited in footnotes.

VINAL, GEORGE WOOD

Storage batteries, a general treatise on the physics and chemistry of secondary batteries and their engineering applications Fourth edition. New York John Wiley & Sons, Inc., 1955 446 p illus 24 cm. $10 00 6206

Contents Introduction. Materials and methods of manufacture. The electrolyte. Theory of reactions, energy transformation, and voltage. Capacity Operation. Resistance. Efficiency Testing storage batteries. Present-day uses for storage batteries. Index.

Note. The first edition of this work was published in 1924, and it still holds its place as the most generally satisfactory treatment of the subject. This fourth edition, although shorter by about 20 pages than the third edition, contains much new material, both textual and illustrative. New information and data have been added on a wide range of subtopics, including battery additives, silver oxide batteries, fast charges, new types of separators, and 12-volt automobile batteries. The number of literature references has been increased.

MEASUREMENTS

AMERICAN STANDARDS ASSOCIATION

American standard code for electricity meters. Prepared by a sectional committee of the American Standards Association under the joint sponsorship of the National Bureau of Standards Association of Edison Illuminating Companies Edison Electric Institute. Fourth edition 1941 Approved, American Standards Association, May 5, 1941 New York Edison Electric Institute, 1941 128 p 22 cm $2 00 6207

Contents General definitions. Measurement of power and energy Specifications for acceptance of types of electricity meters. Specifications for acceptance of types of auxiliary apparatus for use with meters. Installation methods. Watthour meter test methods. Laboratory and service tests. Demand meters and devices. Index.

Note A reference manual covering the many phases of electric meter practice as encountered by all electric companies, both large and small, and intended for use of those responsible for and interested in the purchase, installation, and operation of electric meters While the code is based upon scientific and technical principles, the commercial side of metering has been emphasized. Definitions of terms, types of watthour meters, manufacturers' information, specifications of design and construction tests, adjustments, accuracy and related topics are summarized in concise form.

GHIRARDI, ALFRED A., AND ROBERT G MIDDLETON

How to use test probes New York John F Rider Publisher Inc. 1954 176 p illus. 22 cm. $2 90 6208

Contents. Resistive high-voltage of d-c probes. Capacitance-divider high-voltage a-c probes. Test-cable shielding and test-circuit loading fundamentals. Resistive circuit-isolation probe (the "d-c probe"). Compensated r-c ("Low-capacitance") and cathode-follower circuit-isolation probes. Rectifying probes for the VTVM. Demodulator probes. Index.

Note The phrase "test probes" designates a class of accessories used with electrical and electronic measuring and testing instruments such as the voltmeter and cathode ray oscilloscope. The probe usually has a shape resembling a thick pencil and is equipped with a metal tip which is used for making temporary contact with various points in the circuitry of the apparatus under test. By building resistors, capacitors, rectifiers, etc., into the probe, the range and utility of the mother instrument can be considerably extended. In this book, the principles of test probes and their uses are explained technically though nonmathematically for such readers as technicians who repair and adjust television receivers and other electronic equipment.

HARRIS, FOREST KLAIRE

Electrical measurements. New York John Wiley & Sons, Inc., 1952 784 p. illus. 24 cm. $10 50 6209

Contents The art of measurement. Electrical units. Direct-current galvanometers. Indicating instruments. Direct-current ammeters and voltmeters. Potentiometers. Resistors and resistance measurements. Ballistic galvanometers. Magnets and magnetic testing. Alternating-current ammeters and voltmeters. The measurement of power Energy measurements. Instrument transformers. Wave-form and frequency measurements. Alternating-current bridges. Index.

Note. This book is limited to direct-current and low-frequency measurements, but within this area it provides a very substantial treatment for laboratory workers and advanced students of physics. The operating principles and circuits of the chief instruments are described, and the limitations of each instrument are covered specifically The main emphasis is on the use of available instruments so as to obtain results of the accuracy desired for the measurement in hand. The author is a physicist on the staff of the National Bureau of Standards and a faculty member of George Washington University

KINNARD, ISAAC F

Applied electrical measurements. Contributors F E Arnold, A. J Corson, H. C. Dickinson, A. Hansen, Jr, R. G Jewell, E E Lynch, J R. Macintyre, N P Millar, M. A Princi C. F Savage, A. G Stimson, H. E Trekell Arnold White, J H. Wright. New York John Wiley & Sons, Inc., 1956. 600 p. illus. 24 cm. $15 00 6210

Contents Part I, Measurements of electrical quantities: Milestones in the progress of electrical measurement. Theory of measurements. Functional analysis of measurements. Current and potential difference. Resistance, inductance, capacitance, and storage factor Q Power and energy Phase angle, power factor synchronism, and frequency Waveform. Magnetism. Transformers for measurement. Telemetering. Part II, Measurements of nonelectrical quantities Light. Heat. Sound. Statics and kinetics. Liquids and gases. Time. Applications. Index.

Note. Graduate scientists and engineers in industry are the intended audience for this book hence, an acquaintance with basic electrical and physical principles and concepts is assumed. Nevertheless basic principles such as Ohm's law are concisely reviewed in appropriate chapters. Definitions are stated with care. Measuring instruments and systems are described as to principles, uses and operating characteristics, but commercially available instruments are not specifically identified. Good bibliographies are included in the chapters. The book is primarily suited to use as a reference book by engineers and scientists who are not specialists in instruments but who need, on occasion, basic information on the measurements of electrical quantities or electrical techniques of measuring nonelectrical quantities.

SPENCER, JAMES

Maintenance and servicing of electrical instruments. Third edition. Pittsburgh The Instruments Publishing Company, Inc. 1951 256 p illus 21 cm $2 00 6211

Contents. Tools and equipment. Direct-current instruments. A-C ammeters and voltmeters. A-C wattmeters. Brief summary of A-C types. Instrument transformers. Frequency meters. Synchroscopes. Power factor meters and RVA meters. Dial marking. Pivots and jewels. Springs, detachable instruments. Damping means. Pivots and bearings, by M. F Behar and F E. Williamson. Index.

Networks

Note: A basic collection of mathematical notions and techniques which are useful to engineers in the analysis and study of electrical networks and fields. It ... organized for the instruction of engineering ... students and has the usual problems for students to solve. ... It ... useful also for orientation and reference by graduate ... Lecture proofs are not included in view of the book's general nature.

JOHNSON WALTER C.

Transmission lines and networks. New York. McGraw Hill Book Company Inc., 1950. 361 p. illus. 23 cm. (McGraw Hill electrical and electronic engineering series Frederick E. Terman, consulting editor) $7.00. 6223

Contents: Part 1, Transmission lines: Distributed constants and traveling waves. The ... steady state—lines with no reflections. The ... Transmission ... of two-conductor lines. Lines with reflections. Transmission line charts. Special considerations for radio-frequency lines. Radio-frequency line-measurements and impedance matching. Special considerations for telephone and telegraph lines. Special considerations for power lines. Part 2, Four-terminal networks A review of ... network analysis. The characteristics of passive four-terminal networks. The image and iterative operation of four-terminal networks. Insertion loss and reflection factors. Filters. The ... of ... Index.

Note: An engineering textbook which has been developed from ... used by the author in courses given to advanced electrical engineering students at Princeton University. It is designed to ... graduate students who are majoring in either power or communications engineering with the basic principles of transmission lines and elementary methods of analyzing four-terminal networks. Most of the ... goes over to mathematical analysis of specific phenomena ... material is ... characteristics, but some qualitative ... descriptive ... is ... included into the discussion of such phenomena as the skin effect and such special engineering problems as those presented by telephone lines.

JORDAN EDWARD CONRAD

Electromagnetic waves and radiating systems. New York Prentice-Hall, Inc. 1950 710 p. illus. 22 cm. (Prentice-Hall electrical engineering series W L. Everitt, editor) $9.00. 6224

Contents: Fundamentals of electromagnetic engineering. Electrostatics. The steady magnetic field. Maxwell's equations. Electromagnetic waves. Poynting vector and the flow of power. Guided waves. Transmission lines. Wave guides. Radiation. Impedances. Directional characteristics of antennas. Impedance characteristics of antennas. Antenna practice and design. Secondary sources and aperture antennas. Ground wave propagation. Sky wave propagation. Appendices. List of symbols. Index.

Note: An introductory but substantial treatment of field theory for upperclass and graduate students majoring in physics or electrical engineering, especially those who are preparing for research or design in communications. The field vectors E and H are introduced on the first page of ... and are used throughout the remainder of the book. The material on antennas is comprehensive enough to make it of interest to practicing communications engineers. Throughout the book, there are footnote references and chapter bibliographies.

KEISTER, WILLIAM AND OTHERS

The design of switching circuits. By William Keister Alistair E. Ritchie and Seth H. Washburn. New York D Van Nostrand Company Inc., 1951 556 p. 24 cm. (Bell Telephone Laboratories series) $8.75 6225

Contents: Fundamental control concepts. Switching apparatus. Basic relay control paths. Relay contact network configurations. Switching algebra, and manipulation of relay contact networks. Design of combinational relay circuits. Time charts, sequence charts, simplified schematics, and graphic descriptions of relay circuits. Design of sequential relay circuits. Elementary switch control circuits. Elementary electronic switching circuits. Circuits for counting. Codes and translating circuits. Circuits for selecting. Circuits for connecting. Circuits for lockout. Circuits for finding and hunting. Circuits for timing. Circuits for pulse generation. Circuits for checking. Circuits for registration. Circuits for calculating. General principles of multifunctional circuit design. Planning ... multifunctional circuit. Detailed design of ... multifunctional circuit. Index.

Note: Switching circuits constitute ... highly developed area in telephone engineering, and the subject is becoming important in such other fields as the design of electronic computers. This book, written by members of the staff of the Bell Telephone Laboratories, Inc., is based upon telephone experience, but is ... general and ... but theoretical treatment slanted for use outside the telephone field. Though organized as ... textbook and designed for upperclass engineering students as well as for practicing engineers, not much mathematics is employed. The greater part of the text can be understood by anyone with ... moderate knowledge of electrical circuits and terminology.

KERCHNER, RUSSELL M AND GEORGE F CORCORAN

Alternating-current circuits. Third edition. New York John Wiley & Sons, Inc., 1951 598 p. illus. 23 cm. $6.50. 6226

Contents: General concepts and definitions. Instantaneous current and power (sinusoidal voltage applied). Effective current and voltage —average power. Vector algebra (as applied to A-C circuit analysis). Sinusoidal single-phase circuit analysis. Non-sinusoidal waves. Coupled circuits. Balanced polyphase circuits. Unbalanced polyphase circuits. Alternating-current measurements. Determination of circuit parameters. Transmission line calculations. Electric wave filters. Symmetrical components. Power system short-circuit calculations. Transient conditions. Index.

Note: This book is used as textbook in first courses in alternating current circuits offered to undergraduate engineering students who have completed courses in differential and integral calculus. In addition to ... study of the fundamentals of alternating-current circuits, it discusses such specialized topics as energy measurements in polyphase circuits, electric filter theory, symmetrical components. A variety of minor revisions and additions including the nodal method of circuit analysis, and the three-... vector diagram of polyphase circuits, were made in the third edition.

KIMBARK EDWARD WILSON

Electrical transmission of power and signals. New York John Wiley & Sons Inc., 1949 461 p. illus. 24 cm. $7.00. 6227

Contents: Introduction. Parameters of simple two-conductor lines. Parameters of multiconductor lines. Parameters of ground-return lines. Steady-state performance of ... Parameters of ... lines. Lossy lines. Transient phenomena on transmission lines. Transmission-line charts. Electric networks on transmission lines. Transmission lines. Telephone and telegraph power transmission. Impedance matching. Telephone and telegraph transmission. Radio-frequency transmission lines. Filters. Skin effect. Wave guides. Appendices: Characteristics of conductors for open-wire power transmission lines. Characteristics of transmission lines for power and signals. Index.

Note: An engineering college textbook designed for courses offered to students who have had an introduction to circuits with lumped parameters. It ... an introduction to circuits with distributed parameters. The theory of this type of circuit has application in both power transmission and communication engineering. The chapters are supplemented by fairly long lists of references. The author is Dean of the School of Engineering at Seattle University.

KRAEHENBUEHL, JOHN OTTO AND MAX A. FAUCETT

Circuits and machines in electrical engineering. Second edition. New York John Wiley & Sons, Inc., 1947 2 v illus. 24 cm. $6.00 each. 6228

Contents: Volume 1, Circuits: Fundamental considerations in the field of electrical engineering. Electromotive force—current. Resistance —energy-consuming counteraction. Inductance—reversible counteraction. Capacitance—reversible counteraction. The general circuit. Symbolic treatment of vectors—complex quantities. Circuit parameters in series. Circuit parameters in parallel. Solution of networks. Power and energy—single-phase alternating- and direct-current power. Polyphase circuits. Power in polyphase circuits. Power distribution. Electronics. Appendix. Index. Volume II, Machines: Machine construction and windings. The magnetic circuit. Magnetomotive force,

illus 22 cm. (Prentice-Hall electrical engi neering series, W L Everitt, editor) $6.50 6217

Contents General theory Classical solution of linear differential equations. Classical solution of single-energy transients. Classical analysis of double-energy transients. Systems defined by second-order equations. The Laplace transformation. Applications of the Laplace transformation. Solution of higher-degree algebraic equations. Cir cuits involving higher-order equations. Representation and trans formation of periodic and nonperiodic functions. Elements of com plex variable theory Applications of contour integration. Systems having distributed parameters. Electrical analogues f engineering systems. Appendix. Table f Laplace transforms. Specific functions. Index.

Note. This textbook for electrical engineering students extends transient analysis to include modern operational methods and at the same time presents classical theory N previous knowledge of dif ferential equations is needed. The chapters include summaries, illus trati examples with complete solutions, and over 200 problems, many of them with answers.

GARDNER, MURRAY FRANK, AND JOHN L BARNES

Transients in linear systems studied by the Laplace transformation Volume I. New York John Wiley & Sons, Inc., 1942 389 p illus 23 cm. $8 00 6218

Contents Introduction. The mathematical expression of one-dimensional problems concerning electrical and mechanical sys tems. An introduction to the Laplace transformation and its inverse. The Laplace transformation and its application to simple functions. The Laplace transformation of integro-differ ential equations in one independent variable. The Laplace trans formation f algebraic rational fractions. The complete solution of one-dimensional problems concerning electrical and mechani cal systems. Certain properties of the Laplace transformation. The solution of linear difference equations with constant coefficients. Appendixes. Bibliography Index.

Note Invariant systems having lumped parameters, leading to ordinary integro-differential equations and difference equations are treated in this volume. The discussion progresses by easy stages. Emphasis is placed upon systematic presentation of the method of setting up physical problems in mathematical form. The mathematical procedure for solving problems is based on an extensive table of operation- and function-transformation pairs which is derived and used in much the same way as an ordinary table of integrals. A comparison is given of the Fourier and the Laplace-transformation methods. Ample references to the litera ture are provided for those who wish to go beyond the scope of this volume. The bibliography stresses the historical evolution of the mathematical techniques used. Many of the illustrative ex amples and the practice problems have a definite engineering background and have been selected from wide variety of topics ranging from surge generator transients to television synchronizing pulses, and to the behavior of a rotary stabilizer in motion picture film head.

GOLDMAN, STANFORD

Transformation calculus and electrical transients. New York Prentice-Hall Inc., 1949 439 p illus. 22 cm (Prentice-Hall elec trical engineering series W L. Everitt, edi tor) $7 50 6219

Contents Introduction. Determinants. Properties of electrical cir cuits. Transient solutions of circuit problems by means of the Laplace transformation. Some fundamental concepts and relations in circuit theory Theory of functions of complex variable. Loci of complex functions. The inversion theorem and related topics. Gamma and error functions. Bessel functions. Transients in trans mission lines—solution of partial differential equations. Solutions in series. Some additional applications to electrical engineering. Ap pendixes Tables of integrals; Table of identities involving hyper bolic functions. Basic theory of transmission lines in the steady state. Table of Laplace transforms. Fourier integral analysis. Index.

Note. An introductory book for electrical engineers in which the equations and theorems of transformation calculus are developed from the level of simultaneous equations. It is written at the level f seniors or graduat students in electrical engineering, and is not intended for persons without knowledge of calculus, some knowledge of engineering and an elementary knowledge of complex quanti and differential equations. The author has coined the phrase, "tran formation calculus, as differentiated from Heaviside's operation calculus, to cover the emphasis upon the question of transformatio between the t axis and the s plane. The subject is of particul importance to development and research workers in electrical eng neering.

GROVER, FREDERICK WARREN

Inductance calculations, working formula and tables New York D Van Nostrand Company, Inc., 1946 286 p illus. 24 cm $7 50 6220

Contents General principles. Methods of calculating inductance. Geometric mean distance. Construction of and method of using the collection of working formulas. Part I, Circuits whose elements are straight filaments: Parallel elements of equal length. Mutual induct ance of unequal parallel filaments. Mutual inductance of filaments inclined at an angle to each other Circuits composed of combina tions of straight wires. Mutual inductance of equal, parallel, coaxial polygons of wire. Inductance of single-layer coils on rectangular winding forms. Part II, Coils and other circuits composed of circular elements. Mutual inductance of coaxial filaments. Mutual inductance of coaxial circular coils. Self-inductance of circular coils of rectan gular cross section. Mutual inductance of solenoid and a coaxial circular filament. Mutual inductance of coaxial single-layer coils. Single-layer coils on cylindrical winding forms. Special types of single-layer coil. Mutual inductance of circular elements with paral lel axes. Mutual inductance of circular filaments whose axes are inclined to one another Mutual inductance of solenoids with in clined axes, and solenoids and circular coils with inclined axes. Cir cuit elements of larger cross sections with parallel axes. Auxiliary tables of functions which appear frequently in inductance formulas. Formulas for the calculation of the magnetic force between coils. High frequency formulas. References.

Note. The purpose of this book is to simplify routine calculations of mutual and self-inductance problems. The author furnishes for each case of the more important types of circuit elements single formula which includes numerical constants that may be interpolated from the book's special tables in which shape ratios are the argu ments.

GUILLEMIN ERNST A.

Introductory circuit theory New York John Wiley & Sons Inc., 1953 550 p illus. 24 cm. $8 50 6221

Contents. Network geometry and network variables. The equilib rium equations. Methods of solution and related topics. Circuit elements and source functions. Impulse and step-function response of simple circuits. Behavior of simple circuits in the sinusoidal steady state. Energy and power in the sinusoidal steady state. More general networks in the sinusoidal steady state. Additional topics dealing with steady-state and transient behavior of lumped linear circuits. Generalization of circuit equations and energy relations. Index.

Note. An engineering college textbook which has been written by an eminent authority on network analysis, who is faculty member of Massachusetts Institute of Technology It is the first of a planned series which will run to three or four volumes. The author points out the "bread-and-butter" importance of circuit theory to electrical engineers, and his own positive ideas about how it should be taught are delineated in the preface. Although he warns against any attempt to use this book as reference work the series when completed will probably become a standard treatise on electrical networks. Graduate electrical engineers are advised (by this reviewer) at least to skim this first volume.

GUILLEMIN, ERNST A

The mathematics of circuit analysis ex tensions to the mathematical training of electrical engineers. A publication of The Technology Press Massachusetts Institute of Technology New York John Wiley & Sons, Inc. 1949 590 p 24 cm. (Principles of elec trical engineering series) $8 00 6222

Contents. Determinants. Matrices. Linear transformations. Quad ratic forms. Vector analysis. Functions of complex variable. Fourier series and integrals. Index.

...into their symmetrical components. [illegible] the Kirchhoff equations that apply to the system. [illegible] The treatment is [illegible] and the book is primarily of interest to graduate [illegible] in electrical engineering.

MASON, WARREN PERRY

Electromechanical transducers and wave filters. Second edition. New York, D. Van Nostrand Company, Inc., 1948. 419 p. illus. 24 cm. (Bell Telephone Laboratories series) 6235
$5.50

Contents: Introduction. Electrical network theory. Applications of network theory to lumped mechanical systems. Acoustic [illegible]. Vibrations of [illegible]. Design of electromechanical [illegible]. Index of subjects.

Note: [illegible] This book describes the [illegible] electrical theory [illegible] of new material [illegible]

MASSACHUSETTS INSTITUTE OF TECHNOLOGY. DEPARTMENT OF ELECTRICAL ENGINEERING

Electric circuits, a first course in circuit analysis for electrical engineers, by members of the staff of the Department of Electrical Engineering, Massachusetts Institute of Technology. New York, John Wiley & Sons, Inc., 1940. 782 p. illus. 23 cm. (Principles of electrical engineering series) $9.30 6236

Contents: Introduction. Table of symbols. [illegible] Elementary network theory. Transient [illegible] Elementary alternating-current theory. [illegible] Polyphase systems. Elementary theory of symmetrical components. [illegible] Appendixes. [illegible] Bibliography. Index.

Note: This volume is practical [illegible] The system of symbols [illegible] Tables of physical constants, [illegible] and standards, including [illegible] are added as appendixes. [illegible] bibliography concludes the book.

MORECOCK, EARLE MONROE

Alternating-current circuits. New York, McGraw-Hill Book Company, Inc., 1942. 175 p. 24 cm. (Rochester technical series) $3.30. 6237

Contents: Alternating-current waves and quantities. Vectors and [illegible] quantities. Single-phase systems. Polyphase systems. [illegible] Laboratory report writing. Instructions for plotting graphs. Table of natural trigonometric functions. Table of squares. Answers to problems. Index.

Note: A brief but thorough text for elementary courses, which assumes only the usual foundation in high school algebra and trigonometry together with an understanding of direct-current and [illegible] principles. Concepts usually explained with the aid of calculus are here presented graphically. Problems are presented for each major topic discussed, and laboratory instruction sheets are provided for each chapter.

MORECOCK, EARLE MONROE

Direct-current circuits. Second edition. New York, McGraw-Hill Book Company, Inc., 1953. 388 p. illus. 24 cm. $5.00. 6238

Contents: Electrical concepts and units. Diagrams and resistance combinations. Magnetism and electromagnetism. Instruments and methods for measuring potential difference and current. Instruments and methods for measuring resistance. Power and energy. Conductors and insulation. Batteries. Network circuits. The magnetic circuit. [illegible] Capacitance—electrostatics. Appendixes. Electromagnetic induction. Visual aids. Index. Answers to problems.

Note: A self-contained introductory textbook addressed to students with practical interests in electricity. It is suitable for use in self-instruction as well as in organized courses. [illegible] basic electric theory. The [illegible] first edition [illegible] published in 1944. Among the changes made in preparing this edition is the use throughout of the mks system of units. The author is head of the Electrical Department of Rochester Institute of Technology.

REED, MYRIL B

Alternating-current circuit theory. Second edition. New York, Harper & Brothers, 1956. 589 p. illus. 24 cm. $7.00 6239

Contents: [illegible] and vector representation of [illegible]. The current, voltage, power, [illegible]. Algebra of complex numbers. [illegible] Graphical methods of computation. [illegible] Polyphase [illegible] power systems. Symmetrical components. [illegible] Index.

Note: A substantial and thoroughly modern treatment for students in engineering colleges. [illegible] there are two parts as follows: [illegible] The first edition was published in 1944. [illegible] The changes include [illegible]

RICHARDSON, DONALD ELMER

Electrical network calculations, tabular methods of solution. New York, D. Van Nostrand Company, Inc., 1946. 210 p. illus. 23 cm. $7.30 6240

Contents: Kirchhoff's first law. Kirchhoff's second law. Tabular solution of algebraic equations. Tabular solution of electrical networks. [illegible] Appendixes. Bibliography.

Note: The mathematical system outlined in this text was devised by the author to simplify and facilitate the solution of electrical network problems. It provides for the tabulation and arithmetical [illegible]

leakage reactance, armature reaction. Transformers. The dynamo. Commutation. Alternating-current generators. Alternating-current motors. Direct-current generators. Direct-current motors. Efficiency and losses. Parallel operation of generators. Electrical applications and rates. Electrical illumination. Index.

Note A distinguishing feature of this engineering college text book is that alternating and direct current principles and machines are not treated in separate parts of the course but are considered together under appropriate subtopics. The uthors' original intention was to provide general but adequate exposition for engineering students not specializing in electrical engineering. However the book has had considerable use also in first courses offered to electrical engineering students. In contrast to the single volume format of the first edition, the present edition is published in two volumes; and there is newly added material on transformers and on electronics. The number of problems has been increased, and the material on machines reorganized.

KRAYBILL, EDWARD KREADY

Electric circuits for engineers New York The Macmillan Company, 1951 212 p illus. 25 cm. $4 75 6229

Contents: Part I, Basic considerations: General background. Part II, Cause: Electromotive force. Part III, Opposition Resistance. Inductance. Capacitance. Part IV Effect: Current flow through R, L, C. Effective values, vector representation. The algebra of complex numbers. Part V Application of (effect-cause/opposition) to electric circuits. Series circuits. Energy and power. Parallel circuits. Networks. Polyphase circuits. Appendixes. Index.

Note A very compact presentation of the fundamentals of steady-state electric circuit theory is given in this book, which is intended chiefly for engineers specializing in fields other than electrical engineering. Except for the first two chapters, there is little descriptive material. Instead, such concepts as networks are carefully defined, then the reader is shown how to analyze typical examples and how to make the necessary mathematical computations involved in the analysis. Analogies with other physical systems, for example between capacitors and mechanical springs, are used frequently in the exposition.

LE CORBEILLER, PHILIPPE

Matrix analysis of electric networks. Cambridge, Mass Harvard University Press New York John Wiley & Sons Inc. 1950 112 p 22 cm. (Harvard monographs in applied science. No 1) $3 50 6230

Contents Preliminary concepts. The mesh method of Kron. The node-pair method. The mixed method. Index.

Note. In this short book the methods of analysis of rotating electrical machinery originated by Gabriel Kron and expounded in his *Application f tensors to the analysis of rotating electrical machinery* 1938, 2 ed., 1942 and in his *Tensor analysis of networks* 1939 are presented in simpler form for the benefit f communications engineers who are not specialists in mathematics. The presentation relies upon matrix algebra and topology and the essential concepts of these two areas of mathematics are presented in the first chapter In the succeeding chapters the author shows how to apply the techniques of matrix algebra and topology to the analysis of the fundamental types of stationary electric networks.

LEPAGE, WILBUR R

Analysis of alternating-current circuits New York McGraw Hill Book Company, Inc. 1952 444 p illus 24 cm (McGraw Hill electrical and electronic engineering series F E Terman consulting editor) $7 00 6231

Contents Alternating-current systems. Introductory concepts. Metering and effective value. Symbolic treatment of sinusoids. Basic integrodifferential equations. Sinusoidal excitations. Power Applications of complex quantities. Network terminology and notation. Analysis of networks. Magnetic coupling. Polyphase systems. Variable-response networks. Nonsinusoidal periodic waves. Fourier series. Appendixes. Calculation of circuit parameters. D-c network analysis. Some trigonometric identities. Index.

Note: An introductory textbook for students of electrical engineering who have completed college courses in calculus, basic electrical engineering, and d-c circuit analysis. It covers the analysis of the steady state in lumped linear networks. Carefully worded definitions, rather full discussions, and a summary at the end of each chapter are features designed to aid comprehension on the pa[rt] of the reader

LEPAGE, WILBUR R, AND SAMUEL SEELY

General network analysis. New York McGraw Hill Book Company, Inc., 1952 516 p. illus. 24 cm. (McGraw Hill electrical and electronic engineering series Frederick E. Terman consulting editor) $9 00 6232

Contents. Complex quantities. Generalized network analysis. Network theorems. Magnetic coupling. Four-terminal networks. General properties of lumped networks. Selective networks. Polyphase systems and symmetrical components. Circuits with distributed properties. Impedance and admittance charts. Fourier series in circuit analysis. Transients in linear systems. The Fourier integral. Operational calculus. References. Appendixes. Index.

Note. A textbook designed for use in engineering colleges. It is introductory to the subject and so written that it is suitable for both students of communications engineering and power engineering. uthors are members f the Department of Electrical Engineeri[ng] Syracuse University

LOEW, EDGAR A.

Direct and alternating currents, theory a[nd] machinery Fourth edition. Assisted by F Bergseth New York McGraw Hill Bo[ok] Company Inc., 1954 637 p. illus. 23 c[m.] $7 50 623[3]

Contents (abridged) Part I, Direct currents. Current, electromotive force, and resistance. Resistance and conductance. Energy and power Magnetism and the magnetic field. Generated and induced voltages. The magnetic circuit—magnetic properties of iron and steel. Direct current ammeters and voltmeters. The electric field. The dynamo-electric machine. Motors and their characteristics. Electrolytic conduction and batteries. Direct-current distribution. Part II, Alternating currents. Alternating electromotive forces and currents—fundamental concepts. Phasor representation. Alternating-current meters. Power in single-phase circuits. Polyphase circuits. Transformers. Polyphase induction motors. Alternators. Synchronous motors and parallel operation of generators. Conversion equipment. Alternating current transmission and distribution. Electron tubes and rectifiers. Appendixes. Index.

Note. Fundamental principles and characteristics rather than description are emphasized in this book, which is used as textbook in engineering college courses. However broad field is covered, as indicated in the title. Alternating current circuit theory is discussed largely in terms of vectors. The first edition was published in 1931 and the third edition in 1946. The major change in the fourth edition is the use of the rationalized mks system of units. Also, several chapters were extensively rewritten; t chapters ere deleted, and the chapter on conversion equipment, that is, mechanical rectifiers, synchronous converters, etc., was added.

LYON, WALDO V

Transient analysis of alternating-current machinery an application of the method of symmetrical components. New York Published jointly by The Technology Press of Massachusetts Institute of Technology and John Wiley & Sons, Inc., 1954 310 p. illus. 24 cm. $7 00 6234

Contents. Static circuits. Symmetrical components of instantaneous potentials and currents. Differential equations for the ideal cylindrical-rotor machine. Transient conditions in the induction machine with stationary rotor. Transient conditions in the induction machine with speed constant. Uniform-air-gap machine with rotor excitation and with speed constant. Synchronous machine with salient poles, constant speed. Induction and synchronous machines with speed ariable. Appendix: Differential analyzer solutions. Bibliography Problems. Classified list of specific problems. Index.

Note. The distincti quality of this book lies in the application of Fortescue's methods of symmetrical components to the analysis of transients in rotating a-c machines. T use the author's words In the application of this method, Fortescue's, the ectors that represent the potentials and currents in the phases of an unbalanced

... students of both power and communications engineering. Completion of courses in calculus and algebra at the ... level is prerequisite, but the student is introduced to ... [illegible] in the book itself. In this edition, numerous ... and additions are apparent, most of them directed towards ... [illegible] on the part of the student. Also, the ... [illegible] is a new addition.

THOMPSON, HARRIS A.

Alternating-current and transient circuit analysis. New York McGraw Hill Book Company Inc., 1955 317 p. illus. 23 cm. (McGraw Hill electrical and electronic engineering series Frederick Emmons Terman, consulting editor) $6 75 6247

Contents: Elementary circuit concepts. General concepts and ... [illegible] algebra and phasors. Current, voltage, power, and energy relations. Use of phasors in steady-state circuit analysis. ... circuit analysis. Three-phase circuit analysis. Nonsinusoidal periodic waves. Transient analysis. Mathematical ... Index.

Note: A textbook for engineering college students in which the ... introduced to the main problems of a-c circuit analysis and ... modern techniques for solving them. Most of the book is devoted to steady-state analysis, but one chapter is devoted to ... of transient analysis. A fair number of solved problems ... included in the text, and there are about 300 problems for the student to work. The book is well organized and is written in ... style that points up the requirements and methods of ... without emphasizing too many details.

VAN VALKENBURG, M. E.

Network analysis. Englewood Cliffs N J Prentice Hall, Inc., 1955 440 p. illus. 24 cm. (Prentice-Hall electrical engineering series W L. Everitt, editor) $8.50 6248

Contents: Development of the circuit concept. Conventions for describing networks. Network equations. First-order differential equations. Initial conditions in networks. Differential equations, continued. The Laplace transformation. Topics in the time domain and the frequency domain. Impedance and admittance functions. Network functions. Sinusoidal steady-state analysis from pole-zero configurations. One-terminal-pair reactance networks. Two-terminal-pair ... networks (filters). Amplifier networks. Block diagrams. Stability in feedback systems. Index.

Note: A textbook designed to serve as an introduction to electric network analysis for junior and senior engineering students who will take additional courses in such areas as electric power systems, communication systems, and automatic control. As the chapter titles indicate, a number of topics are explored which a few years ago would have been deferred to graduate courses. The method of analysis taught ... that which permits descriptions of network functions in terms of poles, zeros, and ... scale factor. Selected lists of "further reading" are included in some of the chapters. Some graduate engineers may find the book useful as an introduction to the pole and zero approach.

WARE, L. A., AND G R. TOWN

Electrical transients. New York The Macmillan Company 1954 222 p. illus. 22 cm. $5.25 6249

Contents: Introduction. The Laplace transform. Simple applications of the transform. Compound, switching, and transition problems. The RLC circuit. A-c applied emf. Miscellaneous applied emf. Repeated and discontinuous emf functions. Vacuum-tube circuits. Appendices: Brief list of Laplace transforms. Theorems. Hyperbolic functions. Index.

Note: Although ... deals with the analysis of transient currents in electric circuits and, furthermore, uses the Laplace transform in the analysis, the book ... intended for use by undergraduate students of electrical engineering. The Laplace transform is used in ... manner which the authors designate as "quasi-rigorous." The classical method of analysis by the technique of differential equations is also used in some parts of the book. The senior author is Professor of Electrical Engineering in the State University of Iowa, and the co-author holds ... similar position at Iowa State College.

WEBER, ERNST

Electromagnetic fields theory and applications. Volume I Mapping of fields. New York John Wiley & Sons Inc. 1950 590 p. illus. 22 cm. $10 00 6250

Contents: The electrostatic field. The magnetostatic field. General field analogies. Fields of simple geometries. Experimental mapping methods. Field plotting methods. Two-dimensional analytic solutions. Three-dimensional analytic solutions. Appendices: Letter symbols for electrical quantities. Conversion tables for units. Review of fundamentals of vector analysis. General bibliography. On Bessel functions. On Legendre functions. Index.

Note: Although primarily an engineering college textbook written at the postgraduate level, this work is ... comprehensive treatment of field plotting in which mathematical, graphical, and experimental methods all are covered. Literature references are given as footnotes and in the general bibliography. The present volume deals with the mapping of static fields; ... second volume still to be published will cover the dynamic interaction of fields.

WEBER, ERNST

Linear transient analysis. New York John Wiley & Sons, Inc., 1954–56 2 v illus. 24 cm. Vol. I, $8.50 vol. II $10.50 6251

Contents: Volume I, Lumped-parameter two-terminal networks. The concepts of electric circuits and networks. Classical solutions of network response. Analogues. Operational calculus (Heaviside-Jeffreys). The Laplace transform method. The spectrum concept. Fourier integrals. Appendices. Index. Volume II, Two-terminal-pair networks—transmission lines: Introduction—the Fourier and Laplace transforms. Part I, Two-terminal pair networks (fourpoles). Passive fourpoles. Passive fourpole lines (wave filters). Idealized network characteristics (system theory). Active fourpoles. Part II, Transmission lines: Lossless and distortionless transmission lines. Nonuniform ... cables. General transmission lines. Appendices. Index.

Note: A cyclopedic treatment of all the useful methods of linear transient analysis of electrical networks is presented in this graduate-level text. The various methods are presented critically and in detail with the object of equipping the student to use any of them in practical work. Comparisons among the methods are included in such sections as Laplace transformation versus operational calculus. The cyclopedic character suits the book admirably to use by engineers out of college as well as by enrolled students. In both volumes selected literature ... cited in occasional footnotes, and the appendix contains ... general bibliography with brief annotations. The author is ... member of the faculty of Polytechnic Institute of Brooklyn.

POWER SYSTEMS

BECK EDWARD

Lightning protection for electric systems. New York McGraw Hill Book Company Inc., 1954 313 p. illus. 24 cm. $9.00 6252

Contents: The need for lightning protection. Lightning. Direct-stroke shielding. Impulse voltages and insulation. Lightning arresters—general. Expulsion arresters for the protection of transmission-line insulation. Lightning arresters for distribution-circuit protection. Station- and line-type lightning arresters for power apparatus. The protective and follow-current characteristics of lightning arresters for power and distribution apparatus, 2,400 volts and higher. The selection of an arrester. What does an arrester look? Location and application of lightning arresters. Protection of dry-type air-insulated equipment. Protection of rotating alternating-current machines. Some special applications of arresters. Protection for secondary and other low voltage circuits. Switching surges. The duty on lightning arresters in service. Protective grounds. Traveling waves. Index.

Note: Lightning arresters on electric power transmission lines are the main topic of this book. A short chapter on the characteristics of lightning is included as background information, and the chapters on shielding from direct strokes and on impulse voltages present briefly the two facets of the necessity for lightning protection. Lightning arresters are described as to type and performance characteristics, and their selection is discussed from the viewpoint of engineers responsible for the lightning-proofing of power systems. Economic considerations are not neglected; for instance, ... is pointed out that ... is usually better to risk damage to watthour meters in residential installations than to install an

sipulation of emf and resistance values of electrical networks, instead of solutions by algebraic equations. The six initial chapters give general description of the methods to be followed, while the remainder of the volume deals with their application to specific problems. *Numerous illustrative examples and problems are used to* supplement the textual material.

SISKIND, CHARLES S

Electrical circuits direct and alternating current. New York McGraw Hill Book Company, 1956 516 p illus 23 cm. $6 75 6241

Contents Part I, Electrical circuits—direct current Basic electrical ideas and units. Wires, cables, and insulation. Direct-current circuits—Ohm's law—power—energy—Kirchhoff's laws—basic theorems. Magnetism and magnetic fields. Magnetic circuits. Direct current instruments and measurements. Inductance and electromagnetic induction. Capacitance and dielectric circuits. Part II, Electrical circuits—alternating current Sinusoidal voltages and currents. Resistance (*R*) inductance (*L*) and capacitance (*C*) circuits. Parallel and series-parallel circuits. Resonance in series and parallel circuits. Circuit analysis by vector loci. Network laws, theorems, and principles. Coupled circuits and mutual induction. Alternating *current instruments and measurements. Polyphase circuits.* Nonsinusoidal waves. Appendixes. Visual aids. Index. Answers.

Note. A modern textbook organized so that it may be used both in engineering colleges and in technical institutes. T make this double use possible, the author did not derive equations in the main part of the ork, but segregated the derivations of them in the 16-page appendix. However even the main body of the book is not as elementary as might be expected. The approach is basic one ther is little descriptive material, and extensive use is made of algebra. The author is member of the faculty of Purdue University

SKILLING, HUGH HILDRETH

Electric transmission lines distributed constants, theory and applications. New York McGraw Hill Book Company, Inc, 1951 438 p illus 24 cm. (McGraw Hill electrical and electronic engineering series, F E. Terman consulting editor) $7 50 6242

Contents Part I, Theory The basic equations. Traveling waves. Standing wa es on low-loss lines. Lines with loss. Line parameters. Line constants, inductance and capacitance. Line constants resistance, skin-effect, and insulation loss. Artificial lines. Part II, Applications Application of transmission-line theory to telephone lines. Introduction to filters. Application to power lines. Application to radio-frequency lines. Introduction to wave guides. Part III, Transient tra eling wa es Traveling waves. Appendixes. Index.

Note An engineering college textbook in which all types of electric transmission lines from power lines to coaxial cables and hollow wave guides are treated. Somewhat more attention is given to lines designed for transmission and microwave frequencies than to other types of lines. The treatment is introductory to transmission lines, but familiarity on the part of the reader with ordinary circuit theory in olving lumped constants has been assumed. According to the uthor the material has been thoroughly tested in his own classes at Stanford University

SKILLING HUGH HILDRETH

Transient electric currents Second edition. New York McGraw Hill Book Company Inc 1952 361 p illus 24 cm (McGraw Hill electrical and electronics engineering series Frederick E Terman consulting editor) $7 50 6243

Contents The behavior of inductance. The beha ior of condensers. The circuit equations The complex single circuit. Networks. Response t alternating voltage. Coupled resonant circuits. Circuits with ariable parameters. Traveling waves. Laplace transformation. Index.

Note A textbook for advanced college students of electrical engineering and graduate engineers. It affords good basic treatment of simple transients. The chapter on the Laplace transformation is the chief addition [illegible] this second edition. The uthor is Professor of Electrical Engineering in Stanford University

SKRODER, CARL E, AND M STANLEY HELM

Circuit analysis by laboratory methods Second edition. Englewood Cliffs, N J Prentice Hall, Inc., 1955 376 p. illus. 24 cm (Prentice-Hall electrical engineering series W L Everitt, editor) $6 00 624

Contents. General laboratory instructions. The report. Circuit protection. Rheostats. Ammeters and voltmeters. Drop-of-potential methods for measuring D-C resistance. Current, resistance, and heat. Elementary study of the D-C shunt motor. Elementary study of the A-C generator Kirchhoff' laws. The electrodynamometer wattmeter Measurement of voltage, current, and power. Ohmic and effecti resistance. Determination of impedance and its components. The series circuit. The parallel circuit. Mutual inductance. Polyphase circuits. Measurement of polyphase power Measurement reactive voltamperes by means of wattmeters. Oscillographs. Nonsinusoidal periodic waves. Filters. Coupled circuits. Network theorems. Index.

Note Although this book is essentially laboratory manual for college students of electrical engineering, it is more than manual of laboratory procedures. In the typical chapter, considerably *more space is devoted to expounding the principles of the device* or circuit to be tested than is given to the descriptions procedures. The chapter on the electrodynamometer wattmeter for instance contains 16 pages of exposition of the theory of this instrument and only two pages of directions for laboratory experimental procedure. These preliminary expositions are written in a direct style that make them useful to graduate scientists and engineers in need of concise statements of fundamental information on circuit elements and circuits as well as to students. The first edition was published in 1946. This second edition is approximately one-fourth longer and contains proportionate amount of new material.

STEWART, JOHN L

Circuit theory and design. New York John Wiley & Sons, Inc., 1956 480 p illus. 23 cm $9 50 624

Contents Circuit analysis. The poles and zeros of functions The poles and zeros of networks. Elementary synthesis and numerical procedures. Some important gain functions. An introduction to modern synthesis. Image parameters. Conventional filters. The circuit representation of vacuum tubes. Low-pass amplifiers. Band-pass amplifiers. Feedback amplifiers and stability Oscillators. Servomechanism functions. References. Index.

Note The study and sy thesis of networks by pole-zero methods is taught in this engineering text The treatment assumes previous courses in calculus, circuit theory and vacuum tubes. Poles and zeros are introduced in the second chapter after review chapter on steady state circuit analysis. The Darlington method is introduced in the chapter entitled, An introduction to modern synthesis. In other chapters pole-zero methods are applied to vacuum tubes, amplifiers, feedback circuits etc. A well-selected and briefly annotated list of references is included at the end of the volume. Although primarily designed for use by advanced undergraduates and graduate college students of electrical engineering, the book is useful also t graduate electrical engineers in need of an introductory book on modern network theory and design.

TANG, KWAN YAU

Alternating-current circuits. Second edition. Scranton International Textbook Company 1951 605 p. illus 24 cm (International text books in electrical engineering Erwin E. Dreese consulting editor) $8 00 6246

Contents Alternating current and oltage Vector representation of sine waves. Elementary circuit concepts. Hypothetical circuits sinusoidal current and oltage Series circuit Complex quantities. Parallel circuits Series-parallel combination of elements. Real and apparent power Net ork theorems. Mutual induction and coupled circuits. T-sections of modified or equivalent coupled circuits. Impedance transformation Polyphase circuits. Power measurements in three-phase circuits Symmetrical components. Non-sinusoidal waves. Circuits with non-sinusoidal voltages and currents. Differential equations. Direct-current transients. Alternating-current transients. Transmission line calculations. Appendixes. Index.

Note An introductory textbook in the analysis of alternating current circuits. It is designed for use in upperclass undergraduate

Power Systems

DOLAND, JAMES J

Hydro power engineering a textbook for civil engineers. New York Ronald Press Company 1954 209 p. illus. 24 cm. $7.50. 6258

Contents. Water power development. The fundamentals of water power study. Analyses of data. Hydraulic turbines and their preliminary selection. Dimensions of water passages and powerhouse. [illegible] Economic aspects of hydroelectric [illegible]. Hydro-steam coordination. Problems. Index.

Note. A short but very practical introduction to the engineer's [illegible] planning and designing hydro-electric power installations. It [illegible] primarily to advanced college students of engineering [illegible], the reader is assumed to need no instruction in basic [illegible] fundamentals, and the space is devoted to matters of [illegible] power plant design. Most of the examples [illegible] and illustrated have been drawn from recent experience in the United States of America, particularly experience of the Tennessee Valley Authority and the Bureau of Reclamation.

DUNLAP CARL HARRY AND OTHERS

Transformers, principles and applications by Carl H. Dunlap W. A. Siefert, and Frank E. Austin. Chicago American Technical Society 1948. 277 p. illus. 22 cm. (Electrical series) $3.50. 6259

Contents. Transformer construction, by W. [illegible] F. E. Austin and C. H. Dunlap. Transformers, by W. A. Siefert. Design of small transformers, by F. E. Austin.

Note. Discussions of basic electrical principles are used in this [illegible] text to introduce the opening topics which deal with transformer core, coil, and lead structures. Transformer theory, connections, and operation are handled in the second part, while in the last section the reader is told how to calculate wire and core sizes and the number of turns that are necessary for building several types of transformers. The book is written in simple language easily understandable by the trade school students and practical [illegible] for whom it is intended.

DWIGHT HERBERT BRISTOL

Electrical elements of power transmission lines. New York The Macmillan Company 1954 188 p. 25 cm. $4.50. 6260

Contents. Short transmission lines. Hyperbolic solutions for long lines. General circuit constants. Circle diagrams for constant-voltage transmission lines. Load studies with networks. Short-circuit currents and stability. Traveling waves. Skin effect in round conductors. Cost of transmission lines. Current-carrying capacity and temperature rise. Geometric mean distance. Reactance. Capacitance. Some features of lightning protection. Sag calculations. Index.

Note. An engineering college textbook in which the electrical problems encountered in the practical design of power transmission lines are clearly expounded. The chapter titles given above show how the design process has been broken down into many separate elements. The typical chapter begins with a short, clearly written discussion of the particular problem. This discussion is then followed by one or more worked examples of problems. The derivation of useful formulas is shown. Finally the chapter concludes with problems for the student to solve. The author is a faculty member of the Massachusetts Institute of Technology.

KATES, EDGAR JESSE

Diesel-electric plants a practical text on the characteristics installation maintenance, and operation of Diesel-driven generators, including voltage regulators frequency and automatic controls. Second edition. Chicago American Technical Society 1945 272 p. illus. 22 cm. $4.00. 6261

Contents. Characteristics of Diesel engines. Alternating-current and direct-current generators for Diesel drive. Voltage regulation of direct-current generators. Voltage regulation of alternating-current generators. Parallel operation. Engine governors, including automatic control of frequency and load sharing. Self-operation of Diesel plants. Automatic controls and alarms for the Diesel engine. Electric starting of Diesel engines. Starting and stopping generators and voltage regulators. Installation and maintenance of generators and voltage regulators. Diesel-electric locomotives. Index.

Note. An outline of the mechanism and operating characteristics of Diesel engines and electric generators, as used in conjunction with each other. Intended for both vocational school students and operators of Diesel power plants, the material is mainly descriptive.

KIMBARK EDWARD WILSON

Power system stability New York John Wiley & Sons, Inc., 1948–56 3 v illus. 23 cm. Vols. I II $9.50 each vol. III $10.00 6262

Contents. Volume I. Elements of stability calculations: The stability problem. The swing equation and its solution. Solution of networks. The equal-area criterion for stability. Further consideration of the two-machine system. Solution of faulted three-phase networks. Typical stability studies. Index. Volume II. Power circuit breakers and protective relays. Fault clearing—power circuit breakers—protective relays. The influence of swinging and out-of-step operation upon protective relays. Rapid reclosing. Index. Volume III. Synchronous machines. Excitation systems. Damper windings and damping. Steady-state stability. Index.

Note. This work is a development of lectures given at Northwestern University in evening courses offered to graduate engineers and the clear, straightforward style of the lectures has been carried over to the books. The three volumes provide an authoritative and up-to-date view of the problem of power system stability with particular reference to methods of predicting stability characteristics in advance, of correcting conditions of instability in transmission systems already constructed, and of circuit breakers, protective relays, and synchronous machines. These devices are discussed principally from the standpoint of their stability and instability characteristics as part of the power system. Many illustrative examples are included in the expository matter. The second volume contains an extensive bibliography on circuit breakers, and literature references are also included in the other volumes.

KURTZ, EDWIN B

The lineman's handbook. Third edition. New York McGraw Hill Book Company Inc. 1955 740 p. illus. 21 cm. $10.00. 6263

Contents: Elementary electrical principles. The electric system. Distribution circuits. Line materials. Line equipments. Line protective equipment. Line-control equipment. Fundamentals of line design. Locating the staking line. Unloading, framing, and hauling poles. Erecting and setting poles. Guying poles. Mounting crossarms, pins, and insulators. Joining, stringing, and sagging conductors. Installing transformers and lightning arresters. Stringing secondary mains. Installing services. Tower-line erection. Patrolling and inspecting lines. Line testing. Field testing of line insulators. Live-line maintenance. Rural lines. REA manual of operation and maintenance practices of rural lines. Pole climbing. Rubber protective equipment. Rope, knots, splices, and gear. Tree trimming. Signals for line work. The prone-pressure method of resuscitation. Standard technique for executing the back pressure-arm lift method. Pole-top resuscitation. Accident-prevention course for linemen. First aid. Electrical formulas and calculations. Lineman's arithmetic. Self-testing questions and answers. Definitions of electrical terms. Index.

Note. A standard instruction manual and reference book for men who install and maintain transmission and distribution lines for electric power. It is suitable for use as a text in company-sponsored courses and also for reading for self-instruction. The second edition was published in 1942. In this third edition, the book has been reorganized in 33 sections. Some text and some illustrations have been carried over from the second edition, but needed revisions have been made, and much material has been added.

LEWIS WALTER WALLACE

The protection of transmission systems against lightning. New York John Wiley & Sons, Inc., 1950 418 p. illus. 24 cm. $12.00 6264

Contents. The accumulation of electricity in clouds. The mechanism of the lightning stroke. Voltage caused by lightning and switching. Current in the lightning stroke. Wave shape of lightning voltages and currents. Shielding by overhead ground wires and masts.

arrester, because of the relative costs. Little mathematics is used, and that which is present is rather simple. Good lists of literature references are included. The author is manager of the Lightning Arrester Engineering Section of the Westinghouse Electric Corporation.

BEEMAN, DONALD, editor

Industrial power systems handbook. New York McGraw Hill Book Company, Inc., 1955 971 p illus. 24 cm. $12 50 6253

Contents Short-circuit-current calculating procedures, by D Beeman and others. Symmetrical components as applied to short circuit-current calculation on three-phase systems, by R. H. Kaufmann. Selection of A-C short-circuit protective devices and circuit equipment, by D. Beeman and R. H. Kaufmann. Voltage—standard ratings, allowable variations, reduction of variations, calculation of drops, by W R. Crites and M. N Halberg. System overvoltages—causes and protective measures, by R. H. Kaufmann and M. H. Halberg. System grounding, by L. J Carpenter and L. G. Levoy Jr Equipment grounding, by L. J Carpenter and others. Power factor improvement, by W C. Bloomquist. System overcurrent protection, by F P Brightman. Selection of system voltages, by D Beeman. Load-center power systems and circuit arrangements, by D Beeman. Secondary distribution systems, by S. C. Cook, Jr. Primary power systems, by N C. Hadley Power systems for commercial buildings, by D S. Brereton. Modernization and expansion of existing power systems, by D Beeman and L. G. Levoy Jr Steam and power generation, by W B. Wilson. Load- and cost-estimating data, by D S. Brereton. Appendix, compiled by D B. Armstrong. Index.

Note. An engineering handbook edited and written by staff members of the Industrial Engineering Section of the General Electric Company It covers power generation, transmission and distribution systems for industrial establishments, such as factories. Design considerations are emphasized, but the book includes also much information of value to the plant engineer who is responsible only for the maintenance program. Troubles that can occur because of inadequate or improper grounding are an example of such material. Included are not only expected material on protective devices, etc., but also information on less-obvious design matters, such as the inclusion of remote controls for lighting. Some illustrations of commercially available equipment are included, but they are not a prominent feature of the volume, and the book is not intended as a guide to such equipment except in a general way Although organized as a reference handbook and including a wide range of reference data, most of the chapters are designed to be read rather than kept at a desk for occasional reference.

BEWLEY, LOYAL VIVIAN

Traveling waves on transmission systems. Second edition New York John Wiley & Sons Inc, 1951 543 p illus. 24 cm $14 50 6254

Contents (abridged) Part I, The origin, characteristics, and behavior of travelling waves. The line equations. The shape, attenuation, and distortion of waves. Reflection of travelling waves. Lightning. Traveling waves on multiconductor systems. Transition points on multiconductor circuits. Multivelocity waves. Theory of ground wires. The counterpoise. Induced lightning surges. Switching surges. Protection of transmission systems against surges. Part II, High-frequency oscillations and terminal transients of transformers Ideal two-winding transformers. Waves of arbitrary shape applied at one or both terminals. Terminal transients. Suppression of internal oscillations by electrostatic shielding. Appendix. Index.

Note An important work for electrical engineers concerned with the protection of electric power transmission lines and transformers against lightning and voltage surges caused by switching. Theories and design procedures are covered from the standpoint of their practical use. The book is organized so that it may be used as a textbook. However the writing is essentially on a graduate level and is addressed to advanced students of electrical engineering and beginning graduate electrical engineers. The second edition contains about twice as much matter as the first edition.

BLOOMQUIST, WALTER CARL, editor

Capacitors for industry their selection, application and economics for power factor improvement of industrial plants by W C Bloomquist, C R. Craig R. M Partington and R. C Wilson. New York John Wiley & Sons, Inc., 1950 246 p illus. 24 cm. $6.0[0] 625[5]

Contents (abridged) Capacitor facts and fallacies. Power-fact[or] fundamentals. Instruments and measurements for power-factor st[udies]. Release of power-system capacity Voltage improvement. Pow[er] system losses. Power factor rate studies. Application of capacit[ors] to motors and generators. Harmonics and resonance switching; f[us]ing. Automatic-control equipment. Series capacitors. Capacitor stan[d]ards and operating characteristics. Capacitor ratings, estimati[ng] prices, types of equipment. Capacitor installation and maintenanc[e]. Selected bibliography Appendix. Index.

Note. A practical discussion for plant electrical engineers, electr[i]cians, and others who are concerned with the electric power install[a]tions in factories and other industrial establishments. The econom[ic] and engineering aspects of capacitors in such systems are discuss[ed] compactly and authoritatively Problems, such as occur in design[ing] a power system with capacitors or installing capacitors in an esta[b]lished system, are worked out in step-by-step detail. Much engineer[ing] data are presented in tables and graphs. There is a useful anno[]tated bibliography

BLUME, LOUIS FREDERICK, AND OTHERS

Transformer engineering, a treatise on th[e] theory, operation, and application of trans[]formers, by the late L. F Blume, A Boyajian G Camilli, T C. Lennox, S Minneci, V M Montsinger Second edition New York Joh[n] Wiley & Sons, Inc., 1951 500 p. illus. 24 cm $12 00 625[6]

Contents (abridged) The general nature of transformer problems. Excitation characteristics of the transformer exciting current and core loss. Non-triple harmonic phenomena due to transformer exciting current. Impedance characteristics of transformers. Impedance characteristics of multicircuit transformers. Short-circuit currents and voltages by the method of symmetrical components. Transformer connections. Auto-transformer connections. Thermal characteristics of transformers. Characteristics of transformer circuits for changing ratio under load. Automatic operation of voltage-control equipment. Phase-angle control. Characteristics of insulation. Voltage stresses in auto-transformers in Y-connection. Transient voltage characteristics of transformers. Insulation coordination of transformers. Index.

Note. A substantial, detailed treatise designed for electrical engineers and other technically trained men whose work involves the specification, selection or operation of transformers. The emphasis is on basic matters rather than descriptive data. At the time of writing, the authors were all associated with the Transformer Engineering Division of the General Electric Company Although most of the text of the present edition has been carried over from the first edition, important changes have been made, particularly in the discussions of thermal characteristics and insulation.

CRARY, SELDEN BRONSON

Power system stability New York John Wiley & Sons, Inc., 1945–47 2 v illus. 22 cm. (General Electric series) $8 50 per vol. 6257

Contents: Volume I, Steady state stability Power flow Synchronous machine power angle characteristics. Stability limits. Composite systems. Equivalent reactance of synchronous machines. Application of stability criterion C Long distance power transmission. Stability characteristics of turbine generators. Transmission line comparative electrical loadings. Straightaway transmission line. Voltage economic study System design. Special cases. Appendix. Index. Volume II, Transient stability Fundamental concepts for transient analysis. Synchronous machine torque angle characteristics. System torque angle characteristics. Two-machine stability Multi-machine problem. Generator characteristics—methods of analysis. Generator stability System design characteristics. High-speed reclosing circuit breakers. Overall stability Appendix. Bibliography Index.

Note. The fundamental theory of electric generating and transmission systems, under both normal and abnormal operating conditions, is thoroughly discussed in this work for electrical engineers. The first volume deals with the influences of small or gradual changes on electrical states of equilibrium, and the second with the effects of large or sudden changes. An important feature of the work is its wealth of bibliographical material, which includes both chapter references and an extensive selective bibliography of literature published during the years 1894–1941.

has not been published before. The long bibliography includes an author index of the cited papers and also a chronologically arranged list of references beginning with 1800 and including two publications [illegible].

Powel, Charles A.

Principles of electric utility engineering. New York. Published jointly by The Technology Press of The Massachusetts Institute of Technology and John Wiley & Sons, Inc., 1955. 251 p. illus. 24 cm. $6.00. 6271

Contents: Corporate organization, objectives, and finance. Sources of energy from generating stations. Generating-station auxiliaries. Hydroelectric generating stations. Transmission of energy. Transmission equipment. Power-system fault control. Lightning phenomena and insulation coordination. Transmission systems. Power-system relaying. Power distribution. Index.

Note: An informative survey written from the standpoint of electrical engineering students, and engineers who are not directly concerned with electric utility engineering but who need a general technical knowledge of it. Some legal, economic and management aspects, such as franchises, governmental control and production costs, are discussed in the first chapter. In the chapter devoted to power economy, engineering problems, objectives and techniques are treated concisely but in sufficient detail to inform engineering students on current techniques and the operating principles of devices and machines. Special terminology such as "load diversity" are explained with care. There are no literature references.

Rothe, Frederick S

An introduction to power system analysis. New York John Wiley & Sons, Inc., 1953 157 p. illus. 23 cm. $5.00. 6272

Contents: Equivalent circuits for single-phase two-winding transformers. Equivalent circuits for balanced three-phase systems. Fundamentals of symmetrical components. Sequence impedances of transformers and non-transformers. Synchronous machine theory. Analysis of faults and suddenly applied loads at generator terminals. Analysis of faults and suddenly applied loads on systems. Use of Cable components in system analysis. Sequence impedances of overhead transmission lines. Steady-state transmission line theory. Fundamentals of power system stability. Index.

Note: Addressed to advanced students of electrical engineering and to graduate power system engineers, this book is a compact [illegible] of methods of power system analysis which are currently [illegible]. The author has included only practical methods, furthermore, he has simplified them so as to make them available to the engineer not [illegible] specialist in power system analysis, who is [illegible] responsible for the economic design of power systems. The power system is broken down into its main components: [illegible], transformers and loads. In turn, the components are analyzed by simplified methods, for example, the equivalent circuit [illegible] used in treating transformers. A-c and d-c network analyzers are mentioned, but the book does not cover methods which depend on the use of these complex instruments. The numerous worked examples included will be appreciated by the engineer who wants to study the subject or brush up on [illegible] without the aid of an instructor.

Rüdenberg Reinhold

Transient performance of electric power systems phenomena in lumped networks. New York McGraw Hill Book Company Inc., 1950. 832 p. illus. 23 cm. (McGraw Hill electrical and electronic engineering series F E. Terman, consulting editor) $13.00. 6273

Contents (abridged): A. Transient performance of lumped linear circuits. Part I, Simple electric circuits. Switching on and off self-inductive circuits. Charging and discharging capacitive circuits. General laws of switching. Transient state of oscillatory circuits. Part II, Magnetically linked circuits. Mutual induction in circuits at rest. Switching of transformers. Commutation flux in rotating machinery. Mechanical and thermal short-circuit effects. Part III, Inertia effects of rotating masses. Acceleration of machinery. Starting of induction motors. Mechanical oscillations in alternating-current machinery. Impacts on synchronous machines from switching. Part IV, Influence of the earth: Ground-fault currents in insulated systems. Atmospheric fields above the line. Electrostatic induction on adjacent lines. Return currents under transmission lines. Inductive interference with communication lines. B. Performance of circuits of nonlinear characteristics. Part [illegible] Variable resistance. Heating of cooled conductors. Melting of fuse wires. Part VI, Interruption by electric arcs: Interruption of alternating current. Three-phase interruption. Natural oscillations sustained by arcs. Part VII, Magnetic saturation in circuits at rest. Switching of saturated direct-current circuits. Higher harmonics. Nonharmonic oscillations. Part VIII, Saturated rotating machinery. Bibliography. Index. Tables of functions.

Note: A thorough treatment of phenomena rising out of short circuits, lightning, and many other varieties of disturbances in electric power distribution systems. The original edition, published in Germany before World War II, gained an international reputation among engineers. This edition, which has been written directly in English by the author, is more comprehensive than the German edition and covers the developments since 1933. Mathematical parts of the exposition are well buttressed with [illegible] and illustrative matter. The book is addressed to advanced students of electrical engineering and practicing electrical engineers.

Skrotzki Bernhardt G A. editor

Electric system operation. New York Mc Graw Hill Book Company 1954 370 p. illus. 24 cm. $6.50. 6274

Contents: The system, by W. C. Astley. Relays, by E. L. Michelson. Load dispatching, by M. J. Steinberg. Frequency and load control, by E. L. Michelson. System communications, by E. E. Paige. Station performance, by M. J. Steinberg. Economy loading, by M. J. Steinberg. System-operating costs, by M. J. Steinberg. Rate schedules, by M. J. Steinberg. Index.

—— Electric transmission and distribution. New York McGraw Hill Book Company 1954 448 p. illus. 24 cm. $7.50. 6275

Contents: Electrical theory, by E. M. Adkins. Transmission terminal facilities, by F. S. Benton. Transmission lines, by F. S. Benton. Distribution systems—mechanical arrangements—primary and secondary—capacitors and transformers—protection, by E. M. Adkins. Street lighting. Planning and load characteristics, by E. M. Adkins. Auxiliaries, by E. L. Michelson. Appendix. Index.

Note: Although they cover some rather advanced topics, these books are written at an elementary level. Such chapters as that on electrical theory in the volume listed second above assume no previous knowledge of electricity or physics and include no mathematics more advanced than high school algebra. The ideas and terms found in such chapters as those on capacitors and transformers are necessarily more technical. Nevertheless, even in those chapters the elementary level is essentially maintained. The authors of the various chapters are all electrical engineers associated with utility companies; but the books are addressed to technicians rather than to engineers, especially such persons as electricians, linemen, and operating personnel employed by the electric utility companies. There are two additional volumes in the series: *Electric generation—steam stations*, and *Electric generation—hydro, diesel and gas turbine stations*, both published in 1956 and priced at $8.00 each.

Steinberg Max Jacob, and Theodore H. Smith

Economy loading of power plants and electric systems. New York John Wiley & Sons Inc., 1943 203 p. illus. 23 cm. $6.50 6276

Contents: Introduction. Theory of incremental rates. Load division in the boiler room. Load division in the turbine room. Load division in the generating station. System load division. Adjustment of computed performance curves. Index.

Note: A thorough discussion, both nonmathematical and mathematical, of the incremental rate theory. The theoretical aspects are given due consideration, together with the extent to which they can be modified in the interest of simplification. The book derives the mathematical conditions for obtaining maximum overall efficiency by the loading of equipment in parallel operation. Then it applies incremental rates in the academic solution of load-division problems. It describes limitations in the application of the incremental rate theory. Finally it gives the practical solution of load-division problems. Numerous sample illustrations show how the principles may be applied. A station-loading slide rule is described.

Means for obtaining low tower footing resistance. Insulation and spacing of conductors. Alternative methods of protecting transmission lines. Protection of stations and rotating machines. Grounding the neutral. Appendixes Effect of altitude and humidity on flash-over Calculation of capacitance of transmission lines. Index.

Note. A compact presentation of information about lightning and how electrical transmission systems are protected against it. It is addressed mainly to graduate electrical engineers who are concerned with the design or maintenance of power lines and systems. The important theoretical knowledge is stated concisely and the operating principles of the chief protective devices are clearly explained. Each chapter is supplemented by lists of related literature.

LOVELL, ALFRED HENRY

Generating stations, economic elements of electrical design Fourth edition New York McGraw Hill Book Company, Inc., 1951 431 p illus 24 cm $9 00 6265

Contents Elementary principles of corporate finance. Cost of stations. Economic decay Power-plant load curves. Economic conductor section—power distribution systems. Power plant location. Bus systems and current-limiting reactors. Generating station auxiliaries. Circuit breakers and their applications. Introduction to single-phase short circuits. Protective relays and their applications. Transmission lines with synchronous condensers.

Note An engineering college textbook in which the student preparing for career in power-plant design is introduced to the economic aspects of this field. Corporate finance is discussed briefly in the first chapter but the remainder of the book deals with matters that are of more direct concern to engineers—such as the economics of load curves, the economics of conductor sizes, etc. Not all of the text has been changed, but revisions have been made wherever required, as in the discussion of holding companies, fuel, circuit breakers, etc.

MARBURY, R. E

Power capacitors. New York McGraw Hill Book Company, Inc., 1949 205 p. illus 24 cm $5 00 6266

Content Capacitor materials and characteristics. Capacitor rating, design, and manufacture. Industrial, high-frequency and d-c power capacitors. Application of shunt capacitors to industrial power circuits. Application of shunt capacitors to utility systems. Fuses, switches, and connections used with shunt capacitors. Automatic control of capacitor kvar Series capacitors for line-reactance compensations. Series capacitors directly applied to specific industrial loads. Capacitor installation and maintenance. Index.

Note A review of the uses and applications of large-scale capacitors or condensers in electric power systems. The design, construction, and operation of capacitors are described but the author who was associated with the Westinghouse Electric Corporation at the time of writing, is concerned primarily with showing how power capacitors may be selected and utilized to solve various power problems.

MASON C RUSSELL

The art and science of protective relaying New York John Wiley & Sons, Inc. 1956 410 p illus 24 cm (General Electric series) $12 00 6267

Content The philosophy of protective relaying. Fundamental relay-operating principles and characteristics. Current, voltage, directional, current (or voltage)-balance, and differential relays. Distance relays. Distance relays. Wire-pilot relays. Carrier-current-pilot and microwave-pilot relays. Current transformers Voltage transformers. Methods for analyzing, generalizing, and visualizing relay response A-C generator and motor protection. Transformer protection Bus protection. Line protection with overcurrent relays. Line protection with distance relays. Line protection with pilot relays. Index.

Note. The use of relays in the protection of electric power systems against electrical failures is the subject treated in this book. The author has assumed that his readers will be graduate electrical engineers with knowledge of electrical engineering terminology and fundamentals, but will be novices in the specialized area of protective relaying. The engineering approach to the field and the principles and characteristics of relays are covered in outline form in the first two chapters. A block of chapters follows in which the types of relays used in protective relaying are described with particular attention to the characteristics of each ty Transformers used to actuate relays are covered next. The l six chapters are devoted to the role of relays in the protectio specific parts of the power system. Although some mathematic used, the book is devoid of advanced mathematical analysis. O the other hand, it abounds in information of practical value t engineers who are concerned with the protection of electrical pow systems. Extensive bibliographies are included in the chapters.

MATHEWS, P

Protective current transformers and cir cuits. New York The Macmillan Company, 1955 253 p illus. 22 cm. $8 00 6268

Contents Linear theory of current transformation in steady state conditions. Steady state ferromagnetic theory Zonal protective steady state theory of summation type. Some special applications. General design considerations. Testing. Transient fault currents. Linear theory of transient current transformation. Ferromagnetic effects in C.T.s with transient primary currents. Ferromagnetic effects in current summation types of protection. Appendixes. Index.

Note. The analysis of current transformers designed for use with protective devices on electric power transmission and distribution systems forms the subject of this book. Such transformers are used chiefly to operate trip coils and relays. The chapters fall essentially into two groups. The first group is devoted to analy and design for steady state conditions and the second to analys of the performance of current transformers subjected to transie currents. The book is addressed to graduate electrical engine engaged in design of power distribution equipment. It include excellent lists of literature references.

MORSE, FREDERICK T

Power plant engineering the theory and practice of stationary electric generating plants Third edition. Princeton D Van Nostrand Company, Inc., 1953 687 p. illus. 24 cm $8 75 6269

Contents. Introduction. The variable load problem. Power plant economics. The power plant building. Fuels and combustion. Internal combustion engine power plant. Gas turbine power plant. Vapor cycles. Energy flow in the steam power plant. Steam generators. Steam prime movers. The gas loop. The feedwater loop The piping system. Instrumentation. Bibliography Appendix. Index.

Note. A textbook which has been used in engineering schools courses in the United States of America since the publication of the first edition in 1932. It introduces the reader to the principles governing the layout of power plants and the design of their equipment It includes also much description of power plant machinery The second edition was published in 1942 under the title *Power plant engineering and design.* This third edition under a modified title represents such an extensive revision that it is essentially a new book. However the practical style of the original editions has been retained. There are several hundred illustrations. The bibliography is a selected list of books, journal articles and manufacturers' literature designed as a guide to further reading rather than to support the text.

PETERSON HAROLD A

Transients in power systems. New York John Wiley & Sons Inc. 1951 361 p 24 cm $9 50 627

Contents Overvoltages during power system faults. Effect of ... ency on overvoltages during faults. System voltage recovery char acteristics—fundamental concepts. System voltage recovery characte istics—miniature-system approach Effects of arc restriking on re covery voltage. Switching surges—capacitance circuits. Switching surges and overvoltage arrester discharge requirements. Overvoltage caused by sudden loss of load. Overvoltages caused by open conductors. Some additional non-linear circuits. Appendix Nomenclature. Equations for differential analyzer Equations for calculation of overvoltages Equivalent circuits for various types of faults. Bibliography. Index.

Note An advanced book for graduate students preparing for work in the design of power systems and for graduate engineers already at work in this field. Modern methods of analysis including the transient analyzer and the differential analyzer are covered. According to the author a considerable part of the information included

ELECTRIC MACHINERY

ALGER, PHILIP LANGDON

The nature of polyphase induction machines. New York John Wiley & Sons, Inc., 1951. 397 p. illus. 24 cm. $9.50. 6283

Contents: Basic principles. Circuit analysis. The revolving magnetic field. The polyphase induction motor. Polyphase induction motor performance calculations. Design of induction machines. Reactance calculations. Speed-torque-current relations. Crawling and [illegible]. Magnetic noise and voltage ripple. Rating and application of polyphase induction motors. Kron's generalized equivalent circuit. Index.

Note: The polyphase induction motor—aptly described as the workhorse of American industry—is the main topic in this book. Its theory, characteristics, and performance are studied from the standpoint of engineering analysis and design. All aspects that are of [illegible] the designer of motors are discussed, including such [illegible]. The book will be of interest [illegible] to advanced engineering students who are preparing for careers in motor design and to graduate engineers beginning work in the field.

ANDERSON, EDWIN P

Audels home appliance service guide electrical troubleshooting repairs. New York Theo. Audel & Company 1954 824 p. illus. 17 cm. $6.00. 6284

Contents: Fundamental electricity. Measurement of electricity. Ohm's law and circuit fundamentals. Appliance testing instruments. [illegible] Home wiring. Electric irons. Electric toasters. [illegible] Electric waffle bakers. Electric roasters, heaters, and broilers. Electric coffee makers. Electric space heaters. Automatic electric water heaters. Electric ranges. Fractional horsepower motors. Electric fans. Electric fans and blowers. Electric vacuum cleaners. Electric washing machines. Automatic clothes dryers (electric and gas). Electric ironers. Electric dehumidifiers. Garbage disposers. Oil burners. Household electric refrigerators. Room air conditioners. Gas appliances. Gas [illegible]. Gas appliance tests. Gas appliances. Gas ranges. Gas fired furnaces. Gas fired water heating systems. Gas fired water heaters. Bottled gas appliances. Index.

Note: No book on the repairing of electrical household appliances can cover in detail the repairing of all current makes of all types of appliances used in homes in the United States of America, and the author of this book has not attempted to do so. Instead, he has discussed principles and common mechanisms and the details of one or more representative makes of each type. The book is addressed to the practical man who is preparing for the trade of repairing household appliances. For such readers it serves as [illegible] of the field and as [illegible] for the use of manufacturers' manuals.

ANNETT FRED A., AND A. C ROE

Connecting and testing direct-current machines. Third edition. New York McGraw Hill Book Company Inc., 1955 313 p. illus. 24 cm. $6.50 6285

Contents: Part I, Reconnecting direct-current machines. Classification of coils according to their positions. Types of windings—lap windings. Types of windings—wave winding. Fractional-pitch windings. Taking winding data on armatures. Types of armature coils and how they are made. Reconnecting for changes in voltage. Reconnecting for change in speed. Reconnecting for change in speed and voltage. Changing [illegible] motor to [illegible] or [illegible] to [illegible]. Changing [illegible] direct-current generator into [illegible] motor or vice versa. Figuring [illegible] new winding for an old direct-current machine. Increasing machine ratings by changing conductor sizes and insulation. How leads are arranged in wire-wound armature coils. Part II, Testing direct-current machines. Locating faults in armatures—general principles. Short-circuits in armature windings. Open circuits in armature windings. Locating grounds in armatures. Locating reversed coils in armature windings. How to use an armature tester. Checking field-coil connections and polarity. Locating faults in field coils. Testing lap-wound armatures with equalizer connections. What is good insulation? High-frequency-voltage testing of insulation, coils, and windings. Index.

Note: A practical manual of methods of re-connecting direct-current machines for changes in voltage and speed and of locating and repairing faults in armatures and field windings. A second edition was published in [illegible]. The scope and plan of the book are the same in this third edition, but some chapters have been completely rewritten, and major sections of others have been revised in order to adapt the book to advances in electrical insulation. Also, the short chapter formerly entitled "How to construct and use an armature-testing magnet," has been rewritten to include descriptions of commercially available growlers. A substantial fraction of the 210 figures are diagrams of windings.

ANNETT FRED A.

Electrical machinery a practical study course on installation operation and maintenance. Third edition. New York McGraw Hill Book Company Inc., 1950 458 p. illus. 22 cm. $6 50 6286

Contents: Magnets and magnetism. Fundamentals of the electric circuit. Ohm's law series and parallel circuits. Energy work and power. Complex circuits and effects of internal resistance. Electrical instruments. Methods of measuring resistance. Fundamental principles of dynamo-electric machinery. Direct-current machinery construction. Inductance and commutation. Types of direct-current generators. Direct-current generator characteristics. Losses in direct-current machinery. Direct-current motors. Types of direct-current motors. Locating position of brushes on commutator. Three-wire systems and how they may be obtained. Direct-current generators in parallel. Fundamental principles of alternating current. Measurement and addition of alternating voltages and currents. Two-phase and three-phase circuits. Operating alternators in parallel. Kilowatts, kilovolt-amperes and power factor. Transformers. Alternating-current motors. Starting alternating-current motors. Electronics and electron tubes. Electronic rectifiers. D-C motor speed control. Flame-failure protection and smoke-intensity indicators. Index.

Note: This book originated in [illegible] series of articles published in the periodical *Power* from January 1917 to December, 1919. The articles appeared under the general title, *The electrical study course*, and they were designed as self-instruction aids for beginners and workers in the electrical industries. The articles were revised and published in book form in 1921, and the book has been twice revised since without, however changing its original purpose. The second edition was published in 1938. Two chapters were deleted and four were added in preparing this third edition.

BEWLEY LOYAL VIVIAN

Alternating current machinery New York The Macmillan Company 1949 376 p. illus. 24 cm. $6 00. 6287

Contents: General principles and common features. The transformer. General principles of rotating machines. The polyphase induction motor. Single phase induction motor. Alternating current commutator machines. The synchronous generator and motor. The synchronous converter. Appendices. The distribution summations. Armature reaction. Permeance and flux density. Induced voltages. Index.

Note: The chief types of alternating current machines are treated analytically in this rather unusual textbook. Various methods of analysis are presented, although the author derives "general equations of voltage" and "a general equation of armature reaction which offer comparatively simple ways of analyzing any electrical machine. These equations are the high point of the presentation, but the book has [illegible] number of other features not often encountered in introductory textbooks. It was developed at Lehigh University where the author is head of the Electrical Engineering Department and Director of the Curriculum in Electrical Engineering.

BLALOCK GROVER CLEVELAND

Direct-current machinery New York McGraw Hill Book Company Inc., 1947 367 p. illus. 21 cm. $6.00. 6288

Contents: Electromagnetic induction. The dynamo. Armature windings. Commutation, armature reaction. Operation of generators. Generator characteristics. Direct-current motors. Motor control. Losses, efficiencies. Ratings, weights, and costs. Special types and applications. Testing and maintenance. Batteries. Visual aids. Index.

Note: In the introductory text, the exposition is relatively simple, and there is considerable emphasis on applications. Intended chiefly for junior students in engineering and technical schools, it should be useful, also, as [illegible] review book or self-instruction text. The discussion assumes that the reader will have had some groundwork in engineering mathematics and electrical theory

STEVENSON, WILLIAM D, JR

Elements of power system analysis. New York McGraw Hill Book Company, Inc., 1955 370 p illus 24 cm. (McGraw Hill electrical and electronic engineering series, Frederick Emmons Terman, consulting editor) $7 50 6277

Contents. General background. Inductance of transmission lines. Capacitance of transmission lines. Resistance and skin effect. Current and voltage relations on a transmission line. Generalized circuit constants. Circle diagrams. Representation of power systems. Symmetrical three-phase faults on synchronous machines. Symmetrical components. Unsymmetrical short circuits on an unloaded generator. Sequence impedances and sequence networks. Unsymmetrical faults on power systems. Unsymmetrical systems Power system stability Appendixes. Index.

Note A textbook for advanced undergraduate and first year graduate students of electrical engineering who are majoring in electric power It introduces the reader to present-day techniques of analyzing electric power systems to determine such characteristics as voltage, current, power factor and stability at various points of networks under specified conditions of normal operation. Both d-c and a-c calculating boards, or network analyzers, are described as to principles and uses, however the methods taught in the book are not dependent upon the use of these devices. The expository matter includes considerable number of fully worked examples of analysis. The author is Professor of Electrical Engineering in North Carolina State College.

SUNDE, ERLING DITLEF

Earth conduction effects in transmission systems New York D Van Nostrand Company, Inc., 1949 373 p. illus 24 cm. (The Bell Telephone Laboratories series) $9 00. 6278

Contents: Basic electromagnetic concepts and equations. Earth resistivity testing and analysis. Resistance of grounding arrangements. Mutual impedance of insulated earth-return conductors. Propagation characteristics of earth-return conductors. D-c earth conduction and corrosion protection. Power system earth conduction and inductive interference. Surge characteristics of earth-return conductors. Lightning protection of cable and transmission lines. Appendix Definitions and tables of functions. References. Index.

Note. Circuit disturbances in communication and power systems and the corrosion of buried metallic structures arise in some measure from the fact that in such systems the earth is utilized as return conductor This volume discusses the basic principles and methods of analysis of earth conduction effects as they may be applied in the solution of problems relating to the prevention of these disturbances and corrosive effects. The treatment which is highly theoretical and based largely on experimental studies conducted at the Bell Telephone Laboratories, is intended for professional communication engineers and graduate electrical engineering students. A selected seven-page bibliography is included.

TARBOUX JOSEPH GALLUCHAT

Electric power equipment. Third edition New York McGraw Hill Book Company, Inc, 1946 493 p illus. 22 cm. $8 50 6279

Contents General introduction. Types of power plants. Load graphs and their significance. Generating equipment. Synchronous generator excitation. Electrical power-plant circuit layouts. Transformers. Transformer connections Switchboards and switchboard layouts. Switching equipment. Switching and control devices. Meters and measurements. Short-circuit currents. Transmission-line calculation. Transmission-line installation. Protection of electrical systems. Transmission-line disturbances and protection. Substations. Distribution systems. Economics of electric service. Appendices Typical power-plant designs. Reports and problems. Experiments. Index.

Note. This work is designed primarily as textbook or reference book for students in electrical engineering who have already had fundamental course covering electrical circuits and machinery Into the volume has been gathered the essential elements to enable the student to "obtain 'a bird's-eye view' of the entire field of electrical power equipment from the point of generation to the customers' meter center In the third edition, the text has been revised at frequent intervals in order to cover changes and developments in the power-equipment field since the publication of the second edition in 1932 In order not to increase the size of the book, some material has been deleted. In some instances the discussion has been expanded in the interest of clarity as for examples in the chapters on Generating equipment, Synchronous generator excitation, and Transformers.

TARBOUX, JOSEPH GALLUCHAT

Introduction to electric power systems. Revised edition Scranton, Pa. The International Textbook Company, 1949 395 p. illus 21 cm. (International texts in electrical engineering, E E Dreese, consulting editor) $6 75 6280

Contents. Introduction. Resistance, inductance, and capacity Transmission line inductance. Inductance by geometric mean distances. Conductors with earth return. Transmission line capacity The long transmission line. Generalized circuit equations. Circle diagrams. Symmetrical components. Alternator impedances. Two winding transformer impedances. Short transmission line impedances. The long line impedances. Sequence networks. Short-circuit calculations of power networks. Three-winding transformers. Circuits for the measurement of component currents, voltages and power. Circuits with unbalanced impedances. Alternator transients. System stability. Transmission line surges. Problems. Appendices. Index.

Note. An undergraduate textbook based on lectures given by the author to students at the University of Tennessee. The subject is treated from the point of view of students he will eventually be concerned with the operation of power lines rather than with their design. Some topics are treated briefly in line with the author's aim of giving broad view of the subject. Problems for each chapter are given in the appendix, together with tables of hyperbolic, exponential and trigonometric functions, tables of cable sizes, and similar related information.

WEINBACH, MENDELL PENCO

Electric power transmission. New York The Macmillan Company, 1948 362 p illus. 24 cm. $6 75 6281

Contents: Circuit properties of transmission lines. Transmission line formulas. Applications of the transmission formulas. Equivalent circuits of transmission lines. Line with transformers. Voltage control of transmission systems. Steady state power limits. Faulted transmission systems. Transient stability System instability Appendices. Index.

Note: A first text in the subject for electrical engineering students who have had the required preliminary education in mathematics and electrical theory The problems of electric power transmission only are considered, and no attempt is made to describe such related matters as equipment, methods of installing transmission lines, etc. The approach is largely mathematical and each chapter illustrates methods of analyzing and solving particular type of transmission problem.

ZABORSZKY, JOHN, AND JOSEPH W RITTENHOUSE

Electric power transmission the power system in the steady state. New York The Ronald Press Company, 1954 676 p. illus. 24 cm $12.50 6282

Contents. Inductive reactances of transmission lines. Conductor resistance, skin effect, load-carrying capacity Capacitive reactance of transmission lines. Corona. Constants of underground cables. Transmission line with distributed constants. Performance of a power transmission line in the steady state. Steady performance calculations on the power system. Regulation of voltage in the power system. Load frequency regulation in the power system. Power system economy Appendixes. Index.

Note A substantial addition to the literature of electric power transmission systems. The authors are faculty members of the School of Mines and Metallurgy at the University of Missouri, and the book is organized for use as text. However, because of its thorough coverage and its inclusion of material not found in other texts and treatises, it is of value to graduate engineers who are actively engaged in the design or control of power systems. The authors claim the inclusion of important original material not previously published anywhere and they have also included much material hitherto available only in scattered articles. Excellent lists of literature references appear throughout the book.

FITZGERALD, ARTHUR EUGENE, AND CHARLES KINGSLEY JR.

Electric machinery an integrated treatment of a-c and d-c machines. New York McGraw-Hill Book Company Inc., 1952 [illegible] p. illus. 24 cm. (McGraw Hill electrical and electronic engineering series Frederick E. Terman, consulting editor) $8.50. 6295

Contents: Physical aspects of electromechanical energy conversion. Electromechanical-energy-conversion principles. Basic concepts of rotating machines. Introduction to machine analysis. D-c machines—analysis of performance. D-c machines—application aspects. Synchronous machines—analysis of performance—effects of saturation and salient poles. Polyphase induction machines. Fractional-horsepower a-c motors. Control-type generators and self-synchronous motors. Electrical transients in machines and systems of machines. Dynamics of electromechanically coupled systems. Appendix: Basic theory of transformers. Table of constants and conversion factors. Index.

Note: A new textbook designed for use by advanced undergraduate students of electrical engineering. In it is presented an unified study of rotating machines, based on the concept of interaction between the magnetic fields of stator and rotor. Steady-state conditions in the machine and its system are assumed in most of the book, but in the final chapter the reader is introduced to unbalanced transients such as arise in the starting of motors, the oscillations of synchronous machines, etc. The authors are members of the faculty of the Massachusetts Institute of Technology

GIBBS, J B.

Transformer principles and practice. Second edition. New York McGraw Hill Book Company Inc., 1950 236 p. illus. 23 cm. $3.00. 6296

Contents: Single-phase and three-phase transformers. Coils and [illegible]. Transformer cooling. Temperature indicators. Ratio adjustment. Transformer oil and Askarel. Maintaining oil quality. Mechanical forces in transformers. Transformer insulation and lightning protection. Transformer polarity. Parallel operation of transformers. Phase transformation. Special applications of standard transformers. Autotransformers. Phase transformation by autotransformers. Instrument transformers. Current-limiting reactors. Transformer testing. Care and operation of transformers. Transformer calculations. Index.

Note: A practical treatment of the principles, construction features, testing, connections and operation of transformers. It is designed for electricians and utility system technicians who are concerned with transformers in their work. Some elementary algebra is used, but generally speaking, the treatment is non-mathematical. The first edition was published in 1937. The book was reorganized, and one chapter was added in the second edition. The author is associated with the Westinghouse Electric Corporation

GRAHAM KENNARD CODVILLE

Small commutator motors. Chicago American Technical Society 1952 283 p. illus. 22 cm. $4.90. 6297

Contents: General theory of repulsion—motor operation. Armature windings. Winding hand-wound armatures. Repairing motors with form-wound coils. Types of repulsion motors. Accessory features of repulsion motor construction. Theory of direct-current motors. Winding direct-current motors. Assembly—trouble shooting direct-current motors. Index.

Note: A book for practical students studying in organized vocational courses or at home. It covers both a-c and d-c motors with commutators. The basic theory of such motors is explained simply but the main emphasis is on armature winding and other repair operations. The text is clearly written in simple language and is supplemented by a generous number of illustrations. Mathematics is almost wholly absent.

GREEN PHILIP T

Electrical testing and troubleshooting. New York The Industrial Press, 1956 191 p. illus. 23 cm. $4.00. 6298

Contents: Electrical symbols and drawings. Analyzing and charting controller operation. Troubleshooting test equipment. Insulation testing. Locating grounds. Electromagnet windings. D-c machine windings. Single-phase transformers. Phase sequence. Polyphase windings. Polyphase transformers. Polyphase induction motors. Synchronous machines. Power cable faults. Bearing lubrication.

Note: The locating and correcting of faults in electrical machinery and power cables of the kinds employed in marine and industrial electrical machinery installations are treated in this book. Although entirely self-contained, it is in effect supplementary to standard texts for electricians, in which the troubleshooting of motors, dynamos, etc., is treated. Many of the tests and troubleshooting procedures described can be performed with the weak currents supplied by standard magnetos or dry cells. The author gives credit for some of the material to men in the Canal Zone Unions 397 and 677 of the International Brotherhood of Electrical Workers. This source may explain the attention paid to d-c machinery and power cables. The book is clearly written and adequately illustrated, but there are no references to other literature.

HARWOOD PAISLEY B

Control of electric motors. Third edition. New York John Wiley & Sons Inc., 1952 538 p. illus. 24 cm. $9.50. 6299

Contents: Introduction. Wiring diagrams. Construction of control apparatus. Pilot devices and accessories. Direct-current contactors and relays. Automatic accelerating methods for direct-current motors. The direct-current shunt motor. Shunt field relays and rheostats. Adjustable-voltage controllers. Automatic regulating systems. The direct-current series motor. Two-motor drives. Dynamic braking hoist controllers. Alternating-current contactors and relays. Automatic accelerating methods for alternating-current motors. The polyphase squirrel-cage motor. The wound-rotor motor. Single-phase motors. The synchronous motor. Magnetically operated brakes. Resistor design. Tables. Index.

Note: A standard work which is used both as a text in engineering colleges and as a practical survey for engineers and other technical personnel in industry whose work requires a knowledge of controlling devices for motors. Information is included on the design, construction, and applications of controllers and on controlling elements and systems for various types of motors. The second edition was published in 1944. Many changes were made in both the text and illustrations, and much new matter was added in preparing this edition.

HEUMANN GERHART W

Magnetic control of industrial motors. Second edition. New York John Wiley & Sons, Inc., 1954 714 p. illus. 24 cm. $11.50 6300

Contents: Symbols and diagrams. Principles of direct-current motor operation. Principles of alternating-current motor operation. Direct current contactors and relays. Alternating-current contactors and relays. Accessories. Pilot devices. Electronic devices. Resistors and rheostats. Construction of control panels. Basic direct-current control circuits. Basic alternating-current control circuits. Amplidyne control circuits. Protection. Solenoids, thrustors, brakes. Manual controllers. General-purpose controllers. Direct-current intermittent-duty controllers. Alternating-current intermittent duty controllers. Maintenance of control equipment. Index.

Note: An authoritative book written by a member of the staff of the Industry Control Department of the General Electric Company. It is addressed primarily to engineers and, as the title indicates, it deals primarily with magnetic methods of controlling motors. It does not cover electronic methods, although a short chapter is included in which an outline of this class of motor control is given. The principles of magnetic controls are thoroughly covered, and the same can be said about the mechanical and electrical details of typical devices. The first edition was published in 1947 and was 580 pages in length. A substantial amount of material has been added to this second edition on new developments in magnetic controller design, NEMA standards, revised requirements of the National Electrical Code, etc.

HUBERT CHARLES I.

Preventive maintenance of electrical equipment preventive programs, trouble shooting emergency repairs, operating techniques. New York McGraw Hill Book Company Inc., 1955 214 p. illus. 24 cm. $4.00. 6301

Braymer, Daniel Harvey, and A. C Roe

Rewinding small motors, practical details of repair shop practice with step-by step procedure for rewinding all types and designs of fractional horsepower direct and alternating current motors. Third edition. New York McGraw Hill Book Company, Inc., 1949 422 p. illus. 24 cm. $6 00 6289

Contents (abridged) Part I, General data and direct-current armatures. Recording winding data and stripping direct-current armature. Back lead and machine loop windings. Special chorded split-pitch loop winding. Parallel two-coil loop winding. How to determine the position of the commutator on the shaft. Connecting up hand-wound armatures. Part II Rewinding procedure for small alternating-current single-phase motors: Information to record for small alternating-current motors before stripping them. How to make up a skein and wind it in small alternating-current stators. Rewinding small universal motors. Rewinding a compensated series motor Single-phase fan-motor windings. Three special alternating-current motors. Part III, Rewinding procedure for small alternating-current three-phase motors Rewinding small three-phase stators. Diamond to round end coils. Chord factors for three-phase windings. Overlap windings. Round end overlap silicone winding. Index.

Note. One of the standard shop books for motor repairmen and armature winders. In its present edition it is intended as a companion volume to C. G. Veinott's *Fractional horsepower electric motors* (see below) Together the two books provide a thorough coverage of small motors, such as are commonly used to drive vacuum cleaners, fans, domestic water pumps, etc. Revisions in the third edition of the present title are important and have to do with such matters as the newly developed insulating materials. As in previous editions, rewinding operations are described in specific detail.

Chute, George M

Electronic motor and welder controls. New York McGraw Hill Book Company, Inc., 1951 348 p illus. 24 cm $7 00 6290

Contents (abridged) Part I, Resistance welding controls: Basic welding controls. G-E sequence weld timers. G-E high-speed sequence combinations. Synchronous timing. G-E synchronous combinations. Slope control, temper welding and forge timing. G-E seam-welding controls. Westinghouse synchronous combinations. Welding with limited power supply Three-phase welding controls. Part II, Motor controls. Position controls. Photoelectric register controls. Motor-generator control of motor speed. The electronic amplidyne. The photoelectric tracer Rubber calendar control. Multicolor printing. Paper-machine control. Index.

Note. A practical book suitable for shop electricians, plant engineers, and others whose work includes the selection, installation, or maintenance of electronic controls for resistance welders and motor-operated machines. The general principles of such controls are discussed briefly but most of the book is devoted to specific descriptions of the mechanisms, circuits, and operation of standard commercial controls. More recent types of controls and, generally speaking, more explicit descriptions of them are provided in this book than in the author's *Electronic control of resistance welding* (1943) and *Electronics in industry* (1946)

Concordia, Charles

Synchronous machines theory and performance. New York John Wiley & Sons, Inc. 1951 224 p 23 cm $7 50 6291

Contents. Physical description of a synchronous machine. Mathematical description of synchronous machine. Steady-state, balanced, synchronous operation. Three-phase short-circuit current. Single-phase short-circuit current. Double-line-to-ground short circuit and sequential faults. Short-circuit torques. Starting torque. Voltage dip. Appendixes. References. Bibliography Index.

Note Most of the world's electric power is generated by synchronous generators and is turned back into work by other synchronous machines ranging in size from the small motors in electric clocks to the largest alternating-current motors in use in industry This book is devoted to the theory of the transient performance of such machines, that is their behavior under short-circuits, starting loads, etc. The subject is treated mathematically and the book's chief purpose is to aid graduate engineers in finding solutions by means of mathematics to new problems encountered in the design and operation of synchronous machines.

Crouse, William Harry

Electrical appliance servicing New York McGraw Hill Book Company, Inc., 1950. 854 p. illus. 24 cm $10 00 6292

Contents (abridged) Section 1 Fundamentals. Principles of electricity Physical principles. Magnetism and motors. Transformers, generators, and batteries. Home wiring. Section 2, Resistance-heating appliances: Electric heaters. Automatic electric waffle-bakers. Electric coffee makers. Electric irons. Electric toasters. Electric water heaters. Electric broilers and roasters. Electric ranges. Section 3, Motor-driven appliances Fans and blowers. Electric water pumps, lawn mowers, and floor waxers. Food mixers. Electric clocks. Vacuum cleaners. Electric ironers. Garbage disposers. Electric dishwashers. Electric washing machines. Automatic electric and gas clothes dryers. Sewing machines. Section 4, Refrigeration and air conditioning. Refrigerator service. Air conditioners. Appendixes. Index.

Note. A comprehensive book on the repair of household electrical appliances. It is written primarily for men who are in the business of repairing such appliances and for students who are preparing to enter the business. Its arrangement suits it for use either as a textbook in organized vocational courses or as a reference book. As might be expected, the information on a particular type and make of appliance is not as detailed as would be provided in a manufacturer's manual. However a better picture is given of general servicing procedures, and in many cases enough information is supplied to enable the service man to make repairs without consulting the manufacturer's manual.

Drinkall, Leon Ray, *and others*

Alternating current motors, operation, connection, and maintenance by L. R. Drinkall, Frank Hodik, and E T Groat. Chicago American Technical Society, 1948 367 p. illus. 22 cm (American Technical Society electrical series) $4 00 6293

Contents. Types of alternating-current motors, by L. R. Drinkall. Types of alternating-current generators, by L. R. Drinkall. Operating a.c. generators and motors, by J. A. Spencer and E. T. Groat. Universal motors, by H. E. Stafford. Repulsion-induction motors, by H. E. Stafford. Polyphase induction motors, by H. E. Stafford. Synchronous motors, by H. E. Stafford. Alternating-current motor starters, by G. O. Wilms. Controls for alternating-current motors, by Frank Hodik. Use of resistors for controlling motors, by Frank Hodik. Index.

Note. In this simplified, practical guide prepared for the use of motor operators and maintenance men, emphasis is placed on the general principles of operation and construction of a.c. motors, but specific types of motors are also described in detail. Trouble-shooting charts are included for simplifying the analysis and repair of breakdowns.

Dusenbery, H. Syril

Direct current motor manual. New York The Macmillan Company 1950. 275 p. illus. 22 cm. $4 50 6294

Contents. Basic principles. Frames and enclosures. Motor bearings. The motor field. The armature. Armature windings. Commutation. Commutator care. Motor brushes. Installing and maintaining brushes. Insulating materials. The series motor. The shunt motor. The compound motor. Selection and application. Testing motors. Motor troubles. Reconnecting direct current motors. Starting the motor. Motor protection. Stopping the motor. Reversing the motor. Basic speed control. The direct current generator. Variable voltage speed control. Regulating exciters. Electronic rectifiers. Electronic speed control. Control maintenance. Resistors and rheostats. Mechanical drives. Code requirements. Appendix of useful information. Glossary Index.

Note. A practical book for persons who are active in the installation, operation, and maintenance of modern direct current motors and associated control equipment. It contains, in addition to the material on motors, a good descriptive treatment of new electronic devices for rectification and speed control which has recently increased interest in direct current motors. Very little mathematics is employed. Tables of the physical properties of materials used in motors should be convenient for electricians and others employed in the practical end of the field.

FITZGERALD, ARTHUR EUGENE, AND CHARLES KINGSLEY, JR.

Electric machinery an integrated treatment of a-c and d-c machines. New York McGraw Hill Book Company Inc., 1952 491 p. illus. 24 cm. (McGraw Hill electrical and electronic engineering series Frederick E. Terman, consulting editor) $8.50 6295

Contents: Physical aspects of electromechanical energy conversion. Electromechanical-energy-conversion principles. Basic concepts of machine performance. Introduction to machine analysis. D-c machines—analysis of performance. D-c machines—application aspects. Synchronous machines—analysis of performance—effects of saturation and [illegible]. Polyphase induction machines. Fractional-horsepower a-c motors. Control-type generators and self-synchronous machines. Electrical transients in machines and systems of machines. Dynamics of electromechanically coupled systems. Appendix: Basic theory of transformers. Table of constants and conversion factors. Index.

Note: A new textbook designed for use by advanced undergraduate students of electrical engineering. In it is presented an integrated study of rotating machines, based on the concept of interaction between the magnetic fields of stator and rotor. Steady-state conditions in the machines and its systems are [illegible] in most of the book, but in the final chapter the reader is introduced to [illegible] such as arise in the starting of motors, the [illegible] of synchronous machines, etc. The authors are members of the faculty of the Massachusetts Institute of Technology.

GIBBS, J. B.

Transformer principles and practice. Second edition. New York McGraw Hill Book Company Inc., 1950. 236 p. illus. 23 cm. $3.00. 6296

Contents: Single-phase and three-phase transformers. Coils and [illegible]. Transformer cooling. Temperature indicators. [illegible]. Transformer oil and Askarel. Maintaining oil quality. [illegible] in transformers. Transformer insulation and lightning [illegible]. Transformer polarity. Parallel operation of transformers. [illegible] transformers. Special applications of standard transformers. [illegible]. Phase transformation by autotransformers. Instrument transformers. Current-limiting reactors. Transformer testing. [illegible] and operation of transformers. Transformer calculations. Index.

Note: A practical treatment of the principles, construction, [illegible], testing, connections and operation of transformers. It is designed for electricians and utility system technicians who are concerned with transformers in their work. Some elementary algebra is used, but generally speaking, the treatment is non-mathematical. The first edition was published in 1937. The book was reorganized, and one chapter was added in the second edition. The author is associated with the Westinghouse Electric Corporation.

GRAHAM, KENNARD COOVILLE

Small commutator motors. Chicago American Technical Society 1952 283 p. illus. 22 cm. $4.90 6297

Contents: General theory of repulsion—motor operation. Armature windings. Winding hand-wound armatures. Repairing motors with [illegible] coils. Types of repulsion motors. Accessory features of repulsion-motor construction. Theory of direct-current motors. Winding direct-current motors. Assembly—trouble shooting direct-current motors. Index.

Note: A book for practical students studying in organized vocational courses or at home. It covers both a-c and d-c motors with commutators. The basic theory of each motor is explained [illegible], but the main emphasis is on armature winding and other [illegible]. The text is clearly written in simple language and is supplemented by [illegible] number of illustrations. Mathematics is [illegible].

GREEN PHILIP T

Electrical testing and troubleshooting. New York The Industrial Press, 1956 191 p. illus. 23 cm. $4.00. 6298

Contents: Electrical symbols and drawings. Analyzing and charting controller operation. Troubleshooting test equipment. Insulation testing. Locating grounds. Electromagnet [illegible]. D-c machine windings. Single-phase transformers. Phase sequence. Polyphase transformers. Polyphase induction motors. Synchronous machines. Power cable faults. Bearing lubrication.

Note: The locating and correcting of faults in electrical machinery and power cables of the kinds employed in marine and industrial electrical machinery installations are treated in this book. Although entirely self-contained, it is in effect supplementary to standard texts for electricians, in which the troubleshooting of motors, dynamos, etc., is treated. Many of the tests and troubleshooting procedures described can be performed with the [illegible] currents supplied by [illegible] or dry cells. The author gives credit for most of the material to men in the Canal Zone Locals 397 and 677 of the International Brotherhood of Electrical Workers. This source may explain the attention paid to d-c machinery and power cables. The book is clearly written and adequately illustrated, but there are no references to other literature.

HARWOOD PAISLEY B

Control of electric motors. Third edition. New York John Wiley & Sons, Inc., 1952 538 p. illus. 24 cm. $9.50. 6299

Contents: Introduction. Wiring diagrams. Construction of control apparatus. Pilot devices and accessories. Direct-current contactors and relays. Automatic accelerating methods for direct-current motors. The direct-current shunt motor. Shunt field relays and rheostats. Adjustable-voltage controllers. Automatic regulating systems. The direct-current series motor. Two-motor drives. Dynamic braking hoist controllers. Alternating-current contactors and relays. Automatic accelerating methods for alternating-current motors. The polyphase squirrel-cage motor. The wound-rotor motor. Single-phase motors. The synchronous motor. Magnetically operated brakes. Resistor design. Tables. Index.

Note: A standard work which is used both as a text in engineering colleges and as a practical survey for engineers and other technical personnel in industry whose work requires knowledge of controlling devices for motors. Information is included on the design, construction, and applications of controllers and on controlling elements and systems for various types of motors. The second edition was published in 1944. Many changes were made in both the text and illustrations, and much new matter was added in preparing this edition.

HEUMANN GERHART W

Magnetic control of industrial motors. Second edition. New York John Wiley & Sons, Inc., 1954 714 p. illus. 24 cm. $11.50 6300

Contents: Symbols and diagrams. Principles of direct-current motor operation. Principles of alternating-current motor operation. Direct-current contactors and relays. Alternating-current contactors and relays. Accessories. Pilot devices. Electronic devices. Resistors and rheostats. Construction of control panels. Basic direct-current control circuits. Basic alternating-current control circuits. Amplidyne control circuits. Protection. Solenoids. Thrustors. Brakes. Manual controllers. General-purpose controllers. Direct-current intermittent-duty controllers. Alternating-current intermittent duty controllers. Maintenance of control equipment. Index.

Note: An authoritative book written by a member of the staff of the Industry Control Department of the General Electric Company. It is addressed primarily to engineers and, as the title indicates, it deals primarily with magnetic methods of controlling motors. It does not cover electronic methods, although a short chapter is included in [illegible] an outline of this class of motor control is given. The principles of magnetic controls are thoroughly covered, and the same can be said about the mechanical and electrical details of typical devices. The first edition was published in 1947 and was 580 pages in length. A substantial amount of material has been added in this second edition on new developments in magnetic controller design, NEMA standards, revised requirements of the National Electrical Code, etc.

HUBERT CHARLES I.

Preventive maintenance of electrical equipment preventive programs, trouble shooting, emergency repairs, operating techniques. New York McGraw Hill Book Company Inc. 1955 214 p. illus. 24 cm. $4.00. 6301

Contents Part I, Preventive maintenance: Insulation. Commutators—slip rings—brushes. Brush neutral. Transformers. Overload. Fuse protection of circuits and machines. Controllers. Disassembly of machines. Bearings. Industrial electronic apparatus. Fluorescent lights. Storage batteries. Fire fighting. Name-plate data. Spare parts. Bibliography Part II, Trouble shooting and emergency repairs: Operational difficulties. Field troubles. Armature troubles (direct current) Three-phase stator troubles. Squirrel-cage-rotor troubles. Wound-rotor troubles. Single-phase induction-motor troubles. Rebanding rotating apparatus. Motor-controller troubles. Capacitors. Instruments and tools for electrical maintenance and trouble shooting. Bibliography Part III, Operating techniques. Parallel operation of alternators. Parallel operation of direct-current generators. Operation of electric motors and controllers. Operation of transformers. Questions and problems. Identification of electrical apparatus. Appendix. Visual aids. Index.

Note. A practical book addressed to vocational school students, electricians and maintenance supervisors in plants and officers and technicians on ships. Both preventive maintenance and repairs to electrical machinery are covered explicitly Numerous trouble-shooting and repair operations are not only described but are shown in clearly reproduced illustrations.

JAMES, HENRY DUVALL, AND LEWIS EDWIN MARKLE

Controllers for electric motors, a treatise on the modern motor controller with typical applications to the industries Second edition New York McGraw Hill Book Company, Inc., 1952 426 p illus. 24 cm. $7 50 6302

Contents: Function and types of control. How to read controller diagrams. How to make controller diagrams. Magnetic contactors. Starting characteristics of motors with different methods of control. Methods of accelerating motors. Methods of speed control. Control for cranes, hoists, and other special applications. Mechanical and dynamic braking. Regeneration. Voltage control for direct-current motors. Amplifiers used for motor control. Magnetic amplifiers. Series-parallel control and the electro pneumatic contactor Adjustable-speed alternating-current motors of the wound-rotor type. Resistors. Manual controllers. Direct-current magnetic-contactor controllers. Alternating-current controllers. Synchronous-motor control. Electron-tube control. Remote and supervisory control. Protective devices. National codes, installation, and maintenance. Past and future control developments. Index.

Note. A standard book for electrical engineers and other technically trained persons who select or maintain motor control equipment. It does not cover the analysis of control problems but is, instead devoted to descriptions of types of controllers, their characteristics and applications. Although numerous examples of current United States of America makes of controllers are shown in the illustrations, the authors have not described the details of specific makes. For this edition the chapter on the control of crane and hoist motors was rewritten, and numerous additions covering recent developments in motor control were added in other chapters.

KATES, EDGAR JESSE, AND H E STAFFORD

Electric generators operation and maintenance Chicago American Technical Society 1948 268 p illus 22 cm. (American Technical Society electrical series) $3 50 6303

Contents Types of alternating-current generators, by L. R. Driskall. Operating a.c. generators and motors, by J. A. Spencer and E. T Groat. Voltage regulation of direct-current generators, by E. J Kates. Voltage regulation of alternating-current generators, by E. J Kates. Parallel operation, by E. J Kates. Management of hydroelectric machinery by H. E. Stafford.

Note A simplified, practical text and reference manual for power station operators, repairmen, and maintenance men. The chief purpose of the book is to provide information which will decrease breakdowns, save time in analyzing difficulties, and aid in making rapid repairs. The commonly occuring generator troubles are listed along with the probable causes and the remedies. Reader knowledge of the basic electrical principles is assumed.

KLOEFFLER, ROYCE GERALD AND OTHERS

Direct-current machinery by Royce G Kloeffler Russell M Kerchner and Jesse L Brenneman Revised edition. New York The Macmillan Company, 1948 395 p. illus. 24 cm. $5 75 6304

Contents. The dynamo. Dynamo principles. The dynamo magnetization curve. Armature windings. Armature reaction. Reactance voltage and commutating poles. Dynamo voltage characteristics. Operation of generators. Motor speed and torque characteristics. Starting and speed control of motors. The three-wire distribution system. Efficiency of dynamos. Testing of dynamos. Special direct-current machines and applications. Rating, weight, and cost of dynamos. Commutation. Units and fundamental concepts. Index.

Note A standard text for use in undergraduate engineering courses. Emphasis is placed on the practical rather than the theoretical aspects of the subject, but there is also adequate discussion of theory A fair amount of new material has been added in this edition. This includes discussions of such topics as the amplidyne, multiple-field exciters, airplane generators, and recent information on interface films between brushes and commutators. The book has been re-set and the format considerably improved.

KRON, GABRIEL

Equivalent circuits of electric machinery New York John Wiley & Sons, Inc., 1951 278 p. illus. 24 cm. $12 00 6305

Contents Prologue—The philosophy of equivalent circuits. The physical model. The primitive machine at standstill. The primitive machine at constant speed. The transformation of reference frames. Induction machines. Synchronous machines. Commutator machines. Stationary networks. Interconnected machines. Space harmonics. Time harmonics. Sudden short circuits and load variations. Epilogue—The electrodynamics of equivalent circuits. Appendixes: Reestablishment of the transient dynamical equations from the equivalent circuits. Design constants of the shaded-pole motor. Visualizable and nonvisualizable physical vectors.

Note. A book of interest to designers of electric machines and to other engineers who must have a fundamental knowledge of them. In it the electrical properties of rotating electric machines and groups of machines are reduced to stationary electric circuit models, which the author terms equivalent circuits. How the stationary models are constructed is shown step by step for most types of machines. Uncommon machines such as the Scherbius are covered, as well as more common types. The book is both original and important. The author is associated with the General Electric Company and the book appears in the "General Electric series.

KUHLMANN, JOHN HENRY HELWIG

Design of electrical apparatus, by John H Kuhlmann assisted in the preparation of the third edition by N F Tsang New York John Wiley & Sons, Inc., 1950 512 p. illus 24 cm. $8 00 6306

Contents Section I, Direct current machines: Construction. Voltage formula and output equation. Armature windings and insulation. The magnetic circuit. Armature reaction and field winding design. Commutation and commutating pole design. Losses, efficiency and temperature rise. Sample design. Section II, Synchronous machines: Construction. Voltage formula and output equation. Armature winding and insulation. Magnetic circuit. Armature reaction in synchronous machines. Losses, efficiency and temperature rise. Sample design of synchronous motor Section III, Induction motors: Construction. The stator. The rotor. Motor characteristics. Fractional-horsepower single-phase motor design. Section IV Transformers: Construction. Core and windings. Operating characteristics. Sample transformer designs. Appendix. List of symbols. Index.

Note A standard book of practical design methods. It is used primarily as a textbook in engineering colleges, but it is suitable also as a guide for graduate engineers who are preparing to enter the field of design. Basic theory practical procedures, and design limits are all covered. The exposition includes numerous sample calculations. The second edition was published in 1940. Changes made in preparing this edition include an extensive revision of the section on induction motors and numerous less extensive changes in other sections.

LANGSDORF, ALEXANDER S

Theory of alternating-current machinery Second edition New York McGraw Hill Book Company Inc., 1955 666 p. illus. 24 cm. $8 50 6307

Contents: Fundamental principles of the transformer. Transformer construction and operation. Transformer structure, insulation, heating and load current. Fundamental principles of rotating machinery. Fundamental principles of asynchronous machines. Basic theory of polyphase induction motors. Relations between operating parameters and machine dimensions. Operational features of polyphase induction machines. The single-phase induction motor. The synchronous generator—motor. Parallel operation of synchronous generators. The synchronous converter. Phase and frequency converters. Commutator machines. The mercury-arc rectifier. Problems. Index.

Note: A substantial exposition of the principles, properties, and operating characteristics of alternating-current machines. The book is outstanding for its scope and for its careful analysis of such [illegible] as the complex transient conditions that occur during the [illegible] of synchronous motors. Although mathematics is [illegible] used, the analyses of such situations are expressed in large part in physical terms. Also, extensive use is made of geometrical representation. The first edition was published in 1937. For this second edition the book was rearranged to some extent. The discussions of circuit theory were eliminated. The chapter on the mercury-arc rectifier was added, and other revisions were made.

LAWRENCE, RALPH R.

Principles of alternating-current machinery. Fourth edition. Revised by Henry E. Richards. New York McGraw Hill Book Company Inc. 1953 623 p. illus. 24 cm. $8.50. 6308

Contents (abridged): Part I, Static transformers. Part II, Synchronous generators. Part III, Synchronous motors. Part IV, Parallel operation of synchronous generators. Part V, Polyphase induction motors. Part VI, Single-phase induction motors. Part VII, Series and repulsion motors. Part VIII, Synchronous converters. Part IX, Mercury-arc rectifiers. Index.

Note: Originally developed in courses taught by the senior author at Massachusetts Institute of Technology, this text has been used in engineering colleges in the United States of America since the publication of the first edition in 1916. It provides an introductory but full and clear exposition of the principles underlying the construction and operation of alternating-current machines. In this fourth edition, [illegible] organized in nine parts whose titles are listed above and in 31 chapters. The eighth and ninth parts were added in this edition. Also there has been some rearrangement of the order of chapters and revisions of paragraphs and larger sections. Problems for students to solve have been added.

LIWSCHITZ-GARIK, MICHAEL

D-c and a-c machines based on fundamental laws. By Michael Liwschitz-Garik, assisted by Robert T. Weil Jr. New York D. Van Nostrand Company 1952 508 p. illus. 24 cm. $7.25 6309

Contents (abridged): The fundamental laws. D-c armature windings. The magnetic circuit. The d-c generator. The d-c motor. Some special d-c machines. Transformer construction. The phasor diagram and equivalent circuit of the transformer under load. Determination of parameters from no-load and short-circuit test. Parallel operation of transformers. A-c armature windings. The polyphase induction motor as transformer. Circle diagram of the polyphase induction motor. Determination of parameters from no-load and locked-rotor test. Starting and speed control of the polyphase induction motor. Some special induction machines. The single-phase induction motor. Starting the single-phase motor. Equivalent circuit of the synchronous machine. Small synchronous motors. Hunting of synchronous machine. The synchronous converter. The d-c armature in an alternating magnetic field. The single-phase series commutator motor. The repulsion motor. The 3-phase shunt commutator motor (The Schrage motor). Appendices. List of symbols. Conversion table. References. Answers to problems. Index.

Note: A textbook for engineering courses. The importance of four fundamental laws, Faraday's law of induction, Kirchhoff's law of the electric circuit, circuital law of the magnetic field (Ampère's law); and law of force on a conductor in a magnetic field (Biot-Savart law) is constantly emphasized. The author's method of instruction is to guide the student in the selection of those laws that apply to a particular problem, to derive the fundamental equations for the machine in question, and then to demonstrate the derivation of the machine's characteristics from these equations. The book is written in a direct, easily-read style, and the derivations are adequately detailed. The author is a member of the faculty of the Polytechnic Institute of Brooklyn.

LIWSCHITZ GARIK, MICHAEL

Direct-current machines, by Michael Liwschitz Garik assisted by Clyde C. Whipple. Second edition. New York D Van Nostrand Company Inc. 1956. 307 p. illus. 24 cm. $6.25 6310

Contents: Part I, Fundamentals of d-c machines. The fundamental laws. Mechanical elements of the d-c machine. d-c armature and field windings. Emf induced in d-c armature winding (application of Faraday's law of induction); electromagnetic torque (application of Faraday's law of Biot-Savart's law). The [illegible] produced by d-c machine (application of Ampère's law). Methods of excitation. Magnetic circuit (application of Ampère's law). Methods of excitation: direction of rotation of the shunt and series machine. The d-c generator. The d-c motor. Commutation. Special d-c machines and rotating amplifiers. Losses. Heating and cooling. Starting of d-c motors. Part II, Some advanced topics: Tangential forces in the electric machine. Limitations of the wave winding with respect to the number of winding elements per layer per slot. Determination of the no-load field curve. Commutation. Losses due to slot-openings and skin-effect. Heat flow and temperature rise of the windings and iron. Approximate determination of the field-distribution curve. The two-stage and three-stage rototrols. Index.

Note: The first part of this book is designed for the instruction of undergraduate students of engineering, and is a traditional introduction to direct-current machines. In contrast, the second part of the volume entitled "Some advanced topics" is directed to graduate students and practicing engineers. It presents at a level suited to this audience the topics named in its chapter titles, and includes, among other things, an extended analytical treatment of commutation. The book first appeared as the first volume of the author's *Electric machinery* 1946. In the second edition it has been revised, completed and made independent of the volume on a-c machines. The author is a member of the faculty of the Polytechnic Institute of Brooklyn.

LIWSCHITZ-GARIK, MICHAEL

Winding alternating-current machines a book for winders, repairmen, and designers of electric machines. By Michael Liwschitz Garik, assisted by Celso Gentilini. New York D Van Nostrand Company Inc. 1950. 766 p. illus. 24 cm. $9.50 6311

Contents: Classification of a-c windings and some fundamental conceptions. Types and insulation of polyphase windings. Integral-slot lap windings. Balanced fractional-slot lap windings. Unbalanced fractional-slot lap windings. Integral-slot and (integral + 1/2)-slot 3-phase wave windings. Balanced fractional-slot wave windings. Unbalanced fractional-slot wave windings. Two and more speed polyphase windings. Reconnecting an old polyphase winding for new conditions and rewinding an old core. Single-phase windings and diagrams. Electrical faults in a-c windings. Appendices: Balanced fractional-slot lap windings laid out with respect to the main wave. Balanced fractional-slot lap windings laid out with respect to harmonics (windings with cyclic coil shift and doubly chorded windings). Balanced fractional-slot wave windings with single and double chording. Unbalanced, fractional-slot lap and wave windings. Distribution and pitch factors of integral and fractional-slot windings. List of symbols. Bibliography. Index of diagrams. Index of tables. General index.

Note: A practical instruction and reference book. It includes numerous varieties of lap and wave windings not covered in the older books on winding. A considerable part of the space is devoted to reproductions of diagrams and other illustrative material. Extensive tables show all possible series and parallel connections for pole numbers between two and 30. The main part is addressed to winders and electricians and includes no mathematical theory. The appendices contain mathematical analysis of the various types of windings and are of interest to designers of a-c machines.

MCDOUGAL, WYNNE LUTHER, AND K. C GRAHAM

Small non-commutator motors. Chicago American Technical Society 1951 265 p. illus. 22 cm. $4.25 6312

Contents: Theory of motor operation. The use of inductance in motor operation. Operations preliminary to rewinding stator. Rewinding split-phase motor. Rewinding with formed coils. The capac

tor motor. Essential features of motor construction. Special types of split-phase motors. Deviations from split-phase type. Testing motors and locating trouble. Index.

Note. A simplified treatise on alternating current motors that have no commutator and that are less than one horsepower in size. Such motors range from the simple low-power ones used in driving household electric clocks to capacitors and shaded-pole motors used in such applications as office machinery and household refrigerators. The basic principles and the elements of such motors are described as fully as possible without the use of mathematics. The book is designed for use in vocational courses in high schools and trade schools and for home study by apprentice electricians and others with practical interest in the subject.

McFarland, Thomas Clair

Alternating current machines. New York D Van Nostrand Company, Inc., 1948 540 p illus. 24 cm $7 00 6313

Contents. The single-phase transformer Special-purpose transformers. Polyphase transformations. Polyphase induction machines. The synchronous machine. The constants of synchronous machines. Performance of synchronous machines. Mechanical-type power converters. Electronic-type power converters. Single-phase motors. Alternating-current motor controls. Index.

Note. A college text based on material developed for courses given to junior and senior electrical engineering students at the University of California. The detailed discussions of special characteristics, design, construction, and operation of various types of a-c machinery require that the student have prior knowledge of a-c current theory Numerous circuit diagrams are included, but no attempt is made to describe specific commercial machines. The problems given at the end of each chapter illustrate the practical applications of the subject.

Massachusetts Institute of Technology Department of Electrical Engineering

Magnetic circuits and transformers, a first course for power and communication engineers, by members of the staff of the Department of Electrical Engineering, Massachusetts Institute of Technology New York John Wiley & Sons, Inc., 1943 718 p. illus. 23 cm (Principles of electrical engineering series) $7 50 6314

Contents. Properties of ferromagnetic materials, the magnetic-circuit concept. Principles of magnetic-circuit computations. Permanent magnets and energy in the magnetic field. Losses in magnetic cores containing time-varying fluxes. Alternating-current excitation characteristics of iron-core reactors and transformers. Model theory and design of iron-core reactors. Thermal properties and heat flow General design and cost considerations. Transformers: general principles. Physical features of transformers. Magnetic leakage in transformers. Leakage inductances. Voltage regulation, efficiency and rating. Autotransformers. Economy in power-system transformer applications. Self and mutual inductances. Frequency characteristics. Special applications of transformers in power systems. Applications of transformers in telephone systems. Three-phase connections general considerations. Effects of transformer impedances in balanced three-phase circuits. Harmonic phenomena in three-phase circuits. Unbalanced conditions in three-phase transformer banks. Three-phase connections of autotransformers. Three-phase transformers. Multicircuit transformers. Transformer connections for phase transformation. Parallel operation of transformers. Appendices. Bibliography Index.

Note A feature of this book is that practical applications are made to both heavy-current power and light-current control, measurement, and communications problems. The material is presented both through mathematical analysis and through physical interpretation of the phenomena. The first part of the book deals with magnetic circuits. It includes discussions of the current theory of ferromagnetism, the derivation of the magnetic circuit concept, and the development of the fundamental principles for computation of the behavior of magnetic circuits. Also included are a treatment of iron-core reactors by means of model theory and a concise summary of thermal-circuit problems. Part II, on transformers, surveys first some general principles involved in the design and manufacture of all electric apparatus. It then applies the general principles to transformers and continues with analysis of their electrical characteristics. Two methods of analysis are given, and their interrelations stressed, the resolution of the magnetic fields of transformers into leakage and resultant mutual components, and the classical theory of coupled circuits.

Mueller, George Vernon

Alternating-current machines. New York McGraw Hill Book Company, Inc., 1952 502 p. illus. 24 cm $8 50 6315

Contents. Construction details and no-load relations in transformers. Relations in a loaded transformer Parallel operation of transformers. Special types of transformers. Transformer connections in polyphase systems. Polyphase induction motors. Speed control of induction motors. Further induction machine topics. Synchronous generators. Synchronous motors. Single-phase motors. Synchronous converters. Rectifiers. Appendix. Index.

Note. The author of this text is Professor of Electrical Engineering in Purdue University and the book is intended for use in introductory courses in a-c machines offered to electrical engineering students who are majoring in machines and power circuits. There is some emphasis on those aspects of the subject which are useful in design. The illustrations include a number of oscillograms of the wave forms of currents in a-c machines.

Paschkis, Victor

Industrial electric furnaces and appliance New York Interscience Publishers, Inc 1945–48 2 v illus. 23 cm. Vol. I, o p., vol. I $10 00 631

Contents (abridged) Volume I, Introductory survey Economic justification. Uses. Selection of furnace types. Fundamentals of furnace calculations. Fundamentals of furnace economy. Electrode melting furnaces (arc type and arc resistor type) The furnace body The electrodes. Busses (connectors) Transformer and reactor Furnace control. Operating diagram and efficiency Ferro-alloy furnaces Appendix. Subject index. Volume II, Resistance furnaces and appliances. Section I, Indirect-heat furnaces: Furnace size and heating time. Furnace parts. Furnace design. Section II, Direct-heat furnaces. Section III, Appliances—resistance type Direct-heat appliances. Indirect-heat appliances (resistance type.) Induction and high-frequency capacitance heating: High-frequency power supply Induction furnaces and appliances. High-frequency capacitance (HFC) or dielectric heating. Selection of furnaces. Appendix. Subject index.

Note. Electric furnace construction and operation are here discussed chiefly from the standpoint of engineers who may be responsible for the design and operation of such furnaces. Although some descriptive matter is included and many of the illustrations show actual installation, the emphasis is not on description but on sound application of known principles of heat transfer. The author's purpose is to facilitate the design of furnaces that will operate more efficiently particularly in the production of uniform products, than is possible when design is based only on past experience. Much engineering data are given in graphs and tables, and many useful mathematical formulas are included. There is considerable discussion of accessories such as electrodes, pots, and covers.

Pestarini, Joseph Maximus

Metadyne statics. New York Published jointly by The Technology Press of Massachusetts Institute of Technology and John Wiley & Sons Inc., 1952 415 p. illus. 24 cm. $9 50 6317

Contents. Part I, General rules valid for all metadynes. Introduction. Canonical currents. Electromotive force induced in an isotropic metadyne. Main characteristics of an isotropic metadyne—the case of absolutely constant speed. Principal characteristics of an isotropic metadyne—the case of approximately constant speed due to a regulating device. The metadyne with substantially variable speed. Metadynes complete with their external connections. Quasi-static characteristics and static stability. Consideration of the anisotropic metadyne and of the saturated iron. On commutation. Part II, Special cases of metadynes. Introduction. The cross transformer metadyne at substantially constant speed. Some transformer metadynes of degree $m = 4$. Some generator metadynes of degree $m = 4$. Some motor metadynes of degree $m = 4$. Some applications used metadynes previously described. Special metadynes of degree $m = 4$. Hyperstatic... Some applications of the metadynes already described.

windings—the "ideal" transformer metadyne. Some metadynes of [illegible] from 4 [illegible] The rotating transformer metadyne [illegible] Glossary of nomenclature. Index.
[illegible] The author of this book discovered the class of direct-current [illegible] machines now known as metadynes in the course of making an analytical study of commutation in direct-current machines. Since his original discovery, numerous patents have been [illegible] and a number of metadynes have been designed and built for specific applications. However the potentialities of the metadyne are still largely unexplored. The greater part of this book is devoted to the theory and analysis of the steady-state characteristics of metadynes. Included also are descriptions and analyses of a variety of metadyne installations.

PUCHSTEIN A. F., AND OTHERS
Alternating-current machines. Third edition. By A. F. Puchstein T. C. Lloyd, and A. G. Conrad. New York John Wiley & Sons, Inc., 1954 721 p. illus. 24 cm. $8.50. 6318

Contents (abridged) Transformers: Transformer construction. Equivalent circuits. Characteristics from test data. Parallel operation of transformers. Polyphase transformer connections. Alternators: Synchronous generators. Armature windings. Factors affecting alternator regulation. Two-reaction analysis. Transient conditions of alternators. Polyphase induction motors: Construction. Analysis of operation—the equivalent circuit. Test data. Harmonics in the air-gap flux. Winding reactance—leakage reactance—rotor bar slots—[illegible]. Methods of controlling speed. Single-phase induction motors. Construction—starting methods and characteristics. Double-revolving field theory—equivalent circuit. Cross-field theory. Determination of single-phase induction-motor constants from tests. Capacity motors. Self-synchronous machines. Synchronous motors: Theory of operation and characteristics. Vector diagrams. Mathematical analysis of motor performance. Characteristics by analytical and graphical methods. Starting synchronous motors. The rotor as a [illegible] Alternators in parallel. Synchronizing. Parallel operation. Synchronous converters: Characteristics of the synchronous converter. Voltage control, efficiency regulation. Mercury-arc rectifiers. Rectifier circuits. Voltage regulation—overlap—[illegible]—inversion. Single-phase commutator motors: Theory and characteristics—vector diagrams. Series motors, performance, [illegible] Repulsion motors: Characteristics, tests. Methods of analysis. Problems. Index.

Note: A thorough and rigorous treatment of the characteristics and analysis of alternating-current machines is provided in this textbook. The volume is organized in 10 sections, the titles of all of which are given above, and 34 chapters of which only [illegible] is listed. It is addressed to advanced undergraduate students in engineering colleges and the level of treatment assumes [illegible] knowledge of fundamental electrical principles as well as facility in the solving of algebraic equations. Although there is necessarily some description of typical machines, the emphasis is on analysis, interpretation of test data, etc. The second edition was published in 1942. In this third edition, the scope and organization of the book are essentially the same, but [illegible] number of topics are treated differently or in more detail, and [illegible] few topics have been added.

ROBERTSON BURTIS LOWELL AND LEON ARD J BLACK
Electric circuits and machines New York D. Van Nostrand Company Inc 1949 434 p. illus. 24 cm. $5 75 6319

Contents Electrical power. Generation of electrical power. Circuit elements. Single-phase, alternating-current circuits. The single-phase transformer. Polyphase systems. Transformer connections. Electrical machines. Machine windings. Synchronous machines. Polyphase induction motors. Single-phase motors. Direct-current machines. Some basic aspects of electronics. Vacuum tubes and their characteristics. Amplifiers and oscillators. Gas-filled tubes and power supplies. Electrical instruments. Appendices. Index.

Note: A textbook specifically designed for college students of mechanical rather than electrical engineering. The principles and chief types of circuits and machines are covered with the main emphasis on single-phase alternating current machines. A special feature is an unusually large selection of problems for the student to solve. The book was developed over [illegible] period of many years at the University of California. A second edition was published in 1957. 436 p. $6.75.

ROSENBERG, ROBERT
Electric motor repair a practical book on the winding repair and troubleshooting of a-c and d-c motors and controllers. Enlarged edition. New York Rinehart & Company Inc. 1951 2 v. in 1 illus. 23 cm. $6 95 6320

Contents. Foreword, by I. D. Cohen. Split-phase motors. Capacitor motors. Repulsion-type motors. Polyphase motors. Alternating-current motor control. Direct-current armature winding. Direct-current motors. Direct-current motor control. Universal, shaded-pole, and [illegible] motors. Direct-current generators. Synchronous motors and generators, synchros [illegible] electronic control of motors. Appendix. Index.

Note: A clearly written book for students who are learning electric motor repair in trade schools or on the job. The text takes up the various types of motors one by one, describes their operating principles and construction, then gives specific, practical directions for troubleshooting, repair and rewinding. The text and illustrations comprise two separate volumes, each of which is attached by spiral wire to the outer edges of [illegible] common binding. When in use, the binding and both volumes may be placed flat on [illegible] desk or workbench and the text and plates turned separately; when not in use, the two volumes are folded inward to form [illegible] appears to be a single volume. There are more than 900 illustrations.

ROTERS HERBERT CHRISTOPHER
Electromagnetic devices. New York John Wiley & Sons, Inc. 1941 561 p. illus. 23 cm. $10.00. 6321

Contents. Introduction. Magnetic properties of iron and some of its alloys. The theory of operation of electromagnets and the factors entering into their efficient design. Calculation of magnetic circuits containing iron and air gaps of known permeance. Calculation of the permeance of flux paths through air between surfaces of high-permeability material. Coils. Heating of magnet coils. Magnetic force. Characteristics of tractive magnets. Selection of best type for [illegible] specific duty. Design of tractive magnets, design procedure. Illustrative designs. Time-delayed magnets. High-speed magnets. Alternating-current magnets. Relays. Appendix. Index.

Note. A textbook for advanced students in electrical engineering, and [illegible] reference book for engineers concerned with the development or design of magnetic devices. The last six chapters cover the practical application of the theory to the solution of design problems. The general treatment of the solutions of these problems is followed by examples of exact and specific numerical solutions. Special emphasis is given to the properties of magnetic materials.

SEALEY WILLIAM C
Transformers theory and construction. Scranton International Textbook Company 1948 246 p. illus. 22 cm. $4 00. 6322

Contents (abridged) Part I. Transformer uses. General characteristics of transformers. Construction of elementary transformer. Core-type power transformers. Shell-type power transformers. Surge voltage protection. Transformer cooling methods. Entrance bushings. Part II. Three-phase connections. Tap-changing equipment. Parallel operation. Phase transformation. Three-winding transformers. Autotransformers. Unit substations. Part III. Rotary converter transformers. Rectifier transformers. Instrument transformers. Network transformers. Reactors. Transformer noise. Temperature equipment. Installation and maintenance of transformers. Insulating oil. Appendices. Index.

Note: A concise introductory exposition that is suitable for use in vocational courses and for self-instruction. It discusses the fundamental principles of transformers and outlines practical methods for calculating transformer performance. However, theoretical considerations are reduced to [illegible] minimum, and the emphasis is on the practical aspects of design, construction, and use. The author is Engineer-in-Charge of transformer design at the Allis-Chalmers Manufacturing Company.

SHOULTS, DAVID ROY AND C J RIFE
Electric motors in industry Edited by T C Johnson. New York John Wiley & Sons, Inc., 1942 389 p. illus. 23 cm. (General Electric series) $7.50. 6323

Contents Industrial power supply Industrial power supply continued. Physical concepts of motor performance. Basic motor characteristics of induction motors. Induction motor applications. Synchronous apparatus. D-c motors. Industrial control apparatus. The application of electric motors. Special applications requiring adjustable speed drives. Coordinated drive systems. Electronic devices and their principles. The industrial application of electron tubes. Index.

Note. This volume deals thoroughly with the characteristics of motors and their control. The approach is fundamental. It offers detailed discussion of those principles which form the best basis for correct motor application in industry The treatment is not exhaustive in scope. Representative uses have been selected. The motors dealt with are typical of those found in industry Brief description of their mechanical construction are given so that the reader may be able to understand their operation.

SISKIND, CHARLES SEYMOUR

Alternating-current armature windings, theory, practice, and design New York Mc Graw Hill Book Company, Inc , 1951 236 p illus 24 cm $5 00 6324

Contents General comparisons between d-c and a-c armature windings. Elementary principles of a-c machines. The single-phase concentric (spiral) winding. Windings for repulsion-type motors. Windings for split-phase motors. Two-speed windings for split-phase motors. Winding types and coils for polyphase machines. Concentric chain windings. Wave windings. Lap windings. Winding connections for different voltages. Fractional-pitch lap windings. Fractional-slot lap windings. Windings for multispeed motors. Equalizer connections in polyphase windings. Winding changes and calculations in polyphase induction motors. Winding troubles causes, symptoms, locations, remedies. Appendixes. Index.

Note. A simplified, practical introduction. The basic principles of alternating-current machines are discussed briefly; then the main types of windings are described. There is somewhat more attention to the principles and characteristics of the various windings than there is to winding and rewinding techniques. Nevertheless, the book is designed for students and electricians who are preparing to do practical winding. It is a companion volume to the author's *Direct-current armature winding* (below)

SISKIND, CHARLES SEYMOUR

Direct-current armature windings theory and practice. New York McGraw Hill Book Company, Inc. 1949 149 p illus. 26 cm. $4 00 6325

Contents (abridged) The generator-principle of construction. Types of winding. Back pitch for lap windings. Progressive and retrogressive windings. Parallel paths in lap windings. Armatures with more bars than slots. Wave windings. Simplex-wave-winding problems. Multielement coils for wave windings. Dummy elements in wave windings. Parallel paths in simplex-wave windings. Multiplex-wave windings. Circulating currents in lap windings. Frog-leg windings. Voltage, speed and armature-winding calculations. Winding troubles—causes, symptoms, locations, remedies. Formulas. Wire tables. Index.

Note In this excellent introductory presentation the author has simplified the problem of understanding direct-current windings by pointing out that all of them can be analyzed into two fundamental types the lap and the wave. Both the exposition and the drawings are based on this analysis. Although written from practical standpoint, the book is not complete manual of d-c armature winding practices. Apparently the author' chief purpose was to make certain that his readers understand the principles of d-c windings rather than to give them details of shop operations. No discussion of rewinding techniques is included.

STAFFORD, HARRY E

Troubles of electrical equipment their symptoms causes and remedy Third edition New York McGraw Hill Book Company Inc. 1947 455 p illus 23 cm $7 50 6326

Contents. Induction-motor troubles and remedies. Synchronous-motor troubles and remedies. Maintenance of direct-current generators and motors with their troubles and remedies. The operation, maintenance, and troubles of transformers. The operation, application, maintenance, and troubles of autotransformers. Operation and proper methods of connecting instruments transformers. Troubles of air- and oil-circuit breakers. Operation, maintenance, and troubles of relays. Industrial motor control. Points to remember in selecting motors for an industrial application. Operation, maintenance, and troubles of lightning arresters. Insulation-resistance tests. Factors determining the economic use of power. Power factor what it is; what it does to an industrial-plant power-load how to control it. Handling maintenance and inspection on a schedule basis. The use of a load survey and how to make one. The troubles of voltage regulators, their symptoms, causes, and remedies. Industrial-plant lubrication. Determination and location of cable faults. Storage battery maintenance. Index.

Note: The practical nature of this trouble-shooter's manual has already established it as a standard guide for plant electricians and other persons charged with locating and eliminating troubles in electrical equipment. Each chapter in addition to discussions of uses, operation, and maintenance methods, includes a handy tabulation of symptoms, troubles, causes and remedies. In the present edition, the chapter on relays and the one on storage battery maintenance are new; the chapters dealing with transformers and voltage and current regulators have been considerably enlarged.

TARBOUX, JOSEPH G

Alternating-current machinery Scranton International Textbook Company, 1947 652 p illus. 23 cm. (International textbooks in electrical engineering) $8.50 6327

Contents (abridged) Part I, Fundamental-circuit theory: Generalized circuit equations. Fundamentals of machinery Part II, Transformers: Determination of transformer equivalent circuits. Ideal power transformer. Voltage regulation, efficiency and losses. Ideal coupled circuit. Transformer connections. Auto-transformers. Special types of transformers. Harmonics and leakage inductance. Part III, Induction machines. Three-phase induction motor construction. Stator magnetomotive forces. Theoretical circle diagram of unsaturated three-phase induction motor Induction generator. Single-phase induction motors. Split-phase induction motors. Series A-c commutator motors. Repulsion motors. Part IV Synchronous machines. Generator construction details. Generator induced voltages. Voltage regulation of alternators. Alternator impedances. Alternator transients. Alternator losses. Synchronous motors. Parallel operation of alternators. Mechanical transients of synchronous machines. Part V Converters and rectifiers. Rotary converters. Electronic converters. Experiments. Index.

Note. Professor Tarboux's earlier textbooks are well known. This work presents—for a textbook—a thorough treatment of the basic circuits of alternating-current machinery including transformers, generators, motors, converters and rectifiers. It is intended for use in senior classes in engineering schools, hence adequate preparation in mathematics is assumed. The author is Professor of Electrical Engineering at University of Michigan.

TIMBIE, WILLIAM HENRY

Industrial electricity direct-current practice. Second edition completely rewritten. New York John Wiley & Sons Inc., 1939 635 p illus. 22 cm. $4 96 6328

Contents. Fundamental ideas, Ohm's law Distributing systems. Electrical properties of wire Methods of measuring resistance. Magnets and magnetism. Electromagnets. The magnetic circuit. Inductance. Generators. Motors. Efficiency parallel operation. Armature windings. Batteries and electrochemical action. Kirchhoff's laws. Insulators, dielectrics, condensers. Electrical measuring instruments. Appendix. Index.

—— Volume II, Alternating-current practice. By William H. Timbie and Frank G. Willson New York John Wiley & Sons, Inc., 1949 781 p. 22 cm $6 95 6329

Contents. Alternating currents, fundamental ideas. The use of vectors in computing a-c currents and pressures—series, parallel and polyphase circuits. Powers, power factor single-phase circuits. Circuits containing reactance and impedance. Power in polyphase circuits. The alternator-construction and armature windings. The alternator performance and operation. The transformer. The polyphase induction motor. Single-phase induction motors—commutator type motors. The synchronous motor. Short transmission and distributing lines. Long transmission lines—capacity reactance. Converters and rectifiers. Appendixes. Index.

Note A standard, elementary text. It is used in vocational schools and other courses at the secondary school level and in self-instruction by young men studying at home. It is outstanding for the lucidity of its style and for its balance between fundamental principles and application.

VEINOTT CYRIL GEORGE

Fractional horsepower electric motors. What kinds are available—What makes them run and what they will do—How to repair, rewind and reconnect them. Second edition. New York. McGraw Hill Book Company Inc., 1948. 554 p. illus. 24 cm. $8.00 6330

Contents The story behind the nameplate. What makes an induction motor run? Single-phase induction motor windings and connections. Split-phase induction motors. Capacitor-start motors. Two-value capacitor motors. Permanent-split capacitor motors (single-value capacitor motors). Capacitor motors for unit heaters, fans and blowers. Two-speed tapped-winding capacitor motors. Repulsion-start induction motors. Repulsion and repulsion induction motors. Universal motors. Shaded-pole induction motors and fans. Polyphase induction motors. Synchronous motors. Predicting and synchronous-drive systems. Direct-current motors. Connections common to more than one type. Testing fractional horsepower motors. Selecting the motor for the job. Appendix. Glossary. List of visual aids. Index.

Note A successful manual which has proved useful not only to motor-repairmen but also to manufacturers and engineers concerned with the design and maintenance of machinery powered by small electric motors. This edition has been thoroughly revised and has been expanded by more than 100 pages. A considerable part of the material that has been carried over from the first edition has been rewritten. Synchronous motors and systems which found wide application during World War II are now covered. There are many new illustrations and a glossary.

WRIGHT FORREST B

Electricity in the home and on the farm. Third edition. New York John Wiley & Sons, Inc., 1950. 380 p. illus 21 cm. $4.24 6331

Contents (abridged) Part I, Principles and applications of electricity: Importance of electricity to farm business and to the farm home. Electric current. Electrical terms and measurements. Electromagnetic induction and some of its applications. Power-generating, transmission, and distribution systems for alternating current. Wiring systems for the farm and for the home. Planning wiring systems. Electric motors. Part II, Jobs and study activities. Index.

Note A practical textbook in which most of the information relates to the use of electricity on the farm. Some parts, such as the discussion on how to splice wire, are very elementary. On the other hand, certain chapters, such as the one on electric motors, contain comparatively thorough discussions useful to farmers in selecting and operating electrical equipment. A fair amount of new material has been added in this edition.

ELECTRIC WIRING

ABBOTT ARTHUR L

National electrical code handbook. Based on the 1953 edition of the National electrical code. By Arthur L. Abbott and revised by Charles L. Smith. Eighth edition. New York McGraw Hill Book Company Inc., 1954 642 p. illus. 21 cm. 6332

Contents General. Wiring design and protection. Wiring methods and materials. Equipment for general use. Special occupancies. Special equipment. Special conditions. Communication systems. Construction specifications. Tables, diagrams, and examples. Appendix. Rules of procedure—National Electrical Code Committee. Tentative Interim Amendments. Interpretation procedure. National Electrical Code Committee. Index.

Note In its eighth edition, the purpose of this book remains the same: to explain and illustrate the meanings of the various articles and rules of the current edition of the United States of America *National electrical code.* Essentially it is complementary to the *Code,* however, the *Code* is reprinted entirely, the arrangement in this edition being a sectional one with the *Code*-section printed first and the explanation or comment following. Often, there is also an explanatory illustration or diagram. As each new edition of the *Code* makes previous editions of it obsolete, this eighth edition of the *Handbook* also supersedes all of the preceding ones. The reviser of this edition is Electrical Field Engineer for the National Fire Protection Association. The ninth edition was published in 1957 650 p., $8.00.

ASHLEY RAY

Electrical estimating. Second edition. New York McGraw Hill Book Company Inc., 1956 363 p. illus. 26 cm. $8.00. 6333

Contents (abridged) The electrical estimator and estimating requirements. Preparing estimates. Operating costs. Sample estimates. Preliminary estimates. Labor units. 1955 unit costs. Definitions. Questions and answers. Index.

Note A comprehensive manual of practical methods of estimating costs of electrical construction. The subject is covered in detail, and the book contains many tabulations of useful data and many reproductions of sample forms. Although estimating of electrical wiring in residential construction is adequately treated, most of the book is devoted to estimating of larger jobs, such as the wiring of office buildings and factories. The first edition was published in 1949. This second edition appears to be identical with it through page 307. The section on labor units begins on page 308 and is new in this edition. Also newly added are a glossary and a section of questions and answers.

BROWN ROBERT H.

Farm electrification. New York McGraw Hill Book Company Inc., 1956 367 p. illus. 24 cm. (McGraw Hill publications in agricultural engineering Quincy C. Ayres consulting editor) $7.00 6334

Contents The power-distribution story. The electric bill. Electric wiring practices. Electricity for the farm residence. The increased distribution system. Wiring for farm buildings. Electricity for light. Electricity for heat. Farm electric motors. Electricity for the water supply. Electricity for cooling. Electrical controls for farm use. Special equipment for the electrified farm. Appendix. Index.

Note A practical introductory text on electric wiring and basic electric equipment for farms. Wiring materials and simple wiring practices are clearly and specifically described, and the author has taken particular pains to emphasize safety features, such as adequate grounding and the use of correctly sized fuses. The descriptions of electrical machines are brief, but they do cover characteristics and uses and often include an illustration of a typical machine. The book is designed for use as a text in agricultural colleges. It will be useful also as a guide for farmers who are planning electrification of their farms.

GRAHAM KENNARD C.

Interior electric wiring and estimating. Part two Industrial. Chicago American Technical Society 1955 324 p illus. 22 cm. $4.95 6335

Contents Industrial methods. Planning nonresidential lighting. Installing nonresidential lighting. Wiring for motors. Generators, power feeders, and services. Transformers, capacitors, industrial power distribution. Special circuits and applications. Estimating electrical wiring. Appendix. Index.

Note An introduction for practical students and working electricians to some of the special techniques and devices employed in planning and installing electric wiring in factory buildings, office buildings, etc. It is a companion to A. Uhl, and others, *Interior electric wiring: residential,* fourth edition, 1951. The author has wisely not attempted to cover the whole field, particularly in regard to specialized equipment, but has instead limited the book to standard techniques and to the more common problems such as wiring for motors. Estimating is covered in considerable detail. Familiarity on the part of the reader with basic terminology and with techniques of residential wiring has been assumed in the treatment.

NOWAK, JOHN F

Practical residential wiring New York D Van Nostrand Company, Inc., 1948 495 p illus. 24 cm. $6 95 6336

Contents Circuiting. Tools and splicing. Plan reading. Methods of wiring—open wiring on insulators, concealed knob and tube, nonmetallic cable. Methods of wiring—armored cable—rigid conduit—surface extensions. Household electrical appliances. How to wire bungalow How to wire a one-family house—armored cable. How to wire workshop and garage—rigid conduit. Finished-house wiring. Lighting fixtures. Signaling systems. Testing and trouble-shooting Glossary National Electrical Code tables. Index.

Note The special feature of this manual is the very detailed discussions of wiring and maintenance operations. Many jobs are described step by step. The book is intended for practical students and workers, particularly vocational school students, apprentice electricians, home mechanics, and building superintendents.

RICHTER, HERBERT P

Practical electrical wiring, residential farm and industrial Based on the 1951 National Electrical Code. Fourth edition New York McGraw Hill Book Company, Inc., 1952 602 p. illus. 22 cm 6337

Contents (abridged) Part I, Theory and basic principles Underwriters and codes. Electricity—basic principles and measurements. Basic devices and circuits. Overcurrent devices. Types and sizes of wires. Wire connections and joints. Outlet and switch boxes. Different wiring methods. Branch circuits and service entrance Adequate wiring. Good lighting. Residential and farm motors. Part II, Actual wiring—residential and farm Planning an installation. Installation of service entrance and ground. Installation of specific outlets. Old work. Farm wiring. Isolated and stand-by power plants. Wiring apartment houses. Code requirements with respect to wire. Part III, Actual wiring—nonresidential projects Planning nonresidential installations. Nonresidential lighting. Wiring for motors. Wiring schools and churches. Wiring offices. Wiring stores. Wiring miscellaneous occupancies. Bibliography Appendix. Index.

Note. A standard practical manual, useful primarily to the working electrician but intelligible also to the home mechanic who wants to learn how particular operation in wiring should be done. I comparison to the preceding edition published in 1947 it has been rather extensively revised. The changes made necessary by the publication of a new edition of the National Electrical Code have of course been made. However in addition, the author has revised both the text and illustrations of sections unaffected by code revisions. The fifth edition was published in 1957 $6.50.

SEGALL, BEN Z

Electrical code diagrams Based on the 1951 edition of the National Electrical Code With complete supplementary revisions for the 1953 Code. New York McGraw Hill Book Company, 1954 2 v illus 29 cm Vol I $13 50 vol. II, $15 00 set $25 00 6338

Contents. Volume I: Wiring design and protection. Wiring methods and materials. Index. Volume II Equipment for general use. Special occupancies. Special equipment. Special conditions. Communication systems. Index.

Note. In this work all of the rules of the National Electrical Code, 1951 which lend themselves to illustration are represented by diagrams. The arrangement within the chapters is numerical, in accordance with the numbered rules in the code there are always legend and often some discussion for each diagram, but the book must be used ith copy of the Code. Changes made in the 1953 revision of the Code are illustrated in supplementary pages bound in at the ends of both volumes. The book is useful to all who are concerned in practical way with the installation of electrical wiring, including electricians, electrical contractors, and inspectors.

UHL, ALBERT, AND OTHERS

Interior electric wiring and estimating residential, including farm buildings By Albert Uhl, Carl H Dunlap and Frank W Flynn Fourth edition Chicago American Technical Society, 1951 312 p illus. 22 cm. $4 25 6339

Contents How to ead drawings for electrical construction. Electrical fundamentals applying to wiring. How to make electrical connections. Installing service switch and metering equipment. Wiring outlets and wall switches. Installing knob-and-tube iring. How to do cable wiring. Wiring residences. Conduit wiring materials. Conduit wiring, tools, and methods. Electric ranges and water heaters. Residential furnace controls. Estimating electrical wiring. Electrical power for the farm. Index.

Note A well-established trade school textbook. It is written clearly and is generously illustrated. There are several features such as questions and detailed answers that suit it to home study However the book is not a substitut for the more comprehensive works on electric wiring. This edition is a thorough revision with many new illustrations, new review questions, new text in many parts, etc. The chapters on apartment building and factory wiring that appeared in the earlier edition has been dropped and three new chapters have been added. The index is about three times as long.

ELECTRIC INSULATION

PHILOFSKY, H M, AND R. W CROWE, editors

Digest of literature on dielectrics, Volume 18, 1954 Prepared by the Committee on Digest of Literature of the Conference on Electrical Insulation Edited by H. M Philofsky and R W Crowe. Washington, D C. National Academy of Sciences—National Research Council 1955 176 p 27 cm. (National Research Council Publication 383) $5.00. 6340

Contents. Introduction, by R. W Crowe. Part I, Instrumentation and measurements Instrumentation and measurements, by R. A Soderman. Tables of dipole moments, dielectric constants and dielectric relaxation values, by R. C. Miller and D E. Williams. Part II, General and theoretical Molecular and ionic interactions in dielectrics, by J Hart. Conduction phenomena in dielectrics, by S. Roberts. The breakdown of dielectrics, by A. H. Sharbaugh and R. W Crowe. Ferroelectric and piezoelectric materials, by W R. Cook, Jr and H. Jaffe. Ferromagnetic materials, by D. J. Epstein. Part III, Insulation Rubber and plastic insulation, by L. L. Seber and [illegible] Palischak. Insulating fibers, by H. A. Birdsall. Insulating liquids, by J E. Gibbons. Ceramic insulation, by T C. Browne and J H. Strimple.

Note. This publication, hich is one of series, presents digest of the literature of the field of dielectrics for the year 1954. Under the chapter headings noted above, it gives brief reviews f books and journal literature and summarizes the scientific and technical accomplishments of the year At the ends of the chapters are numbered bibliographies of the publications mentioned in the reviews and summaries.

VON HIPPEL, ARTHUR R., editor

Dielectric materials and applications. Papers by twenty two contributors. New York Published jointly by the Technology Press of M.I T and John Wiley & Sons Inc., 1954 438 p. illus. 29 cm. $17 50 6341

Contents (abridged) Survey by A. von Hippel. Theory by A. von Hippel. Dielectric measuring techniques. Permittivity by D. J. Epstein, F Field and W B. Westphal Permeability by D. J. Epstein. Magnetic resonance. Microwave spectroscopy by M. W Strandberg. Dielectric materials and their applications Dielectric by F Bitter Dielectric materials and their applications. Dielectrics as equipment materials, by J G. Trump and others. Dielectric materials as devices, by L. J Berberich and others. Dielectric requirements of the Armed Services, by F H. Behrens and others. Tables of dielectric materials. Index.

Not The broad, fundamental approach to dielectric materials which is characteristic of the work of the Laboratory for Insulation Research of the Massachusetts Institute of Technology reflected in this volume, by-product of summer course [illegible]

sued by the Laboratory in September, 1952. The contributors to the volume include college professors of physics, directors of research for manufacturers of electrical equipment, specialists on the staffs of research units of the national defense forces, as well as staff members of the Laboratory. The topics discussed range from relationships between molecular structure and dielectric properties to measuring techniques for high voltage generators. The level of treatment is graduate. The final section of the book is devoted to reports of Volume IV of the Laboratory's *Tables of dielectric materials*, previously issued in January 1953, as a technical report for limited circulation.

ELECTRONICS

ARCHIBALD LAWRENCE BAKER

Vacuum-tube circuits and transistors. With transistor contributions by Richard Brooks Adler. New York John Wiley & Sons, Inc., 1956. 646 p. illus. 24 cm. $10.25 6342

Contents: Radio communications. Diodes and rectifiers. Triodes, pentodes, and linear amplifiers. Transistors—principles—linear amplifiers. Transient response of video amplifiers. Amplitude modulation and tuned amplifiers. Power amplifiers. Oscillators. Inverse feedback. Amplitude modulation. Frequency modulation. Television. Transmission lines. Noise. Index.

Note: A revised and expanded version of the author's *Vacuum-tube circuits*, New York, 1948. It is primarily a textbook for electrical engineering students. The emphasis is on basic matters. On the other hand, information is included on numerous small [illegible], such as single side band transmission. In contrast to the preceding work in which the transistor was not mentioned, considerable space is devoted to the transistor and circuits based on it. Chapters on transmission lines and noise have been added, and the number of problems included for the reader to solve has been increased. Although designed for those who are taking their first [illegible] course in vacuum-tube and transistor circuits the book has enough substance to make it of interest also to graduate engineers already at work in the field.

BENDZ, WALDEMAR I.

Electronics for industry with the assistance of C. A. Scarlott. New York John Wiley & Sons, Inc., 1947 501 p. illus. 22 cm. $7.00. 6343

Contents: Meet the electron. Electron escape from solids—emission. Electricity from light. Electricity into light. Two-element tubes. Three-element gas tubes. Multigrid phototubes. Thyratrons. From alternating to direct current. Mercury-pool tubes. Amplification. Principles of oscillation. Modulation and detection of carrier waves. Heating by high frequency. Basic circuits of electronic control. Industrial applications of electronic control. Electronic regulators. Appendix. Index.

Note: An introductory work written to provide engineers in fields other than electronics with a basic knowledge of electronics so that the design and applications of industrial electronic equipment can be understood. The author has assumed that the reader will be acquainted with the principles of electricity and the characteristics of electric circuits. A number of typical industrial devices are described in detail, but the book [illegible] more than a descriptive treatment of such equipment.

BEVITT WILLIAM DEALTRY

Transistors handbook. Englewood Cliffs, N. J. Prentice-Hall, Inc., 1956 410 p. illus. 22 cm. $9.00. 6344

Contents: Introduction. Fundamental definitions and concepts. Point-contact transistors. Junction transistors. Power transistors. Measurements of transistor characteristics. Methods of analysis of transistors and transistor circuits. Tetrode and pentode transistors. Photodiodes and phototransistors. Some practical considerations in transistor circuits. Noise and temperature effects in transistors. Transistor audio-frequency amplifiers and power amplifiers. Transistor radio-frequency amplifiers. Transistor audio-frequency oscillators. Transistor radio-frequency oscillators. Amplitude modulation and detection with transistors. Frequency modulation and demodulation with transistors. Transistor radio and television receivers. Transistor relaxation oscillators. Computer applications of transistors. Miscellaneous applications of transistors. Appendix: IRE standards on electron devices—definitions of semiconductor terms, 1954. Manufacturers of transistors discussed in the text. IRE abbreviations as used in Table II(b). Essential characteristics of transistors. Author index. Subject index.

Note: A reference book of information on transistor characteristics and on circuits in which the transistor is an element. It has been written from the standpoint of applications, both developed and potential. The early chapters are devoted to the classes and varieties of transistors and the characteristics of each. The other chapters (and the greater part of the volume) are given over to applications and to data useful in designing applications. A wide variety of circuits are diagrammed and discussed. Literature references are given. The book should prove useful to practically all engineers, scientists, and technicians, including amateur experimenters, who are interested in the design and development of electronic devices. The author is Transistor Applications Engineer for CBS-Hytron.

BOONE, E. MILTON

Circuit theory of electron devices. New York John Wiley & Sons, Inc., 1953 483 p. illus. 24 cm. $9.25 6345

Contents: Diodes, triodes, and equivalent circuits. Tetrodes, pentodes, and equivalent circuits. Audio-frequency voltage amplifiers. The audio-amplifier power stage. Gas-filled tubes as circuit elements. Single-phase rectifiers and power supplies. Polyphase rectifiers. Tuned radio-frequency and band-pass amplifiers. Radio-frequency power amplifiers. Vacuum-tube oscillators. Modulation and demodulation. Circuit theory of transistors. Index.

Note: An engineering college textbook in which the vacuum tube and transistor are treated in the concepts of four-terminal networks. The author states: "The uses of electron tubes are so numerous and so varied in complicated communication and industrial-control systems that it becomes necessary to consider the action tube in rather general terms as a circuit element of certain particular properties. These circuit properties of electron tubes and other electron devices may be analyzed in their dependence upon the design of the component elements of the device, or they may be determined for practical applications by a consideration of the device in its entirety as a 'black box' from which external certain terminals at which energy forms, voltage, etc. may be impressed and the resulting response measured. The latter point of view has the distinct advantage of permitting the intelligent use of the electron device as a circuit component without a prior knowledge of its interior complexities." The book is a development of the author's courses at Ohio State University.

BROTHERTON MANFRED

Capacitors their use in electronic circuits. New York D Van Nostrand Company Inc. 1946 107 p. illus. 23 cm. $3.50. 6346

Contents: Introduction. Summary of characteristics of practical capacitors. How a capacitor behaves under direct voltage. How a capacitor behaves under alternating voltage. Capacitors wear out. Which capacitor shall we use? Electrolytic capacitors. Impregnated paper capacitors. Mica, ceramic, and air capacitors. Synthetic dielectrics of the future. Twenty keys to the right capacitor. Examples of typical capacitor reactions. Index.

Note: This small book is addressed to engineers and other persons who design circuits, such as radio and telephone circuits, in which capacitors are used. It is intended to answer practical questions on the characteristics, behavior, and limitations of different types of capacitors under various operating conditions. The final chapter "Twenty keys to the right capacitor," should be very useful to those who are not capacitor specialists but who nevertheless must know enough about them to select the particular type that will give the best performance.

BRUNETTI, CLEDO editor

New advances in printed circuits Proceedings of the First Technical Symposium on Printed Circuits held October 15 1947 in Washington, D C., under the sponsorship of the Aeronautical Board and technical direction of the National Bureau of Standards. Washington, D C. Government Printing Office, 1948. 73 p. illus. 26 cm. (United States.

National Bureau of Standards Miscellaneous publication 192) $0 45 6347

Contents Foreword. Status of printed electronic circuits. Centralab printed circuit techniques. Conductive silver preparations. Printed resistors. Metal films and their application to the fabrication of resistors and printed circuits. Trends in military communication and the applicability of printed circuits. Vitreous enamel dielectric products. Printed electronic components on glass. Electrical circuits on plastics and other nonconductors. Imprinted circuit inlays. Spraying techniques for producing electronic circuits. Physical aspects of printed circuit conductors. Mechanization of electrical wiring. Die-stamped wiring. Printed circuit production. Prefabricated components for printed circuit application. Typical commercial applications. General discussion Summary Questions and answers. Summary of questionnaires.

Note. The technical symposium on printed circuits, at which were presented the papers included in this publication was held because of the wide interest shown by Government, scientific, and industrial organizations in the subject during the months following the first release of information on printed circuits by the National Bureau of Standards in February 1946. At the symposium twenty speakers and an audience of over seven hundred persons reviewed the many methods of printing circuits.

BRUNETTI, CLEDO, AND ROGER W CURTIS

Printed circuit techniques Washington, D C Government Printing Office, 1947 43 p illus. 26 cm (United States National Bureau of Standards Circular 468) $0 40 6348

Contents Introduction. Painting. Spraying. Chemical deposition. Vacuum processes. Die-stamping. Dusting. Performance. Applications. Conclusion. References.

Note. The first general treatise on the subject of printed circuits, this pamphlet outlines the practical details of the art, describing in turn the six main methods of printing circuits and presenting the advantages of each. It was prepared to meet the need which began to be felt in 1946 for technical information about printed circuits, a new development for mass production of electronic devices. Circuits are defined as being "printed when they are produced on an insulating surface by any process. The bibliography lists sixty references on the subject.

CAGE, JOHN M

Theory and application of industrial electronics. With the assistance of C J Bashe. New York McGraw Hill Book Company Inc., 1951 290 p illus 24 cm. (McGraw Hill electrical and electronic engineering series Frederick Emmons Terman consulting editor) $6 50 6349

Contents Polyphase rectifiers. Grid-control circuits for gas tubes. Amplifiers for industrial electronics. Regulators and servomechanisms. Dynamics of closed-loop systems. Electronic control of motors and generators. Basic timing circuits. Ignitrons and thyratrons as line switches. Resistance-welder controls. Induction heating. Dielectric heating. A survey of electronics measurements. Oscillators and pulse techniques. Miscellaneous principles and applications. Appendix. Index.

Note In this text for advanced and graduate electrical engineering courses, the purpose is to present the basic principles and circuits of electronic devices used in industry The space is about evenly divided between fundamental theories and their application to problems in measurement, control, and power conversion. Although numerous circuits are described and illustrated, no attempt is made to deal with the instruments of specific manufacturers. Review problems and brief lists of references are included in each chapter. The author is consultant at the Electrical Engineering Department in Purdue University

CARROLL, JOHN M editor

Mechanical design for electronics production. New York McGraw Hill Book Company, Inc. 1956 348 p illus 23 cm $6 50 6350

Contents. The importance of mechanical design. Space planning in equipment design. Chassis design and layout. Fabricating the chassis. Manufacturing small parts. Shielding components and equipment. Potting, embedding, and encapsulating. Moving parts. Electric motors and rotating components. Wiring and soldering. Assembly methods. Cabinet construction. Environmental factors in equipment design. Bibliography Index.

Note. The mechanical design of electronic equipment is exacting not only because of its relationship to profits but also because good mechanical design is an important factor in the performance of the equipment. The subject is covered comprehensively and in detail in this book. The importance and general requirements of the field are clearly stated. A great ariety of techniques are explicitly described. Numerous tables of useful engineering data are included. The book is based on articles that appeared in the October 1954 issue of *Electronics* but contains much additional material.

CHANCE, BRITTON, AND OTHERS, editors

Electronic time measurements. Edited by Britton Chance, Robert I. Hulsizer Edward F MacNichol, Jr , and Frederick C. Williams. Office of Scientific Research and Development, National Defense Research Committee. New York McGraw Hill Book Company, Inc., 1949 538 p illus. 23 cm. (Massachusetts Institute of Technology Radiation Laboratory series. Louis N Ridenour, editor-in-chief Volume 20) $7.50 6351

Contents Introduction. Radio distance and speed measurements. Techniques f pulse time measurements. Generation of fixed indices. Generation of movable indices—single-scale circuits. Generation of movable indices—circuits. Manual measurements. Techniques of automatic time measurement. Systems for automatic time and position measurement. Special data-transmission systems. Relay radar systems. Delay and cancellation of recurrent wa e trains. Glossary Index.

Note. In this volume the problems and techniques of measuring precisely very small intervals of time are considered. Methods invented before the development of radar are mentioned, but mainly the book deals with the special circuits and devices that were developed in the Radiation Laboratory and elsewhere during the intensive development of radar before nd during World War II. However the emphasis is not on mil ary applications but on methods that are more generally useful.

CHUTE, GEORGE M

Electronics in industry Second edition. New York McGraw Hill Book Company Inc., 1956 431 p illus. 24 cm. $7.50 6352

Contents. Choosing electronics for your needs. How electricity passes through an electron tube. Simple rectifiers—alternating current into direct current. Control of electron flow within tube. Time-delay action. Tubes in a-c circuits. The a-c time-delay relay. Multigrid vacuum tubes. Filtering—d-c power supply for tube circuits. Gas tubes—control of larger currents. Simple welding control—ignitron contactor. Tyratron tubes. Gradual control of thyratrons by phase shifting. Resistance-welding controls. Light and heat relays. Heating and light-dimming controls. Simple speed and voltage regulators. Large-current polyphase rectifiers. High frequencies shorter wave-lengths. Amplifiers, oscillators, inverters. The electronic heater Temperature recorders. High-speed light relays. Register controls. Thy-mo-trol—automatic tube control of d-c motors. Closed-loop systems—servomechanisms. Electronic service instruments. Nonelectronic devices. Visual bibliography Answers to problems. Index.

Note A standard, practical manual covering the elementary principles of electronics, the elements of electronic circuits, and the circuits and operating principles of the chief varieties of industrial electronic devices. It is addressed to electricians and other technicians who install and maintain such devices, but is suitable also as a source of practical information for anyone—including graduate engineers—in need of general survey of the field or elementary information about particular device. The first edition was published in 1948. A good deal of material has been carried over from it to this second edition, but there are also important changes The chapter on closed loop systems is new and descriptions of the circuitry of newer control devices have been substituted for those of older ones. There has been some reorganization of the chapters. The volume has been printed from new type and has been given more attractive format.

Electrical Engineering

COBLENZ, ABRAHAM AND HARRY L. OWENS

Transistors, theory and applications. New York. McGraw-Hill Book Company Inc., 1955. 313 p. illus. 24 cm. $6.00. 6353

Contents: A short history of transistors. Holes and the transistor. A page of quantum mechanics. The electron. Nature of semiconductors. Point contact transistors. Junction transistors. Electronics [illegible] 4 terminal. Small-signal parameters. Grounded emitter and grounded [illegible] connections. Theory of transistor switching circuits. Cascading of transistors. Manufacturing processes. [illegible] [illegible] Appendixes: Four-pole parameter transformation [illegible]. Generalized equations for transistors in cascade. [illegible] MIL-T-12679A (Sig C). Index.

Note: A book addressed primarily to technicians and engineers [illegible] concerned with the present and potential uses of transistors. [illegible] discussion of basic theory, transistor characteristics [illegible] equations, as well as related topics, such as [illegible] description of the processes of transistor manufacture. The chapters are brief, [illegible] clear and direct style, and are concluded with selected [illegible]. [illegible] chapter on quantum [illegible] to literature. Although there is [illegible] chapter on quantum mechanics, the over-all mathematical level is not beyond the average [illegible] reader. Eleven of the chapters were originally published [illegible] the journal, *Electronics*, and were expanded and revised for publication in the book.

COOKE, NELSON MAGOR, AND JOHN MARKUS

Electronics dictionary: an illustrated glossary of over 6,000 terms used in radio, television, industrial electronics, communications, facsimile, sound recording, etc. New York McGraw-Hill Book Company Inc., 1945. 433 p. illus. 23 cm. $6.50. 6354

Note: In this dictionary well-selected terms are defined in language that should not prove unintelligible to the reader [illegible] At the same time, the accuracy of the definitions [illegible] will appeal to engineering students and engineers. There is [illegible] number of illustrations. The authors have considered the problem of standardization carefully and have presented the terms they believe are best and should be made standard. Unfortunately there is no cross-references to related terms.

CORNELL AERONAUTICAL LABORATORY INC., BUFFALO N. Y.

Heat transfer in miniaturized electronic equipment. Bureau of Ships Navy Department. Washington, D. C. Government Printing Office, 1955. 85 p. illus. 27 cm. (United States. Department of the Navy. Bureau of Ships. Navships 900 189) $1.25 6355

Contents: Introduction. Summary. Present electronic heat transfer techniques. Natural methods. High temperature electronic parts. Forced air cooling. Liquid coolant systems. Vaporization cooling. Methods of cooling vacuum tubes. Ultimate sinks for the dissipation of heat. Thermal design methods in use. Techniques investigated not currently in use. List of contributors. Bibliography.

Note: One of the primary causes of poor reliability in electronic equipment has been inadequate heat removal; improvements realized through decrease in operating temperature would significantly increase equipment life. The report encompasses [illegible] survey of methods of heat transfer in electronic equipment. The work on which it was based was undertaken as the initial phase of [illegible] research program directed toward the preparation of [illegible] heat transfer design manual to assist electronic engineers in the design of miniaturized equipment with satisfactory thermal performance. The scope of the survey was broadened to include not only [illegible] bibliographical study, but also [illegible] thorough survey and inspection of techniques and methods in use at prominent facilities throughout the nation. The survey was not confined to miniaturized equipment, because of special heat removal methods utilized, conventional equipment was also surveyed. The bibliography of about 400 items relates to reports and articles dated between 1 [illegible] and 1 [illegible]

DALEY J. L. AND F. S. QUINN, JR. editors

Principles of electronics and electronic systems. Edited by J. L. Daley, assistant editor F. S. Quinn jr. Authors: G. E. Leydorf, H. F. Malling, F. S. Quinn, jr., J. S. Stoutenburgh, R. C. Mathis, E. L. Golding, H. M. Neustadt, jr., J. C. Thompson, and P. L. Quinn. Annapolis. United States Naval Institute 1956. 492 p. illus. 27 cm. $9.25 6356

Contents: Circuit elements and elementary electric circuits. Emission of electrons, diode vacuum tubes. Triode vacuum tubes. Multigrid vacuum tubes. Vacuum tube amplifiers. Gas tubes. Wave shaping circuits. Cathode ray tubes. Multivibrators. Sine-wave oscillators. Modulation. Radio transmitters. Radio-frequency transmission lines. Antennas. Wave propagation. Radio receivers. Servomechanisms. Radar. Navigational aids. Electronic countermeasures. Propagation of sound in the sea. Sonar systems. Guided missiles. Transistors. Digital computers. Basic principles of television. Appendixes. Problems. Index.

Note: Edited and written by teachers at the United States Naval Academy and officers in the United States Navy and Air Force, the book provides [illegible] broad, practical introduction to electronics and electronic devices. It is organized in the chapters whose titles are given above, and the authorship of the individual chapters is identified on the title page of the volume. The importance of understanding basic theory is emphasized, and some space is devoted to such basic matters as the phenomena of electron emission. However, most of the chapters are devoted to electronic elements and to equipment and systems in [illegible] which these elements are employed. The principles and properties of devices and systems are discussed at an engineering level and, as would be expected, from the viewpoint of naval personnel. Selected literature references are included.

DAVIS WELLS L., AND HERMAN R. WEED

Industrial electronic engineering. Englewood Cliffs, N. J. Prentice-Hall, Inc. 1953. 514 p. illus. 22 cm. (Prentice-Hall electrical engineering series. W. L. Everitt, editor) $8.50. 6357

Contents: Gas tube characteristics. Basic gaseous tube circuits. Rectifiers and inverters. Semiconductor rectifiers. Phototubes and associated circuits. Industrial timing circuits. Servomechanisms. Regulators. Electronic control of motors. Radio frequency heating. X-rays. Index.

Note: The emphasis in this book is on the theory behind industrial electronic circuits rather than on the circuits themselves. Mathematical and quantitative methods of analyzing and solving problems are stressed. Prior knowledge of a-c circuit theory, elementary electronic circuit theory and elementary differential equations on the part of the reader [illegible] assumed. Each chapter begins with [illegible] brief, nontechnical description of the devices that embody the applications of theory and circuits discussed in it. The book is illustrated with about 430 line drawings, diagrams, graphs, and an occasional photograph. There are [illegible] few footnote references to related literature, but no systematic bibliography.

DOW WILLIAM GOULD

Fundamentals of engineering electronics. Second edition. New York. John Wiley & Sons, Inc. 1952. 627 p. illus. 23 cm. $9.00. 6358

Contents: Potential distribution diagrams. Electron ballistics. Cathode-ray devices. Electrostatic fields in space-charge control tubes. Space-charge control of current. Triodes, tetrodes, pentodes. Thermionic cathodes. Electrons in metals and semiconductors. Amplifier circuit principles. Amplifier coupling; oscillators. Introduction to microwave electron tube principles. Random velocities of gas particles. Ionization and excitation of atoms. Photosensitive devices. Current flow in gases. Plasma boundary regions. Arc and glow transient phenomena. Gaseous-conduction rectifying devices. Tables. Bibliography. Index.

Note: T[illegible] use the words of the author, this book deals with "the internal functioning of the electron devices that serve as the active elements in electronic circuits." The subject is treated essentially

from the standpoint of engineers who are concerned with design of these electronic elements, such as tubes and it covers not only the main points but also numerous smaller problems such as how to calculate the effect of space-charge-limited current of potential variations along the cathode. Primarily it is text for electrical engineering students, but it is also useful for fundamental information and reference to graduate engineers. This edition incorporates a considerable range f material not in the preceding edition, but as the author has deleted material the length of the book is approximately the same. Recent literature has been added to the bibliographies.

EASTMAN, AUSTIN VITRUVIUS

Fundamentals of vacuum tubes. Third edition New York McGraw Hill Book Company, Inc, 1949 644 p illus 24 cm. (McGraw Hill electrical and electronic engineering series, F E Terman, consulting editor) $8 50 6359

Contents Part 1 Basic concepts. Electronic emission. Construction f vacuum tubes. High-vacuum tubes. Gas-filled tubes. Photoelectric tubes. Special types f tubes. Part II, Applications and circuits. Rectifiers. The vacuum tube as a control device. Audio-frequency amplifiers. Radio-frequency amplifiers. Oscillators. Power series analysis of vacuum-tube performance. Modulators. Demodulators. Appendixes. Author index. Subject index.

Note An introduction to the basic principles of vacuum tubes used in radio and industry Applications of such tubes and the circuits in which they are employed are also discussed at some length. The book is intended primarily for senior electrical engineering students, but it is also of value to practicing electrical engineers. Readers are expected to have a knowledge of mathematics through elementary calculus. This edition has been revised to include recent developments in the field. The chapter on audio-frequency amplifiers has been largely rewritten, and provides a more detailed treatment of video amplifiers and of low- and high-frequency compensation circuits. The discussion of modulation and demodulation has also been expanded to form two chapters.

EDSON, WILLIAM A

Vacuum tube oscillators. New York John Wiley & Sons, Inc., 1953 476 p illus. 24 cm. $9 00 6360

Contents Introduction. Transient behavior of linear systems. Negative resistance oscillators. Nonlinear oscillations. Feedback systems and stability criteria. Resonators. Linear oscillators. Conventional harmonic oscillators. Crystal-controlled oscillators. Intermittent behavior Operation at high-power levels. Practical relaxation oscillators. Locking and synchronization. Frequency multiplication and division. Tube and thermal noise. Modulation of oscillators. Automatic frequency control. Long-line and multiple-resonance effects. Bibliography Name index. Subject index.

Note As the author of this book points out, vacuum-tube oscillators are universally used in transmitters and receivers for radio, television and radar The book is full-scale treatise on them. It covers the principles, types, properties, and applications from the standpoint of the engineer concerned with the design of electronic circuits and devices. Problems to be sol ed are included for engineering students who use the book as text. However the book scope, together with its bibliography of 313 references, makes it useful one for graduate engineers who are concerned with electronic circuit design.

ELECTRONIC COMPONENTS SYMPOSIUM

Proceedings 1956 Electronic Components Symposium Washington D C May 1, 2 3 1956 Sponsored by American Institute of Electrical Engineers Institute of Radio Engineers Radio-Electronics-Television Manufacturers Association West Coast Electronic Manufacturers Association With active participation by agencies of the U S Department of Defense and the National Bureau of Standards. New York Engineering Publishers 1956 240 p illus. 28 cm $5 00 6361

Contents Session I, General. Address of welcome, by A. Rogers. Future demands on component design, by W L Ball. broad survey of the Military Electronic Equipment Reliabi problem and its controlling factors, by C. L Seery A review of cent British component developments, by C. E. Richards. Look forward into the future, by K. Matthews. More or better engine in components, by J D Ryder Session II, Progress with ma rials: New glasses and electrical components applications, by W Hauth and A. L. Pugh, jr Positive temperature coefficient of distance thermistor materials for electronic applications, by E. Sauer and S. S. Flaschen. Ferrites for use in S-band microwa components, by H. C. Rothenberg. Properties of piezoelect titanates and zirconates, including a discussion on their control evaluation, by T G. Kinsley and R. D. Wehrle. Glass in hig temperature components, by H. S. Cramer Standards for capacit paper by H. A. Anderson. Session III, Theory and operating prin ciples Factors affecting back swing of high power pulse tran formers, by T Temple. D. c. current amplification factor of jun tion transistors, by C. Huang and A. Anoschl. The use of di persion measurements for analyzing ceramic components, by D. Lupfer. Examination of contact and other surfaces by plas replica technique, by H. W Hermance and T F Egan. Miniatu strip transmission line and transmission line components, by E. Torgow and J W E. Griemsmann. The effects of nuclear radiati on electronic components, by C. C. Robinson. Session IV Instru ments and measurements Automatic testing of components, b F M. Booth. A dielectrometer for millimeter wavelengths, by M J. Kurlick. Quality control of magnetic sub-assemblies, by M Cashman. High frequency transistor test set, by C. E. Williams An automatic card punching transistor test set, by M. L. Embr and D. E. Williams. Magnetic probe for traveling wave tub magnetic field, by V E. Legg and G. N. Packard. Session V Electron tubes and solid state devices. A report on the state o the art of semi-conductor devices, by D. E. Kerr. High powe silicon transistors, by J S. Saby Theory of operation and applica tion f a new series of fixed and adjustable corona discharg voltage regulator tubes, by N Anton and M. Youdin. The appli cation of industrial X-ray techniques for the prevention of reliabi tube defects, by E. A. Kalm. Current trends in cathode ray tube development and design by B. H. Rosen. Manufacturing sub miniature tubes to meet MIL-E-1B microscopic inspection, by R. E. Brooks. Session VI, Passive components I. Metal film powe resistors, by J J Bebrw and others. Precision and high tempera ture metal film resistors, by S. J Stein and J Riseman. Wide coils for traveling wave tube solenoids, by A. S. Ostrum and others. Pyrolytic alloy high temperature resistors, by C. Wellard and K. Gentner New type miniaturized power transformers for high temperature airborne applications, by H. S. Feder and A. B. Haines. A new thermally fused metal-to-ceramic glass resistor, by R. C. Langford and J Rocheleau. Session VII, Passive components II: High Q resonant charging reactors for magnetic radar pulsers, by C. E. Carter jr Ceramic transformers and filters, by C. A. Rosen. Distributed components in printed circuits, by A. Smith and G. Cooper. A new type of ferroelectric shift register by J. R. Anderson. Recent progress in the development of standard functional divisions for electronic equipment, by J Reese and R. S. Shultz. A systematic plan for predicting equipment reliability by J. A. Connor Reliability theory and trial engineering interpretations, by H. L. Wuerffel.

Note. The titles of the 43 papers collected in this volume are listed above. The participants in the symposium (and the authors of the papers) are experts currently engaged in one way or another with the development, testing, or applications of components of electronic systems. The typical paper is concise summary of an area of the field that has recently come into prominence or of new developments in an older area. Usually it is accompanied by literature citations and illustrations. There is no volume index.

ELECTRONICS

Electronics for engineers reference articles charts and graphs from Electronics magazine. Edited by John Markus and Vin Zeluff New York McGraw Hill Book Company, Inc., 1945 390 p. illus. 29 cm. $7.50. 6362

Contents. A-F impedance-matching networks. Antennas. Audio amplifiers. Audio-circuit design Capacitors. Cathode-ray tubes. Coaxial lines. Electronic heating. Filters. Industrial control. Iron-core transformers and chokes. Mathematics. Networks. Oscillators. Permanent magnets. Pulses. Rectifiers. Relays. R F coils and transformers. R F impedance-matching networks. R-F power amplifiers. Sound. Television, frequency modulation, and facsimile. Transmission lines. Tubes. Tuned circuits. Wide-band amplifiers.

Note. One hundred and forty-two articles that have reference value ha been collected in this volume. In some cases they have

[illegible] condensed to suit them to the book. However the [illegible] of the original appearance of each item in *Electronics* is given. [illegible] a valuable reference book for all persons concerned with the design of electronics apparatus.

HAPPELL, GEORGE E., AND WILFRED M HESSELBERTH

Engineering electronics. New York McGraw-Hill Book Company Inc., 1953 508 p illus. 24 cm. (McGraw Hill electrical and electronic engineering series Frederick Emmons Terman, consulting editor) $8.00 6363

Contents: Electron ballistics. Emission. The high-vacuum diode. The vacuum triode and other multielement tubes. Some applications of vacuum tubes. Concepts useful in vacuum-tube-circuit analysis. Voltage amplifiers. Audio-frequency power amplifiers. Power amplifiers using tuned loads. Feedback amplifiers. Oscillators. Modulation and detection. Conduction through gases. Rectifiers. Photoelectric cells. Solid-state electronics and reactance amplifiers. Appendixes. Index.

Note: An engineering college textbook developed and tested at Purdue University before publication. It is designed for use in introductory courses offered to students who have completed basic courses [illegible] general physics, mathematics through calculus, and have completed or are taking concurrently courses in alternating-current circuits and electrical measurements. It presents [illegible] broad view of the field rather than [illegible] concentrated study of selected areas. The chapter on analysis of vacuum-tube circuits introduces the reader to both analytical and graphical methods.

HARVARD UNIVERSITY CRUFT LABORATORY

Electronic circuits and tubes by the Electronics Training Staff of the Cruft Laboratory Harvard University New York McGraw Hill Book Company Inc., 1947 948 p. illus. 23 cm. $10.00 6364

Contents: Alternating current theory. Circuit response. Circuit elements. Measurement of circuit elements. Networks and impedance matching. Transients. Coupled circuits. Filters. Fourier analysis. Electron emission and the diode. Multielement tubes. Cathode-ray tubes. Amplifiers—class A and class B. Power tubes. Oscillators. Gas-filled tubes. Rectifiers and power supplies. Signal analysis. Principles of modulation. Methods of modulation. Detection. Tone transmission. Radio receivers. Timing circuits. Appendices. Subject index.

—— Transmission lines antennas, and wave guides, by Ronold W P King Harry Rowe Mimno, and Alexander H. Wing New York McGraw Hill Book Company Inc., 1945. 347 p. illus. 23 cm. $7.00. 6365

Contents: Transmission lines, by A H Wing. Antennas, by R W P King. Ultra-high-frequency circuits, by R W P King. Wave propagation, by H. R. Mimno. Problems. Index.

Note: The origin of these volumes was [illegible] set of lectures before classes of U. S. Army and Navy technical officers during World War II. The course was preparatory to the study of radar. The treatment is elementary in the sense that it is intended for persons who are just beginning to study electronics, particularly high frequency phenomena, but the authors have assumed that their audience will know mathematics through calculus and will have had at least one college course in physics. The text of the first volume is unexpectedly comprehensive for an elementary work. The second volume treats material that had not been released for publication at the time of writing, but is otherwise [illegible] introductory introduction.

HICKEY HENRY V AND WILLIAM M VILLINES

Elements of electronics. New York McGraw Hill Book Company Inc. 1955 487 p. illus. 24 cm. $6.50 6366

Contents (abridged): Fundamentals of electricity. Introduction to vacuum tubes. Electron circuits. Principles of magnetism. Alternating-current fundamentals. Introduction to trigonometry. Vectors and phase relationships. Laws and properties of inductance. Laws and properties of capacitance. Sources of direct current. Alternating-current generators. Power transformers. Batteries. Power supplies and rectifiers. Voltage dividers and regulators. Introduction to amplifiers. Amplifier circuits. Oscillators. Transmitter circuits. Modulation principles. Antennas and transmission lines. Typical transmitter. Receiver circuits and the superheterodyne receiver. Transistors. Appendix. Visual aids. Index.

Note: A simplified introduction to electronic principles, terminology and basic devices. It has grown out of the authors' teaching experience in the United States Navy hence, the communications applications of electronics are emphasized. However the approach is basic, and radio apparatus used in the U. S. Navy is not specifically described. There are 30 chapters altogether. The typical one is about nine pages long and includes worked examples, review questions and other aids to comprehension.

HILL WILLIAM RYLAND

Electronics in engineering. New York McGraw Hill Book Company Inc. 1949 274 p 24 cm. (McGraw Hill electrical and electronic engineering series F E. Terman, consulting editor) $5 50 6367

Contents (abridged): Practical emitters and diodes. Single-phase rectifier circuits. Grid-controlled vacuum tubes. Gas-filled tubes. Photosensitive devices. Electronic control circuits. Polyphase rectifiers. Practical amplifier circuits. Feedback. Resonance and tuned amplifiers. Oscillators. Amplitude modulation and demodulation. Transducers. The vacuum-tube voltmeter. Appendix: The R-C discharge. Index.

Note: A relatively short introduction to basic electronic principles and devices. It is intended for advanced engineering students [illegible] do not intend to specialize in the field [illegible] wish [illegible] fundamental understanding of it. Despite the brevity of the book, the discussion of important points is adequate, and the exposition is usually illustrated by [illegible] worked examples. Besides its intended use, the book should be of value to graduate engineers [illegible] wish to acquire information about electronics in home study.

HUDSON RALPH GORTON

An introduction to electronics. New York The Macmillan Company 1945 97 p. illus. 22 cm. $3 00 6368

Contents: The constitution of matter. The flow of electricity. Radio communication. Reproduction of sound and picture. Modern sources of light. More power to the electron. Diverse applications of electronics. Conversion factors. Index.

Note: An explanation of the science of electronics and [illegible] description of its applications in the fields of radio, television, photography navigation, meteorology and medicine. The last two chapters also discuss electronic rectifiers and the electron microscope, the radiosonde, and other recent applications. Although intended for the layman with [illegible] limited knowledge of physics and chemistry some technical terminology is employed. The author is Professor of Electrical Engineering at the Massachusetts Institute of Technology.

HUNTER LLOYD P editor

Handbook of semiconductor electronics a practical manual covering the physics, technology and circuit applications of transistors diodes and photocells. New York McGraw Hill Book Company Inc., 1956 597 p. illus. 24 cm $12.00 6369

Contents: Part I, Physics of transistors, diodes, and photocells: Transistor characteristics. Electronic conduction in solids. Rectification in solids. Transistor action. Photoconductivity and photovoltaic cells. Part II, Technology of transistors, diodes, and photocells: Preparation of semiconductor materials. Methods of preparing PN junctions. Metal-semiconductor contacts. Encapsulation. Device design considerations. Part III, Circuit design and application for transistors, diodes, and photocells: Low-frequency amplifiers. High-frequency and video amplifiers. Directly coupled amplifiers. Transistor oscillators. Transistor switching circuits. Circuits using special semiconductor devices. Part IV, Reference material: Graphical analysis of nonlinear circuits. Matrix methods of circuit analysis. Mea-

from the standpoint of engineers who are concerned with design of these electronic elements, such as tubes and it covers not only the main points but also numerous smaller problems such as how to calculate the effect of space-charge-limited current of potential variations along the cathode. Primarily it is a text for electrical engineering students, but it is also useful for fundamental information and reference to graduate engineers. This edition incorporates a considerable range of material not in the preceding edition, but as the author has deleted material the length of the book is approximately the same. Recent literature has been added to the bibliographies.

EASTMAN, AUSTIN VITRUVIUS

Fundamentals of vacuum tubes Third edition New York McGraw Hill Book Company, Inc., 1949 644 p illus. 24 cm. (McGraw Hill electrical and electronic engineering series, F E Terman, consulting editor) $8 50 6359

Contents Part I, Basic concepts Electronic emission. Construction of vacuum tubes. High-vacuum tubes. Gas-filled tubes. Photoelectric tubes. Special types of tubes. Part II, Applications and circuits. Rectifiers. The vacuum tube as a control device. Audio-frequency amplifiers. Radio-frequency amplifiers. Oscillators. Power series analysis of vacuum-tube performance. Modulators. Demodulators. Appendixes. Author index. Subject index.

Note An introduction to the basic principles of vacuum tubes used in radio and industry Applications of such tubes and the circuits in which they are employed are also discussed at some length. The book is intended primarily for senior electrical engineering students, but it is also of value to practicing electrical engineers. Readers are expected to have a knowledge of mathematics through elementary calculus. This edition has been revised to include recent developments in the field. The chapter on audio-frequency amplifiers has been largely rewritten, and provides a more detailed treatment of video amplifiers and of low and high-frequency compensation circuits. The discussion of modulation and demodulation has also been expanded to form two chapters.

EDSON, WILLIAM A.

Vacuum tube oscillators New York John Wiley & Sons, Inc. 1953 476 p. illus 24 cm. $9 00 6360

Contents Introduction. Transient behavior of linear systems. Negative resistance oscillators. Nonlinear oscillations. Feedback systems and stability criteria. Resonators. Linear oscillators. Conventional harmonic oscillators. Crystal-controlled oscillators. Intermittent behavior Operation at high-power levels. Practical relaxation oscillators. Locking and synchronization. Frequency multiplication and division. Tube and thermal noise. Modulation of oscillators. Automatic frequency control. Long-line and multiple-resonance effects. Bibliography Name index. Subject index.

Note. As the author of this book points out, vacuum-tube oscillators are universally used in transmitters and receivers for radio, television and radar The book is a full-scale treatise on them. It covers the principles, types, properties, and applications from the standpoint of the engineer concerned with the design of electronic circuits and devices. Problems to be solved are included for engineering students who use the book as a text. However the book scope, together with its bibliography of 352 references, makes it a useful one for graduate engineers who are concerned with electronic circuit design.

ELECTRONIC COMPONENTS SYMPOSIUM

Proceedings 1956 Electronic Components Symposium Washington D C May 1 2, 3, 1956 Sponsored by American Institute of Electrical Engineers Institute of Radio Engineers Radio-Electronics-Television Manufacturers Association West Coast Electronic Manufacturers Association With active participation by agencies of the U S Department of Defense and the National Bureau of Standards New York Engineering Publishers 1956 240 p illus 28 cm. $5 00 6361

Contents Session I, General Address of welcome, by A. Rogers. Future demands on component design, by W I. Bell. A broad survey of the Military Electronic Equipment Reliability problem and its controlling factors, by C. L. Bowry A review of recent British component developments, by C. E. Richards. Looking forward into the future, by K. Martham. More or better engineering in components, by J D. Ryder Session II, Progress in materials: New glasses and electrical components applications, by W Haath and A. L. Pugh, Jr Positive temperature coefficient of resistance thermistor materials for electronic applications, by H. Sauer and S. S. Flaschen. Ferrites for use in S-band microwave components, by H. C. Rothenberg. Properties of piezoelectric titanates and zirconates, including a discussion on their control and evaluation, by T G. Kinsley and R. D Wehrle. Glass in high temperature components, by H. S. Cranmer Standards for capacitor paper by H. A. Anderson. Session III, Theory and operating principles: Factors affecting back swing of high power pulse transformers, by T Temple. D c. current amplification factor of junction transistors, by C. Huang and A. Anonchi. The use of dispersion measurements for analyzing ceramic components, by D . Lepler Examination of contact and other surfaces by the replica technique, by H. W Hermance and T F Egan. Miniature strip transmission line and transmission line components, by E. Torgow and J W E. Griemsmann. The effects of nuclear on electronic components, by C. C. Robinson. Session IV Instruments and measurements: Automatic testing of components, by F M. Booth. A dielectrometer for millimeter wavelengths, by J Ehrlich. Quality control of magnetic sub-assemblies, by Cashman. High frequency transistor test set, by C. E. Williams An automatic card punching transistor test set, by M. L. Embree and D E. Williams. Magnettor probe for traveling wave tube magnetic field, by V E. Legg and G. N Packard. Session Electron tubes and solid state devices: A report on the state of the art of semi-conductor devices, by D. R. Kret. High power silicon transistors, by J S. Saby Theory of operation and application of a new series of fixed and adjustable corona discharge voltage regulator tubes, by N Aston and M. Voelle. The application of industrial X-ray techniques for the prevention of reliability tube defects, by E. A. Kolm. Current trends in cathode ray tube development and design by R. H. Rosen. Manufacturing subminiature tubes to meet MIL-E-1B microscopic inspection, by R. E. Brooks. Session VI, Passive components I. Metal film power resistors, by J J Bohrer and others. Precision and high temperature metal film resistors, by S. J. Stein and J. Riemer. Wider coils for traveling wave tube solenoids, by A. S. Ostrum and others. Pyrolytic alloy high temperature resistors, by C. Welland and K. Gentner. New type miniaturized power transformers for high temperature airborne applications, by H. S. Feder and A. R. Holmes. A new thermally fused metal-to-ceramic volume resistor, by R. C. Langford and J. Rochelshaw. Session VII, Passive components II. High Q resonant charging reactors for magnetic pulsers, by C. R. Carter Jr Ceramic transformers and filters, by C. A. Rosen. Distributed components in printed circuits, by A. Smith and G. Cooper A new type of ferroelectric shift register, by J R. Anderson. Recent progress in the development of standard functional divisions for electronic equipment, by J. Reeves and R. S. Sholtz. A systematic plan for predicting equipment reliability by J A. Connor Reliability theory and vital engineering interpretations, by H. L. Wuerffel.

Note The titles of the 43 papers collected in this volume are listed above. The participants in the symposium (and the authors of the papers) are experts currently engaged in one way or another with the development, testing, or applications of components of electronic systems. The typical paper is a concise summary of an area of the field that has recently come into prominence or of new developments in an older area. Usually it is accompanied by literature citations and illustrations. There is no volume index.

ELECTRONICS

Electronics for engineers reference articles, charts and graphs from Electronics magazine. Edited by John Markus and Vin Zeluff New York McGraw Hill Book Company, Inc., 1945 390 p. illus. 29 cm. $7.50. 6362

Contents. A-F impedance-matching networks. Antennas. Audio amplifiers. Audio-circuit design. Capacitors. Cathode-ray tubes. Coaxial lines. Electronic heating. Filters. Industrial control. Iron-core transformers and chokes. Mathematics. Networks. Oscillators. Permanent magnets. Pulses. Rectifiers. Relays R F coils and transformers. R-F impedance-matching networks. R-F power amplifiers. Sound. Television, frequency modulation, and facsimile. Transmission lines. Tubes. Tuned circuits. Wide-band amplifiers.

Note. One hundred and forty-two articles that have reference value have been collected in this volume. In some cases they have

has revised or condensed to suit them to the book. However the date of the original appearance of each item in *Electronics* is given. To complement it a valuable reference book for all persons concerned with the design of electronics apparatus.

HAPPELL, GEORGE E. AND WILFRED M HESSELBERTH

Engineering electronics. New York McGraw-Hill Book Company Inc., 1953 508 p. illus. 24 cm. (McGraw Hill electrical and electronic engineering series Frederick Emmons Terman, consulting editor) $8.00 6363

Contents: Electron ballistics. Emission. The high-vacuum diode. The vacuum triode and other multielement tubes. Some applications of vacuum tubes. Concepts useful in vacuum-tube-circuit analysis. Voltage amplifiers. Audio-frequency power amplifiers. Power amplifiers using tuned loads. Feedback amplifiers. Oscillators. Modulation and detection. Conduction through gases. Rectifiers. Photoelectric cells. Solid-state electronics and reactance amplifiers. Transistors. Index.

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HARVARD UNIVERSITY CRUFT LABORATORY

Electronic circuits and tubes by the Electronics Training Staff of the Cruft Laboratory Harvard University New York McGraw-Hill Book Company Inc., 1947 948 p. illus. 23 cm. $10.00. 6364

Contents: Alternating current theory. Circuit response. Circuit elements. Measurement of circuit elements. Networks and impedance matching. Transients. Coupled circuits. Filters. Fourier analysis. Electron emission and the diode. Multielement tubes. Cathode-ray tubes. Amplifiers—class A and class B. Power tubes. Oscillators. Gas-filled tubes. Rectifiers and power supplies. Signal analysis. Principles of modulation. Methods of modulation. Detection. Test instruments. Radio receivers. Timing circuits. Appendixes. Subject index.

—— Transmission lines, antennas, and wave guides, by Ronold W P King, Harry Rowe Mimno, and Alexander H. Wing New York. McGraw Hill Book Company Inc., 1945. 347 p. illus. 23 cm. $7.00. 6365

Contents: Transmission lines, by A. H. Wing. Antennas, by R. W P King. Ultra-high-frequency circuits, by R. W P King. Wave propagation, by H. R. Mimno. Problems. Index.

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HICKEY HENRY V AND WILLIAM M. VILLINES

Elements of electronics. New York. McGraw-Hill Book Company Inc., 1955 487 p. illus. 24 cm. $6.50. 6366

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HILL WILLIAM RYLAND

Electronics in engineering. New York McGraw Hill Book Company Inc., 1949 274 p. 24 cm. (McGraw Hill electrical and electronic engineering series F E Terman consulting editor) $5 50. 6367

Contents (abridged): Practical emitters and diodes. Single-phase rectifier circuits. Grid-controlled vacuum tubes. Gas-filled tubes. Photosensitive devices. Electronic control circuits. Polyphase rectifiers. Practical amplifier circuits. Feedback. Resonance and tuned amplifiers. Oscillators. Amplitude modulation and demodulation. Transducers. The vacuum-tube voltmeter. Appendix: The R-C discharge. Index.

Note: A relatively short introduction to basic electronic principles and devices. It is intended for advanced engineering students who do not intend to specialize in the field but wish a fundamental understanding of it. Despite the brevity of the book, the discussion of important points is adequate, and the exposition is usually illustrated by a worked example. Besides its intended use, the book should be of value to graduate engineers who wish to acquire information about electronics in home study.

HUDSON RALPH GORTON

An introduction to electronics. New York The Macmillan Company 1945 97 p illus. 22 cm. $3 00 6368

Contents: The constitution of matter. The flow of electricity. Radio communication. Reproduction of sound and picture. Modern sources of light. More power to the electron. Diverse applications of electronics. Conversion factors. Index.

Note: An explanation of the science of electronics and a description of its applications in the fields of radio, television, photography, navigation, meteorology and medicine. The last two chapters also discuss electronic rectifiers and the electron microscope, the cyclotron, and other recent applications. Although intended for the layman with a limited knowledge of physics and chemistry, some technical terminology is employed. The author is Professor of Electrical Engineering at the Massachusetts Institute of Technology.

HUNTER LLOYD P editor

Handbook of semiconductor electronics a practical manual covering the physics technology and circuit applications of transistors diodes and photocells. New York McGraw Hill Book Company Inc., 1956 597 p. illus. 24 cm. $12 00 6369

Contents: Part I, Physics of transistors, diodes, and photocells: Transistor characteristics. Electronic conduction in solids. Rectification in solids. Transistor action. Photoconductivity and photovoltaic cells. Part II, Technology of transistors, diodes, and photocells. Preparation of semiconductor materials. Methods of preparing PN junctions. Metal-semiconductor contacts. Encapsulation. Device design considerations. Part III, Circuit design and application for transistors, diodes, and photocells. Low-frequency amplifiers. High-frequency and video amplifiers. Directly coupled amplifiers. Transistor oscillators. Transistor switching circuits. Circuits using special semiconductor devices. Part IV Reference material: Graphical analysis of nonlinear circuits. Matrix methods of circuit analysis. Mea-

urement of semiconductor-device parameters. Measurement of material parameters. Bibliography Author index. Subject index.

Note: Publication of this work provides the rapidly developing field of semi-conductor applications with an engineering handbook cast in the traditional pattern of such reference aids. The first part of the volume is devoted to the basic physics, but the emphasis of the work as a whole is decidedly on technology and applications. A concise style of presentation is followed, and there are numerous graphs and circuit diagrams. Each of the sections has its individual list of references. In addition, there is a comprehensive bibliography chronologically arranged. The author index covers the authors cited in the reference lists in the sections but unfortunately does not cover those cited in the comprehensive bibliography. The subject index is adequate.

KNOLL, M., AND B. KAZAN

Storage tubes and their basic principles. New York John Wiley & Sons, Inc., 1952 143 p illus. 23 cm. $4 50 6370

Contents. Equilibrium potentials acquired by an insulating surface under electron bombardment and the action of light. Definitions. Methods of writing and reading. Signal-converter storage tubes (electrical-electrical) Viewing storage tubes (electrical-visual) Computer storage tubes (electrical-electrical) Television-camera storage tubes (visual-electrical) Bibliography Index.

Note. Electronic storage tubes such as are used in television cameras and electronic computers are covered in this book. The treatment is largely descriptive but on a level which makes the book useful to technically trained persons who have an interest in the subject although not specialists in electronic tubes. Writing methods (charging) and reading methods (discharging) are precisely described in technical terms. The authors next describe the main types of tubes which have been developed to the commercial stage and also some which are under development. The following points are given for each type of tube elements and operating principles, writing and reading principles and characteristics, half-tone characteristics and (in some cases) the method of erasing and other outstanding features. The descriptions are not specifically to tubes manufactured by specific manufacturers. There is an extensive bibliography in which many of the entries have short annotations.

KOHL, WALTER HEINRICH

Materials technology for electron tubes. New York Reinhold Publishing Corporation, 1951 493 p illus. 24 cm $12 50 6371

Contents. Physics of glass. The annealing of glass. Strain analysis of glass. Glass-to-metal seals. Electrical conduction in glass. Glass in radiation fields. Electrons, atoms, crystals, and solids. Tungsten. Molybdenum. Tantalum. Nickel. Copper Carbon and graphite. Joining metals by soldering and brazing. Ceramics and mica. Ceramic-to-metal seals. The phase rule. High-vacuum technique. Thermionic emission. Author index. Subject index.

Note. A systematic survey of the physical properties of the materials used in electron tubes. Considerable information is included on the manipulation and fabrication of these materials, but the book is not treatise on manufacturing techniques. The treatment is technical, and the work is intended for scientists doing research in connection with the design and manufacture of electron tubes as well as for physicists interested in tube phenomena. The text is well documented with literature references and is supplemented by many tables of chemical physical, and mechanical data.

KRAMER ANDREW WILLIAM

Industrial electronics elementary principles & applications New York Pitman Publishing Corporation 1950 311 p illus 24 cm $7 00 6372

Contents Electron behavior Fundamental principles of the electron tube. The simplest thermionic tube—the diode. The triode. Triode characteristics and operation. Electronic generation of electrical oscillations. Multielement tubes. Effect of gas in tube. Types and characteristics of gas-filled tubes. Mercury-pool tubes. Photoelectric tubes and cells. Cold-cathode tubes. Special-purpose tubes. What tubes can do. Electronic control and regulation. Application of electron-tube rectifiers. Electronics in instrumentation and measurement. Industrial applications of electronic control. Applications of electronic regulation. Electron tubes in heat production. Electron tubes in light production. Miscellaneous electronic applications. Index.

Note. This book provides nonmathematical explanations of the fundamental principles of electronics and clear descriptions of typical industrial applications of electron tubes and related devices. It is especially suited to the needs of workers who come in contact with industrial applications of electronics in the course of work and desire to acquire an understanding of them by means of home study. Although elementary and intended for persons who probably will not undertake formal study of the subject, the writing is factual and the author has not gone out of his way to simplify terminology.

LEE, REUBEN

Electronic transformers and circuits. Second edition. New York John Wiley & Sons, Inc., 1955 360 p. illus. 24 cm. $7.50. 6373

Contents. Introduction. Transformer construction, materials, and ratings. Rectifier transformers and reactors. Rectifier performance. Amplifier transformers. Amplifier circuits. Higher-frequency transformers. Electronic control transformers. Magnetic amplifiers. Pulse and video transformers. Pulse circuits. Bibliography Index.

Note. The standard American work on the design of transformers for use in electronic circuits and on the characteristics and performance of such transformers as circuit elements. It is addressed primarily to graduate engineers who are concerned with design; nevertheless, the mathematics employed is rather simple. The first edition was published in 1947 Two new chapters, those on magnetic amplifiers and pulse circuits, have been added in this edition. Also, important changes and, in some instances, extensive revisions have been made in other chapters. Another change of note is the omission of the problems for students to solve that appeared in the first edition.

LO, ARTHUR W., AND OTHERS

Transistor electronics. By Arthur W Lo, Richard O Endres, Jakob Zawels, Fred D Waldhauer, and Chung Chih Cheng. Englewood Cliffs, N J Prentice-Hall, Inc., 1955 521 p. illus 23 cm. (Prentice-Hall electrical engineering series, W L. Everitt, editor) $12 00 6374

Contents. Physical concepts. Characteristics, parameters, equivalent circuits. Basic amplifier configurations. Direct-current bias circuits. Low-frequency amplifiers. Power amplifiers. High-frequency operation. Physical interpretation of transistor parameters. High-frequency amplifiers. Oscillators. Modulation and demodulation. Pulse circuits. Index.

Note. An important treatise on the transistor Primarily it deals with the transistor as a circuit element and of course with the design of circuits to take advantage of transistor properties. The first chapter is a brief outline of transistor physics, and the reader is referred by the authors to Shockley's more comprehensive treatise. In the subsequent chapters, the reader is assumed to have knowledge of vacuum-tube circuits, but the authors do not lean on analogies between them and circuits based on transistors. Practical techniques for analyzing transistor circuits and for designing them are presented explicitly and in detail. The book is potentially of interest both to engineering students and to graduate engineers. All of the authors are or have been associated with the Radio Corporation of America.

MANDL MATTHEW

Handbook of basic circuits TV-FM-AM New York The Macmillan Company, 1956. 365 p illus. 24 cm. $7 50. 6375

Contents (abridged) Audio detector (AM demodulator). Automatic gain control (A-G-C) Balanced modulators. Bridge circuit (reactance type) Burst amplifier Cascode circuit (TV tuner application) Clipper circuit. Color demodulator Crystal oscillator. Damping circuit (diode type) Differentiating circuit. Discriminator (FM oscillator frequency control) Electron-coupled oscillator. Frequency doubler (multiplier) Grid modulation (anode-output type). Hartley oscillator Horizontal-sweep output system (direct-drive type) Integrator circuit. Inverse feedback (negative-current type). Keyed automatic gain control (A-G-C) Klystron oscillator. Limiter. Mixer (nonlinear) Noise clipper (diode type) Phase inverter (floating-paraphase type) Power supply (half-wave type) Push-pull audio amplifier (class A) Reactance circuit (capacitive type). Reflex klystron oscillator. Retrace eliminator Shading control (and

[illegible] Blocking oscillator (color receiver). Tone controls. [illegible] oscillators. Ultra-audion oscillator. Video amplifier. [illegible] (high-voltage type). Appendixes: Classification of [illegible]. VHF television station frequencies. UHF television [illegible] frequencies. Color television transmission standards. Color [illegible] and definitions. Bibliography. Index.

Note: More than 150 circuits commonly used in television, radio and other electronic equipment, have been assembled in this book. [illegible] given above. For each circuit, [illegible] schematic diagram, and brief descriptions of purpose, [illegible] and applications of the circuit. The appendix includes [illegible] of block diagrams illustrating how various circuits are [illegible] transmitting and receiving equipment. The book is [illegible] reference compilation for radio and TV servicemen, experimenters and technicians in the field of electronics.

MARKUS, JOHN AND VIN ZELUFF

Electronics for communication engineers. New York. McGraw Hill Book Company Inc., 1952. 610 p. illus. 28 cm. $11.50 6376

Contents (abridged): Amplifiers. Antennas. Audio. Cathode-ray tubes. Computers. Electronic music. Filters. Measurements. Microwaves. Oscillators. Power supplies. Propagation. Pulses. Receivers. Transmission lines. Transmitters. Index.

Note: A collection of 232 outstanding articles which appeared in the periodical *Electronics* during the period April, 1940, to November, 1951. The articles are grouped under the headings given above, and the general index to the volume covers all of them. In some instances the original text has been abridged, but usually the full text and all of the illustrations are reprinted. The date of publication of the original article is always given. The book is [illegible] useful compilation of reference material for engineers in the electronics and communication fields.

MARKUS, JOHN AND VIN ZELUFF

Handbook of industrial electronic circuits. New York. McGraw Hill Book Company Inc., 1948. 272 p. illus. 29 cm. $7.50 6377

Contents (abridged): Audio-frequency circuits. Capacitance control circuits. Cathode-ray circuits. Control circuits. Counting circuits. [illegible] amplifier circuits. Electronic switching circuits. [illegible] circuits. Measuring circuits. Metal-locating circuits. Motor control circuits. Multivibrator circuits. Oscillator circuits. Photoelectric circuits. Power supply circuits. Stroboscopic circuits. Telemetering circuits. Temperature-control circuits. Timing circuits. Ultrasonic circuits. Welding control circuits. Index.

Note: A very useful compilation of circuits which have been developed for various industrial—as contrasted to communication—applications. Four hundred and thirty-three circuits are illustrated in wiring diagrams and explained in an adequate accompanying text. Most of the material was published first in the periodical *Electronics*, but some of it has been reproduced from other periodicals. Values of the circuit components are given, and there is some description of performance characteristics.

MARTIN THOMAS L., JR.

Electronic circuits. New York Prentice-Hall, Inc., 1955 707 p. illus. 22 cm. (Prentice-Hall electrical engineering series W. L. Everitt, editor) $10.00. 6378

Contents. Part I, Introduction. Principles of equivalent circuits. Principles of circuit theory. Part II, Class A circuits. Principles of vacuum tube amplifiers. Single stage vacuum tube amplifiers. Multistage amplifiers in the steady state. Transient response of multistage amplifiers. Feedback circuits. Transistor amplifiers. [illegible] negative resistance and class A oscillators. Nonlinear class A circuits. Part III, Operation in the switching mode. Vacuum tube power amplifiers in the switching mode. Modulation and modulators. Rectifiers and power filters. Detectors and mixers. Magnetic amplifiers. Wave shaping and computing circuits. Trigger circuits and nonsinusoidal oscillators. Index.

Note: An analytical study in which the author demonstrates that electronic components can be represented by simple equivalent circuits, thereby reducing electronic circuit design to ordinary circuit design. The first part is an outline written at [illegible] level appropriate to the rest of the book; the second part [illegible] devoted to the analysis of circuits in which the electronic component operates [illegible] and the third part to circuits in which the component operates discontinuously. In most of the circuits studied, vacuum tubes constitute the electronic component; however, the inclusion of [illegible] chapter on transistor amplifiers is noteworthy, particularly in view of the fact that the author presents an original method of analysis in this chapter. The book is organized as [illegible] text, designed for students [illegible] who have completed an introductory course in electronics. It contains enough original matter to make it of interest also to graduate physicists and engineers [illegible] who are concerned with the design of electronic circuits or components. The author is head of the Department of Electrical Engineering at the University of Arizona.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Applied electronics a first course in electronics electron tubes, and associated circuits. Second edition by Truman S. Gray A publication of The Technology Press, Massachusetts Institute of Technology New York John Wiley & Sons, Inc. 1954 881 p. illus. 24 cm. $10.50. 6379

Contents. Electron ballistics. Electron emission from metals. Electrical conduction through [illegible], gases, and vapors. Vacuum tubes. Gas tubes. Rectifier circuits. Controlled-rectifier circuits. Vacuum tubes as linear circuit elements; class A single-stage amplifiers. Cascade amplifiers, class A. Amplifiers with operation extending beyond the linear range of the tube characteristic curves, class AB, class B, and class C amplifiers. Vacuum-tube oscillators. Modulation and demodulation, or detection. Semiconductor rectifiers and transistors. Appendixes. Bibliography. Author index. Subject index.

Note: An introductory but not superficial treatment. The authorship of the first edition was credited to "members of the staff of the Department of Electrical Engineering, Massachusetts Institute of Technology." Professor Gray [illegible] who has revised the book for the second edition, is [illegible] member of the faculty of the same department. As in the first edition, mathematics is often resorted to in the exposition, but [illegible] balance has been maintained between narrative exposition and mathematical. The same emphasis on precise definitions and fundamental equations runs through this edition. Also the contents and organization are much the same, except that new developments such as the transistor, are now covered, and revisions have been made in [illegible] parts to improve clarity or to introduce new methods of analysis.

MILLMAN JACOB, AND SAMUEL SEELY

Electronics. Second edition. New York McGraw Hill Book Company Inc., 1951 598 p. illus. 24 cm. (McGraw Hill electrical and electronic engineering series F. E. Terman consulting editor) $8.50 6380

Contents. Introduction. Motion of charged particles in electric and magnetic fields. Applications of the motion of particles in applied fields. Electronic phenomena in metals. Statistical electron theory of metals. Characteristics of thermionic cathodes. Diode characteristics. The kinetic theory of gases. Fundamental processes in gases. Electrical discharges in gases. Commercial gas tubes. Rectifiers. Filters for rectifiers. Polyphase rectifiers. Photoelectricity and photoelectric cells. Triode characteristics. Triodes as circuit elements. Multielectrode tubes. Appendixes. Index.

Note: A well-established textbook in which adequate attention [illegible] paid both to theory and applications of electronics. It is suitable for engineering students [illegible] who are preparing for careers in communications engineering, industrial electronics, and electronic equipment design. Although the present edition is 125 pages shorter than the first edition, the book has been well revised and [illegible] considerable amount of new matter added. The shortening has been accomplished largely by the elimination of two chapters and by resetting the type so that there are three more lines to the page.

NODELMAN HENRY M., AND FREDERICK W SMITH

Mathematics for electronics with applications. New York McGraw Hill Book Company Inc., 1956 391 p. illus. 23 cm. $7.00. 6381

Contents: Part I, The uses of mathematics in electronics: Case histories of practical applications. Electronic applications of calculus. Part II, Equation testing prior to mathematical operations: Dimensional formulas and systems. Checking equations and pre-

dicting solutions. Part III, The algebra of circuit analysis: Theory of determinants. Network solutions by determinants. Matrix algebra. Network solutions by matrices. Part IV Theory and applications of series Basic properties and applications. Nonlinear electronic devices. Part V Differential equations—theory and applications Classical solutions and non-network applications. Transient solutions and elementary Laplace transforms. Part VI, The direction of mathematics in electronics Elements of Boolean algebra. A study plan in mathematics for specialists in electronics. Appendix. Author index. Subject index.

Note A textbook addressed both to advanced students and to graduate engineers preparing for or working in the electronics and communications fields. Readers are assumed to have completed introductory courses in calculus, physics, and network theory There are two features worthy of special note. First, many applications of abstract mathematics to the solution of problems in electronics and communication engineering are illustrated and discussed. This is true even in the more advanced sections of the book. Second, large number of problems taken from actual engineering practice and literature have been included for the reader to solve. Although designed primarily for use in organized classes, the book is suitable also for self instruction text by engineers and others who have the required preparation in basic subjects.

PIERCE, JOHN ROBINSON

Theory and design of electron beams Second edition. New York D Van Nostrand Company, Inc., 1954 222 p illus 24 cm (The Bell Telephone Laboratories series) $4 95 6382

Contents Properties of electric and magnetic fields. Forces and equations of motion. Simple electron motions. Some general relations. Some typical special problems. The paraxial ray equation. Magnetic and electric lenses—analytical and numerical solutions. The effect of thermal velocities. Space charge in electron beams. Electron guns. Periodic focusing fields. About designing electron beam devices. Appendixes. Index.

Note An outstanding work which is written on level that suits it to use as text and reference book by graduate engineers. It presents the theoretical material which is necessary for an understanding of electron flow and electron focusing in amplifier and oscillator tubes, and especially in microwave tubes. Some of the material included is to be found also in books on electron optics however space charge and thermal velocities are more fully treated than in such books. A selected bibliography is given as part of the preface, with occasional other references appearing in footnotes. The first edition was published in 1949 In this second edition, the book is longer by approximately 25 pages, an increase due largely to the addition of a chapter on periodic focusing fields.

PIERCE, JOHN ROBINSON

Traveling wave tubes Princeton D Van Nostrand Company Inc. 1950 260 p illus. 23 cm (Bell Telephone Laboratories series) $4 95 6383

Contents (abridged) Simple theory of traveling-wave tube gain. The helix. Filter-type circuits. General circuit considerations. The circuit described in terms of normal modes. Equations for traveling-wave tube. The nature of the waves. Discontinuities. Noise figure. Backward waves. Power output. Transverse motion of electrons. Field solutions. Magnetron amplifier Double-stream amplifiers. Appendixes Propagation of helically conducting sheet. Stored energies of circuit structures. Evaluation of space-charge parameter *Q* Diode equations of Llewellyn and Peterson. Evaluation of impedance and *Q* for thin and solid beams. How to calculate the gain of traveling wave tube. Bibliography Index.

Note The traveling-wave tube has several advantages over other types of electronic tubes, but the chief one is very wide band width. This first book on the subject was written by member of the technical staff of the Bell Telephone Laboratories, and it is addressed to graduate engineers in the communications field. It provides detailed treatment of the theory of traveling-wave amplifiers and some indication of their potential uses. Magnetrons and double-stream amplifiers, viewed as related devices, are discussed more briefly Apparently the bibliography lists all of the articles that had appeared up to August, 1949

RADIO CORPORATION OF AMERICA

Transistors I. A selection of papers describing research and development work of the Radio Corporation of America, as it applie[s] to the theory fabrication, and application o[f] transistors Princeton RCA Laboratories 1956 676 p illus. 24 cm. $4 50 638[4]

Contents (abridged) General. Materials and techniques. De[vices]. Fluctuation noise. Test and measurement equipment. Ap[plications]. Abstracts.

Note. A collection of technical reports and papers written by members of the staff of the RCA Laboratories and other divisions of the Radio Corporation of America. Included are 31 papers not previously published, and 10 papers reprinted from periodicals. In addition, the final section of the book is devoted to abstracts of 44 articles which have been published in scientific and technical journals. A number of the papers represent significant advances in transistor principles and technology The volume is potentially of interest to most scientists and engineers who are beginning work in the semiconductor field, or who for some other reason need to keep up with developments in transistor theory and application. It lacks an index.

RIDER, JOHN F , AND HENRY JACOBOWITZ

Basic vacuum tubes and their uses. New York John F Rider, Inc., 1955 204 p. illus. 22 cm $4 50 6385

Contents Introducing the vacuum tube. Electrons and electron emission. Diodes. Triodes. Multielectrode tubes. Index.

Note: A clearly-written, nontechnical account of fundamental principles and phenomena of vacuum tubes. It is intended for readers who have not studied the subject before and who are not prepared to study highly mathematical or analytical expositions. The authors have not avoided mathematics, but they have taken pains to explain patiently both the mathematical and other aspects so that the reader will be able to comprehend the book, even though he studies it without the assistance of an instructor Some use is made of cartoon-type drawings in getting ideas across, on the other hand, there are also numerous engineering graphs. The book is suitable for technicians with practical concern with the subject, advanced high school students interested in electronics and general readers who want a book on basic matters rather than on applications and "wonders. It replaces the senior author's *Inside the vacuum tube*, New York, 1945

RIDER, JOHN F

Obtaining and interpreting test scope traces. New York John F Rider, Inc., 1954 192 p. illus 22 cm $2 40 6386

Contents Sine and complex waveforms. The square waveform. Rectangular waveforms. Sawtooth and trapezoidal waveforms. Differentiated and integrated waveforms. Amplitude modulated wave envelopes. Response and "S" curves. Manipulation of scope controls for display Interpretation of scope traces. Lissajous figures. Test setups for observation with the scope. Index.

Note. The cathode ray oscilloscope is widely used as an instrument in analyzing the performance of electronic equipment and in trouble-shooting when repair is necessary This book, written by an expert on this instrument and addressed to technicians, deals in detail with (1) how the waveforms seen on the face of the "scope are produced and (2) how to interpret them. The early chapters are nonmathematical expositions of the kinds of waveforms, with special emphasis on understanding the components of complex waveforms. How to manipulate the controls of the oscilloscope so as to facilitate study of the waveform is explained. In addition to detailed expository text the book contains scores of illustrations of scope traces.

RUITER, JACOB H JR.

Modern oscilloscopes and their uses. Revised edition. New York Rinehart & Company 1955 346 p. illus. 24 cm. $6 50. 6387

Contents. Introduction. History of the oscillograph. Brief history of the development of the cathode-ray tube. Fundamental principles of cathode-ray tube operation. Details of the modern cathode-ray tube. The general purpose oscilloscope. Power-supply circuits. Amplifiers, attenuators, and positioning circuits. Time-base circuits. Operation of the oscilloscope Interpretation of basic patterns. Auxiliary equipment. Typical applications in the electronics industry Servicing A-M radio receivers. Servicing F M radio receivers. Servicing television receivers. Use at the radio transmitter

ing the oscilloscope in teaching. Additional industrial applications of the oscilloscope. Photographing cathode-ray patterns. Quantitative measurement. Glossary. Index.

Note: A standard book of semitechnical and practical nature. As the chapter titles show it covers the history, principles, and the many uses of oscilloscopes. The principal change in this second edition is the addition of the chapter at the end of the book on quantitative measurements.

RYDER, JOHN DOUGLAS
Electronic engineering principles. Second edition. New York Prentice-Hall, Inc., 1952 506 p. illus. 22 cm. $7.50 6388

Contents: The fundamental particles of electronics. The movement of charged particles in fields. The cathode-ray tube. Emission of electrons. Space charge in vacuum tubes. Vacuum diode rectifiers. The vacuum triode. Multi-element tubes. Small-signal amplifiers. Feedback. Large-signal amplifiers—class A and B. Gaseous emission. Gas diodes. Gaseous control tubes and circuits. Photoelectric cells. Solid-state electronics. Appendix. Selected vacuum tube characteristic curves and data. Index.

Note: An engineering college textbook in which electronics is treated as an engineering specialty in its own right rather than as a subdivision of communications engineering or radio. In other words, the primary emphasis is on the electron and on the internal characteristics of electron tubes rather than on the devices in which they are employed. Nevertheless, there is a good deal of discussion of basic circuits in which electron tubes are used. The first edition was published in 1947. For this edition the work was thoroughly revised and augmented. Changes were made in the text, illustrations, and bibliographies; and the final chapter was added so as to incorporate the advances represented by the development of the transistor.

RYDER, JOHN DOUGLAS
Electronic fundamentals and applications. New York Prentice-Hall, Inc., 1950 806 p. illus. 22 cm. (Prentice-Hall electrical engineering series W. L. Everitt, editor) $9.00. 6389

Contents (abridged): Fundamental particles. Electron ballistics. The cathode-ray tube. Emission of electrons. Space charge in vacuum tubes. The vacuum triode. Small-signal amplifier circuits. The tubes. Radio-frequency amplifiers. Vacuum-tube oscillators. Modulation systems. Demodulation. Wave-shaping circuits. Gaseous conduction. Gas tubes. Gas control tubes and circuits. Photoelectric cells. Solid-state electronics. Appendixes. Index.

Note: A substantial textbook for upperclass students of physics and electrical engineering. It is based on the author's Electronic engineering principles, 1947 but much new material has been added. Basic physical principles, tube characteristics, and fundamental circuits are now all covered. The author is Dean of Engineering in Michigan State College.

SEELY, SAMUEL
Electronic engineering. New York McGraw-Hill Book Company Inc. 1956 525 p. illus. 24 cm. (McGraw Hill electrical and electronic engineering series Frederick E. Terman, consulting editor) $8.00. 6390

Contents: Characteristics of electron tubes. Vacuum triodes as circuit elements. Basic amplifier principles. Untuned potential amplifiers. Feedback in amplifiers. Electronic computing circuits. Special tubes and electronic circuits. Oscillators. Heavily biased relaxation circuits. Saw-tooth sweep generators. Special sweep generators. Rectifiers. Rectifier filters and regulators. Electronic instruments. Solid-state. Appendixes: Notes on network theory. Transistors as circuit elements. General network analysis. Plate characteristics of receiving-type tubes. Index.

Note: An intermediate-level text on electronic circuits used in such fields of application as television, radar, computers, control circuits, and electronic detecting and measuring instruments. It is devoted both to the description of such circuits and to their analysis. However, the analysis is on an elementary and practical level. The style is concise, and more ground is covered than would be expected from the book's length. Selected literature references are included in the chapters and usually guide the reader to more extended treatments. The book is a complementary volume to the author's *Radio electronics*. Together, the two books supersede his *Electron tube circuits*, published in the same series in 1950.

SHEA, RICHARD F editor
Principles of transistor circuits. Co-authors Woo Foung Chow Sorab K. Ghandhi, Edward Keonjian Vernon P Mathis Charles A. Rosen John S Saby Johannes S Schaffner Richard F Shea, Jerome J Suran. New York John Wiley & Sons Inc. 1953 535 p. illus. 24 cm. $12 75 6391

Contents: Semiconductor principles. Forms, types, and characteristics of transistors. Transistors as low-frequency circuit elements. Basic principles of the amplifier stage. Junction transistor multistage amplifiers. Bias stabilization. Power amplifiers. Direct-current amplifiers. Transistors as high-frequency circuit elements. Basic principles of high-frequency operation. High-frequency circuit design. Video amplifiers. Oscillators. Circuit design by duality. Matrix methods of circuit analysis. Feedback amplifiers. Transient analysis. Large-signal operation. Computer circuits. Noise in transistors. Associated semiconductor devices. Small-signal parameter measurement. Appendix. Matrix algebra. Definitions of terms. Bibliography. Index.

Note: As indicated in the title, this book is devoted to the transistor as a circuit element. The first two chapters are introductory and short, the remainder of the book is devoted to the transistor in low-frequency circuits, high-frequency circuits and in large signal operations where the nonlinear characteristics of the transistor becomes useful. The book is addressed both to advanced engineering students and graduate engineers. With the needs of the latter group in mind, the authors have taken pains to present and analyze the equivalent circuits and to point out comparisons with vacuum tube circuits. Literature references are included. The authors are associated with the Electronic Laboratory of the General Electric Company.

SHEA, RICHARD F
Transistor audio amplifiers. New York John Wiley & Sons Inc., 1955 219 p. illus. 24 cm. $7.00. 6392

Contents: Fundamental considerations. Transistor parameters. Basic amplifier design. Coupled stages. Preamplifiers. Class A power amplifiers. Class B power amplifiers. Examples of practical amplifier design. Bibliography. Index.

Note: Although limited to junction-type transistors and their application to audio devices, this book should prove to be a useful addition to transistor literature. It is addressed primarily to engineers with vacuum-tube experience who wish a knowledge of transistors for use in practical design. Certain fundamental matters such as static characteristics and temperature effects are discussed succinctly in the first chapter. The second chapter contains a helpful discussion of (1) parameter variations due to such influences as emitter current, temperature and frequency and (2) tabulated specifications for transistors now available commercially. Later chapters are devoted to the various areas of audio design named in their titles. The bibliography is a selected one of literature published 1948–1954. The author is a member of the staff of the Electronics Division of the General Electric Company.

SHOCKLEY WILLIAM
Electrons and holes in semiconductors with applications to transistor electronics. New York D Van Nostrand Company Inc., 1950 588 p. illus. 24 cm. (Bell Telephone Laboratories series) $9 75 6393

Contents: Part I, Introduction to transistor electronics. The bulk properties of semiconductors. The transistor as a circuit element. Quantitative studies of injection of holes and electrons. On the physical theory of transistors. Part II, Descriptive theory of semiconductors. Quantum states, energy bands, and Brillouin zones. Velocities and currents for electrons in crystals. Electrons and holes in electric and magnetic fields. Introductory theory of conductivity and Hall effect. Distributions of quantum states in energy. Fermi-Dirac statistics for semiconductors. Mathematical theory of conductivity and Hall effect. Applications to transistor electronics. Part III, Quantum-mechanical foundations. Introduction to Part III. Ele-

mentary quantum mechanics with circuit theory analogues. Theory of electron and hole velocities, currents and accelerations. Statistical mechanics for semiconductors. The theory of transition probabilities for holes and electrons. Appendixes. Name index. Subject index.

Note. The development of the transistor and the recognition of its many potential applications in electronic devices have resulted in increased interest in the conduction of electricity by the solid semiconductors. The subject is scientifically interesting not only because of possible practical applications but because of the light the associated phenomena shed upon the nature of solids. In this important work by a member of the technical staff of Bell Telephone Laboratories, Inc., the subject is treated from the standpoint of statistical physics. The concept of the excess electron and its counterpart, the "hole" with positive charge, is explained in terms of the quantum theory but is nevertheless related to practical work in transistor electronics.

SPANGENBERG, KARL RALPH

Vacuum tubes New York McGraw Hill Book Company, Inc., 1948 860 p illus. 23 cm. (McGraw Hill electrical and electronic engineering series Frederick Emmons Terman, consulting editor) $12 50 6394

Contents Introduction. Basic tube types. Electrons and ions. Electronic emission. Determination of potential fields. Laws of electron motion. The electrostatic field of triode. Space-charge effects. Triode characteristics. Tetrodes. Pentodes. Noise in vacuum tubes. Electrostatic electron optics. Magnetic lenses. Cathode-ray tubes. Ultra-high-frequency effects in conventional tubes. Velocity-modulated tubes or klystrons. Magnetron oscillators. Photoelectric tubes. Special tubes. High-vacuum practice. Appendixes. Problems. Name index. Subject index.

Note This volume, primarily a text for graduate electrical engineering students, is also useful reference work for electronic engineers engaged in the design of vacuum tubes, and for radio technicians requiring a detailed knowledge of the characteristics of vacuum tubes. It discusses in terms of electron behavior the basic principles and theories underlying tube operation, and shows how these principles are applied in the design and construction of the wide variety of tubes now in general use. Except in the discussions of ultra-high-frequency tubes, no attempt is made to describe tube application and circuits. Pertinent literature is cited in footnotes. The book is based on courses in vacuum tube design given by the author at Stanford University

SYMPOSIUM ON PRINTED CIRCUITS Proceedings of the Symposium on Printed Circuits. Sponsored by the Engineering Department of the Radio-Electronics Television Manufacturers Association with the participation of the Professional Group on Production Techniques Institute of Radio Engineers New York Engineering Publishers 1955 122 p illus 28 cm $5 00 6395

Contents Session I, Product design application Consideration of conversion of an AC-DC receiver to printed circuit design, by A. V Nichol. Current status and recent progress of printed circuits in England, by P Eisler. A subminiature printed circuit system (design phase) by R. J Roman. Product design of an airborne indicator unit using printed wiring, by A. F Maynard. Review of products incorporating printed circuit construction, by A. R. Hughes. Session II, Reliability and serviceability Results of environmental and operational service tests on MDE equipment, by M. E. Goulder Results of military environmental tests of equipment using printed wiring assemblies, by F M. Standaher Factors determining the reliability of electric wiring, by L. F Martin and others. Silver migration in printed circuits, by D K. Yost. Session III, Management considerations Printed wiring—a challenge to management, by M. R. Johnson. Status of printed circuit standardization, by D W Cottle. Session IV Panel on techniques of producing printed wiring boards. Techniques for production of printed wiring boards, by R. A. Gerbold, moderator

Note. The papers which make up this volume were presented at the symposium named in the title and apparently have been printed without revision or amplification Most of the authors are engineers and scientists on the staffs of manufacturing corporations, and most of the papers are devoted to matters which are of concern in the manufacture of electronic equipment employing printed circuits in place of conventional wiring. Techniques of manufacturing printed wiring boards also are discussed. The book is not systematic treatise but it does provide a wide range of explicit information on printed circuit manufacturing.

TERMAN, FREDERICK EMMONS, AND OTHERS

Electronic and radio engineering By Frederick Emmons Terman, assisted by Robert A Helliwell Joseph M Pettit, Dean A. Watkins, and William R. Rambo Fourth edition New York McGraw Hill Book Company Inc., 1955 1,078 p illus. 24 cm. (McGraw Hill electrical and electronic engineering series Frederick Emmons Terman consulting editor) $13 00 639

Contents. The elements of system of radio communication. Circuit elements and circuit theory· Circuit elements. Properties of circuits with lumped constants. Transmission lines. Wave guides and cavity resonators. Electronic engineering fundamentals. Fundamental properties of electron tubes. Electron optics and cathode-ray tubes. Voltage amplifiers for audio frequencies. Voltage amplifiers for video frequencies. Amplifier distortion, power amplifiers, and amplifier systems. Negative feedback in amplifiers. Tuned voltage amplifiers. Tuned power amplifiers. Vacuum-tube oscillators. Amplitude modulation. Detectors and mixers. Frequency modulation. Wave shaping, nonlinear waves, and pulse techniques. Microwave tubes. Power for operating vacuum tubes. Transistors and related semiconductor devices. Radio engineering and radio systems. Propagation of radio waves. Antennas. Radio transmitters, receivers, and communication systems. Television. Radar and radio aids to navigation. Name index. Subject index.

Note. Earlier editions of this work are entitled *Radio engineering* The change in title reflects increased emphasis on the fundamentals of electronic elements and systems, and less attention to radio in particular a shift already apparent in the third edition published in 1947 In this fourth edition, the part entitled "Electronic engineering fundamentals" accounts for more than half of the pages, while the part on radio engineering and radio systems only about 280 pages in length. In comparison to the third edition this edition represents a thorough revision. There are several new chapters including those on wave guides and on transistors. The chapters carried over have also been revised. There are numerous new illustrations and new literature references. Still primarily textbook for advanced undergraduate college students, the book also has reference value by virtue of its comprehensive assembly of basic knowledge. It is well indexed.

TERMAN, FREDERICK EMMONS, AND JOSEPH MAYO PETTIT

Electronic measurements Second edition. New York McGraw Hill Book Company Inc., 1952 707 p. illus. 24 cm (McGraw Hill electrical and electronic engineering series Frederick E Terman consulting editor) 6397
$11 00

Contents Voltage and current. Power. Circuit constants of lumped circuits Circuit constants in systems involving distributed constants. Measurement of frequency Waveform, phase and time-interval measurements Characteristics of triodes, pentodes and similar tubes. Amplifier measurements. Receiver measurements. Antennas. Radio waves. Laboratory oscillators. Generators of special waveforms. Reactance and resistance standards and devices. Attenuators and signal generators. Author index. Subject index.

Note. The first edition of this book was titled *Measurements in radio engineering* and it was well received as text for college students of radio engineering and reference book for radio technicians. In this edition, the scope has been extended to include measurements in the higher frequencies used in television, radar, etc., hence the change in title. It now contains about twice as many words and more than twice as many illustrations as it did in the first edition. However it is still addressed to essentially the same audience that is, advanced students in engineering courses and graduate engineers who are interested in the principles and techniques of measurements in radio and electronics. The laboratory experiments that were outlined in the appendix of the first edition

[illegible] has dropped. The literature citations have been much expanded and the names of authors of cited papers are now included [illegible] index.

TURNER, RUFUS P

Basic electronic test instruments their operation and use. New York Rinehart Books, Inc., 1953 254 p. illus. 24 cm. $4 95 6398

Contents: Simple meters for current and voltage. Ohmmeters and ohm-in-ammeters. Vacuum-tube voltmeters. Power measurements and power meters. Impedance meters and measurements. Capacitor checkers. Inductance checkers. Special-purpose bridges and [illegible]. Oscilloscopes and applications. R-F test oscillators and signal generators. Audio-test oscillators. Frequency-measuring devices for radio frequencies. Audio-amplifier testing devices. R F and [illegible]. Tube characteristics and tube testers. Index.

Note: In this book, the types of instruments which are treated in the chapter titles are described for the benefit of servicemen in television and radio fields. Instruments are described specifically [illegible] principles and uses. Basic circuits are illustrated in diagrams. Typical commercial instruments are shown in photographs. The book [illegible] successor to the author's *Radio test instruments*, 1945 [illegible] might be expected in view of the rapid development of the field, contains much material that was not presented in the earlier work.

UNITED STATES. DEPARTMENT OF THE ARMY

English-Russian, Russian English electronics dictionary Washington D C. Government Printing Office 1956 944 p. 23 cm. (United States. Department of the Army Technical manual no. 30-545) $3 50 6399

Contents: Introduction. English-Russian dictionary. Russian-English dictionary.

Note: "This manual is published to aid the English-speaking [illegible], translator, writer, editor, or engineer who has occasion to use Russian language publications on electronics and telecommunications. Though [illegible] pioneer work in its field the dictionary is believed to be reasonably comprehensive as all modern sources available have been used in the compilation. In addition to the sources published in the U.S.A., the U.S.S.R., and the U K many Russian terms have been obtained from Soviet technical, research institutions, and individual scientists. [illegible] The dictionary is an overall collection of about 22,000 Russian terms and abbreviations covering the following fields Antennas and wave guides, Atomics (principal terms), Aeronautical applications, Batteries, Beacons, Cable, Communications, Computers, Dial telephone systems, Direction finding, Electroacoustics, Electromedical applications, Electron devices, Electronic formulas, High-frequency techniques, Industrial electronics, Military applications, Measurements and measuring instruments, Meteorological systems, Navigation (radio aids to) Optics, Oscillographs, Photo applications, Physics (fringe terms) Pulse work, Radar, Radio, Radiolocation, Radiology RR signals, Interlocking and automatic control, Semiconductors (including transistors) Signaling (including alarm systems) Sound recording, Telegraphy Telemechanics (including telemetering) Telephony Television, Tubes and their manufacture, and X-rays.

UNITED STATES DEPARTMENT OF THE NAVY BUREAU OF NAVAL PERSONNEL

Basic electronics. Washington, D C. Government Printing Office 1955 728 p. illus. 20 cm. (Navy training courses. Navpers 10087) $2.25 6400

Contents: Tuned circuits. Operating principles of the electron tube. Power supplies for electronic equipments. Introduction to electron-tube amplifiers. Electron-tube amplifier circuits. Audio power amplifiers. Oscillators. Modulation and demodulation. Transmitters. Transmission lines. Antennas and propagation. Elementary communications receivers. Electronic test equipment. Introduction to radar. Appendix. Answers to quizzes. Electronic color coding and symbols. Index.

Note: A text developed for enlisted personnel of the Navy [illegible] duties require them to have [illegible] knowledge of the fundamentals of electronics. It presents basic concepts in the field of electronics, with emphasis on the theory of operation of typical electronic components and circuits having frequent application in naval electronic equipments. Electronics is defined as "the science and technology [illegible] concerned [illegible] with devices involving the emission, behavior and effect of electrons in vacuums, gases, and semiconductors.

VAN DER ZIEL ALDERT

Noise. New York Prentice Hall Inc. 1954 450 p. illus. 23 cm. (Prentice-Hall electrical engineering series W L. Everitt editor) $8.50 6401

Contents: Introduction. Thermal noise. Applications of Nyquist's theorem and Schottky's theorem. Noise measurements. Tube noise at low frequencies. Tube noise at high frequencies. Practical low-noise circuits. Excess noise in semiconductors and vacuum tubes. Noise in mixer tubes and circuits. Noise in feedback circuits. Statistical methods. Fourier analysis of fluctuating quantities. Noise in detector circuits. The laws of [illegible] vacuum tube electronics. Space-charge waves in electron beams. Noise in physical instruments. Appendix. Index.

Note: Electronic rather than acoustical noise is treated in this book. (The two types are distinct, although electronic noise in such [illegible] communications systems as radio will produce acoustical noise at the speaker.) The author shows that most noise problems can be solved by standard techniques of network analysis. The first ten chapters illustrate the solutions of noise problems of most interest to the practical electronics engineer. In these chapters the treatment is not mathematically rigorous. The level of treatment is stepped up in succeeding chapters, beginning with the chapter on statistical methods. The book is of interest to [illegible] variety of graduate scientists and engineers, including physicists, communications engineers, engineers specializing in the design of measuring instruments based on electronic principles, and engineers concerned with the design of vacuum tubes and transistors. The author is Professor of Electrical Engineering in the University of Minnesota.

WESTINGHOUSE ELECTRIC CORPORATION

Industrial electronics reference book, by electronics engineers of the Westinghouse Electric Corporation. New York John Wiley & Sons, Inc., 1948. 680 p. illus. 30 cm. $18.00. 6402

Contents (abridged): Physical background of industrial electronics, by E. U. Condon and E. G. F. Arnott. Vacuum tubes, by H. J. Dailey, J. H. Findley and E. C. Okress. Gas tubes, by D. E. Marshall. Photoelectric devices, by W. W. Watrous and D. E. Henry. Industrial X-ray tubes, by J. Lempert. Cathode-ray tubes, by P. E. Volz and P. E. Grandmont. Circuit elements, by D. G. Little. Rectifier circuits, by H. J. Bichsel. Amplifier circuits, by R. Lee. Circuits for industrial control, by H. J. Bichsel. Transmission lines, by E. U. Condon and W. Altar. Mercury-arc rectifiers for power application, by G. F. Jones and C. E. Marcum. Radio-frequency heating, by D. Venable and T. P. Kinn. Power-line carrier, by F. E. Mabry. Electronic instruments, by M. P. Vore. Electrostatic precipitators, by E. H. R. Pegg. Electronic motor control, by E. F. Pachkowski. Applications of ultraviolet radiations, by H. C. Rentschler. Care and maintenance of electronic apparatus, by C. J. Madsen. Index.

Note: Each of the 34 chapters in this volume presents [illegible] concise digest of [illegible] topic in electronics. Together, they constitute [illegible] comprehensive manual of information that will be useful to engineers responsible for the design or use of industrial electronics apparatus. The information is basic and general; for example, the chapter on electric motor control contains diagrams of many basic control circuits but contains no reference to specific makes of control equipment. Mathematics is used freely and there has been no obvious attempt to avoid technical terminology but the exposition will be clear to most plant engineers and to other persons familiar with the terminology of electronics.

YOUNG MILTON GABRIEL AND HARRY S BUECHE

Fundamentals of electronics and control. New York Harper & Brothers, 1952 525 p. illus. 25 cm. $6.00. 6403

Contents: Electron theory. Basic circuit components and control. Principles of electron emission. High vacuum (hard) tubes. Tube

utilizing gas (soft tubes) Mercury pool tubes. Amplifiers. Oscillators. Modulation and demodulation. Rectifiers. Appendixes. Index.

Note. A textbook for use in engineering college courses. Although introductory it provides an adequate coverage of theory and includes also discussions of standard electronic devices including such recently developed ones as the transistor. Enough information is included on many topics to suit the needs of the nonspecialist engineer at work in industry For example, the chapter on mercury pool tubes is 38 pages long and includes 11 references to related literature.

ZELUFF, VIN, AND JOHN MARKUS

Electronics manual for radio engineers. New York McGraw Hill Book Company, Inc., 1949 879 p illus. 28 cm. $14 00 6404

Contents: Antennas. Audio. Circuit theory Components. D-c amplifiers. Filters. Ionosphere. Measurements. Microwaves. Power supplies. Production. Receivers. Television. Transmission lines. Transmitters. Tubes. Index.

Note: A collection of 289 articles which appeared in the periodical *Electronics* during the period 1940–1948 and which have been in demand for reference use by men in radio and other communications fields. It is similar in nature to *Electronics for engineers* New York, 1945 and in fact there is slight amount of duplication. Some editing is apparent, but generally speaking the texts of the articles are unaltered from the periodical form. Citations are given to the original publications. An extensive subject index makes the volume a reference or manual of considerable usefulness.

ZWORYKIN, VLADIMIR KOSMA, AND E. G RAMBERG

Photoelectricity and its application. New York John Wiley & Sons, Inc., 1949 494 p. illus. 24 cm. $10 00 6405

Contents. Historical introduction. General theory Photosensitive surfaces. Materials and apparatus for making phototubes. General methods of preparing phototubes. The vacuum phototube. The gas-filled phototube. The multiplier phototube. The image tube. Photoconductive cells. Photovoltaic cells. Photocell circuits and amplification. The measurement of small photocurrents. Photoelectric metering devices. Phototubes in sound reproduction. Phototubes in picture transmission. Photosensitive camera tubes in television. Light beam signalling and infrared detection. Miscellaneous applications of photoelectricity Photocells in the future. Appendix. Author index. Subject index.

Note: A comprehensive but largely descriptive survey Somewhat more than half of the book is given over to describing the operating principles, characteristics, and uses of photoelectric devices. The coverage is wide, including not only apparatus already in commercial use but also inventions still in the experimental stage. An example of the latter is a photoelectric reading machine for the blind. The work will be useful to engineers, machine designers, and inventors. Extensive bibliographies are appended to the chapters.

COMMUNICATIONS ENGINEERING

GENERAL

ALBERT, ARTHUR LEMUEL

Electrical communication. Third edition. New York. John Wiley & Sons, Inc., 1950. 593 p. illus. 23 cm. $7.00. 6406

Contents: [illegible]

Note: A standard work used both as textbook in engineering [illegible]

ALBERT, ARTHUR LEMUEL

The electrical fundamentals of communication. Second edition. New York McGraw Hill Book Company Inc., 1952 531 p. illus. 24 cm. $7.00. 6407

Contents: The fundamentals of electronics. Direct voltages and currents. [illegible] Index.

Note: A successful introductory text for students [illegible]

ALBERT, ARTHUR LEMUEL

Fundamentals of telephony New York McGraw Hill Book Company Inc., 1943 374 p. illus. 21 cm. $6.00. 6408

Contents: Direct-current theory. Alternating-current theory. [illegible]

Note: An elementary book for beginning students and telephone workers. [illegible]

BLACK, HAROLD S

Modulation theory New York D Van Nostrand Company Inc., 1953 363 p. illus. 24 cm. (The Bell Telephone Laboratories series) $8 75 6409

Contents: Historical background. Why modulate? Kinds of modulation. [illegible] Appendix. Index.

Note: A well-organized text developed from material used in the Communications Development Training Program of the Bell Telephone Laboratories, Inc. [illegible] Well-chosen lists of literature are included.

BRILLOUIN, LEON

Science and information theory New York Academic Press, Inc., 1956. 320 p. illus. 24 cm. $6.60. 6410

Contents: The definition of information. [illegible] Author index. Subject index.

Note: An introduction to information theory for graduate scientists and engineers. [illegible] The author is at present a member of the faculty of Columbia University

BRONWELL, ARTHUR B, AND ROBERT E BEAM

Theory and application of microwaves. New York McGraw Hill Book Company, Inc., 1947 470 p. illus. 24 cm (Radio communication series, Beverly Dudley, consulting editor) $7 50 6411

Contents. Introduction. Charges in electric fields. Current, power and energy relationships. The physical basis f equivalent circuits. Negative-grid triode oscillators and amplifiers. Transit-time oscillators. Magnetron oscillators. Transmission-line equations. Graphical solution of transmission-line problems. Transmission-line networks. Transmitting and receiving systems. Pulsed systems—radar Maxwell's equations. Propagation and reflection of plane waves. Solution of electromagnetic-field problems. Wave guides. Impedance discontinuities in guides—resonators. Applications of wave guides and resonators. Linear antennas and arrays. Impedance of antennas. Other radiating systems. Appendices. Index.

Note This work provides a comprehensive introduction to the fundamental principles and computations pertinent to microwaves and to basic microwave apparatus. It should be useful not only to engineering students but also to engineers, particularly radio specialists, who completed their college work before ultra-short waves took on their current importance. Although the mathematics employed are not as advanced as in some works on microwaves, the authors have assumed that the reader will have at least the mathematical background of senior engineering student. Worked examples and problems for the user to solve are provided.

DOSS, M P, editor

Information processing equipment New York Reinhold Publishing Corporation 1955 280 p illus 24 cm. $8 75 6412

Contents Special typing, stenciling, hectographing, figure preparation, and miscellaneous equipment, by R. B. Moore. Lensless copying with sensitized papers, by P E. Smith. Photography in the laboratory by L. C. Stock and M. P Doss. Microcopying, methods and use, by H. W Ballou. Xerography—dry photographic copying, by B H. Weil. Letterpress and offset printing, by G G. Taylor Author's guide to effective slides—projection equipment and copy preparation by L. S. Bonsall and others. Audio methods for handling data, by R. C. McMaster Storing and finding technical information with punched cards, by C. A. Burkhard. Numerical data-handling machines, by J J Stone and A. T Maleron. Index.

Not The full range f machines currently used in the recording, reproducing and interpreting of information is covered in the book. Examples of specific kinds are dictating machines using discs and belts, wir and tape recorders, typewriters, microfilm readers, punched cards and equipment for interpreting them, calculating machines, and machines for copying by photography printed and typewritten materials. A considerable part of the space is devoted to factual descriptions f commercially ailable equipment. Manufacturers' names are given, and in some cases typical retail prices are quoted. Pictures of many machines are shown. The descriptions are accompanied by general discussions of problems and processes and by expert information on the applications and limitations of specific machines Rather extensive bibliographies are included in most of the chapters. The book is essential reading for librarians, persons who are concerned th the selection of office equipment, graduate scientists and scholars hose fields of activity requires the recording and retrieving of data, and inventors with ideas for possible new devices in this field.

EVERITT WILLIAM LITTELL

Communication engineering Second edition New York McGraw Hill Book Company Inc., 1937 727 p illus 23 cm $8 00 6413

Contents. Introduction and classification f impedance elements The function of networks. Network theorems. Networks using linear bilateral impedances Resonance The infinite line. Reflection Filters. Coupled circuits Impedance transformation. Equalizers. Bridge circuits. Inducti coordination Networks using unilateral and non-linear impedances. Unilateral or control impedances Modulation and de-modulation. Vacuum tube detectors. Class A audio frequency amplifiers. Class A radio frequency amplifiers Radio frequency amplifiers for transmission (classes B and C) Oscillators. Coupling between electrical circuits and free sp Radiation. Coupling between electrical and mechanical circ Electromechanical coupling. Appendix. Index.

Note. A college textbook covering the fundamental theory communication systems, designed for students of radio and t phone engineering as well as for electrical engineers in gen who may desire a broad knowledge of the field without spec lizing. N attempt is made to treat specific applications, such telephone switching systems or commercial radio broadcast The second edition contains new material covering the devel ment of communications between 1932 and 1937 including new treatment of nonlinear distortion and new problems, wh chapters on complex quantities and measurements have b deleted.

FISCHER, BERNHARD, AND HERBERT JACOBS

Elements of mathematics for radio, tel vision and electronics. New York The Ma millan Company, 1954 259 p illus. 22 cm $6 95 641

Contents. Whole numbers. Common fractions. Decimal fractio The slide rule. Series circuits. Percentage. Division on the sl rule. Powers of ten. Squaring on the slide rule. Parallel circu Alternating-current circuits. Square roots. Tables, nomographs a curves. Introduction to geometry Reactance and resistance in seri Negati numbers. Addition of signed umbers. Equations. Meta Time constants. Subtraction of positive and negative umbe Multiplication and division in algebra. Multiplication and factori Equations containing fractions. Ratio and proportion. Voltage d viders. Square waves and sine es. Exponents. Loudspeakers a output transformers. Putting algebra to work. Decibels. T radioman's business mathematics. Appendices. Index. Answers.

Note. Both in the expository matter and in the problems, math matics and electronics are related to one another throughout th book. The areas of mathematics covered are adequately indicat by the chapter titles. Under each heading, the treatment is intr ductory and elementary The book is well organized for self-instru tion as well as for use in organized classes.

HERSHBERGER, W D

Principles of communication systems. New York Prentice-Hall Inc. 1955 253 p. illus 22 cm. (Prentice-Hall electrical engineering series, W L. Everitt editor) $5 00 641

Contents. Introduction. Signals and their spectra. Information and rate of transmission of information. Noise. Modulation and detection. Transmission lines in communication. Characteristics of radio waves. Audio frequency systems. Information in radar systems. Information in television. The design of communication systems Appendices. Index.

Not The title of this book may be taken literally It deals with principles both in their broad outlines and in detail and is not concerned with technical features of communication systems except as these illustrate principles. It is addressed primarily to junior and senior engineering students; however, some concepts and topics usually deferred to the graduate years, such as Fourier integrals, are introduced. The exposition is not predominantly mathematical on the other hand, it is not written so that the mathematics can be skipped. Selected literature references are included.

LOCKE, WILLIAM N, AND A DONALD BOOTH, editors

Machine translation of languages, fourteen essays New York Published jointly by The Technology Press of The Massachusetts Institute of Technology and John Wiley & Sons, Inc., 1955 243 p 24 cm. $6 00 6416

Contents Foreword the new tower by W Weaver Historical introduction, by A. D Booth and W N. Locke. Translation, by W Weaver. Some methods of mechanized translation, by R. H. Richens and A. D Booth. The design of an automatic Russian-English technical dictionary by A. G. Oettinger. A preliminary study of Russian, by K. E. Harper Some problems of the "word," by W N. Locke. Speech input, by W E. Bull and others.

[illegible]

COMMUNICATIONS NETWORKS

Note: [illegible]

PERRY, JAMES W., AND OTHERS

Machine literature searching. By James W. Perry, Allen Kent, and Madeline M. Berry. With a foreword by Jesse H. Shera. New York: Interscience Publishers, 1956. 6417

Contents: [illegible]

Note: [illegible]

SHANNON, CLAUDE ELWOOD, AND WARREN WEAVER

The mathematical theory of communication. Urbana: The University of Illinois Press, 1949. 117 p. illus. 24 cm. $2.50. 6418

Contents: The mathematical theory of communication, by C. E. Shannon. Recent contributions to the mathematical theory of communication, by W. Weaver.

Note: [illegible]

WIENER, NORBERT

Cybernetics; or, Control and communication in the animal and the machine. New York: John Wiley & Sons, Inc., 1948. 194 p. 24 cm. $3.50. 6418A

Contents: [illegible]

Note: [illegible]

BODE, HENDRIK WADE

Network analysis and feedback amplifier design. New York: D. Van Nostrand Company, Inc., 1945. 551 p. illus. 22 cm. $8.95. 6419

Contents (abridged): [illegible]

Note: [illegible]

BREAZEALE, WILLIAM McSWAIN, AND LAWRENCE R. QUARLES

Lines, networks and filters. Scranton: International Textbook Company, 1951. 293 p. illus. 24 cm. $6.75. 6420

Contents: [illegible]

Note: [illegible]

CREAMER, WALTER JOSEPH

Communication networks and lines. New York: Harper & Brothers, 1951. 553 p. illus. 24 cm. $6.00. 6421

Contents: [illegible]

Note: [illegible]

Bronwell, Arthur B., and Robert E. Beam

Theory and application of microwaves. New York McGraw-Hill Book Company, Inc., 1947 470 p illus 24 cm (Radio communication series, Beverly Dudley, consulting editor) $7.50 6411

Contents: Introduction. Charges in electric fields. Current, power and energy relationships. The physical basis of equivalent circuits. Negative-grid triode oscillators and amplifiers. Transit-time oscillators. Magnetron oscillators. Transmission-line equations. Graphical solution of transmission-line problems. Transmission-line networks. Transmitting and receiving systems. Pulsed systems—radar. Maxwell's equations. Propagation and reflection of plane waves. Solution of electromagnetic-field problems. Wave guides. Impedance discontinuities in guides—resonators. Applications of wave guides and resonators. Linear antennas and arrays. Impedance of antennas. Other radiating systems. Appendices. Index.

Note. This work provides a comprehensive introduction to the fundamental principles and computations pertinent to microwaves and to basic microwaves apparatus. It should be useful not only to engineering students but also to engineers, particularly radio specialists, who completed their college work before ultra-short waves took on their current importance. Although the mathematics employed are not as advanced as in some works on microwaves, the authors have assumed that the reader will have at least the mathematical background of a senior engineering student. Worked examples and problems for the user to solve are provided.

Doss, M. P., editor

Information processing equipment. New York Reinhold Publishing Corporation 1955 280 p illus. 24 cm. $8.75 6412

Contents. Special typing, stencilling, hectographing, figure preparation, and miscellaneous equipment, by R. E. Minton. Lensless copying with sensitized papers, by F. R. Smith. Photography in the laboratory by L. C. Stork and M. P. Doss. Microcopying, methods and use, by H. W. Ballou. Xerography—dry photographic copying, by B. H. Weil. Letterpress and offset printing, by G. O. Tyler. Author's guide to effective slides—projection equipment and copy preparation by L. S. Bonnell and others. Audio methods for handling data, by R. C. McMaster. Storing and finding technical information with punched cards, by C. A. Burkhard. Numerical data-handling machines, by J. J. Stone and A. T. Maleson. Index.

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Everitt, William Littell

Communication engineering. Second edition. New York McGraw-Hill Book Company, Inc. 1937 727 p illus 23 cm $8.00 6413

Contents. Introduction and classification of impedance elements. The function of networks. Network theorems. Networks using linear bilateral impedances. Resonance. The infinite line. Reflection. Filters. Coupled circuits. Impedance transformation. Equalizers. Bridge circuits. Inductive coordination. Networks using unilateral and non-linear impedances: Unilateral or control impedances. Modulation and de-modulation. Vacuum tube detectors. Class A audio frequency amplifiers. Class A radio frequency amplifiers. Radio frequency amplifiers for transmission (classes B and C) Oscillators. Coupling between electrical circuits and free space. Radiation. Coupling between electrical and mechanical circuits. Electromechanical coupling. Appendix. Index.

Note. A college textbook covering the fundamental theory of communication systems, designed for students of radio and telephone engineering as well as for electrical engineers in general who may desire a broad knowledge of the field without specializing. No attempt is made to treat specific applications, such as telephone switching systems or commercial radio broadcasting. The second edition contains new material covering the development of communications between 1932 and 1937 including a new treatment of nonlinear distortion and new problems. The chapters on complex quantities and measurements have been deleted.

Fischer, Bernhard, and Herbert Jacobs

Elements of mathematics for radio, television and electronics. New York The Macmillan Company, 1954 259 p. illus. 22 cm. $6.95 6414

Contents. Whole numbers. Common fractions. Decimal fractions. The slide rule. Series circuits. Percentage. Division on the slide rule. Powers of ten. Squaring on the slide rule. Parallel circuits. Alternating-current circuits. Square roots. Tables, nomographs and curves. Introduction to geometry. Reactance and resistance in series. Negative numbers. Addition of signed numbers. Equations. Meters. Time constants. Subtraction of positive and negative numbers. Multiplication and division in algebra. Multiplication and factoring. Equations containing fractions. Ratio and proportion. Voltage dividers. Square waves and sine waves. Exponents. Loudspeakers and output transformers. Putting algebra to work. Decibels. The radioman's business mathematics. Appendices. Index. Answers.

Note. Both in the expository matter and in the problems, mathematics and electronics are related to one another throughout the book. The areas of mathematics covered are adequately indicated by the chapter titles. Under each heading, the treatment is introductory and elementary. The book is well organized for self-instruction as well as for use in organized classes.

Hershberger, W. D.

Principles of communication systems. New York Prentice-Hall Inc., 1955 253 p. illus. 22 cm (Prentice-Hall electrical engineering series W. L. Everitt editor) $5.00. 6415

Contents: Introduction. Signals and their spectra. Information and rate of transmission of information. Noise. Modulation and detection. Transmission lines in communication. Characteristics of radio waves. Audio frequency systems. Information in radar systems. Information in television. The design of communication systems. Appendixes. Index.

Note. The title of this book may be taken literally. It deals with principles both in their broad outlines and in details and is not concerned with technical features of communication systems except as these illustrate principles. It is addressed primarily to junior and senior engineering students; however some concepts and topics usually deferred to the graduate years, such as Fourier integrals, are introduced. The exposition is not predominantly mathematical on the other hand, it is not written so that the mathematics can be skipped. Selected literature references are included.

Locke, William N., and A. Donald Booth, editors

Machine translation of languages, fourteen essays. New York Published jointly by The Technology Press of The Massachusetts Institute of Technology and John Wiley & Sons, Inc., 1955 243 p. 24 cm $6.00 6416

Contents. Foreword the new tower by W. Weaver. Historical introduction, by A. D. Booth and W. N. Locke. Translation, by W. Weaver. Some methods of mechanized translation, by R. H. Richens and A. D. Booth. The design of an automatic Russian-English technical dictionary by A. G. Oettinger. A preliminary study of Russian, by K. E. Harper. Some problems of the "word"... by W. N. Locke. Storage by W. E. Bull and others. Speech input, by W. N. Locke.

…nts: Two-terminal networks containing inductance and …nce only. General properties of passive four-terminal … Image parameters for nearly symmetric lattice sections. …tions of component networks and location of critical …ences for low-pass lattice (reactive). Some aspects of ladder equivalents. Filter terminating half sections. Insertion …d section plane. Effect of dissipation. Design of low-pass … Frequency transformations. Constant-R, insertion loss equal… bles.

…: An important contribution to the literature of network …ry. It reflects the techniques and experience of the Bell …phone Laboratories in the design of filters and equalizers in …phone and other communications networks. The analysis of …ge four-terminal networks is covered thoroughly. The book …udes equations, tabulations, graphs and other aids to practi… design work. Though organized for use as … text it should … of interest to many graduate engineers as well as to advanced …dents. The author is now Professor of Electrical Engineering in …dgers State University

…ROUT VINCENT C.
Active networks. New York Prentice-Hall, Inc., 1954 485 p. illus. 22 cm. $8 50. 6428

Contents: Some fundamental concepts of communication engineering. Active network elements. Low-pass vacuum-tube amplifiers. Transient response of amplifiers. Band-pass amplifiers. Negative feedback amplifiers. Some special types of small-signal amplifiers. Power amplifiers. Oscillators. Modulation and frequency conversion. Frequency, phase, and pulse modulation. Detectors and demodulators. Wave-shaping circuits. Relaxation oscillators and trigger circuits. Noise and information theory. Appendixes. Index.

Note: A textbook designed for students of communications engineering who have completed basic courses in vacuum tubes and … Active networks, in scope, is all networks capable of amplification. … It covers fairly inclusively … of what the modern communication engineer … concerned with in designing networks. Some topics are treated rather briefly; for example, the chapter on noise and information theory is only 28 pages long. Nevertheless, the reader is introduced to the basic ideas and computations. Aside from its use as a text the book is useful as a reference book of concise information on network elements, such as phase characteristics, and citations of the modern literature pertaining to them. The author is Associate Professor of Electrical Engineering in the University of Wisconsin.

…DER, JOHN D
Networks, lines and fields. Second edition. New York Prentice-Hall Inc. 1955 593 p. illus. 22 cm. (Prentice-Hall electrical engineering series W L. Everitt, editor) $10.65 6429

Contents: Network transformations. Resonance. Impedance transformation and coupled circuits. Filters. Transmission-line parameters. … transmission-line theory. The line at radio frequencies. The line at power frequencies. Equations of the electromagnetic field—radiation. Transmission and reflection of plane waves at boundaries. … Guided waves between parallel planes. Wave guides. Radiation … Appendixes. Index.

Note: A second edition of … college text, first published in 1949. It is an introduction to the analysis of networks and fields and … written at … level to suit the needs of students who are preparing for careers in communications engineering. The analysis … systems) of circuits with lumped parameters and systems … distributed parameters are both covered. Wave guides are … as special forms of transmission lines. In comparison to the first edition, much revision and amplification is apparent. … chapters, including the chapter on antennas, have been … Vector analysis and notation are now used in many parts.

…T E.
Transmission networks and wave filters. Princeton D Van Nostrand Company Inc., 1929 470 p. illus. 22 cm. $7 75 6430

Contents: Introduction: The place of transmission networks in … of electrical communication. Part I. Principles of transmission networks. Definitions—units employed—fundamental principles of electric circuit theory. External performance of networks—… for network equivalences—some important network parameters. The effect of impedance mismatching at the terminals of network—reflection factor—interaction factor. Properties of two-terminal impedance networks. Part II, Electric wave filters: General —conditions for free transmission and for attenuation. The more common types of filter sections. The formulation of multi-section filters—low pass, high pass, band pass, and band elimination types. Terminal effects—reflection interaction losses—total insertion loss characteristics. Part III, Composition of transient waves: Resolution of steady state waves into frequency components by Fourier series analysis. Resolution of transient waves into frequency components by Fourier integral analysis. Appendixes: Bibliography. Relation between decibels and current, voltage, and power ratios. Index.

Note: An outstanding presentation of the classical approach to the steady state design of filter networks. It … as developed originally in courses given by the author at the Bell Telephone Laboratories and the Massachusetts Institute of Technology and is addressed primarily to young graduate engineers. In the last chapter the analysis of transient waves by Fourier series, particularly Fourier integrals, is introduced. The bibliography covers the journal, book and patent literature to approximately the year 1928.

VON TERSCH L. W., AND A. W SWAGO
Recurrent electrical transients. Englewood Cliffs, N J Prentice-Hall Inc. 1953 399 p. illus. 21 cm. (Prentice-Hall electrical engineering series. W L. Everitt editor) $7 75 6431

Contents: Fundamental concepts. Basic combinations of resistive, capacitive and inductive elements. Response of basic circuits to simple waveforms. Clamping circuits. Clipping circuits. Circuits for the electric deflection of cathode-ray tubes. Circuits for the magnetic deflection of cathode-ray tubes. Trigger circuits. Multivibrators. Index.

Note: An introduction to the various wave-shaping circuits is provided in this engineering college text. The scope of the book is broad, and the treatment emphasizes analysis, using the time-constant concept … wherever possible. Comprehension on the part of the reader is further facilitated by the inclusion of numerous worked examples of illustrative problems. Extensive lists of references to the literature are included in the various chapters.

WARE LAWRENCE ALBERT AND HENRY R. REED
Communication circuits. Third edition New York John Wiley & Sons Inc. 1949 403 p. illus. 24 cm. $5 75 6432

Contents: Transmission-line parameters. Networks, T and … sections. Network theorems. The line composed of finite sections. The line having uniformly distributed parameters. Open-circuit and short-circuit lines. Reflection losses. The power-transmission line—efficiency. Constant-K filters. M-derived and composite filters. Impedance transformation. Ultrahigh-frequency transmission in wave guides—general. Ultrahigh-frequency rectangular wave guides. Ultrahigh-frequency cylindrical wave guides. Electromagnetic theory of coaxial lines. Transmission-line experiments. Appendixes. Index.

Note: In this college text for electrical engineering students the basic principles of communication transmission lines for all frequencies are presented, but the ultrahigh frequencies are discussed in the greatest detail. The treatment assumes … knowledge of calculus and elementary a-c theory. More advanced mathematics which may be required is included in the appendix. In this edition, the chapters on transmission-line parameters and impedance matching have been rewritten and enlarged, the treatment of attenuation in wave guides is now based on Poynting's theorem, and the number of review problems given at the end of each chapter has been increased.

SOUND RECORDING AND TRANSMISSION

BEGUN S J
Magnetic recording. New York Rinehart & Company Inc., 1949 242 p. illus. 23 cm. $5.00. 6433

Contents: History of magnetic recording. Acoustic factors in magnetic recording. Fundamentals of magnetism. Theory of magnetic recording. Components of … magnetic recording system. Mag-

pendixes. Students beginning the book should have a general understanding f telephone apparatus and systems, as well as a knowledge of elementary hyperbolic function theory.

CUCCIA, C LOUIS

Harmonics, sidebands, and transients in communication engineering as studied by the Fourier and Laplace analyses New York McGraw Hill Book Company, Inc., 1952 465 p illus 24 cm. (McGraw Hill electrical and electronic engineering series, Frederick E Terman, consulting editor) $10 00 6422

Contents Elementary functions of a complex variable. Periodic wave analysis—the Fourier series. Nonperiodic waves—the Fourier transform. The Laplace transform. Complex waves in radio, television and radar Linear-network analysis. Harmonic distortion—amplifier operation. Gaseous-rectifier-tube circuits. Harmonics and transients in filter networks. Harmonics and transients in amplifiers. Integrating, differentiating, and scanning systems for television. Reactance tubes, frequency stabilization, and phase synchronization. Modulation systems in electrical communications. Amplitude-modulated waves. Single-tone frequency modulation. Single-tone phase modulation Indirect frequency modulation and wave interference. Multitone frequency-modulated waves and pulse-width modulation. Spectral analysis of finite wave trains. Wave transmission through linear networks. Traveling waves in communication systems. Reception in electrical communications. Appendix Bessel functions of the first kind. Name index. Subject index.

Note. In this important work, the mathematics of harmonic and transient analysis are explained for communications engineers, and the mathematical methods are applied to a variety f engineering problems in the communications field. The nature and typical uses f Fourier and Taylor's series and the Laplace transformation in important subfields of communication engineering are fully covered. Selected literature references are included. The book is of interest not only to graduate students of communication engineering but also to engineers at work in research and design. The author is Patent Engineer on the staff of the David Sarnoff Research Center of RCA Laboratories Division.

GUILLEMIN, ERNST ADOLPH

Communication networks. New York John Wiley & Sons Inc 1931–35 2 v illus. 23 cm. Vol. I, $7 50, vol II, $9 50 6423

Contents. Volume I, The classical theory of lumped constant networks The philosophy of linear electrical networks. The single mesh network with constant excitation. The single mesh circuit with harmonic excitation. The steady-state solution for the general network. The transient solution for the general network. The evaluation of integration constants. The vector interpretation of the transient solution. Applications. Some important network formulae. The treatment f periodic force functions. Index. Volume II The classical theory of lines, cables and filters: The engineering formulation of the long-line problem. The steady-state solution to the long-line equations. Propagation and characteristic impedance functions of the long line. Characteristics of four-terminal networks. Theorems regarding driving-point impedances and an extension to two-terminal pairs in the reactive case. Energy functions and linear network transformations. Artificial and lumped-loaded lines. The non-dissipative uniform ladder structure. Conventional filter theory Filter design methods based upon the lattice structure. The transient behavior of filters. Simulative and corrective networks. The transient behavior of long lines. Appendix List of symbols. Index.

Not An analytical treatment of network theory It uses the more advanced methods of analysis to considerable extent. In Volume the mathematical artifices of determinants, particular integrals, and determination of constants of integration are developed for their contribution to the solution. The treatment is mathematically interpretive of such practical aspects as transformer circuits and coupled circuits. The Heaviside expansion formula is introduced, along with the Fourier and other periodic functions. The second volume is not restricted to the determination f analytic solutions to the various problems arising in connection with the behavior and design of transmission networks, but places primary emphasis upon detailed discussions of the results of such analysis in the light of practical requirements in the communications field.

KARAKASH, JOHN J

Transmission lines and filter networks. New York The Macmillan Company, 1950, 413 p illus. 24 cm. $6.25 6424

Contents (abridged) Section one, Transmission lines. Section two, Transmission networks. Section three, Elementary filter theory Section four Appendixes. Maxwell's equation and some elementary applications. Matrix algebra. Index.

Note A textbook designed for the instruction of advanced undergraduate college students of communications engineering. It provides a substantial introduction to the steady-state properties of transmission lines and wave filters. The range of frequencies covered is from those used for voice transmission in conventional telephone lines to the microwave frequencies employed in radar. The style is compact, almost sparse, but nevertheless, lucid. Selected literature references to important source publications are included as footnotes.

KING, RONALD W P

Transmission line theory New York McGraw Hill Book Company, Inc., 1955 509 p. illus. 24 cm $1[illegible].00 6425

Contents The infinitely [illegible] long line. The terminated line. Impedance and admittance. General [illegible] solutions for current and voltage. General [illegible]alities in transmission lines. Transmission Discontinuities and [illegible] special sections of transmission line. Transmission-line oscillators and co[illegible]. Bibliography Index.

Note Methods available for the [illegible] analysis of transmission lines fall into two groups, those based on the [illegible] equivalent circuit concept [illegible] and related concepts, and those based on the Maxwell equa[illegible] [illegible] approach is used in electromagnetic theory The electroma[illegible] High-frequency lines [illegible] this important addition to the literat[illegible] detail, and the differences in the steady state are analyzed in de[illegible] are presented. The [illegible] between lines of infinite and finite len[illegible] University and the author is a member of the faculty of Har[illegible] theory. The book is widely known authority on transmission lin[illegible] electrical engineers organized for use in graduate courses offered [illegible] of the equations The level of treatment and the full developm[illegible] engineers working make it also suitable for home study by gradu[illegible] in communications.

MILLMAN, JACOB, AND HERBERT TAUB

Pulse and digital circuits. New York McGraw Hill Book Company, Inc., 19[illegible]56 687 p. illus. 24 cm (McGraw Hill electrical and electronic engineering series Frederick Emmons Terman, consulting editor) $12.50. 6426

Contents Review of amplifier circuits. Linear wave shaping—RC RL, and RCL circuits. Linear pulse amplifiers and nonlinear wave shaping. The bistable multivibrator. Monostable and time-base multivibrators. Voltage time-base generators. Current time-base generators. Pulse transformers and blocking oscillators. Electromagnetic delay lines. Counting. Synchronization and frequency division. Digital computer circuits. Transmission [illegible] Pulse and comparators. Time modulation and measurement[illegible] Appendixes. digital systems. Transistors in pulse and digital circuits. Tube characteristics. Index.

Note A graduate-level textbook on class of circuits (and their elements) which are basic in such fields f engineering as radar, electronic computers, data processing systems, and instrumentation. Although selected applications are described, they are [illegible] Instead, the book deals with the principles and characteristics. The basic circuits and of such circuit elements as trans[illegible] analysis of mathematics, including differential equations, useful in the [illegible] and design of pulse and digital circuits, is covered. [illegible] diagrammatic representations of circuits are included as [illegible] them. Selected references are given to the literature.

REED, MYRIL B

Electric network synthesis image parameter method. Englewood Cliffs N J Prentice-Hall Inc, 1955 252 p illus. 24 cm. (Prentice-Hall electrical engineering series W L. Everitt editor) $8 00. 6427

Antennas

Contents: Sound waves. Musical terminology. Musical scales. Intensities and loudness. Musical instruments. Characteristics of voice instruments. Properties of music. Theater, studio, and room acoustics. Sound-reproducing systems. Index.

Note: A synthesis of psychological, physical, and technical information that bears on music, its reproduction and hearing. The author's approach makes the book potentially useful to a wide variety of readers, including musicians interested in the technical and psychological aspects of their art, architects and engineers concerned with acoustics, and amateurs and professionals interested in sound reproduction. The chapter on musical instruments contains descriptions of not only the better-known instruments but also of such devices as music boxes and electrical carillons. Discussions of microphones, loudspeakers, telephones, disc phonographs, and broadcasting are included in the chapter on sound reproducing systems. The author ... Director of the Acoustical Laboratory of RCA Laboratories.

POTTER, RALPH KIMBALL, AND OTHERS

Visible speech, by Ralph K. Potter George A. Kopp, and Harriet C. Green. New York D. Van Nostrand Company Inc., 1947 441 p. illus. (part col'd) 27 cm. $6.00 6440

Contents: Foreword, by O. E. Buckley. Part I, Development and basic principles of visible speech: Introduction. The sound spectrograph. The direct translator. The training program. The basic patterns of visible speech—the new ABC's. Part II, Lessons on the patterns of American speech. Suggestions for using the lesson chapters. The patterns and the hubs of the vowels and diphthongs. Reading the stop sounds. Reading the fricative sounds. Reading the vowel-like sounds—the nasal sounds—the glides. Reading the words. Part III, Applications of visible speech: Deaf learning. Phonetic research. Speech correction research. Foreign languages research. Vocal music research. Generation and speculative uses. Appendix I—Reference listing of phonetic symbols. Appendix II—Glossary of the profiles and hub areas. Bibliography of technical publications on visible speech. Index.

Note: It has been long possible to make such visual records of the sounds of speech as appear on the sound tracks of moving picture films, but the patterns of such recordings are much too complex to be read. However, if the complex wave of ... spoken sound is used ... analyzed by ... variable filter into its chief components, and these are recorded individually, distinctive patterns are produced which can be read by persons with proper training. The book contains brief nontechnical descriptions of the electronic sound spectrograph and the direct translator, which convert the spoken sounds to visible patterns, but chiefly it surveys the principles and potential applications of visible speech. It will be of the most interest to teachers of speech and persons concerned with the education of the deaf than to engineers. The authors are all present or former staff members of the Bell Telephone Laboratories.

READ OLIVER

The recording and reproduction of sound. Revised and enlarged second edition. Indianapolis Howard W Sams & Company Inc., 1952. 790 p. illus. 24 cm. $7 95 6441

Contents: Behavior of sound waves. History of acoustical recording. Basic recording methods. Lateral disc recording. Disc recorders. Microgroove recording. Recording (cutting) styli. The decibel. Phono reproducers (pickups). Tone arms and reproducing styli. Magnetic tape and wire recording. Magnetic tape recorders. Magnetic film (tape and wire) recording. Magnetic tape recorders. Dividing networks. Microphones. Loudspeakers and enclosures. Dividing networks and filters. Tone control (equalizers). Attenuators and mixers. Amplifiers. Preamp-equalizers. Music systems. PA sound systems. Receivers. Tuners (AM-FM). Speech input systems. Complete recording systems. Record manufacture (pressings). Audio measurements. Recording and reproducing standards. Appendix. Index.

Note: A comprehensive and useful manual about the theory, construction, and characteristics of present-day sound-recording and reproducing apparatus. The treatment ... technical, and the book is adapted to the needs of most technical personnel in the industries concerned with sound recording and reproduction. It is addressed particularly to sound engineers and to men who are responsible for the setting up and maintaining of sound apparatus. The first edition appeared in 1949. This edition contains about twice as much matter and is much improved in content and organization.

RETTINGER MICHAEL

Practical electroacoustics. New York Chemical Publishing Company Inc. 1955 271 p. illus. 23 cm. $10.00 6442

Contents: Microphones. Loudspeakers. Circuits. Magnetic structures. Public-address systems. Vibrations. Architectural acoustics. Magnetic recording. Appendixes: Octaves. Decibels, volume units, direct current watts. Direct versus voltage. Bibliography. Index.

Note: Primarily this is a book about the elements of present-day audiocommunication systems. The two final chapters, one on architectural acoustics, the other on magnetic recording, are not part of the main subject but will be of interest to the same readers. It is addressed to practicing engineers, particularly those concerned with the design of public address systems, sound broadcasting in connection with radio and television, and the recording of sound in moving picture production. The main components of audio communication systems are described in technical terms and are analyzed mathematically. Many formulas useful to the engineer are included, and extensive use is made of graphs to present information on characteristics and quantities. A number of topics that would be expected in such a book—for instance, high fidelity reproduction of sound—are not included because adequate treatises have already been published or, in the opinion of the author, the available technical information on them is still inadequate.

ANTENNAS

AMERICAN RADIO RELAY LEAGUE

The A.R.R.L. antenna book. Eighth edition. West Hartford, Conn. The American Radio Relay League, Inc., 1956 306 p. illus. 24 cm. $2.00 6443

Contents: Wave propagation. Antenna fundamentals. Transmission lines. Multielement directive arrays. Long-wire antennas. Multiband antennas. Antennas for 160 meters—for 3.5 and 7 Mc.—for 14, 21 and 28 Mc. V.H.F. and U.H.F. antenna systems. Supports and construction. Rotary-beam construction. Finding directions. Receiving antennas. Mobile antennas. Bibliography. Index.

Note: Addressed to amateur radio hobbyists, this publication describes the fundamental principles of antennas and discusses the characteristics and design of individual types which are adapted to receiving and broadcasting in the wavelengths used by amateurs throughout the world. The pages of the volume are closely printed, and even more material ... contained in it than the number of pages might be taken to indicate. However, much of the discussion and most of the descriptions are spelled out in great detail to suit the needs of amateurs, many of whom have no formal engineering training. Specific directions are given for the construction of typical antennas, and successful antennas that have been built by amateurs are described in detail. There are several hundred illustrations. The pagination given above pertains only to the main body of the book. In addition, there is a five-page index and some 20 pages of advertising matter.

HARPER, AUGUSTUS EVERDELL, compiler

Rhombic antenna design. New York D Van Nostrand Company Inc., 1941 111 p. illus. 28 cm. $6 75 6444

Contents: General discussion of directional antennas. Antenna gain. Antenna location. Horizontal orientation. Vertical angles of arrival and departure. Properties of rhombic antennas. Effect of ground plane. Directivity equations. Tabulated functions for directional computations. Typical directional characteristics. Measurement and computation of antenna gains. Multiple wire and three-antenna types. Measurement and significance of terminal impedance. Transmitting antennas. Receiving antennas. Maintenance provisions. Lightning protection. Construction. Tables. Bibliography. Index. Construction drawings.

Note: This book explains the essential factors in the design and construction of the rhombic antenna. It includes an introductory discussion of directional radio transmission, followed by descriptions of horizontal rhombic antenna design methods and mechanical construction practices. Tabulated and graphical functions found useful in antenna development work have been included to expedite computation.

KING RONOLD W P

The theory of linear antennas with charts and tables for practical applications. Cam-

netic recording equipment. Applications of magnetic recording. Instrumentation and magnetic recording measurements. Magnetic recording as challenge to the phonograph. Glossary. Index.

Note Presented in this book is a survey of the state of development of magnetic recording of sound on wire and tape at the close of 1949. The chapters on historical development, acoustic factors, fundamentals of magnetism, measurements, and theory are still valuable. On the other hand, the chapters on equipment and applications ar somewhat out of date. However to readers interested in recording on wire, they would be valuable because they present a more extensive survey of wire recording equipment than would be expected in a mor recent book. The chapters include bibliographies f journal articles and patents. There are many illustrations f equipment, schematic diagrams of wiring and mechanisms, and a useful glossary

FRAYNE, JOHN GEORGE, AND HALLEY WOLFE

Elements of sound recording New York John Wiley & Sons, Inc , 1949 686 p 24 cm $12 00 6434

Contents (abridged): Nature of sound, sound waves, and their perception. Electrical, acoustical, and mechanical circuits. Microphones and their uses. Vacuum tubes. Audio amplifiers. Network theory Attenuators. Filters. Equalizers. Compression and limiting. Recording systems. Principles of disk recording. Fundamental principles of variable-density recording. Variable-intensity modulators. Principles of variable-area recording. Variable-area modulators. N ise-reduction methods. Flutter and its measurement. Film and disk drive mechanisms. Film laboratory processes. Rerecording. 35-mm motion-picture reproducing systems. 16-mm sound film systems. Magnetic recording Loudspeaker systems. Acoustics of stages and theaters. Stereophonic recording. Index.

Note. A comprehensive presentation of the principles and basic techniques of the recording of sound. It had its origin in material collected for presentation to students at the University of California at Los Angeles, but in its present form it is intended for both students and practicing sound engineers. Although consider able space is given over to description of equipment, especially equipment used in commercial studios, the work is not in any sense descriptive treatment. The author' method is exemplified by the chapter on magnetic recording where the theory is explained, the two chief methods of magnetic recording are described, and the characteristics of the chief bias and erase methods are discussed from the engineering standpoint. Wire-recording systems and tape-recording systems are then discussed chiefly from the same viewpoint, but there is only one illustration of recorder and no detailed description is given f it. The chapters are supplemented by short lists of references. Both uthors are associated with the Western Electric Company

HUNT, FREDERICK V

Electroacoustics the analysis of transduction and its historical background New York John Wiley & Sons Inc 1954 260 p illus 22 cm (Harvard monographs in applied science editorial committee F V Hunt and others) $6 00 6435

Content Introduction—historical context. Electromechanical coupling—general. Reciprocity and symmetry considerations in electromechanical coupling. Electrical-impedance analysis of transducer performance. Moving-conductor (dynamic) transducer systems. Electrostatic transducer systems. Moving-armature (magnetic) transducer systems Appendixes Dimensions and units. Conversion charts. Index of names. Index of subjects.

Note The main topic of this book is the analysis of electroacoustical transducers, such as microphones and loud speakers. A new method of analysis based on the concept of "space operator" is fully expounded in the second, third and fourth chapters. Using this method, the chief types of such systems are analyzed in the fifth, sixth and seventh chapters. These two groups of chapters are addressed to readers with considerable previous education in mathematics and electroacoustics, and they are of particular value to advanced college students preparing for research and design in the communications field and t engineers and physicists already at work in radio, television, telephony etc. The first chapter—91 pages in length—is thoroughly documented, condensed survey of the historical development f electroacoustical knowledge and devices. It includes citations of several hundred patents, papers and law cases.

KING, DONALD D

Measurements at centimeter wavelength New York D Van Nostrand Company, Inc. 1952 327 p illus. 24 cm (Van Nostrand series in communications engineering, Herbert J Reich, editor) $6 00 6436

Contents Introduction. Transmission of power at centimeter wavelength. Measurement of centimeter power. Frequency avelength and wa eform measurement. Generators. Impedance measurement. Radiation measurements. Glossary of symbols. Subject index. Author index.

Note. Measurements of power and frequency in the wavelength range from about three meters to about 10 millimeters are the subject of this book. Both the theory and the technique of such measurements are covered. The importance of transmission line theory is stressed, but considerable part of the space is devoted to techniques of measurements. Included in the discussions are descriptions of instruments and related circuits and indications of the applications and limitations of each method. The book is of interest to graduate communications engineers and engineers already at work in communications research and design.

MASSA, FRANK

Acoustic design charts. New York Mc Graw Hill Book Company, Inc., 1942 228 p. illus. 23 cm $4 00 6437

Contents (abridged): Fundamental relations in plane and spherical sound waves. Attenuation of sound and vibrations. Mechanical vibrating systems. Radiation of sound from pistons (direct radiator loud speakers) Directional radiation characteristics. Reverberation and sound reproduction. Exponential horn loud speakers. Electro-magnetic design data. Miscellaneous data.

Note This book presents comprehensive acoustic engineering data for use in the construction or design of electro-acoustic apparatus. It converts basic acoustic theory into practical charts of quantitativ value which may be used ithout laborious computations and interpretations. The scales used have been chosen with view to obtaining constant precision in reading the large range of values plotted. By providing families of curves on many of the charts, it is possible to see immediately the quantitative effect of varying the parameters of systems. The subjects covered include the design of acoustic, mechanical, and electro-acoustic apparatus, vibrating mechanical systems, isolation of machinery noise reduction, lectromagnetic and permanent magnet design, electric circuit, and other data. There are 107 full page charts showing over 750 curves.

OLSON, HARRY FERDINAND

Elements of acoustical engineering Second edition New York D Van Nostrand Company Inc. 1947 539 p illus. 23 cm. 6438

Contents Sound waves. Acoustical radiating systems. Mechanical vibrating systems. Dynamical analogies. Acoustical elements. Direct radiator loud speakers. Horn loud speakers. Microphones. Miscellaneous transducers. Measurements. Architectural acoustics and the collection and dispersion of sound. Speech, music, and hearing. Underwater sound Ultrasonics and supersonics.

Note This work, originally prepared as course of lectures for presentation at Columbia Uni ersity is ell known as comprehensive text for advanced engineering students and graduate engineers. I the exposition, considerable stress is placed on analogies among mechanical, electrical and acoustical systems. In addition to the acoustical devices mentioned in the chapter titles, many others, such as telephone receivers, phonographs, electric megaphones, wire recorders, hearing aids, sirens, underwater speakers and microphones are discussed The third edition as published in 1957 718 p., $13 50.

OLSON HARRY FERDINAND

Musical engineering an engineering treatment of the interrelated subjects of speech, music musical instruments, acoustics sound reproduction and hearing New York Mc Graw Hill Book Company Inc. 1952 369 p. illus 24 cm $7 00 6439

[illegible] topics on *Contents*. For example, [illegible] of pages are devoted to antenna characteristics and [illegible] The basic principles and general features of [illegible] systems, such as point-to-point transmission, also are [illegible] The book is [illegible] for use as text in extension and [illegible] courses, but it is also suitable for home study

American Radio Relay League

How to become a radio amateur 15th edition. West Hartford, Conn. The American Radio Relay League, 1956 109 p. illus. 24 cm. $0.50. 6451

Contents: The lure of amateur radio. Fundamentals of radio. A [illegible] for the beginner. A simple one-tube transmitter. [illegible] V.H.F. The final steps. *Learning the code*. [illegible] Getting on the air.

Note: This frequently revised publication is the standard guide [illegible] in radio who wish to qualify as amateur radio operators under the regulations of the United States Federal Communications Commission. It contains an elementary explanation of the principles of radio and specific directions for building simple [illegible] and [illegible] equipment, as well as instructions for [illegible] licenses.

American Radio Relay League

The mobile manual for radio amateurs. West Hartford, Conn. The American Radio Relay League, Inc., 1955 352 p. illus. 25 cm. $2.50. 6452

Contents (abridged): Going mobile, by D. [illegible] [illegible] converter, by W. W. [illegible] Mobile converter for 6 to 10 meters, by R. M. Smith. Compact converter for 2 and 10 Mc, by C. V. Chambers. Mobile converter for 144 Mc, by F. L. [illegible] Automotive radio noise [illegible], by R. Short. [illegible] Two-band miniature mobile transmitter, by C. V. Chambers. Quad-band transmitter, by C. J. Schauers. [illegible] mobile transmitter, by R. D. Leland. Versatile low-power [illegible] transmitter, by G. A. Baker. Mobile [illegible] for 10 and 11 meters, by G. J. Geisel. A "built-in" 10-meter mobile, by E. L. [illegible] [illegible] and compact 3-band mobile transmitter, by R. D. [illegible] Antennas: Short antennas for mobile operation, by J. S. [illegible] Automatic mobile antenna tuning, by J. [illegible] Directional arrays for 6 and 2 meters, by E. P. Tilton. Unidirectional loops for [illegible] hunting, by W. C. [illegible] Power supply: Vibrator power supplies, by B. Goodman. [illegible] of 6-volt equipment for 12-volt operation, by D. [illegible] The [illegible] battery and its charging system, by D. [illegible] FCC regulations covering mobile operation. Index.

Note: [illegible] *radio stations* mounted on automobiles are the subject of this book, which, as stated in the [illegible], is devoted to [illegible] radio operators. It is composed of about 60 signed articles, many of which have been reprinted from the periodical *QST*. The typical article is short and provides specific information on the building or operation of mobile radio equipment. It is supplemented by several illustrations which in most cases show pictures of the apparatus under discussion and wiring diagrams. The volume [illegible] a mine of ideas and technical information for the interested [illegible]

American Radio Relay League

The radio amateur's handbook by the headquarters staff of the American Radio Relay League. Thirty-third edition. West Hartford, Conn. The American Radio Relay League, Inc., 1956. 569 39 p. illus. 24 cm. $3.00. 6453

Contents: Amateur radio. Electrical laws and circuits. Vacuum-tube principles. Semiconductor devices. High-frequency receivers. High-frequency transmitters. Power supplies. Keying and break-in. Speech amplifiers and modulators. Amplitude modulation. Frequency and phase modulation. Single-sideband. Transmission lines. Antennas. Wave propagation. V.H.F. receivers. V.H.F. transmitters. V.H.F. antennas. Mobile and portable-emergency equipment. Construction practices. Measurements. Assembling a station. BCI and TVI. Operating a station. Miscellaneous data. Vacuum tubes and semiconductors. Catalog section. Index.

Note: This annually published work is widely recognized as the standard reference book for amateur radio operators in the United States of America. It presents basic information on radio principles, tube characteristics, etc., along with specific directions for the construction of radio and receiving equipment. It also contains useful reference data, such as the characteristics of vacuum tubes and transistors used in amateur radio equipment. Although much material is carried over from one edition to the succeeding one, there are always [illegible] changes. Most of the revisions are usually concerned with new developments in equipment. The chapter titles of the 33rd edition published in 1956 are listed above.

Drew Charles Edward

How to pass radio license examinations. Third edition—revised. New York John Wiley & Sons, Inc., 1952 406 p illus. 24 cm. $6.50. 6454

Contents: Basic law. Basic operating practice. Basic radiotelephone. Advanced radiotelephone. Radiotelegraph operating practice. Advanced radiotelegraph. *Appendix*: Federal Communications Commission, rules governing commercial radio operators (revised to June 27 1952). Extracts from radio laws. Q code and abbreviations. Abbreviations available for all services. Miscellaneous abbreviations and signals. International Morse code. Miscellaneous. Frequency vs. wavelength. Symbols. Abbreviations. Greek alphabet. Signs. Bibliography. Aircraft radiotelegraph for flight radio operator, by John F. Kennelly. Ship radar techniques, by John J. Custer. Bibliography.

Note: The third edition of this work, like the first and second, presents [illegible] large number of questions and answers to help students prepare themselves for Federal Communications Commission radio license examinations. The questions are numbered to correspond [illegible] the numbers in the F.C.C. study guides, and many of the questions are accompanied by large, easily-read diagrams. New to this edition are the sections covering F.C.C. Element 7 (Aircraft radio telegraph for flight radio operator) and Element 8 (Ship radar techniques). The book is intended to be used in conjunction with standard textbooks.

Ennes Harold E

Broadcast operator's handbook. Second edition. New York John F Rider Publisher Inc., 1951 440 p. illus. 22 cm. $5.40. 6455

Contents (abridged): Part I, Operating in the control room and studio. What you're up against. Keeping ahead "out of the mud. [illegible] and control room. Part II, Operating [illegible] the master control. Part III, Operating outside the studio. Remote control problems. Remote [illegible] pickups. Eyewitness pickups and mobile transmitters. Field [illegible]. Part IV Operating the transmitter. Operator duties. [illegible] are [illegible] Measuring radio and *distortion*. Part V We're off the air. Emergency [illegible] Preventive maintenance [illegible] Part VI, Technically speaking. Control room and studio equipment. The broadcast studio, featuring the broadcast transmitter [illegible] Bibliography. Index.

Note: A thorough book on the work of [illegible] and other technical personnel concerned with the broadcasting of radio programs and the maintenance of broadcasting equipment. Such aspects of radio broadcasting as the placing of microphones, the [illegible] of equipment for out-of-studio pickups, etc., are covered in detail. [illegible] pages are given to the important subject of preventive maintenance. At the time of writing, the author was Staff Engineer for WIRE, in Indianapolis. The first edition of the book was published in 1947. The present edition is 175 pages longer and contains much new material.

Fischer, Bernhard

Radio and television mathematics a handbook of problems and solutions. New York The Macmillan Company 1949 484 p. illus. 21 cm. $6.95 6456

Contents: Section I, Problems and solutions: Circuit components. Direct-current circuits. Alternating current circuits. Vacuum-tube fundamentals. Amplifiers. Oscillators. Transmitters. Receivers. Power supplies. Antennas and transmission lines. Television. Measurements. Industrial and control circuits. Section II, Problems for further practice. Section III, Some important tools for radio mathematics: Powers of 10, Introduction to the slide rule, The *j*-operator, Polar vectors. Section IV Formulas and tables: Electronic formulas. Tables. Appendix: Reference list. Answers to Section II. General index. Mathematical index.

bridge, Mass. Harvard University Press, 1956 944 p illus 27 cm. $20 00 6445

Contents Introduction—a bridge from mathematics to engineering in antenna theory Isolated antennas. Coupled antennas. Elements of a consistent theory Essentials of electromagnetic theory Linear radiators as circuit elements Antenna as transmitting system. Antenna and transmission line. Hallén's theory of cylindrical antennas. Distributions of current and charge. Theoretical impedance and admittance of cylindrical antennas. Apparent impedance of cylindrical antenna as load on a transmission line. Other formulations of the cylindrical antenna problem. Circuit properties of arrays of linear radiators. Theory of two identical, parallel, nonstaggered, center-driven antennas. Theory of identical, parallel, nonstaggered antennas. Arrays with all units in neutral planes. V-antennas. Asymmetrically driven linear antennas. Collinear arrays. The receiving antenna as a circuit element General theory of two different, arbitrarily oriented antennas. The center-loaded receiving antenna. Parasitic antennas as scatterers and reflectors in the radiation zone. The electromagnetic field of center-driven and multiple half-wave antennas Infinitely thin center-driven antennas—cylindrical coordinates. Theory of thin center-driven and multiple half-wave antennas—confocal coordinates. Radiation factors. Center driven antennas of nonvanishing cross section. Center-driven antenna with unequal currents in the halves. Electromagnetic fields of antenna arrays. Uniform parallel arrays. Nonuniform parallel arrays. Arrays with omnidirectional properties. The reciprocal theorem and the properties of arrays. Antennas over a conducting region Vertical dipoles over conducting earth—general formulation. Far-zone fields of vertical dipoles over a conducting earth. Quasi-near-zone fields of vertical dipoles over conducting earth. Horizontal dipoles over conducting earth. Impedance and radiation resistance of antennas over conducting planes. The antenna as a boundary-value problem: Conical antennas. Cylindrical antennas. Appendix. Problems. Bibliography List of principal symbols. Index.

Note. A comprehensive and rigorous treatment f linear radiators of electromagnetic energy It covers radiation, transmission, reception and scattering from cylindrical conductors of relatively small cross section, and also from related forms such as strips. It is primarily a theoretical and analytical study however it is closely enough related to the ork of engineers in high-frequency design to give it much practical value also. The charts and tables mentioned in the title are designed as aids in practical engineering problems. The book was based on an extended program of research and construction of theory by the author and his graduate students in the Cruft Laboratory at Harvard University A 20-page section of problems is included to facilitate the use of the book as a graduate-level text. The bibliography which is classified in accord with the chapter arrangement, runs to 12 pages.

KRAUS, JOHN DANIEL

Antennas New York McGraw Hill Book Company Inc, 1950 553 p illus. 24 cm (McGraw Hill electrical and electronic engineering series F E Terman consulting editor) $10 00 6446

Contents. Introduction. Point sources. The antenna as an aperture. Arrays of point sources. The electric dipole and thin linear antennas. The loop antenna. The helical antenna. The biconical antenna and its impedance. The cylindrical antenna its current distribution and impedance. Self and mutual impedances. Arrays of linear antennas Reflector-type antennas. Slot, horn, and complementary antennas. Lens, long wire, and other types of antennas. Antenna measurements. Books for references. Appendix. Index.

Note. A systematic treatment of antenna theory written in the form of textbook for upperclass engineering students. Acquaintance with elementary electromagnetic theory the fundamentals of transmission lines and wave guides, and with mathematics through vector analysis is required for understanding the treatment. All the varieties f antennas which are of current interest are considered. Besides its intended use, the book should prove useful to graduate electrical engineers whose formal education did not include course in antenna theory

LAPORT, EDMUND A.

Radio antenna engineering New York McGraw Hill Book Company Inc, 1952 563 p. illus 24 cm $10 00 6447

Contents. Low-frequency antennas. Medium-frequency broadcast antennas. High-frequency antennas. Radio-frequency transmission lines. Graphical synthesis of impedance-matching networks. Logarithmic potential theory Appendixes. Index.

Note. A treatise designed for radio engineers who are not specialists in antenna theory but who must nevertheless design (and sometimes build) radio antennas. It is limited to antennas made of wires, masts, and towers for frequencies up to about 30 megacycles and to transmission lines used in the feeding of signals to such antennas. Major aspects, such as the calculation of radiation patterns, and minor aspects, such as the design of aircraft obstruction lighting, are both covered. Graphical methods are illustrated for the solution of many problems. The illustrations include a number of photographs of construction details. Selected bibliographies are included with the chapters and in the appendix, there is a general bibliography for the convenience of engineers in need of more detailed or more rigorous treatments of specific aspects. The author is on the staff of Radio Corporation of America.

SCHELKUNOFF, SERGEI ALEXANDER

Advanced antenna theory New York John Wiley & Sons, Inc., 1952 216 p. 24 cm. (Applied mathematics series, edited by I. S. Sokolnikoff) $8.25 6448

Contents. Spherical waves. Mode theory of antennas. Spheroidal antennas. Integral equations. Cylindrical antennas. Natural oscillations. Appendixes. Index.

Note. Contemporary antenna theory at an advanced level of research is presented in this valuable monograph. The methods of other contributors, particularly E. Hallén, J. A. Stratton, and L. J. Chu, to the modern theory are described, but the heart of the book is the 70-page second chapter in which the author's own method of dealing with the problems of thin antennas is covered more fully than in his previously published work. The treatment is largely mathematical, and the mathematics is rigorous. The book is of primary interest to advanced graduate students and graduate engineers engaged in antenna research.

SCHELKUNOFF, SERGEI ALEXANDER, AND HARALD T FRIIS

Antennas theory and practice. New York John Wiley & Sons, Inc., 1952 639 p. illus. 24 cm (Applied mathematics series, edited by I. S Sokolnikoff) $10 75 6449

Contents Physical principles of radiation. Maxwell's equations. Plane waves. Spherical waves. Directive radiation. Directivity and effective area. W es over ground. Antenna current. Impedance, reciprocity equivalence. Small antennas. Self-resonant antennas. General theory of linear antennas. Impedance of dipole antennas. Rhombic antennas. Linear antenna systems. Horns. Slot antennas. Reflectors. Lenses. Appendixes. Index.

Note: This authoritative work is best described as a treatment of basic antenna theory for engineering students who are interested in the subject because they may eventually be concerned with practical antenna design. Construction details are not covered, but the theory and mathematical computations that the practical engineer must know in order to design an antenna with specified characteristics are thoroughly covered. A knowledge of general physics and elementary calculus is prerequisite. The uthors have taken special pains to keep the mathematics in the book within the reach of undergraduate students. The discussions of most points are usually full and clear The book should be valuable also to fair number of engineers not enrolled in colleges.

RADIO AND RADAR

ALBERT ARTHUR LEMUEL

Radio fundamentals. New York McGraw Hill Book Company Inc., 1948 595 p. illus. 23 cm. $6 00 6450

Contents. Fundamentals of acoustics. Electrical fundamentals. Series and parallel resonant circuits. Power transfer and impedance matching. Transmission lines, cables and networks. Vacuum tubes. Rectifiers. Voltage amplifiers. Power amplifiers. Oscillators. Modulation and demodulation. Radio transmitters. Antennas and transmission. Radio receivers. Index.

Note. An elementary presentation for radio technicians, radio amateurs, and other persons who have serious interest in the subject. Advanced mathematics is voided in the presentation

Hessing, Julius Lawrence
Radar primer New York McGraw-Hill Book Company Inc., 1948. 215 p. illus. 21 cm $3.00 6462

Contents: Introduction. Fundamentals of radar. Determining the [illegible] Electronic [illegible] picture. The basic parts of [illegible] Radar at work. Long-distance navigation. [illegible] theory of radar. Bibliography. Index.

[illegible] applications, potential and actual, of radar are [illegible] the book. Elementary principles of radar and of [illegible] techniques such as loran, [illegible] and television [illegible] nonmathematical terms. There are many illustrations of typical radar equipment. The text proper is supplemented [illegible] selected bibliography. The book is quite [illegible] book for lay readers and as [illegible] text in [illegible]

Hund, August
Frequency modulation. New York McGraw-Hill Book Company Inc., 1942 375 p. illus. 23 cm. (Radio communication series Beverly Dudley consulting editor) $5.00 6463

Contents: Fundamental [illegible] and features in frequency-modulated, phase-modulated, and amplitude-modulated systems. [illegible] employed in FM systems. Transmitters for [illegible] Receivers for frequency-modulated currents. [illegible] and [illegible]

[illegible] The book for engineers and advanced students [illegible] treatment of all phases of frequency modulation [illegible] principles to the design of commercial apparatus. [illegible] follow the best engineering practice. [illegible] frequency modulation are described [illegible] with customary amplitude modulation and in comparison with phase modulation.

Hund, August
High-frequency measurements. Second edition. New York McGraw-Hill Book Company Inc., 1951 676 p. illus. 24 cm. (International series in pure and applied physics G. P. Harnwell, consulting editor) $12.00 6464

Contents: Fundamental relations and circuit properties. High-frequency sources and other useful laboratory apparatus. Apparatus and [illegible] for measuring high-frequency currents [illegible] Determination of voltage. Determination of frequency. Determination of capacitance. Determination of self-inductance. Determination of mutual inductance and coupling. Determination of [illegible] Determination of high-frequency power and [illegible] Determination of [illegible] decrement, power factor, phase [illegible] and sharpness of resonance. Ferromagnetic measurements. Tube measurements. Modulation measurements. Measurements on [illegible] and aerial systems. Determinations on wave propagation. Microwave measurements. Appendix. Index.

Note: An extended work that is used both as [illegible] textbook for [illegible] students of radio engineering and as [illegible] reference book in radio and electronics laboratories. In its present edition [illegible] thorough coverage of measurement methods throughout the band of radio frequencies that are now in use, including UHF and super-high frequencies. Familiarity with radio terminology and engineering mathematics [illegible] assumed in the treatment. Important changes and additions were made in preparing the present edition.

Hund, August
Short-wave radiation phenomena. New York. McGraw-Hill Book Company Inc., 1952. 2 v illus. 24 cm. (Radio communication series Beverly Dudley consulting editor) $25.00. 6465

Contents: Volume I. Fundamental concepts and relations of [illegible] and electromagnetic fields. [illegible] electromagnetic fields of elementary [illegible] and magnetic dipoles. Fundamental methods used in electromagnetic theory. Propagation characteristics. Transmission lines and radiation. Unobstructed space radiation. Volume II. Space radiation in the presence of electromagnetic obstructions. Electromagnetic diffraction. Wave guides and cavities. Appendix. List of references. Name index. Subject index.

Note: An intermediate-level text or treatise addressed both to students in formal courses and to radio experimenters and graduate engineers studying by themselves. The typical chapter is [illegible] self-contained monograph on [illegible] specific area of the field, containing the pertinent theory and the useful mathematical formulas and computations. The treatment is analytical and is adequately detailed for self-instruction. The work as [illegible] presents [illegible] range of information, together with references to the original literature. The subject index runs to 33 two-columned pages.

International Telephone and Telegraph Corporation
Reference data for radio engineers. Fourth edition. New York International Telephone and Telegraph Corporation, 1956. 1,152 p. illus. (part col d) 22 cm. $6.00 6466

Contents: Frequency data. Units, constants, and conversion factors. Properties of materials. Components. Fundamentals of networks. Filters, image-parameter design. Filters, modern-network theory design. Filters, simple band-pass design. Attenuators. Bridges and impedance measurements. [illegible] transformers and reactors. Rectifiers and filters. Magnetic amplifiers. Feedback control systems. Electron tubes. Electron-tube circuits. Semiconductors and transistors. Transistor circuits. Modulation. Transmission lines. Waveguides and resonators. Scattering matrices. Antennas. Radio-wave propagation. Radio noise and interference. Broadcasting. Radar fundamentals. Wire transmission. Electroacoustics. Digital computers. Nuclear physics. Miscellaneous data. Information theory. Probability and statistics. Fourier [illegible] analysis. Maxwell's equations. Mathematical formulas. Mathematical tables. Index.

Note: Compiled under the direction of the Federal Telecommunication Laboratories Division of the International Telephone and Telegraph Corporation, this handbook provides [illegible] wide range of basic knowledge and engineering data useful in radio and related fields such as telephony and industrial electronics. It is largely compendium of graphs, tables and formulas, but it does contain some explanatory text. This edition was edited by H. P. Westman, and there [illegible] list of contributors in [illegible] the volume.

Jordan, Edward Conrad and others
Fundamentals of radio, by Edward C. Jordan Paul H. Nelson, William Carl Osterbrock, Fred H. Pumphrey and Lynne C. Smeby. Editor W. L. Everitt. New York Prentice-Hall, Inc., 1942 400 p. illus. 23 cm. $3.75 6467

Contents: Mathematics of radio. D.C. circuits—A.C. circuits. Electronic principles. Rectified power supplies. Sound and its electrical transmission. Audio amplifiers—vacuum tube instruments. Electromagnetic waves. Transmission of signals by radio. Radio frequency amplifiers and detectors. Amplitude modulation radio transmitters. Amplitude modulation [illegible] receivers. Frequency modulation. Radio wave propagation. Radio antennas. Index.

Note: This work presents the basic material required for all types of radio work, both civil and military. The primary aim of the book is to make clear to the beginning student the functioning of [illegible] complete radio system and at the same time to lay the foundation for more advanced study of the subject. The reader needs only an elementary knowledge of algebra, which is reviewed briefly in the first chapter. There [illegible] brief discussions on alternating and direct current circuits which may be omitted in [illegible] beginning course. The text is suitable for rapid training programs and for self-instruction.

Kiver, Milton Sol
F-M simplified. Second edition. New York D. Van Nostrand Company Inc., 1951 453 p. illus. 21 cm. $6.95 6468

Contents: Introduction to frequency modulation. F-M from phase modulation. F-M and interference. Propagation, reception, and transmission of F-M signals. R.F. tuners for F-M receivers. High-frequency oscillators. I.F. amplifiers. Limiters. F-M detectors. Audio

Note. As the chapter titles indicate, the scope of this book is more advanced than some of the texts which have been written on the mathematics used in radio and television. It has been developed from material used in classes given by the author and is designed primarily as textbook for use in organized classes. However it is somewhat suitable for self-instruction especially for ad anced students who hav had a course in college algebra. Much of the exposition is expressed in the form of orked solutions of typical problems. Several hundred practice problems for the student are given in the second section of the book. An extended section of useful formulas and tables at the end of the book has some reference value.

GHIRARDI, ALFRED A

Radio and television receiver circuitry and operation, by Alfred A Ghirardi, assisted by J Richard Johnson. New York Rinehart and Company, Inc., 1951 669 p illus. 24 cm. $6 75 6457

Contents Amplitude modulation and AM signals. Frequency modulation and FM signals. R-F amplifiers and T-R-F receivers. AM superheterodyne receivers. AM detector and AVC systems. FM recei ers. Push-button tuning and AFC systems. A-F amplifiers. Loudspeakers. Radio receiver power-supply systems. TV principles and the TV receiver Receiving antenna systems. Home recorders. Phono pickups and record players. Automatic record changers. Mechanical construction of receivers. Glossary Answers to odd-numbered review questions. Index.

Note An introduction written primarily for practical students who are preparing for or are already engaged in radio and television installation and servicing. Also, ther is some appeal to radio amateurs. For an introductory book the treatment is unusually full. The chief aim of the authors was apparently to impart basic understanding of the principles of circuit elements and typical complete circuits. Full circuit diagrams of specific makes and models of receivers are, of course, not included. The first-named author has written the widely used *Radio physics course* and other books.

GHIRARDI, ALFRED A , AND J RICHARD JOHNSON

Radio and television receiver troubleshooting and repair New York Rinehart and Company Inc., 1952 822 p. illus. 24 cm. $7 50 6458

Content (abridged) Receiver components and their troubles. The importanc of systematic troubleshooting procedure. Basic troubleshooting methods. Practical direct-approach troubleshooting. Special troubleshooting problems in -c d-c and three-way portable receivers. Special troubleshooting problems in battery-powered receivers. Servicing communications recei ers. Troubleshooting television receivers. Taking receiver-performance data. Realigning AM receivers. Realigning FM recei ers. Realigning TV recei ers. Replacement of defecti resistors Replacement and repair of R F and I-F inductors and transformers. Replacement and repair of defective power A-F and deflection-frequency inductors and transformers. Replacement and repair of defective capacitors. Servicing defective tuning-device mechanisms. Testing, replacement, and repair f loudspeakers. Repair and replacement of record-playing equipment. Servicing home recorders. Appendix. Index.

Note. A comprehensive textbook for use in vocational courses offered to men ho are preparing to become radio and television servicemen, and for men already in this service industry who wish to extend their knowledge by home study The discussions are practical and detailed. Many operations are described step by step. N mathematics is used, but the riting is in the terminology of the industry The book replaces the senior author's popular *Modern radio servicing*

GHIRARDI, ALFRED A.

Radio physics course , an elementary text book on the basic principles of electricity radio and television 508 illustrations Second edition New York Rinehart & Company Inc. 1932 972 p. illus. 23 cm. $6 50 6459

Contents (abridged) Radio broadcasting system. Electron theory electric current. Electrical circuits, batteries. Magnetism. Electromagnetic induction. Inductance and inductors. Capacitance and condensers. Alternating current circuits. Electric filters. Electrical measuring instruments. Radio transmission, the broadcasting station. The receiving station, detection with crystals. Elementary study of the vacuum tube. Vacuum tube detector and amplifier action. Radio frequency amplification. Superheterodyne receivers. Design of R. F amplifiers and tuning coils. Audio amplification. The battery operated receiver The power supply unit. Electric receivers. Automobile and aircraft recei ers. Phonograph pickups and sound amplifier systems. Short wav reception. Vacuum tube applications and photoelectric cells. Television. The antenna and ground. Testing and servicing. Sound motion pictures. Appendixes. Index.

Note: An outstandingly successful book of its kind. The principles of radio receivers, sound amplifier equipment, photoelectric cells, etc., are described in a detailed, elementary manner ith little use f mathematics. The level of treatment assumes no previous education in physics or electricity Since there has been no revision for many years, the book does not describe all the circuits and elements of present-day radio receivers, and the chapter on television was written before the successful development of television as we know it today Nevertheless, it still has some value as a self-instruction book in the elements of radio.

HENNEY, KEITH, editor in-chief

Radio engineering handbook. Fourth edition. New York McGraw Hill Book Company, Inc., 1950 1,197 p illus. 23 cm. $15 00. 6460

Contents: Basis of radio communication, by R. Dudley Resistance, by J Marsten. Inductance, by F G. Weber. Magnetic materials, by R. L. Sandford. Capacitance, by E. L. Hall. Combined circuits of L, C and R, by W F Lanterman. Electrical measurements, by R. F Field and J. H. Miller. Power-supply systems, by R. C. Hitchcock. Audio-frequency amplifiers, by G. Koehler. Radio-frequency amplifiers, by R. S. Glasgow Vacuum-tube oscillators, by R. L. Sartocher and D C. Felder Modulation and detection, by L. F Curtis. Radio-wav propagation, by D Pollack. Electron tubes, by G. D O'Neill. Antennas, by E. A. Lapert. Wave-guides and ca ity resonators, by T Moreno. Loud-speakers and room acoustics, by H. S. Knowles. Receiving systems, by C. E. Dean. Radio broadcasting, by C. G. Dietsch. Television, by D. G. Fink. Facsimile, by R. E. Mathes. Radio aids to aviation, by H. Diamond. Code transmission and reception, by J B. Moore and D. S. Rau Index.

Note. A standard reference book in hich many" type of exposition and tabulated engineering data are combined. It is suitable for advanced students of radio engineering, advanced radio amateurs and, of course, practicing radio engineers. In the present edition the type has been completely reset, and the format altered to gi larger page size. Enough material has been added to occupy 200 more pages. The chapter on wave-guides treats material that was not mentioned in the third edition. The titles of the other chapters are the same or are changed slightly but examination shows that the contents of substantial umber are essentially new

HENNEY, KEITH, AND GLEN A. RICHARDSON

Principles of radio Sixth edition. New York John Wiley & Sons, Inc. 1952 655 p. illus. 22 cm $6 75 6461

Contents. Fundamentals. Direct-current circuits. Electrical meters and measurements. Magnetism and electromagnetism. Inductance. Capacitance. Properties of alternating-current circuits. Resonance. Properties of coils and condensers. Vacuum tubes. The tube as an amplifier Rectifiers and power supply apparatus. Audio amplifiers. Detection of amplitude-modulation signals. Amplitude-modulated receiver systems. Oscillators. Amplitude-modulation transmitters. Transmission lines, antennas, and electromagnetic radiation. Frequency modulation and detection. Ultra-high-frequency phenomena. Electronic instruments. Transients and wav shaping circuits Television. Radar Index.

Note. A popular self-instruction and vocational school text since the appearance of the first edition in 1929 Only simple mathematics is used, and the discussions of fundamental topics are exceptionally full. Numerous worked examples and procedures for few experiments requiring minimum of apparatus are included. The present edition represents an extensi revision ith many pages of new material and many new illustrations.

[illegible]—the A battery—the C battery. The ac-dc power supply. [illegible] speaker. The radio-frequency amplifier. Volume control [illegible]. The superheterodyne receiver. Types of vacuum [illegible] radio receivers. Part II: Direct current and the [illegible] of electricity. Magnetism, meters, and measuring instruments. [illegible] currents—theory and measurement. Inductance, [illegible] reactance, and impedance. Capacitance and capacitive [illegible]. Resonant circuits and tuning principles. The electromagnetic [illegible]. Radio antennas. Vacuum-tube characteristics—[illegible] oscillators. The continuous-wave (CW) transmitter. The [illegible] transmitter. The cathode-ray tube and its applications. [illegible] for Part I—for Part II. Appendix. Index.

Note: A successful, practical text, widely used in its various editions since publication of the first edition in 1943. It is addressed [illegible] students who are preparing for careers in the repair of radio receiving equipment, but [illegible] suitable for anyone in need of an [illegible] introduction to radio principles and practice. The level [illegible] assumes no previous acquaintance with physics. The technical terminology of the field is used, otherwise the style of the book [illegible] and devoid of mathematics. There are several [illegible] circuit diagrams and other illustrations.

MARCUS ABRAHAM

Radio servicing: theory and practice. Second edition. New York. Prentice-Hall, Inc. 1954. 794 p. illus. 22 cm. $6.60 6475

Contents: Electrical and radio theory. Components and parts. The vacuum tube. The electron tube as a rectifier. The electron tube as a detector. The electron tube as an amplifier. Practical amplifiers. The vacuum tube as an oscillator. Special tubes and [illegible]. Control circuits. Radio receivers. Power supplies. Instruments used for servicing. Servicing procedures. Servicing techniques. [illegible], alignment and realignment. Index.

Note: One of the outstanding texts for practical students. The [illegible] description, but the description is so carefully written and [illegible] that the reader receives a sound idea of how radio [illegible] operates. The book is addressed primarily to vocational [illegible] and other students who are preparing for careers in the [illegible] and servicing of radio receivers. However, much less [illegible] given to actual servicing techniques than to the basic [illegible]. The first edition was published in 1944. This edition [illegible] about 22 pages longer, and the extra length is accounted for by matter which has been added on such commercial developments as the recently popular four- or five-tube home receivers and AM-FM receivers; also [illegible] seven-page section on the transistor has been inserted.

MARTIN THOMAS LYLE, JR.

Ultrahigh frequency engineering. New York. Prentice-Hall, Inc., 1950. 456 p. illus. 22 cm. $6.75. 6476

Contents: Wave-shaping circuits. Trigger circuits. Amplification in UHF systems. Introduction to transmission lines. UHF applications of transmission lines. Parallel plane waveguides. Waveguides [illegible]. UHF triodes and oscillators. Klystrons. Magnetron oscillators. Propagation of radio waves. Appendixes: Fundamental constants. Solutions of the cylindrical waveguide. Index.

Note: As the chapter titles indicate, the book is devoted mainly [illegible] circuits and other components of UHF systems in general [illegible], and other complete circuits in which UHF radio [illegible] applied to specific uses are not considered. The book is outstanding for clear and rather full discussions of basic circuits and circuit elements. The author has assumed that his readers will be [illegible] with basic radio and engineering mathematics. The work is principally [illegible] textbook for upperclass college students majoring in physics or electrical engineering. It is suitable also for college graduates who possess the requisite basic scientific education and desire an introduction to this field for independent reading.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY RADIATION LABORATORY

Radar system engineering. New York. McGraw-Hill Book Company Inc., 1947. 748 p. illus. 23 cm. (Massachusetts Institute of Technology Radiation Laboratory series. Louis N Ridenour editor-in-chief. Volume 1) $8.50. 6477

Contents: Foreword, by L. A. DuBridge. Introduction. The radar equation. Properties of radar targets. Limitations of pulse radar. C-w radar systems. The gathering and presentation of radar data. The employment of radar data. Radar beacons. Antennas, scanners, and stabilization. The magnetron and the pulser. R-f components. The receiving system—radar receivers—indicators. Prime power supplies for radar. Examples of radar system design. Moving-target indication. Radar relay. Index.

—— Radar aids to navigation. Edited by John S Hall. New York. McGraw Hill Book Company Inc., 1947. 389 p. illus. 23 cm. (The same series. Volume 2) $6.00 6478

Contents: Foreword, by L. A. DuBridge. Part I, Introduction: Principles of radar, nonradar navigational methods. Part II, Airborne radar: Characteristics of airborne radar. Special aids and devices. Special design considerations. Engineering and economic considerations. Part III, Ground-based radar: Types of ground-based radar and special equipment. Radar aids to air navigation and traffic control. Part IV, Shipborne radar: Navigation and pilotage. A shipborne navigational radar. Index.

—— Radar beacons. Edited by Arthur Roberts. New York. McGraw Hill Book Company Inc., 1947. 489 p. illus. 23 cm. (The same series. Volume 3) $6.50. 6479

Contents: Foreword, by L. A. DuBridge. Part I, Basic considerations: The uses of beacons. The requirements of systems using beacons—range considerations. Propagation and coverage considerations. Frequency considerations. Coding and communication. Traffic and engineering considerations. Part II, Beacon design: Beacon design—R-f components. Beacon receivers. Interrogation coding. Response coders. Beacons as pulse communication systems. Modulators. Beacon transmitters—magnetrons. Triode transmitters. Power supplies and performance testing. Beacon synthesis. Part III, Interrogator and system design: Radar design for beacon operation. The design of interrogator-responsors. Typical beacon systems. Part IV, Beacons in the field: Installation, operation, and maintenance. Appendix. Glossary. List of symbols. Index.

—— Loran, long range navigation. Edited by J. A. Pierce, A. A. McKenzie and R. H. Woodward. New York. McGraw Hill Book Company Inc. 1948. 476 p. illus. 23 cm. (The same series. Volume 4) $6.00. 6480

Contents: Foreword, by L. A. DuBridge. Part I, The loran system: Introduction. History of loran. Principles of loran. Future trends. Propagation. Methods of computation of loran tables and charts. Part II, Loran equipment: Timers. Switching equipment. Transmitters. Antenna systems. Receiver-indicators. Special techniques and measurements. Appendices: The loran program in the Hydrographic Office. Loran ground stations. Demonstrations concerning the geometry of loran lines. Determination of errors in the positions of loran transmitting stations. Bibliography. Index.

—— Pulse generators. Edited by G. N. Glasoe and J. V. Lebacqz. New York. McGraw Hill Book Company Inc., 1948. 741 p. illus. 23 cm. (The same series. Volume 5) $9.00 6481

Contents: Foreword, by L. A. DuBridge. Introduction. Part I, The hard-tube pulser: The output circuit of a hard-tube pulser. Vacuum tubes as switches. Driver circuits. Particular applications. Part II, The line-type pulser: The pulse-forming network. The discharging circuit of the line-type pulser. Switches for line-type pulsers. The charging circuit of the line-type pulser. Performance of line-type pulsers. Particular applications. Part III, Pulse transformers: Elementary theory of pulse transformers. Pulse-transformer design. Effect of pulse-transformer parameters on circuit behavior. Materials and their use in design. Appendices: Measuring techniques. Pulse duration and amplitude. List of symbols. Index.

—— Microwave magnetrons. Edited by George B. Collins. New York. McGraw Hill

amplifiers and high fidelity F M receiver alignment. Commercial F M receivers. Servicing F M receivers. Commercial F M transmitters. Index.

Note A standard text for radio servicemen and laymen who are familiar with the principles and terminology of amplitude modulation and wish to extend their knowledge to f-m. It is written so that it may be used in organized classes at the trade-school level or as a self-instruction manual. The advantages of frequency modulation are discussed and the similarities and differences between a-m and f-m systems are covered. F-m circuit elements and circuits are described in sufficient detail to make the basic principles clear. Numerous explanatory charts and some wiring diagrams, typical of the circuits of f-m equipment produced for the United States of America market, are included. The first edition was published in 1947 In this edition, the book is approximately 100 pages longer and contains considerable material that did not appear in the 1947 edition.

KIVER, MILTON SOL

Transistors in radio and television. New York McGraw Hill Book Company, Inc., 1956 324 p 24 cm. $6 50 6469

Content Introduction to modern electron theory Point-contact and junction transistors. Comparison of point-contact and junction transistors. Transistor amplifiers. Transistor oscillators. Transistor radio receivers. Transistors in television receivers. Additional transistor developments. Servicing transistor circuits. Experiments with transistors. Bibliography Transistor data tables. Index.

Note Readers, particularly experienced radio and television technicians, who have a basic knowledge of how radio and television receivers work are the intended audience for this book. The basic principles of transistors are explained in an elementary way without resort to mathematics. The various types of transistors, their characteristics and applications are described. The descriptions are accompanied by many wiring diagrams of radio and television circuits in which transistors are employed. Comparisons between radio circuits based on electron tubes and on transistors are drawn. The chapter on servicing of transistor circuits is about 20 pages long and contains outlined procedures for trouble-shooting. The book is suitable for use in home study and also as a text in school courses at the vocational level.

KIVER, MILTON SOL

Introduction to UHF circuits and components. New York D Van Nostrand Company Inc., 1955 408 p illus 24 cm. $7 50 6470

...troduction to the higher frequencies. Transmission lines. Waveguides. Cavity resonators. High-frequency ... oscillator. The klystron oscillator. The ... tubes, and others. UHF antennas. UHF ... television. Index.

Note The author of this book has assumed that ... will be familiar ... television receivers ... for the lower frequencies ... radio begins with a chapter in which ultra-high frequency ... other elements as compared to lower frequency tubes, tuners ... the same kinds. Later chapters deal with UHF ... their principle and characteristics in more detail ... circuit elements. Throughout the ... the terminology is technical nevertheless, the author's style is easy to read. The book is suitable for use as text for organized courses and also for home reading by experienced radio and television technicians.

MACLAURIN WILLIAM RUPERT

Invention & innovation in the radio industry, with the technical assistance of R. Joyce Harman with a foreword by Karl T Compton New York The Macmillan Company 1949 304 p illus. 22 cm (Massachusetts Institute of Technology Studies of Innovation) $3 95 6471

Contents The scientific pioneers of radio The impact of new scientific advances on established ... The process of invention and innovation—Marconi ... telegraph 1896–1920— ... the large ... telephone. The role of ... The struggle over patents 1921 1938. The perennial gale of competition 1921–1941 The rise of industrial research—Radio 1900–1941—Television. Government regulation and technical progress—FM and television. 1930–1941. Conclusions. Appendixes The elements of modern radio communications. Radio patent litigation. Bibliography Index.

Note. Essentially ... history of the radio and television industry from an economic-technical point of view This book portrays the complicated interrelationships of basic inventions, patents and patent litigation, and the policies and organizational activities of large corporations which have figured in the development of this industry especially in the United States of America. Technical details of vacuum tubes, radio circuits, and related apparatus are discussed but the main interest is in the influence of the important inventions and patents. Thus the book covers an aspect of technical development which is often ignored in writing the history of invention. It is heavily documented with references to both published and unpublished material.

MARCHAND, NATHAN

Frequency modulation, fundamentals, apparatus, servicing New York Rinehart and Company, Inc., 1948 409 p illus. 23½ cm. $5 95 6472

Contents. Fundamentals of modulation. Fidelity and band-width requirements. Noise and interference. Direct frequency modulation. Frequency control circuits. Direct frequency-modulation transmitters. Phase-to-frequency modulation. Frequency-modulation transmitters using phase modulation. Frequency-modulation detectors. Amplitude limiters. Radio-frequency amplifiers, oscillators, and converters. Intermediate frequency and audio circuits. Frequency-modulation receivers. Frequency-modulation transmitting antennas. Frequency-modulation receiving antennas. Mobile frequency-modulation equipment. Frequency-modulation test equipment. Frequency-modulation servicing. Answers to questions. Appendix. Index.

Note A basic textbook for practical students such as radio amateurs and radio repairmen. The treatment assumes that the reader will have a knowledge of standard radio principles and apparatus. Mathematics is used sparingly nevertheless the use of a few advanced mathematical techniques, for example Bessel functions, are explained. The various methods of modulating radio signals are outlined, then the specific principles that underlie frequency modulation apparatus and techniques are described fully. Many circuit diagrams are included and enough construction detail is provided to enable the amateur radio operator to construct F-M apparatus. The book is suitable for use in both classroom and self-instruction.

MARCHAND, NATHAN

Ultrahigh frequency transmission and radiation. New York John Wiley & Sons Inc., 1947 322 p. illus. 23 cm $5.50 6473

Contents Transmission lines. Elements of vector analysis. Fundamental electromagnetic equations. Plane electromagnetic waves. Radiation. Antenna arrays. Wave guides. Complex transmission line network analysis. Tables. Characteristic impedances of transmission lines. Degrees to radians. Natural sines, cosines, and tangents. Exponential and hyperbolic functions. Bessel functions. Index.

Note. The material in this volume was first presented by the author in ... government sponsored course at Columbia University in 1943 Chiefly the work is an introductory exposition of advanced mathematical methods of attacking problems that arise in the design of ultrahigh frequency radio apparatus. The characteristics of standard circuit elements also are described. The book is addressed ... graduate students and practicing communications engineers. References for further reading and ... collection of problems to be solved accompany each chapter

MARCUS, ABRAHAM AND WILLIAM

Elements of radio Third edition. Englewood Cliffs, N J Prentice-Hall, Inc., 1953. 771 p. illus. 21 cm. $7 00. 6474

Contents. Part ... History of communication. Wave motion ... in either ... and simple radio receiving set. The aerial-ground system. The tuner. The ... phone reproducer The detector ... The antenna coupler Electric ... current flow in the aerial-ground system ... flow in the tuning ci... The crystal detector and phone ... The vacuum-tube detector ... the diode—the triode. The regenerative detector. The ... radio-frequency amplifier Eliminating the B ...

[illegible]—the A battery—the C battery. The a-c–d-c power supply. [illegible] speaker. The audio-frequency amplifier. Volume [illegible] control. The superheterodyne receiver. Types of vacuum [illegible] receivers. Part II. Direct current and the [illegible] of electricity. Magnetism, meters, and measuring instruments. [illegible] current—theory and measurement. Inductance, [illegible] reactance, and impedance. Capacitance and capacitive [illegible]. Resonant circuits and [illegible] principles. The [illegible] type. Radio antennas. Vacuum-tube characteristics—[illegible]. The continuous-wave (CW) transmitter. The [illegible] transmitter. The cathode-ray tube and its applications. [illegible] for Part I—for Part II. Appendix. Index.

Note: A [illegible], practical text, widely used in its earlier editions [illegible] of the first edition in 1943. It is addressed [illegible] to the preparing for careers in the repair of [illegible] equipment, but is suitable for anyone in need of an [illegible] introduction to radio principles and practice. The level [illegible] assumes no previous acquaintance with physics. The [illegible] terminology of the field [illegible] used, otherwise the style of the book is simple and devoid of mathematics. There are several [illegible] diagrams and other illustrations.

MARCUS, ABRAHAM

Radio servicing theory and practice. Second edition. New York Prentice-Hall Inc. 1954. 794 p. illus. 22 cm. $6.60 6475

Contents: Electrical and radio theory. Components and parts. The electron tube. The electron tube as [illegible] rectifier. The electron tube as [illegible] detector. The electron tube as an amplifier. Practical amplifiers. The electron tube as an oscillator. Special tubes and [illegible]. Control circuits. Radio receivers. Power supplies. Instruments used for servicing. Servicing procedures. Servicing techniques. [illegible], replacement and realignment. Index.

Note: One of the outstanding texts for practical students. The [illegible] descriptive, but the description is so carefully worked out [illegible] that the reader [illegible] sound idea of how radio [illegible] operates. The book is addressed primarily to vocational students and other readers who are preparing for careers in the [illegible] and servicing of radio receivers. However much less [illegible] given to actual servicing techniques than to the basic [illegible]. The first edition was published in 1948. This edition is only about 30 pages longer, and the extra length is accounted for by matter which has been added on such commercial developments as the recently popular four- or five-tube home receivers, and AM-FM receivers; also [illegible] seven-page section on the transistor has been inserted.

MARTIN, THOMAS LYLE JR.

Ultrahigh frequency engineering. New York. Prentice-Hall, Inc. 1950. 456 p. illus. 22 cm. $6.75 6476

Contents: Wave-shaping circuits. Trigger circuits. Amplification in UHF systems. Introduction to transmission lines. UHF applications of transmission lines. Parallel plane wave-guides. Wave-guides and cavity resonators. UHF triodes and oscillators. Klystrons. Magnetron oscillators. Propagation of radio waves. Appendixes: Fundamental constants. Solution of the cylindrical wave-guide. Index.

Note: As the chapter titles indicate, this book is devoted solely to the circuits and other components of UHF systems in general. Radar, television, and other complete circuits in which UHF [illegible] is applied to specific uses are not considered. The book is outstanding for clear and rather full discussions of basic circuits and their elements. The author has assumed that his readers will be familiar with basic radio and engineering mathematics. The work is primarily [illegible] textbook for upperclass college students majoring in physics or electrical engineering. It is suitable also for college graduates who possess the requisite basic scientific education and desire an introduction to this field for independent reading.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY RADIATION LABORATORY

Radar system engineering. New York McGraw Hill Book Company Inc., 1947 748 p illus. 23 cm. (Massachusetts Institute of Technology Radiation Laboratory series. Louis N Ridenour editor in-chief Volume 1) $8.50. 6477

Contents: Foreword, by L. A. DuBridge. Introduction. The radar equation. Properties of radar targets. Limitations of pulse radar. C-w radar systems. The gathering and presentation of radar data. The employment of radar data. Radar beacons. Antennas, scanners, and stabilization. The magnetron and the pulser. R-f components. The receiving system—radar receivers—indicators. Prime power supplies for radar. Examples of radar system design. Moving-target indication. Radar relay. Index.

—— Radar aids to navigation. Edited by John S Hall. New York McGraw Hill Book Company Inc. 1947 389 p. illus. 23 cm. (The same series. Volume 2) $6.00 6478

Contents: Foreword, by L. A. DuBridge. Part I. Introduction. Principles of radar. [illegible] methods. Part II. Airborne radar: Characteristics of airborne radar. Special aids and devices. Special design considerations. Engineering and economic considerations. Part III. Ground-based radar: Types of ground-based radar and special equipment. Radar aids to air navigation and traffic control. Part IV. Shipborne radar: Navigation and pilotage. A shipborne navigational radar. Index.

—— Radar beacons. Edited by Arthur Roberts. New York McGraw Hill Book Company Inc. 1947 489 p illus. 23 cm. (The same series. Volume 3) $6.50. 6479

Contents: Foreword, by L. A. DuBridge. Part I. Basic considerations. The uses of beacons. The requirements of systems using beacons—range considerations. Propagation and coverage considerations. Frequency considerations. Coding and communication. Traffic and engineering considerations. Part II. Beacon design. Beacon design—R-f components. Beacon receivers. Interrogator coding. Response coders. Beacons as pulse communication systems. Modulators. Beacon transmitters—magnetrons. Triode transmitters. Power supplies and performance testing. Beacon synthesis. Part III. Interrogator and system design. Radar design for beacon operation. The design of interrogator-responsors. Typical beacon systems. Part IV. Beacons in the field. Installation, operation, and maintenance. Appendix. Glossary. List of symbols. Index.

—— Loran, long range navigation. Edited by J A. Pierce A. A. McKenzie and R. H. Woodward. New York McGraw Hill Book Company Inc., 1948 476 p. illus. 23 cm. (The same series. Volume 4) $6 00 6480

Contents: Foreword, by L. A. DuBridge. Part I. The loran system. Introduction. History of loran. Principles of loran. Future trends. Propagation. Methods of computation of loran tables and charts. Part II. Loran equipment: Timers. Switching equipment. Transmitters. Antenna systems. Receiver-indicators. Special techniques and measurements. Appendixes: The loran program in the Hydrographic Office. Loran ground stations. Demonstrations concerning the geometry of loran lines. Determination of errors in the positions of loran transmitting stations. Bibliography. Index.

—— Pulse generators. Edited by G N Glasoe and J V Lebacqz. New York McGraw Hill Book Company Inc. 1948 741 p. illus. 23 cm. (The same series. Volume 5) $9 00. 6481

Contents: Foreword, by L. A. DuBridge. Introduction. Part I. The hard-tube pulser. The output circuit of a hard-tube pulser. Vacuum tubes as switches. Driver circuits. Particular applications. Part II. The line-type pulser. The pulse-forming network. The discharging circuit of the line-type pulser. Switches for line-type pulsers. The charging circuit of the line-type pulser. Performance of line-type pulsers. Particular applications. Part III. Pulse transformers: Elementary theory of pulse transformers. Pulse-transformer design. Effect of pulse-transformer parameters on circuit behavior. Materials and their uses in design. Appendixes: Measuring techniques. Pulse duration and amplitude. List of symbols. Index.

—— Microwave magnetrons. Edited by George B Collins. New York McGraw Hill

Book Company, Inc., 1948 806 p illus 23 cm (The same series. Volume 6) $10 00 6482

Content Foreword, by L. A. DuBridge. Introduction. Part I, Resonant systems. The unstrapped resonant system. The rising-sun system. The strapped system. *Output circuits.* Part II, Analysis of operation The interaction of the electrons and the electromagnetic field. The space charge as circuit element. Transient behavior. Noise. Part III, Design: Principles of design. The resonant system. The cathode. *The magnetic circuit. Part IV Tuning and stabilization* Mechanical tuning. Electronic tuning. Stabilization of frequency Part V Practice Construction. Measurements. Typical magnetrons. Index.

—— Klystrons and microwave triodes by Donald R. Hamilton, Julian K. Knipp and J B Horner Kuper Editorial staff George B Collins, Albert G Hill and Winifred Mc Culloch New York McGraw Hill Book Company Inc, 1948 533 p illus 23 cm (The same series Volume 7) $8 00 6483

Contents: Foreword, by L. A. DuBridge. Part I, Fundamentals Introduction. *Discussion* of tube types and functions. Basic electronic phenomena at high frequencies. Basic circuit phenomena at high frequencies. Part II, Planar space-charge tubes Theory of h-f space-charge devices. Space-charge devices as microwave amplifiers. Microwave triode oscillators. Pulse operation of microwave triodes. Part III Klystrons Velocity modulation and klystron bunching. Amplifier klystrons. Frequency multiplier klystrons and two-resonator klystron oscillators. Reflex klystron oscillators. Nonideal reflectors. Hysteresis in reflex klystrons. Load effects in reflex klystrons. Reflex klystron modulation. Noise in reflex klystrons. Practical reflex klystrons. Index.

—— Principles of microwave circuits Edited by C G Montgomery R. H Dicke and E M Purcell New York McGraw Hill Book Company Inc., 1948 486 p illus 23 cm (The same series Volume 8) $6 50 6484

Contents. Foreword, by L. A. DuBridge. Introduction by E. M. Purcell. Electromagnetic waves, by C. G Montgomery Waveguides as transmission lines, by C. G. Montgomery Elements of network theory by C. G. Montgomery General microwave circuit theorems, by R. H. Dicke. Waveguide circuit elements, by C G. Montgomery Resonant cavities as microwave circuit elements, by Robert Beringer *Radial transmission lines, by N Marcuvitz. Waveguide* junctions with several arms, by C G. Montgomery and R. H. Dicke. Mode transformations, by E. M. Purcell and R. H. Dicke. Dielectrics in waveguides, by C. G Montgomery *The symmetry of waveguide junctions,* by R. H. Dicke. Index.

—— Microwave transmission circuits. Edited by *George L Ragan. New York* Mc Graw Hill Book Company, Inc 1948 725 p illus 23 cm (The same series Volume 9) $8 50 6485

Contents , Foreword, by L. A. DuBridge. Introduction. Elementary line theory Materials and construction techniques. Rigid transmission lines. Flexible coupling units and lines. Transition units. Motional joints. Tuners, power dividers, and switches. The theory of microwave filters. The design of microwave filters. Index.

—— Waveguide handbook Edited by Nathan Marcuvitz. New York McGraw Hill Book Company Inc. 1951 428 p illus. 24 cm (The same series Volume 10) $8 00 6486

Contents: Transmission lines. Transmission-line modes. Microwave networks. Two-terminal structures. Four-terminal structures. Six-terminal structures. Eight-terminal structures. Composite structures. Appendix. Glossary Index.

—— Technique of microwave measurements. Edited by Carol G *Montgomery* New York McGraw Hill Book Company, Inc. 1947 939 p illus. 23 cm. (The same series. Volume 11) $11 00 6487

Contents Foreword, by L. A. DuBridge. Introduction. Part I Power generation and measurement Power sources. Microwave power measurements. Microwave signal generators. *Part II,* Wavelength and frequency measurements. The measurement of wavelength. Frequency measurements. The measurement of spectrum and pulse shape. Part III, The measurement of impedance and standing waves: Measurements of standing waves. Impedance bridges. The measurement of dielectric constants. Part IV Attenuators and radiation measurements. Microwave attenuators—cutoff attenuators—resistive attenuators. The measurement of attenuation. Directional couplers. R f phase and pattern measurements. Appendix Manufacturers of microwave equipment. Manufacturers. Index.

—— Microwave antenna theory and design. Edited by Samuel Silver Office of Scientific Research and Development, National Defense Research Committee. New York McGraw Hill Book Company, Inc., 1949 623 p illus 23 cm (The same series. Volume 12) $9 00 *6488*

Contents. Survey of microwave antenna design problems. Circuit relations, reciprocity theorems. Radiation from current distributions. Wave fronts and rays. Scattering and diffraction. Aperture illumination and antenna patterns. Microwave transmission lines. Microwave dipole antennas and feeds. Linear array antennas and feeds. Waveguide and horn feeds. Dielectric and metal-plate lenses. Pencil-beam and simple fanned-beam antennas. Shaped-beam antennas. Antenna installation problems. Antenna measurements—techniques. Antenna measurements—equipment. Index.

—— Propagation *of* short radio waves. Edited by Donald E Kerr Office of Scientific Research and Development, National Defense *Research Committee. Editorial staff* Donald E Kerr S A. Goudsmit, Leon B Linford and Albert M Stone. New York McGraw Hill Book Company, Inc. *1951 728* p illus 24 cm. (The same series. Volume 13) $10 00 6489

Contents Elements of the problem, by J E. Freehafer and D. E. Kerr Evolution of the present problems. Troposphere structure. Atmospheric scattering and attenuation. Theory of propagation in *a horizontally stratified* atmosphere, by J E. Freehafer and others Fundamental concepts. Geometrical optics. Physical optics. The linear modified-index profile. Methods for calculating field strength with standard refraction. The bilinear modified-index profile. Nonlinear modified-index profiles. Meteorology of the refraction problem, by R. A. Craig and others. Humidity and refractive index. Vertically homogeneous air and adiabatic changes. Representation and description of soundings. Eddy diffusion. Vertical distributions in stable neutral and unstable equilibrium. Vertical distributions in superequilibrium. Other atmospheric processes and their effect on M-profiles. Instruments to measure temperature and humidity in the lower atmosphere. Meteorological constants. Experimental studies of refraction, by P J Rubenstein and others One-way transmission over water *One-way transmission over* land. Radar transmission. Space variations in field strength. Angle measurements on short optical paths. Reflections from the earth's surface, by D. E. Kerr and others. Theory of specular reflection. Reflection coefficient of the ocean. Reflection coefficient of land. Errors in radar height measurements. Radar targets and echoes, by D E. Kerr and *H. Goldstein* The radar cross section of isolated targets. Complex targets. Sea echo. The origins of echo fluctuations. The fluctuations of [illegible] echoes. Meteorological echoes, by H. Goldstein and others. General properties of the echo. The intensity of meteorological echoes. General properties of precipitation echoes. Precipitation echo properties and meteorological structure. Atmospheric attenuation, by J. H. Van Vleck and others Properties of the complex dielectric constant. Theory of absorption by uncondensed gases. Measurement of atmospheric absorption. Attenuation by condensed water *Appendix.* Application of the Lorentz reciprocity theorem, by D E. Kerr and others.

[illegible] antenna. Coherent and incoherent scattering from [illegible] of antennas. Name index. Subject index.

—— Microwave duplexers. Edited by Louis D Smullin and Carol G. Montgomery New York. McGraw Hill Book Company Inc, 1948. 437 p. illus. 23 cm. (The same series. Volume 14) $7.00. 6490

Contents. Foreword, by L. A. DuBridge. Introduction. Linear theory of high-Q TR tubes. Bandpass TR tubes. Characteristics of TR switches at low-power levels. Microwave gas discharges. The TR and ATR tubes at high power. The principles of branched duplexing circuits. Practical branched duplexers and balanced duplexers. Measurement techniques. Index.

—— Crystal rectifiers. By Henry C. Torrey and Charles A. Whitmer Edited by S A. Goudsmit, James L. Lawson, Leon B Linford, and Albert M Stone. New York McGraw-Hill Book Company Inc. 1948 443 p. illus. 23 cm. (The same series. Volume 15) $6.50. 6491

Contents Foreword, by L. A. DuBridge. Introduction. Part I, General properties. Fundamental properties of the crystal rectifier. Elements of semiconductors. The semiconductor—metal contact. Part II, The crystal converter: Frequency conversion. Noise generation. Loss and noise measurements. Burnout. Test equipment. Manufacturing techniques. Part III, Special types: Low-level detectors. High-inverse-voltage rectifiers. Welded-contact germanium crystals. Appendices. The reciprocity theorem of Dicke. Skin effect at the semiconductor contact. Spreading resistance of an elliptical contact. Crystal-rectifier types and specifications. Index.

—— Microwave mixers by Robert V Pound, with a chapter by Eric Durand. Edited by C. G Montgomery and D D Montgomery New York McGraw Hill Book Company Inc., 1948. 381 p. illus. 23 cm. (The same series. Volume 16) $5 50 6492

Contents Foreword, by L. A. DuBridge. Introduction. Crystal mixer [illegible] [illegible] networks, crystal mixer circuits. Multiple-crystal mixers. Local-oscillator noise. Balanced mixers. Frequency control of local oscillators. Special measurement techniques. Index.

—— Components handbook. Edited by John Francis Blackburn. Office of Scientific Research and Development, National Defense Research Committee. New York McGraw-Hill Book Company Inc. 1949 626 p illus. 24 cm. (The same series. Volume 17) $8.00. 6493

Contents: Foreword, by L. A. DuBridge. Wires and cables. Fixed composition resistors. Fixed wire-wound and miscellaneous resistors. Iron-core inductors. Piezoelectric devices. Electromagnetic delay lines. Supersonic delay lines. Potentiometers. Special variable condensers. Rotary inductors. Instrument motors and tachometers. Power supplies. Relays and related devices. Receiving tubes. Index.

—— Vacuum tube amplifiers. Edited by George Edward Valley Jr., and Henry Wallman. Office of Scientific Research and Development, National Defense Research Committee. New York McGraw Hill Book Company Inc., 1948. 743 p. illus. 23 cm. (The same series. Volume 18) $10.00. 6494

Contents: Foreword, by L. A. DuBridge. Linear-circuit analysis and transient response. High-fidelity pulse amplifiers. Pulse amplifiers of large dynamic range. Synchronous and staggered single-tuned high-frequency bandpass amplifiers. Double-tuned circuits. High-frequency feedback amplifiers. Bandpass amplifiers: pulse response and general considerations. Amplifier measurement and testing. Low-frequency amplifiers with stabilized gain. Low-frequency feedback amplifiers. Direct-coupled amplifiers. Amplifier sensitivity. Minimal noise circuits. Measurement of noise figure. Appendices. Realizability of filters—Calculation of load using condenser—Drift of vacuum-tube characteristics under constant applied potentials. Index.

—— Waveforms edited by Britton Chance Vernon Hughes, Edward F MacNichol David Sayre and Frederick C. Williams. Office of Scientific Research and Development National Defense Research Committee. New York McGraw Hill Book Company Inc., 1949 785 p. illus. 23 cm. (The same series. Volume 19) $10 00 6495

Contents. Introduction. Operations on waveforms with linear circuit elements. Operations with nonlinear circuit elements. Sinusoidal waveform generators. Generation of fast waveforms. Blocking oscillators and delay-line pulse generators. Generation of triangular waveforms. Generation of special waveforms. Amplitude selection, comparison and discrimination. Time selection. Electrical amplitude modulation. Electromechanical modulators. Time modulation. Amplitude and time demodulation. Sinusoidal frequency multipliers and dividers. Pulse-recurrence-frequency dividers. Counting. Mathematical operations on waveforms. Oscilloscopic techniques in waveform measurement. Storage tubes. Electrical delay lines. Supersonic delay devices. Bibliography Appendices. Glossary Index.

—— Electronic time measurements. Edited by Britton Chance, Robert I. Hulsizer Edward F MacNichol jr., and Frederick C. Williams. Office of Scientific Research and Development National Defense Research Committee. New York McGraw Hill Book Company Inc. 1949 538 p illus. 23 cm. (The same series. Volume 20) $7.50 6496

Contents Introduction. Radio distance and speed measurements. Techniques of pulse time measurements. Generation of fixed indices. Generation of movable indices—single-scale circuits. Generation of movable indices—circuits. Manual measurements. Techniques of automatic time measurement. Systems for automatic time and position measurement. Special data-transmission systems. Relay radar systems. Delay and cancellation of recurrent wave trains. Glossary Index.

—— Electronic instruments. Edited by Ivan A. Greenwood, jr J Vance Holdam, jr., and Duncan Macrae, jr New York McGraw Hill Book Company Inc. 1948. 721 p. illus. 23 cm. (The same series. Volume 21) $10 00. 6497

Contents: Foreword, by L. A. DuBridge. Part I, Electronic analogue computers. Introduction. Computer design. Arithmetic operations. Calculus. The generation of functions. Grouped operations. Examples of computer design. Part II, Instrument servomechanisms. Introduction and summary of design procedure. Servo theory—introduction and transient analysis—frequency analysis—evaluation and correction of system performance and special problems. Choice and design of components. Experimental techniques. Special servo systems. Part III, Voltage and current regulators: Regulator elements. Practical regulator design. Part IV Pulse test equipment: Development and design. Practical radar test oscilloscope designs. Part V The design and construction of electronic apparatus. Index.

—— Cathode ray tube displays edited by Theodore Soller Merle A. Starr and George E. Valley jr Office of Scientific Research and Development National Defense Research Committee. New York McGraw Hill Book

Company, Inc., 1948 746 p illus. 23 cm. (The same series. Volume 22) $10 00 6498

Contents Foreword, by L. A. DuBridge. Introduction. Cathode-ray tubes. Focus coils and focus magnets. Circuit techniques. Position-data transmission. Electronic markers and indices. Deflection-modulated displays. Deflection coils. Pattern distortions on magnetic cathode-ray tubes. Sweep amplifiers for reactive loads. Rectangular coordinate displays. Special deflection coils for off-centering. Radial-time-base displays. Sector-display indicators. Range-height displays. Mechanical and optical devices. Spot size. Screens for cathode-ray tubes. Appendices. Index.

—— Microwave receivers. Edited by S N Van Voorhis New York McGraw Hill Book Company, Inc., 1948 618 p illus 23 cm. (The same series. Volume 23) $8 50 6499

Contents: Foreword, by L. A. DuBridge. Introduction. Duplexers, microwave mixers, and local oscillators. AFC systems and circuits. I f input circuits. VHF amplifiers, mixers, and oscillators. Intermediate-frequency amplifiers. Second detectors. Video amplifiers. Gain-control circuits. Mechanical construction of receivers. R-f test equipment. I f test equipment. A simple radar receiver. An airborne receiver incorporating anticlutter circuits. A receiver for an automatic-tracking radar A two-band 200-Mc/sec superheterodyne receiver Wide-band F M receiver Beacon superheterodyne receivers. Crystal-video receivers. Superregenerative receivers. MTI receivers. Index.

—— Threshold signals Edited by James Llewellyn and George E Uhlenbeck. Office of Scientific Research and Development, National Defense Research Committee. New York McGraw Hill Book Company, Inc., 1950 388 p illus. 24 cm. (The same series. Volume 24) $6 00 6500

Contents Introduction. Types of signals and methods for their reception. Theoretical introduction. Basic origins of internal noise. Receiver noise. External noise sources—clutter The detectability of signals in the presence of noise. Pulse trains in internal noise. Pulse trains in internal noise—other methods of presentation. Modulated pulse trains. Threshold pulsed signals in clutter. Threshold signals in electronic interference. Treshold modulations for amplitude-modulated and frequency-modulated continuous-wave systems. Index.

—— Theory of servomechanisms edited by Hubert M James, Nathaniel B Nichols and Ralph S Phillips. Office of Scientific Research and Development, National Defense Research Committee. New York McGraw Hill Book Company Inc. 1947 375 p illus. 23 cm. (The same series Volume 25) $5.50 6501

Contents Foreword, by L. A. DuBridge. Servo systems. Mathematical background. Servo elements. General design principles for servomechanisms. Filters and servo systems with pulsed data. Statistical properties of time-variable data. RMS-error criterion in servomechanism design. Applications f the new design method. Index.

—— Radar scanners and radomes Edited by W M Cady, M B Karelitz and Louis A. Turner New York McGraw Hill Book Company, Inc. 1948 491 p illus 23 cm. (The same series. Volume 26) $7 00 6502

Contents Foreword, by L. A. DuBridge. Part I, Radar scanners Uses of radar scanners. Ground and ship antennas. Ground antenna mounts. Stabilization of ship antennas. Ship antenna mounts. Airborne scanners. Stabilization of airborne antennas. Scanner control mechanisms. Part II, Radomes General survey of the radome problem. Electrical design of normal-incidence radomes. Electrical design of streamlined radomes. Theory of the reflection and transmission of electromagnetic waves by dielectric materials. Radome materials and methods of fabrication. Installation and testing of radomes. Appendix. Formulas for stabilization of ship antennas. Glossary Index.

—— Computing mechanisms and linka By Antonin Svoboda. Edited by Hubert James. Office of Scientific Research and velopment, National Defense Research C mittee. New York McGraw Hill B Company, Inc., 1948 359 p. illus. 23 (The same series. Volume 27) $5.50 6.

Contents. Foreword, by L. A. DuBridge. Computing mecha and linkages. Bar-linkage computers. Basic concepts and termi Harmonic transformer linkages. The three-bar linkage. Linkage binations with one degree of freedom. Final adjustment of ba constants. Linkages with two degrees of freedom. Bar-linkage m pliers. Bar-linkage function generators with two degrees of free Appendices. Index.

—— Index, edited by Keith Henney Fo word by Vannevar Bush. Introductory no by Karl T Compton, Lee A. DuBridge, Lo N Ridenour New York McGraw Hill Bo Company, Inc. 1953 160 p. 23 cm. (T same series Volume 28) $4.50 65

Note. The Radiation Laboratory at the Massachusetts Institut Technology was organized and operated under the Office of entific Research and Development of the National Defense search Committee during the World War II period as the main ter in the United States of America for research into the problems encountered in the development of radar and for the sign of practical radar apparatus. Its history is recounted in detail in J P Baxter's *Scientists against time*, 1946. This se although an official publication of the Radiation Laboratory is formal report of the work done there, but is series of treat based on this work and also on the work of scientists and engine who worked elsewhere. The material presented was selected the standpoint of its general interest and applicability in electro and communications rather than for military importance. Some the volumes, such as Svoboda's *Computing mechanisms and linkag* do not have a direct bearing on radar but are of use in ot fields of engineering. Although the manner of treatment va somewhat from volume to volume, the series is, in general, tended for college-trained engineers who are engaged in the de of radar apparatus or other electronic equipment hich opera on radiations of similar frequencies.

MENTZER, J R.

Scattering and diffraction of radio wave New York Pergamon Press, 1955 134 p illus. 22 cm $6 00 650

Contents. Introduction. The mathematical formulation of scatte ing problems. Two-dimensional problems. Three-dimensional pro lems. The measurement of radar cross sections. References. Append Index.

Note. A compact presentation of modern methods of solvin problems in the scattering of radio waves. It is addressed to reade who have thorough knowledge of basic electromagnetic theory an also some mathematical sophistication. It includes both the class methods of attack by means of differential equations and moder methods, particularly integral equations and approximate solution The list of literature references is selected one of 45 citations.

MOSKOWITZ, SIDNEY, AND JOSEPH RACKER

Pulse techniques. New York Prentice-Hall Inc. 1951 300 p. illus. 23 cm. (Prentice-Hall electrical engineering series, W L Everitt, editor) $7.35 6506

Contents: Characteristics of pulses. Transient response of linear networks. Design of pulse networks. Linear pulse amplifiers. Pulse shaping and clamp circuits. Pulse generation. Pulse measurements and instruments. Pulse communication systems. Aerial navigation aids. Appendices Review of complex-variable theory Pulse response of cascaded wave filters. Pulse response of transmission lines. Index

Note The term "pulse techniques designates systems of radio communication in which signals are broadcast in pulses or "bursts" of radiated energy rather than in modulated, continuous ... Continuous waves are the basis of standard radio, but pulses, the basis of radar are finding more and more uses in other systems of co-

systems, such as television and the microwave radio relays in telegraph and telephone circuits. This short book is designed as an introduction to the field for readers possessing knowledge of basic electronic engineering and standard radio. The main viewpoint is that of the engineer; in other words, the purpose is to prepare the reader for work in the field.

LYTHMORE, ROBERT B

Essentials of microwaves. New York John Wiley & Sons, Inc., 1952 236 p. illus. 23 cm. $5.00. 6507

Contents: The electromagnetic laws of Maxwell. Characteristic waves and wave guides. Cavity resonators and filters. Characteristic waves and antennas. Typical microwave antennas. Waves and electron currents; grid-control tubes. Klystrons. Traveling-wave and other-wave tubes. Magnetrons. Electrical noise. Microwave radio systems; maps. Radar. Applications of microwaves in physical research. Microwave measurements. Appendixes. Index.

Note: A simple, straightforward introduction. Some familiarity with radio terminology is necessary in order to understand it, but it is not addressed to readers who are studying the field because they are now professionally trained. It is an ideal book for such readers as technical engineers specializing in, say, power house design, who desire to know something about microwaves for the sake of rounding out their store of information. The author emphasizes the fundamental simplicity of the subject, and he has covered it in text and more than 200 clearly drawn illustrations.

NATIONAL DEFENSE RESEARCH COMMITTEE

Radio wave propagation. Consolidated summary technical report of the Committee on Propagation of the National Defense Research Committee. Charles R. Burrows, chairman. Stephen S. Attwood, editor New York Academic Press, Inc., 1949 548 p. illus. 28 cm. $15.00. 6508

Contents (abridged): Volume 1, Technical survey—Part 1, Summary: Standard propagation. Meteorological measurements. Transmission experiments. Scattering and absorption of microwaves. Part 2, Conference reports on standard propagation. A graphical method for the determination of standard coverage charts. Theoretical analysis of errors in radar due to atmospheric refraction. Siting and coverage of ground radars. Part III, Conference reports on nonstandard propagation: Tropospheric propagation and radio meteorology. Frequent leakage in surface duct. The solution of the propagation equation in terms of Hankel functions. Perturbation theory for an exponential M curve in nonstandard propagation. First order extension of radar targets over the open ocean. Volume 2, Radio wave propagation experiments—Part 1, Meteorology. Part 2, Microwave experiments: Reflection coefficients. Dielectric constant, absorption and scattering. Echoes and targets. Angle-of-arrival measurements. Volume III, The propagation of radio waves through the standard atmosphere: Antennas. Factors influencing transmission. Calculation of radio gain. Coverage diagrams. Diffraction by terrain. Targets. Glossary. Bibliography.

Note: As the subtitle indicates, this volume brings together in condensed form the three-volume report prepared by the Committee on Propagation of the National Defense Research Committee, of which only 150 copies were printed. The report is a technical account of problems relating to radio wave propagation in the atmosphere at frequencies above 30 megacycles, and is written for experienced radio and electrical engineers. The fundamental principles of propagation, the effect of earth and atmosphere characteristics on radio waves, and the properties of antenna systems are discussed in detail. It will thus be of particular value to engineers responsible for designing, locating, and operating radar systems and communications equipment. The appendix includes an extensive bibliography of technical reports prepared by wartime governmental and other organizations.

NATIONAL TELEMETERING CONFERENCE

National Telemetering Conference, 1956. Papers presented at Los Angeles, California, August 20–21 1956. Sponsored American Institute of Electrical Engineers Institute of the Aeronautical Sciences, Institute of Radio Engineers, Instrument Society of America. New York American Institute of Electrical Engineers 1956 126 p. illus. 28 cm. $3.50. 6509

Contents (abridged) Session I, Systems A wide bandwidth telemetry system, by D E. Henry and R. E. Glass. Advanced design telemetry for vehicles subjected to severe environmental conditions, by D. W Blancher. Radio-frequency link design for telemetering, by H. Scharla and Nielsen. Beacon telemetering system, by E. Berlesky Performance characteristics of time and frequency multiplexed telemetering systems, by H. S. McGaughan. Session II, Data processing: A new development in the processing of PDM telemetry data, by W K. Lower. An automatic data reduction system for pulse width telemetry by F T Chambers. A method of separating vibration data into its frequency and amplitude components, by J. M. Hawk. A high-speed, high-accuracy automatic digital data reduction system for FM and PWM telemetered information, by W Kroll. Session III, Components and equipment Temperature measurements on high speed missiles, by G. E. Reis. Measurement of millivolt data by pulse width multiplexing, by A. S. Westneat. A method of commutating low level signals, by O. Ott. Frequency stability investigations on FM/FM telemetering equipment, by J. W Frost and K. F Hartmann. Session Systems III An integrated sub-miniature digital airborne ground data transmission system, by R. M. Gordon. Pulse coded messages over radar beacon equipment, by K. Mard and Richard Rabin. A comparison of encoding techniques for telemetry and data handling, by R. A. Runyan. A wide band radio link telemetering system, by T D. Warnecke. Time code telemetry system for event data, by D. Lichter. Session VI, Recorders. A high speed, general purpose, magnetic tape data recorder for use with digital computers, by E. R. Peltz. Direct writing, continuous recording above 100 cycles per second, by H. L. Chambers and J. C. Rudel. A miniature digital recorder, by C. P. Hedges. A new small digital data printer, by E. A. Hilton and K. Ebel. Session VII, Components and equipment II. Receiver design considerations for future telemetry requirements, by R. E. Green. A continuously tunable discriminator for FM/FM telemetering systems, by G. R. Thiele. A transistorized telemetering system to watch dog on guided missile performance, by F M. Riddle. Transistors applied to an operational FM/FM telemetry system, by C. R. McCampbell and others.

Note: The National Telemetering Conference has been sponsored since 1953 by the four major technical societies who are listed in the above title. The volume described here contains most of the papers presented at the 1956 conference, although some of the papers are printed in abstract form only. It contains also the names of participants and the subjects of panel conferences, but not the proceedings of the panels. Advances in telemetering and in closely related areas, as noted in the titles of the papers, are described. Although the American Institute of Electrical Engineers is listed above as the publisher, the volume may be ordered from any one of the sponsoring societies.

NICHOLS MYRON H., AND LAWRENCE L. RAUCH

Radio telemetry Second edition. New York John Wiley & Sons, Inc., 1956 461 p. illus. 24 cm. $12.00 6510

Contents: Part I, Methods: Introduction and historical background. Methods of radio telemetry. Noise and errors in telemetry—general. Some elements of communication. Frequency-division multiplexing. Time-division multiplexing. Time-division systems without interpolation. Double multiplexing. Data interpretation. Radio links for telemetry. Comparison of multiplexing methods. Instruments for radio telemetry. Part II, Foundations: Modulation and multiplexing. Frequency analysis. Part III, Techniques: Frequency-division radio telemetering systems. Time-division radio telemetering systems. Data reduction. Remote control radio command links. Appendixes. Bibliography. Glossary. Index.

Note: Radio telemetry systems are currently in use for such purposes as transmitting meteorological data from radiosondes to instruments on the ground, from rockets passing through the upper atmosphere to instruments located on the ground, and from experimental planes under test to recording instruments located in another plane or on the ground. This book is a study of the principles, components, and characteristics of such systems. Part II, entitled "Foundations," is primarily a mathematical analysis, and mathematics is freely used in some other parts of the book. However, the third part of the book, entitled "Techniques," is largely a descriptive survey of developed telemetering systems. Here the text is supplemented by numerous diagrams of circuits and pictures

of apparatus. The appendixes contain a variety of reference information useful in the design of telemetering systems. The first edition f the work was privately published.

POLLARD, ERNEST CHARLES, AND JULIAN M STURTEVANT

Microwaves and radar electronics New York John Wiley & Sons, Inc. 1948 426 p illus 22 cm $7 75 6511

Contents Electromagnetic fields and microwa es. Coaxial lines, wa eguides, and cavities. The production of microwaves. Microwave technique. Pulse circuits. Cathode ray tube indicators. Tuned amplifiers. Amplification of very weak signals. Servomechanisms and computers. Miscellaneous circuits. Radar and its accessories. Microwave communications. Microwaves in physical research. Appendices The Fourier integral. Curl and Stokes' theorem. U its. Author index. Subject index.

Note A compact treatment designed to provide upper-class physics or engineering students with an introduction to the basic principles and techniques of microwave production, control, and utilization. Although the treatment as whole is general, some of the discussions f problems that had to be solved in the application f microwaves, especially in radar are specific and rather detailed. Selected literature references are included but there are few references to the Massachusetts Institute of Technology Radiation Laboratory series because publication of this series had not progressed far when the manuscript of this book was completed. However both authors were associated with the Radiation Laboratory during World War II and have based the book on their experience there.

RAMO, SIMON, AND JOHN R. WHINNERY

Fields and waves in modern radio Second edition New York John Wiley & Sons, Inc., 1953 576 p. illus 23 cm $8 75 6512

Contents Oscillation and wa fundamentals. The equations of stationary electric and magnetic fields. Solutions to static field problems. Maxwell's equations and high-frequency potential concepts. Circuit concepts and their derivation from the field equations. Skin effect and circuit impedance elements. Propagation and reflection of electromagnetic wa es. Guided electromagnetic waves. Characteristics of common wave guides and transmission lines. Resonant cavities. Microwave networks. Radiation. Appendix. Index.

Note. A widely used college textbook that contains treatment of electromagnetic theory from the standpoint of radio. It is written at the level of senior and first-year graduat students f electrical and communications engineering. Also, it has proved to be useful treatment for engineers already at work in industry The first edition was published in 1944 Although there is only one wholly new chapter in this second edition, that on microwave networks, revision and fairly extensi rewriting are evident in many parts of the book. When the first edition was written, the authors were associated with the General Electric Company and the book was development of that company's Advanced Engineering Program. The first-named author is now Vice-President of the Hughes Aircraft Company and the second is Professor of Electrical Engineering in the U iversity of California.

REED HENRY R , AND CARL M RUSSELL

Ultra high frequency propagation. By Henry R Reed and Carl M Russell Assisted by W M Browne and J W Plummer New York John Wiley & Sons Inc. 1953 562 p. illus. 24 cm. $10 50 6513

Contents An introduction t UHF communications and the system concept. General aspects of propagation. Meteorological theory Antennas and radiation phenomena (ground reflection behavior) Multipath propagation (ground-to-air air-to-ground, and ground-to-ground propagation) Comparison of VHF and UHF propagation, dipole-to-dipole (ground-to-air and air-to-ground propagation) Complex antennas (linear arrays) Complex antennas (circularly polarized antennas) System comparison, operation and design of UHF complex antennas. Air-to-air propagation. Lobe modulation interference and design considerations Effects of meteorological conditions on experimental flight data. General operational considerations. Illustrative systems design problems Index

Note An important work based largely on studies made in recent years at the United States Naval Air Test Center Much of the Experimental work was related to aeronautical radio, that is to communication bet een the ground and flying airplanes and bet two or more airplanes in the air However the material prese is fundamental and therefore largely applicable to any communica tion based on the U.H.F and V.H.F bands of radiation, includ U.H.F television. The primary theme in the book is the concept the communication system as whole however, the exposition carried forward by analyzing the elements of systems. Altho organized as a text for use in formal courses, the book is potentia of interest to graduate communications engineers as well as students.

REICH, HERBERT J , AND OTHERS

Microwave theory and techniques. B Herbert J Reich Philip F Ordung, Herbe L. Krauss, and John G Skalnik. Princeton D Van Nostrand Company, Inc., 1953 90 p illus. 23 cm (The Van Nostrand series i electronics and communications, edited b Herbert J Reich) $13 50 651

Contents. Introduction. Fundamentals of quasi-static field theo Dynamic fields. Transmission lines. Impedance matching a baluns. W eguides. Waveguide and coaxial-line components. A tennas. Measurements. Microwave resonators. Fundamentals microwave amplifiers and oscillators. Triode and tetrode microwa amplifiers and oscillators. Two- and three-cavity klystrons. Refle klystrons. Magnetrons. Traveling-wave and double-beam tube Appendices. Microwave laboratory experiments. Author index. Sub ject index. Symbol index.

Note A comprehensive introduction to basic theory and micro wave devices operating in a frequency range extending "upwa from lower limit of approximately three or four hundred mega cycles per second. It is written at level that assumes con siderable knowledge of basic physics, particularly electromagnetic A view is provided of the mathematical treatment of the field however most of the chapters are concerned with physical prin ciples and characteristics rather than mathematical analysis. Con siderable use is made of graphic methods in presenting data. Th book is based on the literature published to about the close of 1952 and cites this literature in footnotes and supplementary lists Since the names of the authors of the cited literature are included in the author index, it is useful as guide to the significant literature of that period.

REINTJES J FRANCIS, AND GEOFFREY T COATE

Principles of radar By members of the staff of the Radar School Massachusetts Institute of Technology Third edition. New York McGraw Hill Book Company, Inc., 1952 985 p illus 24 cm. $7 75 6515

Contents Pulsed radar Timing circuits. Modulators. Indicators. Synchros and servomechanisms. Receivers. Radio-frequency transmission lines. Waveguides Resonant lines and cavities. High-frequency triode oscillators. Klystrons and magnetrons. Radio-frequency transmitting and receiving systems. Antennas. Propagation. Index.

Note An otherwise work developed originally for use in the basic course given to selected Army and Navy personnel at the M.I.T Radar School during World War II The book concerned primarily with the basic principles and techniques of radar and is not intended to instruct in the operation of particular types of radar equipment. In this revision the general scope and purpose of the previous editions has been retained, but the subject matter has been extensively reorganized and rewritten The chapters on antennas and propagation, transmitting and receiving systems, wave guides and cavity resonators, ha been thoroughly revised and new material added on step generators, klystrons, switching operations in transmission-line circuits, and applications of synchros. Many new illustrations ha also been included.

RIDER, JOHN FRANCIS AND SEYMOUR D USLAN

F M transmission and reception. Second edition. New York John F Rider Publisher Inc. 1951 426 p illus. 22 cm. $4 95 6516

Contents: Part I: Fundamental considerations. Frequency modulation. Essentials of F-M transmitters. Transmitters of today. The reception of F M signals. Part II: Receiving antennas. The F M front. Alignment of F M receivers. Servicing F M receivers. F.M. [illegible] receivers. Appendix. Bibliography. Index.

Note: A practical introduction for radio amateurs, radio repairmen, and other persons who already have a knowledge of amplitude-modulated radio and of the technical terminology of radio. It is suitable for use in organized classes in trade schools and also as a self-instruction text for men studying the subject at home. The text of the present edition is the same as the first, except that a chapter on FM in television receivers has been added. Also the new questions that were added in the ninth printing of the first edition have been retained.

RIDER, JOHN FRANCIS AND SEYMOUR D USLAN

Understanding vectors and phase. New York. John F Rider Publisher Inc. 1947 153 p. illus. 19 cm. $0.99 6517

Contents: What is a vector? The coordinate system. Single vector quantities. Multiple vector presentation. Resolution of vectors. Addition of vectors. Subtraction, multiplication, and division of vectors. Radio circuit problems. Bibliography. Index.

Note: A clear and concise explanation of the theory of vector diagrams and its utilization to indicate phase relationships and to solve radio circuit problems. The book is written for the radio serviceman, technician, or student who does not have an engineering background but is acquainted with standard radio.

ROWE, FRED D

How to locate and eliminate radio & TV interference. New York John F Rider Publisher Inc., 1954 128 p. illus. 22 cm. $1.80 6518

Contents: The interference problem. Antennas and interference. Low impedance systems and signals. Interference locating equipment. Electrical equipment & appliances as noise sources. Locating the source. Power line interference. Power-line noise filters. Electrical equipment & appliance interference elimination. Fluorescent lamp interference. Television interference suppression for transmitters. Eliminating interference at the TV receiver. Appendixes. Index.

Note: A compact survey of sources of interference in radio and television receivers and of protective measures and devices. The problem is shown to be a complex one, requiring careful and detailed analysis. Specific remedies are described for typical situations. The book is intended for technicians engaged in the installation and maintenance of radio and television receivers.

SEELY SAMUEL

Radio electronics. New York McGraw Hill Book Company Inc., 1956 487 p. illus. 21 cm. (McGraw Hill electrical and electronic engineering series Frederick Emmons Terman, consulting editor) $7.00 6519

Contents: Introduction to communication systems. Characteristics of vacuum tubes. Rectifiers and filters. Vacuum triodes as circuit elements. Basic amplifier principles. Untuned potential amplifiers. Special amplifier considerations. Untuned power amplifiers. Tuned potential amplifiers. Tuned power amplifiers. Oscillators. Amplitude modulation. Demodulation. Frequency modulation and detection. Information theory. Appendixes. Index.

Note: Radio is presented from the engineering viewpoint in this book. The elements of radio systems such as amplifiers, oscillators, etc., are described in physical terms and analyzed mathematically. Most of the space is devoted to the mathematical analyses which, though rigorous, are worked out step by step so as to facilitate comprehension on the part of the reader. Inclusion of discussions of information theory, noise, etc. gives the presentation more breadth than is implied by the title. The book is designed primarily for the instruction of undergraduate college students of communications engineering. It is a companion work to the author's *Electronic engineering*, 1956, and contains some matter also included in that book. However, each book is independent and may be used without reference to the other. The author is Head of the Department of Electrical Engineering of Case Institute of Technology.

SHEINGOLD, ABRAHAM

Fundamentals of radio communications. New York D Van Nostrand Company Inc., 1951 442 p. illus. 24 cm. (The Van Nostrand series in communications engineering edited by Herbert J Reich) $5 75 6520

Contents: General principles of radio communication. Electric circuit fundamentals. Basic radio circuit components. Basic radio circuits. Transfer of power in radio systems. Generation and propagation of radio waves. Fundamental principles of electron tubes. Operational characteristics of electron tubes. Amplification of small alternating voltages. Amplification of large alternating voltages. Rectifiers and rectifier-filter d-c sources. Sine-wave oscillators. Amplitude modulation—A-M transmitters. Detection—reception of A-M signals. Frequency conversion—the superheterodyne receiver. Frequency modulation. Basic pulse circuits. Ultra-high-frequency techniques. Image-transmission systems. Special communication techniques. Radar and radio navigation systems. Index.

Note: A textbook written by a member of the faculty of the United States Naval Postgraduate School. It is suitable for students who have an advanced technical interest in the field but lack knowledge of mathematics beyond college algebra. No previous education in radio has been assumed. The book is especially good for discussions of elements such as sweep circuits which are omitted from typical introductory books on radio.

SKILLING HUGH HILDRETH

Fundamentals of electric waves. Second edition. New York John Wiley & Sons Inc. 1948 245 p. illus. 24 cm. $5 00 6521

Contents: Experiments on the electrostatic field. Vector analysis. Certain theorems relating to fields. The electrostatic field. Electric current. The magnetic field. Examples and interpretation. Maxwell's hypothesis. Plane waves. Reflection. Radiation. Antennas. Wave guides. Waves in the ionosphere. Index.

Note: A discussion for advanced students and graduate engineers of the development of Maxwell's electromagnetic equation and its application to the radiation, propagation, and transmission of radio waves. The reader is supposed to have a knowledge of basic physics and of mathematics through calculus, and the exposition is expressed chiefly in mathematical terms. Substantial changes have been made for this edition. These include discussions of wave propagation in ionized regions and in semiconducting media, revised treatments of antennas and wave guides, and more material on reflection from the ionosphere and from ground surfaces.

SLATER, JOHN CLARKE

Microwave electronics. New York D Van Nostrand Company Inc., 1950 406 p. 24 cm. (Bell Telephone Laboratories series) $7.00 6522

Contents: The wave guide with perfectly reflecting walls. Reflection and standing waves. Power and energy relations. The theory of resonant cavities. The resonant cavity with one output. The cavity with two outputs. The cavity with several outputs, and coupled cavities. The periodically loaded wave guide. Fundamental principles of electronic devices. The klystron. The linear accelerator. The traveling wave amplifier. The magnetron oscillator. The cyclotron and synchrotron. Appendixes: Properties of bilinear transformations. Group velocity. Bibliography. Index.

Note: An essential book for engineers at work in the field of radar design and physicists concerned with the phenomena of electromagnetic waves in the millimeter and centimeter ranges. Mainly it is a mathematical treatment based on the theory of orthogonal functions. This mathematical method is developed so that it can be applied generally to the predictions of microwave behavior. The author was one of the pioneer researchers during World War II; he worked at the Bell Telephone Laboratories and the Radiation Laboratory at Massachusetts Institute of Technology on radar design and particularly on the magnetron. The book is a development of this work, and embraces not only the author's contributions but those made by others to the mathematical solution of microwave problems.

SLURZBERG, MORRIS, AND WILLIAM OSTERHELD

Essentials of electricity for radio and television Second edition. New York McGraw Hill Book Company, Inc., 1950 533 p illus 24 cm $6 50 6523

Contents Communication. Basic theory of electricity Batteries. Electric circuits. Magnetism. Meters. Electrical power apparatus. Inductance. Capacitance. Alternating-current circuits. Resonance. Basic electronic circuits. Appendix. Index.

Note. An introductory book designed for the instruction of men who are preparing for practical work in radio and television installation and maintenance. Although the treatment is essentially descriptive and mathematics beyond elementary algebra is not employed, it is a somewhat more substantial book than the conventional practical text. The first edition was published in 1944 Important changes and additions were made in preparing this edition. Electric circuit phenomena are now explained in terms of electron flow the scope has been extended to include the elements of television, and the discussion of sound has been expanded.

SLURZBERG, MORRIS, AND WILLIAM OSTERHELD

Essentials of radio New York McGraw Hill Book Company, Inc., 1948 806 p illus. 23 cm. $8 00 6524

Contents Introduction to radio. Circuit analysis. Simple receiving circuits. Vacuum tubes. Detector circuits. Tuning circuits. Radio-frequency amplifier circuits. Audio-frequency voltage amplifier circuits. Power amplifier circuits. Vacuum-tube oscillator circuits. Power supply circuits. Audio units. Transmitting circuits. Receiving circuits. Test equipment. Appendix. Index.

Note This text is intended for the use of radio students at the junior-college level. It provides a rather thorough study of the operating characteristics and theory of vacuum tubes, resistors, inductors and capacitors, and of the basic radio circuits utilizing these elements. The book does not require knowledge of mathematics beyond that of elementary algebra, and all data required for the solution of problems, given at the end of each chapter, are contained in the appendix. The appendix also includes list of symbols used in circuit drawings, accompanied by a picture of the element represented, listing of letter symbols, and a compilation of formulas used in radio and electronics calculations. The book is not revision of the authors' *Electrical essentials of radio*, 1944 but is a new work.

SOUTHWORTH, GEORGE CLARK

Principles and applications of waveguide transmission New York D Van Nostrand Company Inc. 1950 689 p illus. 23 cm. (The Bell Telephone Laboratories series) $12 50 6525

Contents. Introduction. Principles of networks. Principles of transmission lines. The nature of electromagnetic waves. Waveguide theory A descriptive account of electrical transmission. Waveguide transmission lines. Waveguide elements (impedors) W veguide components. Waveguide radiators. Electronic devices for waveguide use. Modulation and demodulation by waveguide methods. Appendixes. Ratios frequently used in waveguide calculations. RMA standard rectangular waveguides. Properties f certain dielectrics. References. Index.

Note A substantial treatment of the current knowledge and practice of waveguides in the transmission of microwave radiation. The author who was, at the time of writing, on the staff of Bell Telephone Laboratories, is one of the outstanding investigators of waveguide transmission The first five chapters deal with the fundamental and historical aspects. Rather advanced mathematics is used in them, and they are addressed primarily to graduate students and practicing engineers. Although there are numerous graphs in the remaining chapters, these chapters are by comparison descriptive in nature and can be understood by readers who do not possess the mathematical training required for the reading of the first part of the book. There is a 10-page list of references.

STERLING, GEORGE EDWARD, AND ROBER B MONROE

The radio manual. Chapter on television b Thomas T Goldsmith, jr Fourth edition New York D Van Nostrand Company, Inc 1950 890 p illus 26 cm $12 75 652

Contents Elementary electricity and magnetism. Meters and [illegible] ... Batteries. The electron tube. Amplifiers and oscillat[illegible] Amplitude modulation. Frequency modulation systems. Radio-fre[illegible] quency measurements and monitors. Broadcast studio and contr[illegible] room audio facilities. Standard broadcast transmitters. FM broad[illegible] cast transmitters. Television. Marine radio equipment. Lifeboat rad[illegible] equipment. Marine navigational aids. Radio wave propagation. Antennas. Radio equipment for the emergency services. Importa[illegible] extracts from the Communications Act of 1934, as amended b[illegible] Public 97 approved May 20, 1937 F.C.C. rules and regulation[illegible] International telecommunication convention of Atlantic City an[illegible] radio regulations, 1947 Index.

Note. A long-established and widely used textbook and reference manual. It is slanted for the student and operator with occupa[illegible] tional interests in the field, and is a standard work for those [illegible] are studying to pass examinations so as to obtain licenses as com[illegible] mercial operators. However it serves also as small encyclopedia [illegible] f the field for radio amateurs and for engineers. The third edition was published in 1940. For the fourth edition revisions were made to cover developments of the decade 1940–1950 and to cover the latest regulations and standards of the Federal Communication Commission. New chapters and sections h been added on such topics as radio wave propagation, antennas, and radar. Numerou[illegible] schematic wiring diagrams of commercial equipment are included.

TERMAN, FREDERICK EMMONS

Radio engineers handbook. New York McGraw Hill Book Company, Inc., 1943 1,019 p illus. 23 cm $12 00. 6527

Contents. Tables, mathematical relations, and units. Circuit elements. Circuit theory Vacuum tubes and electronics. Vacuum-tube amplifiers. Oscillators. Modulation and demodulation. Power supply systems. Radio transmitters and receivers. Propagation of radio waves. Antennas. Radio aids to navigation. Measurements.

Note An important reference guide to the literature and [illegible] f the art of radio to approximately the year 1942. It brings together under each of the above headings, all pertinent and [illegible] facts, formulas, designs, and procedures. The material is based on a review of some 1,000 technical articles which, cited as footnotes, constitute an extensive bibliography An author index to the literature and detailed subject index are included.

TUCKER, DURWARD J

Introduction to practical radio. New York The Macmillan Company, 1945 322 p. illus. 22 cm. $5 00 6528

Contents Introduction. Elementary electricity Ohm's law Resistance circuits. Direct-current power. Equipment wiring. Kirchhoff's laws. Magnetism. Electromagnetism. Alternating current. Electrical instruments. Inductance. Capacitance. Impedance. Appendix. Index.

Note. An elementary text in which the functioning of the [illegible] elements of radio equipment, such as coils, condensers, [illegible] tubes, batteries, wired circuits, and transformers, is described by reference to the basic principles of electricity Any mathematics required in the course of the discussion, from simple arithmetic to vector analysis, is briefly reviewed as the need arises. The book is intended chiefly for vocational school students and practical radio men. Review questions and problems are given at the end of each chapter.

UNITED STATES RADIO RESEARCH LABORATORY HARVARD UNIVERSITY

Very high-frequency techniques compiled by the staff of the Radio Research Laboratory Harvard University under the editorial direction of Herbert J Reich, editor Louise S McDowell, asst. editor New York Mc

[illegible]-Hill Book Company Inc. 1947 2 v [illegible] 23 cm. $16.00 per set. 6529

Contents (abridged): Volume I: Broad-band antennas, by A. [illegible] and [illegible]-frequency measurements, by J. A. Nelson and [illegible], Impedance matching, transformers and baluns, by J. A. Nelson [illegible] and [illegible]. Cone and cylinder antennas, by A. Dorne. Sleeve [illegible], by R. L. Beck and others. Horns and reflectors, by [illegible] and A. Dorne. Slot antennas, by A. Dorne and D. Lazarus. [illegible] by R. L. Beck and J. [illegible]. [illegible] of direction finding, by A. Alford, J. D. Kraus, and [illegible]. Antennas for direction finders, by J. D. Kraus and [illegible]. [illegible] for direction finders, by W. McGuigan. [illegible], by J. W. Christensen. Introduction to power generation, by [illegible]. Triode and pentode ultrahigh-frequency oscillators, by [illegible] and others. Coaxial-line power amplifiers and [illegible], by W. R. Rambo. Power output coupling methods, by [illegible]. Modulation of high-frequency power oscillators, by [illegible] and W. R. Rambo. General design considerations of high-power ultrahigh-frequency triode and tetrode oscillators, by [illegible] and G. Hok. The resnatron, by W. G. Dow and [illegible]. Principles of magnetron operation, by G. Hok and [illegible]. Operating characteristics of continuous-wave magnetrons, by [illegible]. Description, characteristics, and operation of typical [illegible] magnetrons, by G. Hok and others. Volume II: Externally [illegible] oscillators, by H. J. Reich. Power-measuring devices for ultrahigh frequencies, by R. A. [illegible] and others. [illegible] considerations, by J. M. Pettit. Principles of [illegible]-line filter design, by S. Cohn. Design of [illegible] line filters, by S. Cohn. Tuners for microwave receivers, by [illegible] and others. Detectors and mixers, by R. A. Soderman. Local [illegible] considerations and butterfly oscillators, by R. A. [illegible] and [illegible] klystron oscillators, by W. H. Huggins [illegible] coaxial-line resonators, by W. H. Huggins [illegible]. Intermediate-frequency amplifiers, by M. T. Lebenbaum. [illegible] output circuits, by R. R. Buss and others. [illegible] by [illegible], by W. R. Whaley. Bibliography. Index.

Note: The Laboratory mentioned in the title of this set was an [illegible] set up primarily for the development of radar countermeasures during World War II. The work does not, however, give [illegible] of the problems or work of the Laboratory. Instead, [illegible] with circuits, apparatus and techniques used or developed by the Laboratory that appear to have broader applications [illegible].

WATSON, HERBERT M., AND OTHERS

Understanding radio a guide to practical operation and theory by Herbert M Watson, Herbert E. Welch and George S Eby Illustrated by Herbert E. Welch. Second edition. New York McGraw Hill Book Company Inc., 1951. 716 p. illus. 24 cm. $7.00 6530

Contents (abridged): Radio waves and wave travel. Something [illegible] electricity. Magnetism and direct-current motors. Ohm [illegible] and by [illegible]. How to build and wire the [illegible]. Principles of the vacuum tube. Wave-form [illegible]. Alternating currents in radio circuits. Resistance and tuning [illegible] direct-current tubes. The dynamic loudspeaker. Power supplies. Alternating-current [illegible] tubes. The superheterodyne [illegible]. Short-wave sets. Public-address units. Power [illegible] and [illegible] circuits. Radio-telephone transmitters. Antennas. [illegible] high frequencies. Frequency modulation. Looking ahead [illegible]. Index.

Note: One of the more successful introductions for students with [illegible] education in mathematics or electricity. In it the fundamentals of electricity are explained in simple terms and with the aid of numerous experiments. Very little mathematics is used, and the special terminology of radio is introduced gradually. The book [illegible] for use both in organized classes with laboratory facilities and in home study. A considerable share of the sample apparatus can be constructed at home. In this edition there are many new [illegible], and material has been added on modern tubes, power [illegible], public address units, etc.

TELEVISION

ANNER, GEORGE E

Elements of television systems. New York Prentice-Hall, Inc., 1951 804 p. 22 cm. $9.00 6531

Contents: Part I, Closed television systems: Transmission of pictures. Picture standards. Scanning methods. Scanning generators. Scanning and picture reproduction. Camera tubes. Video amplification. Closed television systems. Part II, The commercial telecasting system: Special problems of telecasting. The optimum number of lines. Synchronization. Vestigial-sideband transmission. The video transmitter. Receivers. Stagger-tuned amplifiers. The receiving antenna. Televising motion pictures. Part III, Color television systems. Appendix: Dot systems of television transmission. Problems. Index.

Note. This work by [illegible] faculty member of the College of Engineering of New York University is [illegible] treatment from the communication engineer's viewpoint. Though planned for the college student of engineering, it is full enough and the treatment mature enough to make the book useful to such readers as graduate engineers who have been working in radio and are preparing to switch to television. The detailed treatment of closed systems in Part I is unusual. The 64-page chapter on color television contains [illegible] general discussion of the subject and specific descriptions of the leading systems. There is no systematic bibliography but there are occasional footnote references to related articles.

BUCHSBAUM WALTER H.

Television servicing theory and practice. Second edition. Revised in cooperation with Richard Blitzer Englewood Cliffs, N J Prentice-Hall Inc. 1954 367 p. illus. 24 cm $5 95 6532

Contents (abridged). Part I, General television theory: the modern television receiver. The picture tube. Deflection methods. Synchronizing and automatic frequency control circuits. Video detector, video amplifier. Dc restoration. Video IF amplifier. Television sound system. Television tuners. Antennas and transmission lines. Power supplies. Transistors and special television applications. Color television. Part II, Alignment, installation: Video IF alignment. Sound channel alignment. Aligning RF amplifier, mixer and oscillator. Antenna in the home. The average antenna installation. Part III, Troubleshooting: Inoperative receiver. Loss of synchronization. Defective deflection. Poor picture quality. Poor sound quality. Poor cathode ray tube performance. Index.

Note. A book used in the vocational education of men preparing for the occupation of installing and maintaining television receivers. The components of television receivers are described and discussed in the first part. In the second and third parts, specific problems encountered in installing, adjusting and repairing home receivers are discussed explicitly. The section on troubleshooting is well arranged and easy to understand. The first edition was published in 1952. One chapter was added in this second edition.

CHINN HOWARD A.

Television broadcasting. New York McGraw Hill Book Company Inc., 1953 662 p. illus. 24 cm. (McGraw Hill television series Donald G. Fink, consulting editor) $10.00 6533

Contents: Television-system fundamentals. The image orthicon camera. Field television equipment. Field pickup techniques. Synchronizing waveform generation. Studio television equipment. Studio lighting, staging and camera techniques. Projector camera chains. Television projectors. Motion-picture film. Television recording. Program transmission systems. Television transmitters. Studio building planning. Equipment installation practices. Measurements. Index.

Note. An introductory but fairly comprehensive book on contemporary television broadcasting equipment and methods. The chief viewpoint is that of the television engineer or technician [illegible] works in [illegible] television studios and is concerned with the technical aspects of broadcasting. However, the chapter on studio building planning and sections of some other chapters are intended for professional persons, such as architects. The principal emphasis is on the video phase of the subject; in other words, the book contains little on sound broadcasting. The treatment is largely descriptive; nevertheless, the reader needs [illegible] good background in basic electrical and electronic terminology. The author is chief engineer of the Audio-Video Division, General Engineering Department of the Columbia Broadcasting System.

DEUTSCH SID

Theory and design of television receivers. New York McGraw Hill Book Company Inc., 1951 536 p. illus. 24 cm. (McGraw Hill

television series, Donald G Fink, consulting editor) $7 50 6534

Contents. Television standards. Characteristics of amplifier and rectifier circuits. Properties of tuned coupling circuits. Antenna and R-f section. Video I-f section. Detector and automatic gain control circuits. Video amplifiers and D-c restorers. The sound section. Synchronizing section. Electrostatic deflection and focusing. Magnetic deflection and focusing. Power supplies. Automatic frequency control. Intercarrier sound reception. Direct and projection-viewing systems. Television receiver servicing. Index.

Note. A notable contribution to the literature of television. It is designed for advanced students and other readers primarily interested in the engineering aspects. The emphasis is on established standards, basic circuits, and the practical design of television receivers. The mathematics essential to the engineering approach is, of course, not avoided. An understanding of standard radio is the main prerequisite.

DOME, ROBERT B

Television principles New York McGraw Hill Book Company, Inc., 1951 291 p illus 24 cm (McGraw Hill television series, D G Fink, consulting editor) $7 00 6535

Contents *Early history of television and some fundamental conceptions.* Electronic methods of scanning and reproduction. Video-frequency amplifiers. Radio transmitting apparatus. Antennas for transmission and reception. Radio-frequency input circuits and noise factors. *Intermediate-frequency amplifiers. Picture second detector* The scanning system. Miscellany Propagation and relays. Index.

Note: An introductory treatment for engineers who have had no previous acquaintance with the subject. Since it was developed for an audience *already familiar with calculus and the fundamentals of* electrical engineering, the author has devoted the space entirely to television Much of the text is descriptive, but mathematics has not been avoided. The book was developed from lectures that formed an after-hours educational course offered by the General Electric Company to its own employees and also to graduate engineering students in Syracuse University There is an occasional bibliographical footnote.

DUSCHINSKY, WALTER J

TV stations, a guide for architects engineers and management. New York Reinhold Publishing Corporation, 1954 136 p illus. 30 cm. $6 00 6536

Contents (abridged) Part The master plan and the planning organization. Site selection and plant. Utilizing station space. Programming and equipment. Part II Television site and facility planning. *Antenna tower structures. The technical center core.* The large live talent studio. Studio lighting. Audience participation Acoustics and noise control. The use of microwave relay UHF problems. Industrial television. Educational television stations. Appendices. Bibliography Glossary Index.

Note This book deals with the planning, design and equipping of stations for the broadcasting of television. Although addressed to architects, engineers and managers as indicated in the title, the primary viewpoint is that of management. Engineering aspects are not covered except in general, descriptive terms, nevertheless architects and engineers who are concerned with the design of TV broadcasting stations on a level that requires consultation with management and should find the book useful both as broad view and detailed outline. All phases of planning are covered from rate cards to the provision of dressing rooms for program casts. Typical equipment which is currently available from United States of America manufacturers is described. Numerous charts, floor plans and reproductions of photographs are included. The author planned the broadcasting and telecasting facilities of the New York headquarters of the United Nations.

FINK DONALD G

Television engineering Second edition. New York McGraw Hill Book Company Inc., 1952 721 p illus 24 cm (McGraw Hill television series Donald G Fink consulting editor) $8 75 6537

Contents. The television system. Analysis and synthesis of images. Cameras and picture tubes. Scanning and synchronization methods. Transmission of the video signal. Video amplification. Carrier transmission of picture and sound signals. Color fundamentals. Color television systems. Television broadcasting equipment. Television receiving equipment. Appendix. Standards of good engineering practice. Name index. Subject index.

Note. The chapter titles fail to indicate the richness of the book content. The author has included not only good discussions of main points of the subject but also full discussions of sub-topics such as the principles of the iconoscope mosaic. The chapter on color television systems runs to 66 pages and describes in detail the various systems that have been developed in laboratories. The book is organized as a textbook for upperclass engineering students, but it is suitable also for graduate electrical engineers in need of an introductory survey of television. There are good bibliographies. The first edition appeared in 1940 under the title *Principles of television engineering.* In this edition, the work has been largely rewritten and contains much new material.

GLASFORD, GLENN M

Fundamentals of television engineering New York McGraw Hill Book Company Inc., 1955 642 p illus. 24 cm. (McGraw Hill electrical and electronic engineering series, Frederick Emmons Terman, consulting editor) $12 75 6538

Contents. Elements of a television system. Visual characteristics, color specification, and signal analyses. Fundamentals of electron beam scanning. Image-pickup tubes and output circuits. Visual-display tubes. Video amplifiers. Transient analysis of circuits. Side-band radio-frequency amplifiers. The transmitter-receiver relationship. Signal-circuit problems and techniques. Scanning circuits. Synchronization and picture-signal standards. Circuits involved in timing and synchronizing operations. The synchronizing signal generator Television camera and signal processing equipment. Elements of video transmitters and radiating systems. Television-receiver fundamentals and designs. Appendices. Index.

Note. A broad, analytical introduction covering both monochrome and color television systems. Basic knowledge and basic approach to design problems are emphasized, but necessarily the author has included some description of such devices as television picture tubes. Mathematics is used throughout and in such chapters as that on transient analysis of circuits, it is the predominant method of exposition. In other sections the mathematics is sometimes *presented briefly and without proof* however, references are usually given to other books and papers where rigorous treatment is to be found. The book is first a college text of approximately first year graduate level and, second, a basic reference for graduate engineers. The inclusion of numerous and well-selected citations to literature increases the reference value.

GROB, BERNARD

Basic television, principles and servicing Second edition New York McGraw Hill Book Company, Inc. 1954 660 p. illus. 24 cm. (McGraw Hill television series Donald G Fink, consulting editor) $6 00 6539

Contents The television system. Camera tubes. The electron scanning beam. Scanning and synchronizing. The composite video signal. Picture carrier signal. Frequency modulation. Television receivers. Picture tubes. Power supplies. Video amplification. Practical design of video amplifiers. *Brightness* control and D-c reinsertion. Video detector Automatic gain control. Sync separation. Deflection oscillators. Deflection circuits. Picture I-F amplifiers. The R F tuner Antennas and transmission lines. The FM sound signal. *Receiver servicing.* Color television. Appendix. All signal television broadcast channels with picture and sound carrier frequencies. Index.

Note. An outstanding practical introduction to television principles, circuits and servicing. The author is an instructor on the staff of RCA Institutes, Inc., and the book is designed for use as a text by men who are preparing to become television servicemen and technicians. It is suited also to use as a self-instruction guide by persons who are familiar with basic radio. Comparing the second edition with the first edition 1949 neither the organization nor the scope has been changed in any important way but there are now about 60 pages more of text. The former chapter on video detector and automatic gain control has been divided to form two chapters. *The chapter on light* which appeared in the first edition has been dropped. Some rewriting is apparent in all of the chapters, and in several of them it is extensive.

[illegible] the chapter on color television in the second edition [illegible] and has been completely rewritten.

HAZELTINE CORPORATION

Principles of color television. By the Hazeltine laboratories staff Compiled and edited by Knox McIlwain and Charles E. Dean. New York. John Wiley & Sons, Inc., 1956. 536 p. illus. (part col d) $13.00 6540

Contents: Light and photometry. Color perception. Color space and its concepts. Colorimetry. Color in [illegible] television system. Signal information content. Characteristics of the eye. The [illegible] of color components and their interleaving in the composite [illegible]. Formation of composite color signal. Synchronization. Nonlinear amplitude relations and gamma correction. The color television standards of the FCC. Equipment for producing the transmitted signal. Color television receivers. Decoders for three-gun display. Decoders for one-gun picture tubes. Test and measuring methods. Glossary of color television terms. Appendixes: Relative [illegible] coefficients to [illegible] reproduced color by the three primaries. [illegible] formulas for components of the color signal. FCC Composite Color Order of December 1953. Author index. Subject index.

Note: In this book, it is shown that the basic problem of [illegible] [illegible] that of fitting the necessary information [illegible] of the signal into the available frequency band. It is shown [illegible] that the problem has been solved by transmitting [illegible] signal [illegible] full detail on [illegible] of brightness [illegible] of the [illegible] and [illegible] less information on its color values or [illegible]. The psychophysics of color perception by the human eye that permits this combination of information to give [illegible] good [illegible] explained in the first half of the book. The remainder [illegible] devoted to technical information on color television standards, [illegible] and receivers, and to testing and measuring methods [illegible] to transmitting and receiving equipment. The book [illegible] [illegible] engineers already acquainted with monochrome [illegible] theory and practice. It is self-contained, nevertheless [illegible] references to the literature are included. It [illegible] the product of the staff of [illegible] research and engineering firm which has taken [illegible] part in the development of both monochrome and color [illegible] [illegible] the United States of America.

HELT, SCOTT

Practical television engineering. Second edition. New York Rinehart & Company Inc., 1953 744 p. illus. 23 cm. $8.00. 6541

Contents: The fundamentals of picture transmission. The cathode-ray tube. The cathode-ray oscillograph. Electron tubes for image pickup. The synchronizing generator—timing, shaping and delay [illegible]. The video amplifier and cathode followers. The voltage-regulated power supply. The television receiver. The television [illegible] chain. The television transmitter. Television broadcasting techniques. UHF and color television. Glossary. Index.

Note: A detailed presentation of television transmission and reception from the engineering viewpoint. Most of the space is given to matters which are of interest to engineers associated with television broadcasting, but enough is included on television reception to make the representation complete. The work [illegible] aimed [illegible] practicing engineers on the staffs of broadcasting studios and students who are preparing for such work. It is outstanding not only for its presentation of the major aspects of the field, but also for its discussion of details, such special problems of [illegible] [illegible], and the routine procedures which are essential [illegible] [illegible] television transmitter at peak operating condition. The useful glossary runs to 30 pages. Extensive bibliographies are included, and there are several hundred illustrations. The first edition was published in 1951. Addition of the chapter on UHF and color television is the major change in this second edition.

JOHNSON J RICHARD

Television—how it works. Second edition. New York. John F Rider Publisher Inc., 1956. 346 p. illus. 28 cm. $4.60. 6542

Contents: General aspects of the television system. TV propagation, antennas and transmission lines. TV front ends. The video I-F [illegible] and AGC sections. Video amplifiers and D-C restorers. The FM sound channel. The synchronizing section. Sweep circuits. The picture tube. Power supplies. Color television.

Note: A technical but non-mathematical exposition of television principles. It covers both the general principles and the functions of the various elements of television receivers. It is addressed primarily to men in the occupation of installing and repairing radio and television equipment, but it is suitable also for such readers as amateurs who have made a hobby of radio and wish to begin the study of television. It is thoroughly illustrated and written in a style that suits it to home study as well as to use in vocational school courses. The first edition was published in 1948. For this second edition, the book was extended to cover color television and other changes were made to reflect other advances in television receivers.

KIVER MILTON SOL

Color television fundamentals. New York McGraw Hill Book Company Inc., 1955 317 p. illus. (part col d) 23 cm. (McGraw Hill television series Donald G Fink, consulting editor) $6.00. 6543

Contents: Color fundamentals for TV servicemen. The NTSC color television system. The three-gun color receiver in block form. Three-gun receiver circuits. Narrow-band color receivers. Three-gun color picture tubes. Deflection and convergence circuits of three-gun color receivers. Typical color television receivers—analysis and alignment. Color television servicing. Appendixes. Glossary. Index.

Note: An introductory and practical book designed for the instruction of vocational school students and men at work in the craft of installing and repairing domestic television receivers. Familiarity on the part of the reader with monochrome television receiving equipment is assumed. Otherwise the exposition is elementary and nonmathematical. Basic circuits and elements of color receivers and the circuits of specific makes of receivers being manufactured in the United States of America when the book was written are covered.

KIVER, MILTON SOL

Television and F M receiver servicing Third edition. Princeton, N J D Van Nostrand Company Inc., 1953 320 p. illus. 28 cm. $4 60. 6544

Contents (abridged): The antenna system—operation and installation. Television receiver installation. Television test equipment. The R.F stages—operation and servicing. Video I.F and video detector stages—operation and servicing. Video amplifiers, D-C restorers and A.G.C systems—operation and servicing. Cathode-ray picture tubes—operation and servicing. Additional service notes on intercarrier receivers. How to use television test patterns. Deflection systems. Television power supplies. Television receiver alignment. UHF television. F M fundamentals. Commercial F M receiver circuits. F M receiver alignment. F M receiver servicing. Appendix: Interference in television receivers. Index.

Note: Written for men who are experienced in the maintenance and repair of amplitude modulated radio receivers, this book is a practical introduction to installation, maintenance and repair operations on television receivers and frequency-modulated radio receivers. Theory and design are discussed only where needed to clarify servicing problems, and then in elementary terms. The first edition was published in 1948 and the second edition in 1952. In this third edition, the level of treatment and the overall organization are unchanged, but several chapters have been added.

KIVER, MILTON SOL

Television simplified. Fifth edition. Princeton, N J D Van Nostrand Company Inc., 1955 541 p. illus. 23 cm. $6 95 6545

Contents: The television field. High frequency waves and the television antenna. Wide-band tuning circuits—R.F amplifiers. The H.F oscillator and [illegible]-TV tuners. Video amplifiers. Diode detectors and A.G.C. circuits. D-c restoration. Cathode-ray tubes. Television receiver power supplies. Additional notes on intercarrier systems. Synchronizing circuit fundamentals. Deflection systems. Frequency modulation. Typical television receivers—analyses and alignment. Servicing television receivers. UHF television. Color television. Glossary. Index.

Note: An outstanding textbook of the elementary practical kind. It is addressed primarily to men who are preparing for the occupation of repairing television receivers. Basic principles, standard circuit elements and circuits are described and explained in a nontechnical style. Common troubles and their causes are discussed in relation to the basic circuits and their functions. The book was

television series, Donald G Fink, consulting editor) $7 50 6534

Content Television standards. Characteristics of amplifier and rectifier circuits. Properties of tuned coupling circuits. Antenna and R-f section. Video I-f section. Detector and automatic gain control circuits. Video amplifiers and D-c restorers. The sound section. Synchronizing section. Electrostatic deflection and focusing. Magnetic deflection and focusing. Power supplies. Automatic frequency control. Intercarrier sound reception. Direct- and projection-viewing systems. Television receiver servicing. Index.

Note A notable contribution to the literature of television. It is designed for advanced students and other readers primarily interested in the engineering aspects. The emphasis is on established standards, basic circuits, and the practical design of television receivers. The mathematics essential to the engineering approach is, of course, not oided. An understanding f standard radio is the main prerequisite.

DOME, ROBERT B

Television principles New York McGraw Hill Book Company Inc. 1951 291 p illus 24 cm (McGraw Hill television series D G Fink, consulting editor) $7 00 6535

Contents Early history of television and some fundamental conceptions. Electronic methods of scanning and reproduction. Video-frequency amplifiers. Radio transmitting apparatus. Antennas for transmission and reception. Radio-frequency input circuits and noise factors. Intermediate-frequency amplifiers. Picture second detector The scanning system. Miscellany Propagation and relays. Index.

Note An introductory treatment for engineers who have had no previous acquaintance with the subject. Since it was developed for an udience already familiar ith calculus and the fundamentals of electrical engineering, the author has devoted the space entirely to television. Much of the text is descripti e, but mathematics has not been voided. The book was developed from lectures that formed an after-hours educational course offered by the General Electric Company to its own employees and also to graduate engineering students in Syracuse University There is an occasional bibliographical footnote.

DUSCHINSKY, WALTER J

TV stations, a guide for architects, engineers and management. New York Reinhold Publishing Corporation, 1954 136 p illus 30 cm. $6 00 6536

Contents (abridged) Part I The master plan and the planning organization. Site selection and plant. Utilizing station space. Programming and equipment. Part II Television site and facility planning. Antenna tower structures. The technical center core. The large li talent studio. Studio lighting. Audience participation Acoustics and noise control. The use of microwa relay UHF problems. Industrial television. Educational television stations. Appendices. Bibliography Glossary Index.

Note This book deals with the planning, design and equipping of stations for the broadcasting of television. Although addressed to architects, engineers and managers as indicated in the title, the primary viewpoint is that f management. Engineering aspects are not covered except in general, descriptive terms nevertheless architects and engineers who are concerned with the design of TV broadcasting stations on a level that requires consultation with management and should find the book useful both as broad view and detailed outline. All phases f planning are covered from cat cards to the provision of dressing rooms for program casts. Typical equipment which is currently available from United States of America manufacturers is described. Numerous charts, floor plans and reproductions of photographs are included. The author planned the broadcasting and telecasting facilities f the New York headquarters f the United Nations.

FINK, DONALD G

Television engineering Second edition New York McGraw Hill Book Company Inc. 1952 721 p illus 24 cm (McGraw Hill television series Donald G Fink consulting editor) $8 75 6537

Contents The television system. Analysis and synthesis of images. Cameras and picture tubes. Scanning and synchronization methods. Transmission of the ideo signal. Video amplification. Carrier transmission of picture and sound signals. Color fundamentals. Color television systems. Television broadcasting equipment. Television receiving equipment. Appendix Standards of good engineering practice. Name index. Subject index.

Note. The chapter titles fail to indicate the richness of this book s content. The author has included not only good discussions of main points of the subject but also full discussions of sub-topics such as the principles of the iconoscope mosaic. His chapter on color television systems runs to 66 pages and describes in detail the various systems that hav been developed in laboratories. The book is organized as textbook for upperclass engineering students, but it is suitable also for graduate electrical engineers in need f an introductory survey of television. There are good bibliographies. The first edition appeared in 1940 under the title *Principles f television engineering* In this edition, the ork has been largely rewritten and contains much new material.

GLASFORD, GLENN M

Fundamentals of television engineering. New York McGraw Hill Book Company Inc. 1955 642 p illus 24 cm. (McGraw Hill electrical and electronic engineering series, Frederick Emmons Terman, consulting editor) $12 75 6538

Contents. Elements f a television system. Visual characteristics, color specification, and signal analysis. Fundamentals of ion-beam scanning. Image-pickup tubes and output circuits. Visual-display tubes. Video amplifiers. Transient analysis of circuits. Wide-band radio-frequency amplifiers. The transmitter-receiver relationship. Signal-circuit problems and techniques. Scanning circuits. Synchronization and picture-signal standards. Circuits involved in timing and synchronizing operations. The synchronizing signal generator Television camera and signal processing equipment. Elements of ideo transmitters and radiating systems. Television-receiver fundamentals and designs. Appendixes. Index.

Note. A broad, analytical introduction covering both monochrome and color television systems. Basic knowledge and basic approach to design problems are emphasized, but necessarily the author has included some description of such devices as television picture tubes. Mathematics is used throughout and in such chapters as that on transient analysis f circuits, it is the predominant method of exposition. In other sections the mathematics is sometimes presented briefly and without proof however references are usually given to other books and papers here a rigorous treatment is to be found. The book is first a college text of approximately first year graduate level and, second, a basic reference for graduate engineers. The inclusion of numerous and ell-selected citations to literature increases the reference alue.

GROB, BERNARD

Basic television principles and servicing Second edition. New York McGraw Hill Book Company Inc. 1954 660 p illus. 24 cm. (McGraw Hill television series, Donald G Fink, consulting editor) $6 00 6539

Contents. The television system. Camera tubes. The electron scanning beam. Scanning and synchronizing. The composite ideo signal. Picture carrier signal. Frequency modulation. T levision receivers. Picture tubes. Power supplies. Video amplification Practical design of ideo amplifiers. Brightness control and D-C reinsertion. Video detector Automatic gain control. Sync separation. Deflection oscillators. Deflection circuits. Picture I F amplifiers. The R F tuner Antennas and transmission lines. The FM sound signal. Receiver servicing. Color television. Appendix Assigned television broadcast channels with picture and sound carrier frequencies. Index.

Note An outstanding practical introduction to television principles, circuits and servicing. The author is an instructor on the staff of RCA Institute, Inc., and the book is designed for use as text by men who are preparing to become television servicemen and technicians. It is suited also to use as self-instruction guide by persons who are familiar with basic radio. Comparing the second edition with the first edition, 1949 neither the organization nor the scope has been changed in any important ay but there are now about 60 pages more of text The former chapter on video detector and automatic gain control has been divided to form two chapters. The chapter on light hich appeared in the first edition has been dropped. Some rewriting is apparent in all of the chapters, and in several of them it is extensive. As might be

expected, the chapter on color television in the second edition [illegible] longer and has been completely rewritten.

HAZELTINE CORPORATION

Principles of color television. By the Hazeltine laboratories staff Compiled and edited by Knox McIlwain and Charles E. Dean. New York John Wiley & Sons, Inc., 1956. 595 p. illus. (part col d) $13 00 6540

Contents: Light and photometry Color perception. Color space and color triangles. Colorimetry Color in [illegible] television system. Required information content. Characteristics of the eye. The choice of color components and their interleaving in the composite signal. Production of composite color signal. Synchronization. Nonlinear amplitude relations and gamma correction. The color television standards of the FCC. Equipment for producing the transmitted signal. Color television receivers. Decoders for three-gun displays. Decoders for one-gun picture tubes. Test and measuring methods. Glossary of color television terms. Appendixes: Relative luminance contributions to [illegible] reproduced color by the three primaries. Principal formulas for components of the color signal. FCC Compatible Color Order of December 1953 Author index. Subject index.

Note In this book, it is shown that the basic problem of practical color television is that of fitting the necessary information content of the signal into the available frequency band. It is shown further that the problem has been solved by transmitting [illegible] signal that gives full detail on luminance or brightness contents of the picture and considerably less information on its color values or chromaticity The psychophysics of color perception by the human eye that permits this combination of information to give [illegible] good picture [illegible] explained in the first half of the book. The remainder [illegible] devoted to technical information on color television standards, transmitters and receivers, and to testing and measuring methods applicable to transmitting and receiving equipment. The book is addressed to graduate engineers already acquainted with monochrome wireless theory and practice It is self-contained, nevertheless abundant references to the literature are included. It is the product of the staff of [illegible] research and engineering firm [illegible] has [illegible] taken prominent part in the development of both monochrome and color television in the United States of America.

HELT SCOTT

Practical television engineering. Second edition. New York Rinehart & Company Inc., 1953 744 p. illus. 23 cm. $8 00 6541

Contents The fundamentals of picture transmission. The cathode-ray tube. The cathode-ray oscillograph Electron tubes for image pickup The synchronizing generator—timing, shaping and deflection circuits The video amplifier and cathode follower The voltage-regulated power supply The television receiver The television camera chain The television transmitter Television broadcasting techniques. UHF and color television. Glossary Index.

Note [illegible] detailed presentation of television transmission and reception from the engineering viewpoint. Most of the space is given to matters which are of interest to engineers associated with television broadcasting, but enough [illegible] included on television reception to make the representation complete The work [illegible] aimed primarily at practicing engineers on the staffs of broadcasting stations and students [illegible] who are preparing for such work It [illegible] outstanding not only for its presentation of the major aspects of the field, but also for its discussion of details, such special problems of local remotes, and the routine procedures which are essential to maintaining [illegible] television transmitter in peak operating condition. The useful glossary runs to 30 pages. Extensive bibliographies are included, and there are several hundred illustrations. The first edition was published in 1950. Addition of the chapter on UHF and color television [illegible] the major change in this second edition.

JOHNSON J RICHARD

Television—how it works. Second edition. New York John F Rider Publisher Inc. 1956 346 p. illus. 28 cm. $4.60 6542

Contents General aspects of the television system. TV propagation, antennas and transmission lines. TV front ends The video I-F detector and AGC sections Video amplifiers and D-C restorers. The F M sound channel The synchronizing section Sweep circuits. The picture tube Power supplies Color television.

Note A technical but non-mathematical exposition of television principles. It covers both the general principles and the functions of the various elements of television receivers. It is addressed primarily to men in the occupation of installing and repairing radio and television equipment, but it is suitable also for such readers as amateurs [illegible] who have made [illegible] hobby of radio and [illegible] to begin the study of television. It is thoroughly illustrated and written in [illegible] style that suits it to home study as well as to use in vocational school courses. The first edition was published in 1948. For this second edition, the book [illegible] expanded to cover color television and other changes were made to reflect other advances in television receivers.

KIVER MILTON SOL

Color television fundamentals. New York McGraw Hill Book Company Inc. 1955 312 p. illus. (part col d) 23 cm. (McGraw Hill television series Donald G Fink, consulting editor) $6.00 6543

Contents Color fundamentals for TV servicemen. The NTSC color television system. The three-gun color receiver in block form. Three-gun receiver circuits. Narrow-band color receivers. Three-gun color picture tubes. Deflection and convergence circuits of three-gun color receivers. Typical color television receivers—analysis and alignment. Color television servicing. Appendixes. Glossary Index.

Note. An introductory and practical book designed for the instruction of vocational school students and men at work in the craft of installing and repairing domestic television receivers. Familiarity on the part of the reader with monochrome television receiving equipment [illegible] assumed. Otherwise the exposition is elementary and nonmathematical. Basic circuits and elements of color receivers and the circuits of specific makes of receivers being manufactured in the United States of America [illegible] the book was written are covered

KIVER, MILTON SOL

Television and F M receiver servicing. Third edition. Princeton, N J D Van Nostrand Company Inc., 1953 320 p. illus. 28 cm. $4 60. 6544

Contents (abridged) The antenna system—operation and installation. Television receiver installation. Television test equipment. The R.F stages—operation and servicing. Video I.F and video detector stages—operation and servicing. Video amplifiers, D-C restorers and A.G.C systems—operation and servicing. Cathode-ray picture tubes—operation and servicing Additional service notes on intercarrier receivers. How to use television test patterns. Deflection systems. Television power supplies. Television receiver alignment. UHF television. F-M fundamentals. Commercial F-M receiver circuits. F-M receiver alignment. F M receiver servicing. Appendix: Interference in television receivers. Index.

Note Written for men [illegible] who are experienced in the maintenance and repair of amplitude modulated radio receivers, this book is [illegible] practical introduction to installation, maintenance and repair operations on television receivers and frequency-modulated radio receivers. Theory and design are discussed only [illegible] where needed to clarify servicing problems, and then in elementary terms. The first edition was published in 1948 and the second edition in 1950. In this third edition, the level of treatment and the overall organization are unchanged, but several chapters have been added.

KIVER, MILTON SOL

Television simplified. Fifth edition. Princeton, N J D Van Nostrand Company Inc., 1955 541 p. illus. 23 cm. $6.95 6545

Contents: The television field. High frequency waves and the television antenna. Wide-band tuning circuits—R.F amplifiers. The R.F oscillator and mixer-TV tuners. Video amplifiers. Diode detectors and A.G.C. circuits. D-c restoration. Cathode-ray tubes. Television receiver power supplies. Additional notes on intercarrier systems. Synchronizing circuit fundamentals. Deflection systems. Frequency modulation. Typical television receivers—analysis and alignment. Servicing television receivers. UHF television. Color television. Glossary Index.

Note. An outstanding textbook of the elementary practical kind. It is addressed primarily to men [illegible] who are preparing for the occupation of repairing television receivers. Basic principles, standard circuit elements and circuits are described and explained in [illegible] nontechnical style. Common troubles and their causes are discussed in relation to the basic circuits and their functions. The book was

first published in 1946 and new editions have appeared frequently each one being revised so as to keep the book up-to-date with new developments in television receivers.

MANDL, MATTHEW

Mandl's television servicing Revised edition New York The Macmillan Company, 1956 460 p illus. 24 cm. $6 50 6546

Contents Television receiver fundamentals. Localizing the trouble. Master index to common television troubles. The picture tube and associated components. R F mixer-oscillator stages. The sound section. Video I F video amplifiers, video detector and D-C restorer The sync separator stages. The vertical sweep system. The horizontal sweep system. The power supplies. Repairing and improving antenna system. Transistors. VHR UHF servicing factors. Test equipment and color receiver section The oscilloscope as a modern servicing tool. The sweep generator The marker and other servicing equipment. Color television servicing. Additional circuits and systems. Appendix. Index.

Note. First published in 1952 this book is known as text in which the troubles of television receivers and the reasons therefore are described in detail in a style that is easy to comprehend. It is intended for the instruction of men preparing for or already employed in the servicing of home television receivers and is suitable both for organized study and self-instruction. In this edition, new chapter on transistors has been substituted for a former chapter on projection systems, a chapter on color TV has been rewritten, and a chapter entitled Additional topics and systems" has been added. About 30 of the 314 figures are new

MARCUS, ABRAHAM, AND SAMUEL E GENDLER

Elements of television servicing for bench and field. Englewood Cliffs, N J Prentice Hall, Inc, 1955 587 p illus (part col'd) 22 cm $7.35 6547

Contents Section I, Introduction Television transmission and reception. The television signal and the television receiver. Section II, Field servicing: Selecting the TV antenna. Installing the receiver Field trouble-shooting. Section III, Bench servicing. Set-up for bench servicing. The heater circuit and low voltage power supply The horizontal sweep and high-voltage sections. The vertical sweep section. The synchronization section. The picture-signal path. The sound-signal path. The picture tube. Alignment. Section IV Color television: Theory of color television. Practical color television receivers. Servicing the color television receiver. Glossary of television terms. Glossary of color television terms. Index.

Note. An introductory and practical book designed for the instruction of vocational-school students who are preparing for careers in the installation and repair of domestic television receivers. As indicated in the title, it covers both techniques applicable in the repairman's shop and in the set owner' home. It is written in a straightforward style and is adequately illustrated.

MILLER, SIMON S, AND HOWARD BIERMAN

Handbook of 630-type TV receivers. New York John F Rider, Inc., 1955 194 p. illus 22 cm $3 50 6548

Content Tuners. Video I F amplifier and detector Sound section. Sound and picture I F alignment. AGC systems. Video amplifier and D-C restorer Sync circuits. Horizontal deflection and high-voltage section. Vertical circuits. Low voltage power supply The picture tube. Troubleshooting charts. Index.

Note The 630-type" television receiver owes its name to the fact that its circuitry is identical with or essentially similar to the circuitry first introduced in Radio Corporation of America model 630 receiver The circuit was used not only in this receiver but also in receivers manufactured by other companies. This book is primarily manual for television servicemen. The authors have assumed that their readers will already be familiar with the basic principles and elements of TV receivers and accordingly have devoted the whole book to the 630-type circuitry The various sections and elements of this circuitry are discussed under the headings quoted above. The circuits are diagrammed, the tubes are named, the capacitors, resistors, etc., are identified, and the functions of all parts are made clear The authors describe modifications introduced by various manufacturers and also modifications that may be made by the serviceman in order to make the set more sensitive, to adapt it to a larger picture tube, etc.

NATIONAL TELEVISION SYSTEM COMMITTEE

Color television standards. Selected papers and records of the National Television System Committee. Edited by Donald G Fink. New York McGraw Hill Book Company Inc., 1955 520 p illus. (part col'd) 24 cm. (McGraw Hill television series, Donald G Fink, consulting editor) $11.50 6549

Contents Development of color television. The NTSC color television standards. Subjective aspects of color television. The color video signal. The color synchronization signal. Field tests of compatibility Field tests of color performance. Field tests of networks and transmitters. Color films, processes, and transmission equipment. Definitions of color television terms and symbols. Appendix I, Description of color television transmissions in accordance with proposed signal specifications. Appendix II, Amendments to FCC rules governing radio broadcast stations. Index.

Note. A basic book on color television. It consists of selections from the proceedings of the second National Television System Committee, a quasi-official group that fostered the development of practical and acceptable standards for the system of compatible color television. The Committee made a broad and extended study of the problems and eventually drew up recommendations which were accepted as standards by the United States Federal Communications Commission. These standards are the regulatory basis for the contemporary television broadcasting industry in the United States of America. As the table of contents listed above indicates, the Committee considered not only matters pertaining to government regulation but also the basic scientific and technical aspects of color television broadcasting, including such topics as the psychophysics of color perception.

RABINOFF, CARTER V, AND MAGDALENA E WOLBRECHT

Principles of television servicing New York McGraw Hill Book Company Inc. 1953 560 p illus 24 cm. $7.50 6550

Contents Introduction. A survey of commercial receivers. Basic principles of the television system. Preliminary receiver investigation. Adjusting the pre-set controls. Television R-F tuners and I F stages. Second detectors, video amplifiers, and automatic gain control. D-C restoration and picture tubes. Sync-pulse separation and sweep circuits. AFC-sync systems. Low- and high-voltage power supplies. Projection-receiver systems. Television-receiver sound sections. Aligning ideo I F stages. Aligning the R-F and oscillator sections. Radio-television combinations. Turntables and record changers. Standard antennas and transmission lines. Antenna and receiver installations. The problems of television interference. A summary of trouble-shooting principles. Test equipment for servicing. Building up servicing business. Appendix. Motion pictures. Index.

Note This textbook for television servicemen and for students preparing for careers in television servicing is outstanding for its inclusiveness and its practical approach. The descriptions of subcircuits and circuit elements include not only those found in recent models of home receivers but also those used in earlier sets. Problems such as interference are well covered from the standpoint of the serviceman who is called in to remedy them. The chapter on building up business is a useful preview of the business aspects of setting up one's own business. Many reproductions of wiring diagrams are included among the hundreds of illustrations.

SLURZBERG, MORRIS, AND OTHERS

Essentials of television. By Morris Slurzberg William Osterheld and Elmo N Voegtlin. New York McGraw Hill Book Company, Inc., 1956 687 p illus. 24 cm. $8.50 6551

Contents. Introduction to television. Characteristics of television. The front end. The sound section. Video I-F amplifier circuits. Video detector circuits. Video amplifier circuits. Types and sources of wave forms. Synchronizing and sweep circuits. The picture tube. Power-supply circuits. Antennas and transmission lines. UHF circuits. Television receiver circuits. Color television. Appendixes. Index.

Note: Men who are preparing for careers in the installation and maintenance of domestic television receivers constitute the intended audience for this book. The author has assumed on the part of his readers a thorough knowledge of radio receivers from the technician's viewpoint. Without resort to mathematics more advanced than high-school algebra, the principles of television and the circuits of television receivers are explained. The book is outstanding for its detailed nonmathematical explanations of typical circuits, their properties and uses. Review questions and problems for the reader to solve are included.

WENTWORTH, JOHN W

Color television engineering New York McGraw Hill Book Company Inc., 1955 459 p. illus. 24 cm. (McGraw Hill television series Donald G. Fink, consulting editor) $8.00 6552

Contents: Introduction. Part I, Basic principles of color: color perception, and color measurement: The physical aspects of color. The psychological aspects of color. Colorimetry—the measurement and specification of color. Part II, Principles of color reproduction. The application of colorimetry to color television. Color photographic processes. Transfer characteristics in color reproducing systems. Part III, Principles of color television transmission systems: Color television as an information-transfer problem. Multiplexing techniques for compatible color television systems. Time multiplex or sequential color television systems. Part IV Apparatus and circuits for color television. Color television kinescopes and receivers. Color television test equipment. Appendixes: Standardized CIE colorimetric data. Data for color mixture curves for the FCC primaries. FCC standards for compatible color television. Trigonometric identities. Mathematical proof of the two-phase modulation technique. Index.

Note. A broad, somewhat descriptive survey of the technical requirements of color television and how they are met with special circuits and electronic devices. The title is apt, for the book is addressed primarily to engineers who are acquainted with monochrome television and are beginning to work in such fields as the design of color television receivers. Considerable space is devoted to psychology of color vision and to the physics of color. The basic material is related directly to the problems of broadcasting and receiving images in color. The book is particularly useful for its discussions of such problems as are discussed in the chapter entitled, "Transfer characteristics in color reproducing systems," which describes qualitatively but in detail how distortions which occur in the photographing of [illegible] scenes in color, translating it into signals, receiving the signals, reconstructing them into [illegible] color scenes, are compensated for by electronic circuits. The final part on apparatus and circuits and on test equipment gives a quick view of basic devices and their purposes without attempting [illegible] comprehensive review of developed equipment. Selected literature references are included.

ZBAR, PAUL B., AND SIDNEY SCHILDKRAUT

Advanced television servicing techniques. By RETMA, Pilot Training Course, Teaching staff New York John F Rider Publisher Inc., 1954 163 p. illus. 29 cm. $3.60 6553

Contents: Introduction. TV test equipment. Sweep section servicing. High-voltage servicing. Sync section servicing. Video section servicing. Sound section servicing. Low-voltage power supply servicing. Tuner and servicing. Alignment. Antennas and transmission lines. Television interference. Customer relations.

Note: A textbook developed as part of the program of the Radio-Electronics-Television Manufacturers Association to improve the television service industry. Since it is addressed primarily to men already in the industry, the usual introductory material on television principles is lacking, and the style of the book is compact and technical. However, considerable care has been taken in defining basic terms, such as "tube oscillator" and in describing circuit elements and test instruments.

ZWORYKIN, V K., AND G A. MORTON

Television the electronics of image transmission in color and monochrome. Second edition. New York John Wiley & Sons Inc., 1954 1,037 p. illus. 24 cm. $17.50. 6554

Contents: Part I, Fundamental physical principles: Physical electronics. Fluorescent materials. Electron optics. Electron optical systems. Part II, Principles of television: Fundamentals of television. The transmission and reproduction of high-definition pictures. Video pickup devices. Picture-reproducing systems. Part III, Component elements of an electronic television system: The iconoscope. Television pickup tubes. The kinescope. The electron gun. Video amplifiers. Scanning and synchronization. The television transmitter. The receiver. Part IV Color television, industrial television, and television systems: Color television—fundamentals—principles. Practical color television. Industrial television. Practical television systems. Author index. Subject index.

Note: Basic science, engineering analysis and technical descriptions of television devices are combined in this authoritative and unique treatise. Dr. Zworykin is the inventor of the iconoscope, and both authors have played major parts in the development of television as we know it today. Their experience is reflected in certain "behind-the-scenes" flavor in the book's style which successfully conveys the complexity of television, both in the problems that had to be solved and the solutions. The book is addressed to advanced college students, graduate physicists, engineers and others who have [illegible] grasp of basic electronic concepts and terms. The first edition appeared in 1940. In this edition, the fourth part is entirely new. The titles of most of the chapters in the first three parts are identical with those of the first edition; however, the texts of most of these have been revised and augmented.

CHEMICAL ENGINEERING

ADVANCES IN CHEMICAL ENGINEERING Volume 1 Edited by Thomas B Drew and John W Hoopes, jr New York Academic Press Inc., 1956 448 p illus 24 cm. $10 00 6555

Contents Boiling of liquids, by J W Westwater Non-Newtonian technology—fluid mechanics, mixing, and heat transfer by A. B. Metzner Theory of diffusion, by R. B Bird. Turbulence in thermal and material transport, by J B Opfell and B. H. Sage. Mechanically aided liquid extraction, by R. E. Treybal. The automatic computer in the control and planning of manufacturing operations, by R. W Schrage. Ionizing radiation applied to chemical processes and to food and drug processing, by E. J Henley Author index. Subject index.

Note The first volume in a new review series designed to cover important developments in and pertinent to chemical engineering. It contains the seven monographic reviews whose authors and titles are listed above. The individual review is a critical, well-organized survey of the current status of the topic named in its title. It is based on published literature and includes an extensive bibliography but is not a résumé of the literature of a specified year or span of years. It is addressed to graduate chemical engineers, especially those working at the planning and research levels. Monographs, such as Opfell and Sage's "Turbulence in thermal and material transport," are related directly to practical chemical engineering. On the other hand, Henley and Barr's "Ionizing radiation applied to chemical processes and to food and drug processing" deals with a field of investigation that will be of more importance in industrial chemistry in years to come than it is now These monographs illustrate the planned scope of the series.

AMERICAN CHEMICAL SOCIETY

Directory of graduate research, faculties, publications and doctoral theses in departments of chemistry and chemical engineering at United States universities 1955 Prepared by the Committee on Professional Training Washington, D C American Chemical Society 1956 440 p 28 cm. $2 50 6556

Note An annual publication which provides lists of the faculties of chemistry and chemical engineering in universities in the United States of America and lists of the publications of the individual professors and instructors. It is arranged in two major parts departments of chemistry and departments of chemical engineering. Under the name of each university within each part, the professors and instructors are listed individually and information is given on degrees held, areas of specialization and recent publications. Indexes listing the names in alphabetical order are included.

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS

Collected research papers for spring 1954 F J Van Antwerpen editor New York American Institute of Chemical Engineers 1954 142 p illus 28 cm. (Its Chemical engineering progress symposium series No 10) $4 25 6557

Contents Concurrent turbulent-turbulent flow of air water-clay suspensions in horizontal pipes, by H. C. Ward and J M. Dallavalle. Mass transfer between two liquid phases, by K. F Gordon and T K. Sherwood. Separation of azeotropes by diffusion through porous membranes, by D H. Hagerbaumer and K Kammermeyer Lateral diffusion in gases flowing through tubular reactors, by H. E. Hoelscher Flow through irrigated duct packings—pressure drop loading, flooding, by M. Leva. The effect of total pressure on the gas-film absorption coefficient in a packed tower, by W Zabban and B. F Dodge. Mass transfer between immiscible liquids in continuous flow in an agitated chamber by A. E. Karr and E. J Scheibel. Transfer of momentum in jet of air issuing into a tube, by L. G. Alexander and others. Mass-transfer effects and variable productive area in fixed-bed catalytic converters, by R. F Kayser and H. E. Hoelscher Evaporation of solids into laminar air streams, by R. M. Butler and A. C. Plewes. Vapor-liquid phase-equilibria hydrogen chloride-ethane, by J H. Ashley and G. M Brown. Integral isobaric heat of vaporization of methanol, benzene mixtures, by J A. Tallmadge and others.

—— Nuclear engineering Part I. F J Van Antwerpen editor and publisher, Sylvia Fourdrinier manuscript editor New York American Institute of Chemical Engineers 1954 280 p illus 28 cm. (The same series. No 11) $4.25 6558

Contents Synthesis in nuclear engineering education, by D W McLenegan. Atomic energy jobs for new engineering graduates in ten, by P N Powers. Powder metallurgy of zirconium and beryllium, by H. H. Hausner and H. B Michaelson. Melting and fabrication of zirconium, by J W Holladay and J G. Kura. Electrocladding of reactor materials, by J G. Beach and C. L. Faust. The technology and fabrication of graphite, by L. D Loch and J. A. Slyh. Experience with graphite as fabrication material in high-temperature heat-transfer systems, by R. D Keen. Preparation, properties, uses of beryllium, by E. J Boyle and J. L. Gregg. Thorium metallurgy by J R. Keeler Metallurgy of uranium, by H. A. Saller and F A. Rough. The extractive metallurgy of uranium, by R. D Macdonald. Heat exchange in liquid-metal-fuel reactor for power by A. S. Dwyer Force-convection, heat transfer in pipes with volume-heat sources within the fluids, by H F Poppendiek. Heat transfer to supercritical water and other fluids with temperature-dependent properties, by K. Goldmann. Pressure drop and heat transfer to nonboiling and boiling water in turbulent flow in an internally heated annulus, by R. P Stein and others. The temperature distribution in nuclear reactor pierced by circular cooling channels, by P B Richards. Use of the cyclic heat-temperature method for measurement of reactor heat-transfer coefficients, by S. L. Fawcett and R. E. Grimble. Engineering problems pertinent to the use of sodium hydroxide in reactors, by E. M. Simons and J H. Stang. First principles of heat removal from nuclear reactors the possible conflict between temperature and power removal, by W A. Loeb. Ten years' operating experience of the O.R.N.L. graphite-moderator natural-uranium reactor by M E. Ramsey and C. D Agle. Optimizing and comparing reactor designs, by F T Miles and I. Kaplan. Appraisal of reactor systems for central-station power plants, by T Stern. Corrosions and impurities in the heavy-water system of the Dutch-Norwegian reactor by P J Barendregt and K. H. Brakstad. The Swedish reactor by S. Eklund. Safety considerations in the selection of university research-reactor designs on locations, by L. C. Widdoes. Naval research laboratory research reactor by E. H. Krause. A description of the Argonne National Laboratory research reactor CP 5 by J T Wells. Reactor dynamics of the Los Alamos water boiler by P R. Kasten. Liquid-metal-fuel reactor systems for power by C. E. Williams and F T Miles. Chlorination of some aromatic compounds under the influence of gamma radiation, by D E. Harmer and others. Radioisotopes in industrial control, by G. D. Calkins and M. Pobereskin. Gamma-ray-initiated polymerization of styrene and methyl methacrylate, by D S. Ballantine and others. A thermal method for concentrating heavy water by E. Cerrai and others.

—— Part II. F J Van Antwerpen editor and publisher Sylvia Fourdrinier manuscript editor New York American Institute of Chemical Engineers 1954 259 p. illus. 28 cm. (The same series No. 12) $4 25 6559

Contents: Operational characteristics of [illegible] heavy-water reactor, by A. Lundby. Research reactor program at the Pennsylvania State University, by W. M. Breazeale. Measurement of the diffusion length of thermal neutrons in graphite, by J. G. Fleck. Corrosion of uranium in high-temperature water, by D. E. Thomas. Studies in the uranium bismuth fuel system, by J. E. Atherton and others. Radiation damage to nonmetallic materials, by T. P. Collins. A high-performance research reactor, by J. P. Gill. A nuclear reactor for metallurgical research, by J. J. O'Connor and L. E. Foster. Electrolytic preparation of uranium from [illegible] fluoride, by S. E. Kenton and others. Caustic treatment of stream used, by G. H. Beyer and others. The use of exponential experiments in reactor design, by E. R. Cohen. Nonuniform fuel distributions in nuclear reactors, by G. Goertzel and W. A. Loeb. Calculation of the characteristic factors of [illegible] uranium-graphite lattice, by R. Q. Fornaguera and others. Application of analog computer techniques to reactor dynamic analysis, by J. C. Mason. Application of analog computing techniques to the solution of neutron-flux distribution problems, by H. C. Hench and D. J. Ott. A comparative evaluation of some coolants for power reactors, by T. T. Shimazaki. Liquid-fuel reactors with uranium oxides, by J. J. Wendt and R. De Bruyn. The system uranyl nitrate-diethyl ether-water: extraction by water in spray and packed columns from uranyl nitrate-ether solutions, by L. G. Jodra and others. Processes for high-level waste disposal, by B. Manowitz and L. P. Hatch. Liquid-metal-fuel reactor processing loops, by C. Raseman and J. Weisman. A continuously separating breeder blanket using thorium fluoride, by F. T. Miles and others. Selection of optimum temperature conditions in pile reactors and their heat-exchanger systems, by C. H. Robbins. Use of the remaining power of nuclear reactors for profitable chemical processes, by B. Manowitz. Radiation effects on structural materials, by C. R. Sutton and D. O. Leeser. Economic power from fast breeder reactors, by C. A. Rennie. Processing of liquid bismuth alloys by fused salts, by R. W. Bareis and others. Radiation damage to water, by A. O. Allen. The cooling system of the Saclay pile, by M. Goldschmidt and P. Pierre. Approximations of the kinetic behavior of fast reactors, by R. A. Fayram and E. Bernstein.

—— Part III. F J Van Antwerpen, editor and publisher Sylvia Fourdrinier manuscript editor New York American Institute of Chemical Engineers, 1954 274 p. illus. 28 cm. (The same series. No. 13) $4.25 6560

Contents: Operational features of reactors, by L. R. Shepherd and others. A process for recovery of uranium from pitchblende, dissolver residues, by G. E. Brown and C. W. Kuhlman, jr. Liquid-metal fuels and liquid-metal breeder blankets, by R. J. Teitel and others. A [illegible]-plate subroutine for large-diameter pulse columns, by F. W. Woodfield and G. Sege. General purpose overhead manipulator, by L. G. Grimmelmann and others. Recombination of radiolytic gas for aqueous nuclear reactors, by E. M. Berry and R. P. Hammond. Recent developments in pulsed-column techniques, by J. D. Thornton. A power plant for nuclear power, the SGR, by W. E. Parkins. The chemical potential of waste fission products, by E. J. Henley. Kinetics of the ethylene reaction initiated by gamma radiation, by J. C. Hayward and R. H. Bretton. Design of [illegible] pile-irradiation facility using gamma rays to break the stockpile cycle, by H. J. Gomberg and others. Growth of radioisotope utilization in industry and agriculture, by P. C. Aebersold and E. E. Crampton. The design philosophy of remote operation and maintenance of separation facilities, by W. M. Harty. The current design for [illegible] full-scale nuclear power plant, by T. G. LeClair. The development of radiochemical processes, by C. M. Nicholls and A. S. White. The experimental breeder reactor, by H. V. Lichtenberger. Heterogeneous reactors with reflector, by A. Mcllan and F. E. Purns. Materials testing reactor structure temperatures, by G. H. Hanson and others. The Amex process for separation of uranium, by M. Smutz and others. High-temperature centrifugal pumps, by H. W. Savage and W. G. Cobb. Pulse-column variable variables: solvent extraction of uranyl nitrate with tributyl phosphate in [illegible]-in.-diam. pulse column, by G. Sege and F. W. Woodfield. The failure and dismantling of the Los Alamos fast reactor, by E. T. Jurney. Rugger guide for nuclear energy, by J. J. Grebe and A. W. Hanson. The impact of nuclear energy on society and the citizen, by R. J. Hansen. The impact of nuclear energy on individuals, by S. B. Whitey. Nuclear energy and religious thought, by E. Trueblood. The impact of nuclear energy on education, by M. Kutcher. The impact of nuclear energy on scientific research, by L. V. Berkner. The impact of atomic energy on the law, by E. B. Stason. The scholarly tradition [illegible] nuclear energy development, by A. M. Weinberg. Cooperation for atomic energy, by L. J. Haworth. Nuclear energy and the engineering college curriculum, by R. L. Whate. Problems of issuing open information on programs involving the common defense and security, by M. Eastbury. The changing aspects of scientific research in the nuclear field, by C. E. Larson. Luncheon address, by S. Cole. Atoms for peace, by G. D. Dean. Index to papers. Index to authors.

—— Ion exchange. F J Van Antwerpen editor New York American Institute of Chemical Engineers, 1954 128 p. illus. 28 cm. (The same series. No. 14) $4.25 6561

Contents: Mixed-bed deionization at high flow rates, by J. R. Caddell and R. L. Moison. Separation of yttrium-group rare earths from gadolinite by ion exchange, by F. H. Spedding and J. E. Powell. Ion exchange rate mechanism, by H. Bieber and others. Engineering and economic evaluation of moving- and fixed-bed ion exchange processes, by N. K. Hiester and others. Hydroxide-cycle operations with strongly basic anion exchange resins, by R. M. Wheaton. Counter-current ion exchange with pure components—I, In an equilibrium stage contactor—II, In continuous countercurrent columns, by N. K. Hiester and others. Ion exchange equilibria of sodium chloride, potassium chloride, water and Dowex 50, by J. A. Whitcomb and others. A counter-current solid-liquid contactor for continuous ion exchange in the waste-treatment field, by C. F. Paulson and A. R. Mindler. Experimental investigations of ion exchange mechanisms in fixed beds by means of asymptotic solutions, by L. Lapidus and J. B. Rosen. Continuous counter-current ion exchange—I, Resin-particle-settling rates in spinner columns—II, Mass transfer rates in spinner columns, by W. W. Koenig and others.

—— Mineral engineering techniques. F J Van Antwerpen, editor S F Fourdrinier manuscript editor New York. American Institute of Chemical Engineers, 1954 96 p. illus. 28 cm. (The same series. No. 15) $3 75 6562

Contents: Introduction to flotation, by E. H. Crabtree. The chemical theory of flotation, by P. L. de Bruyn. Froth flotation of chalcopyrite, by A. E. Anderson. Adsorption in the mineral industries, by C. L. Mantell. Details of industrial flotation, by G. Onsum. Applications of the wet cyclone in Florida phosphate operations, by H. W. Adams and P. E. McGarry. Fundamentals and applications of liquid cyclones, by D. A. Dahlstrom. Use of chemical reagents for classification and settling, by G. Gottsell and C. C. Combs. Hydro separation and thickening, by W. P. Dyrenforth. Dewatering screens with straight-line motion, by P. V. Mandel. Hydraulic classification, by E. J. Roberts. Magnetic, high-tension, and electrostatic separation, by A. Stanley. Heavy-media separation as related to the chemical industry, by E. W. Hamilton. A progress report on heavy-media separation, by S. A. Falconer. Some factors to consider in the application of sink-float separation, by C. E. Wuensch.

—— Mass transfer—transport properties. F J Van Antwerpen editor New York American Institute of Chemical Engineers 1955 120 p. illus. 28 cm. (The same series. No. 16) $4.25 6563

Contents: Mass transfer at rotating cylinders, by M. Eisenberg and others. Mass transfer between liquid drops and [illegible] continuous liquid phase in [illegible] counter current fluidized system—liquid-liquid extraction in [illegible] spray tower, by C. L. Ruby and J. C. Elgin. Size and mass transfer studies of gas bubbles, by C. J. Quigley and others. Simultaneous heat and mass transfer in [illegible] unsaturated system—through-flow drying in the low-moisture range, by W. R. Van Arsdel. Gas-film mass transfer in [illegible] packed columns, by F. Yoshida. Fluid mechanics and the transport phenomena, by R. B. Bird and others. Thermal diffusion in liquids, by H. G. Drickamer and W. M. Rutherford. Viscosity of gases and gas mixtures at high pressures, by N. L. Carr and others. Mass transfer inside drops in gas, by R. R. Hughes and E. R. Gilliland.

—— Heat transfer—St. Louis. F J Van Antwerpen, editor S F Fourdrinier manuscript editor American Institute of Chemical Engineers 1955 109 p. illus. 28 cm. (The same series. No. 17) $4.25 6564

Contents: Surface variables in nucleate boiling, by C. Corty and A. S. Foust. Effect of size reduction on surface boiling at wire coils, by F. P. Pike and others. Stable film boiling of liquid oxygen

outside single horizontal tubes and wires, by J T Banchero and others. Generation of steam from liquid metal at high heat fluxes, by E. C. King and R. C. Andrews. Boiling heat transfer with liquid metals, by R. E. Lyon and others. Thermal entrance-region heat transfer in liquid-metal systems, by H. F Poppendiek and W B. Harrison. Convective heat transfer from a gas stream at high temperature to a circular cylinder normal to the flow by S. W Churchill and J C. Brier Melting of solids, by T K. Ross. Heat transfer between immiscible liquids, by S. S. Grover and J. G. Knudsen. Nonisothermal flow in heat transfer inside vertical tubes, by R. L. Pigford. Heat transfer to viscous materials in jacketed, agitated kettles, by V W Uhl. Abstracts.

—— Heat transfer—Louisville. F J Van Antwerpen, editor, S F Fourdrinier, manuscript editor New York American Institute of Chemical Engineers, 1956 115 p illus. 28 cm. (The same series. No 18) $4 25 6565

Contents Prediction of heat-transfer burnout, by L. Bernath. Heat transfer and the condensation of metal vapors—mercury and sodium up to atmospheric pressure, by B. Misra and C. F Bonilla. Recorrelation of data for convective heat transfer between gases and single cylinders with large temperature differences, by W J M. Douglas and S. W Churchill. Pressure drop during forced-circulation boiling, by M. Jakob and others. Circulation rates and over-all temperature driving forces in vertical thermosyphon reboiler by A. L Johnson. Correlation of maximum-heat-flux data for boiling of saturated liquids, by W Rohsenow and P Griffith. Heat and mass transfer in cooler condensers—titanium tetrachloride-nitrogen system, by R. W Schrage and J B. Abell. Effect of air rate, water rate, temperature, and packing density in cross-flow cooling tower by N W Snyder A study of heat transfer to organic liquids in single-tube, natural-circulation, vertical-tube boilers, by S. A. Guerrieri and R. D Talty Effect of agitation on the critical temperature difference for a boiling liquid, by F S. Pramuk and J W Westwater Heat transfer and fluid friction in a shell-and-tube exchanger with a single baffle, by F W Sullivan and O. P Bergelin. Heat transfer mechanism for vaporization of water in a vertical tube, by C. E. Dengler and J N Addoms. Measurement and prediction of density transients in a volume-heated boiling system, by R. P Lipkis and others. Abstracts.

Note. An important series in which papers written by and addressed to chemical engineers and dealing in most instances with new developments and the results of recent research are published.

ARIES, ROBERT S , AND ROBERT D NEWTON

Chemical engineering cost estimation. New York McGraw Hill Book Company Inc., 1955 263 p illus 24 cm (McGraw Hill series in chemical engineering Sidney D Kirkpatrick, consulting editor) $6 00 6566

Contents. Capital investment. Physical-plant cost—equipment—components other than equipment. Manufacturing cost. General expense Sales and profits. The effect f variable conditions upon costs and profits. Cost factors in plant location. The relative importance of the components of cost. Economic evaluation. Nomenclature. Sample problems. Index.

Note. A compact, straightforward manual of information on the elements of manufacturing for profit and of reference data on the cost of chemical plants and chemical manufacturing. It is addressed particularly to engineers and chemists, and its express purpose is to enable such persons to guide management in decisions on new chemical manufacturing enterprises. Terms such as "capital investment and 'turnover ratio" are defined however these definitions and related basic information are much subordinated to the data pertaining to estimation of plant costs, manufacturing costs, etc. The book contains 59 tables of data on such topics as Fixed capital per annual ton of capacity "Prices of chemicals, Power requirements for various processes, and "Cost of research as a percentage of sales Also there are 88 figures, most of which are graphs presenting data on equipment costs, etc. Well-selected lists of references are included.

BADGER, WALTER L , AND JULIUS T BANCHERO

Introduction to chemical engineering New York McGraw Hill Book Company 1955 753 p. illus 24 cm. (McGraw Hill series in chemical engineering Sidney D Kirkpatrick, consulting editor) $9 50 6567

Contents Introduction. Flow of fluids. Transportation of fluids. Flow of heat. Evaporation. Distillation. Extraction. Gas-phase mass transfer—humidity and air conditioning. Gas absorption. Drying. Crystallization. Filtration. Mixing. Size separation. Crushing and grinding. Conveying. Appendix. Index.

Note: A textbook organized according to unit processes. In the typical chapter devoted to a specific process—such as distillation—theory computations, and design are interwoven so that the topic is covered from the viewpoint of an engineer faced with an actual design problem, and the discussions, considering the purpose of the book, are unexpectedly full. Worked examples of typical problems are included. In some of the chapters there is also considerable description of typical commercially available equipment. The book is limited to the unit processes named in the chapter titles. Other processes of some importance in present-day chemical manufacturing, for example, ion exchange, are not included.

BENEDICT, MANSON, AND CLARKE WILLIAMS, editors

Engineering developments in the gaseous diffusion process. New York McGraw Hill Book Company, Inc., 1949 127 p. illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division II—Vol. 16) $2 00 6568

Contents. Part I, Special plant instruments and devices. Recording mass spectrometer for process analysis, by A. O. Nier and others. Recording ionization chamber for traces of radioactive gases, by A. O. Nier and others. Magnetic gear for torque transfer in a closed system, by T A. Abbott and J K. Pickard. Part II, Vacuum engineering Mass spectrometer for leak detection, by A. O. Nier and others. New developments in vacuum engineering, by R. B. Jacobs and H. F Zuhr. Part III, Development of heat-transfer equipment Theory of heat and mass transfer in batch condensation of solids, by W L. Thompson. Part IV Absorption of UF and fluorine Absorption in high-molecular-weight nonaqueous system—uranium hexafluoride in heavy oil, by R. Landau and others. Continuous fluorine-disposal plant, by R. Landau. The reaction of fluorine oxide with sodium hydroxide, by E. Simons and others. Subject index. Author index.

Note: A variety of devices and techniques developed in the course of the engineering design of gaseous diffusion plants for separating uranium isotopes are described in this book. Most of the inventions and developments have potential applications in other fields. An example is the magnetic gear which was developed for transferring motion through the wall of totally enclosed system. Literature references are included for some of the chapters. The book is addressed to graduate engineers.

BROWN, GEORGE GRANGER, AND OTHERS

Unit operations New York John Wiley & Sons Inc. 1950 611 p. illus. 28 cm $11 50 6569

Contents (abridged) Part I, Solids: Screening. Handling of solids. Part II, Fluids The flow of solids through fluids. Flotation. Sedimentation. Transportation of fluids. Pumping and compressing. Gas flow at high velocity Flow f fluids through porous media. Filtration. Centrifugation. Fluidization of solids. Part III, Separation by mass transfer—the ideal stage concept Solid-liquid extraction. Liquid-liquid extraction. Vapor-liquid transfer operations. Adsorption. Part IV Energy and mass transfer rates Heat transfer. Evaporation. Crystallization. Agitation. Simultaneous heat and mass transfer Nomenclature. Appendix. Index.

Note At the time of writing, all twelve authors, are members of the Faculty of Chemical and Metallurgical Engineering in the University of Michigan. They collaborated in writing this text in chemical engineering. Each of the chapters is briefly written exposition of specific topic. There is much emphasis on mathematical calculation in the solution of practical problems in chemical engineering, and the similarity of the basic principles of many processes is constantly stressed. The exposition is supplemented by numerous illustrations of present-day chemical apparatus and substantial bibliographies.

CEAGLSKE, NORMAN H.

Automatic process control for chemical engineers. New York John Wiley & Sons Inc., 1956 228 p. illus. 24 cm. $6 75 6570

Contents: Introduction. Control systems. Derivation of equations. Solution by the standard methods of differential equations. Transient analysis of control systems. Frequency response of control systems. The analysis of [illegible] control systems. Appendix. Index.

Note: The first two chapters of this book are introductory and descriptive; the remainder are an introduction, rendered as elementary as possible, to the mathematical analysis of control systems. The Laplace transformation is extensively used in these chapters; however, the author has not assumed that readers will have previous knowledge of it. Although designed specifically for the instruction of undergraduate engineering students majoring in chemical engineering, there is little obvious bias toward chemical engineering except in the second chapter, where instruments are described, and in the worked examples. The book is useful to engineering students and also to graduate engineers who feel the need for a basic understanding of the analytical approach to control systems based on feedback. The author is Professor of Chemical Engineering in the University of Minnesota.

CHU JU CHIN AND OTHERS

Distillation equilibrium data, by Ju Chin Chu, Robert J Getty Llewellyn F Brennecke and Rajendra Paul. New York Reinhold Publishing Corporation 1950 304 p. 24 cm. $7 00 6571

Contents: Binary systems. Ternary systems. Multiple component systems. Bibliography. Index.

Note: A compilation of vapor-liquid equilibrium data which probably includes all of the data published through December, 1949. Altogether 175 systems are covered, and full references are given to the sources of the data. The book will be especially useful to chemical engineers.

CHU JU CHIN AND OTHERS

Vapor liquid equilibrium data. By Ju Chin Chu, Shu Lung Wang Sherman L. Levy Rajendra Paul. Ann Arbor J W Edwards, Inc., 1956 754 p. 22 cm. $9.00 6572

Note: A complementary book to *Distillation equilibrium data*, by J Chin Chu and others, described above. It supplies [illegible] vapor-liquid equilibrium data for 446 systems. The data have been collected from 274 journal articles and other publications issued up to June, 1954. Data found in literature published during the period covered by the original volume have been included in this one along with data published since the first compilation was made. The sources of all data are given. A cumulative index including covering both the present book and the earlier one [illegible] included.

CLARKE LOYAL

Manual for process engineering calculations New York McGraw Hill Book Company Inc 1947 438 p. illus. 23 cm. $7.00. 6573

Contents: Perspective. Numerical and mathematical data. Conversion [illegible]. Physical and mechanical properties. Thermodynamic data. Fluid [illegible], hydraulics, and flow measurements. Heat transfer. Combustion [illegible]. Pumps, fans, blowers, and compressors. [illegible] [illegible] [illegible], distillation. Water. Index.

Note: An engineering data book which brings together in one [illegible] of graphs, tables, and notes that are ordinarily found scattered through many handbooks and texts. It [illegible] intended [illegible] quick source of basic scientific and technical information [illegible] engineers engaged in chemical process calculations and in the design [illegible] process and equipment. For the benefit of readers desiring [illegible] and material most of the chapters include [illegible] short list of [illegible] reading in the subject discussed.

COMINGS EDWARD W

High pressure technology New York McGraw Hill Book Company Inc., 1956 572 p. 23 cm. (McGraw Hill series in chemical engineering Sidney D Kirkpatrick, consulting editor) $11.50 6574

Contents: Introduction. Chemical processes, by R. M. [illegible]. Metals, by H. C. Van Ness. Safety. Equipment. Thick-walled cylinders. Experimental techniques. Gases and liquids. Chemical-engineering unit operations. Chemical equilibrium. Chemical reactions. Synthesis of ammonia. Appendixes: Units and dimensions. Values for the Redlich and Kwong equation. Constants for equations of state. Properties of gases, liquids, and solids. Equipment data. Limits of flammability of gases and vapors. Mercury-cleaning technique. Steels and alloys for high pressures. Problems and questions. Glossary. Name index. Subject index.

Note: Addressed to senior college students of chemical engineering and graduate chemical engineers, this book is an introduction to the effects of high pressures on chemical reactions and to the design of apparatus in which reactions can be carried out at high pressures. It covers both experimental and industrial techniques and equipment. A wide range of information is included on equipment and techniques and also on fundamental science pertaining to equilibrium reaction rates, etc. There is extensive citation of the literature. The names of authors of cited literature and of manufacturers of equipment are brought together in the "Name index.

CORCORAN WM H. AND OTHERS

Momentum transfer in fluids. By Wm H. Corcoran, J B Opfell and B H. Sage. New York Academic Press Inc., 1956 394 p. illus. 23 cm. $9.00 6575

Contents: Introduction to momentum transfer. Some simple properties of turbulent flow. Some macroscopic characteristics of turbulent flow. Velocity distribution and friction factors for uniform flow. General equations of fluid motion. Some properties of turbulence. Boundary layer. Appendixes: A derivation of Bernoulli's equation. An introduction to tensors and the statistical theory of turbulence. Constants and conversion factors, dimensions. Analysis of potential flow across [illegible] cylinder. References. Index.

Note: Topics in fluid mechanics which are of interest to chemical engineering are treated in this book. Particular attention is paid to the phenomena of such systems as flow in [illegible] circular pipe, boundary flow around [illegible] cylinder, flow along [illegible] flat plate, and flow between parallel flat plates. There is major emphasis on turbulent flow and boundary layer analysis. Throughout the book, there are frequent references to recent experimental results. The authors have assumed that readers [illegible] be familiar [illegible] the calculus and elementary differential equations. Tensor notation is not used in the body of the text, but tensors are introduced in [illegible] "[illegible] appendix. The authors are associated with the Chemical Engineering Laboratory of California Institute of Technology

DODGE, BARNETT FRED

Chemical engineering thermodynamics. New York McGraw Hill Book Company Inc., 1944 650 p. illus. 23 cm. $9.50 6576

Contents: Definitions and fundamental concepts. The first two fundamental laws. Quantitative development of the two fundamental laws. The thermodynamic functions. General equations of equilibrium. Pressure-volume-temperature relations of fluids. Thermodynamic properties of fluids. Compression and expansion of fluids. Thermodynamics of fluid flow. Heat transfer. Refrigeration.

Note: A text and reference book on thermodynamics as applied particularly to the field of chemical engineering. After [illegible] thorough treatment of the fundamental laws, the book develops various applications of special interest to chemical engineers. [illegible] attempt has been made to cover all applications; instead, [illegible] few have been selected for more detailed treatment. The treatment presupposes knowledge of calculus but no previous study of thermodynamics.

GROGGINS PHILIP HERKIMER, editor

Unit processes in organic synthesis. Fourth edition. New York McGraw Hill Book Company Inc., 1952 937 p. illus. 24 cm. $12 50 6577

Contents: Nitration, by P H. Groggins. Amination by reduction, by P H. Groggins. Diazotization and coupling, by H. E. Woodward. Halogenation, by P H. Groggins and H. P Newton. Sulfonation, by P H. Groggins. Amination by ammonolysis, by P H. Grog-

zine. Oxidation by L. F Marek. Hydrogenation, by M. R. Fenske. Hydroformylation (oxo reaction) by M. Orchin and W C. Schroeder Esterification by E. E. Reid. Hydrolysis, by E. J Lloyd and W F Hamner Polymerization, by W P Hohenstein and H. Mark. Alkylation, by R. N Shreve. The Friedel-Crafts reaction, by P H. Groggins. Name index. Subject index.

Note. A widely used textbook of chemical engineering techniques in manufacturing processes that involve organic syntheses. It covers basic principles, operating conditions and factors, typical plant equipment, and contains flow sheets. The information given on many points is detailed enough to make the book of interest to graduate chemical engineers. The previous edition appeared in 1947 In this edition, there are many important changes including one completely new chapter

GUMZ, WILHELM

Gas producers and blast furnaces—theory and methods of calculation. New York John Wiley & Sons, Inc , 1950 316 p. illus 21 cm $12 00 6578

Contents (abridged) Part I, Gas producers. Gasification reactions. Gas compositions at equilibrium. Gas composition at incomplete equilibrium. Applications of the stoichiographical method for associated problems. Mathematical treatment of gas-producer performance. Part II, Blast furnaces. Composition of gas in furnaces. Method of computation. Part III, Reaction kinetics. Appendix. Name index. Subject index.

Note. In this book, the processes which take place in gas producers and blast furnaces are treated as problems in chemical engineering which can be solved largely by mathematical methods. There is necessarily considerable discussion of the chemical reactions, but the author's chief contribution is the presentation 1 the apparently complex gasification process as one to which the concepts and techniques of physical chemistry and chemical engineering are applicable. The book is of interest primarily to engineers associated with the steel industry

HARPER, JAMES I , editor

Chemical engineering in practice, a collection of papers originally presented in Philadelphia Pa. May 12 1953, under the auspices of the Philadelphia Wilmington Section of the American Institute of Chemical Engineers and the Department of Chemical Engineering University of Pennsylvania. New York Reinhold Publishing Corporation, 1954 140 p illus 20 cm $3 95 6579

Content Process research, by G. A. Mills. Process development, by J J Hor Process engineering, by A. S. West. Economic analysis, by R. M. Ott. Project engineering, by W F Cooke. Construction engineering, by G. L. Eaton. Operational engineering, by W C. Huffman. Market research engineering, by R. E. Chaddock.

Note Authoritative descriptions of the work of chemical engineers in various areas of activity in contemporary chemical manufacturing in the United States of America are presented in the chapters of this book which is addressed primarily to chemical engineering students about to graduate and young engineers recently graduated.

HESSE HERMAN CARL AND J HENRY RUSHTON

Process equipment design. New York D Van Nostrand Company Inc. 1945 580 p illus 24 cm. $8 00 6580

Content Materials of construction Mechanical properties and strength of materials. Riveted pressure vessels. Welded pressure vessels. Mechanics. Threaded fasteners and combined stresses. Structural analysis. Trusses and truss adaptation. Piping. Attachments and closures. Non-ferrous construction Concrete construction. Wood and other non-metallic construction Belt and chain drives. Toothed gearing Shafting and bearings. Handling equipment and mechanical frames. Special stress applications. References. Index.

Note. This book is intended for use as a textbook in senior engineering classes and as reference manual in industry Emphasis has been placed mainly on those fundamental principles of mechanics that underlie designing in general, rather than on the design of particular equipment, although equipment used in the chemical industries is emphasized, and the subject of pressure vessels is dealt with at some length. A useful feature of the book is the constant reference to American Society of Mechanical Engineers and other safety codes governing construction today Review problems are listed at the end of each chapter and the two and one-half pages of references are keyed to the text.

HOUGEN, OLAF A., AND OTHERS

Chemical process principles Part I, Material and energy balances. Second edition. By Olaf A. Hougen, Kenneth M Watson, Roland A. Ragatz New York John Wiley & Sons, 1954 504 p. illus. 24 cm $8 50 6581

Contents Mathematical procedures. Stoichiometric and composition relations. Behavior of ideal gases. Vapor pressures. Humidity and saturation. Solubility and crystallization. Material balances. Thermophysics. Thermochemistry Adsorption. Fuels and combustion. Chemical, metallurgical, and petroleum processes. Appendix. Author index. Subject index.

—— Parts II–III. New York John Wiley & Sons, 1947 2 v illus. 23 cm Part II, $6 00, part III, $5 25 6582

Contents Part II, Thermodynamics. Thermodynamic principles. Thermodynamic properties of fluids. Expansion and compression of fluids. Thermodynamics of solutions. Physical equilibrium. Chemical equilibrium. Thermodynamic properties from molecular structure. Part III, Kinetics and catalysis: Homogeneous reactions. Catalytic reactions. Mass and heat transfer in catalytic beds. Catalytic reactor design. Uncatalyzed heterogeneous reactions. Appendix. Author index. Subject index.

Note. An advanced work whose purpose is "to give intensive quantitative training in the practical applications of the principles of physical chemistry to the solution of complicated industrial problems and in methods of predicting missing physico-chemical data from generalized principles." It is used chiefly as a textbook in undergraduate and graduate courses in engineering schools. The first edition of Part I as published in 1943 The second edition contains two newly added chapters and numerous new sections in chapters retained from the first edition.

INDUSTRIAL AND ENGINEERING CHEMISTRY

Modern chemical processes, a series of articles describing chemical manufacturing plants. By the editors of Industrial and Engineering Chemistry in conjunction with the technical staffs of the cooperating organizations New York Reinhold Publishing Corporation 1950 222 p. illus 29 cm. $5 00. 6583

Contents Contact sulfuric acid from sulfur. Modern production of chlorine and caustic soda. Iodine from oil well brines. Continuous superphosphate production. Barium potassium chromate pigment. Fine chemicals from coal. Liquid fuel from coal. Synthetic methanol production. Alcohols by sodium reduction. Low temperature manufacture of chemical rubber Carotene and chlorophyll—commercial chromatographic production. Chloroquine manufacture. Paint and varnish manufacture. Petroleum-base protective coatings. Drier soap manufacture. Continuous distillation of gum turpentine. Selective extraction of vegetable oils with furfural. Solvent extraction of oil from soybeans. Phenolic resin glues for plywood. Oxidation of cellulose. Manufacture of basic refractory brick. Paving asphalt from California crude oil. Citrus fruit processing. Index.

—— Volume II. New York Reinhold Publishing Corporation 1952 299 p. illus. 29 cm. $5 00 6584

Contents Chemicals from fats. Aryl compounds from pentane Phenol by sulfonation. TNT into phloroglucinol. Commercial development of glyoxal. Bacitracin—product of biochemical engineering. Reagent grade chemicals. Lithium and its compounds. Calcium cyanamide. Cyanides from the coke oven. Pioneer surfactant Edible oils. Cane sugar refining Brewing Food yeast from sulfite liquor. Modern winemaking. Platinum reforming of gasoline Liquid fuels from oil shale. Modern sulfur mining. Sulfur from sour gases.

Magnesium-base sulfite pulping. Kraft pulp production. Kraft paper making. Rubber reclaiming. Index.

——Volume III. New York Reinhold Publishing Corporation, 1954 276 p. illus. 29 cm. $5.00 6585

Contents: Carbide lined tubes. Ammonia at 1000 atmospheres. An American Fischer-Tropsch plant. Oil black. Oil gas manufacture. Chemicals from milk. Formaldehyde from methanol. Hydroquinone manufacture. Lactic acid from corn sugar. Animal glue. Cellophane. Carboxymethylcellulose. Acetophenone. Diatomaceous earth. Ammonium nitrate. Dextrose. Chemicals from seaweeds. Chlorine and caustic in Italy. Nitric acid in Great Britain. Tinsmith [illegible] finished color production. Mercury cell chlorine and caustic. Catalytic asphalt. Wulff process acetylene. Index.

——Volume IV New York Reinhold Publishing Corporation, 1956 202 p. illus. 29 cm. $5.00. 6586

Contents: Graphite electrodes, by R. M. Hader and others. Vitamin B[12] feed supplement, by A. E. Hester and G. E. Ward. Acrolein, by R. J. Sanders and A. W. Tall. Stengel process ammonium nitrate, by A. E. Hester and others. Modern Portland cement production, by W. Q. Hull and others. Anthraquinone vat dyes, by K. J. Bradley and F. Kronewitt. Specialty soaps, by K. M. Reese and others. Ammonia-base sulfite pulping, by W. Q. Hull and others. Malting, by A. E. Hester, and J. H. Lodish. Rayon and pulp production—1954 style, by R. W. Hobson Jr., and others. Chlorophyll by solvent extraction, by M. A. Judah and others. French synthetic detergents from petroleum, by Q. C. Roberg and A. Menard. Calcium magnesium acetate, by H. W. Knorr, Jr., and L. G. Joyner. Nitroparaffins, by R. J. Sanders and others. Salt manufacture, by A. E. Hester and H. W. Diamond. Vegetable oil refining, by K. J. Bradley and F. M. Smith. p-Xylene from petroleum, by H. W. Hanson, Jr., and others. Alumina, by K. M. Reese and W. H. Cundiff. Aluminum, by K. M. Reese, and others. Index.

Note: Each chapter in the volumes of this set is a detailed description of a present-day method of manufacturing, in a specified plant in the United States of America, the chemical product or group of related products named in its title. The typical article includes flow sheets, pictures and diagrams of plant equipment, tabulated reference data, and a bibliography. Most of the articles are co-authored by a member of the editorial staff of the sponsoring magazine, and a member of the staff of the firm whose process is described. All of the material—text and illustrations—was first published in Industrial and engineering chemistry. Each volume contains a detailed general index.

Jordan, Donald G

Chemical pilot plant practice. New York. Interscience Publishers, Inc., 1955 152 p. illus. 23 cm. $3.50. 6587

Contents: General considerations. The scale-up problem. The handling of solids, liquids, and gases. Chemical reactors. Separation process. Cost estimation and market testing. Literature references. Index.

Note: Manufacture on an industrial scale of a new chemical product or introduction of a new process for the manufacture of an established product often proceeds through three distinct stages (1) laboratory research (2) pilot plant operations (3) industrial production in a full scale plant. This book deals with the second stage. In it are surveyed the purposes of pilot plants and the uses of data derived from their operation, general considerations on the design of pilot plants, equipment for pilot plants, the problems of scaling up to full-size equipment on the basis of pilot plant experience and results and finally making cost estimates and writing up the pilot plant experience. The [illegible] subject is covered from the viewpoint of chemical engineers employed in industry. Many of the topics and sub-topics are covered very briefly but references are usually given to books and articles in which fuller discussions or more data can be found.

Kammermeyer, Karl, and James O Osburn

Process calculations. Englewood Cliffs, N J Prentice-Hall, Inc., 1956 188 p. 23 cm. $4.00. 6588

Contents: Accounting for material. Solving problems. Units and techniques. Chemical reactions. Gases and vapors. Combustion. Accounting for energy. Enthalpy changes in chemical reactions. Special methods and techniques. Comprehensive problems. Appendix. Index.

Note: A practical book for gaining proficiency in the varieties of calculations that occur frequently in chemical engineering. It begins with the simplest kind of problems involving material balances and concludes with a grouping of problems so complex that only approximate solutions can be obtained. The chapters include not only concise discussions of methods of obtaining solutions but also numerous fully worked examples.

Keyes Donald Babcock, and A. Garrell Deem

Chemical engineers' manual. New York John Wiley & Sons, Inc., 1942 221 p. illus. 16 cm. $4.00 6589

Note: This book contains what might be termed the permanent reference information of chemical engineering—the equations, formulas and tables upon which the calculations are based. There are data on fluid flow, heat transfer, diffusional operations, separation. There are tables of logarithms of numbers, integrals, steam tables, tables of specific heat of water and mercury, specific heat of elements, specific heat of aqueous solutions, thermal conductivities of metals, viscosity of gases and vapors, critical constants, standard pipe and line pipe, bursting [illegible] factors for tubing, weights of square and round steel bars. There are altogether 77 convenient tables. The book is fully indexed for ease of reference.

Kirkbride Chalmer Gatlin

Chemical engineering fundamentals. New York McGraw Hill Book Company Inc., 1947 419 p. illus. 24 cm. (McGraw Hill chemical engineering series) $6.75 6590

Contents: Introduction. Human relations in chemical engineering. Useful mathematical tools. Important concepts of physics and chemistry. The material balance. The energy balance. Static equilibria. Dynamic equilibria. The economic balance. Presentation of technical results. Appendix. Index.

Note: Unlike the usual introductory textbook in chemical engineering, which deals chiefly with the technology, this book by including such subject matter as how to get along with the boss, how to express one's thoughts clearly and how to make technical reports, is intended to give the student a broad view of the work of chemical engineers in industry. Technical fundamentals, also, are presented somewhat unconventionally.

Kobe, Kenneth Albert

Inorganic process industries. New York The Macmillan Company 1948. 371 p. illus. 24 cm. $6.50. 6591

Contents: The chemical literature. The natural sodium salts industries. The natural potassium salts industries. The sodium carbonate industry. The electrolytic caustic-chlorine industry. The chamber sulfuric acid industry. The contact sulfuric acid industry. The nitrogen fixation industries. The nitrogen products industries. The phosphorus products industries. Appendix. Index.

Note: This textbook on industrial chemistry covers fewer industries than are covered in well-known books already published in the same field. The advantage of a less-inclusive book for short courses in colleges is obvious. The emphasis placed on chemical literature and on good procedure in making literature searches is commendable. The author is Professor of Chemical Engineering at the University of Texas.

Kowalke, Otto Louis

Fundamentals in chemical process calculations. New York The Macmillan Company 1947 158 p. illus. 22 cm. $3.90. 6592

Contents: Temperature scales. Density and specific gravity. Pressure and its measurement. Metal units. Methods of expressing compositions of mixtures and solutions. Pressure-volume-temperature relations for gases. Partial pressures of gases and vapors. Material accounts. Salts crystallized from water solutions. Silicates and slags.

Combustion calculations for fuels. Heat losses in products of combustion. Appendix Tables of data. Index.

Note. The discussions and problems in this book are designed to acquaint second year chemical engineering students with the types of calculations encountered in industrial chemical operations. The range of topics is admittedly limited, and the problems are largely arithmetical but they are by no means elementary The author is Professor of Engineering at the University of Wisconsin.

LAUER, BYRON ELMER, AND RUSSELL F HECKMAN

Chemical engineering techniques New York Reinhold Publishing Corporation, 1952 496 p illus (part col d) 24 cm $6 00 6593

Contents (abridged) Section I, The assembly of materials. Inter plant transportation. Intraplant transportation. Storage of materials. Section II, The preparation of materials for reaction Size reduction. Size classification. Section III, The production and distribution of energy· Energy sources. The storage, distribution and conservation of energy Section IV Conditions affecting the chemical reaction Measuring and proportioning materials. Mixing of materials. Reaction vessels. Section V The separation and purification of materials Separation of a solid from a solid. Separation of liquid from solid. Separation of a gas from a solid. Separation of a solid from a liquid. Separation of a liquid from a liquid. Separation of liquid from a gas. Separation of a gas from a gas. Section VI, Further treatment of products for sale, shipment, storage, or other use Preparation of materials for marketing. Measurement of physical and chemical qualities. Packaging. Index.

Note. An general treatment in which methods and equipment for handling materials, measuring and proportioning them, separating them, and packaging them are covered rather than unit processes. The expository matter is practically all descriptive and is almost devoid of mathematics and chemical formulas. Types of equipment are described in general and a selected few are shown in the illustrations, but the authors have not attempted to describe particular makes or even typical installations. The book is suitable for use as a supplementary text in college courses and as general survey for manufacturers and graduate chemical engineers. There are 100 figures but no literature references.

LEE, JAMES A

Materials of construction of chemical process industries New York McGraw Hill Book Company Inc, 1950 468 p illus 24 cm (McGraw Hill chemical engineering series) $7 50 6594

Note. A handbook designed to aid chemical engineers in selecting materials for equipment used in the production and handling of corrosive substances. The arrangement of the book is alphabetical according to substance for example, under 'B are found barium carbonate, barium chloride, beer benzene hexachloride, benzoic acid, benzotrifluorides, etc. Under each substance most of the discussion is concerned with the material but, in many cases, there is also brief outline of the manufacturing process together with references to one or more periodical articles or books where the manufacturing process is described more fully At the end of the book directory identifies the trade-names of corrosion-resistant alloys and other materials, gives the manufacturer's name, and the chemical descriptions Much of the material has been drawn from *Chemical engineering* and its predecessor *Chemical and metallurgical engineering*

LEVA M AND OTHERS

Fluid flow through packed and fluidized systems By M Leva, M Weintraub M Grummer M Pollchik and H H. Storch Washington D C Government Printing Office 1951 149 p illus 26 cm. (United States Bureau of Mines. Bulletin 504) $1 00 6595

Contents Introduction. Literature survey Pressure drop through packed tubes, turbulent flow General correlation. Effect of surface roughness. Prediction of voids in packed tubes. Comparison between tower packings. Pressure drop through packed tubes, viscous flow General correlation. Generalized pressure-drop equation. Shape-factor estimations. Fluidization of solids Vesicular and nonvesicular particles. Fluidization of nonporous particles. Fluidization of an iron Fischer Tropsch catalyst. Fluidization of mixed materials. Solid-liquid systems. Fluidization of porous material. Channeling in fluidized beds. Summary of design equations. Nomenclature. Appendix (tables)

Note. The first five pages of this bulletin report the results of an extensive literature search which was made following the development of new processes for the production of synthetic liquid fuels. This search showed that considerable uncertainty existed in the correlation of the operating variables of these new types of converters with the pressure drops which could be expected through packed and fluidized systems. Since the pressure-drop correlations reported in the literature were found to be too inaccurate for use in calculating the energy required to pass fluids through packed beds, the original study reported in the remainder of the bulletin was carried out in order to develop correlations that would be suitable for the design of new equipment in which fluids are brought into contact with granular materials. To arrive at general relationships, systems were chosen that did not involve chemical reactions, and correlations are given only in terms of quantities that are ordinarily available from general process and design specifications.

LEWIS, WARREN K , AND OTHERS

Industrial stoichiometry, chemical calculations of manufacturing processes. Second edition By Warren K. Lewis Arthur H. Radasch and H. Clay Lewis New York Mc Graw Hill Book Company, Inc., 1954 429 p. illus 24 cm. (McGraw Hill series in chemical engineering Sidney D Kirkpatrick, consulting editor) $8.50 6596

Contents Introduction. Gaseous and liquid fuels. Energy balances and equilibrium. Solid fuels. Secondary fuels. Sulfur compounds. Nitrogen compounds. Lime and cement. Fixed alkalies. Metallurgy Ceramics. Design problems. Appendix. Index.

Note. A standard introduction to computational methods useful in chemical engineering, written especially for the use of college students and useful also as refresher and reference book for young graduate engineers. As the chapter titles indicate, only inorganic chemical technology is covered. The first edition of the book, published in 1926 has had many printings. This second edition is much enlarged (429 pages in contrast to 174) Actually the book has been completely rewritten though organized on the same case method" plan of instruction and intended for the same classes of readers.

MANTELL, CHARLES LETNAM

Adsorption Second edition. New York McGraw Hill Book Company, Inc. 1951 634 p illus. 24 cm (McGraw Hill chemical engineering series) $11 50 6597

Contents (abridged) The unit operation of adsorption Theories of adsorption. Fuller's earth and activated clays. Aluminum oxide base materials. Bone char and related materials. Decolorizing carbon, water-treatment carbon. Gas-adsorbent carbons. Silica gel Ion exchangers. Magnesia base materials. Solvent recovery and concentration. Odor removal, air purification and recovery Gas masks. Fractionation of liquid hydrocarbons. Fractionation of gases. Fractionation of ions. Adsorbents in refining of sugar and related substances. Water treatment. Adsorbents in medicine and pharmacy Chromatographic adsorption. Inspection, specifications, and testing of adsorbents. Appendix. Index.

Note Adsorption, the concentration of gases, vapors, etc., on the surfaces of solids where they are held by surface forces, is employed in wide range of industrial chemical processes. This standard book is devoted mainly to descriptions of adsorbents and discussions of the employment of adsorption and adsorbents in industrial chemical processes. It is of particular interest to chemical engineers, but parts are of interest to men in other fields such as air conditioning. In this edition, there is much new material on industrial applications that have been developed since the first edition was prepared. Selected patents and papers are cited in footnotes

NIELSEN CHARLES H. editor

Distillation in practice a collection of papers originally presented in Philadelphia, Pa. in May 1954 under the auspices of the Philadelphia Wilmington Section of the Amer

can Institute of *Chemical Engineers* and the Department of *Chemical* Engineering, University of Pennsylvania. New York Reinhold Publishing Corporation, 1956. 133 p. illus. 20 cm. $3.00. 6598

Contents: Overall tower design from [illegible] process viewpoint, by C. Pyle. Physical design features of plate columns, by R. L. Geddes. Design techniques in petroleum fractionation, by C. M. Brooks. Distillation control, by W. O'Connor. Operation of distillation equipment, by C. R. Strang. Some commercial aspects of vacuum distillation, by W. A. Hall.

Note: Containing papers originally prepared for the second "Experience in Industry" symposium sponsored as noted in the title, the value of this little book lies in its first-hand accounts of distillation practice and experience in industry. The authors are associated with such firms as E. I. Dupont de Nemours & Company, the Sun Oil Company, and the Lummus Company. The papers are unpretentious and informal, but they contain information that will be of interest and, in some instances, very useful to graduate chemical engineers entering upon the practice of their profession.

OTHMER, DONALD F editor

Fluidization. New York Reinhold Publishing Corporation 1956 231 p. illus. 24 cm. $7.00. 6599

Contents: Fluid dynamics of fluid-solid systems, by R. F. [illegible]. Heat and mass transfer in solid fluidization, by J. C. Chu. Graphical analysis of fluid-solids systems in the process industries, by F. A. Zenz. Background, history and future of fluidization, by E. J. Gohr. Operation of fluidization processes, by R. M. [illegible] and A. A. Fried. Fluid coking, by R. W. Krebs. Design and control techniques in moving solids bed systems, by C. Berg. The significance of details in fluid catalytic cracking units—engineering design, instrumentation and operation, by W. W. Kraft and others. Applications and problems of fluidization in the chemical industry by R. B. Thompson. Index.

Note: "Fluidization" as used in the book refers to the technique of suspending fine solid particles in a moving gas (or liquid) in such a way that the solid material behaves essentially as a fluid. The technique has found wide application in petroleum refining, and other applications have been developed or are in prospect. The authors of the various chapters are associated with Esso Research and Engineering Company, the Lummus Company, and other organizations which have been active in the development of fluidization and the design of chemical manufacturing plants based on it. The subject is treated from the viewpoint of graduate (professional) engineers. Aside from its interest for young engineers in the petroleum industry, the book has potential interest for engineers in other fields, such as ore dressing and refining, fuel burning and the transport of solid materials in pipelines.

PERRY JOHN HOWARD editor

Chemical engineers handbook prepared by a staff of specialists. Third edition. New York McGraw Hill Book Company Inc., 1950 1 942 p. illus. 25 cm. (McGraw Hill chemical engineering series) $18 50. 6600

Contents: Mathematical tables and weights and measures. Mathematics. *Physical and chemical data. Physical and chemical principles.* Flow of fluids. Heat transmission. Evaporation. General theory of diffusional operations. Distillation and sublimation. Gas absorption. Solvent extraction and dialysis. Humidification, dehumidification, and cooling towers and spray ponds. Drying. Adsorption. Mechanical separations. Size reduction and size enlargement. Mixing of materials. High-pressure techniques. Process control. Movement and storage of materials. Materials of construction. Fuels. Furnaces and kilns. Power generation and mechanical power transmission. Refrigeration. Plant location. *Electricity and electrical engineering.* Electrochemistry. Accounting and cost finding. Safety and fire protection. Index.

Note: A standard reference handbook for chemical engineers, industrial chemists, executives of companies manufacturing chemicals, and students. The titles of the various sections are listed above. The typical section is composed of several compact papers which cover theory, equipment, practice, and a range of technical data. In this edition, the page size has been increased, and the text now printed two columns to the page. The new size permits larger scale in the illustrations, which is a definite advantage. The organization and scope are essentially the same, but eight new sec-

tions have been added, and four sections that appeared in the preceding edition have been dropped. Extensive revisions are evident in most of the sections carried over from the second edition.

PIERCE, DAVID E

Chemical engineering for production supervision. Second edition. New York McGraw Hill Book Company Inc., 1950. 290 p. illus. 23 cm. (McGraw Hill chemical engineering series S. D Kirkpatrick consulting editor) $5.00. 6601

Contents: General principles of chemistry and physics. Transformation of energy. Heat transfer. Evaporation. *Distillation. Drying. Flow of fluids. Absorption.* Appendixes. Answers to problems. Index.

Note: A book designed to serve chemical plant production supervisors as a memory refresher, reference book, and guide. In it the essential facts and principles of the unit operations of chemical engineering are concisely presented with the mathematical treatment limited to the use of, rather than the derivation of, formulas. Illustrative examples included in each chapter show the way calculations may be made, and many unsolved examples are provided for practice in using these methods. The first seven chapters of this edition are the same except for minor emendations as the same chapters in the first edition, 1944. The eighth chapter entitled "Absorption" is new.

RIEGEL, EMIL RAYMOND

Chemical process machinery. Second edition. New York Reinhold Publishing Corporation 1953 735 p. illus. 24 cm. $12.50 6602

Contents (abridged): Introduction. Screening and grading equipment. Handling bulk material. Tanks, multispheres, multicylinders. Weighing and proportioning solids and liquids. Equipment for the propulsion of gases. *Devices for the cleaning of gases. Separation* of solids from liquids. Evaporators. Crystallizers. Driers. Distilling and fractioning equipment. Heat exchangers. Gas conditioning. Instrumentation. Appendix. Index.

Note: As in the first edition of this standard college text, the sequence of presentation is roughly parallel to the order of operations in chemical plants. A wide variety of apparatus used in chemical manufacturing is covered as to principles, uses, and mechanical details. In this edition, the reading references at the end of each chapter have been brought up to date (1952) and much new information has been added on such equipment as magnetic separators, multispheres, pumps, cyclonic scrubber, continuously operating centrifuges, surface evaporators, continuous crystallizers, and automatic control instruments. There are now 397 figures and 41 tables, many of which are new to this edition.

ROBINSON CLARK SHOVE AND EDWIN R. GILLILAND

Elements of fractional distillation. Revised and rewritten by E. R. Gilliland. Fourth edition. New York McGraw Hill Book Company Inc., 1950 492 p. illus. 24 cm. (McGraw Hill chemical engineering series S. D Kirkpatrick consulting editor) $9.50. 6603

Contents (abridged): Determination of vapor-liquid equilibria. Calculation of vapor-liquid equilibria. *General methods of fractionation.* Simple distillation and condensation. Rectification of binary mixtures. Special binary mixtures. Rectification of multicomponent mixtures. Extractive and azeotropic distillation. Batch distillation. Vacuum distillation. Fractionating column design. Fractionating column auxiliaries. Appendix. Index.

Note: As in the previous editions of this standard text for advanced chemical engineering students, approximately equal attention is given to basic principles and to the application of these principles to the solution of distillation problems and the design of distillation apparatus. In this edition, however, more emphasis is placed on methods involving the calculation and use of vapor-liquid equilibria. Such topics as batch and various distillations have been expanded to chapter length, and the detailed description of fractionating column design and performance now covers three chapters. The book as a whole has been doubled in size and so extensively rewritten as almost to constitute a new work.

SHERWOOD, THOMAS KILGORE, AND CHARLES E REED

Applied mathematics in chemical engineering New York McGraw Hill Book Company, Inc., 1939 403 p illus. 23 cm. 6604

Contents: Integration and differentiation. The use of differential equations. Solution of ordinary differential equations. Applications of partial differentiation. Infinite series. Partial differential equations. Numerical analysis. Graphical treatment of chemical-engineering processes. Theory of errors and precision of measurements.

Note. A practical text on the use of differential equations, partial differentiation, partial differential equations, numerical methods of integration and differentiation, interpolation, empirical equations, graphical methods, and precision of measurements. The application of the various mathematical techniques to chemical engineering is illustrated by examples forming an integral part of the text. A new edition was published in 1957 413 p., $9.00.

SHERWOOD, THOMAS KILGORE, AND ROBERT LAMER PIGFORD

Absorption and extraction Second edition. New York McGraw Hill Book Company, Inc, 1952 478 p illus. 24 cm (McGraw Hill chemical engineering series, S D Kirkpatrick, consulting editor) $9 50 6605

Contents. Diffusion. Eddy diffusion. Transfer of material between phases. Simultaneous heat and mass transfer. Principles of the design of absorption equipment. Design principles for multicomponent systems. Gas-absorption equipment. Performance of absorption equipment. Simultaneous absorption and chemical reaction. Solvent extraction. References. Index.

Note. A rather full treatment of two fundamental and important operations in chemical engineering. The emphasis is on fundamental matters and typical equipment rather than on specific applications. However numerous applications are mentioned in passing. The book is primarily a text for upperclass students of chemical engineering, but some parts are full enough to be useful to graduate engineers. There is a bibliography of 518 references. This edition consists largely of material that did not appear in the original edition.

SHREVE, R NORRIS

The chemical process industries Second edition New York McGraw Hill Book Company, Inc., 1956 1,004 p illus. 24 cm. $11 50 6606

Contents: Objectives. Unit processes and unit operations. General fundamentals. Water conditioning and waste-water treatment. Fuels, power and air conditioning. Coal chemicals. Fuel gases. Industrial gases. Industrial carbon. The ceramic industries. Cements, calcium and magnesium compounds. Glass industries. Potassium salts and mixed fertilizers. Salt and miscellaneous sodium compounds. Soda ash, caustic soda, and chlorine. Electrolytic industries. Electrothermal industries. Phosphorus industries. Sulfur and sulfuric acid. Nitrogen industries. Hydrochloric acid and miscellaneous inorganic chemicals. Explosives, pyrotechnics, and chemical warfare. The photographic industry. Paint, varnish, lacquer and allied industries. Leather, gelatine, and glue. Pesticides. Perfume and flavoring industries. Oils, fats, waxes. Soap, detergents, and related compounds. Sugar and starch industries. Fermentation industries. Wood chemicals. Pulp and paper industries. Synthetic fibers. Plastics. Natural and synthetic rubber. The petroleum industry. Intermediates, dyes, and their application. Organic chemicals, not otherwise classified. Appendix. Name index. Subject index.

Note: A cyclopedic manual in which contemporary chemical industries are described from the viewpoint of chemical engineering. A typical chapter opens with a very brief outline of the history of a specific industry, then follow concise surveys of economics, raw materials, uses and currently important manufacturing processes. Reduced reproductions of flow sheets that appeared originally in *Chemical engineering* and other periodicals are used liberally. Each chapter contains selected references to the literature. The book is used as a text in engineering colleges and as a reference work in libraries. The first edition was published in 1945. This second edition is organized similarly but has been revised to cover new industries and recent literature including statistical publications. The volume is about 50 pages longer.

SIEMON, KARL OTTO GUSTAV

Manual for the design of ferrous and non ferrous pressure vessels and tanks. Fifth edition. Ann Arbor, Mich. Edwards Brothers, Inc., 1953 284 p illus. 21 cm. $3.85 6607

Contents: Part I, Materials of construction. Selection of materials. Iron and steel. Copper, brasses, and bronzes. Aluminum and aluminum alloys. Nickel and nickel alloys. Part II, Design. Cylindrical vessels under internal pressure. Cylindrical vessels under external pressure. Heat stresses in shells. Shell thickness of open tanks. Dished heads and spheres. Flat heads and cover plates. Reinforcement of openings. Flange design. Riveted joints. Fusion-welded joints. Copper vessels. Everdur vessels. Aluminum vessels. Monel and nickel vessels. Stainless steel vessels. Vessels of alloy-clad steel. Shell stresses due to dead and wind load. Supports. Appendix. Supplement, design of hoops. Index.

Note. A concise reference manual used by engineers in designing tanks and other pressure vessels. It deals with materials and with design problems. Methods of calculating stresses are discussed. The book was first published in 1940. In each of the succeeding editions, small but important revisions have been made.

TREYBAL, ROBERT EWALD

Liquid extraction. New York McGraw Hill Book Company, Inc., 1951 422 p. illus. 23 cm. (McGraw Hill chemical engineering series, S D Kirkpatrick, consulting editor) $9 00 6608

Contents: Introduction. Liquid equilibria. Prediction of distribution. Choice of solvent. Diffusion and mass transfer. Methods of calculation—stagewise contact with a single solvent—stagewise contact with mixed and double solvents—continuous countercurrent contact. Equipment for stagewise contact. Equipment for continuous countercurrent contact. Liquid-extraction processes. Problems. Name index. Subject index.

Note. A treatise on the application of liquid extraction techniques to industrial operations. It is organized so that it may be used in courses offered to graduate students of chemical engineering. It is also suitable as a survey of the subject for working chemists whose academic education did not include a course in the subject. Basic principles and techniques are emphasized rather than details of particular applications and equipment. Even in the chapters on equipment the emphasis is on types rather than on specific installations. Numerous graphs and tables of engineering data are included. Statements in the text are key-numbered to the extensive list of references. The author is Professor of Chemical Engineering in New York University.

TREYBAL, ROBERT EWALD

Mass-transfer operations. New York McGraw Hill Book Company, Inc. 1955 666 p illus. 23 cm. (McGraw Hill series in chemical engineering Sidney D Kirkpatrick, consulting editor) $9.50 6609

Contents. Introduction. Part I, Diffusion and mass transfer. Molecular diffusion in fluids. Diffusion in turbulent flow. Diffusion in solids. Interphase mass transfer. Part II, Gas-liquid operations: Equipment. Humidification operations. Gas absorption. Distillation. Part III, Liquid-liquid operations. Liquid extraction. Part IV Solid-fluid operations. Adsorption and ion exchange. Drying. Leaching. Part V Contact of miscible phases. The less conventional operations. Index.

Note: A thorough introduction to chemical manipulations, or unit operations, that are based on the phenomenon of diffusion. It is written from the viewpoint of chemical engineering and is intended primarily for the instruction of advanced undergraduate and first year graduate college students preparing for careers in this field. Throughout the book, discussions of basic theory, practice and descriptions of typical equipment are skillfully intermingled. Embedded in the expository matter are numerous examples of worked problems. Numerous problems for students to solve are included also. Selected literature references to "classic" articles and review articles are given. The author is Professor of Chemical Engineering in New York University.

VILBRANDT, FRANK CARL

Chemical engineering plant design. Third edition. New York McGraw Hill Book Company Inc., 1949 608 p. illus. 23 cm. (McGraw-Hill chemical engineering series) $8.50. 6610

Contents: Introduction. Foundations. Drainage. Piping installation. Pumps and pumping. The building. Power and power transmission. Development of the design project. Flow diagrams. Selection of process equipment. Plant layout and elevation. Locating the chemical plant. Preconstruction cost estimating. Appendices. Index.

Note: A well-known work used as a text in engineering college courses and as a desk book by practicing chemical engineers. It is introductory to the subject of plant design, but it is intended for readers who have a fundamental knowledge of chemical engineering. Although important additions and revisions were made in preparing the present edition, the greater part of the text is unchanged. Approximately half of the increase in pages is accounted for by a major expansion of the chapter on estimating of cost before construction. Other changes are widely scattered throughout the work and have to do with miscellaneous topics such as the size of the steam pipes, safety and the design of pilot plants. The lists of collateral reading have been revised.

WILSON, ERNEST D AND HAROLD C. RIES

Principles of chemical engineering thermodynamics. New York McGraw Hill Book Company Inc. 1956 376 p. illus. 24 cm. (McGraw Hill series in chemical engineering Sidney D Kirkpatrick, consulting editor) $7.50. 6611

Contents: Introduction. States and properties of matter. The first law of thermodynamics. Applications of the first law of thermodynamics. Handling and compression of fluids. Thermochemical effects. The second law of thermodynamics. Graphical presentation and interpretation. Steam power plants. Refrigeration. Thermodynamic potential functions. Real gases versus ideal gases. Phase equilibria. Chemical equilibrium. Appendices. Index.

Note: The authors of this book present thermodynamics as a tool of much practical value in chemical engineering. They stress the importance of understanding fundamental principles, also make clear that there are many situations in engineering design where theory can not be applied strictly. A case in point is their handling of friction, represented by L_f. "In more complicated cases such as flow through pumps, compressors, etc. when L_f can not be calculated, it is put equal to zero and taken care of by giving the pump or other unit an 'efficiency' of a certain per cent." Many worked examples are provided. The simplicity of the treatment makes the book a valuable one for self-instruction.

APPLIED CHEMISTRY

GENERAL

DOOLITTLE, ARTHUR K

The technology of solvents and plasticizers New York John Wiley and Sons, Inc., 1954 1,056 p illus 23 cm. $21 00 6612

Contents General survey of solvent and plasticizer utilization. Introduction to the technology of solvents for resinous substances. Nitrocellulose lacquers. Vinyl resin coatings. Convertible and miscellaneous finishes. Technology of application. Solvents for textile fibers. Solvents for adhesives. Solvent recovery Handling and shipping of solvents. Properties of groups of solvents. Properties of individual solvents. The viscosity of liquids. Theory of solvent action. Plasticizers and plasticization. Properties of individual plasticizers. Appendix. Index.

Note. A reference book of wide interest to chemists and technicians in several major industries, such as the manufacture of plastic materials, adhesives, and coatings. In the chapter devoted to solvents only organic solvents for resinous substances are considered, and both solvents and plasticizers are limited to substances commercially available in the United States of America in 1953 Within these limitations, a very wide range of scientific and technical information on solvents and plasticizers in general and on approximately 160 solvents and 180 plasticizers in particular are included. In the descriptions of individual substances, the properties are given for both the pure and the commercial products. Many phase diagrams and viscosity equilibrium diagrams are included. Also, there are several hundred tables of physical and chemical data. The author is Assistant Director of Research of Carbide and Carbon Chemicals Company and the book is in large part on information gathered by this firm, originally for its own use.

ENCYCLOPEDIA OF CHEMICAL TECHNOLOGY

Edited by Raymond E Kirk and Donald F Othmer New York The Interscience Encyclopedia, Inc , 1947–56 15 v illus 27 cm $30 00 per vol $25 00 per vol. to subscribers 6613

Note In scope, this work is broadly similar to the well-known Thorpe *Dictionary of applied chemistry* There are many differences, but the most important one is the emphasis here on American chemical engineering practice with mention of foreign methods only in cases where the foreign method appears to offer advantages over the American. Materials, equipment, processes and products are all covered. Usually but not invariably uses of chemicals are not described in the articles on methods and product processes but are covered in special articles of which typical ones in Volume deal with abrasives, adhesives, and alloys. The articles range in length from short definitions of terms to long encyclopedic articles. All articles except the very short ones, are signed and are accompanied by selected but rather extensive reference lists which include citations to patents. A subject index covering Volumes I- is provided in Volume XV *A first supplement vol* was published in 1957 $30 00

HAYNES WILLIAMS

American chemical industry Princeton D Van Nostrand Company Inc. 1945–54 6 v illus 24 cm $16 00 per vol set $80 00 6614

Contents (abridged) Volume I, Background and beginnings Part I, The colonial background, 1608–1790 Forest products Logwood, indigo and other dyes. Chemical pioneering Colonial chemistry Part II The birth of the industry 1790–1860 Power and light. Early chemical enterprises mature. Early acid makers. Drugs, medicines and fine chemicals. Part III, Early chemical expansions, 1860–1911 Revolutions in sulfuric acid. Alkalies introduce electrochemicals. Heyday of heavy chemicals. Coal-tar dyes, the first synthetic chemicals. Chemicals invade materia medica. Research and education. Appendix. Book titles. Company and personal name index. Subject index. Volumes II–III, The World War I period, 1912 1922 Volume II, Part I, Setting of World War I period. The Wilsonian background. Trending towards war Gearing industry to war. Part II, Critical raw materials Nitrates from Chile. Nitrogen from the air. The government nitrogen plants. The byproducts from coal. Potash from anything and everywhere. Phosphate rock and elemental phosphorus. Pyrites to brimstone. Gulf Coast sulfur Critical metals. Crude drugs. Appendix. Book titles. Company and personal name index. Subject index. Volume III, Part I, Industrial chemicals. Ash, caustic, and bleach. Sulfuric acid. Alums to silicates. Pigments and colors. Insecticides and fungicides. Alcohol—beverage and chemical. New solvents. Industrial gases. Fertilizers. Part II, The coal-tar chemicals Foundations of new industry The dye crisis. Dye licenses, patents, and tariff Part III, the fine chemicals Medicinal chemicals. Coal-tar medicinals. Aromatics—natural and synthetic. Part IV Chemical evolution Chemicalization of industry Synthetic beginnings. Chemistry in industry The effects of the war Appendix. Book titles. Company and personal name index. Subject index. Volume IV The merger era. Part I, The booming twenties. The return to normalcy The state of trade. American chemical mergers Foreign cartels and trusts. Part II, Inorganic chemicals Contact acid from brimstone Nitric acid from ammonia. Phosphorus compounds. Electrolytic competition in alkalies. Other industrial chemicals. Part III, Organic chemicals. Alcohol under prohibition. Wood chemicals meet synthetic competition. Solvents lead organic progress. Crudes and intermediates. American dyes build a firm base. Part IV Medicinal and other fine chemicals. Coal-tar medicinal chemicals. The fine chemicals. Drug products and pharmaceuticals. Scents and flavors —synthetic and natural. Part V The consuming industries Fertilizers. New pest-control chemicals. From plastics to resins. Oils and pigments. Rayon and other textiles. Petroleum and tetraethyl lead. Chemicals in industry Broadening chemical boundaries. Appendix. Book titles. Company and personal name index. Subject index. Volume V Decade of new products Part I, The depression years Chemistry economics and politics Changing trade channels. Contracting world trade. Part II The basic chemicals Acids and salts. Alkalis and chlorine Nitrogen under political intervention Alcohol after repeal. Crudes, intermediates and dyes. Industrial gases. Part III, The newer chemicals. The acetyl chemicals. Petrochemical beginnings. Part IV The fine chemicals Medicinal products. Perfumes and cosmetics. Part Chemicals for consumers Fertilizers. Plastics and resins. Fibers and fabrics. Broadening chemical markets. Appendix. Book titles. Company and personal name index. Subject index. Volume VI, The chemical companies Company histories. Abbott Laboratories. Air Reduction Company Inc. American Aniline Products, Inc. American Cyanamid Company American Resinous Chemicals Corporation J T Baker Chemical Company Blaney & Smith Company Burroughs Wellcome & Co. (U.S.A.) Inc. Celanese Corporation of America. Colgate-Palmolive-Peet Company The Dewey and Almy Chemical Corporation Durez Plastics & Chemicals, Inc Eaton Chemical and Dyestuff Company Fisher Scientific Company General Ceramics and Steatite Corporation. General Electric Company Johns-Manville Corporation. Monsanto Corporation. National Dairy Research Laboratories, Inc. Pittsburgh Coke & Chemical Company The Quaker Oats Company Shell Development Company Union Carbide and Carbon Corporation. United States Rubber Company Zinsser & Company Inc. Name index. Products Index

Note A comprehensive history of the development of the chemical industry in the United States of America from its beginnings in colonial days. It was based both on published data and, for the later periods, on first hand information gained from men who took part in the events described. Due attention is paid to the political and economic facets, and much information and statistical data on prices, quantities produced, imports, tariffs, etc are included Extensive bibliographies of sources are included. Most of the illustrations are portraits. The sixth volume departs from the chronological arrangement of the other volumes and provides brief histories of 219 companies which have played leading parts in the American chemical industry

HAYNES WILLIAMS

Chemical trade names and commercial synonyms a dictionary of American usage. Second edition, revised and enlarged. Princeton D Van Nostrand Company Inc., 1955 466 p. 24 cm. $8.50 6615

Note: A reference book which presents in an alphabetical listing more than 22,000 trade names, abbreviations, and commercial synonyms for products of a chemical nature which are commercially available in the United States of America. It includes such terms as "Cyclone," "D A," Dowanol, and Rust-preventive Oil No. 11. The definitions characterize the product in standard chemical terminology as to one or more uses, and identify the manufacturer or source of the product. A typical entry reads: "Genetron 130 (Gen. Chem.) 1,1-difluoroethylene chemical intermediate, [illegible] plastomers and elastomers." The first edition was published in 1951. The second edition includes more terms and, generally speaking, the definitions are more complete. The names and addresses of manufacturers were revised so as to take into account changes that occurred between 1951 and 1955.

KILLEFFER, D H.

Two ears of corn, two blades of grass. Princeton D Van Nostrand Company Inc. 1955 139 p. illus. 24 cm. $4.00. 6616

Contents: We shall not want. Our synthetic kingdom. We live longer. With growing vigor. We synthesize about health. More to eat now. If we had no fields. What about power? Our wooden fare. Plenty of metals. How we can make such miracles happen. And all leads to peace. Index.

Note: The theme of this book is that human creativity in scientific and technological fields is an asset of much greater value than material resources. The author outlines the achievements of modern chemistry and shows how they have affected living standards and human welfare, particularly in the years since 1900. He discusses in an optimistic vein the potentialities of the soil, industrial organization of the United States of America, and shows how synthetic materials developed in recent years have become major products. His view of the future is expressed in such passages as the following: "We already know how to live well even [illegible] fields and farms shrink [illegible] our industry is already operating processes that will free us from the necessity of farming fields for food." The book is for general readers.

LEWIS WARREN KENDALL, AND OTHERS

Industrial chemistry of colloidal and amorphous materials by Warren K. Lewis Lombard Squires, and Geoffrey Broughton. New York The Macmillan Company 1942 540 p. illus 24 cm. $8 00 6617

Contents: Structure of liquids. Viscosity. Surface tension. Interface tension and adsorption. Adsorption. Suspensoids. Amorphous solids. Emulsoids. The electrochemical behavior of colloids. Gelatine. Emulsions and foams. Crystalline and amorphous states. Thermoplastics, glass. Plasticization by solution. Paper. The plastic fibers. Leather. Rubber. Ceramic industries. Synthetic resins and plastics. Textile fibers. Index.

Note: A college textbook which has also considerable reference value to practicing chemical engineers. Its purpose is to give readers beginning the study of the subject with a general background of chemistry a satisfactory introduction to the field. A selected bibliography appears at the end of each chapter.

MANTELL CHARLES LETNAM

Industrial electrochemistry Third edition. New York McGraw Hill Book Company Inc 1950 781 p. illus. 23 cm. (McGraw Hill chemical engineering series) $12.00. 6618

Contents (abridged): Part I, Theoretical electrochemistry: Electrolytic dissociation and conductance. Electromotive force and energy relations. Part II, Technical electrochemistry: Electrochemical analysis. Electrolytic reduction and oxidation. Corrosion. Colloid electrochemistry. Primary cells. Rectifiers and lightning arresters. Part III, Electrolytes: Metal deposition and refining. Electroplating and electroforming. Electrowinning of metals. Electrolysis of alkali halides and sulfates. Electrolysis of fused salts. Part IV, Electrothermics: Electric furnaces for metal melting. Metallic electrothermal products. Calcium carbide and cyanamide. Nonmetallic electrothermal products. Part V, Electrochemistry of gases: Electrical discharges in gases. Electronics. Part VI, Engineering: Materials of construction. Power generation and economics. Appendix. Name index. Subject index.

Note: An established text and reference book notable for its treatment of electrochemistry as a branch of chemical engineering. The basic theories are covered in the first 80 pages. The remainder of the book is devoted to the industrial processes in which electrochemistry plays a part. The inclusion of such topics as corrosion and lightning arresters indicates the breadth of view of the field taken by the author. There are no new chapters in this edition, but matter has been added throughout the book, usually in the form of new paragraphs. Additions have been made to the bibliographical footnotes, and there are many new illustrations.

NACHOD, F C., AND JACK SCHUBERT editors

Ion exchange technology New York Academic Press Inc., 1956 660 p. 24 cm. $15.00. 6619

Contents: Part I, Fundamental aspects: Introduction, by J. Schubert and F. C. Nachod. Ion exchange resins, by E. B. Tooper and L. F. Wirth. Equipment and process design, by J. W. Michener and H. L. Lundberg. Mass transfer and equilibria, by W. A. Selke. Principles of deionization with ion exchange resins, by R. Kunin and F. X. McGarvey. Electrochemical operations, by K. S. Spiegler. Ion exclusion, by W. C. Bauman and others. Economic considerations, by G. F. Mason. Prediction of fixed-bed performance with computing machines, by A. Opler. Part II, Applications: Ion exchange technology in water treatment, by C. Calmon and A. W. Kingsbury. Catalysis with ion exchange resins, by F. X. McGarvey and R. Kunin. Application in hydrometallurgy, by A. B. Mindler. Chromium recovery from plating solutions, by W. R. Morrison. Recovery of copper from rayon wastes, by F. Gerstner. The isolation in quantity of individual rare earths of high purity by ion exchange, by F. H. Spedding and J. E. Powell. Processing radioisotopes by ion exchange, by G. W. Parker and others. Treatment of radioactive wastes, by H. G. Swope. Sugar refining and by-product recovery by E. M. Cantor and A. W. Spitz. Organic chemical purification by ion exchange, by A. C. Reents and D. M. Sunnquist. Pharmaceutical and biological products, by R. G. Denk-Walker and L. A. Kazal. Author index. Subject index.

Note: Taken together the 20 chapters of this book provide a broad survey of the current state of development of ion exchange in the United States of America. A wide range of information is covered, as the chapter titles indicate; also, every chapter includes a reasonably long list of references. One of the chapter authors is associated with Farbenfabriken Bayer in Germany, but all of the others are on the staffs of the U. S. A. chemical manufacturers and governmental agencies. Although there are also chapters on "fundamental aspects," the emphasis is decidedly practical. Excellent, fully detailed indexes are included. The book is useful both as a text for young graduate chemists and as a reference for experienced chemists in industry.

RIEGEL, EMIL RAYMOND

Industrial chemistry an elementary treatise for the student and general reader with the support of a large number of collaborators. Fifth edition. New York Reinhold Publishing Corporation, 1949 1,015 p. illus. 24 cm. $9.00. 6620

Contents (abridged): Sulfuric acid. Nitric acid. Salt, hydrochloric acid, bromine. Sodium sulfide, sodium hyposulfite. Caustic soda and chlorine. Synthetic nitrogen products. Phosphates. Fertilizers. Portland cement. Ceramic industries. Fuels. Chemical utilization of wood. Industrial gases. Processes based on the activity of yeasts and bacteria. Synthetic textile fibers. Sugars. Synthetic and semi-synthetic organic chemicals. Manufacture of dyes. Animal and vegetable oils, fats, and waxes. Pigments, paints. Soap, synthetic detergents. Chemical explosives. Synthetic resins. Photographic films, plates, and papers. Insecticides and fungicides. Rubber. Appliances used by the chemical engineer. Pig iron. Steel. Copper, lead, zinc, tin, mercury. Gold, silver, platinum, radium, uranium, thorium, and cerium. Appendix. Index.

Note: As in earlier editions of this standard work, a wide range of information is included on the major chemical industries and the major industrial chemicals. The chemical engineering aspects

are stressed, but there is also considerable information on the economic aspects. In this edition, the chapter headings and general scheme of the book are unchanged from the 1942 edition. However the many advances in industrial chemistry during World War II made extensive revisions necessary and many of the chapters have been radically changed. Among these are the chapters on glass, water and sewage, sugar petroleum, and photography Some of the material which appeared in the fourth edition was deleted. As in earlier editions each chapter is accompanied by list of references to the literature.

ROGERS, ALLEN, editor

Rogers Industrial chemistry, a manual for the student and manufacturer Sixth edition, edited by C C Furnas, in collaboration with Allen Abrams, Jerome Alexander, Arthur A. Backus and others New York D Van Nostrand Company, Inc., 1942 2 v illus 23 cm. $27 50 6621

Contents Section I, Background of the chemical industry· The economic pattern. The unit operations. The organic unit processes. High pressure processes. Industrial instrumentation. Water for municipal and industrial use. Section II, Heavy chemicals and allied products. Sulfuric acid. The nitrogen compounds. Natural salts and by-products. Alkali and chlorine production. Chlorine products. Electrochemical industries. Fertilizers. Section III, Fuels and their by-products: The petroleum industry Manufactured city gas. Coal tar and its distillation products. Wood distillation industry Industrial carbon, blacks, and chars. Industrial gases. Section IV Refractories and allied materials. Glass. The clay products industries. Cement, lime and plaster Section V Metallurgical products. The metallurgy of iron and steel. Non-ferrous metallurgy Section VI, Surface coatings. Surface coatings. White lead. Section VII, Products of organic synthesis. Industrial organic chemicals. Manufacture of intermediates and dyes. Application of dyestuffs. Industrial solvents. Synthetic plastics. Explosives. Military gases. The man facture of pharmaceuticals. Section VIII, Natural organic materials Sugar. Starch—its sources, manufacture and products. The pulp and paper industry Cellulose industries. Rubber and rubber-like products. The natural resins, gums and gum resins. Natural oils, fats and waxes. Soap and glycerine. Glue and gelatine. Casein and allied materials. Leather

Note. This set contains accounts of 49 important chemical industries written by leading American chemists and chemical engineers. Each of the authors has drawn upon his intimate knowledge of his industry t furnish the most essential facts and figures. Each of these industries is covered from raw materials to finished products, including the basic economic and chemical principles and the details f the processes and equipment.

SNELL FOSTER DEE, AND CORNELIA T SNELL

Chemicals of commerce. Second edition Princeton D Van Nostrand Company Inc. 1952 587 p 22 cm. $8 25 6622

Contents Introduction. Inorganic acids. Bases or alkalies. Sodium salts f inorganic acids. Potassium salts of inorganic acids. Organic compounds of sodium and potassium. Ammonium and lithium compounds. Calcium compounds. Barium, strontium and magnesium compounds. Compounds of nickel, cobalt, manganese and zinc. Compounds of aluminum, chromium and iron. Arsenic, antimony and tin. Copper cadmium and bismuth. Lead, sil er gold and mercury Miscellaneous metals and compounds. Carbon and miscellaneous nonmetals with their oxides and related compounds. Hydrocarbons, other than those from petroleum, and their simple halogen derivati es Petroleum hydrocarbons and related products. Alcohols and mercaptans. Phenols and their deri atives. Aldehydes and ketones and their derivatives. Organic acids and closely related compounds. Amines, nitro compounds, and various organic nitrogen derivati es. Esters. Fats and fatty oils. Waxes. Ethers. Organic dyes. Toners, lakes and reduced colors Natural plant and animal products. Extracts of natural products. Alkaloids, glucosides, and saponoids. Essential oils and oleoresins. Natural gums, resins and balsams. Synthetic resins and synthetic elastomers. Carbohydrates. Proteins. Vitamins, sterols, antibiotics and hormones Appendix.

Note. A reference book of general and technical information on chemicals of commercial importance. Miscellaneous materials, such as burnt umber are described as to chemical nature, commercial grades, and uses. Chemicals of more precise composition, such as mercuric sulfate, are described in terms of chemical properties, solubilities, method of preparation, and chief uses. The descriptions range from a few lines to half a page in length. The book is addressed to purchasing agents and other persons who need commercial and practical information rather than to chemists. The lack of an index hampers somewhat the use of the book as a quick reference manual.

UNDERKOFLER, LELAND A , AND RICHARD J HICKEY, editors

Industrial fermentations. New York Chemical Publishing Company Inc. 1954 2 v illus 23 cm. $12.00 per vol. 6623

Contents. Volume I. Introduction, by L. A. Underkofler and R. J Hickey Part I, Alcoholic fermentation and its modifications: Alcoholic fermentation of grain, by W H. Stark. Alcoholic fermentation of molasses, by H. M. Hodge and F M. Hildebrandt. Alcoholic fermentation f sulfite waste liquor by J. L. McCarthy Production of alcohol from ood waste, by J. F Saeman and A. A. Andreasen. The brewing industry by R. L Tenney Commercial production of table and dessert wines, by M. A. Joslyn and M. W Turbovsky Glycerol, by L. A. Underkofler. Part II, The production of yeast: Commercial yeast manufacture, by R. Irvin. Food and feed yeast, by A. J Wiley Part III, The butanol-acetone fermentations The butanol-acetone fermentations, by W N McCutchan and R. J Hickey Part IV Fermentative production of organic acids. Lactic acid, by H. H. Schopmeyer. The citric acid fermentation, by M. J. Johnson. Gluconic acid, by J. W Foster Itaconic acid, by L. B. Lockwood. Acetic acid—vinegar by R. H. Vaughn. Subject index.

Note Fermentation is not only one of the oldest chemical processes employed by man, but it is one which has undergone remarkable development especially in regard to new applications in our own time. Here is the first olume of two-volume systematic account. The point of view is primarily that of the industrial chemist, and most of the processes described are of industrial importance at the present time. The individual chapters are concise surveys based on the literature and—in most cases—on the author's experience. Each one includes substantial reference list. All of the authors are recognized specialists in the field.

UNITED STATES OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT

Chemistry a history of the chemistry components of the National Defense Research Committee, 1940–1946 Edited by W A Noyes, jr , with foreword by James Bryant Conant and Roger Adams. Boston Little, Brown and Company 1948 524 p illus. 22 cm (Science in World War II) $6 00 6624

Contents (abridged) Part I, Introduction The organization of the National Defense Research Committee—general plan. Part II, History of Division 8 The history of Di ision 8 central laboratories Synthetic work on explosi es. Research on detonation and shock waves Evaluation of explosi es and munitions. Molded composit propellants. Tracers and igniters. Part III, History of Di ision 9 The organization of Di ision 9 Protecti clothing and ointments The detection, identification and analysis of chemical warfare agents The toxicity and vesicancy of chemical warfare agents. Part IV History f Division 10 The filtration of aerosols. Screening smokes Gas mask absorbents and related problems. Insecticide dispersal Part V History of Di ision 11 The oxygen program. Incendiary bombs. History of NDRC flame-thrower development Part VI, History of Division 19 Weapons for sabotage. Part VII, History of Tropical Deterioration Committee The study of tropical deterioration. Appendices. Indices.

Note. A comprehensi review of the history organization, and work of the thousands of chemists who were mobilized through the National Defense Research Committee in connection with the United States of America's effort in World War II. The book is written for chemists and other specialists rather than for laymen and is packed with both historical and technical information concerning the development of the widely diversified items indicated in the table of contents. The mechanics of committee and group organization are discussed in detail, and credit is given to individuals and commercial firms responsible for the success of specific projects The series, of which this book is part, constitutes an official record of the activities and accomplishments of the Offi of Scientific Research and Development.

PETROLEUM CHEMISTRY

AMERICAN CHEMICAL SOCIETY

Progress in petroleum technology a collection of the papers presented at the Symposium on Twenty Five Years of Progress in Petroleum Technology held by the Division of Petroleum Chemistry of the American Chemical Society at the Diamond Jubilee meeting in New York, September 3 to 7 1951 Symposium chairman, Robert E. Wilson. Washington, D C. American Chemical Society 1951 392 p. illus. 24 cm. (American Chemical Society Advances in chemistry series edited by the staff of Industrial and engineering chemistry No. five) $5.00. 6625

Contents: Scope of the symposium, by R. E. Wilson. The mechanism of catalytic cracking, by R. S. Greensfelder. Catalytic cracking in fixed- and moving-bed processes, by D. R. Arden and others. Fluid catalytic cracking process, by E. V. Murphree. International and fixed catalytic reforming of naphthas, by H. G. McGrath and L. R. Hill. Fluid hydroforming, by E. V. Murphree. Comparison of platforming and thermal reforming, by V. Haensel and M. J. Sterba. Development of reforming catalyst, by M. J. Fowle and others. Polymerization of hydrocarbon gases to motor fuels, by P. A. Mc... Commercial alkylation of isobutane, by ... and L. M. Henderson. Isomerization, by R. C. Gunness, by A. V. Mrstik and others. Synthesis of liquid fuels from natural gas, by J. H. Arnold and P. C. Keith. Liquid fuels from coal and oil shale, by H. H. Storch. Desulfurization and sweetening, by T. Tait. Dewaxing and deasphalting. Solvent extraction in the petroleum industry, by W. P. Gee and H. R. Grant. Petroleum distillation, by G. C. Carter, Jr. Internal combustion engine fuels, by W. E. Bradley and G. R. Lake. Petroleum lubricants, by R. E. Albright. Tetraethyllead, by G. Edgar. Domestic fuel oils, by R. J. S. Pigott and H. A. Anderson. Asphalts and ..., by R. E. Carney. Natural gas liquids, by J. R. Hill. Petroleum coke and waxes, by E. C. Hughes and H. F. Hardman. Aliphatic chemicals, by G. A. Cohen and others, by C. L. Thomas. Aromatics from petroleum, by R. M. Love and E. F. A. Jaeger. Elastomers and plastics, by W. B. Reynolds and W. W. Flowers. Synthetic detergents from petroleum, by W. K. Griesinger. Composition of petroleum, by F. D. Rossini and J. A. Kerns. Relation of properties to molecular structure for petroleum hydrocarbons, by C. E. Boord. Physical chemistry in the petroleum industry, by B. H. Sage. Analysis of petroleum, by H. Levin.

Note: Many of the papers in this collection cover completely advances made during the past 25 years, while others describe the current status of specific areas of petroleum technology. Literature references accompany each paper. The papers are original, and their authors include many contemporary leaders in petroleum research.

AMERICAN SOCIETY FOR TESTING MATERIALS

ASTM viscosity index calculated from kinematic viscosity Philadelphia. American Society for Testing Materials, 1955 826 p. 24 cm. (American Society for Testing Materials. Special technical publication, no. 168) $8.00. 6626

Note: Presented in this volume are an extended series of original tables designed "for obtaining Viscosity Index values of petroleum products and lubricants quickly and accurately." The tables were calculated on IBM machines according to the procedure described in the Standard method for calculating viscosity index (ASTM Designation D567). The kinematic-viscosity values used in the calculation of the tables are to be found in Table III of the Society's Special technical publication no. 43A.

ASTLE MELVIN J

The chemistry of petrochemicals. New York Reinhold Publishing Corporation, 1956. 267 p. illus. 23 cm. $6.50. 6627

Contents: The petrochemical industry. Synthesis of paraffin hydrocarbons. Reactions of paraffin hydrocarbons. Preparation of olefins. Reactions of olefins. Polymerization and alkylation of olefins. Diolefins. Acetylene. Naphthenes. Aromatic hydrocarbons. Olefin oxides. Alcohols and ethers. Aldehydes and ketones. Acids, acid anhydrides and esters. Amines and nitriles. Index.

Note: A broad, compactly written survey of the reactions and procedures whereby a wide range of chemicals is made from petroleum and natural gas. The main emphasis is on those of industrial importance, but reactions and procedures described only in the literature are included as well as those in use in industry. Reactions are described and diagrammed, conditions and catalysts are stated, and the available information on yields is included. Literature citations are included. The book is a reference guide of potential usefulness to most industrial chemists, especially those who are concerned with exploring the potentialities of the petroleum hydrocarbons.

BELL, HAROLD SILL

American petroleum refining. Third edition. New York D Van Nostrand Company Inc., 1945 619 p. illus. 23 cm. $8.50. 6628

Contents: General introductory. Crude oils and their characteristics. Chemical properties. Physical properties. Physical and chemical. The refinery site and planning data. The manufacturing process. General arrangement. Distillation. Heat transfer. Fractionation. Distillation stills. Pipe heaters. Condensers and heat exchangers. Thermal cracking. Catalytic cracking, theory and development. Special processes for motor-fuel blending. Catalytic cracking. Motor fuels. Special processes. Solvent refining agents. Chemical treatment. Dewaxing. Refrigeration. Solvent extraction. Filtration. Blending and compounding. Packages. Storage of oil. Volume measurements. Evaporation losses. Fire protection. Pumping of oil. Power and boiler house. General departments. Bulk transportation. The problems of the future. Index.

Note: A concise survey of practice and processes in the petroleum refining industry. Some historical and background information is also included. The volume is of value to managers, engineers and operating employees of all refining plants, and as a reference book for general information on the industry. This edition incorporates considerable information on recent developments. Chapters on physical and engineering data have been added, and the chapters on cracking and dewaxing have been enlarged. Thermal and catalytic cracking are treated. The final chapter discusses briefly the production of petroleum products from oil shale, and by the synthesis of gases and the hydrogenation of coal.

ELLIS CARLETON

The chemistry of petroleum derivatives. New York Reinhold Publishing Corporation, 1934–37 2 v 23 cm. Vol. I, o p. vol. II, $25.00. 6629

Contents (abridged): Chemical nature of petroleum and natural gas. Cracking processes and their products. Production of aromatic hydrocarbons. Carbon black industry. Direct hydration of olefins to alcohols. Properties and uses of isopropyl alcohol. Production, properties, and uses of ketones. Reactions of olefins with halogens. Production, properties, and uses of halohydrins, simple glycols, olefin oxides. Some important reactions of diolefins. Halogenation of methane, cyclopentane, and benzene. Oxidation of methane, unsaturated hydrocarbons, and aromatic hydrocarbons. Analysis of natural gas.

Note: A comprehensive survey of the work done to about 1935 on the preparation and utilization of aliphatic hydrocarbons. It is now useful as a guide to the early journal and patent literature.

HATCH LEWIS

The chemistry of petrochemical reactions. Houston Gulf Publishing Company, 1955 182 p. illus. 20 cm. $4.50 6630

Contents: Petroleum as a raw material for the chemical industry. Non-hydrocarbon constituents of petroleum, sulfur and nitrogen compounds—oxygen compounds. Oxidation of hydrocarbons. Chlorination of paraffin and aromatic hydrocarbons. Nitration and sulfonation of paraffin and aromatic hydrocarbons. Production of olefins. Reactions of the olefins. Alcohols from olefins. Halogenation of olefins. Addition of acids to olefins and acetylenes. Oxidation of olefins. Polymerization of olefins. Alkylation with olefins. The oxo reaction—primary alcohols from olefins. The production and reactions of butadiene. Preparation and properties of acetylene. Air and methane. Appendix: Tables and figures. Index.

Note A compact survey of the chemical reactions which are the basis of the petrochemical industry It covers primarily reaction mechanisms and their applications in the industry Some flow sheets of industrial processes are included. The book is addressed to readers who are familiar with chemical symbols and the basic concepts of organic chemistry but is introductory to the specialized field of petroleum chemistry Most of the contents were first published as a series of articles in the *Petroleum refiner* during 1953 and 1954 The author is a member of the faculty of the University of Texas.

HUNTINGTON, RICHARD LEE

Natural gas and natural gasoline. New York McGraw Hill Book Company, Inc., 1950 598 p illus 23 cm. (McGraw Hill chemical engineering series) $11 00 6631

Contents Introduction. Estimation of gas and gasoline reserves. Elements of plant location and design. Gathering of raw gas and return of residue gas. Determination of cycling efficiencies in the Cotton Valley (Louisiana) gas-condensate reservoir Elements of natural-gasoline processing. Absorption. Distillation and fractionation. Gas dehydration. Storage and transportation. High-pressure pipe-line research. Appendices. Index.

Note An engineering college textbook which offers a broad introduction to the natural gas industry with emphasis on the phases which are primarily of interest to chemical engineers. The processes of removing natural gasoline from the raw gas are covered and so are the other aspects of natural gas processing. The chapters on storage and transportation and high-pressure pipe line research are together 125 pages long and present a fairly inclusive survey of basic engineering principles. Aside from its intended use in colleges, the book should be of interest to graduate engineers whose formal education did not include a course in natural gas but who find themselves in need of information about the field.

KALICHEVSKY, VLADIMIR A, AND KENNETH A KOBE

Petroleum refining with chemicals Princeton N J D Van Nostrand Company Inc. 1956 780 p illus 23 cm. $14 50 6632

Contents Nature of crude oil and preliminary refining. Evaluation of petroleum products. Acid refining. Refining with alkalies. Refining with adsorbents. Desulfurization and sweetening. Solvent refining. Deasphalting and dewaxing. Additives for non-viscous petroleum fractions. Lubricating oil additives. Appendix. Indexes Author index. Subject index. Index of chemicals. Index of patents.

Note The subject of this very comprehensive work is the refining or processing of liquid petroleum products and petroleum gases by processes based on solvents, adsorbents, acids and alkalies. It is designed for reference use by chemical engineers in the petroleum industry and by chemists and chemical engineers in other industries who need technical information on this phase of petroleum refining. It is based on a wide literature survey—so extensive, in fact, that the index of cited United States patents alone runs to 25 four columned pages. There are 172 tables in the text proper and 18 in the appendix.

KLOSKY SIMON, compiler

An index of shale-oil patents Washington D C Government Printing Office, 1948 360 p illus 14 × 23 cm (United States Bureau of Mines Bulletin 467) $0 75 6633

Content Nature and origin of shale oil. Method of finding patent abridgments. Part I, Shale-oil patents of the United States List of inventors and assignees. Part II, Other English language patents Australian. British. Canadian. Union of South Africa. List of inventors and assignees Part III, European language patents Austrian Belgian Danish. French German. Italian. Netherlands. Norwegian. Swedish. Swiss. List of inventors and assignees. Classification of shale-oil patents Refining processes Distillation, fractionation. Chemical treatment. Cracking. Desulfurization. Solvent extraction. Hydrogenation. Reagent recovery Dewaxing. Products Gasoline. Diesel fuels. Lubricants. Paraffins. Tars, cokes, etc. Miscellaneous.

Note This compilation is intended to include all patents on record in the United States Patent Office up to January 1 1945 which pertain to the treatment of shale oil for use as an industrial fuel. The material is presented in the form of short notices describing the subject material of each patent, which consist of an abridgment of the patent (if British or Australian) or a typical claim in the case of the United States or foreign patents. A subject grouping of the patents follows the abridgments. Most of the United States patents indexed, and some of the others, have illustrations.

LEMAIRE, GEORGE W

Study of physical properties in the refining of petroleum Golden Colorado School of Mines 1954 87 p illus 23 cm (Colorado School of Mines. Quarterly Vol. 49, no 4) $2 00 6634

Contents (abridged) Aniline point. Flash point. Blending indexes. Pour point. References. Appendix.

Note. The results of studies carried out in the Petroleum Refining Department of the Colorado School of Mines under the supervision of the author and Professor J O Ball are presented in this pamphlet. The studies were concerned with investigating the correlation of the known properties of pure hydrocarbons with the properties of petroleum fractions produced in the course of standard refining. New and important results were obtained. For example, it was found that the degree of paraffinicity of an oil determined its blending efficiency A correlation was obtained by use of the A.S.T.M. predicted viscosity and the difference in paraffinicity of the base oils that quite accurately predicted the actual viscosity of the blends. Literature references are included.

LOCHTE, H L, AND E R. LITTMANN

The petroleum acids and bases New York Chemical Publishing Company, Inc., 1955 368 p illus 23 cm. $9 00 6635

Contents Part I, The petroleum acids. Introduction. Early investigations. Availability and methods of isolation of naphthenic acids. Distribution and concentration of acids in petroleum. Purification of petroleum acids. Analytical methods. Methods of separating petroleum acids. Characterization of petroleum acids. The structure of petroleum acids. The hexahydrobenzoic acid problem Salts and derivates of petroleum acids. Phenols. The aliphatic of fatty acids. Von Braun's study of the properties and reactions of naphthenic acids. Von Braun's study of Roumanian petroleum acids. The structure of Von Braun's ketone. Circylic, polycyclic, and aromatic acids. Recent studies on naphthenic acids. The origin of petroleum acids. Utilization of naphthenic acids. Part II, The petroleum bases. Introduction. Nitrogen in petroleum. Separation of basic compounds. Early investigations. Investigations at the University of Texas. Cracking-process bases. The origin of petroleum nitrogen compounds. Uses of petroleum bases Index

Note. A compactly written survey of published work on the acids and bases occurring in petroleum. The authors did not attempt an exhaustive coverage of the literature and compounds such as the naphthenic acids on which much has been published are treated less thoroughly than compounds on which comparatively little has appeared. The typical chapter is essentially a series of literature abstracts, run together so as to permit straightforward reading and with references to the bibliography at the end of the chapter In general, the patent literature is not cited however there are several specialized lists—for example a listing of United States of America patents on naphthenate surface active agents. The only index is to subjects. The first named author is Professor of Chemistry in the University of Texas and has been actively associated with research in this field for many years.

MAXWELL J B

Data book on hydrocarbons application to process engineering Princeton D Van Nostrand Company Inc. 1950 259 p. illus 26 cm. $6 00 6636

Contents Physical data Physical constants Characteristics of petroleum fractions. Molecular weight Vapor pressure Fugacity Critical properties. Thermal properties Density Viscosity Combustion. Unit operations Flow of fluids Flow of heat Equilibrium flash vaporization. Fractionating towers. Conversion factors Index

Note Earlier editions of this work produced by the Standard Oil Development Company proved of such value to technical personnel in the Company and its affiliates that the Company decided to make it available for general use It contains (1) basic data on hydrocarbons and petroleum fractions, (2) methods of applying these data to process engineering, including illustrative examples and some fundamental theory and (3) applications of a few of the unit operations of chemical engineering used extensively in the petroleum

industry The presentation is largely in the form of graphs and tables.

MEYER, ERICH
White mineral oil and petrolatum. New York Chemical Publishing Company Inc., 1950. 135 p. illus. 22 cm. $4 75 6637

Contents: Technical aspects of white mineral oil and petrolatum. Applications of white mineral oil and petrolatum. Methods of testing white oil and petrolatum. Shipping and handling of white mineral oil and petrolatum. Index.

Note: The heart of this rather short reference book is the second chapter in which data are provided on the uses of petrolatum (including white mineral oil) in a wide range of industries and products. Typical of the arrangement of this part is the matter presented under "Household-type Insecticides." Here the variety of oil and its use are *stated briefly* the ingredients and properties of typical sprays are given; then the requirements to be met by the oil, and the requirements expressed in standard tests taken from U.S. Army and Navy specifications are tabulated.

NELSON WILBUR LUDINE
Petroleum refinery engineering. Third edition. New York McGraw Hill Book Company Inc. 1949 830 p. illus. 24 cm. (McGraw Hill chemical engineering series S D Kirkpatrick, consulting editor) 6638

Contents: Chemical engineering and petroleum engineering. History and development of refining. Composition of petroleum. Refinery products and test methods. Evaluation of oil stocks. Physical properties of petroleum oil. Introduction to processing. Refinery corrosion and metals. Refinery and distillation processes. Auxiliary processes and operations. Conventional chemical treatments. Solvent treating or extraction processes. Dewaxing. Fluid mechanics. Combustion. Vaporization and condensation. Fractionation and towers. Heat transfer and exchangers. Tube-still heaters. Thermal cracking and decomposition processes. Reforming hydrocarbons. Catalytic cracking. Natural gas and natural gasoline. Economics of design. Typical design calculations. Appendix. Author index. Subject index.

Note: Originally an engineering college textbook, this work has gradually evolved into a reference book for practicing engineers. It deals with current processes and practices in petroleum refining, and presents in detail the aspects which are factors in the design of refineries. Extensive bibliographies are a special feature. A fourth edition was published early in 1958, 960 p. $13.00.

SMITH N A C., AND OTHERS
The Bureau of Mines routine method for the analysis of crude petroleum (in three parts) I. The analytical method, by N A C. Smith, H. M Smith, O C. Blade, and E. L. Garton. Washington D C Government Printing Office 1951 [illegible] p. illus. 26 cm. (United States. Bureau of Mines. Bulletin 490) $0.50. 6639

Contents: Introduction. Distillation (Bureau of Mines routine method) Distillation at atmospheric pressure. Distillation at reduced pressure (40 mm of mercury) Treatment of unusual crude-oils—precautions. The analytical report. Sampling and sample handling. Sample information. Sample inspection and identification. Property determination. Specific gravity. Viscosity. Sulfur. Color. Cloud test. Pour point. Carbon residue. Aniline point. Preparing the report of an analysis. Appurtenant summary. Summation. Outline of Bureau of Mines routine method for the analysis of crude petroleum. References. Appendix. Bibliography of reports containing analyses of crude oils by Bureau of Mines routine method. Finding list for crude-oil analyses.

Note: The method of analysis described in this bulletin has been used in analyzing thousands of samples of crude oil since it was developed during the period 1918 to 1920. It was first described in Bureau of Mines Bulletin 207 1922, of which the present bulletin is largely a revision. Details of the procedure, description of the apparatus, and brief discussions of ancillary methods are all included. The appendix includes a bibliography of reports which contain analyses of crude oils by this method and a finding list of analyses arranged by oil fields in the respective states of the United States and in other countries.

STORCH HENRY HERMAN, AND OTHERS
The Fischer Tropsch and related syntheses including a summary of theoretical and applied contact catalysis. By Henry H. Storch, Norma Golumbic and Robert B Anderson. New York John Wiley & Sons, Inc., 1951 610 p. illus. 23 cm. $13.50 6640

Contents. Structure and reactivity of hydrogen, carbon monoxide, iron, cobalt, and nickel and the thermodynamics of the hydrogenation of carbon monoxide and related processes. An introduction to heterogeneous catalysis. Development of Fischer-Tropsch catalysts. Fischer-Tropsch process development. Processes related to the Fischer-Tropsch. Kinetics and reaction mechanism of the Fischer-Tropsch synthesis. Name index. Subject index.

Note: The synthesis of aliphatic hydrocarbons from carbon monoxide is a *chemical process of great potential uses.* This book is a very substantial addition to the literature of the subject. It is based primarily on investigations of German progress and practice in this field that were made by teams of British and American investigators just after the close of World War II. Essentially it is a critical digest of papers pertaining to the subject that were obtained in Germany by the investigating teams. This material has been supplemented to some extent by the results of work done in the United States of America in more recent years. At the time of writing, the authors were all associated with the Office of Synthetic Liquid Fuels of the United States Bureau of Mines. The book is addressed to industrial chemists and chemical engineers.

STORCH, HENRY HERMAN AND OTHERS
Synthetic liquid fuels from hydrogenation of carbon monoxide. Part 1 Review of literature Bureau of Mines research on effect of *catalyst preparation reduction, and induction procedures on activity correlation of physical properties of the catalysts with their activity* By H. H. Storch, R. B Anderson, L. J E Hofer C. O Hawk H. C. Anderson, and N Golumbic. Washington D C. Government Printing Office 1948 213 p illus. 23 cm. (United States. Bureau of Mines. Technical paper 709) $0.50 6641

Contents Introduction. Review of literature: Introduction (1913–32) Industrial development. Engineering development. Catalysts. Pressure, diluents, hydrogen carbon monoxide ratio, throughput, temperature, adsorption, and probable reaction mechanism. Properties of Fischer-Tropsch synthesis products. *Fischer-Tropsch* cost estimates. Bureau of Mines research on effect of catalyst preparation, reduction, and induction procedures on activity. Catalyst-testing experiments. Effect of variations in methods of catalyst preparation, reduction, induction, and synthesis conditions on activity and durability. Correlation *of physical* properties of catalysts with their activity. X-ray diffraction patterns and magnetic properties of iron catalysts. Surface properties of Fischer-Tropsch catalysts. Appendix on preparation of catalysts: Preparation of unpromoted iron catalysts. Preparation of promoted iron catalysts. Preparation of cobalt and nickel catalysts. Equipment used in preparing catalysts. Indexes. Numerical patent index. Author index. Subject index.

Note Because of the importance of information on synthetic liquid-fuel processes in insuring an adequate supply of motor fuels and lubricating oils in the United States, the Bureau of Mines has carried on research and process development work on the use of natural gas to produce gasoline and Diesel oil by the catalytic hydrogenation of carbon monoxide. This technical paper contains a detailed record of experimental work done between 1941 and 1946 on the effect of mode of catalyst preparation, reduction, and induction on activity in the synthesis and on boiling range of the product. Also included are data on the X-ray diffraction patterns, magnetic susceptibility surface area, and porosity of the catalysts.

WILEY J L. AND H. C ANDERSON
Bibliography of pressure hydrogenation. Washington, D C. Government Printing Office, 1950–52 646 p. 26 cm. (United States.

Bureau of Mines Bulletin 485) Part I, o p., Part II, $1 00, Part III, $0.25 6642

Note This work contains abstracts of the world's technical literature bearing on the history development, and commercial application of the Bergius and related processes for the hydrogenation, under greater than atmospheric pressures, of liquid and solid carbonaceous materials such as coal, lignite, their distillation and extraction products, pitches and tars, and petroleum and its distillation residues. Part I contains 2503 abstracts of journal articles Part II, 1544 abstracts of patents, and Part III contains a subject index to Parts I and II and a numerical patent index.

CERAMICS AND REFRACTORY MATERIALS

CAMPBELL, I E , editor

High temperature technology Sponsored by The Electrochemical Society, Inc. New York John Wiley & Sons, Inc., 1956 526 p illus 24 cm. (The Electrochemical Society series) $15 00 6643

Contents. Part I, Introduction An introduction to high-temperature refractory materials. Part II, Materials Metals. Oxides. Properties of carbon and graphite at high temperatures. Carbides. Borides. Silicides. Nitrides. Sulfides. Cermets. Part III, Methods. Sintering of metallic and nonmetallic refractory materials. Means of achieving high temperatures and some of their limitations. Resistance and induction-heated furnaces. Arc furnaces. Other methods of achieving high temperatures. Part IV Measurements Temperature and its measurement. Mechanical properties. Physical properties. Special techniques. Author index. Subject index.

Note The commercial development f gas turbines, jet engines, and other devices in which high temperatures are essential to satisfactory performance has motivated an intensive effort to develop materials that will give service at temperatures above 1500 C. This book, the product of collaboration among the editor—who is associated with the Battelle Memorial Institute—and more than 30 prominent chemists, ceramists and specialists in refractories, surveys the achievements to date in materials and techniques and describes proven methods of measuring temperature and properties. Although there is a brief discussion f metals, the main emphasis is on refractories of the kinds named in the chapter titles of Part II. There is equal emphasis on methods of producing these materials, of achieving high temperatures, and on measurement techniques. There are many tabulations of data, especially on the properties of materials, and extensive literature lists of both journal articles and patents.

GOULD, ROBERT EDWARD

Making true porcelain dinnerware a discussion of processes. Chicago Industrial Publications, Inc 1947 106 p illus. 22 cm. $6.50 6644

Contents. Introduction. Raw materials. Compounding the body Body preparation. Discussion of methods. Forming. Bisque firing. Placing in the glost kiln. Glost firing. Combustion reactions of carbon and oxygen. Theoretical considerations. Drawing the glost kiln. Decorating. Summary Appendix. Index.

Note Contrary to the opinion held generally in the American dinnerware industry the author of this book—himself a manufacturer with experience in both Europe and the United States of America—believes that true or hard fire porcelain can be manufactured profitably in the United States. In support of this view he compares American and European raw materials, processes, machines and workers, and in each category finds that the American manufacturer would suffer no disadvantage. In making these comparisons, the process of producing true porcelain is outlined step by step. The book is addressed to persons engaged in the industry or having a practical interest in it. The appendix contains formulas and analyses.

GREAVES WALKER, ARTHUR FREDERICK

Drying ceramic products. Fourth edition Chicago Industrial Publications, Inc. 1948 112 p illus. 23 cm. $4 00 6645

Contents (abridged) Evaporation. The part played by air Water contained in ceramic materials. Shrinkage. Heat requirements. Types of dryers. Chamber and tunnel dryers heated by steam. Fans. Selection of fans. The designing of ducts or flues. Progressive dryers. Waste heat progressive dryers. Radiated heat dryer Infrared dryers. Control of drying. A theoretical method of running a heat balance in a dryer Psychrometric charts. References on drying.

Note. A concise exposition intended for plant operators and others in charge of drying operations. The physical principles of drying, the causes of dryer losses and how to prevent them, and the design of successful drying equipment are all discussed. Some illustrations of dryers are included. The mathematical computations require only a knowledge of arithmetic and elementary algebra. The material was originally prepared as classroom lectures, and some of the chapters contain problems for the student to solve.

INSLEY, HERBERT, AND VAN DERCK FRÉCHETTE

Microscopy of ceramics and cements, including glasses, slags, and foundry sands. New York Academic Press, Inc., 1955 286 p illus 24 cm. $7 50 6646

Contents Introduction. The microscope and accessories. Optical mineralogy Preparation of material for microscopic examination. Special techniques. Raw materials and their thermal behavior. Whitewares. Refractories. Glass. Cement and cement products. Porcelain enamels. Structural clay products. Foundry sands. Slags. Abrasives, by H. N Baumann, Jr Author index. Subject index.

Note. The petrographic or polarizing microscope is the standard tool in industrial laboratories associated with the ceramic and other industries named in the chapter titles of this book. Although other instruments, including the electron microscope, are introduced briefly this book is chiefly based on it. Chapters I to VI are rather compact statements of knowledge basic to the whole field. Beginning with Chapter VII, microscopy in the various ceramic and related industries is discussed by industry or class or product. These chapters are based rather closely on the literature and consist essentially of condensed descriptions of applications of microscopy and specialized microscopic techniques, together with references to the source articles. Most chapters contain reproductions of photomicrographs. A chart in color of the Michel-Levy scale of birefringence is included. The book should be a valuable one both to scientists already at work in the ceramics, cement and refractories industries and those preparing for such work.

KIRKENDALE, GEORGE A.

A textbook for ceramic engineers. Alfred, N Y Alfred University, 1954 212 p illus. 23 cm. $4 50 6647

Contents Classification of clays. Ceramic raw materials. The mineralogical composition of clays. Chemical composition of clays. Chemical notation and constitution of ceramic materials. Physical properties of clay Scumming and efflorescence. Distribution of clay deposits. Drying clays. Firing clays. Washing, refining and beneficiation of clays and other ceramic materials. Screening and bowling. Classification with water Magnetic separation. Crushing and grinding. Clay feeding and proportioning. Mixing, kneading, and tempering. De-watering. Clay formation. Flotation. Prospecting for clay deposits, collection and preparation of samples. Property survey Winning clays. Index.

Note. A compact book on clays, their prospecting, winning, properties, and preparation for use in ceramics manufacture. Other materials are discussed very briefly in the chapter entitled "Ceramic raw materials. Most of the space is devoted to the properties and preparation of clays. Processes are described in some detail and there are many pictures of the machinery used. The book is directed primarily to college students but is useful also to graduate engineers who find themselves in need of an introduction which is reliable and explicit.

KOENIG, JOHN HENRY, AND W H EARHART

Literature abstracts of ceramic glazes. Philadelphia *College Offset Press* 1951 395 p 24 cm $7.50 6647A

Contents American Journal of the American Ceramic Society Bulletin of the American Ceramic Society Transactions of the Amer-

can Ceramic Society. Ceramic industry. Ceramic age (and Ceramics). British. Transactions of the British Ceramic Society. Pottery gazette. Foreign publications. Berichte Deutsche keramische Gesellschaft. Sprechsaal. Keramische-Rundschau. Tonindustrie-Zeitung. Keramos. Ceramique. Miscellaneous foreign and American publications. Transactions of Indian Ceramic Society. Journal, Canadian Ceramic Society. General. National Bureau of Standards. Engineering experiment station publications. Patents. Reference books. Descriptive bibliography. Glass specifications. List of references and periodicals. Index.

Note: A review of the literature of glass through 1952. As in the previous edition (1942) papers are abstracted in varying lengths depending on their value and on their general accessibility but all important claims, successful glass formulas, and processes are included. Each of the sixteen periodicals listed above is treated separately with the abstracts arranged chronologically beginning with the most recent. There is a subject index but no author index.

LEVIN, ERNEST M., AND OTHERS

Phase diagrams for ceramists. By Ernest M. Levin, Howard F. McMurdie, and F. P. Hall. Margie K. Reser, editor. Herbert Insley, consulting editor. Columbus, The American Ceramic Society, 1956. 286 p. illus. 28 cm. $10.00. 6648

Contents: Glossary. The phase rule. Interpretation of diagrams. Experimental methods for high-temperature heterogeneous equilibria. Selected bibliography. Specific diagrams: Metal oxide systems. Systems containing non-metal oxides. Systems containing halides, sulfides, etc. Water-containing systems. Author index. Subject index.

Note: In this latest version of a standard compilation, there are 811 diagrams of equilibria in chemical systems, of interest in ceramic research and technology. The diagrams are classified in groups under the titles listed under "Specific diagrams" in the above table of contents. Each diagram is very concisely described in a caption, then a literature reference to the source is given. The names of authors of the source literature are assembled in the author index. In the system index the diagrams are entered under each of the components participating in the system. The reproductions of diagrams are preceded by about 35 pages of discussion of systems of equilibrium and by a three-page classified and annotated bibliography.

MCNAMARA, EDWARD P., AND IRVING DULBERG

Fundamentals of ceramics. Second edition. State College, Pennsylvania State University, 1953. 382 p. illus. 24 cm. $4.50 6649

Contents: Introduction to ceramics. Mineralogy. The occurrence, properties and uses of ceramic raw materials. Raw material preparation. Pyrometry. Fuels and combustion. Refractories. Glass. Melting and crystallization of glasses. Equilibrium diagrams.

Note: An introductory textbook directed to students already at work in the ceramic industries or preparing for this field. It provides a broad view of the fundamental technology with emphasis on the properties and preparation of materials, fuels, and pyrometry. An introduction to phase equilibria in systems of inorganic materials is provided in the last chapter. Literature references are included. The first edition was published in 1938 as Volume two of an *Extension course in ceramics*, by E. P. McNamara.

MOREY, GEORGE W.

The properties of glass. Second edition. New York, Reinhold Publishing Corporation, 1954. 591 p. illus. 24 cm. (American Chemical Society monograph series) $16.50 6650

Contents: The history of glass. The devitrification of glass. The composition of glass. The chemical durability of glass. The viscosity of glass. The annealing of glass. The surface tension of glass. The heat capacity of glass. The thermal conductivity of glass. The density of glass. The coefficient of expansion of glass. The elastic properties of glass. The strength of glass. The thermal endurance of glass. The hardness of glass. The optical properties of glass. The electrical conductivity of glass. The dielectric constant, dielectric loss, and dielectric strength of glass. The magnetic properties of glass. The constitution of glass. Author index. Subject index. Properties of glasses in various systems.

Note: The standard monograph in English on the physical and chemical properties of glass. Intended for reference use, it is an organized assembly of the useful scientific data published in the world literature up to about the middle of 1953. The text is compact and is keyed to literature citations. Extensive use has been made of tables in presenting data. The first edition was published in 1938. This second edition is only 30 pages longer, but it has been revised from front to back, so as to incorporate results published in the literature since the writing of the first edition. In Chapter II, for example, nine of the 43 references are later than 1938; in Chapter XVIII, the number of new references is seven out of 39. The indexes are an improvement over those in the 1938 edition.

NATIONAL RESEARCH COUNCIL

Data on chemicals for ceramic use: formulas, molecular weights, colors, crystal forms, densities, refractive indices, melting points, boiling points, transition points, decomposition temperatures. Based on report of the Committee on Chemical Data for Ceramists, Division of Chemistry and Chemical Technology, National Research Council. Alexander Silverman, chairman. Pittsburgh, Pa. Published by the University of Pittsburgh for the National Research Council, National Academy of Sciences, Washington, D. C., 1949. 193 p. 23 cm. (National Research Council. Bulletin Number 118, June, 1949) $3.00 6650A

Note: The scope of this work is indicated by the title. The arrangement is alphabetical by names of elements and compounds. Source articles are cited for the data, and the main part of the work is supplemented by an extensive bibliography. Data published in the literature from 1943 to May 1949 have been added in this edition. Citations of the articles have been added to the bibliography.

NEWCOMB, REXFORD, JR.

Ceramic whitewares: history, technology and applications. New York, Pitman Publishing Corporation, 1947. 313 p. illus. 24 cm. (Pitman books on industrial materials and processes. Alexander Klemin, advisory editor) $6.50. 6651

Contents: A historical introduction, by C. Atherton. Silicate science. Raw materials for ceramic bodies. Body preparation. Forming and drying the ware. Firing. Properties and tests. Glazes and decorations. Ceramics in construction. Ceramic products in the home. Electrical applications of whiteware products. Industrial uses of whiteware products. Abrasives. Appendix. Index.

Note: The branch of the ceramic industry treated in this book produces such diversified ware as sanitary fixtures, floor and wall tiles, dishes, art objects, and electrical insulators. The authors' purpose was to write a survey of this class of ceramics that would be useful to manufacturers and engineers who are not experienced in ceramics but who might benefit from knowledge of the industry and the potential uses of its products. Much useful data regarding chemical constants, dielectric constants, fusion temperatures, and other properties of ceramic materials are tabulated throughout the volume. Selected lists of references are included with the chapters.

NORTON, FREDERICK HARWOOD

Elements of ceramics. Reading, Mass., Addison-Wesley Publishing Co., Inc., 1952. 246 p. illus. 25 cm. $8.50. 6652

Contents: Clay minerals. Origin and occurrence of clays. Properties of clays. Silica and feldspar. Magnesite, lime, dolomite, and chromite. Other nonclay minerals. Mining and treatment of the raw materials. Flow properties of ceramic pastes and slips. Plastic masses. Casting slips. Forming methods. Drying of ceramic ware. Thermochemical reactions. Types of ceramic bodies. Thermochemical changes

in clays and bodies. Kilns and settings. Glassy state. Glasses. Glazes. Enamels on metal. Color formation in glasses and glazes. Ceramic stains and colors. Decorative processes. Cements and plasters. Appendix. Index.

Note An introductory book but a substantial one. It is well organized in short chapters that are supplemented by excellent illustrations and well-chosen references. The appendix contains a variety of information, from detailed directions for constructing small kilns to calibration data for thermocouples. The work is suitable for use in introductory college courses, as a desk reference book in the libraries of potteries, and as a source of information for advanced amateurs.

NORTON, FREDERICK HARWOOD

Refractories Third edition New York McGraw Hill Book Company, Inc , 1949 782 p illus (part col'd) 24 cm $12 50 6653

Contents (abridged) Part I Introduction: Scope of the refractories industry in the United States. Literature on refractories. History of refractory development in the United States. Part II, Manufacture Refractory raw materials. Molding methods. Drying. The firing of clay and other refractory materials. Kilns for burning refractories. Some special refractory materials. Part III, Properties The fusion point of refractory materials and their equilibrium diagrams. Load bearing capacity of refractories. Spalling. Expansion and shrinkage. Sizes and tolerances. Miscellaneous properties of refractories. Part IV Use Refractories in the iron and steel industry Refractories in the generation of steam power Refractories in use in nuclear power production. Refractories for gas-turbine and jet-propulsion engines. Brickwork construction. Appendix Reference tables. Index.

Note A comprehensive treatment in which there is information on practically all aspects of the subject, from the early history of the industry in the United States of America, to probable future uses of refractories. It is designed primarily for engineers and other persons with technical education or experience. However some parts, especially those dealing with uses, are sufficiently nontechnical to be useful to laymen who may need reference information. A considerable amount of material has been added to this edition, including chapters on refractories in nuclear power production and in gas turbine and jet-propulsion engines. Statistical information and also the unusually extensive bibliographies have been brought down to date.

PARMELEE, CULLEN W

Ceramic glazes. Second edition, edited and revised by E D Lynch and A L Friedberg Chicago Industrial Publications, Inc., 1951 322 p. illus. 24 cm $8 00 6654

Contents Definition of glazes. Glaze materials. Calculations. Mixing and milling. Application. Conversion of the batch to the glaze. Leadless glazes. Fritted glazes. Raw lead glazes. Engobes, slips, and underslips. Underglaze and overglaze colors. Glaze defects. Index.

Note A standard and comprehensive treatise designed for practical use in the ceramic industries. The first edition appeared in 1948 and contained the same number of pages. The revisions in the present edition are not extensive however some important information has been added and detected errors have been corrected. Apparently the type for a considerable number of pages was reset Before his death the author was associated with the Department of Ceramic Engineering of the University of Illinois and the revisers of the second edition are associated with the same school.

PHILLIPS, CHARLES JOHN

Glass the miracle maker its history technology, manufacture and applications. Second edition New York Pitman Publishing Corporation, 1948 429 p illus 24 cm. (Pitman books on industrial materials and processes Alexander Klemin advisory editor) $7 50 6655

Contents Part I, History and technology The glass of years gone by. Glass today The chemistry of glass. The mechanical properties of glass. Other physical properties of glass. Part II, Manufacture Materials handling. Fuels, refractories, furnaces, and the melting process. The principles of glassworking. Glassworking machinery Finishing, annealing, decoration, and inspection. Part III, Applications. Glass in architecture and building construction. Glass in the home. Glass in the electrical industry Glass in illumination. Glass in manufacture. Glass in science and research. Fiber glass. Index.

Note. The first edition of this work (1941) established it as a useful survey of the properties, manufacture and uses of glass. Not an account of "miracles" despite the title, it was designed primarily to give semitechnical information to such persons as architects and designers interested in glass as a decorative or structural material. It proved handy also for the enlightenment of curious general readers. The book is essentially the same in this edition. Some important revisions, for example the rewriting of the material on glass-to-metal seals, have been made but the proportion of text altered is small. Nevertheless, the type has been reset, and the new book now presents a more attractive appearance.

ROBSON, J T

Operating the tunnel kiln Chicago Industrial Publications, Inc., 1954 157 p illus. 23 cm. $8 00 6656

Contents Stages of firing—ceramic products. Dinnerware and artware bisque. Wall tile bisque. Dinnerware, two fired wall tile and artware glost. Decorated ware. Electric porcelain—wet-milled and dry press. Sanitary ware—artware—once fired. Stoneware. Glazed hollow tile, single fired wall tile and terra cotta. Abrasives. Refractories. Insulating brick. Clay pipe and drain tile. Face, common brick, hollow and quarry tile. Flower pots. Operating data. Kiln maintenance while operating. Index.

Note A practical book based on the industrial experience of the author and other experts associated with the ceramics industry in the United States of America. Its topic is operation of the tunnel kiln so as to avoid defective products. Defects that develop during firing in the kinds of ceramic products mentioned in the chapter titles are considered in specific detail and their probable causes are stated. In many cases, there is a picture of the defect under discussion. The first chapter and the two chapters at the end of the volume deal with tunnel kiln operation in general. Following the last chapter are 19 graphs on which are plotted tunnel kiln firing curves for various ceramic products.

SCHWARZKOPF, PAUL, AND RICHARD KIEFFER

Refractory hard metals, borides carbides, nitrides, and silicides the basic constituents of cemented hard metals and their use as high temperature materials. By Paul Schwarzkopf and Richard Kieffer in collaboration with Werner Leszynski and Fritz Benesovsky New York The Macmillan Company 1953 447 p illus 24 cm $10 00 6657

Contents (abridged) Introduction and history The crystal structure of hard metals The electronic structure of hard metals. The carbides The nitrides. The borides. The silicides. Materials for service at elevated temperatures. Index.

Note. A monographic survey of the structure, properties and preparations of the kinds of hard, high-melting, organic materials named in the above part titles. These compounds are the basic materials in a variety of bonded (cemented) products used because of their refractory properties as cutting tools, gas turbine buckets, etc. The book is based both on a review of the literature and on the extensive experience of the authors. Citations to the international literature are printed as footnotes. There are [illegible] tables of reference data.

SCOVILLE, WARREN CANDLER

Revolution in glassmaking entrepreneurship and technological change in the American industry 1880–1920 Cambridge Mass. Harvard University Press 1948 398 p illus. 24 cm $5 00 6658

Contents The history of American glassmaking prior to 1880 Industrial growth, 1880–1920. The organization and history of the glass firms founded by the Toledo entrepreneurs, 1888–1920. Revolution in technology at Toledo. Technological innovation elsewhere. Control of labor and product markets. Foreign competition, domestic consumption, and plant relocation. The Toledo entrepreneurs. Ap-

pendix A: The general trend of glassworkers' wages, 1880-1920. Appendix B: Some notes on technology. Appendix C: Some statistics on the financial success of the Toledo firms. Bibliography. Index.

Note. A carefully documented history of the mechanization of the glassmaking industry in the United States of America. The greater part of the book is devoted to the competitive and economic aspects of the story but the sixth and seventh chapters especially cover the mechanical phases and describe the important inventions and machines.

SHAND E. B

Glass engineering handbook. An introduction by E. U Condon. Corning, N Y Corning Glass Works, 1955 258 p. 28 cm. 6659

Contents (abridged): Section I. Glass technology: Properties of glass. Chemical durability. Stress release and annealing. Glass-metal seals. Strength testing and stress determination. Section II. Glass manufacture, by C. H. Greene: Raw materials and melting. Primary forming operations. Secondary finishing operations. Section III. Applications: Glass containers. Flat glass and glazing. Laboratory glassware and thermometers. Applications in the chemical industry. Sight and gage glasses. Electric lamps and electron tubes. Electronic circuit components. Special glasses and their applications. Section IV. Fibrous glass, by J. A. Grant and T. S. Rogers: Composition and properties of fibers. Manufacturing processes and products. Applications of fibrous glass textiles. Applications of fibrous glass wool. Fibrous glass reinforced plastics. Appendices: Federal and military specifications on glass. Definition of glass terms. Index.

Note. Glass is presented as an engineering material in this book which is addressed to engineers and others with technical interests in the subject. Background information such as data on the properties of glass and descriptions of the techniques of glass manufacture is included along with discussions of specific applications. The latter are not mere descriptions of general applications, but are detailed discussions of the properties that make glass a suitable material for the applications mentioned in the chapter titles and others. Much engineering data is included which is not readily available elsewhere. Literature references are given also.

TOOLEY FAY V editor

Handbook of glass manufacture a book of reference for the plant executive, technologist and engineer Compiled and edited by Fay V Tooley New York Ogden Publishing Company 1953 570 p illus. 24 cm. $11 50 6660

Contents: Glass compositions, by A. K. Lyle. Physical properties of glass, by D. E. Sharp and A. E. Badger. Raw materials, by R. [illegible]. Procurement of materials, supplies, and services, by C. L. [illegible]. Batch materials handling and preparation, by W. R. Lester. Furnaces and tanks, by F. G. Schwalbe. Instrumentation in the glasshouse, by J. R. Green. Refractories, by W. L. Fabianic. The glass preparation process, by F. V. Tooley and others. Feeding and forming, by H. H. Holscher. Annealing and tempering, by E. A. McMaster. Glass decorating, by V. H. [illegible]. Auxiliary information and tables, by F. V. Tooley. Index.

Note. A successor to the publisher's *Handbook of the glass industry* (1941). As shown above, it now consists of 13 chapters written by recognized authorities. The material of the former book has been completely reorganized with the addition of considerable theoretical and technical discussion. New features include photographs of machinery used in glass manufacture, literature references appended to sections and subsections, and an index. Section XIII contains a glossary of glass terms which has been approved by the American Society for Testing Materials as standard definitions.

PAINT AND RELATED FINISHES

BIDLACK, VERNE C AND EDGAR W FASIG editors

Paint and varnish production manual. New York John Wiley & Sons, Inc., 1951 288 p. illus. 24 cm. $8.50. 6661

Contents: Physical facilities. Paint plant. Varnish plant. Products. Engineering. Manufacturing operations. Personnel. Factory cost accounting. Research, development and control. Fire protection, safety and health. Index.

Note. In this book—sponsored by the Federation of Paint and Varnish Production Clubs—plant layout, equipment, materials handling, and many other topics of interest in the organization and management of plants for the manufacture of paint and varnish are discussed by experts. The work appears to be addressed to management and production staff of small plants, but there is material in it that is of potential interest to the personnel of larger plants also. Good bibliographies are included.

DENISTON GEORGE LOWELL

The science of modern wood finishing A digest of modern materials and methods for industrial finishers and home craftsmen seeking to secure finer finishes at lower costs. With an introduction by Robert F Ohmer Dayton Research Press Inc. 1949 386 p. illus. (part col d) 21 cm. $7.50. 6662

Contents: Cabinet, furniture and other woods. Glues and gluing. Sanding. Bleaches and bleaching. Staining—materials and methods. Aniline dyes for Chadeloid non-grain-raising stains. Organic solvents used in making Chadeloid NGR stains. Fillers and filling. Sealing the surface. Padding-up practice. Finishing with shellac. Lacquers, synthetics and their application. Rubbing and polishing of organic coatings. Novelty finishes and other special finish effects. Decorative techniques. Representative finishing schedules. Essentials of good finishing practice. Repairing and refinishing. Appendix: Facts and figures for finishers. Bibliography. Glossary of terms.

Note. A technical survey of present-day materials and methods which is especially valuable for information on developments of recent years. Transparent and semi-transparent finishes are covered, while paints and other opaque materials that conceal the grain of the wood are not included. Preliminary operations, such as sanding, and refinishing operations, such as the repairing of scratches, are included together with the application of original finishes. Although much material is presented which is potentially of interest to amateur craftsmen, the book is addressed primarily to persons associated with furniture manufacturing and to others with technical and commercial interests in the field. The bibliography and glossary are adequate but there is no index. A second printing with some changes was issued in 1954 and is the version currently available.

EDWARDS JUNIUS DAVID AND ROBERT I WRAY

Aluminum paint and powder Third edition. New York Reinhold Publishing Corporation, 1955 219 p. illus. 24 cm. $5 50 6663

Contents: Manufacture of aluminum powder. Properties and testing of aluminum powder and paste. Composition of aluminum paint. Aluminum paint in the protection of metals. Special properties and uses of aluminum paint. Aluminum paint in the protection of wood. Aluminum powder in the arts. Index.

Note: The standard manual of information on aluminum powder and its uses including the primary use, aluminum paint. The second edition appeared in 1936. Although in this third edition, the scope of the work is unchanged, and considerable text has been carried over from the preceding edition, the book has been thoroughly revised. Wherever pertinent data have been published, they have been incorporated. A number of products which have only recently reached the state of commercial availability, for instance aluminum paints with silicone resins [illegible], are described. Literature published as recently as 1954 has been added to the chapter reference lists.

GORDON PHILIP L. AND GEORGE J DOLGIN

Surface coatings and finishes. Brooklyn Chemical Publishing Company Inc., 1954 299 p. illus. 23 cm. $9.00. 6664

Contents: Oleoresinous varnish technology. Surface coatings from synthetic resins and polymers. Alkyd resins. Phenol-aldehyde resins. Urea-formaldehyde resins. Cellulose derivatives. Synthetic high polymers. Rubber derivatives. Miscellaneous plastics. Testing methods. Appendix. Index.

Note: A compact manual of practical knowledge on the formulation, preparation and testing of present-day paints, varnishes, and related surface materials. The older technology based on natural resins and oils is outlined briefly in the first chapter the re-

in clays and bodies. Kilns and settings. Glassy state. Glazes. Glazes. Enamels on metal. Color formation in glasses and glazes. Ceramic stains and colors. Decorative processes. Cements and plasters. Appendix. Index.

Note. An introductory book but substantial one. It is well organized in short chapters that are supplemented by excellent illustrations and well-chosen references. The appendix contains a variety of information, from detailed directions for constructing small kilns to calibration data for thermocouples. The work is suitable for use in introductory college courses, as a desk reference book in the libraries f potteries, and as a source of information for advanced amateurs.

NORTON, FREDERICK HARWOOD

Refractories Third edition. New York McGraw Hill Book Company, Inc. 1949 782 p illus (part col'd) 24 cm $12 50 6653

Contents (abridged) Part I, Introduction Scope of the refractories industry in the United States. Literature on refractories. History of refractory development in the United States. Part II, Manufacture Refractory raw materials. Molding methods. Drying. The firing of clay and other refractory materials. Kilns for burning refractories. Some special refractory materials. Part III Properties The fusion point of refractory materials and their equilibrium diagrams. Load bearing capacity of refractories. Spalling. Expansion and shrinkage. Sizes and tolerances. Miscellaneous properties of refractories. Part IV Use Refractories in the iron and steel industry Refractories in the generation of steam power Refractories in use in nuclear power production. Refractories for gas-turbine and jet-propulsion engines. Brickwork construction. Appendix: Reference tables. Index.

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PARMELEE, CULLEN W

Ceramic glazes. Second edition, edited and revised by E D Lynch and A. L. Friedberg Chicago Industrial Publications, Inc., 1951 322 p illus. 24 cm $8 00 6654

Contents Definition of glazes. Glaze materials. Calculations. Mixing and milling. Application. Conversion of the batch to the glaze. Leadless glazes. Fritted glazes. Raw lead glazes. Engobes, slips, and underslips. Underglaze and overglaze colors. Glaze defects. Index.

Note. A standard and comprehensive treatise designed for practical use in the ceramic industries. The first edition appeared in 1948 and contained the same number of pages. The revisions in the present edition are not extensive however some important information has been added and detected errors have been corrected Apparently the type for considerable number of pages was reset. Before his death the author was associated with the Department of Ceramic Engineering of the University of Illinois and the revisers of the second edition are associated ith the same school.

PHILLIPS, CHARLES JOHN

Glass, the miracle maker its history technology manufacture and applications Second edition. New York Pitman Publishing Corporation, 1948 429 p illus 24 cm (Pitman books on industrial materials and processes Alexander Klemin advisory editor) $7 50 6655

Contents: Part I, History and technology The glass of years gone by Glass today The chemistry of glass. The mechanical properties of glass. Other physical properties of glass. Part II, Manufacture Materials handling. Fuels, refractories, furnaces, and the melting process. The principles of glassworking. Glassworking machinery Finishing, annealing, decoration, and inspection. Part III, Applications: Glass in architecture and building construction. Glass in the home. Glass in the electrical industry Glass in illumination. Glass in manufacture. Glass in science and research. Fiber glass. Index.

Note. The first edition of this work (1941) established it as useful survey of the properties, manufacture and uses of glass. Not an account of "miracles" despite the title It as designed primarily to give semitechnical information to such persons as architects and designers interested in glass as decorati or structural material. It proved handy also for the enlightenment of curious general readers. The book is essentially the same in this edition. Some important revisions, for example the rewriting of the material on glass-to-metal seals, have been made but the proportion of text altered is small. Nevertheless, the type has been reset, and the open book now presents a more attractive appearance.

ROBSON, J T

Operating the tunnel kiln. Chicago Industrial Publications, Inc., 1954 157 p illus. 23 cm. $8 00 6656

Contents Stages of firing—ceramic products. Dinnerware and artware bisque. Wall tile bisque. Dinnerware, two fired wall tile and artward glost. Decorated ware. Electric porcelain—vitrified and dry press. Sanitary ware—artware—once fired. Stoneware. Glazed hollow tile, single fired wall tile and terra cotta. Abrasives. Refractories. Insulating brick. Clay pipe and drain tile. Face, common brick, hollow and quarry tile. Flower pots. Operating data. Kiln maintenance while operating. Index.

Note. A practical book based on the industrial experience of the author and other experts associated with the ceramics industry in the United States of America. Its topic is operation of the tunnel kiln so as to avoid defective products. Defects that develop during firing in the kinds of ceramic products mentioned in the chapter titles are considered in specific detail and their probable causes are stated. In many cases, there is a picture of the defect under discussion. The first chapter and the two chapters at the end of the olume deal with tunnel kiln operation in general. Following the last chapter are 19 graphs on which are plotted tunnel kiln firing curves for arious ceramic products.

SCHWARZKOPF, PAUL, AND RICHARD KIEFFER

Refractory hard metals, borides carbides, nitrides, and silicides the basic constituents of cemented hard metals and their use as high temperature materials By Paul Schwarzkopf and Richard Kieffer in collaboration with Werner Leszynski and Fritz Benesovsky New York The Macmillan Company 1953 447 p illus 24 cm $10 00 6657

Contents (abridged) Introduction and history. The crystal structure of hard metals. The electronic structure f hard metals. The carbides The nitrides. The borides. The silicides. Materials for service at elevated temperatures. Index.

Note A monographic survey of the structure, properties and preparations of the kinds of hard, high-melting, organic materials named in the abo part titles. These compounds are the basic materials in variety of bonded (cemented) products used because of their refractory properties as cutting tools, gas turbine buckets, etc. The book is based both on review of the literature and on the extensi experience of the authors. Citations to the international literature are printed as footnotes There are 97 tables of reference data.

SCOVILLE WARREN CANDLER

Revolution in glassmaking entrepreneurship and technological change in the American industry 1880–1920 Cambridge Mass. Harvard University Press, 1948 398 p. illus. 24 cm $5 00 6658

Contents The history of American glassmaking prior to 1880 Industrial growth, 1880–1920. The organization and history of the glass firms founded by the Toledo entrepreneurs, 1888–1920. Revolution in technology at Toledo. Technological innovation elsewhere. Control of labor and product markets. Foreign competition, domestic consumption, and plant relocation. The Toledo entrepreneurs. Ap-

Contents: Part I. The characteristics and application of "wrinkle" finishes: Origin of "wrinkle" finishes. "Wrinkle" patterns, texture and gloss. Color in "wrinkle" finishes. Physical characteristics of "wrinkle" finishes. Surface preparation of "wrinkle" finishes. Application of "wrinkle" finishes. Baking of "wrinkle" finishes. Flow properties of "wrinkle" finishes. Part II. The formulation and manufacture of bake and air dry "wrinkles": Ingredients and processing equipment. Manufacture of "wrinkle" finishes. Castor oil formulations. Oiticica oil formulations. Tung oil formulations. Perilla, fish and soy bean oil formulations. Linseed oil formulations. Asphaltum and Manila "wrinkle" finishes. Synthetic resin formulations. Air dry and flexible formulations. Special pattern formulations. Air dry study of polymerization. Appendices: Outline for study of "wrinkle" patterns. Mechanism in the drying of oils. Summary of "wrinkle" patents. Kay Wrinkle, Inc. v. Ferro. Bibliography. Glossary of terms.

Note: "Wrinkle" finishes are widely used on metals, especially in the finishing of the cases or housings of office machines, measuring instruments, cameras, etc. This book is a comprehensive summary of the subject in which their development, types, and formulations are covered. The chemistry of "wrinkle" finishing is discussed in practical detail, and there are 11 photographs illustrating various finishes. Also the patent aspect including both patents issued and notable patent litigation is covered.

PLASTICS

BJORKSTEN RESEARCH LABORATORIES, INC.
Polyesters and their applications. New York Reinhold Publishing Corporation, 1956. 618 p. illus. 23 cm. $10.00. 6673

Contents (abridged): Theoretical considerations. Unsaturated polyesters. Raw materials. Resin manufacture. Catalysts and accelerators. Shaping. Finishing. Coatings. Films and reinforcements. Final products. Saturated [illegible] resins. Tailor-making polyesters. Diisocyanate-modified polyesters. Linear fiber-forming polyesters. [illegible] polyesters. Testing. Health hazards. Annotated bibliography. Supplement. Author index. Subject index.

Note: The field covered by this book is defined as the polycondensation products of dicarboxylic acids with dihydroxy alcohols. The "alkyds" are not covered. The designated [illegible] of plastics is surveyed comprehensively except for basic theory which is covered in outline. The bibliography occupies more than 300 of the pages. The international literature, including patents and manufacturers' publications as well as books and articles published to June 1, 1954, has been covered, and there is a supplement containing a selection of articles published between that date and March, 1954. The text that precedes the bibliography is essentially a compact digest of published information, and all important statements in it are keyed to literature citations. The author index includes not only authors but also companies and organizations. The subject index includes the names of all compounds mentioned in the text.

D'ALELIO, GAETANO FRANCIS
Experimental plastics and synthetic resins. New York John Wiley & Sons, Inc., 1946 185 p. illus. 27 cm. $6.00. 6674

Contents (abridged): Phenol for resin preparations. Formaldehyde determination. Preparation and [illegible] of diphenylol [illegible]. Preparation of phenol-formaldehyde casting resins. Preparation of phenol-formaldehyde spirit-soluble laminating varnish. Preparation of acid-catalyzed phenol-formaldehyde molding resins. Preparation of substituted phenolic molding powder. Preparation of molding. Preparation of methylol derivatives of urea. Preparation of resins of the urea and melamine type. Preparation of formaldehyde butyl alcohol resins for varnishes. Relationship of alkyd resins to the structure of reactants. Preparation of resins of alkyd resins for coatings. Preparation of diethylene glycol maleate. Polymerization of styrene. Preparation of methacrylic ester. Polymerization of methacrylic ester. Cross-linked methacrylate polymers. Effect of inhibitors. Preparation of polyvinyl alcohol. Preparation of vinyl chloride monomer. Copolymers of vinyl chloride. Polymers and copolymers of vinylidene chloride. Preparation and polymerization of polyallyl esters. Depolymerization of polymers. Determination of polymer structure. Preparation of butadiene polymerization. Preparation of cellulose acetate. Plasticizing of cellulose derivatives. Vulcanizable elastomers. Preparation of protein plastics. Polyvinyl butyral acetal. Resin-impregnated and compressed woods and plywoods. Preparation of an anion exchange resin. Test methods: Formaldehyde determination, using hydroxylamine hydrochloride. Resin content of mixtures. Refractive index. Viscosity determination. Resin content and volatile content of impregnated stock. Water absorption of molded compounds. Oil solubility. Acid number of alkyd resins. Determination of unsaturation. Appendix.

Note: Laboratory procedures for 97 experiments and 23 tests that illustrate the chemical principles and reactions employed in the synthesis and analysis of the important industrial plastics are furnished in the present edition of this work. The first edition bore the title *Laboratory manual of plastics and synthetic resins* and was intended for use in college courses offered to students who had introductory organic chemistry. However, the work was found to be useful as a guide to experimentation in industrial laboratories as well. Nine additional experiments are included in this edition, and alternate methods of synthesis have been introduced in several others; but the plan and most of the content of the book is unchanged. The appendix contains a directory of manufacturers and other sources of supply.

DICKINSON, THOMAS ALBERT
Plastics dictionary; illustrations by Joseph W. Dickinson. New York Pitman Publishing Corporation, 1948 312 p. illus. 23 cm. $5.50 6675

Note: The compiler of this dictionary has avoided the tendency of many lexicographers to overload their work with terms only remotely connected with the subject in hand. He has produced a dictionary which is truly limited to the plastics field, and one which will appeal to the nontechnical because of its brief and nontechnical definitions. Although more than 3,500 terms are defined, these consist overwhelmingly of nouns and adjectives, while only scant attention is given to terms denoting technical processes. A large proportion of the entries are trade names. A useful feature is the tabulation of technical data under appropriate headings, for example, the table on page 12 of the composition and properties of plasticizers.

MARTIN, ROBERT W
The chemistry of phenolic resins: the formation, structure, and reactions of phenolic resins and related products. New York John Wiley & Sons, Inc. 1956. 298 p. 24 cm. $9.50. 6676

Contents: Introduction. Phenol alcohols. Dihydroxydiphenylmethanes. Phenolic resins. Cure of phenolic resins. Joint reactions of phenols and aldehydes with an added reagent. Heterocyclic products. The reaction of phenolic resins with unsaturated compounds. Reactions of phenol-aldehyde products. Reaction kinetics. Index.

Note: A survey of one of the most important families of plastic materials. As the title is intended to make clear, the subject is chemistry and not chemical manufacturing. Nevertheless, there are numerous incidental statements on manufacturing technology. The main emphasis is on reactions that produce phenolic resins and related products and on the chemical structure of the products. Due attention is given to conditions that affect reactions. An extensive but selective literature survey preceded the writing of the book, and one of the features is the inclusion of extensive reference lists for each chapter. Hundreds of structural diagrams are included. Also, there are numerous tables of data on yields, properties and other chemical matters. Organic chemists working at the research level in phenolic resins or other polymers and also organic chemists who are primarily concerned with manufacturing will find the book of interest.

RAFF, R. A. V. AND J. B. ALLISON
Polyethylene. New York. Interscience Publishers Inc., 1956. 551 p. illus. 24 cm. (High polymers: a series of monographs on the chemistry, physics and technology of high polymeric substances; editorial board: H. Mark, and others. Volume xi) $16.00. 6677

Contents: Historical development. Ethylene. Polymerization of ethylene. Modified polyethylenes. Molecular structure of polyethylene. Properties of polyethylene. Analysis and testing of polyethylene. Processing and handling of polyethylene. Uses and applications of polyethylene. Statistical summary. References. Author index. Subject index.

Note: In recent years polyethylene has become one of the most important of the plastics materials. This book, written by two chemists now on the staff of Koppers Company, Inc., is

mainder of the book is devoted largely to finishing materials made from synthetic ingredients. Information is included on materials, properties, reactions, and there are numerous typical formulas. Literature references are supplied. The appendix includes a list of trade names under which the various synthetic materials are marketed. Although the book contains material of potential interest to anyone concerned with the coatings industry it is most useful to chemists and technicians in firms which do not maintain research departments.

GORDON, PHILIP L., AND RUTH GORDON

Paint and varnish manual, formulation and testing New York Interscience Publishers Inc., 1955 182 p illus 19 cm. $3 50 6665–7

Content (abridged): Section I. Oils, resins and varnishes. Experiments. Test procedures. Section II: Pigmented coatings. Experiments. Test procedures. Color chips. Appendixes. Bulking values. Equipment required. Materials required. Temperature conversion table. Glossary Index.

Note. This unusual book is a manual of laboratory exercises which are designed to teach testing and formulation procedures used in the paint and varnish industry Speaking generally the text on each exercise includes one or more formulas for a coating material, specific directions for making the material in the laboratory and an outline of procedure for testing it. Sources of supply for materials and equipment are given. The book is designed for students of chemical engineering who are preparing for careers in the coatings industry It will be useful also in classes for technicians already employed in this industry

PAYNE, HENRY FLEMING

Organic coating technology Volume I, Oils, resins, varnishes, and polymers New York John Wiley & Sons, Inc. 1954 674 p. illus 23 cm. $13 50 6668

Contents Fundamentals of film formation. Vegetable and marine oils for organic coatings. Varnish resins. Varnishes—composition, manufacture, and use. Driers. Volatile solvents. Alkyd resins. Urea- and melamine-formaldehyde resins. Rubber resins. Plasticizers. Cellulosic polymers. Vinyl resins. Acrylic ester resins. Silicone resins. Test methods. Index.

Note. The first volume of projected two-volume work derived from lecture courses given by the author at Polytechnic Institute of Brooklyn. The subject is treated from the viewpoint of advanced chemistry students who are preparing for work in the coatings industry or graduate chemists who have recently entered this field. Appropriately the style is technical and the practical aspects of the subject are emphasized. The typical chapter is devoted to single class of coatings, and includes some information on economic importance, basic chemistry properties, methods of manufacture, uses, and bibliography Patent citations are included in the bibliographies. The second volume had not been published to the close of 1957

SODERBERG, GEORGE A.

Finishing materials and methods. Bloomington McKnight & McKnight Publishing Company, 1952 320 p. illus. 24 cm $4 00 6669

Contents (abridged) Section I, Finishing materials. Oleoresinous varnishes and enamels. Synthetic varnishes and enamels. Shellac varnish Paint. Metallic paint. Oil-resin emulsion paint. Plastic paint. Wrinkle finishing material. Flock. Fire retardants. Pearl essence. Stains. Woodfiller Bleaches. Paint and varnish removers. Coated and polishing abrasives. Waxes. Pressure-sensitive tapes. Section II, Finishing methods Brushing. Spraying. Dipping and flocoating. Roller coating. Tumbling. Methods of procedure. Recommended and safe practices in the finishing department. Opportunities in the painting industry Index.

Note. Although this book is primarily a textbook for practical students enrolled in vocational courses, it contains such wide range of information that its usefulness extends to readers and craftsmen not enrolled in schools. A number of topics not usually treated in practical texts are covered. For example, there is chapter on how paint brushes are made. It is supplemented by a list of pertinent literature. The discussions of most topics are short, but they contain much useful information. There are 189 illustrations of good quality

VON FISCHER, WILLIAM, editor

Paint and varnish technology New York Reinhold Publishing Corporation, 1948. 509 p illus 23 cm. $8 50 6670

Contents Introduction to the protective coatings industry by E. Schulte. Drying oils their origin, manufacture and properties, by S. O. Sorensen. The chemistry of improved drying oils, by R. L. Terrill. Pigments—general classification and description, by R. S. Radcliffe. White hiding pigments, by W H. Madson. Organic toners and mineral pigments, by S. F Dimlich. Rosin and rosin derivatives, by A. A. Albert. Natural resins and kindred products, by G. T Sohl. Alkyd resin technology by C. L. Levesque. The chemistry of urea and melamine coating resins, by R. W Auten. Phenolic resins in protective coatings, by R. R. Waters. Miscellaneous resins in protective coatings, by H. G. Whitcomb. Solvent-type resins (nitrocellulose lacquers) by J R. Yeager and others. Hydrocarbon thinners, by E. H. McArdle. Formulation of the "volatiles" in nitrocellulose lacquers, by C. D Begin. The application of metallic soaps as driers, fungicides, suspending agents and flatting agents, by S. B Elliott. The testing of raw materials, by R. F Wysocki. Principles of paint formulation, by H. W Dell. Resin and varnish manufacture, by J C. Weaver Industrial finishes, by R. C. Ebersman. Trade sales paints—exterior—interior, by A. E. Holton and H. G. Hayward. Water and emulsion paints, by D. A. Kohr Jr Solvent-type finishes, by R. P Wilson. The examination of paints, by F Scofield. Surface preparation, by R. E. Marce. Methods of applying surface coatings, by G. B. Sawyer and others. Resin and varnish making equipment, by D M. Wilhelm and G. H. Mutersbaugh. Index.

Note. A collection of lectures in edited form which were developed originally for use in instruction at the Case Institute of Technology Most of the authors are chemists associated with industrial production of paint materials and paints. In most cases the specific topic of a lecture is treated descriptively and from practical viewpoint, but much information is included that would be difficult to find elsewhere.

VON FISCHER, WILLIAM, AND EDWARD G BOBALEK, editors

Organic protective coatings New York Reinhold Publishing Corporation, 1953 387 p illus. 23 cm $7 50 6671

Contents Paint as an engineering material, by W von Fischer. Principles of formulation, by E. G. Bobalek. Some theoretical considerations regarding the significance of the pigment dispersion problem in paint formulation, by D M. Gans. Anticorrosive pigments, their function, composition and testing, by A. J. Eickhoff. Design for reflectance properties, by J R. DeVore. Luminescent coatings Part A, Inorganic pigments, by J F DeVore. Part B, Organic colors, by E. G. Bobalek. Reflectance spectrophotometry of pigmented materials color matching calculations, by J. L. Saunderson. New pigments in modern color design, by E. C. Botti. Vinyl resins for organic protective coatings Part A, General theory of formulation, by R. W Quarles. Part B, Stabilizers for vinyl resins, by R. E. Lally Part C, Recent developments in the theory and use of plasticizers for vinyl resins, by H. Grinsfelder. Amineplast resins for organic coatings, by C. H. Parker and F J. Hahn. Wood properties that affect paint performance, by F L. Browne. Hot spray lacquers, by R. F Wise and F E. Piech. Fundamentals of formulating emulsion and latex paints, by W von Fischer Metal protection with synthetic resin coatings, by E. E. McSweeney Organic coatings for electrical insulation, by A. J Sherburne. Silicone resins in heat resistant paints, by M. Kin. Index.

Note Paint and related protective coatings are presented as engineering rather than decorative materials in this authoritative book The primary emphasis is on the properties of the modern organic coatings, but formulation of these coatings, applying them and testing them are all covered. In such chapters as the one on hot spray lacquers, techniques of application are principal topic. Typical formulas are given in some chapters, and literature references are included in all of them.

WALDIE, W A.

The science of wrinkle finishing the manufacture and application of the "one coat" finish Introduction by Paul Kennedy Dayton Research Press Inc. 1949 204 p. illus. (part col d) 21 cm. $5.00 6672

WINDING CHARLES CALVERT AND R. LEONARD HASCHE

Plastics, theory and practice the technology of high polymers. New York McGraw Hill Book Company Inc., 1947 280 p. illus. 23 cm. $6.50 6683

Contents (abridged) The formation and structure of high polymers. General applications of resins. Resins formed from high molecular weight natural products: Fossil and plant resins. Cellulose derivatives. Rubber derivatives. Casein and other protein plastics. Resins formed by condensation reactions. Polyethenoic resins. Silicones. Rubber and synthetic rubbers. Appendix: Tables, properties of common molding materials. Tables, properties of rubbers. Bibliography. Index of trade names and companies. Visual aids. Index.

Note A concise, well-organized survey. The authors have planned it chiefly for chemical engineers who are already familiar with organic chemistry; hence, an attempt is made to present the elementary side of the subject. Flow sheets that illustrate generalized methods of manufacturing the more important resins are included.

VARIOUS SUBSTANCES

ABRAHAM HERBERT

Asphalts and allied substances their occurrence modes of production uses in the arts and methods of testing. Fifth edition. New York D Van Nostrand Company Inc. 1945 2 v 2 142 p. illus. 23 cm. $30.00 6684

Contents Volume I, Raw materials and manufactured products: Part I, General considerations. Historical review. Terminology and classification of bituminous substances. Chemistry of bituminous substances. Geology and origin of bitumens and pyrobitumens. Annual production of bituminous substances and their manufactured products. Part II, Semi-solid and solid bitumens and pyrobitumens. Methods of mining, transporting, and refining. Mineral waxes. Native asphalts occurring in a fairly pure state. Native asphalts associated with mineral matter. Asphaltites. Asphaltic pyrobitumens. Pyrobituminous shales. Part III, Tars, pitches, and pyrogenous asphalts. General methods of producing tars. Wood tar, wood-tar pitch and rosin pitch. Peat and lignite tars and pitches. Shale tar and shale-tar pitch. Coal tar and coal-tar pitch. Water-gas and oil-gas tars and pitches. Fatty-acid pitch, bone tar and bone-tar pitch. Part IV, Pyrogenous asphalts and waxes. Petroleum asphalts. Paraffin wax, wax tailings and petroleum resins. Sulfurized asphalt. Part V, Manufactured products and their uses. Compounding of bituminous substances. Bituminous substances admixed with discrete aggregates, bituminous substances dispersed in water. Bituminous substances dissolved in solvents. Solid, semi-solid and semi-liquid bituminous compositions. Bituminous paving materials. Bituminized fabrics, felts and papers for roofing, flooring, waterproofing, building and insulating purposes. Bituminous lacquers, enamels, varnishes, enamels and japans. Volume II, Methods of testing, bibliography and references: Part VI, Methods of testing. Sampling. Examination of crude, refined and blended bituminous substances. Examination of bituminous substances combined with discrete aggregates. Examination of bituminized fabrics. Examination of bitumen-solvent compositions. Examination of bituminous dispersions. Weathering tests. Temperature conversion table. Bibliography. References. Index of subjects. Index of specifications. Index of names (authors and patentees). Index of patents.

Note This comprehensive work deals with asphalts, tars and pitches and with the industrial products and processes for which they are used. The various deposits of natural asphaltic material throughout the world are discussed, country by country, and the tars and pitches which are produced by distillation and other industrial means are described. Detailed accounts are given of the industrial operations in which asphaltic materials are used, and the methods of testing are furnished for these various raw materials and their finished products. Special features of this fifth edition are the 64-page bibliography—containing over 900 [illegible]—the 92 page index of patents, and the indexes of authors—patentees, and specifications.

ADHESION AND ADHESIVES FUNDAMENTALS AND PRACTICE. Papers read at a symposium held at Case Institute of Technology in Cleveland Ohio and a conference held in London England. New York John Wiley & Sons, Inc. 1954 229 p. illus. 29 cm. $10.50 6685

Contents (abridged) Fundamentals: Survey of adhesion and types of bonds involved, by F. W. Reinhart. On the theory of adhesion, by S. J. Gaynak. Adhesion of organic surface coatings, by H. Grinsfelder. Energy of adhesion, molecular forces and adhesive ruptures, by G. Kraus. The adhesion of high polymers to cellulose, by A. D. McLaren. The mechanism of adhesion, by J. J. Bikerman. Practice: Types and uses of adhesives, by R. F. Blomquist. Adhesives for glass, by L. L. Yaeger. Adhesion in laminated glass, by A. C. Wake. Adhesives in the wood-working industry, by E. A. Dunn. Adhesion in the construction and maintenance of roads, by A. R. Lee and J. H. Nicholas. Pressure-sensitive adhesives, by M. Gassidy and J. Dow. Practical applications of pressure-sensitive tapes, by J. E. Oakes. Aircraft structural adhesives, by T. J. Martin. Room-temperature-setting adhesives for metals and plastics, by M. A. Perry, jr. The adhesion of metals, by G. W. Rowe. The adhesion of rubber and textiles, by W. C. Wake. Physicochemical properties of animal glue, by R. H. Drew. Sodium silicate as an adhesive, by W. S. Macfarlane and J. F. Sewell. Industrial adhesives of vegetable and synthetic origin, by W. J. Opie. Adhesive compositions prepared from resins and rubber emulsions by admixture with hydraulic cements, by L. H. Griffiths. Non-destructive testing of adhesives by ultra-sonic waves, by A. G. H. Dietz. Comments on adequacy and limitations of current test methods, by L. Gilman.

Note The Case Institute of Technology and the Society of Chemical Industry were the sponsors of the meetings at which the 43 papers that appear in this volume were originally presented in 1951. Although some of the papers are more summaries of present-day knowledge or practice, many of them are accounts of recent research. Literature references are appended to most of the papers, and many are supplemented also by excerpts from discussions at the meetings. The authors are all specialists, either in basic research relating to adhesives or in the application and testing of them. The volume is potentially of interest both to industrial chemists who are concerned with research and development of adhesives and to designers of products in which adhesives might be used.

AMERICAN SOCIETY FOR TESTING MATERIALS

Glossary of terms relating to rubber and rubber-like materials. Prepared by ASTM Committee D-11 on Rubber and Rubber-like Materials. Philadelphia American Society for Testing Materials 1956 121 p 23 cm. (American Society for Testing Materials. Special technical publication, no. 184) $3.00 6686

Note: Approximately 2,000 terms, including chemical terms, non-chemical terms and the names of common materials are defined in this publication. Included also are capsule biographies of major contributors to the knowledge of rubber and rubber-like materials. Trade names are not included in the main alphabet, but there is a four-page appendix containing the trade names for apparatus and for compositions whose chemical nature has been divulged by the manufacturers.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on aging of rubbers. Chicago Spring meeting American Society for Testing Materials, March 2 1949 Philadelphia American Society for Testing Materials 1949 72 p. illus. 23 cm. (Special technical publication no 89) $2 40. 6687

Contents: Introduction, by O. C. Mosmer. The mode of attack of oxygen on rubber, by A. M. Neal and J. R. Vincent. Oxygen-absorption methods—their utility and limitations in the study of aging, by J. Reid Shelton. Chemical changes in elastomers and antioxidants during aging, by J. O. Cole. Physical aspects of the aging of rubbers, by M. C. Throdahl. The effects of light and ozone on rubber, by J. T. Blake. The effect of temperature on the air aging of rubber vulcanizates, by M. G. Schoch, jr. and A. E. Juve.

comprehensive account of its chemistry chemical engineering and applications. Full accounts are given of most of the aspects which are named in the chapter titles. The chapter on polymerization, for instance, is 70 pages long and that on properties runs to more than 130 pages. There are over 140 tables. The extensive bibliography is international in scope and includes references to patents.

RIDDLE, E H

Monomeric acrylic esters New York Reinhold Publishing Corporation, 1954 221 p illus 24 cm. $6 00 6678

Contents Introduction. Physical properties. Storage and handling. Polymerization of acrylic esters. Copolymerization of acrylic esters. Reactions of the acrylic esters. Analytical methods.

Note A reference book in which is presented a wide range of information on the properties, polymerization, reactions and analysis of acrylate and methacrylate esters. The author and his associates are all on the staff of the Rohm & Haas Company a major supplier of these chemicals, and the scope of the book is limited to esters which are currently available in commercial quantities. Some of the information presented, for example that on handling, appears to be based on company experience, but the greater part has been abstracted from periodical and patent literature In fact, so many patents are cited that the book can be used as a guide to the patent literature. Of interest to chemists and chemical engineers who are concerned with product development or manufacture in such industries as plastics, synthetic fibers and synthetic coatings.

SCHILDKNECHT, CALVIN E., editor

Polymer processes chemical technology of plastics, resins, rubbers adhesives and fibers New York Interscience Publishers Inc., 1956 914 p illus. 24 cm (High polymers, a series of monographs on the chemistry, physics and technology of high polymeric substances editorial board, H Mark and others Volume x) $19 50 6679

Contents Introduction to free radical polymerization by J H. Baxendale. Polymerizations in bulk, by C. E. Schildknecht. Polymerizations in suspension, by E. Trommsdorff and C. E. Schildknecht. Polymerizations in emulsion, by H. L. Williams. Polymerizations in solution, by C. E. Schildknecht. Ionic polymerizations, by C. E. Schildknecht. Polyamides and polyesters, by D G. Bannerman and E. E. Magat. Condensations with formaldehyde, by T J Suen. Cellulose and cellulose derivatives, by B G. Ranby and S. A. Rydholm. Epoxy resins, by S. S. Stivala. Polysulfide polymers, by E. M. Fettes and J S. Jorczak. New adhesives, by W J Powers. Stabilization of polymers, by C. E. Schildknecht. Paste techniques, by W D Todd. Latex techniques, by O. J Authinger and N H. Sherwood. Compounding and processing rubbers and resins, by G S. Garvin. Polymer reinforcement (polyester epoxy silicone and phenolic resins) by H. L. Gerhart and E. W Moffett. Spinning and drawing fibers, by J L. Riley Appendix. Index.

Note An important addition to the literature of polymers. The chapters are the work of recognized authorities, most of whom are associated with large manufacturers of chemical products in the United States of America In the typical chapter both the basic chemistry (insofar as it is known) and the chemical technology are presented. However the emphasis is on the latter All of the chapters are based on extensive literature surveys including the patent literature. A wide variety of commercial products are described briefly and trade names are often listed. Considerable information on manufacturing methods is given Literature citations are presented in the form of footnotes, but there is no index to the authors cited. The subject index is a detailed one.

SCHILDKNECHT CALVIN E

Vinyl and related polymers their preparations properties and applications in rubbers plastics fibers and in medical and industrial arts New York John Wiley & Sons Inc 1952 723 p. illus. 24 cm $16 50 6680

Contents Styrene polymerization. Styrene copolymerization. Styrene derivative and related polymers. Methacrylic and acrylic ester polymers. Acrylonitrile, acrylic acid and related polymers. Polymers from vinyl acetate and related monomers. Vinyl chloride polymers. Vinylidene chloride and fluorovinyl polymers. Ethylene high polymers and copolymers. High polymers and copolymers of isobutylene. Vinyl ether polymers. Sulfur-vinyl compounds. Nitrogen-vinyl polymers. Vinyl ketones and miscellaneous polymers. Appendix. Abbreviations of publications frequently cited. Companies and organizations cited. Dates of British, French, German and U S. patents. Index.

Note. The compounds discussed in this book include not only many of the well-known plastics but also ion exchange resins, synthetic fibers, finishing materials, and adhesives. The treatment is organized in families or groups as indicated by the chapter titles. Each chapter is mainly an organized critical digest of the pertinent literature, with references to the original publications. Both patents and Allied Intelligence reports were included in the surveyed literature. European and United States of America trademarks and names are mentioned at appropriate points and are included in the index.

SEYMOUR, RAYMOND B , AND ROBERT H. STEINER

Plastics for corrosion resistant applications. New York Reinhold Publishing Corporation, 1955 423 p. illus 23 cm. $7.50 6681

Content Section I, General information on plastics Introduction. A short history of plastic materials of construction. Plastic fundamentals. Physical properties of plastics. Relation of chemical resistance and molecular structure. Testing of plastics. Section II, Plastic materials of construction Protective coatings. Organic linings. Chemical resistant mortar cements. Casting resins. Cellular plastics. Plastic impregnants. Industrial adhesives. Reinforced plastics. Section III, Thermoplastic applications. Thermoplastic structural materials. Thermoplastic structures. Plastic pipe, valves and fittings. Water joining materials. Sewer joining materials. Section IV Applications of plastics in masonry construction Design considerations for concrete floors and tanks. Design of steel tanks. Chemical resistant masonry construction. Chemical resistant floors. Section V Plastics selection of plastics for the solution of corrosion problems. Author index. Subject index.

Note. The first section of this book runs to 80 pages and is a very concise summary of fundamental information pertaining to plastic materials. It includes also a short chapter on testing methods. The remainder of the space is devoted to plastic materials and their applications viewed from the standpoint of corrosion resistance. All plastic materials of interest from this standpoint are considered, including such natural materials as sulfur and asphalt as well as a wide range of synthetic plastics. Chemical and physical properties, applications, fabricating methods, etc., are all covered. Generally speaking, the authors' method of presentation is to present the basic data and describe typical applications but to avoid recommendations for specific applications. nevertheless several tabulations of specific applications which have been proved by satisfactory service are included. Selected literature references are supplied in all chapters.

SIMONDS, HERBERT RUMSEY AND OTHERS

Handbook of plastics by Herbert R. Simonds, Archie J Weith and M H. Bigelow Second edition. Based in part on first edition by Herbert R Simonds and Carleton Ellis. New York D Van Nostrand Company Inc., 1949 1,511 p. illus. 24 cm. $25 00 6682

Contents Survey of the industry Properties of plastics. Commercial materials. Primary ingredients. Characteristics of the various plastics. Textile fibers. Rubbers and elastomers. Natural resins. Films and sheetings. Laminates and plywoods. Coatings. Adhesives. Manufacturing processes. Plant equipment. Processing and fabricating. Finishing operations. Molds. The chemistry of plastics. Analytical methods. Applications. Designing molded parts. Operating practice. Choice of plastic. Cost accounting in the industry Patents in plastics. World plastics. Bibliography General index.

Note A comprehensive reference book prepared under the auspices of an advisory committee composed of leading figures in the plastics manufacturing and fabricating industries. Its purpose and scope has not been materially changed in this edition, but it has been extensively rewritten and expanded. All of the chapters have been revised—some of them very substantially—and new chapters on adhesives, cost accounting, the plastics industry throughout the world, and patents have been added. The bibliography glossaries, lists of trade-marks and names, and the extensive tabulations of technical data have all been revised.

sources. The last-mentioned are international in scope and include some patents. The analytical section at the end of the book covers general analytical methods. The book is an invaluable one for chemists in the perfume industry and is of some interest to organic chemists in other lines.

BENNETT, HARRY editor

The chemical formulary a collection of valuable, timely practical commercial formulae and recipes for making thousands of products in many fields of industry New York Chemical Publishing Company 1933–43 6 v 22 cm. $8.00 per vol. 6693

—— Cumulative index for Volumes I–VI of The chemical formulary New York Chemical Publishing Company 1944 164 p. 22 cm. o.p. 6693A

—— The chemical formulary Volumes VII–X. New York Chemical Publishing Company 1945–56 4 v 22 cm. Vols. VII–IX, $7.50 per vol. vol. X, $8.00. 6693B

Note. A collection of useful recipes and formulas in many fields. In each volume, the material [illegible] grouped under such classifications as Adhesives, Beverages, Cosmetics and drugs; Emulsions, Food products, Inks and marking materials, Lubricants and oils; Metals, alloys and their treatment; Paint, varnish, lacquer and other coatings, Photography; Polishes and abrasives, Pyrotechnics and explosives, Soaps and cleaners, Textiles and fibers. Each volume contains new material of the same nature and is not [illegible] revision of previous volumes. Patent references are given in many cases. Each volume is individually indexed. The set is of interest to small manufacturers, industrial chemists, and others in search of formulas for amateur and commercial use. A new edition of the index, covering Volumes I–X, was scheduled for publication in 1958.

BOGUE, ROBERT HERMAN

The chemistry of Portland cement. Second edition. New York Reinhold Publishing Corporation, 1955 793 p. illus. 24 cm. $16.50. 6694

Contents Part I, The chemistry of clinker formation: History of the cement industry. Classification of cements. The manufacture of Portland cement. Early experimentation on the constitution of Portland cement. Methods of investigation. Heat treatment in manufacture. The principal constituents of clinker. The combination of the cement components. Dosage and control of cement composition. Calculation of phase composition. Part II, The equilibria of clinker components. The principles of high-temperature phase research. The techniques of high-temperature phase research. The system CaO-Al_2O_3—SiO_2. Systems containing MgO, with CaO, Al_2O_3, SiO_2. Systems containing FeO, TiO_2 and P_2O_5. Systems containing Fe_2O_3 with CaO and SiO_2. Systems containing MgO and Fe_2O_3 with CaO and Al_2O_3. Systems containing MgO and Fe_2O_3 with CaO, Al_2O_3, and SiO_2. Systems containing K_2O. Systems containing Na_2O and Li_2O and the alkalies with SO_3. Part III, The chemistry of cement utilization. Early studies on cement hydration. The system CaO—SiO_2—H_2O. Systems containing CaO and H_2O with Al_2O_3 and Fe_2O_3. The aluminate and ferrite complex salts. The heat of hydration. The structure of hydrated cements. The setting of cement pastes. The hardening of cement pastes. External reactions of hydrated pastes. Tests for cement quality. Appendices. Author index. Subject index.

Note In the United States of America, this book is the standard survey of Portland cement chemistry both the chemistry pertinent to manufacture and that pertinent to utilization. It contains, among other material, especially full information on phase rule relationships for the high temperature (fusion chemistry of clinker formation) and for the water-cement systems of cement setting and hardening processes. The body of the work [illegible] comprehensive critical survey of the literature and all important statements and data are keyed to citations of the source articles. The first edition appeared in 1947. This second edition is organized similarly and has the same scope. However it has been extensively revised in order to incorporate methods and results reported in the literature since the writing of the first edition. The type was reset and the pages are now more legible and the illustrations are better reproduced.

BONER, C J

Manufacture and application of lubricating greases. New York Reinhold Publishing Corporation 1954 977 p. illus. 24 cm. $18.50 6695

Contents: Introduction. Structure and theory. Additives other than structure modifiers. Raw materials. Manufacturing processes. Equipment for lubricating grease manufacture. Aluminum base lubricating greases. Barium base lubricating greases. Calcium base lubricating greases. Lithium base lubricating greases. Sodium base lubricating greases. Lead soap lubricating greases. Strontium base lubricating greases. Miscellaneous metal soaps as components of lubricating greases. Mixed base lubricating greases. Complex soap lubricating greases. Non-soap thickeners for lubricating fluids. Fillers in lubricating greases and solid lubricants. Residua and petrolatums as lubricants. Analysis of lubricating greases. Tests of lubricating greases and their significance. Application of lubricating greases. Trends in lubricating greases. Index.

Note: A comprehensive work based in large part on the literature published since 1937. It covers structure, raw materials, manufacturing processes and equipment, the various classes of lubricating greases based on the thickening agents now used, analysis and testing, methods of applying greases to machines, and [illegible] view of probable future developments. Most of the space is devoted to aspects of the field which are primarily of interest to manufacturers of lubricating greases. The group of 18 chapters, which begins with the chapter on raw materials, accounts for 672 of the book's pages. However, these chapters do contain some information potentially useful to engineers, purchasing agents and technicians [illegible] are interested in lubricating greases from the standpoint of use, and the terminal chapters on analysis testing and application are primarily for users. Extensive bibliographies in which important *textual statements are keyed are* [illegible] *valuable feature. The author is* Chief Research Chemist of the Battenfeld Grease and Oil Corporation.

BRAUNS FRIEDRICH EMIL

The chemistry of lignin. New York Academic Press, Inc. 1952 808 p 24 cm. $14.50 6696

Contents Introduction. The evolution of lignin chemistry. The detection and distribution of lignin. Color reactions of lignified materials. The isolation of lignin. The determination of lignin. The physical properties of lignin. The elementary composition and constituent groups of lignin. The acylation and acetylation of lignin. The alkylation of lignin. The halogenation of lignin. The nitration of lignin. The sulfonation of lignin. The hydrolysis of lignin. The alcoholysis of lignin. The mercaptolysis of lignin. The phenolysis of lignin. Reduction, hydrogenation, and hydrogenolysis of lignin. The oxidation of lignin. The alkali fusion of lignin. Special reactions with lignin. The thermal decomposition of lignin. The biological decomposition of lignin. Theories on the structure of lignin. The linkage of lignin in the plant. Theories on the formation of lignin. Synthetic lignins. Author index. Subject index.

Note A comprehensive monograph of the current knowledge of the chemistry of lignin, written for professional chemists. It is based upon [illegible] literature survey; but, unlike some books that are similarly derived, the text does not lean on the original articles but is full enough to be useful in itself. The preface is not dated, and the author has included no statement as to the date to which he covered the literature. A perusal of [illegible] dozen or so of the chapter bibliographies indicates that comprehensive coverage ended with 1948, though [illegible] few entries for publications issued in 1949 and 1950 are included. The book is of primary interest to chemists in the paper industry and of secondary interest to chemists in the plastics industry and to botanists. The author is associated with the Institute of Paper Chemistry

BRAUTLECHT CHARLES ANDREW

Starch its sources, production and uses. New York *Reinhold Publishing* Corporation, 1953 408 p illus. 24 cm. $12 00 6697

Contents Starch, general. Physical structure of starch granules. Potatoes for industry. Potato starch manufacturing processes. White potato starch specifications. Other potato starch manufacture. Corn starch. Tapioca starch. Wheat starch. Rice starch. Sago starch.

Note The papers comprising this symposium have been prepared by industrial chemists actively engaged in rubber research. They provide a description of methods employed in conducting accelerated aging tests on natural and synthetic rubbers and review of present day knowledge concerning the physical and chemical changes which occur during the aging process. Discussions and bibliographies are included.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on rubber testing, fiftieth annual meeting, American Society for Testing Materials, Atlantic City, N J, June 16–20, 1947 Philadelphia American Society for Testing Materials 1947 109 p illus 23 cm (Special technical publication no 74) $1 00 6688

Contents Introduction, by S. Collier The significance of voluntary standards and their status in the rubber industry by A. W Carpenter Functions of rubber reserve—past, present, and projected, by W R. Hucks. Development of methods of chemical analysis of synthetic rubber by W P Tyler and T Higuchi. Developments and improvements in methods of stress-strain testing of rubber by J W Schade and F L. Roth. Development and standardization of tests for evaluating processibility of rubber by R. H. Taylor and others. Standardization of testing and inspection in government synthetic rubber plants, by L. Messer and others. Testing and grading of wild and plantation rubbers, by N Bekkedahl. The use of statistical methods in rubber evaluation, by M. M. Sandomire.

Note In these papers physical and chemical methods of testing synthetic and natural rubbers developed or utilized during World War II by United States government agencies and by industry are described. The first paper reviews standardization efforts in the industry before World War II and points out the need for further effort. The second paper reviews briefly the activities of the Rubber Reserve Company and allied government agencies in the stockpiling of natural rubber and the production of synthetic.

BAILEY, ALTON EDWARD, editor

Cottonseed and cottonseed products, their chemistry and chemical technology New York Interscience Publishers, Inc., 1948 936 p illus 24 cm (Fats and oils, a series of monographs) $16.50 6689

Contents. Part I, History and present state of the cottonseed industry· History of cotton and the United States cottonseed industry by M. R. Cooper Production and consumption of cottonseed and cottonseed products, by C. E. Lund. Part II, Composition and characteristics Structure of the cottonseed, by J Leahy Cottonseed composition—relation to variety maturity and environment of the plant, by W H. Tharp. Biological processes of the cottonseed, by A. M. Altschul. Pigments of cottonseed, by C. H. Boatner Cottonseed oil, by A. E. Bailey Cottonseed proteins, by T D Fontaine. Miscellaneous constituents, by F G. Dollear and K. S. Markley Part III, Grading and evaluation of cottonseed and its primary products Grading and evaluation of cottonseed, by G. S. Meloy Grading and evaluation of cottonseed oil, cake, and meal, by E. R. Barrow Grading of cotton linters, by G S. Meloy Part IV Cottonseed processing Handling and storage of cottonseed, by O. H. Alderks. Mechanical pretreatment of the seed, by A. C. Wamble. Cooking of meats and recovery f the oil, by O. H. Alderks. Economics of cottonseed crushing, by J F Moloney Part V Utilization of cottonseed products Processing of cottonseed oil, by E. M. James. Edible cottonseed oil products, by H. C. Black. Nutrition aspects of cottonseed oil utilization—the role of fat in human nutrition, by H. J Deuel, Jr Nonedible cottonseed oil products, by O. H. Wurster W J Govan, Jr and G. J Stockmann. Cottonseed as source of animal feedstuffs, by F Hale and C. M. Lyman. Miscellaneous products from seed and meal, by A. E. Bailey Cottonseed hulls, by J W Dunning. Cotton linters, by P Van Wyck. Author index. Subject index.

Note. This comprehensive treatise on the cottonseed industry constitutes a valuable reference manual on all phases of the industry Each of the 24 chapters has been prepared by a scientist or industrialist well qualified to discuss a particular phase f the subject.

BAILEY, ALTON EDWARD

Industrial oil and fat products. Second completely revised and augmented edition. New York Interscience Publishers Inc., 1951 967 p illus. 23 cm (Fats and oils, a series of monographs on the chemistry and technology of fats, oils, and related substances editorial board A E Bailey and others) $16.50 6690

Contents (abridged): Part I, The nature of fats and oils· Reactions of fats and fatty acids. Physical properties of fats and fatty acids. *Role of fats in diet of man.* Part II, Raw materials for oil and fat products. Sources, utilization, and classification of oils and fats. Composition and characteristics of individual fats and oils. Part III, Industrial utilization of fats and oils. Cooking and salad oils. Plastic shortening agents. Butter and margarine. Bakery products and confections. Soap and other surface-active agents. Paints, varnishes, and related products. Part IV Unit processes in oil and fat technology· Handling, storage and grading of oils and oil-bearing materials. Extraction of fats and oils. Refining and bleaching. Hydrogenation. Deodorization. Fat splitting, esterification, and interesterification. Soapmaking. *Fractionation of fats and fatty acids.* Polymerization, isomerization, and related processes. Solidification, homogenization, and emulsification. Author index. Subject index.

Note. A comprehensive monograph on the fats and oils used in industry and the technology of extracting and using them. In addition to natural products, information is included on spans, "tweens" and other synthetic materials used in association with fats and oils, especially in food products. The treatment is on a professional level, and the book is intended for graduate students and graduate chemists already at work in industry Processes, extraction, refining, hydrogenation, etc., are explicitly described. Related literature is cited in footnotes, and the authors' names are brought out in the 19-page author index. In comparison to the first edition (1945) the work has been extensively rewritten and much expanded.

BAILEY, ALTON EDWARD

Melting and solidification of fats New York Interscience Publishers, Inc., 1950. 357 p 23 cm. $9 00 6691

Contents. General and theoretical considerations. Laboratory techniques. Melting and solidification of pure compounds. Melting and solidification of mixtures. Solubility Practical melting and solidification processes. Author index. Subject index.

Note: Both the theoretical and practical aspects of the melting and solidification of fats are covered in this book. The presentation is on professional level, and the work is designed for chemists and other technologists in industry and industrial laboratories. Phase diagrams and other graphical and tabular presentations of useful data appear frequently throughout the book. The related literature is cited in footnotes. The names of the authors of the papers referred to are gathered together in the author index.

BEDOUKIAN, PAUL Z

Perfumery synthetics and isolates. New York D Van Nostrand Company Inc., 1951 488 p. illus. 24 cm. $9 75 6692

Contents Introduction. Acetophenone and homologs. Aliphatic alcohols. Aliphatic aldehydes. Amyl cinnamic aldehyde. Anisic aldehyde (aubepine) Anthranilates. Benzaldehyde. Benzophenone. Benzyl alcohol and its esters. Borneol and iso-borneol. Cinnamic acid and its esters. Cinnamic aldehyde. Cinnamyl alcohol. Citral. Citronellal. Citronellol (rhodinol) Coumarin. *p*-cresol derivatives Cyclamen aldehyde. Dimethyl benzyl carbinol. Diphenyl oxide. Eugenol and iso-eugenol. Geraniol. Heliotropin. Hydratropic aldehyde. Hydrocinnamic alcohol. Hydroxycitronellal. Indole and its homologs. Ionone. Alkyl gamma lactones. Linalool. Methyl heptine carbonate and homologs. Beta naphthyl ethers. Artificial nitro musks Macrocyclic musk compounds. Nerol. Phenylacetaldehyde. Phenyl acetic acid and esters. Phenyl ethyl alcohol. Phenyl methyl carbinol Salicylates. Terpineol. Vanillin. Analytical section. Vapor pressure graphs. Index.

Note. A reference book of information on synthetic perfumery and flavoring compounds. In most instances the following information is given for each compound chemical name, chemical formula, structural diagram, a general description covering uses and other points, occurrence, methods of preparation, chemical properties, physical constants, methods of manufacture, methods of purification and analysis, statistical data on production and sales, and literature ref-

Applied Chemistry

Various Substances

arrangement is alphabetical, with substances listed under their currently accepted names. Included in the same alphabet are numerous cross references, chiefly from synonyms. For each substance, information (if available) is given on the following points: Chemical formula, physical and chemical properties. Uses in cosmetic, dental and medical products. Toxicity and dermatologic action. Literature references are given for the information on toxicity and dermatologic action, and the bibliography runs to 2314 citations. Preparation of the book was sponsored by the Toilet Goods Association, and the literature review on which it was based was carried out by the Laboratory of Applied Physiology of Yale University

GUENTHER, ERNEST

The essential oils. Princeton D Van Nostrand Company Inc., 1948–52 7 v illus. 24 cm. Vol. I, $8.50 vols. II–V $12.50 per vol. vol. VI, $13.50 set, $69 50 6704

Contents (abridged) Volume I, History—origin in plants, production—analysis. The origin and development of the essential oil industry by George Urdang. The chemistry, origin and function of essential oils in plant life, by A. J. Haagen-Smit. The production of essential oils—methods of distillation, enfleurage, maceration, and extraction with volatile solvents, by E. Guenther. The examination and analysis of essential oils, synthetics, and isolates, by E. E. Langenau. Appendix. Index. Volume II, The constituents of essential oils, co-author, Darrell Althausen. Hydrocarbons. Alcohols. Aldehydes. Ketones. Phenols. Quinones. Acids. Esters. Lactones, coumarins, and coumarones. Furan derivatives. Oxides. Compounds containing nitrogen and sulfur. Terpenes, sesquiterpenes, and derivatives of unknown constitution. The preparation of derivatives of essential oil constituents, by F. E. Sherrill. Index. Volume III, Essential oils of the plant families Rutaceae and Labiatae. Index. Volume IV, Essential oils of the plant families Gramineae, Lauraceae, Burseraceae, Myrtaceae, Umbelliferae, and Geraniaceae. Index. Volume V, Essential oils of the plant families Rosaceae, Myristicaceae, Zingiberaceae, Piperaceae, Anacardiaceae, Hamamelidaceae, Santalaceae and Myoporaceae, Zygophyllaceae, Leguminosae, Rubiaceae, Dipterocarpaceae, Annonaceae, Oleaceae, Amaryllidaceae, Magnoliaceae, Caprifoliaceae, Violaceae, Resedaceae, Caryophyllaceae, Pinaceae, Theaceae, and Compositae. Index. Volume VI, Essential oils of the plant families Ericaceae, Betulaceae, Valerianaceae, Verbenaceae, Cistaceae, Cruciferae, Liliaceae, Iridaceae, Araceae, Palmae, Cyperaceae, Moraceae, Aristolochiaceae, Chenopodiaceae, Ranunculaceae, Euphorbiaceae, Malvaceae, Canellaceae, Polemoniaceae, Pinaceae, Taxodiaceae, and Cupressaceae. Botanical classification of essential oil plants. Index, Volume VI. Index, Volumes I–VI.

Note A thorough and authoritative review of the whole subject of essential oils. The first volume deals with the chemistry and general manufacturing procedures. The second volume provides data on the occurrence, methods of isolation, and properties of the natural constituents of essential oils. The remaining four volumes discuss the individual oils under such headings as history, botany, producing regions, climatic and soil requirements, planting, harvesting, properties, composition, and total production. The numerous literature references constitute an extensive bibliography of the subject.

HASSLER, JOHN W

Active carbon. New York Chemical Publishing Company Inc., 1951 384 p. 23 cm. $7.00 6705

Contents (abridged) Part I, Preparation and properties. Preparation of active carbon. Theories of adsorption. Chemical and physical properties of adsorbable compounds. Adsorption from mixtures. Leaching? and peptization. Theories of contact catalysis. Chemistry and physics of the active-carbon surface. Desorption. Part II, Applications. Liquid systems. Sugars and syrups. Fats and oils. Alcoholic beverages. Water purification. Organic chemicals. Biochemistry and pharmacology. Analytical applications. Protection against toxic gases. Recovery of solvent and other vapors. Applications in catalysis. Part III, Experimental methods. General principles of experimental adsorption with active carbon. Gas adsorption. Liquid-phase adsorption. Index.

Note A monograph in which the whole field is compactly covered, and references are given to the pertinent literature. The bibliographies include not only books, periodicals, and patents, but also some references to unpublished information. The excellent documents of applications in specific fields account for about one-third of the book.

HOWARD, FRANK ATHERTON

Buna rubber the birth of an industry New York D Van Nostrand Company Inc., 1947 307 p. illus. 22 cm. $5.00 6706

Contents: Rubber. Oil from coal. American rights in German synthetic rubber. Infancy of synthetic rubber. Butyl rubber and vinyl? Europe. The last year of peace. War in Europe. The Muscle Shoals? Board. Europe falls. The Advisory Commission. The problem comes to R. F. C. Indecision. Laying the foundations. Establishing industrial cooperation. Setting the war program. Controversy. Confusion. The Baruch committee. The rubber director. The new industry. Appendix. Index.

Note. Of historical rather than technical importance, this work gives an authentic account of certain major aspects of the founding of the synthetic rubber industry in the United States of America. It describes the program after World War I in the making of Buna rubber under the joint research project of the Standard Oil Company (N.J.) and I. G. Farbenindustrie. The problems which arose at the outbreak of World War II over the joint ownership of the Standard-I. G. Company is discussed at some length, and the reports of the settlements made are included in the appendix. Much additional documentary material on the organization and operations of the industry in the United States is included.

KERR, RALPH WALDO editor

Chemistry and industry of starch. Second edition, revised and enlarged. New York Academic Press, Inc., 1950 719 p. illus. 23 cm. $12.50. 6707

Contents (abridged) Section I, Occurrence in nature. Section II, Preparation: The manufacture of corn starch. Manufacture of tapioca and arrowroot starches. Manufacture of wheat, potato, and other industrial starches. Fractionation of modified starches in practice. Section III, Properties. Section IV Reactions. The hydrogen bond in starch as a basis for interpreting its behavior and reactivity. Derivatives of starch. Oxidation of starch. Dextrinization. Acid hydrolysis of starch. The enzymes, properties and production. Modification of starch by enzymes. Section V Uses and analysis: Uses of starch in paper manufacture. Uses of starch and starch products in the fermentation industries. Use of starch and starch products in the textile industry. Starch adhesives? Use of starch products in foods. Methods of analysis for starch. Author index. Subject index.

Note A comprehensive survey of current starch chemistry and industrial uses of starch. It is designed mainly for the industrial chemist who is concerned with starch in one or more manufacturing processes. Important statements and data in the text are keyed to the extensive reference lists. In the present edition—which is the product of eight authors in addition to the editor—the work has been very substantially revised and amplified. The increase in the length is almost 230 pages, a reflection of the substantial growth of the patent and periodical literature.

KERTESZ ZOLTAN IMRE

The pectic substances. New York Interscience Publishers, Inc., 1951 628 p. illus. 24 cm. $15.50 6708

Contents (abridged) Part I, The chemistry of pectic substances. D-galacturonic acid. Composition and structure of pectic substances. Heterogeneity of pectic substances. Preparation and purification of pectic substances in the laboratory. Detection, determination and characterization of pectic substances. Part II, The botany of pectic substances. Occurrence and distribution of pectic substances in plants. Proportions of and changes in pectic components in some plants. Part III, The biochemistry of pectic substances. Commercial pectic enzymes. Behavior of pectic substances in the animal body. Part IV Manufacture of pectic substances: Apple pectin. Citrus pectin. Beet pectin. Control of setting time. Pectins of commerce. Part V Some functions and applications of pectic substances and pectic enzymes: Pectic substances in foods. Applications of pectic substances in nonfood products. Applications of pectic enzymes. Author index. Subject index.

Note Probably the most comprehensive treatise on this subject that will be published in many years. It is essentially a digest of the complete literature. There are 2,014 footnote references. The work should serve well as a reference book in libraries devoted to organic chemistry and in the personal libraries of food chemists, particularly those chemists concerned with the large-scale manufacture of jams and jellies. The author is associated with the New York State Agricultural Experiment Station at Cornell University

Arrowroot starch. Other starches. Special forms and modified starches. Applications of starch. Dextrin. Glucose and caramel. Analysis of starch and methods of analysis for starch content. Physical and chemical characteristics of starch and its derivatives, by O. A. Moe. Author index. Subject index.

Note Basic information of a general and reference nature has been assembled in this book. Most of the space is given to descriptions of manufacturing processes with emphasis on the manufacture of white potato starch. However economic data are included, and there is a considerable range of information on the properties of the starches discussed. Also, there is a chapter on chemical analysis of starches. Although a comprehensive bibliography was not attempted, there is liberal citation of the pertinent literature. Many of the illustrations depict starch processing machinery The book will be a useful one for industrial chemists, purchasing agents, and others with technical interests in starch.

COOK, PHILIP G

Latex natural and synthetic. New York Reinhold Publishing Corporation, 1956 231 p illus 18 cm. $3 50 6698

Contents Introduction. Development of latex to its present form. Latex production and importation. Testing of latex prior to use. Vulcanization of latex. Compounding—materials affecting liquid properties—materials affecting film properties. Processing and testing compounds. Synthetic rubber latices. Rubber-plastic latices. Latex products—unsupported films or filaments—coatings, binders, and saturants. Literature references. Index.

Note. One of the publisher's Pilot books, this small work is a broad survey of present-day latex technology Both natural and synthetic latices are covered. Specific information is given on manufacturing techniques, and more than 30 pages are devoted to descriptions of manufactured products. There are some literature references but no comprehensive bibliography The book will be useful to industrial chemists and others who are not specialists but are preparing to enter the industry or for some other reason are in need of practical, technical information about latices and products made from them.

CURME, GEORGE OLIVER, JR , editor

Glycols. George O Curme jr , editor, Franklin Johnston, associate editor New York Reinhold Publishing Corporation, 1952 389 p illus 24 cm. (American Chemical Society monograph series) $12 00 6699

Contents Glycols—an introduction. Ethylene glycol production by P R Rector and W J Toussaint. Physical properties of ethylene glycol, by W S. Jones and W S. Tamplin. Commercial applications of ethylene glycol. Ethylene oxide, by H. C Schultze. Derivatives of ethylene glycol by A. B. Boese, jr and others. Ethylene glycol condensation polymers. Propylene glycol production, by P R. Rector and W J Toussaint. Physical properties of propylene glycol, by W S. Jones and W S. Tamplin. Commercial applications of propylene glycol Propylene oxide, by R F Holden Derivatives of propylene glycol, by R. F Holden. Propylene glycol condensation polymers, by R. F Holden. Higher glycols, by S. M. Livengood. Physiological aspects of the glycols and related compounds, by H. F Smyth, jr Analysis and test methods, by E. F Hillenbrand, jr Author index. Subject index.

Note Essentially this is a reference book for the use of industrial chemists The properties of the various glycols and glycol derivatives are adequately described, but the emphasis is on manufacturing methods and applications. The presentation is technical and concise. However all important points in the text are cross-referenced to the source articles cited in the bibliography Patents and books are cited in the bibliographies along with papers in periodicals The authors and editors are all associated with the Carbide and Carbon Chemicals Company

DAVIS, TENNEY LOMBARD

The chemistry of powder and explosives. New York John Wiley & Sons Inc. 1943 490 p illus 22 cm $12 00 6700

Contents Properties of explosives. Black gunpowder Pyrotechnics. Aromatic nitro compounds Nitric esters Smokeless powder Dynamite and other high explosives Nitroamines and related substances. Primary explosives, detonators, and primers. Index.

Note. An exposition, for trained chemists, of the modes of behavior of explosive substances and the phenomena, both chemical and physical, which they exhibit. It presents the properties, classification, and tests of explosives. The first half of the book is elementary in the sense that it contains nothing which is not the common knowledge of those who are skilled either in chemistry or in the manufacture and use of explosives. The second half supplies a basis for an understanding of manufacturing processes and analytical tests, as well as an insight into their interpretation and significance.

DE NAVARRE, MAISON G

The chemistry and manufacture of cosmetics, with a chapter on the Federal Food, Drug and Cosmetic Act of 1938 as it relates to cosmetics by Ralph J Mill with a foreword by Roland T Lakey New York D Van Nostrand Company, Inc 1941 745 p. illus. 23 cm. $9 75 6701

Contents Introduction. Metrology—alligation. Equipment for the small manufacturer—cosmetic materials. Fundamental principles. Preservatives, antioxidants and corrosion. Cosmetic colors—table of certified colors. Emulsions—patent digest. Cold creams and other cosmetic creams—patent digest. Lotions—patent digest. Face powder—miscellaneous powders—patent digest. Make-up—patent digest. Miscellaneous cosmetic preparations—patent digest. The Federal Food Drug and Cosmetic Act of 1938. Appendix and tables. Bibliography Index.

Note This is a general reference and formula book for the preparation of cosmetics. It explains the general principles and requirements which determine the properties of the various types of cosmetics, and shows how these requirements are met by proper formulation, and by the various operations of mixing and blending. This book includes formulas and rules for small scale production of cosmetics as well as for large scale manufacture. A new edition was scheduled for publication in 1958.

ECKEY, E W

Vegetable fats and oils With a chapter by Lawrence P Miller New York Reinhold Publishing Corporation 1954 836 p illus. 24 cm. (American Chemical Society monograph series) $17 50 6702

Contents Introduction Chemical composition of fats. Physical properties of fats. Chemical properties and reactions of fats. Biochemical and nutritional aspects of fats. Genesis of fats and oils in plants. Methods. Fats and oils of the nonflowering plants Fats of the gymnosperms. Fats of some of the monocotyledons Palms and other monocotyledons Fats of some of the dicotyledons. Fats of the Ranales. Rhoeadales Rosales. Geraniales. Sapindales and Rhamnales. Malvales. Parietales Opuntiales. Myrtiflorae Umbelliflorae. Ericales, Primulales, Ebenales Contortae (Gentianales) Tubiflorae Plantaginales, Rubiales, Campanulales. Index

Note Although this book replaces G S Jamieson's out-of-print work of the same title, it is an entirely new work rather than a revision. It is—as was its predecessor—a comprehensive treatise with a decided practical slant The first seven chapters cover general aspects of the vegetable fats and oils, and the remaining ones are devoted to information on specific oils. These latter chapters comprise the greater part of the book's length. They bear the names of plant groups, but this is only a convenient scheme of classification, since the chapters contain very little botanical information and much on economic, chemical, and industrial aspects. Long bibliographies are appended to the chapters, and there are many tables of reference data.

GREENBERG LEON A , AND DAVID LESTER

Handbook of cosmetic materials their properties uses and toxic and dermatologic actions With a bibliography of over 2 500 titles With a chapter on the skin by Howard W Haggard. New York Interscience Publishers Inc. 1954 455 p 24 cm $12 50 6703

Note In the main part of this book condensed technical information is supplied on approximately 1,000 synthetic chemicals and natural materials which are currently used in cosmetics The

MARCHIONNA, FREDERICK

Latex and its industrial applications. New York. The Rubber Age Publishing Co., 1933–37 3 v 24 cm. Vol. I, o.p. vol. II & III, $10.00 per set. 6715

Contents (abridged) Volume I: Rubber plants. Planting and cultivation of rubber. Collecting and extracting latex. Preservation of latex and rubber. Behavior and characteristics of latex. Coagulation of latex. Preparation of rubber. Direct use of latex in industry. Artificial latex. Electrodeposition of rubber. Structure of rubber. Indexes. Volume II, Part 1, Latex and its industrial applications. Latex and its properties. Concentrating of latex. Vulcanized latex and vulcanization process. Compounding and compounded latex. Depositing latex processes and dipped articles. Rubber threads and filaments manufacture. Textile fabric treatment. Paper and artificial leather manufacture. Coating and [illegible]. Porous rubber products [illegible]. Electrical insulation. Volume III: Rubber floor and road coverings. Shoe manufacture. Artificial latex and powders. Miscellaneous processes and products. Part II, Rubber derivatives and dispersions. Electrodeposition of rubber. [illegible] and their industrial applications. Oxidized rubber. Hydrogenated rubber. Halogenated rubber products. Cyclized rubber. Decomposition products of rubber. Index.

Note: A compilation of patent abstracts and an annotated bibliography covering latex and rubber derivatives. The first volume [illegible] up to 1931, and comprises approximately 2,400 abstracts, of which 1,440 are patents and over 960 scientific or technical papers. Volumes II and III were issued as supplements to Volume I to cover the literature of rubber technology during the period 1934–1937. They contain a total of 4,440 abstracts with [illegible] proportion devoted to abstracts of various American, British, French, and German patented processes for the industrial applications of latex and rubber derivatives. Patent number, date, title, owner, and [illegible] synopsis of the process are given under each patent listed. In addition, there is [illegible] technical résumé of the general subject at the beginning of each chapter. There are indexes of patentees, patents, subjects, and authors.

MINER, CARL S., AND N. N. DALTON editors

Glycerol. New York Reinhold Publishing Corporation, 1953 460 p. illus. 24 cm. (American Chemical Society monograph series) $12.00. 6716

Contents: History and economics, by N. N. Dalton and J. C. [illegible], by T. M. Godfrey. Methods [illegible]. Natural source and occurrence, by T. M. Godfrey. Recovery and refining, by T. M. [illegible] of production, by T. M. Godfrey. Analyses, by [illegible] Godfrey. Standards and specifications, by J. B. Segur. Physical properties of glycerol and its solutions, by J. B. Segur. Chemical properties and derivatives of glycerol, by J. B. Segur. Biochemical use of glycerol, by C. H. [illegible]. The physiological action of glycerol, by M. E. [illegible]. Uses of glycerine, by J. B. Segur. Subject index.

Note: A comprehensive survey of glycerol, the chemical substance, and its commercial counterpart, glycerine. Not only are the chemical aspects covered, but also such topics as world production, prices, laboratory and commercial uses are discussed in varying degrees of thoroughness. Much reference data are presented in tables. As [illegible] in the [illegible], the book is based on the literature, and statements in the text are referenced to the [illegible] of the [illegible]. Preparation of the work was supported by the Association of American Soap and Glycerine Producers.

NOBLE, ROYCE J

Latex in industry Second edition. New York Rubber Age, 1953 912 p. illus. 24 cm. U.S.A., $15.00 other countries $16.00 6717

Contents: Part I: Sources, preservation and shipment of latex. Properties of latex. Concentration of latex. Aqueous dispersions. Synthetic latices. Vulcanized latex. Compounding. Coagulation of latex compositions. Vulcanization. Part II: The technical applications of latex. Impregnation. Spreading. Dipping processes. Molding, casting. Electrodeposition. Paper and [illegible]. Artificial leather. Rubber thread. Porous rubber. Friction elements. Adhesives. Latex-treated rugs and plush. Miscellaneous applications. Part III: Examination of latex and latex compounds. Author index. Subject index.

Note: A comprehensive work written from the viewpoint of manufacturers and industrial chemists who are interested in rubber latex as an engineering and manufacturing material. The information given on the properties, compounding and applications of latex is specific and detailed. The typical chapter is accompanied by an extensive bibliography which includes references to patents as well as to book and periodical literature. The names of authors and inventors cited are assembled in the author index. The first edition was published in 1934. This edition is a very thorough revision, with both text and bibliographies brought down to date and the length of the book approximately doubled.

POST, HOWARD WILLIAM

Silicones and other organic silicon compounds. New York Reinhold Publishing Corporation, 1949 230 p. illus. 23 cm. $6.00. 6718

Contents: Introduction. Halogenated silanes. The work of Friedel [illegible], Kipping and others. Organic compounds of silicon prepared at moderate temperatures (journal literature). Organic compounds of silicon prepared at moderate temperatures (patent literature). Organic compounds of silicon prepared at higher temperatures. The uses of polymerized [illegible]. Some organic compounds analogous to ethers and esters. Nomenclature. Physical properties. Bibliography. Author index. Subject index.

Note: The scope of this work is "silicon compounds of silicon which contain carbon of such [illegible] character as definitely to impart organic properties to the molecule." Its purposes are to provide brief descriptions of the properties and uses of the silicones and other compounds of silicon that fit this definition, and to summarize the various methods which have been developed for their synthesis. It is based on an extensive survey of the international literature, including patents, and the bibliography of original sources constitutes one of the most useful features. In the final chapter are tabulated the formulas, names, melting point, and boiling point for more than 1,000 compounds.

ROCHOW EUGENE GEORGE

An introduction to the chemistry of the silicones. Second edition. New York John Wiley & Sons, Inc., 1951 205 p. illus. 24 cm. $6.00 6719

Contents: The simpler organic compounds of silicon. The carbon-silicon bond. Synthesis of organosilicon compounds. The organosilicon polymers. Properties of silicone monomers. Types of organosilicon polymers. The physical chemistry of silicones. The specific silicone polymers. [illegible] from organosilicon. Water-repellent films and protective coatings from organosilicon. [illegible]. Some production considerations. Analytical methods. [illegible]. Tables of physical properties of organosilicon compounds. References. Author index. Subject index.

Note: A useful survey written mainly for the information of industrial chemists and others in need of [illegible] technical guide. There are some discussion of general chemistry and properties and fairly [illegible] information on the various classes of these compounds. Especially useful features from the standpoint of those who will use the volume chiefly for reference are the 11 tables of properties and the bibliography of 318 literature references. Patents are included in this bibliography. There is a substantial amount of new material in this edition, including three chapters that did not appear in the first edition.

ROOT HUBER H.

Beeswax, its properties, testing production and applications. New York Chemical Publishing Company Inc., 1951. 154 p. illus. 23 cm. $4 75 6720

Contents: Introduction. The origin and discovery of the nature of beeswax. The production of beeswax. The honeycomb. Extracting beeswax from combs or cappings. Testing beeswax. Bleaching beeswax. Uses of beeswax. Beeswax in cosmetics. Beeswax candles. Comb foundation. Future trends. Glossary. Index.

Note: A compact survey that is of about equal interest to apiarists whose chief product is extracted honey and to manufacturers who use beeswax in such products as polishes and cosmetics. The various commercial uses for beeswax are described, and the chapter on cosmetics uses contains several formulas, most, if not all, of which are reprinted from other books.

LEMAIRE, GEORGE W

A study of asphalts and asphaltic materials. Golden Colorado School of Mines, 1953 89 p. illus. 23 cm. (Colorado School of Mines. Quarterly Vol. 48, no 2) $1 50 6709

Contents: Review of theories concerning the composition and structure of asphalt. Asphalts, manufacture and tests. Practical application of theories to asphalt manufacture. Significance of physical tests. Significance of chemical tests. Cracked bitumens. Factors for estimating temperature susceptibility Experiments with solvent extraction of bituminous substances at the Colorado School of Mines. Results of research on bituminous materials at the Colorado School of Mines. Production of formalites from asphaltic bitumen. Separation of asphaltic constituents. Appendix. Glossary of terms. Definitions applying to physical qualities of asphalts. Classification. Analysis of bitumens. Bibliography

Note. This pamphlet publication provides compact survey of the current state of chemical and physical knowledge of asphalts, describes methods of manufacture of asphalts and asphaltic products; and evaluates and describes a range of physical and chemical tests that may be applied to characterize asphalts and to describe in physical terms such properties as volatility ductility and resistance to weathering. Some of the information presented was derived from special studies at the Colorado School of Mines, and some of it has been taken from the literature. A bibliography of the pertinent literature is included. The work is of interest to manufacturers and highway engineers, and to large-scale users of asphaltic materials.

LESSER, MILTON A.

Modern chemical specialties. New York MacNair Dorland Company 1950 514 p illus 24 cm. $7 25 6710

Contents (abridged): Detergents and cleaners Dishwashing detergents. Industrial hand cleaners. Medicated soaps. Dog soaps. Carpet, rug and upholstery cleaners. Cleaning and polishing cloths. Paint, varnish and wall paper cleaners. Stain removers. Polishes Furniture polishes. Glass cleaners, polishes and antimists. Aluminum cleaners. Metal polishes. Auto polishes. Floor care products. Floor soaps and cleaners. Wax floor polishes. Floor oils and sweeping compounds. Crack fillers. Textile products. Laundry bluings. Laundry starches. Laundry sours. Laundry bleaches. Mildew preventatives. Moth products. Products for leather care Leather cleaners and renovators. Saddle and leather soaps. Colored shoe polishes. Industrial and household specialties: Washroom sanitation specialties. Cooling system cleaners. Boiler compounds. Paint and varnish removers. Water softeners. Air deodorizers. Index.

Note A practical compendium of information about the manufacture of household and industrial products of the kinds mentioned in the chapter titles. In each section, there is a generalized discussion of the nature and uses of the class f product, discussions of some aspects of its manufacture, and variety of formulas. Literature references are provided for each chapter.

LUBS, H A , editor

The chemistry of synthetic dyes and pigments. New York Reinhold Publishing Corporation 1955 734 p illus 24 cm (American Chemical Society monograph series. No 127) $18 50 6711

Content Benzene intermediates. Naphthalene intermediates. Azo dyes. Azoic dyes. Miscellaneous dyes. Sulfur dyes. Anthraquinone dyes and intermediates. Indigoid dyes. Phthalocyanine pigments. Phthalocyanine dyes. Organic pigments. Color and chemical constitution of dyes. Common names of dye intermediates. Critical bibliography Dye index. Subject index.

Note. Not an exhaustive treatment, as the umber of pages might suggest, this book is instead thorough survey of synthetic dyestuffs which are currently of interest because of commercial importance or because of their relation (historical or otherwise) to those of commercial importance. Chemistry is clearly emphasized, but historical development, dyeing properties, uses and commercial importance are also discussed. The texts of all the chapters and subsections of chapters are keyed to literature citations and, in addition, there is classified critical bibliography Books, papers, patents and technical reports are all included in the documentation. A special feature is frequent citation of BIOS and FIAT reports. The contributors have all been associated with the Jackson Laboratory f the E. I. du Pont de Nemours & Company which played major part in the development of the synthetic dye industry in the United States of America.

MCCUTCHEON, JOHN WELLAND

Synthetic detergents. New York MacNair Dorland Company, 1950 435 p. illus. 24 cm. $7 10 6712

Contents Introduction. Fundamentals of surface activity E aluation methods and analytical examination of detergents. Examination of surface active agents and synthetic detergents by class and type. Manufacturing processes and raw materials. Trade names, products and processes. Applications and uses. Appendix. Boundary tension by pendant drops. A.O.C.S. methods. Surfactant classification list. Industrial classification index. List of surface active agents. Index.

Note: In this work the primary emphasis is on the practical aspects of the synthetic detergents. Applications and methods of evaluation are covered rather thoroughly but manufacturing methods and some other aspects are covered briefly Typical formulas for products, ranging from insecticides to cleansers, in which a detergent is a principal ingredient are included. The appendix includes a long tabulation f trade names under which detergents are sold. For each trademarked product the name of the manufacturer class, formula, uses, etc., are given. The book is useful to purchasing agents and to technical personnel in charge of processes in which detergents are used—for instance, textile dyeing.

MCGREGOR, ROB ROY

Silicones and their uses New York Mc Graw Hill Book Company, Inc., 1954 302 p. illus 21 cm $6 00 6713

Contents. History of silicones: Early studies in organosilicon chemistry Commercial development of silicones. Commercial silicones. Silicone fluids—compounds—lubricants—resins—rubber. "Bouncing putty Physiological response to silicones. General considerations. Applications in pharmacy—in medicine. Applications of silicones to specific industries and cost considerations. Chemistry of silicone preparation Definitions and nomenclature. Synthesis of intermediates. Polycondensation. Literature cited. Index.

Note. An up-to-date, semitechnical survey The chapter on history is an impartial outline with literature references. In the second chapter the silicones that have found commercial application are discussed under the subheadings: *Silicone fluids, Silicone compounds, Silicone lubricants, Silicone resins, and Silicone rubber* The chemical and physical properties of each group are stated, then the various commercial applications are described in detail. In the third chapter both developed and potential applications in pharmacy and medicine are discussed. The fourth chapter is a tabulation by industry of known applications. The book will be useful to industrial chemists, engineers, and technicians who need background and practical information on this important group of chemicals. It is well equipped with literature references for the guidance of those who desire more detailed or more technical information on specific topics.

MANTELL, CHARLES LETNAM

Industrial carbon its elemental, adsorptive and manufactured forms. Second edition New York D Van Nostrand Company Inc. 1946 472 p illus 23 cm. $10 75 6714

Contents. Elemental forms. Diamonds. Natural graphite—properties, mining—dressing, applications. Carbon black. Lampblack. Acetylene black. Pigments. Adsorbents Bone black. Vegetable decolorizing carbon. Gas adsorbents. Other absorbent chars—metal adsorbent chars, pharmaceutical charcoal. Manufactures. Historical aspects of manufactured carbon. Artificial graphite. Raw materials for carbon manufactures. Preparatory processes—calcining—grinding Electrodes. Brushes. Arc light and illuminating carbons. Carbon specialties and resistors. Carbon as material of construction. Porous carbon. Electronic tube anodes. Refractories. Analyses and properties. Analytical and testing methods. Physical and chemical properties. Index.

Note A comprehensive survey of the many forms and uses of carbon in industry Both common and uncommon uses are described The book is intended as a reference book for scientific and technical workers, particularly chemists, physicists, engineers, and persons associated with the production of industrial carbon. The first edition was published in 1928, but this edition is so much revised and expanded that it is irtually new work A umber of the chapters have been written by authorities other than the author There is fair number of references to the related literature, including patents.

phoric acid from elemental phosphorus. The manufacture of phosphoric acid by the wet process, by W. C. Weber. Comparison of sulfuric acid and thermal reduction processes for manufacturing phosphoric acid. Purification of phosphoric acid and its salts, by W. H. Waggaman and W. T. Grace. Superphosphate, its manufacture and properties, by W. H. Waggaman and [illegible] Sauchelli. Concentrated or triple superphosphate. Ammonium phosphates and ammoniated superphosphates, by E. W. Harvey and G. L. Frear. Other water-soluble phosphatic fertilizers. Basic slag, degreased bone and defluorinated phosphates. Calcined, fused and defluorinated phosphates, by K. T. Whitney and C. A. Hollingsworth. Calcium and potassium metaphosphates and miscellaneous products. Complete fertilizers and their preparation. Phosphate leavening agents, by H. W. Easterwood. Phosphate water-softening and cleansing products, by C. B. McCullough. The esters of phosphoric acid and their industrial applications, by J. R. Harris. Phosphating of metals, by G. C. Rendy. Phosphates in the manufacture and refining of cane sugar, by V. R. Deitz and G. P. Meade. Phosphates in flame-resistant products. Miscellaneous industrial uses of phosphoric acid and its derivatives. Appendix. Index.

Note. Each of the chapters in this comprehensive treatise is a concise, up-to-date survey of the particular aspect of the subject which is named in its title and it is supplemented—as is customary in this series—by a substantial list of references. Essentially the work is a reference book for the information of graduate chemists and others who are associated with the phosphate-producing and -using industries. The appendix includes a wide range of useful material including a table of phosphoric acid conversion factors, descriptions of analytical tests, and a classified list of pertinent United States patents. Chapters for which an author's name is not shown in the above table of contents were written by William H. Waggaman. The first edition appeared in 1927. The present edition is an extensive revision and substantial expansion of the original work.

WALKER, J FREDERIC

Formaldehyde. Second edition. New York Reinhold Publishing Corporation, 1953 575 p. illus. 24 cm. (American Chemical Society monograph series) $12.00. 6727

Contents. Formaldehyde production. Monomeric formaldehyde. Rate of dissolved formaldehyde. Commercial formaldehyde solutions. Physical properties of aqueous formaldehyde. Distillation of formaldehyde solutions. Formaldehyde polymers. Chemical properties of formaldehyde. Reactions of formaldehyde with inorganic agents. Reactions of formaldehyde with aliphatic hydroxy compounds and mercaptans. Reactions of formaldehyde with aldehydes and ketones. Reactions of formaldehyde with phenols. Reactions of formaldehyde with carboxylic acids, acid anhydrides, [illegible], acyl chlorides, and esters. Reactions of formaldehyde with [illegible], amides and nitriles. Reactions of formaldehyde with hydrocarbons and hydrocarbon derivatives. Reactions of formaldehyde with heterocyclic compounds. Detection and estimation of small quantities of formaldehyde. Quantitative analysis of formaldehyde solutions and polymers. Hexamethylenetetramine. Uses of formaldehyde, formaldehyde polymers, and hexamethylenetetramine. Author index. Subject index.

Note. A comprehensive treatise based on a critical survey of the literature. Each of the chapters concludes with an extensive list of references to which important statements in the chapters are keyed. The use of the book as a guide to the literature is facilitated by the inclusion of authors' and inventors' names in the author index. Most of the space is devoted to chemical aspects, particularly to reactions among formaldehyde and a variety of inorganic and organic compounds. However, the two final chapters give an adequate view of contemporary uses of formaldehyde. The first edition was published in 1944. This second edition represents thorough revision with nearly 200 additional pages.

WARTH ALBIN H.

The chemistry and technology of waxes. Second edition. New York Reinhold Publishing Corporation, 1956 940 p illus. 24 cm. $18.00 6728

Contents. Introduction. Chemical components of waxes. The natural waxes. Fossil waxes, earth waxes, peat waxes, montan wax and lignite paraffins. Petroleum waxes. Synthetic waxes. Compounded, modified, blended, and compounded waxes. Emulsifiable [illegible], waxy alcohols and acids, metallic soaps. Methods for determining the constants of waxes. Wax technology—uses in industry. Appendix. Tables of physical constants of waxes. Addenda. The compounding of waxes. Author index. Subject index.

Note. A comprehensive reference manual on the kinds, sources, chemistry, physical properties, processing, testing, and uses of waxes. It is based on a wide survey of the international literature, including patents, which is cited in extensive lists of references appended to the chapters. The first edition was published in 1947. The length of the book has been approximately doubled in this edition. Although the titles of most of the chapters are identical with or similar to those of the first edition, the book has been revised from end to end and all chapters are greatly extended. The first chapter on chemical components is 72 pages long in the second edition, in contrast to 11 pages in the first edition. The 225-page chapter on technology is about 100 pages longer. Some literature published as recently as 1955 is cited in the bibliographies.

WHITBY G S editor

Synthetic rubber. Prepared under the auspices of the Division of Rubber Chemistry American Chemical Society. Editorial board G S Whitby editor-in-chief, C. C. Davis, R. F Dunbrook, New York John Wiley & Sons, Inc., 1954 1 044 p. illus. 24 cm. $18.00. 6729

Contents. Introduction, by G. S. Whitby. Historical review, by R. F. Dunbrook. Manufacture of dienes from petroleum, by C. E. Morrell. Manufacture of butadiene from alcohol, by W. J. Toussaint and J. L. Marsh. Preparation and production of dienes by other methods, by H. L. Fisher. Manufacture of styrene monomer, by J. R. Mitchell and J. L. Amos. The manufacture of GR-S, by J. W. Livingston and J. T. Cox, Jr. Emulsion polymerization systems, by C. F. Fryling. Chemical study of the structure of diene polymers and copolymers, by C. S. Marvel and E. E. Baumgarten. Physical chemistry of synthetic rubbers, by L. A. Wood. The processing and compounding of GR-S, by R. F. Dunbrook and R. D. Juve. Physical test methods and polymer evaluation, by A. E. Juve. Aging and stabilization in GR-S, by S. O. Cole. Use of GR-S in rubber manufacture, by R. A. Crawford. Synthetic rubber in wires and cables, by J. T. Blake. Synthetic hard rubber, by F. S. Malm and H. Peters. Reclaimed synthetic rubber, by F. L. Kilbourne, Jr. GR-S latex, by L. H. Howland. Latex masterbatching, by J. W. Adams and L. H. Howland. Diene polymers and copolymers other than GR-S and Neoprene, by W. K. Taft and G. J. Tiger. Neoprene, the specialty rubbers, by W. L. Semon. Nitrile rubber, by A. M. Neal and L. R. Mayo. Thiokol rubber, by W. J. Sparks. Miscellaneous. Butyl rubber, by R. M. Thomas and W. J. Sparks. German synthetic elastomers, by C. H. Fisher and others. German synthetic-rubber developments, by R. L. Bebb and L. B. Wakefield. Name index. Subject index.

Note. An exhaustive survey of synthetic rubber development and current status. The 26 chapters whose titles and authors are listed in the above table of contents are literature summaries of patents, journal papers, technical reports and unpublished private company documents. Chemical and technical aspects are emphasized, but considerable economic information, especially on production, is included. The "Name index" includes both firms and personal authors and runs to about 2,300 names; thus the volume is a guide to the important literature as well as a statement of the important facts.

WILSON PHILIP JOHNSON AND JOSEPH H. WELLS

Coal, coke, and coal chemicals. New York McGraw Hill Book Company Inc., 1950. 509 p. illus. 23 cm. (McGraw Hill chemical engineering series) $10.00. 6730

Contents (abridged). Introduction—the nature and scope of coal carbonization. Fuels and combustion. Characteristics of coal for carbonization. Preparation and cleaning of coal for coking. The coking process in byproduct coke ovens. High-temperature coke. Gas. Ammonia and ammonium salts. Light oil. Coal tar. Coal carbonization for gas manufacture. Some low-temperature carbonization processes and the Curran-Knowles process. Economics of the coal-carbonization industries. Trends in the coal-carbonization industry. Appendix: Select bibliography. List of plants for the carbonization of coal in the United States. Index.

Note. As the chapter titles indicate, this is a treatise on the coking process, its products and by-products. Although many of the topics are discussed from the chemical engineering viewpoint, the effect of the whole work is that of a good general treatment of the present technology and economic importance of the industry. The book is of interest to the personnel of the coking industry and to operatives and engineers in allied industries.

SCHWARCZ, LEONARD

Sanitary chemicals a practical handbook dealing with disinfectants, household and industrial insecticides floor waxes, soap and cleaning specialties, deodorants, and other sanitary chemical products—their manufacture, testing, packaging, labeling, and most effective use New York MacNair Dorland Company, 1953 576 p illus. 24 cm. $8 00 6721

Contents Principles of disinfection. Coal tar disinfectants. Cresol compounds. Pine oil disinfectants. Hypochlorites (chlorine disinfectants) Quaternary ammonium disinfectants. Disinfectant testing. Deodorants. Pyrethrum insecticides. Rotenone insecticides. Synthetic insecticides. Livestock and barn sprays. Bedbug liquids. Cockroach control. Moth preparations. Aerosols. Insecticide testing. Rodenticides. Floor waxes. Sweeping compounds. Liquid soaps. Detergents and cleaners. Surface active agents. Labeling and packaging. Index.

Note Primarily this is a book on the manufacture of the kinds of products named in the chapter titles. However in addition to typical formulas and specific information on manufacturing methods, it contains a variety of facts on such aspects as basic chemistry testing, laws relating to labeling, etc. The first edition was published in 1943 This edition—completed after the author's death by the editorial staff of *Soap and sanitary chemicals*—contains several new chapters, and most of the chapters carried over from the first edition have been revised so as to include recent developments and new standards.

SCHWARTZ, ANTHONY MAX, AND JAMES W PERRY

Surface active agents, their chemistry and technology New York Interscience Publishers Inc., 1949 579 p illus 24 cm. $12 00 6722

Contents (abridged) Introduction General considerations. Part I, Processes for synthesizing and manufacturing surface active agents Anionic surface active agents—Carboxy acids—Sulfuric esters—Alkyl aromatic sulfonates. Cationic, non-ionic, and miscellaneous surface active agents: Ampholytic surface active agents. Special compositions and mixtures. Part II, The physical chemistry of surface active agents in theory and practice Surface and interfacial relationships of pure liquids. Bulk properties of surface active solutions. Gross effects and technical evaluation of surface active agents. Relationship of surface activity to chemical constitution. Part III Practical applications of surface active agents Applications in the textile industry Cosmetics and personal use. Pharmaceutical, germicidal, fungicidal, and disinfectant uses. Household laundering, dry cleaning, and general cleaning uses. Metal technology Leather technology Ore flotation. Author index. Subject index.

Note A comprehensive treatment. Theoretical considerations and practical applications share the space about equally The work is based on an extensive literature survey including patents, and it is of interest not only to chemists working in the field but to chemists and manufacturers in all of the industries in which surface active agents and detergents are used. Volume II, covering 1947 56 developments, was published in 1958 839 p., $17.50.

THOMSSEN, EDGAR GEORGE, AND JOHN W McCUTCHEON

Soaps and detergents New York MacNair Dorland Company 1949 511 p illus 24 cm $9 00 6723

Content Raw materials, definitions, general considerations. Machinery and equipment. Soap making methods—soap manufacture classified and described according to processes Soap products—soap manufacture classified and described according to uses and characteristics of the products. Perfuming and coloring soaps. Glycerine recovery Synthetic detergents. Process and analytical control methods. Appendix. Index.

Note Primarily technical treatise on contemporary processes of soap manufacture and on the chief kinds of soaps. Soap manufacturing processes are described in considerable detail, and there are many pictures of soap-making machinery and of important steps in the manufacturing processes. The chapter on synthetic detergents is only 22 pages in length. The appendix contains tabulated reference data on the glycerine content of common oils, the fatty acid content of common oils, fat constants, soap-making properties of oils and fats, and a list by trade name of synthetic detergents. This list identifies the manufacturer of each trade-marked product, states its class and formula, and principal uses.

VAIL, JAMES GARRETT

Soluble silicates, their properties and uses. Volume 1 Chemistry By James G Vail assisted by John H. Wills. New York Reinhold Publishing Corporation, 1952 357 p illus 24 cm (American Chemical Society Monograph series) $9 00 6724

Contents The beginnings. Present practices. The homogeneous systems. The heterogeneous systems. Complex systems. Author index. Subject index.

—— Volume 2 Technology By James G Vail, assisted by John H. Wills. New York Reinhold Publishing Corporation 1952 669 p illus. 24 cm. (American Chemical Society Monograph series) $18 00 6724A

Contents. Interfaces modified by alkali silicates. New surfaces—coatings and films. Bonded surfaces. Sols, gels, and polymers in industry Physiological behavior Toward the future. Author index. Subject index.

Note: A new work which supersedes the author's earlier *Soluble silicates in industry* New York, 1929 (ACS monograph no. 46) The text is essentially a well-organized literature digest with cross-references from statements and data to citations of original sources. Patents, especially United States patents, are included among the sources. The author index lists the names of authors of the cited articles and patents. The presentation is technical, but it is not too theoretical for the average industrial chemist.

VOET, ANDRIES

Ink and paper in the printing process. New York Interscience Publishers, Inc., 1952 213 p illus. 23 cm. $6 90 6725

Contents. Part I, Ink and press The function of ink. Measurement of the flow of inks. Flow of dispersions. Flow of ink between parallel plates. Flow of ink on the press. Separation of ink films. Part II, Ink and paper Characteristics of discontinuous reproduction. Microscopy of halftone printing. Contrast and coverage of ink. Uniformity of ink films. Penetration of ink into paper Print-through. Ink transfer Picking of paper Offset. Physical drying of ink. Chemical drying of inks. Properties of lithographic inks. Author index. Subject index.

Note. The main emphasis in this treatise is on the physics of ink. Paper and the chemistry of ink are discussed chiefly from the standpoint of their relations in the behavior of printing inks when applied to paper and exposed to the atmosphere. The style of presentation is technical, and readers need some previous introduction to the fundamentals of printing inks and to the graphic arts processes dependent upon them. The illustrations include a number of reproductions of microphotographs of cross sections of ink on paper Literature references are given in footnotes. The author is Director of Ink Research on the staff of the J. M. Huber Corporation.

WAGGAMAN WILLIAM HENRY

Phosphoric acid phosphates and phosphatic fertilizers. Second edition New York Reinhold Publishing Corporation 1952 683 p illus. 23 cm (American Chemical Society monograph series) $15 00 6726

Contents Introduction. Phosphoric acid in animal and plant life Sources of phosphoric acid and their classification. Florida hard rock phosphate, Florida pebble phosphate by J. M. Leberne. The phosphates of Tennessee, by O. C. Chapman. Western phosphates, by K. M Norris. Phosphates of South Carolina, Kentucky Arkansas and Virginia. Phosphates of foreign countries, by C. A. Fulton. Elemental phosphorus and its manufacture. Manufacture of phos-

[illegible]

Walker, J. Frederic

Formaldehyde. Second edition. New York, Reinhold Publishing Corporation, 1[illegible]. 575 p. illus. 24 cm. (American Chemical Society monograph series) $1[illegible].00. 6727

[illegible]

Walter, Alan H.

The chemistry and technology of water. Second edition. New York, Reinhold Publishing Corporation, 1[illegible]. 5[illegible] p. illus. 24 cm. [illegible] 6728

[illegible]

[illegible]

Whitby, G. S., editor

Synthetic rubber. Prepared under the auspices of the Division of Rubber Chemistry, American Chemical Society. Editorial board: G. S. Whitby, editor-in-chief; C. C. Davis, R. F. Dunbrook. New York, John Wiley & Sons, Inc., 1954. 1044 p. illus. 24 cm. $1[illegible]. 6729

[illegible]

Wilson, Philip Johnson, and Joseph H. Wells

Coal, coke, and coal chemicals. New York, McGraw-Hill Book Company, Inc., 1[illegible]. 509 p. illus. 23 cm. (McGraw-Hill chemical engineering series) $[illegible]. 6730

[illegible]

SCHWARCZ, LEONARD

Sanitary chemicals, a practical handbook dealing with disinfectants household and industrial insecticides, floor waxes, soap and cleaning specialties, deodorants, and other sanitary chemical products—their manufacture, testing, packaging labeling, and most effective use. New York MacNair Dorland Company, 1953 576 p illus 24 cm $8 00 6721

Content Principles of disinfection Coal tar disinfectants. Cresol compounds. Pine oil disinfectants. Hypochlorites (chlorine disinfectants) Quaternary ammonium disinfectants. Disinfectant testing. Deodorants. Pyrethrum insecticides. Rotenone insecticides. Synthetic insecticides. Livestock and barn sprays. Bedbug liquids. Cockroach control. Moth preparations. Aerosols. Insecticide testing. Rodenticides. Floor waxes. Sweeping compounds. Liquid soaps. Detergents and cleaners. Surface active agents. Labeling and packaging. Index.

Note Primarily this is a book on the manufacture of the kinds of products named in the chapter titles. However in addition to typical formulas and specific information on manufacturing methods, it contains a variety of facts on such aspects as basic chemistry testing, laws relating to labeling, etc. The first edition was published in 1943 This edition—completed after the author's death by the editorial staff of *Soap and sanitary chemicals*—contains several new chapters, and most of the chapters carried over from the first edition have been revised so as to include recent developments and new standards.

SCHWARTZ, ANTHONY MAX, AND JAMES W PERRY

Surface active agents, their chemistry and technology New York Interscience Publishers, Inc , 1949 579 p illus 24 cm. $12 00 6722

Contents (abridged) Introduction General considerations. Part I, Processes for synthesizing and manufacturing surface active agents Anionic surface active agents—Carboxy acids—Sulfuric esters—Alkyl aromatic sulfonates. Cationic, non-ionic, and miscellaneous surface active agents. Ampholytic surface active agents. Special compositions and mixtures. Part II, The physical chemistry of surface active agents in theory and practice Surface and interfacial relationships of pure liquids. Bulk properties of surface active solutions. Gross effects and technical evaluation of surface active agents. Relationship of surface activity to chemical constitution. Part III, Practical applications of surface active agents Applications in the textile industry Cosmetics and personal use. Pharmaceutical, germicidal, fungicidal, and disinfectant uses. Household, laundering, dry cleaning, and general cleaning uses. Metal technology Leather technology Ore flotation. Author index. Subject index.

Note A comprehensive treatment. Theoretical considerations and practical applications share the space about equally The work is based on an extensive literature survey including patents, and it is of interest not only to chemists working in the field but to chemists and manufacturers in all of the industries in which surface active agents and detergents are used. Volume II, covering 1947 56 developments, was published in 1958, 839 p., $17.50.

THOMSSEN, EDGAR GEORGE, AND JOHN W McCUTCHEON

Soaps and detergents. New York MacNair Dorland Company 1949 511 p illus. 24 cm $9 00 6723

Contents Raw materials, definitions, general considerations. Machinery and equipment. Soap making methods—soap manufacture classified and described according to processes. Soap products—soap manufacture classified and described according to uses and characteristics of the products. Perfuming and coloring soaps. Glycerine recovery Synthetic detergents. Process and analytical control methods. Appendix. Index.

Note Primarily a technical treatise on contemporary processes of soap manufacture and on the chief kinds of soaps. Soap manufacturing processes are described in considerable detail, and there are many pictures of soap-making machinery and of important steps in the manufacturing processes. The chapter on synthetic detergents is only 22 pages in length. The appendix contains tabulated reference data on the glycerine content of common oils, the fatty acid content of common oils, fat constants, soap-making properties of oils and fats, and a list by trade name of synthetic detergents. This list identifies the manufacturer of each trade-marked product, states its class and formula, and principal uses.

VAIL, JAMES GARRETT

Soluble silicates, their properties and uses. Volume 1 Chemistry By James G Vail, assisted by John H Wills New York Reinhold Publishing Corporation 1952 357 p. illus. 24 cm. (American Chemical Society Monograph series) $9 00 6724

Contents The beginnings. Present practices. The homogeneous systems. The heterogeneous systems. Complex systems. Author index. Subject index.

—— Volume 2 Technology By James G Vail assisted by John H. Wills New York Reinhold Publishing Corporation, 1952 669 p illus. 24 cm. (American Chemical Society Monograph series) $18 00 6724A

Contents. Interfaces modified by silicate solutions. New surfaces—coatings and films Bonded surfaces. Sols, gels, and polymers in industry Physiological behavior Toward the future. Author index. Subject index.

Note. A new work which supersedes the author's well-known *Soluble silicates in industry* New York, 1929 (ACS monograph no. 46) The text is essentially a well-organized literature digest with cross-references from statements and data to citations of original sources. Patents, especially United States patents, are included among the sources. The author index lists the names of authors of the cited articles and patents. The presentation is technical, but it is not too theoretical for the average industrial chemist.

VOET, ANDRIES

Ink and paper in the printing process. New York Interscience Publishers Inc., 1952 213 p illus. 23 cm. $6 90 6725

Contents Part I, Ink and press The function of ink. Measurement of the flow of inks. Flow of dispersions. Flow of ink between parallel plates. Flow of ink on the press. Separation of ink films. Part II, Ink and paper Characteristics of discontinuous reproduction Microscopy of halftone printing. Contrast and coverage of ink. Uniformity of ink films. Penetration of ink into paper Print-through Ink transfer Picking of paper Offset. Physical drying of ink Chemical drying of inks. Properties of lithographic inks. Author index. Subject index.

Note The main emphasis in this treatise is on the physics of ink. Paper and the chemistry of ink are discussed chiefly from the standpoint of their relations in the behavior of printing inks when applied to paper and exposed to the atmosphere. The style of presentation is technical, and readers need some previous introduction to the fundamentals of printing inks and to the graphic arts processes dependent upon them. The illustrations include a number of reproductions of microphotographs of cross sections of ink on paper. Literature references are given in footnotes The author is Director of Ink Research on the staff of the J M Huber Corporation.

WAGGAMAN WILLIAM HENRY

Phosphoric acid phosphates and phosphatic fertilizers Second edition New York Reinhold Publishing Corporation 1952 683 p. illus 23 cm. (American Chemical Society monograph series) $15 00 6726

Contents Introduction. Phosphoric acid in animal and plant life Sources of phosphoric acid and their classification. Florida hard rock phosphate. Florida pebble phosphate, by L. M. Lebaron The phosphates of Tennessee, by O. C. Chapman Western phosphates, by E. M. Norris. Phosphates of South Carolina, Kentucky Arkansas and Virginia. Phosphates of foreign countries, by C. A. Fulton. Elemental phosphorus and its manufacture. Manufacture of phos-

MINING ENGINEERING

GENERAL

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS

Seventy-five years of progress in the mineral industry 1871–1946 including the proceedings of the seventy fifth anniversary of the American Institute of Mining and Metallurgical Engineers and World Conference on Mineral Resources March 17th 18th, 19th, 1947 edited by A. B Parsons. New York The American Institute of Mining and Metallurgical Engineers, 1947 817 p. illus. 24 cm. $5.00. 6733

Contents Foreword, by the editor. Introduction, by L. S. Cates. Seventy-five years of progress: In mining geology by L. C. Graton. In metal mining, by L. Eaton. In ore dressing, by A. F Taggart. In smelting and leaching of ores, by F Laist. In iron and steel, by C. D. King. In nonferrous metallurgy by W M. Peirce. In bituminous coal mining, by H. N. Eavenson. In anthracite industry by [illegible] Connor, C. Evans, Jr. In petroleum, by E. L. DeGolyer. In the nonmetallics, by O. Bowles. In mineral production—the statistical record, by E. W Pehrson. In mineral industry education, by T. T. Read. History of the Institute, by A. B. Parsons. Officers of the Institute, 1871–1947 Proceedings of the 75th anniversary celebration and World Conference on Mineral Resources. The story of the meeting. Seventy five years of achievement by the A. I. M. E. in the mineral industry by C. F Kelley. The mineral position of the United States, by J. A. Krug. Iron ore and the steel industry by C. M. White. International aspects of the petroleum industry by Sir W Fraser. Copper, lead and zinc mining in the future, by C. H. Crane. The future of gold in world economy by F M. Anderson. Tin, [illegible], and the metals industry by W L. Dixon. South American minerals in the future world economy, by F. Bañados. World coal resources, by C. A. Carlow. The philosophy of international atomic energy control, by J. M. Hancock. The role of the engineer in the development of atomic energy by P. C. Keith. Applications of atomic energy to industry by H. A. Winne and F R. Prentice. Petroleum and natural gas, uses and possible replacements, by E. E. Wilson and J. K. Roberts. Metals and alloys of the future, by Z. Jeffries. Technologic of mineral exploration of the future, by L. S. Cates and H. Bancroft. American mining enterprise in foreign countries, by S. Bacon. Official delegates and representatives. Committees for the Conference, and Institute officers, 1946. Index.

ASH SIMON HARRY AND E. W FELEGY

Analyses of complex mixtures of gases application to control and extinguish fires and to prevent explosions in mines tunnels and hazardous industrial processes. Washington, D C Government Printing Office, 1948. 202 p. illus. 23 cm. (United States. Bureau of Mines. Bulletin 471) $0.75 6734

Contents (abridged) Part I: Introduction. Explosive limits and explosive range. Critical gas mixtures and critical gas-mixture values. Nonexplosive mixtures and upper limit. Critical oxygen value. Calculation of factors affecting explosibility of complex-gas mixtures. Use of charts to determine explosibility of complex gas-inert gas-air mixtures. Graphic method of determining necessary volume of inert gas necessary to render [illegible] given atmosphere incapable of forming explosive mixtures with air. Use of mixtures of air and inert gas as diluents. Part II, Examples of practical applications of data relating to explosibility limits of mixed gases: An anthracite mine fire. Fire in inaccessible old mine workings. Explosion caused by fuel gas in manufacturing plant. Appendix. Bibliography

Note Complex mixtures of gases encountered in mines, tunnels, and industrial processes sometimes present imminent danger from explosions. The purpose of the report is to point out [illegible] the mine-management official, the safety engineer, and the chemist can do to utilize analyses of complex gas mixtures as [illegible] basis for safe procedure to (1) control and extinguish fires in mines, tunnels, and industrial plants and (2) prevent explosions [illegible] dealing with explosive mixtures and sources of ignition. For those interested in the technical aspects of the subject, the necessary theory and detail relating to the derivation of the formulas are given. To show the application of the material presented, some typical examples are calculated and discussed. Various relations between composition and explosibility are graphically shown in ten *folding charts* [illegible] come with the bulletin.

BASTIN EDISON SUNDERLAND

Interpretation of ore textures. New York The Geological Society of America, 1950 101 p. illus. 26 cm. (The Geological Society of America. Memoir 45) $1 75 6735

Contents: Introduction. Textures of metallic ores. Common textural indicators of deposition in open spaces. Principles of colloidal deposition. Colloidal ore textures. Replacement textures. Microscopic evidences. Paragenesis or order of deposition. Textures of sedimentary ore deposits. Ore textures formed by dynamometamorphism. References cited. Explanation of plates. Index.

Note: The textures of ores [illegible] viewed under the microscope are correlated in the book with the process or methods of formation of ores. Only aspects such as would concern us are analysis or practical application are treated. In other words, there [illegible] *little* discussion of the physical chemistry principles underlying ore deposition. The author has included information from the literature and from his own work. The 14 plates show photographs or microphotographs of approximately 100 prepared ore specimens.

COLORADO SCHOOL OF MINES

Symposium on rock mechanics. Papers and discussion from the first annual Symposium on Rock Mechanics, Colorado School of Mines, April 23–25 1956. Golden Colorado School of Mines, 1956. 239 p. illus. 23 cm. (Colorado School of Mines Quarterly Vol. 51 no. 3) $2.00. 6736

Contents. Part I, Rock failure: Fundamental concepts of rock failure, by C. W Livingston. Some views and trends in mining research, by J. J. Reed. A note concerning the mechanics of artificial and natural hydraulic fracture systems, by H. Odé. Discussion of Part I. Part II, Design and support of underground openings: A report on the South-central Research Program of the School of Mines, Durham, England, by D. Bancroft. Mine stabilization spacing by stress redistribution, by J. J. Reed. Horizontal support of mine openings, by H. K. van Poollen. Discussion of Part II. Part III, Mining by block caving: Fundamental considerations in block caving, by F Becky. Concrete for ground support in the Kelley Mine, by M. Hamadie. Discussion of Part III. Part IV Rock fragmentation by blasting: Basic performance properties of blasting explosives, by F W Brown. Fragmentation of rock through blasting, by K. Hino. Blasting experiments in granite rock, by C. H. Noren. Discussion of Part IV Part [illegible] General discussion.

Note: "Rock mechanics" is an [illegible] term to [illegible] [illegible]. Its meaning is defined in this volume as "the science concerned with the properties and behavior of rocks, in the solid or fragmentary state[illegible] within or beyond their elastic limit and the associated engineering problems arising in causing or preventing rock failure. The subject is of primary interest to mining engineers and also holds interest for civil engineers, geophysicists, and others. The

WISE, LOUIS ELSBERG, AND EDWIN C JAHN

Wood chemistry Second edition. New York Reinhold Publishing Corporation, 1952 2 v illus 24 cm. (American Chemical Society monograph series No 97) $16 50 per vol 6731

Contents. Volume I: Introduction, by L. E. Wise and E. C. Jahn. Part I, The growth, anatomy and physical properties of wood Origin and anatomy of wood, by H. P Brown. The mechanical and physical properties of wood, by C. C. Forsaith. Part II, Components and chemistry of the cell wall: The chemistry of the cell walls of wood, by W M. Harlow Cellulose—chemical evidence regarding its constitution, by L. E. Wise. Cellulose—physical evidence regarding its constitution by H. Mark. Chemically modified cellulose, by C. B. Purves. Cellulose solvents and the properties of cellulose in solution, by A. J Stamm. Cellulose compounds and derivatives, by E. C. Jahn. The hemicelluloses, by L. E. Wise. The chemistry of lignin, by F E. Brauns. Part III, The extraneous substances. Extraneous materials of wood—introduction, by L. E. Wise. The volatile oils, by E. F Kurth. Wood resins, by G. C. Harris. The tannins and coloring matters, by M. A. Buchanan. Miscellaneous extraneous components of wood, by L. E. Wise. Phenolic and other extraneous components of coniferous heartwoods—their relation to taxonomy by H. Erdtman. Index, by C. J. West. Volume II. Part IV Surface properties of cellulosic materials Surface properties of cellulosic materials, by A. J Stamm. Part V Industrial wood chemistry: Combustion of wood, by L. F Hawley The thermal decomposition of wood, by A. W Goos. Wood hydrolysis, by E. E. Harris. The chemical behavior of wood, by E. C. Jahn. Alkaline delignification of wood, by W F Holzer Sulfite delignification of wood, by H. Erdtman. The lesser delignification processes, by E. C. Jahn. Bleaching of wood pulp, by F H. Yorston. Part VI, Decomposition of wood by microorganisms The biological decomposition of wood, by W G. Campbell. Part VII, The chemical analysis of wood Introduction and miscellaneous determinations, by B. L. Browning. The polysaccharide fraction of wood—isolation of cellulose preparations and the determination of cellulose, by B L. Browning—The analysis of non-cellulose polysaccharides, by B. L. Browning. The determination of functional groups, by B. L. Browning. The determination of lignin, by B. L. Browning. The evaluation of cellulose preparations, by B L. Browning. Analytical data and their significance, by B. L. Browning and I. H. Isenberg. Index, by C. J. West.

Note A standard treatise which covers wood and its chief components, such as lignin and cellulose, from the chemical viewpoint. Its lineage goes back to Wise and Hawley's *Chemistry of wood*, New York, 1936. The first edition in which there were chapters written by various contributors appeared in 1944. Now in the present edition the work has been extended to two volumes, and the number of contributors substantially increased. The various chapters are literature digests and are carefully keyed to citations in the source articles. The scope is comprehensive for scientific information, but the technological aspects of wood utilization are not covered.

WOLFE, HERBERT JAY

Printing and litho inks Fifth, and completely revised, edition. New York MacNair Dorland Company, 1949 490 p. illus. 24 cm $8 75 6732

Contents: The history of printing ink. General characteristics of inks. Printing ink vehicles. Solvents for inks. Pigments. Natural mineral pigments. Manufactured mineral pigments. Organic pigments. Black pigments. Resins. Driers and drying. Ink compounds. Addition agents. Typographic printing inks. Planographic inks. Intaglio printing inks. New types of printing inks. Special inks. Physics of printing inks. Factory equipment. Testing. Ink troubles and remedies. Appendix. Index.

Note A standard self-instruction book designed to help young men entering the printing-ink manufacturing industry and technicians already employed in it. It serves also as semi-reference book for journalists and others who occasionally need background information. Emphasis is placed on basic principles and techniques; and the industry is covered from the preparation of inks from raw materials to the testing of the finished product. Numerous formulas for specific types of inks are included. This edition gives more attention to the theory of the subject and includes a chapter on the physics of printing inks. New techniques and the preparation of new types of inks, such as moisture-set and pressure-set typographic inks, are described.

Mining Engineering

General

FORBES, J. J., AND G. W. GROVE
Protection against mine gases (revised 1954) Revised by W. D. Walker Jr., S. J. Pearce, A. E. Morrow and L. B. Berger. Washington, D. C. Government Printing Office, 1954 58 p. illus. 23 cm. (United States. Bureau of Mines. Miners circular 35) $0.55 6746

Contents: Introduction. Methods of protection against mine gases. Location of barricades during fires or following explosions. Carbon monoxide self-rescue respirator. Gas masks for protection against gases, vapors, and smoke. Self-contained oxygen breathing apparatus. Treatment for gas poisoning or asphyxiation.

Note: This publication is the third revision of the title, which was originally issued in 1929. Its object is to teach the various methods and devices used for protection against mine gases. It is one of four publications issued by the Bureau of Mines and kept up to date since 1929, to be used in the Bureau training course in advanced mine rescue training to prepare mine officials and others to organize men for mine rescue and recovery operations. The other three are Miners' Circular 33, dealing with mine gases and the various methods of detecting them; Miners' Circular 34, giving instructions for sampling and analyzing mine atmospheres; and Miners' Circular 34, explaining procedures in sealing and unsealing mine fires and in conducting recovery operations.

LEROY LESLIE WALTER editor
Subsurface geologic methods (a symposium) Second edition. Golden Colorado School of Mines, Department of Publications, 1950. 1156 p. illus. 24 cm. $7.00 6747

Contents (abridged): Introduction. Stratigraphic, structural and correlation considerations. Comments on sedimentary rocks. Subsurface laboratory methods. Subsurface logging methods. Miscellaneous subsurface methods. Secondary recovery of petroleum. [illegible] subsurface geology. Dams and reports of the subsurface [illegible]. Graphic representations. Subsurface maps and illustrations. Subsurface methods as applied in mining geology. Subsurface methods as applied to geophysics. Geologic techniques in civil engineering. [illegible] of well information. Author index. Subject index.

Note: A collection of more than 50 papers, written by 50 authors, on such geological techniques as micropaleontology of rock, X-ray analysis, sampling of well cuttings, electric logging, radioactivity in well logging and on related non-geological subjects such as oil well surveying, design of rock bits, oil well cementing, and oil field valuation. Some of the material has been published previously, but a considerable part was prepared especially for this volume. The first edition was published in 1949. Several papers have been added in this edition and the [illegible] new features that will be much appreciated in libraries.

LEWIS, ROBERT STRONG
Elements of mining Second edition. New York John Wiley & Sons, Inc. 1941 579 p. illus. 23 cm. $8.00. 6748

Contents: Introduction to the mining industry. Prospecting. Mineral [illegible]. Explosives. [illegible] Subsidence and the support of excavations. Drilling and blasting. Shafts. Boring. Mining methods. Mine haulage. Mine drainage and pumping. Compressed air. Ventilation. Sampling and valuing mines. Organization, management, safety work. Index.

Note: An introduction to mining principles and practice. In the second edition the text has been revised to take note of recent advances in mining practice brought about by depletion of rich and shallow deposits that has driven the miner ever deeper into the earth in pursuit of ever leaner ores. Prospecting, exploration, development, and exploitation of mineral deposits are discussed. Definitions and brief study of mineral deposits, methods of prospecting, and aids to mineral discovery followed by a chapter on mining laws, lead the reader to a description of the methods and tools employed to mine diverse types of deposits. The principal implements and equipment used in excavation, haulage, hoisting, pumping, and ventilation are described; methods of sampling and estimating ore reserves and the principles of mine valuation are covered. Examples are cited to illustrate the organization of mining companies to provide efficient management, and several pages are devoted to safety and welfare work and public relations.

PAUL, RODMAN WILSON
California gold the beginning of mining in the Far West. Cambridge Mass. Harvard University Press 1947 380 p illus. 22 cm. $4.50. 6749

Contents: The setting. The new age begins. The great migration. Fundamentals and teachers. From an adventure to a business: mining, 1848–1851. Camps, cabins, courts, and citizens, 1848–1856. The three sections: nature and man, 1848–1860. Basic conditions for [illegible]. I—Rivers [illegible] transitional era. Towards a new economy 1851–1863. II—Deep diggings and veins. Towards a new economy 1851–1863. The regulation of society and the water supply. Greater California. The survival of the [illegible] 1848–1873. The life of the miners, 1848–1873. The distant prize, 1860–1873. Maturity 1860–1873. [illegible] 1860–1873. From Sunday carnival to labor war 1857–1873. Epilogue. Appendix I Wages. Appendix II Gold production. Appendix III [illegible]. Note on sources. Index.

Note: Between 1848 and 1873 mining in California changed from the desperate adventure of the Gold Rush to an organized, stable industry. Simple placer mining gave way gradually to large-scale river mining, hydraulic mining, and deep quartz mining operations. California society, based simply on the necessity for crime control and land regulation, took on a more compact structure with the growth of the new [illegible] and the advent of women and children into the mining [illegible] life. The author describes these technical changes in mining and the economic and social changes that marked California during these years. The book is an excellent, well-documented example of scholarly writing. Even though it sticks to facts, it is as fascinating as some of the romantic accounts of the same subject.

PEELE, ROBERT AND JOHN A. CHURCH editors
Mining engineers handbook written by a staff of forty-six specialists under the editorship of Robert Peele with the collaboration of John A. Church. Third edition. New York John Wiley & Sons Inc. 1941 2 v illus. 22 cm. (Wiley engineering handbook series) $18.50. 6750

Contents (abridged): Volume I: Mineralogy. Geology and mineral deposits. Earth excavation. Tunneling. Shaft sinking in rock. Boring. Prospecting. Shaft sinking in unstable and water-bearing ground. Prospecting, development and exploitation of mineral deposits. Geophysical prospecting. Underground transport. Hoisting plant, shaft [illegible]. Mine ventilation. [illegible] pumps, and [illegible]. Drainage of mines. Electric power for mine [illegible]. Compressed air practice. Volume II: Underground surveying. Mine geologic maps and models. [illegible] Mine organization and accounts. Cost of mining. Wages and welfare. Mine air, gases, dusts, hygiene, explosions, and accidents. Mine examinations, valuations, and reports. Aerial tramways and cableways. Mining laws. Underground mechanical loading, conveying and handling. Breaking, crushing and sorting of ores. Ore sampling. Assaying. Selling, purchasing and treatment of ores. Gold amalgamation and cyanidation. Preparation and storage of anthracite coal. Preparation and coking of bituminous coal. Mathematics and mechanics. Chemical and physical notes and tables. Elements of hydraulics. Engineering thermodynamics. Power and [illegible]. Mechanical engineering miscellany. Electrical power machinery. Elements of structural design. Petroleum production engineering. [illegible] methods. Engineers' tables. Index.

Note: Due to improvements in methods and equipment, much new material has been added to this third edition, and obsolete data have been eliminated. A drastic revision has been made in the section on methods of mining. New sections are included on petroleum and on geophysical prospecting, while the chapter on mine ventilation has been completely rewritten. The rapid development of methods and devices for underground handling and conveying of minerals has resulted in a complete revision and expansion of that section. Bibliographies are included with the sections.

STALEY WILLIAM WESLEY
Introduction to mine surveying. Stanford Stanford University Press, 1939 275 p. illus. 20 cm. $3.75 6751

Contents: Instruments and equipment. Angles and linear measurements. Bearing and azimuth. Determination of true meridian.

Colorado School of Mines, and Professor Clifton W Livingston in particular have played the major role in its development. The majority of the papers in the book describe results of experiments conducted in laboratories and in mines. The three papers on rock fragmentation by blasting are contributions to a closely allied subject.

CRAIN, HARRY M, editor
Economics of the mineral industry Golden, Col Colorado School of Mines, 1950 47 p illus 23 cm (Quarterly of the Colorado School of Mines Vol 45, no 1A) $0 50 6737

Contents Mineral-resource appraisal by the U S. Geological Survey by S. G. Lasky Oil and human welfare, by M. W Ball Gold, our most strategic mineral, by D H. McLaughlin.

—— Petroleum refining Golden, Col Colorado School of Mines 1950 162 p illus 23 cm (Quarterly of the Colorado School of Mines Vol 45, no 2A) $2 00 6738

Contents The cracking of petroleum, by E. W Isom. The commercial dehydrogenation of normal butane, by H. L. Hays and E. Dolezal. Ethylene production by thermal cracking of propane-ethane mixtures, by C. K. Buell and L. J Weber Petroleum refining instrumentation, by H. M. Schmitt. Research in the petroleum industry—today and tomorrow by C. E. Viland. Low temperature distillation assays of representative western U S. and Alaska coals, by V F Parry and others.

—— Metallurgy Golden, Col. Colorado School of Mines, 1950 60 p illus 23 cm. (Quarterly of the Colorado School of Mines Vol 45 no 3A) $0 50 6739

Contents The trend of iron-ore concentration in the Lake Superior district, by E C. Bitzer Utilization of fuels, by C. E. Lesher Current research in physical metallurgy by E. R. Parker Metallurgical materials in the coal-mining industry by C. R. Thomas.

—— Geophysics Golden, Col Colorado School of Mines 1950 103 p illus. 23 cm (Quarterly of the Colorado School of Mines Vol 45 no 4A) $1 00 6740

Contents The relationship of research and field operations in seismic explorations, by C. H. Green. Geological imagination in the interpretation of geophysical data, by R. C. Coffin. Current trends and progress in mining geophysics, by H. Lundberg. Recent developments in electrical logging and auxiliary methods, by H. G. Doll and M Martin Recent developments in seismic research, by D. H. Clewell Recent developments in gravity prospecting, by S. Hammer

—— Applied geology a symposium Compiled and edited by F M Van Tuyl and T H Kuhn Golden Col. Colorado School of Mines 1950 343 p illus 23 cm (Quarterly of the Colorado School of Mines Vol 45 no 1B) $3 00 6741

Contents The petroleum geology of Colorado, by C. E. Dobbin Modern methods in petroleum exploration by G. F Kaufmann. Applications of geology to the investigation of our water resources, by A. N Sayre Applications of geology in soil conservation, by D H. Griswold. Geology and irrigation engineering, by R. D Dirmeyer Jr Applications of geology to highway engineering, by S. E. Horner and J D McNeal. A tribute to the early workers in Colorado geology by B S. Butler Problems in the relation of ore deposits to hydrothermal alteration, by G. M. Schwartz. The fumarolic-hot spring and "epithermal" mineral deposit environment, by H. Schmitt. The geochemistry of argillic and related types of rock alteration, by T S. Lovering. Interpretation of wall-rock alteration at Butte, Montana, by R. H. Sales and C. Meyer. Discussion of alteration and its applications to ore search metasomatic alteration along veins, by B. S. Butler Problems of wall-rock alteration in shallow volcanic environments, by W S. Burbank. Discussion of alteration and its application to ore search, by P F Kerr

—— Coal and metal mining Golden, Col. Colorado School of Mines 1950 381 p illus. 23 cm (Quarterly of the Colorado School of Mines Vol 45, no 2B) $3 00 6742

Contents Opportunity in the field of coal mining engineering, by H. C. Woods. Mechanization of Western coal mines, by J Crawford. Economics and technique of strip coal mining, by R. P Koenig. Trends of continuous coal mining underground, by W L. Wearly Up-grading Missouri Basin coals by flash drying, by V F Parry and E. O. Wagner Coal and its future, by L M Charles. Synthetic oil from coal, by J D Doherty Metal mining review of progress in the ventilation of the mines of the Butte, Montana, district, by A. S. Richardson. Safety in the mining industry by D Harrington. Transportation of ore underground, by C. E. McWhorter Mine valuation by C. L Dinsmore. Seventy-five years of rock-drill progress, by M. L. McCormack. Explosives in the mining industry by J. H. East. Short-interval-delay blasting in underground operations, by C. L. Barker Mining practice at the Climax molybdenum mine, by W K. McGlothlin.

—— Petroleum engineering Golden, Col Colorado School of Mines 1950 51 p. illus. 23 cm. (Quarterly of the Colorado School of Mines Vol. 45, no 3B) $0 50 6743

Contents Gas-condensate fields, by W E. Brown. The valuation of oil properties for secondary recovery by R. C. Earlougher Secondary recovery of petroleum, by P D Torrey Petroleum conservation and conservation laws, by D V Carter

—— Industrial minerals. Golden Col. Colorado School of Mines 1950 44 p illus. 23 cm. (Quarterly of the Colorado School of Mines Vol. 45 no 4B) o p 6744

Content Industrial minerals of Colorado, by G O. Argall, Jr The consumption of balls in wet ball milling, by C. H Knight and Donald Dyrenforth. Ground water in Nevada, by T W Robinson. Searles Lake development, by B W Dyer

Yet Together the volumes listed above constitute the seventy-fifth anniversary volume of the *Quarterly* and they bear a collective title Mineral resources in world affairs. The papers contained in them are original, and are written by outstanding geologists and other men who are associated with geology mining, and petroleum in the *United States of America*. Generally speaking the articles do not contain reports of original research but are, instead, summaries of modern developments or descriptions of the current state of affairs.

FORBES, J J AND G W GROVE
Mine gases and methods for detecting them Revised March 1954 by G E McElroy H A Watson E J Coggeshall D D Dornenburg and L. B Berger Washington D C Government Printing Office 1954 82 p illus. (part col d) 23 cm (United States. Bureau of Mines. Miners circular 33) $0 55 6745

Contents Introduction. Sources, characteristics, and physiological effects of mine gases. Methods of detecting mine gases. Detection of methane. Detection of carbon monoxide Detection of hydrogen sulfide Detection of oxygen Detection of carbon dioxide black damp, or an atmosphere deficient in oxygen Determination of sulfur dioxide. Determination of oxides of nitrogen Portable Orsat gas-analysis apparatus. Laboratory equipment for the analysis of mine atmospheres.

Yet This publication gives detailed information on the nature and occurrence of mine gases and mixtures of gases Various methods of detecting gases are treated at length Attention is given to flame safety lamps, methane-indicating instruments, and different types of detectors It is the latest revision of a circular originally prepared and issued in 1929

GAUDIN ANTOINE MARC
Principles of mineral dressing. New York McGraw Hill Book Company Inc., 1939 554 p. illus. 23 cm. $10.00 6758

Contents: Introduction. Crushers. Laboratory sizing. Liberation. Grinding. Attributes of comminution. Industrial screening. The movement of solids in fluids. Classification. Quantifying comminution. [illegible] operations. Heavy-fluid separation. Jigging. Flowing-film concentration and tabling. Flocculation and dispersion. Flotation and [illegible]—physical aspects, chemical aspects. [illegible] Magnetic separation. Miscellaneous processes. Separation of solids from fluids. Auxiliary operations. Mineral dressing as an art.

Note: Mineral dressing is studied from the unit-process standpoint in this text. Each process, in turn, is analyzed from its physical and chemical principles while the ultimate objectives of the art and its philosophy are kept in view. Includes numerous references and illustrations.

RICHARDS, ROBERT HALLOWELL, AND OTHERS
Textbook of ore dressing, by Robert H. Richards and Charles E. Locke, assisted by Reinhardt Schuhmann, Jr. Third edition, completely revised and rewritten. New York McGraw Hill Book Company Inc., 1940 608 p. 6759 illus. 23 cm. $11.00

Contents: General principles. Preliminary breaking. Intermediate and secondary crushers. Steam stamps. Gravity stamps and amalgamation. Fine grinding. Laws of crushing. Preliminary washing. [illegible] and hand sorting. Sizing by screens. Classifying and sorting in water. Concentration by jigs. Fine-sand and slime [illegible] Miscellaneous processes of [illegible] concentration. Flotation. Miscellaneous processes. General [illegible]. Accessory apparatus. Mill practices and processes. General [illegible]. Coal dressing. Amalgamation. Ore [illegible] and testing. Coal dressing. Appendix. Index.

Note: This textbook for students of metallurgy and for mill operators was originally a condensation and revision of Richards' four-volume treatise, Ore dressing, 1903–09. The first edition of the present title was published in 1909. The third edition incorporates methods and machines developed from 1925 to 1940, including a new chapter on flotation. The treatment has been prepared on the theory that concrete facts such as descriptions of machines and processes should be learned before proceeding to the various theories of operation. Typical mills in each of the important branches are described, together with the best current mill principles and practices.

TAGGART ARTHUR FAY
Elements of ore dressing. New York John Wiley & Sons, Inc., 1951 595 p. illus. 24 cm. 6760 $11.75

Contents: What ore dressing is and does. Hand picking. Screening and filtration. Electrical concentration. Introduction to sedimentation. Acceleration in free-settling. Introduction to gravel separation. Hindered-settling. Sink-float. Jigging. Film and trough separation. Shaking concentrators. Organic chemicals in flotation concentration. Flotation collection—activation and depression—bubble attachment—flotation machines and strategy—operation. Miscellaneous methods of concentration. Primary crushing. Secondary crushing. Grinding. Transport and control. Flowsheets. Appendix. Abbreviations in bibliographies. Index.

Note: Professor Taggart's *Handbook of mineral dressing* serves as basic reference manual covering all phases of ore and mineral separation and concentration. This new work is a less exhaustive treatment of the same subject, and is designed to introduce mining engineering students to current methods of ore processing and preparation. Theory and practice are closely integrated, and descriptions of machines and processes are interwoven with discussions of the fundamental principles underlying the design and operation of each type of equipment. The appendix includes a series of laboratory experiments which have been used in ore dressing courses at Columbia University.

TAGGART ARTHUR FAY
Handbook of mineral dressing: ores and industrial minerals. Contributors Henry A. Behre, Charles H. Breerwood, John M. Callow, Dorr Co. Engineering Staff, Francis E. Finch, T. A. Frankish, Harlowe Hardinge, Menelaos D. Hassialis, Donald F. Irvin, Edward K. Judd, Percey F. Smith, E. J. Tournier, Paul M. Tyler. New York John Wiley & Sons, Inc., 1945 489 p. illus. 22 cm. (Wiley engineering handbook series) $18.00 6761

Contents: Introduction. Metallic minerals. Industrial minerals. Cement. Crushing. Wet grinding. Dry grinding. Screen sizes. Classification. [illegible] water. Air sizing and dust collection. Washing and scrubbing. Gravity concentration. Flotation. Electrical concentration. Miscellaneous methods of concentration. Dewatering. Filtration. Drying. Storage and mill transport. Sampling and testing. Design and construction of ore-treatment plants. Mathematics. Mathematical and miscellaneous tables. Index.

Note: An encyclopedic treatment of mineral dressing processes and machinery. Diagrams and flow sheets illustrate the layout and processes of many actual installations. Comparative data on the performance of various machines and processes and on many other topics that concern those concerned with the planning and operation of mineral dressing plants are included.

ECONOMIC GEOLOGY

BATEMAN ALAN MARA
Economic mineral deposits. Second edition. New York John Wiley & Sons, Inc., 1950. 6762 916 p. illus. 23 cm. $8.75

Contents (abridged): Part I, Principles and processes. Brief history of the use of minerals and of the development of economic geology. Magmas, rocks, and mineral deposits. Processes of formation of mineral deposits. Controls of mineral localization. Folding and faulting of mineral deposits. Classification of mineral deposits. Geophysical prospecting, exploration, development, and valuation of mineral properties. Extraction of metals and minerals. Part II, Metallic mineral deposits. The precious metals. The nonferrous metals. Iron and ferroalloy metals. Part III, Nonmetallic mineral deposits. The mineral fuels. Ceramic materials. Structural and building materials. Metallurgical and refractory materials. Chemical materials. Ground-water supplies. General references on economic geology. Index.

Note: Although this book contains a wide variety of information on minerals of economic importance, it is written mainly from the standpoint of ore genesis. In the first part the processes of formation of ore bodies are discussed at length. In the second and third parts, known mineral deposits are concisely described except in cases of minerals too widely distributed, such as lime. The descriptions include both mineralogical and economic data. The book is useful both as a textbook and a reference book. In this edition, the references have been brought down to the end of 1949 and the text has been revised in numerous places, but there is less emphasis on statistical data, especially statistics of annual production. The author's *The formation of mineral deposits*, New York, Wiley, 1951, 371 p., $6.25, is a less technical presentation for lay readers and nonspecialists.

BATEMAN ALAN MARA
The formation of mineral deposits. New York John Wiley & Sons Inc., 1951 371 p. illus. 24 cm. $6.25 6763

Contents: Introduction. Materials of mineral deposits. Brief history of evolution of ideas on the origin of mineral deposits. Relation of mineral deposits to igneous activity. The primary mineralizing solutions. The processes of formation of mineral deposits. Magmatic processes. Contact-metasomatic processes. Hydrothermal processes. Sedimentary processes and cycles. Weathering processes. Metamorphic processes. Ground-water processes. Controls of mineral localization. Exploration and exploitation of mineral deposits. Mineral resources. Additional general references. Appendix. Geological time table. Glossary. Index.

Note: In this new book the author has covered much of the same ground and used some of the same material as in his *Economic mineral deposits*, described above. However, here he has written for adult general readers rather than advanced college students and

Underground traversing. Stope surveys. Transferring the meridian. Problems in mine surveying. Triangulation system for mining property Tunnel surveys. Compass surveys. Notes and calculations. Maps and sections. Bore hole surveys. Coal-mine surveying. Index.
Note. Designed as a textbook on the modern procedure, technique, and instruments of mine surveying, this book also serves as reference book for people in the field or at an operating mine. Based on extensive correspondence with mine engineers in the United States of America, Canada, and Mexico, as well as on the author's personal experience in the field and in the classroom.

STALEY, WILLIAM WESLEY

Mine plant design. Second edition. New York McGraw Hill Book Company Inc., 1949 540 p illus. 24 cm. $10 00 6752

Contents Graphical solution of simple beams and roof trusses. Review of simple design principles. Roof trusses, columns, and footings. Headframes. Ore bins. Skips and cages. Safety catches. Mine hoists. Handling of water for mining purposes. Compressed air Mine haulage. Power plant. Mine ventilation. Index.
Note. A standard work which is used both as a textbook in engineering colleges and as a guide for mine operators and engineers, particularly those located in isolated areas who must design structures and equipment with little aid from other sources. Only equipment used above and below ground in mining and handling ores is covered. Ore crushing and concentrating machinery are not discussed. In this edition chapters have been added on ore bins, skips, cages, and other topics, and the chapter on headframes has been revised to include the design of wooden structures. The chapters are supplemented by fairly extensive lists of references, and some of these have been revised.

VACQUIER, V , AND OTHERS

Interpretation of aeromagnetic maps. By V Vacquier, Nelson Clarence Steenland Roland G Henderson, and Isidore Zietz. New York The Geological Society of America, 1951 151 p illus 26 cm (Geological Society of America. Memoir 47) $2 25 6753

Contents. Foreword. General principles. Results of interpretation of six aeromagnetic surveys. Calculation of total magnetic intensity anomalies due to idealized bodies. Tables and charts for computations of magnetic effects. References cited. Index.
Note. In this work, a practical method for the interpretation of aeromagnetic maps based on data gathered with the airborne magnetometer is described and the application is illustrated by applying it to the interpretation of the maps of six different aeromagnetic surveys. The book is addressed to professional geologists and is of special interest to those who are associated with prospecting for mineral deposits including petroleum. The illustrated material includes reproductions of a variety of aeromagnetic maps.

VON BERNEWITZ, MAX WILHELM

Handbook for prospectors and operators of small mines. Revised by Harry C Chellson Fourth edition. New York McGraw Hill Book Company Inc. 1943 547 p illus. 19 cm. $7 50 6754

Contents Part I, Aid to prospectors. Tents, clothing, water food, and utensils. Methods of transportation. Health and first aid. Laws pertaining to mining. Part II, Mineralogy Elementary geology Geology in prospecting. Occurrence of ores. Outcrops. Prospecting. What minerals to look for and where. Sampling and assaying. Field tests and measurements. Developing and equipping a prospect. Markets and prices. Part III, Minerals, their occurrence, description, detection, and use Metallic minerals. Non-metallic minerals. Ore dressing and treatment. Memoranda. Glossary of terms used in mining. Index.
Note This handbook is intended as practical guide to prospecting and small-mine operation for the beginner and is based in part on publications of the United States Geological Survey Federal Bureau of Mines, state geological surveys, and state bureaus of mines. The fourth edition includes details of United States of America and Philippine mining law as well as new methods of tests, new material on minerals of increasing importance, crystals, ore-dressing and treatment, miscellaneous weights and measures, shipping ores and products, minerals and metal content, prices for minerals, ores, metals and building materials over a considerable period.

YOUNG, GEORGE JOSEPH

Elements of mining Fourth edition. New York McGraw Hill Book Company, Inc., 1946 755 p. illus. 23 cm. $9 00 6755

Contents: Introduction. Prospecting. Boring. Drilling for blasting purposes. Rock breaking. Blasting rock. Transportation and hoisting. Mine drainage. Ventilation and illumination. Support of mine workings. Open-pit mining. Alluvial mining. Development. Underground methods. Mine organization and operation. Mine accounting. Accidents and miners' diseases. Examination of mineral deposits. Index.
Note. An established text well known to American mining engineers and students. The book provides comprehensive few of the mining field, and offers great deal of useful material compressed into a clearly written and well-balanced treatment. Coal mining principles and practices as well as those of metal mining are included, and the relation of geology to mining is emphasized wherever possible. Mining costs and cost analyses also are presented. The fourth edition covers developments in mining from 1932 to 1945 and contains minor revisions, among which are the rewritten, modernized sections on explosives.

ORE DRESSING

DORR, JOHN VAN NOSTRAND, AND FRANCIS L BOSQUI

Cyanidation and concentration of gold and silver ores Second edition. New York Mc Graw Hill Book Company Inc. 1950 511 p. illus. 24 cm. $9 00 6756

Contents: Part I, Technical Historical. Examination and testing of ores. Coarse crushing. Sorting and sampling. Fine grinding. Classification. Sand treatment. Slime treatment. Concentration. Roasting. Amalgamation and bullion recovery Plant control. Cyanicides and refractory ores. Cyanide regeneration and miscellaneous processes. Part II, Descriptive Treatment of gold ores. Treatment of silver ores. Costs and power Appendixes: Useful reference information. Books on cyanidation. Analytical methods. Index.
Note. The standard book on the economically important process of recovering gold and silver from ores. The first edition was the work of the senior author alone In the present edition, the book has been reorganized and extensively rewritten. Important material added includes new discussions of the treatment of refractory ores and the chemistry of cyanide solutions. The descriptions of considerable number of ore treatment plants which have been constructed since 1936 are now included in the second part. The work is of interest to advanced students in mining engineering and to practicing engineers.

GAUDIN ANTOINE MARC

Flotation New York McGraw Hill Book Company, Inc. 1932 552 p. illus. 24 cm 6757

Contents: Introduction by Theodore J Hoover Historical survey of flotation. The physicochemical foundations of flotation. The phases in flotation systems. Colloid systems. Flotation reagents Mechanical aspects of froth production. Liberation and particle size. Flotation of sulfide ores of copper The flotation of sulfide lead-zinc ores. Sulfide copper zinc, copper-lead, and copper-nickel lead-zinc ores. Oxidized ores of copper lead, and zinc. Precious and rare metals. Non-metallic minerals. Machinery Some pointers on mill design. Elements of costs. Choice of ore-treatment method. Testing and testing equipment. Metallurgical calculations. Effect of flotation on mining, metallurgy and metal markets.
Note: This book presents comprehensive treatment of mineral separation by flotation. Following brief history and review of physicochemical fundamentals, it takes up in detail the technology and practice of the art, including the particular problems encountered in applying flotation to various classes of minerals, data on the solutions accepted in practice and information on machinery engineering control, and the economics of flotation. A second edition was published in 1937 $12.50.

Mining Engineering

Economic Geology

Contents. Introduction. The formation of minerals. Atmosphere, hydrosphere and underground water. The flow of underground water. The spring deposits at the surface. The composition of water. Relations of mineral deposits to mineral underground waters. Metamorphic waters and springs. Origin of underground waters. The magmas in its relations to mineral deposits. The magmas in its relations to mineral deposits. The form and structure of mineral deposits. Faulting and folding. Openings in rocks. The form and structure of mineral deposits. Texture of mineral deposits. Ore-shoots. Classification of mineral deposits. Deposits formed by mechanical processes of transportation and concentration. Detrital deposits. Deposits produced by chemical processes of concentration in bodies of surface water by reactions between solutions. Sedimentary iron ores, regionally metamorphosed. Deposits formed by evaporation of bodies of surface water. Mineral deposits resulting from processes of rock decay and weathering. Deposits formed by concentration of substances contained in the surrounding rocks, by means of circulating waters. Lead and zinc deposits in sedimentary rocks. Deposits independent of igneous activity. Epithermal deposits. Deposits of native copper. Mesothermal deposits. Hypothermal deposits. Pyrometasomatic deposits. Regionally metamorphosed deposits. Mineral deposits of the pegmatite class. Mineral [illegible] deposits. Mineral deposits of the pegmatite class. Mineral deposits formed by concentration in molten magmas. Oxidation of deposits formed by concentration in molten magmas. Index of localities. Index of mineral ores. Meta-igneous epochs. Index of subjects.

Note. An attempt to place the knowledge of mineral deposits on the basis of [illegible] generic classification and thus bring the subject into [illegible] more important position in the field of geology. The general plan has been to select [illegible] few notable examples to illustrate the genesis of formation of each mineral group of deposits. Intended for advanced students of geology and as [illegible] reference for practicing geologists and mining engineers. The fourth edition covers the advances in geological knowledge from 1913 to 1933 resulting from increased activity in mineral production. New bibliographic material has also been added.

Lovering, Thomas Seward

Minerals in world affairs. New York, Prentice-Hall, Inc., 1943 394 p. illus. 23 cm. (Prentice-Hall geology series edited by N. E. A. Hinds) $5.25 6770

Contents. Part [illegible]. Economics, history and geology. Background—ethics, history and geology. Economics of the mineral industries. Minerals in history before the industrial era. The industrial era. Geology. Part II, Industrial minerals. The mineral fuels—coal. Petroleum. Part III, Industrial minerals—iron and the ferro-alloy metals. Iron and steel. Manganese. Chromium. Nickel. Tungsten. Molybdenum. Vanadium. Part IV, Nonferrous industrial metals. Copper. Aluminum. Lead. Zinc. Tin. Mercury. Antimony. Appendix. Index. Production tables.

Note. Mineral resources, according to the author, [illegible] are [illegible] most valuable but ephemeral possessions, since these can be no second crop. Because of their restricted occurrence and indispensability to industry they have determined the course of history many times in the past and will be of increasing importance in the future. The work reviews the role of minerals in national power, the economics of mineral industries, and the geography and control of important minerals.

McKinstry, Hugh Exton

Mining geology with sections by Stanley A. Tyler, E. N. Pennebaker and Kenyon E. Richard. New York, Prentice-Hall, Inc., 1948 650 p. illus. 23 cm. (The Prentice-Hall geology series Norman E. A. Hinds editor) $8.50. 6771

Contents. Part [illegible]. Assembling geological data. Geologic mapping. Sampling ore and calculating tonnage. Drilling. Geophysical investigations. Laboratory methods. Correlating data. Part II, Geological principles of ore-search and ore appraisal. The use of fact and theory. Guides to ore—targets and loci. Physiographic guides. Mineralogical guides. Stratigraphic and lithologic guides. Fracture patterns as guides. Contacts and faults as guides. Dislocated orebodies. Persistence of ore in depth. Part III, Application to specific phases of mining. Field exploration. Examining and developing prospects. Valuing mining properties. Geological work at an operating mine. Engineering geology in mining. Writing and reading reports. Part IV, Technological characteristics of ores. Amenability of ore to treatment. Marketable forms of metals and ores. Appendices. Glossary of mining and geological terms.

Note. A well-written, comprehensive treatise on the application of geological principles and techniques to the locating, appraising, and mining of mineral deposits. It is intended as [illegible] guide and reference manual for the mining geologist in the field. As may not have access to other pertinent literature, it thus includes, in summarized form, basic information concerning mineral [illegible], the occurrence and characteristics of minerals, methods of evaluating mines and ore deposits, preparation of reports, locating of smelting and reduction plants, etc. Since the volume is written for the professionally trained reader, the fundamental principles of structural geology and ore deposits are only briefly reviewed. The references scattered throughout the text form an extensive bibliography of the subject.

National Research Council. Committee on Processes of Ore Deposition

Ore deposits as related to structural features, prepared under the direction of the Committee on Processes of Ore Deposition of the Division of Geology and Geography of the National Research Council Washington, D. C. Edited by W. H. Newhouse. Princeton Princeton University Press, 1942 280 p. illus. 31 cm. $8.50 6772

Contents (abridged). Some features of ore deposits in structural features. Structural features associated with ore deposits of certain types and in large areas. Ore deposits arranged according to structural features. Ore deposits in massive rocks. Ore deposits in layered rocks. Not related to known faults, fissures, or shear zones. With faults, fissures, or shear zones. Ore deposits near contact of massive and layered rocks. Structural principles applied to ore deposits. Index.

Note. A compilation of 81 short papers by about 65 specialists in several fields of geology related to ore deposition, who have had intimate contact with ore occurrence in mines or districts. The papers describe the several structural features which have localized ore in [illegible] given mining district, and [illegible] has the emphasis is upon description and fact rather than on theory, the interpretations and opinions of the various contributors are individual and occasional differences in viewpoint occur. Although many types of structural features and ore deposits are represented, no claim is made for completeness, and no attempt is made to secure [illegible] weighted average of types of relationship. Each paper is illustrated with numerous drawings and there are bibliographic references in footnotes throughout the work.

Singewald, Joseph Theophilus

Bibliography of economic geology of South America. New York, The Society, 1943 159 p. 24 cm. (Geological Society of America. Special papers. No. 50) $0.80 6773

Contents. Preface. List of serials and abbreviations. South America. Argentina. Bolivia. Brazil. Chile. Colombia. Ecuador. Guianas. British Guiana. Dutch Guiana. French Guiana. Paraguay. Peru. Uruguay. Venezuela.

Note. In this work the bibliographies published in Miller and Singewald's *The mineral deposits of South America*, 1919 were revised to cover the pertinent literature to 1942. There is a total of 2,913 titles.

Steidle, Edward

Mineral forecast 2000 A.D. State College Pennsylvania State University 1952 216 p. illus. 24 cm. $3.00 6774

Contents (abridged). Part I, Minerals and posterity. Part II, Mineral forecast 2000 A.D.: Mineral fuels. Metallic minerals. Nonmetallic minerals. Geology group. Meteorology. Mineral economics. Mineral extraction. Mineral preparation. Water supplies. Atomic energy. Mineral industries education. Mineral possibilities. Conclusions.

Note. A readable account of the present state and the possible future of mineral supplies for the United States of America. The first part, originally published as Circular 33 by Pennsylvania State College, points out the dependence of the United States on other countries for many of the most strategic minerals and suggests the need for down-to-earth mineral policies. The second part, published as Circular 38, is intended to show how education and research can help offset the shortage by developing new methods for utilization or even of synthesis of the important minerals. Each mineral is treated separately and, while Pennsylvania [illegible] part

specialists. What is known about the origin of mineral deposits is recounted in a clear nontechnical style. There is also some discussion of the economic importance of minerals.

ECONOMIC GEOLOGY

Fiftieth anniversary volume 1905–1955 Alan M Bateman, editor Urbana The Economic Geology Publishing Company, 1955 1,130 p illus. 24 cm. $8 00 6764

Contents. Part I: *Economic geology* by A. M. Bateman. Metallogenetic provinces and epochs, by F S. Turneaure. Thermal springs and epithermal ore deposits, by D E. White. The classification of ore deposits, by J A. Noble. Structure of hydrothermal ore deposits, by H. E. McKinstry The zonal theory of ore deposits, by C. F Park, Jr Temperatures in and near intrusions, by T S. Lovering. Synthetic minerals, by W A. Weyl. Hydrothermal alteration as guide to ore, by G. M. Schwartz. Oxidation of copper sulfides and secondary sulfide enrichment, by C. A. Anderson. Methods and problems of geologic thermometry by E. Ingerson. Sedimentary deposits of rare metals, by K. B. Krauskopf. Origin of uranium deposits, by V E. McKelvey and others. Part II Engineering geology—a fifty year review by R. F Legget. Influence of geological factors on the engineering properties of sediments, by K. Terzaghi. Recent developments in clay mineralogy and technology by R. E. Grim. Properties of calcium and magnesium carbonates and their bearing on some uses of carbonate rocks, by D. L. Graf and J E. Lamar The quantitative approach to groundwater investigations, by J G. Ferris and A. N Sayre. Time of petroleum accumulation, by A. I. Levorsen. Coal petrology by C. E. Marshall. The use of gamma ray measurements in prospecting, by W L. Russell. Economic applications of paleoecology by S. P Ellison. Geophysics applied to prospecting for ores, by L. B. Slichter Minor elements in some sulfide minerals, by M. Fleischer The study of pegmatite deposits, by R. H. Jahns.

Note A collection of papers, each one of which was specially written for this volume, which celebrates the fiftieth anniversary of the journal, *Economic geology* Each of the papers is a review of the current knowledge and the literature pertaining to the topic named in its title. Each one contains an extensive bibliography

FORRESTER, JAMES DONALD

Principles of field and mining geology New York John Wiley & Sons Inc., 1946 647 p illus 22 cm $9 25 6765

Contents Part I, Recognition of geologic phenomena. Foreword. Rocks and geologic structures. Field criteria for recognition of geologic structures. Phenomena of economic mineral deposits. The correlation of geologic phenomena. Part II, General field-survey practices and procedures. Foreword. Field equipment exclusive of surveying instruments. General survey procedures. Survey methods and instruments. Part III, Special field techniques of mining geology Foreword. Surveying and mapping procedures. Sampling. Ownership studies and mining claim locations. Prospecting and development practices. Part IV The interpretation and use of field data. Foreword. Library and laboratory research and the preparation of maps, models, and illustrations. The use of prepared maps and illustrations and the correlated analysis of the geological problem. Interpretations, analyses, and conclusions. Bibliography of selected references. Index.

Note The intention of this useful work is to describe the geological techniques necessary for determining the occurrence of economically valuable mineral deposits. Procedures described are those in current use and include most of the various geophysical prospecting techniques. There are numerous photographs, diagrams, and tables The work is useful to practicing geologists for reference purposes and to students as text for learning how to record and interpret observations, and to present conclusions effectively

KELLEY VINCENT COOPER

Geology and economics of New Mexico iron-ore deposits Prepared in cooperation with the Geological Survey U S Department of the Interior Albuquerque The University of New Mexico Press 1949 246 p illus. (part col d) 23 cm. (University of New Mexico publications in geology No two) $2 00 6766

Contents (abridged) Part I. General aspects. Part II, Iron-ore deposits. Bibliography Index.

Note. A comprehensive study of iron-ore deposits and mining in a state which is one of the chief suppliers of ore to the iron and steel industry of the southwestern United States of America. In the first part, such aspects as stratigraphy mineralogy classification, reserves, uses, mining, marketing, and economic features are discussed. The second part is a detailed description by region of known deposits. The whole study represents detailed picture of iron-ore mining in a region where both the mineralogical and economic conditions are comparatively unfavorable.

KIERSCH, GEORGE A.

Engineering geology, historical development, scope, and utilization. Golden Colorado School of Mines 1955 123 p. illus. 23 cm (Colorado School of Mines. Quarterly Vol. 50 no 3) $1 50 6767

Contents. Fundamentals of engineering geology: Part I, Scope, development, and utilization. Part II, Engineering structures and their geologic problems—outline form. Part III, Geologic processes, materials, and fields related to engineering geology—outline form. Foundation and excavation characteristics. Underground openings. Materials of construction. Rocks, structures, and geologic processes (as factors in design, construction, and maintenance) Geology applied to engineering Part IV Techniques, interpretation and presentation of data. Field operations. Field investigations, tests. Mapping and logging techniques. Interpretation of data. Laboratory investigations, tests, techniques, and uses. Methods of construction and maintenance. Presentation of data. Bibliography Part V Appendix.

Note. Instead of writing treatise, the author of this publication prepared a detailed outline of modern engineering geology and gave references to literature in which the various topics and sub-topics are discussed. It is not a bibliography although it can be used as such. It is more in the nature of an outline for a graduate-level course or a survey and guide to the literature for practicing geologists. Part is an essay written in the traditional manner of the historical development and current scope of engineering geology All of the other parts are outlines with literature references. The references have been painstakingly selected.

LAHEE, FREDERIC H

Field geology Fifth edition. New York McGraw Hill Book Company Inc. 1952 883 p illus 19 cm $9 50 6768

Contents Introduction. Features seen on the surfaces of rocks. Rock particles and fragments. Original surface features of sediments. Original structures and structural relations of sedimentary rocks. Field relations of igneous rocks. Tilted and folded strata. Fractures and fracture structures. Metamorphic rocks. Mineral deposits. Topographic forms. Topographic expression Topographic maps and profile sections. Geologic surveying General observations. Instruments and other equipment used in geologic field mapping Instrumental methods in field mapping. Air reconnaissance air photography and air mapping. Subsurface geologic surveying Modes of geologic illustration. Interpretation of geologic maps. Geologic computations. Preparation of geologic reports. Geophysical surveying. Appendix. Bibliography Index.

Note. A standard and widely-used manual of geological exploration and mapping. It is used both as textbook in courses offered to students of mining engineering and as reference book in the field by petroleum and mining geologists and engineers. It presents methods and keys for the recognition and interpretation of land forms and structures, explains how to take and record data in the field, how to make and interpret maps, etc. The first edition was published in 1916 and the fourth edition in 1941 Comparing the fourth edition to the present fifth edition, reasonably extensive revisions have been made in the discussions of number of topics the chapter formerly entitled Airplane mapping" has been completely rewritten and retitled 39 new figures have been added, and there are four newly added tables in the appendix.

LINDGREN, WALDEMAR

Mineral deposits. Fourth edition revised and reset. New York McGraw Hill Book Company Inc., 1933 930 p. illus. 23 cm $11 00 6769

annual meeting of the Association, at Chicago Illinois, April 24–27 1950. Edited by Max W Ball and others. Tulsa The Association, 1951 358 p. illus. 24 cm. $4.00. 6780

Contents (abridged) Alaska, by G. Gry and others. Western Canada, by Alberta Society of Petroleum Geologists. Pacific Coast states and Nevada, by Pacific Section of American Association of Petroleum Geologists. Rocky Mountain region, by Rocky Mountain Association of Geologists and others. Mid-continent region, by Tulsa Geological Society West Texas and eastern New Mexico, by West Texas Geological Society Fort Worth basin and Muenster Arch north-central Texas, by Fort Worth Geological Society Downdip Mesozoic rocks of south Texas, by South Texas Geological Society Mexico, by Manuel Alvarez, Jr Western Gulf coast, by Houston Geological Society Continental shelf of Gulf of Mexico, by Paul Weaver. Southeastern United States, by Committee of Geologists from the Southeastern United States. Northeastern United States, by Julean L. Anderson. Appalachian region, by Appalachian Geological Society Eastern Canada, by J. F Caley and others. Eastern Interior basin, by Illinois Geological Society and others.

Note: In [illegible] this book is [illegible] sequel to the Association Possible future oil provinces of the United States and Canada, which was published in 1941 and contained 154 pages. Again, [illegible] group of outstanding petroleum geologists discuss the chances of finding oil in selected regions of the United States of America and Canada. Much territory has been covered in the present volume, and most of the discussions are based on more geological knowledge. Also, many of the papers outline the experience in particular oil fields and particular geological formations since the 1941 volume was compiled.

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Structure of typical American oil fields a symposium on the relation of oil accumulation to structure. Volume I. Tulsa, Okla. American Association of Petroleum Geologists, 1929 510 p. illus. 23 cm. $4 50 6781

Contents Papers arranged alphabetically by states. Irma oil field, Nevada County Arkansas, by L. P Teas. Notes on the McKittrick, California, oil field, by W A. English. Tri-county oil field of southwestern Indiana, by R. E. Esarey Fairport oil field, Russell County Kansas, by T H. Allan and M. M Valerius. Coffeyville oil field, Montgomery County Kansas, by W H. Foster. Rainbow Bend field, Cowley County Kansas, by D R. Snow and D Dunn. Flank production of the Kansas Mountains (Granite Ridge) Kansas, by C. E. Thomas. Relation of production to structure in five oil and gas fields of the Kentucky eastern coal fields, by L. K. Fohs. Caddo oil field, LaSalle, Winn and Grant parishes, Louisiana, by G. W Schneider. Geology of the Saginaw oil field, Michigan, and discussion of Michigan's oil prospects, by C. G. Carlson. Artesia field, Eddy County New Mexico, by M J. Dunn. Structural conditions in portions of eastern Ohio, by K. Cottingham. General structure of the producing sands in eastern Ohio, by J. R. Lockett. Marcus field, Pawnee County Oklahoma, by E. Carpenter. Relation between structure and production in the Mervine, Ponca, Blackwell, and South Blackwell oil fields, Kay County Oklahoma, by R. K. Clark and J I Daniels. Garber field, Garfield County Oklahoma, by W G Clark and R. M Carr. Crinerville oil field, Carter County Oklahoma, by S. Powers. Turkey Mountain Pool, Oklahoma, by F Rubinstein and H. E Redmon. Burbank field, Osage County Oklahoma, by J. M Sands. Geology of Glenn Pool of Oklahoma, by W R. Wilson. Significance of structure in the accumulation of oil in Tennessee, by R. G Lusk. Luling oil field, Caldwell and Guadalupe Counties, Texas, by E W Brucks. Westbrook field, Mitchell County Texas, by R. C Edwards and L. W Orynski. Relation of production to structure in central Wilbarger County Texas, by M. B Fuqua and B E. Thompson. Oil and gas fields of the Mexia Tehuacana fault zone, Texas, by F W McFarland. Kosse and Lake, Laredo District, Texas, by P W McFarland. Kosse Creek field, Limestone County Texas, by L. J Pepperberg. Relation of accumulation to structure in the oil fields of Archer County Texas by W C Thompson and W E. Hubbard. Copley Oil Pool of West Virginia, by D B Reger. Cabin Creek field, West Virginia, by T Wasson and I. B Wasson. Index.

—— Volume II. Tulsa, Okla. American Association of Petroleum Geologists, 1929 780 p. illus. 24 cm. $5.50. 6782

Contents. Papers arranged alphabetically by states. Stephens oil field, Columbia and Ouachita Counties, Arkansas, by W C. Spooner Oil accumulation and structure of the Santa Maria District, Santa Barbara County California, by R. E. Collom. Ventura Avenue oil field, Ventura County California, by F W Hertel. Elk Hills, Kern County California, by J. R. Pemberton. Long Beach, Los Angeles County California, by D C. Roberts. Berlin structure, Florence oil field, Fremont County Colorado, by R. K. De Ford. Relation of accumulation to structure in northwestern Colorado, by R. L. Heaton. Three typical oil fields of the Eldorado region, by G. F Moulton and A. H. Bell. Virgil pool, Greenwood County Kansas, by R. L. Beckly Madison Shoestring Pool, Greenwood County Kansas, by A. R. Cheney. Eldorado oil field, Butler County Kansas, by J. R. Reeves. Pine Island Deep Sands, Caddo Parish, Louisiana, by A. F Crider. Structure of Caddo field, Caddo Parish, Louisiana, by C. D. Fletcher. Homer oil field, Claiborne Parish, Louisiana, by W C. Spooner Bellevue oil field, Bossier Parish, Louisiana, by W F L. P Teas. Kevin-Sunburst field, Toole County Montana, by W L. Russell. New York oil fields, by C. A. Hartnagel and W L. Russell. Crossell. Hewitt Oil Field, Carter County Oklahoma, by G. E. Burton. Crossell, Okmulgee Counties, Oklahoma, by A. A. Langworthy. Greater Seminole district, Seminole and Pottawatomie Counties, Oklahoma, by A. I. Levorsen. Delaware Extension pool, Nowata County Oklahoma, by J. O. Lewis. DePew area, Creek County Oklahoma, by H. M. Martin. An oil field in T 23, N R. 8 E. Osage County Oklahoma, by C. D. Stephenson. C[illegible] County Oklahoma, by T E. Weirich. Bradford oil field, McKean County Pennsylvania, and Cattaraugus County New York, by J R. Newby and others. Sugar Hill gas field, Washington County Pennsylvania, by J F Robinson. West Columbia (salt dome) oil field, Brazoria County Texas, by D. P Carlton. Relation of accumulation of petroleum to structure in Stephens County Texas, by W K. Esgen. Yates field, Pecos County Texas, by G. C. Gester and H. J. Hawley Big Lake Oil Pool, Reagan County Texas, by E. V Hennen. Relation of petroleum accumulation to structure, Petrolia field, Clay County Texas, by F K. Kendrick and H. C. McLaughlin. Synclinal oil fields in southern West Virginia, by R. E. Davis and E. A. Stephenson. Elk Basin oil and gas field, Park County Wyoming, and Carbon County Montana, by J. G. Bartram. Salt Creek oil field, Natrona County Wyoming, by E. Beck. Lance Creek oil and gas field, Niobrara County Wyoming, by W B. Emery Rock River oil field, Carbon County Wyoming, by W B. Emery Grass Creek dome, Hot Springs County Wyoming, by T S. Harrison. Oil and gas fields of Lost Soldier District, Wyoming, by J. E. Ervin. Summary—role of geologic structure in the accumulation of petroleum, by F G. Clapp. Index.

—— Volume III. Edited by J V Howell. Tulsa, Okla. American Association of Petroleum Geologists, 1948. 516 p. illus. 24 cm. $4.50. 6783

Contents Gilbertown field, Choctaw County Alabama, by A. M. Current. Fouke oil and gas field, Miller County Arkansas, by C. R. Schwartz. Geology of Aliso Canyon field, Los Angeles County California, by Claude E. Leach. Cymric oil field, Kern County California, by J H. McMasters. Geology of Edison field, Kern County California, by J H. Beach. Norman Wells oil field, Northwest Territories, Canada, by J S. Stewart. Crump's field, Archuleta County Colorado, by W A. Waldschmidt. Rangely oil field, Rio Blanco County Colorado, by W Y Pickering and C. L. Dorn. Marcus pool, Madison County Illinois Silurian reef producer by Heinz A. Lowenstam. Omaha pool and mica peridotite intrusives, Gallatin County Illinois, by R. M. English and R. M. Grogan. Augusta field, Butler County Kansas, by George F Berry Jr. and Fred A. Hauser. Geneseo uplift, Rice, Ellsworth, and McPherson Counties, Kansas, by Stuart K. Clark, C. L. Arnett, and James S. Royds. Kraft-Prusa oil field, Barton County Kansas, by Robert F Walters and Arthur S. Price. Creole field, Gulf of Mexico, coast of Louisiana, by Theron Wasson Deep River oil field, Arenac County Michigan, by Kenneth K. Landes. Deerfield oil field, Monroe County Michigan, by George D. Lindberg. Arcadia-Coon Creek pool, Oklahoma and Logan Counties, Oklahoma, by George E. Carver, Jr. Cumberland oil field, Bryan and Marshall Counties, Oklahoma, by Ira H. Cram. Geology of West Edmond oil field, Oklahoma, Logan, Canadian, and Kingfisher Counties, Oklahoma, by Robert Malcolm Swesnik. Apco field, Pecos County Texas, by Samuel P Ellison, Jr. Quitman oil field, Wood County Texas, by E. R. Scott. Talco oil field, Franklin and Titus Counties, Texas, by E. A. Wendlandt and T H. Shelby Jr. Rose Hill oil field, Lee County Virginia, by Ralph L. Miller. Steamboat Butte oil field, Fremont County Wyoming, by H. E. Barton. Index.

Note: Described in this series from the viewpoint of petroleum geology are nearly 100 oil fields in continental United States of America. Each field is fully described as to its history geology and production up to the date of writing of the paper. The series is

is emphasized from time to time, the national picture is clearly delineated.

Symposium on Mineral Resources of the Southeastern United States

1949 proceedings. Sponsored by Department of Geology and Geography, the University of Tennessee. Edited by F G Snyder Knoxville The University of Tennessee Press, 1950 236 p illus 24 cm. $4 00 6775

Contents: Geologic investigations and exploration in southeastern United States, by R. A. Laurence. Tectonic framework of the southeastern states, by [illegible] B King. Problems of the genesis of mineral deposits of the southeastern states, by C. H. Behre, jr. Feldspar and mica deposits of southeastern United States, by J M. Parker III. Geology of the titanium-bearing deposits in Virginia, by A. A. Pegau. Occurrences of tungsten minerals in the southeastern states, by G. H. Espenshade. Recent geological investigations in the Ducktown mining district, Tennessee, by W W Simmons. Zinc deposits of the southeastern states, by C. R. L. Oder and J W Hook. Barite deposits southeast of the Appalachian plateaus, by T L. Kesler Kyanite and sillimanite in the southeastern states, by A. S. Furcron. Talc, soapstone, and pyrophyllite in the southeastern United States, by J L. Stuckey Vermiculite of the southeastern states, by C. E. Hunter. Brown phosphate rock in Tennessee, by H. B Burwell. Notes on the land-pebble phosphate deposits of Florida, by J B. Cathcart. Manganese deposits of the southeastern states, by H. D. Miser Bauxite deposits of the southeastern United States, by J Bridge. Economic minerals in the beach sands of the southeastern United States, by H. B Cannon. Ground-water geology in the southeastern states, by V T Stringfield. Ground water in relation to mining in the southeastern states, by G. D. De-Buchananne. Index.

Note The papers in this volume are devoted—as the title indicates—mainly to resources of specific minerals occurring in economically important deposits in the Southeastern states of the United States of America. The authors are professional geologists, and the papers are addressed to geologists and to members of other professions interested in mineral resources of this region. Although most of the authors give some attention to the historical development of the field covered by their papers, the typical paper is a concise summary of the contemporary status with emphasis on the geological and mineralogical aspects rather than the economic. Substantial lists of references are included.

United States Bureau of Mines

Mineral facts and problems by the Staff of the Bureau of Mines. Washington D C. Government Printing Office, 1956 1 042 p illus 27 cm. (United States Bureau of Mines. Bulletin 556) $5 75 6776

Note This is an up-to-date one-volume encyclopedia of minerals, solid fuels, and petroleum. A general introduction of 15 pages is followed by signed articles on 85 different minerals and metals or groups of the same. For each mineral the following general order of treatment is followed Summary Background History Occurrences. Mining methods. Metallurgy Properties and uses. Secondary production. Substitutes. Market requirements. Prices. Tariff Imports. Exports. Government supervision. Transportation costs. World reserves. Outlook New uses in prospect. Problems. Bibliography Listed in tables are such statistics as annual amounts produced, sold, used, imported, and exported by the United States of America. The publication is potentially useful to metallurgists, engineers, geologists, physicists, and businessmen concerned in the metal trades and metal commerce.

United States Bureau of Mines

Minerals yearbook, 1953 Washington, D C Government Printing Office 1956 3 v illus. 23 cm. Vol. I $4 50 vol. II $2 25 vol. III, $4 00 6777

Content (abridged) Volume I, Metals and minerals (except fuels) Volume II, Fuels Part I, General review Part II, Commodity reviews. Part III, Appendix Tables of measurement. Volume III, Area reports.

Note An annual summary of mineral production. Primarily it covers production in the United States of America and its territories, but there are also data on imports into the U.S.A. and on production in other countries. Data on scrap as well as primary production are included for all metals where scrap metal is a commercially important factor The division of the information among the three volumes of the present issue is indicated in the above contents. The first volume contains both general reviews of mining and metallurgical technology and sections or chapters on the individual metals. Included also in this volume are summaries of classes of minerals such as gem stones, building stones and abrasive materials. Volume II contains parallel summaries of coal, peat, petroleum and related products. Volume III is devoted to summaries of activity and production in the individual states and territories. Each volume contains its own index.

Voskuil, Walter H.

Minerals in world industry New York McGraw Hill Book Company, 1955 324 p. 23 cm. illus $5 75 6778

Contents The mineral economy Man and iron. Geographical pattern of the steel empires. Iron in the Americas. Iron in Europe. Iron in Asia, Australasia and Africa. Iron alloys. Coal in North America. Transportation of coal in the United States. Anthracite. Coal in Europe. Coal in Asia, Australia, Africa, and South America. Petroleum—a world view The petroleum industry in North America. Petroleum in foreign nations. Natural gas. Aftermath fuels. Copper Lead and zinc. Aluminum and magnesium. Building materials. Mineral plant foods—nitrogen, phosphates, potash. Sulfur Minerals used in minor tonnages. American mineral policy Relation of industrial nations to underdeveloped areas. Index.

Note. A well-written book for general readers. Its principal subject is the importance of minerals in the present-day world. A secondary subject is what is commonly known as "mineral resources," in other words, the extent of the known reserves of the various minerals, where they are located, how rapidly they are being used, etc. There are some statistical tables, but in general the book is designed for reading rather than reference. References to the technical literature are included. The author is Mineral Economist on the staff of the Illinois Geological Survey and Professor of Mineral Economics on the faculty of the University of Illinois.

Walker, Robert Tunstall, and Woodville Joseph Walker

The origin and nature of ore deposits. Colorado Springs The Walker Associates, 1956 384 p. illus. 24 cm. $6 50 6779

Contents Vulcanism and orogeny Magmatic gases. Rock alteration. Mineralization. Zoning. Fissure vein ore-bodies. Massive ore-bodies. Pipe ore-bodies. Irregular ore-bodies. Mineralogical types of ore-bodies. Basic ore-bodies. Siliceous ore-bodies. Quartz vein, volcanic type—plutonic type—pegmatitic type. Iron ore-bodies. Copper ore-bodies. Zinc ore-bodies. Lead ore-bodies. Silver ore-bodies. Gold ore-bodies. Uranium ore-bodies. Ore-bodies of minor metals in the upper endothermal zone. Ore-bodies of minor metals in the hypothermal and mesothermal zones. Ore-bodies of minor metals in the lower epithermal zone. Indicator gangue minerals. Exploration practice and procedure. The human element. Index. Appendix A Representative localities in the United States showing typical geological structures and ore deposits.

Note The authors of this book are economic geologists of long experience, and they have addressed themselves to graduate geologists who are primarily concerned with finding commercially valuable ore bodies. Current theories of ore genesis are presented critically The various kinds of ore bodies are described in detail. Statistics on the tonnage and value of the ores produced in various mining districts of continental United States of America are given. The chapter on exploration practice and procedure is an expert review of current problems and practical techniques of finding ore.

PETROLEUM PRODUCTION

American Association of Petroleum Geologists

Possible future petroleum provinces of North America. A symposium conducted by the American Association of Petroleum Geologists. Papers presented at the thirty fifth

ments published in 1942, 1944, and 1947 respectively. The information contained in these earlier volumes has been brought up to date and many papers dealing with new developments and practices have been added. The bibliography, which covers the literature since 1894, has been expanded and now includes more than 2,000 references.

ARDMORE GEOLOGICAL SOCIETY

Petroleum geology of southern Oklahoma a symposium sponsored by the Ardmore Geological Society Volume 1. Tulsa The American Association of Petroleum Geologists, 1956. 402 p. illus. 25 cm. $6.00. 6787

Contents: Surface criteria of southern Oklahoma oil fields, by F Gouin. Résumé of the geology of the Wichita Mountains, Oklahoma, by G. W. Chase and others. Upper Mississippian and lower Pennsylvanian formations of South-Central Oklahoma, by M. K. Elias. The Hardeman trough, by R. H. Harlton. Southwest Lone Grove field, by J. M. Westheimer and F P Schweers. Hewitt field, by W L. McBee. West Hewitt field, by W Newstadt. Jr Camp field, by E. C. Parker. Tussy sector of the Tatums field, by J. L. Heard. North Wildcat Jim field, by K. F Walker West Velma field, by R. H. Harlton. Santa F field, by R. L. Beasley. Southwest Velma field, by L. C. Hicks. Velma field, by R. B. Rutledge North Alma field, by G. C. Rowland. Eastern Alden field, by D. Clyde, Jr. West Duncan field, by D M. Putman. Cruce-Knox field, by H. J. Ready and R. M Becker Peach Valley field, by L. C. Hicks. Oil fields of the central Marietta-Wichita area, by W McBee, Jr and L. G. Vaughan. Aylesworth field, by J. L. Wieneck. The Oddland formation, by J. M. Westheimer. Index.

Note A collection of contributed papers by geologists who are experts on the complex geology of the oil fields of southern Oklahoma. Most of the papers are illustrated and include literature references. A second volume is planned.

BEERSTECHER, ERNEST JR.

Petroleum microbiology an introduction to microbiological petroleum engineering Princeton D Van Nostrand Company Inc., 1954 375 p. illus. 24 cm. $8.00 6788

Contents: Introduction Exploration. The role of microorganisms in geological processes. The role of microorganisms in the synthesis of petroleum. Microbial utilization of petroleum hydrocarbons. The use of microorganisms in petroleum exploration. Production. The activities of microorganisms in drilling muds. The activities of microorganisms in petroliferous formations. The role of microorganisms in corrosion. Manufacturing: The effects of hydrocarbons upon microorganisms. The use of microorganisms as reagents in the manufacture of petroleum products. Petroleum and its products as sources of infectious microorganisms. Glossary. Author index. Microorganism index. Subject index.

Note Written by a prominent biochemist, this book is a survey of the accumulated knowledge pertaining to the role of microorganisms in the genesis of petroleum and to the potentialities of microbiology in petroleum exploration and production. The whole field is surveyed, including such unexpected aspects as the role played in the formation of machine shop washes by bacteria present in cutting oils derived from petroleum. Some speculation is included along with a wide array of established facts. The subject is covered from the viewpoint of the petroleum industry rather than of microbiology. The international literature of the subject is cited.

BELL, HUGH STEVENS

Oil shales and shale oils. Princeton D Van Nostrand Company Inc., 1948 157 p. illus. 23 cm. $5 95 6789

Contents: Geographical distribution and history of exploitation. Characteristics of shale and shale oils. Mining—open-cut methods. Mining—underground. Safety in mining operations. Preparation of shale rock. Retorting. Refining. Economics. Author index. Subject index.

Note The present volume describes the technical and economic problems connected with the exploitation of oil shales and discusses the methods that are being developed to solve them. References to the pertinent literature are included. The work is intended primarily for mining engineers and mineral economists.

HAGER, DORSEY

Practical oil geology Sixth edition. New York McGraw Hill Book Company, Inc. 1951 589 p. illus. 19 cm. $8.00 6790

Contents: Petroleum—its origin and accumulation. Chemical composition of petroleum—physical constituents—commercial values. Stratigraphy. Fossils and their uses. *Structural geology*—the broad continental features. Discussions of gas and oil traps. Searching for new gas and oil fields. Geological field methods and instruments in use. Geophysics. Applications of geology to drilling for gas and oil. Geological factors in oil-well drilling. Well logging. Geological factors in oil production. Methods of estimating oil recoveries. Water and its relationship to oil. Natural gas—natural gasoline. Oil shales. What the geologist has done for the oil business. Appendix. List of books on oil and general geology Index.

Note. The word "practical" in the title of this book has not been idly used. The book is intended for men who are making their living as oil geologists and for students who are preparing to do so. It covers the whole scope of a petroleum geologist's work, including such minor points as how to behave when called as an expert witness in law suits. In the sixth edition, there are two new chapters, one on well logging and the other on estimating the methods of oil recoveries. The book has been reorganized and the type reset. There are five new tables in the appendix, and the bibliography has been expanded to include the recent literature.

HALBOUTY MICHEL THOMAS

Petrographic and physical characteristics of sands from seven Gulf Coast producing horizons. Houston Gulf Publishing Company 1937 106 p. illus 20 cm. $2 00 6791

Note The results of a study conducted on sands either cored or obtained in cuttings from wells drilled to the top of the Middle Oligocene or deeper with the purpose of determining whether or not the sands of certain geologic zones and formations in the Gulf Coast region have enough petrographic or physical characteristics that they may be distinguished solely by these instead of by paleontological methods. The writer was concerned with the relative prospects of correlating the sediments of the Gulf Coast of Texas and Louisiana by means of an intensive study of the component minerals and physical properties of the sand bodies. There are 77 histograms illustrating the textures of various sands. This material was first published in *The Oil weekly* in a number of installments extending over a seven-week period.

HEROLD STANLEY CARROLLTON

Oil well drainage. Stanford Stanford University Press, 1941 407 p. illus. 26 cm. $5.00. 6792

Contents Introduction. Artificial reservoirs. Natural reservoirs. Reservoir energy Functions of gas. Radius and area. Regional drainage and water encroachment. Across property lines. Stratigraphy and structure. Reservoir penetration. Multiple zones. Rates of production. Field development. Wells of oil or no gas. Injection. Control, ultimate recovery and reserves. Abandoned oil and gas. Curtailment, proration and conservation. Conclusion. Index.

Note A book for geologists, engineers, landowners, lease-holders, and operators of producing oil and gas properties. The events and conditions within a producing reservoir are described, and the influence of well performance on the movement of the oil and gas is presented in simple terms. Analogies between artificial and natural reservoirs are considered, the nature of reservoir energy is discussed, and the function of gas in the production of oil is set forth.

INTERSTATE OIL COMPACT COMMISSION ENGINEERING COMMITTEE

Oil and gas production an introductory guide to production techniques and conservation methods. Norman University of Oklahoma Press, 1951 128 p. illus. 24 cm. $2 75 6793

Contents: Petroleum geology. Reservoir fluids. Reservoir mechanics. Field examples. Measurements in the production of oil and gas. Regulatory practices affecting oil recovery Appendix: Major types of reservoir traps. Index.

interesting not only because of his specific descriptions of oil fields, but also for its portrayal of the gradual evolution in the techniques of petroleum geology

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS

Petroleum conservation. Sponsored by the Henry L. Doherty Memorial Fund. Edited by Stuart E Buckley New York American Institute of Mining and Metallurgical Engineers, 1951 304 p illus. 24 cm $6 00 6784

Contents Elements of conservation. Petroleum resources. The petroleum reservoir. Characteristics of reservoir fluids. Fundamentals of oil recovery Efficient operation of petroleum reservoirs. Secondary recovery Pressure maintenance. Conservation and state regulation. Cooperative development and unit operation. Index.

Note Fourteen experts in the field of petroleum technology have co-operated to prepare this review of the basic principles and methods of petroleum conservation. The material is primarily description of the techniques employed in the efficient recovery of petroleum, and the reasons behind these practices. However since the book is written for the petroleum industry as a whole it also includes discussions of the status of our oil supply and of the steps which must be taken by the industry and governmental agencies to achieve still greater conservation.

AMERICAN PETROLEUM INSTITUTE

Report of progress—fundamental research on occurrence and recovery of petroleum, 1954–55 The projects on fundamental research, sponsored by the Committee on Research of the Board of Directors of the American Petroleum Institute, are directed by research advisory committees, and are financed by private subscription New York American Petroleum Institute 1956 347 p illus (part col'd) 27 cm. $12 00 6785

Contents Project 37 Report on Research Project 37—"Fundamentals of hydrocarbon behavior by B. H. Sage and W N Lacey Benedict equation of state—Application to methane, ethane, nbutane, and npentane, by J B Opfell and others. Diffusion coefficients in hydrocarbon systems—nhexane in the gas phase of the methane-ethane- and propane-nhexane systems, by L. T Carmichael and others. Diffusion coefficients in hydrocarbon systems—nheptane in gas phase of methane-n heptane system, by L. T Carmichael and others. Phase equilibria in hydrocarbon systems—volumetric behavior of heptane, by W B. Nichols and others. The thermodynamics of the critical state for mixtures, by J B. Opfell and B. H. Sage. Material transfer in turbulent gas streams—influence of shape on evaporation of drops of nheptane, by N T Hsu and others. Volumetric behavior of nhexane in liquid phase, by D E. Stewart and others. Relations in material transport, by J B. Opfell and B. H. Sage. Experience with piston-cylinder balance for pressure measurements, by H. H. Reamer and B. H. Sage. Isobaric heat capacities at bubble point—two trimethylbenzenes and heptane, by P F Helfrey and others. Project 47 Final report on Research Pr ject 47b—"Microscopic behavior of fluids in porous systems, by A. Chatenever Report on Research Project 47d—"Solid-fluid interaction as related to petroleum production, by N Hackerman. Project 51 Report on Research Project 51—"Study of near-shore sediments and their environments in the northern Gulf of Mexico, by F P Shepard. Sedimentary environments differentiated by coarse-fraction studies, by F P Shepard and D. G. Moore. Ecology of foraminifera in southeastern Mississippi Delta area, by F P Phleger Clay mineral investigation of sediments in the northern Gulf of Mexico, by R. E. Grim and W D Johns. Central Texas coast sedimentation—characteristics of sedimentary environment, recent history and diagenesis, by F P Shepard and D G. Moore. Delta-front valleys bordering the Mississippi distributaries, by F P Shepard. Sediments of the eastern Mississippi Delta, by F C. Scruton. Project 53 Report on Research Project 53— Age dating of sedimentary rocks, by H. Brown. Appendixes.

Note. Published in this volume—the seventh in biennial series—are research papers resulting from work done in projects being conducted in selected universities under the sponsorship of the American Petroleum Institute. Also included are brief reports from the directors of the projects. Most of the research papers included in the volume hav been reprinted from journals in hich they ere first published.

AMERICAN PETROLEUM INSTITUTE

Secondary recovery of oil in the United States Second edition. Prepared by members of the Standing Subcommittee on Secondary Recovery Methods of the Topical Committee on Production Technology of the Central Committee on Drilling and Production Practice. New York American Petroleum Institute, 1950 838 p. illus. 28 cm $8 50 6786

Contents: Part I, General considerations: A review of secondary recovery of oil in the United States, by P D Torrey Magnitude of secondary-recovery operations in the United States, by E. G. Dahlgren. The economics of secondary oil recovery by W B. Berwald. Statutes relating to secondary-recovery operations, by R. E. Hardwicke and W L. Summers. 1947 report of Legal Committee of Interstate Oil Compact Commission with respect to secondary recovery Formation and operation of unit projects in secondary recovery by K. E. Beall. The formation and operation of cooperative projects in secondary recovery by D V Carter Part II, Criteria for determining oil fields' susceptibility to secondary-recovery methods. Schedule of pertinent information for study of secondary-recovery possibilities, by P D. Torrey Fundamental data pertinent to secondary-recovery studies, by T H. Acres and others. Control and prediction of secondary recovery by W L. Horner Prediction of secondary recovery from core analyses, by R. C. Earlougher and J. M. Robinson. The prediction of oil recovery by water flood, by H. Dykstra and R. L. Parsons. Theoretical considerations involved in secondary-recovery operations, by G. H. Fancher. Electrical-model studies of secondary recovery by W L. Horner and W A. Bruce. Influence of geological factors on secondary recovery of oil, by C. R. Fettke. Effects of permeability on secondary recovery of oil, by J C. Calhoun, Jr and others. Influence of fluid saturation on secondary recovery of oil, by P A. Dickey Influence of viscosity of crude oil on secondary recovery by W A. Heath. Capillary and surface phenomena in secondary recovery by K. H. Andresen and others. Interactions between interstitial and injected water, by A. J. W Headlee. Gas requirements in gas-drive recovery by S. T Yuster and R. J Day Preliminary field tests for determining required injection volumes and pressure, and plant capacity by J C. Furth and P C. Dean. Part III, The development and operation of secondary-recovery projects. The utilization of old wells, by W A. Heath. Selective exclusion of water in secondary-recovery operations, by K. H. Andresen and others. Spacing in water flooding, by S. T Yuster Use of explosives in water flooding, by S. T Yuster Source and purification of water supply by G. W Holbrook and A. R. Ellenberger. Design and construction of water-pumping plants, by G. W Holbrook. Flowing water-flood production, by T F Lowry The behavior of water-input wells, by P A. Dickey and K. H. Andresen. Increasing and maintaining injection rates of water-input wells, by P A. Dickey and others. The importance of injected gas as driving medium in limestone reservoirs as indicated by recent gas-injection experiments and reservoir-performance history by L. E. Elkins. Source and purification of gas supply by L. L. McWilliams. The design and construction of compressor plants, by P D Torrey Part IV Description of secondary-recovery operations in the United States: Water flooding in the state of New York, by W H. Young, Jr and G W Holbrook. Water flooding in Pennsylvania, by C. R. Fettke. Oil recovery by air and gas repressuring in Pennsylvania, by P A. Dickey and E. R. Bender Secondary recovery in West Virginia, cooperative report by Eastern District members—in Ohio, by J Cathell and E. V O'Rourke—in Kentucky by N M Wilder et al.—in Indiana, by V R. Gallagher—in Illinois, by F Squires and others—in Kansas, by E. Z. Hunter and others—in Oklahoma, by W A. Heath and S. L. Betzer Water flooding in Texas, by R. K Guthrie and J W Amyx. Results of water injection in Woodbine reservoir of the East Texas field, by W S. Morris. Gas repressuring in Texas, by R. Goaldy and R. P Dobyns. Secondary recovery in Arkansas, by L. F Danforth and D K. Mackey—in Louisiana, by A. L Vitter Jr and J C. Phillips—in New Mexico, by M S Lesse and R. L. Gray—in the Rocky Mountain states, by C M Nickerson and others—in California, by N van Wingen Part Mining for petroleum Mining for oil—a review by H. C. Miller and C L. Moore. Part VI, Bibliography on secondary recovery Part VII, Addenda. Appendixes.

Note A comprehensive and authoritative account of the various methods employed in recovering petroleum after reservoir has approached its economic production limit by primary-recovery methods. This edition supersedes the first edition and its two supplements.

Petroleum Production

Zenith pool, Stafford county, Kansas—an example of stratigraphic trap accumulation, by W. C. Imbt. Kentucky: Big Sinking field, Lee county, Ky., by L. B. Freeman. Louisiana: Stratigraphic traps in Caddo county oil field, East Baton Rouge parish, La., by [illegible]. Michigan: Stratigraphic gas fields of Michigan, by M. T. Halbouty. Montana: Border-Red Coulee oil field, M. W. Ball and others. Montana: Border-Red Coulee oil field, Toole county, Mont., and Alberta, Canada, by C. E. Erdmann and John R. Schwabrow. Cut Bank oil and gas field, Glacier county, Mont., by J. E. Bush. Ohio: Lansing sands of Ohio, by E. V. O'Rourke. Oklahoma: Davenport field, Lincoln county, Okla., by W. L. [illegible]. Dora oil pool, Seminole county, Okla., by J. L. E. R. White. East Tuskegee pool, Creek county, Okla., by J. L. [illegible]. Olympic pool, Hughes and Okfuskee [illegible] and R. A. Brant. Red Fork Skinner sand counties, Okla., by W. R. DeLand. Red Fork Shoestring sand, counties, Okla., by W. R. DeLand. Red Fork Shoestring sand pool, Pawnee, Creek, and Tulsa counties, northeastern Okla., by R. Knight. Pennsylvania: Music Mountain oil pool, McKean county, Pa., by C. R. Fettke. Types of stratigraphic oil pools in Venango Pa., by C. R. Fettke. Types of stratigraphic oil pools in Venango sands of northwestern Pa., by R. E. Sherrill and others. Texas: Bryson oil field, Jack county, Tex., by T. C. Hiestand. Cross Cut-Blake district, Brown county, Tex., by E. D. Klinger. Dawn sand, Hardin field, Liberty county, Tex., by S. R. Casey and R. B. Cantrell. East Texas oil field, Rusk, Cherokee, Smith, Gregg, and Upshur counties, Tex., by H. E. Minor and M. A. Hanna. [illegible] field, Galveston county, Tex., showing stratigraphic accumulation and structure, by M. T. Halbouty and B. T. Simmons. Lopez [illegible] oil field, Archer county, Tex., by E. L. Thompson. Lopez oil field, Webb and Duval counties, Tex., by J. B. East. Noodle Creek pool, Jones county, Tex., by H. W. Imbeh. O'Hern field, Duval and Webb counties, Tex., by D. G. Barnett. "Sand belt" area of Ward and Winkler counties, Tex., and Lea county, New Mex., by R. L. Denham and W. E. Dougherty. Seymour pool, Baylor county, Tex., by J. K. Murphy and others. Walnut Bend pool, Cooke county, Tex., by W. J. Hilseweck. West Virginia: Gay-Spencer-Richardson oil and gas trend, Jackson, Roane, and Calhoun counties, West Va., by E. T. Heck. Shinnston oil pool, Harrison county, West Va., by D. B. Reger. Wyoming: Osage oil field, Weston county, Wyo., by C. E. Dobbin and J. C. Miller. Selected bibliography of articles describing stratigraphic type oil fields, by E. F. Tuttle and others. Index.

Note: A collection of papers, with charts and diagrams, on the geology of stratigraphic type oil fields in various parts of the United States of America. The work is intended as [illegible] factual background for [illegible] further approach to the causes of oil and gas accumulation and as [illegible] guide to the prospecting and exploitation of future oil fields in the country. The extensive bibliography covers 27 pages.

LOZO FRANK EDGAR, editor

The Woodbine and adjacent strata of the Waco area of central Texas. A symposium edited by Frank E. Lozo with the assistance of Bob F. Perkins. Dallas Southern Methodist University Press, 1951 183 p. illus. 27 cm. (Fondren science series. No. 4) $7.50. 6800

Contents: The Grand Prairie of Texas, by F. Bryan. History of discovery and development of Woodbine oil fields in east Texas, by C. I. Alexander. Comparative status of the Woodbine in oil production, by G. J. Loetterle. The South Bosque field, McLennan county, Texas, by J. C. Price. Geology of Belton Reservoir area, Bell county, Texas, by J. Colligan. Geology of Whitney Dam area, Bell county, Texas, by A. M. Reservoir area, Brazos river, Bosque-Hill counties, Texas, by A. M. Hall. Stratigraphic notes on the Maness (Comanche Cretaceous) [illegible]. Woodbine sandstone dikes of northern McLennan county, Texas, by J. N. Monroe. Stratigraphy of the Woodbine and Eagle Ford, Waco area, Texas, by W. S. Adkins and F. E. Lozo. References. Plates. Index.

Note: Together the original papers in this volume constitute a detailed study of the geology of one of the most important petroleum producing areas in the world. The volume was prepared by members of the East Texas Geological Society. The illustrative matter includes not only [illegible] charts of geological range of the area but also several plates of photographs of fossil specimens.

MUSKAT MORRIS

Physical principles of oil production. New York McGraw Hill Book Company Inc., 1949 922 p. illus. 24 cm. (International series in pure and applied physics. G. P. Harnwell, consulting editor) $16.00. 6801

Contents: Introduction. The physical properties and behavior of petroleum fluids. The properties of oil-bearing formations pertaining to oil production: core analysis. Basic dynamical equations for homogeneous-fluid-flow systems. Individual well problems in uniform strata with homogeneous-fluid flow. Strata of nonuniform or anisotropic permeability with homogeneous-fluid flow. Dynamical foundations for heterogeneous-fluid-flow phenomena. Steady-state heterogeneous-flow systems: the productivity index. General reservoir mechanics. Gas-drive reservoirs. Composite-water-drive reservoirs. Secondary recovery. Condensate reservoirs. Well spacing, recovery factors, and recoverable reserves. Appendices. Index.

Note: A notable presentation of the current knowledge bearing on the behavior of oil, water, and gas in natural underground reservoirs. The author has endeavored to keep as closely as possible to hydrodynamic and other principles that are scientifically sound. The theoretical material is readily buttressed by facts gathered from experience in oil fields, especially oil fields in the United States of America. The book is addressed to petroleum engineers, conservation officials, and other technically trained personnel concerned with oil field exploitation and regulation. Related literature is cited in footnotes.

NORTH DAKOTA GEOLOGICAL SOCIETY

Stratigraphy of the Williston Basin. Bismarck North Dakota Geological Society 1954 78 p. illus. 28 cm. $5.00 6802

Contents: White River formation. Golden Valley formation. Fort Union formation. Hell Creek formation. Fox Hills formation. Pierre formation. Niobrara-Carlile formation. Greenhorn formation. Belle Fourche-Mowry shales. Newcastle sandstone formation. Skull Creek shale formation. Dakota formation. Fuson formation. Lakota formation. Morrison formation. Swift formation. Rierdon formation. Piper formation. Spearfish formation. Minnekahta limestone. Opeche formation. Minnelusa formation. Amsden formation. Heath formation. Otter formation. Kibbey formation. Charles formation. Mission Canyon formation. Lodgepole formation. Bakken formation. Three Forks formation. "Nisku" formation. "Duperow" formation. Souris River formation. Dawson Bay formation. Prairie Evaporite formation. Winnipegosis formation. Ashern formation. Interlake group. Stony Mountain formation. Red River formation. Winnipeg formation. "Unnamed" formation. Deadwood formation.

Note: A publication intended for oil geologists working in the Williston Basin area of North and South Dakota, Montana, and adjacent parts of Canada. The need for the manual arose from the rapid development of subsurface control in the Williston Basin. It defines and describes in geological order the subsurface formations in common use or recommended for use in the Basin. The following are described for most formations: name, age, type location, lithology, paleontology, thickness, relation to adjacent formations, stratigraphic position, depositional environment, and correlation. Included also are cross-section diagrams showing typical developments in the Williston Basin of the formations described and [illegible] log composite diagrams prepared by the Schlumberger Well Surveying Corporation, Houston, Texas.

PIRSON SYLVAIN JOSEPH

Elements of oil reservoir engineering. New York McGraw Hill Book Company Inc., 1950. 441 p. illus. 23 cm. $8.50. 6803

Contents: The reservoir rocks and structures (microscopic study). The reservoir rocks and structures (macroscopic study). The fundamental equations of fluids. Reservoir forces and energies. The fundamental equations of reservoir engineering. Fundamental production processes. Analysis of field data. Appendix. Abbreviations and symbols. Name index. Subject index.

Note: The management of underground petroleum reservoirs so as to obtain the maximum yield of petroleum and gas is [illegible] complex subject which requires [illegible] detailed knowledge of geology, petrology, geophysics, and associated topics. In this text, designed primarily for graduate petroleum engineering students, the subject is treated comprehensively with the emphasis on the fundamental principles and on sound analytical and forecasting methods. Considerable attention is given to the experimental methods which have advanced the knowledge of oil reservoir behavior.

PORTER, HOLLIS P

Petroleum dictionary for office field and factory Fourth edition. Houston, Tex. The Gulf Publishing Company 1948. 326 p. 23 cm. $6.00. 6804

Note The Interstate Oil Compact Commission, comprising 20 oil and gas producing states, was organized to promote the cause of petroleum conservation. In this book the Commission has provided for laymen and nontechnical employees of the oil industry a simple and concise account of the basic principles and methods of oil and gas production. Emphasis is placed on techniques which result in maximum recovery and minimum waste. The descriptive material is further clarified with numerous charts and illustrations.

KEMLER, EMORY N

Hydraulic pumping a patent and literature survey of hydraulic pumping of oil wells. Spring Park, Minn Summary Reports, 1955 323 p illus 23 cm. $15 00 6794

Contents Introduction. Hydraulic transmission of energy Single acting systems. Double acting systems. Wa e transmission. Surface units. Patents. Bibliography Index by inventors. Patents on bottom hole units. Patents on hydraulic surface units. Patents on electric units.

Note: The first ■ pages of this book are devoted to a condensed account of the elements of hydraulic transmission of energy generalized descriptions of the principal kinds of hydraulic pumping systems, and a series of reference charts useful in the computation of pressure drop in various sizes of pipe. Then follows a bibliography of the scant periodical literature on hydraulic pumping of oil wells. The remainder of the space (approximately 295 pages) is devoted to the United States of America patents of interest in connection with hydraulic pumping. Here the patent reference, date of issue, title of in ention inventor and number of claims are given, followed by an extract from the patent describing the invention, and a quotation of the first claim in full. In umerous instances, one or more drawings is reproduced from the patent.

KINGSTON, BENSON M

Acidizing handbook, a treatise on the application of acid to oil wells Houston Gulf Publishing Company, 1947 116 p illus. 21 cm $3 50 6795

Contents (abridged) Introduction. The chemistry and geology of treatment. Treating acid. Special types of treating solutions. The preparation of wells for treatment. Mechanics of treatment—generalities—the general types of treatment—selecti acidizing—packers and liners. The relation of salt water to treatment. Producing the well after treatment. Acidizing gas wells. Re-treatment and stage treatment. Other uses of muriatic acid in the field. Computations in acidizing. Appendix Bibliography Capacity of casing. Capacity of open hole. Capacity of annular space between tubing or drill pipe and open hole or casing in gallons per linear foot. Muriatic acid data. Mixture figures for treatment acids. Hydrometer conversion data and pressures exerted by different weight brines.

Note A practical survey of the potentialities and techniques of acidizing. Although the discussions are rather detailed, the book is intended more for beginners in the work, or for persons engaged in other branches of petroleum production who need general information on the subject, than for specialists. This edition is considerably revised and enlarged in comparison to the first edition, Houston, 1934. The bibliography covers the literature published 1937 1948 and supplements Fitzgerald and Gladelsperger's *Bibliography on the acid treatment of oil wells* in American Institute of Mining Engineers, Transactions, vol. 123 p 59–62 1937

LALICKER, CECIL GORDON

Principles of petroleum geology New York Appleton Century Crofts, Inc 1949 377 p illus 24 cm. (The Century earth science series, Kirtley F Mather editor) $5 00 6796

Contents Introduction Geographic and stratigraphic distribution of petroleum. Chemical and physical properties of petroleum and related substances. The origin of petroleum. Migration and accumulation of petroleum. Reservoir rocks Classification of oil and gas pools. Origin of structures. Anticlines, domes, and synclines Reservoirs caused by faulting. Salt dome oil fields. Buried hills. Stratigraphic and porosity type fields. Petroleum discovery methods. Geological considerations in recovery methods. Valuation of oil and gas properties. Index.

Note. A useful, well-organized survey of the current knowledge of petroleum geology Outstanding features are the tabulations by region and geological strata of known petroleum deposits, the review of the prevailing theories of the origin and accumulation of petroleum, the detailed descriptions of the features of a considerable number of developed fields, and the thorough outline of discovery methods. Footnote references to related literature are included. The author has assumed that the reader will understand geological concepts and terminology however, the presentation is not highly technical.

LANDES, KENNETH KNIGHT

Petroleum geology New York John Wiley & Sons, Inc., 1951 660 p illus 24 cm $11 00 6797

Contents The profession of petroleum geology Part I, Techniques of the petroleum geologist Exploration. Exploitation. Part II, Geologic occurrence of petroleum Physical and chemical properties of oil and gas. Origin and evolution of oil and gas. Migration of oil and gas. Accumulation reservoir rocks—traps. Part III, Present and future oil supplies Distribution of oil and gas fields—United States. Distribution of oil and gas fields—exclusive of the United States. Future oil supplies. Appendix. Index.

Note. This book is both college textbook for upperclass students preparing to specialize in petroleum geology and a reference book. The third part of the book—which is the part having the most reference value—accounts for about one-half of the space. In this part the main oil fields of the world are discussed from the geological viewpoint. The discussions are fairly detailed and are accompanied by maps and in many cases diagrams of the geological formations. Throughout the book, the related literature is cited in footnotes, and at the end there is a useful annotated list of important books and documents.

LEVORSEN, A I.

Geology of petroleum San Francisco W H. Freeman & Company, 1954 703 p. illus. 24 cm $8 00 6798

Contents Part I, Introduction Introduction and summary The occurrence of petroleum. Part II, The reservoir The reservoir rock. The reservoir pore space. Reservoir traps—general or structural—stratigraphic—combination—salt domes. Part III, The petroleum pool Reservoir fluids—water oil, gas. Reservoir conditions—pressure and temperature. Reservoir mechanics. Part IV The geologic history of petroleum The origin of petroleum. Migration and accumulation of petroleum. Part V Applications Subsurface geology The petroleum province. The petroleum prospect. Appendix. Index.

Note. An authoritative and thorough introduction to basic and applied petroleum geology It is designed primarily as textbook for advanced college students of geology but is of interest also to graduate geologists who are beginning to work in the field Among other things it includes expert advice on the application of geological data to the finding of new pools. There are hundreds of well-drawn graphs and diagrams. Both selected lists of general literature and extensive lists of specialized books and papers are included in the chapters.

LEVORSEN, A. I , AND OTHERS, editors

Stratigraphic type oil fields. Edited by A. I. Levorsen assisted by N Wood Bass, north midcontinent states Ross L Heaton, Rocky Mountain states W S W Kew California D Perry Olcott, south mid-continent states Theron Wasson eastern states. Tulsa The American Association of Petroleum Geologists 1941 902 p. illus 23 cm $5 00 6799

Contents Foreword, by A. I. Levorsen. California Edison oil field and vicinity Kern county Calif., by E. C. Edwards. Kern Front oil field, Kern county Calif by E. C. Edwards. Colorado Greasewood oil field, Weld county Colo by C. S. Lavington. Kansas. Bush City oil field, Anderson county Kans., by H. H. Charles. Chanute oil pool, Neosho county Kans.—a water-flooding operation, by W R. Dillard and others. Hugoton gas field, Grant, Haskell, Morton, Stevens, and Seward counties, Kans., and Texas county Okla., by J. L. Garlough and G. L. Taylor Nikkel pool, McPherson and Harvey counties, Kans., by A. S. Bunte and L. R. Fortier Wherry pool, Rice county Kans by H. E. McNeil.

Mining Engineering

Petroleum Production

Zenith pool, Stafford county Kansas—an example of stratigraphic trap accumulation, by W C. Imbt. Kentucky: Big Sinking field, Lee county Ky by L. B. Freeman. Louisiana: Stratigraphic traps in University oil field, East Baton Rouge parish, La., by M. T Halbouty Michigan Shoestring gas fields of Michigan, by M. W. Ball and others. Montana: Border-Red Coulee oil field, Toole county Mont., and Alberta, Canada, by C. E. Erdmann and John R. Schwabrow Cut Bank oil and gas field, Glacier county Mont., by J. E. Blixt. Ohio. Lenox sands of Ohio, by E. Y Dawson [illegible] Oklahoma: Davenport field, Lincoln county Okla., by W L. O'Rourke. Oklahoma: Davenport field, Lincoln county Okla., by W L. [illegible] Seminole county Okla., by J. L. [illegible] Creek county Okla., by [illegible] East Tuskegee pool, Creek county Okla., by [illegible] Hughes and Okfuskee counties, Okla., by W R. Dillard. Red Fork Shoestring sand pool, Pawnee, Creek, and Tulsa counties, northeastern Okla., by R. Knight. Pennsylvania: Music Mountain oil pool, McKean county Pa., by C. R. Fettke. Types of stratigraphic oil pools in Venango sands of northwestern Pa., by R. E. Sherrill and others. Texas: Bryson oil field, Jack county Tex., by T C. Hiestand. Cross Cut sand, Hardin field, Brown county Tex., by E D Klinger. Davis sand, Hardin district, Brown county Tex. by S. R. Casey and R. Cantrell. Hardin field, Liberty county Tex. [illegible] Cherokee, Smith, Gregg, Rusk, Upshur counties, Tex., by H. E. Minor and M. A. Hanna. East Texas oil field, Rusk, Cherokee, Smith, Gregg, and Upshur counties, Tex., by H. E. Minor and M. A. Hanna. Hitchcock field, Galveston county Tex., showing stratigraphic accumulation and structure, by M T Halbouty and B. T Simmons. Lopez Bell-Eck oil field, Archer county Tex by K. L Thompson. Lopez oil field, Webb and Duval counties, Tex by J. B. Bost. Rincón oil field, [illegible] O'Hern field, Clark pool, Jones county Tex by [illegible] Duval and Webb counties, Tex., by D Q. Barnett. "Sand belt" area of Ward and Winkler counties, Tex and Lea county New Mex by R. L. Denham and W E. Dougherty Seymour pool, Baylor county Tex., by J. K. Murphy and others. Walnut Bend pool, Cooke county Tex., by W J Hilseweck. West Virginia: Gay-Spencer-Richardson oil and gas trend, Jackson, Roane, and Calhoun counties, West Va., by E. T Heck. Salamon oil pool, Harrison county West V by D B. Reger Wyoming: Osage oil field, Weston county Wyo by C E Dobbin and J. C. Miller. Selected bibliography of articles describing stratigraphic type oil fields, by E. F Tuttle and others. Index.

Note A collection of papers, with charts and diagrams, on the geology of stratigraphic type oil fields in various parts of the United States of America. The work is intended as factual background for further approach to the causes of oil and gas accumulation and as guide to the prospecting and exploitation of future oil fields in the country The extensive bibliography covers 27 pages.

Lozo Frank Edgar, editor

The Woodbine and adjacent strata of the Waco area of central Texas. A symposium edited by Frank E. Lozo with the assistance of Bob F Perkins. Dallas Southern Methodist University Press 1951 183 p. illus. 27 cm. (Fondren science series. No. 4) $7.50 6800

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Muskat Morris

Physical principles of oil production. New York McGraw Hill Book Company Inc., 1949 922 p. illus. 24 cm. (International series in pure and applied physics, G P Harnwell consulting editor) $16.00 6801

Contents: Introduction. The physical properties and behavior of petroleum fluids. The properties of oil-bearing formations pertaining to oil production: core analysis. Basic dynamical equations for homogeneous-fluid-flow systems. Individual well problems in uniform strata with homogeneous-fluid flow. Strata of nonuniform or anisotropic permeability with homogeneous fluid flow. Dynamical foundations for heterogeneous-fluid-flow phenomena. Steady-state heterogeneous-flow systems. the productivity index. General reservoir mechanics. Gas-drive reservoirs. Complete-water-drive reservoirs. Secondary recovery. Condensate reservoirs. Well spacing, recovery factors, and recoverable reserves. Appendices. Index.

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North Dakota Geological Society

Stratigraphy of the Williston Basin Bismarck North Dakota Geological Society 1954 78 p. illus. 28 cm. $5.00. 6802

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Pirson Sylvain Joseph

Elements of oil reservoir engineering. New York McGraw Hill Book Company Inc. 1950 441 p. illus. 23 cm. $8.50 6803

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Porter, Hollis P

Petroleum dictionary for office field and factory Fourth edition. Houston, Tex. The Gulf Publishing Company 1948 326 p. 23 cm. $6.00. 6804

Note. The Interstate Oil Compact Commission, comprising 20 oil and gas producing states, was organized to promote the cause of petroleum conservation. In this book the Commission has provided for laymen and nontechnical employees of the oil industry a simple and concise account of the basic principles and methods of oil and gas production. Emphasis is placed on techniques which result in maximum recovery and minimum waste. The descriptive material is further clarified with numerous charts and illustrations.

KEMLER, EMORY N

Hydraulic pumping, a patent and literature survey of hydraulic pumping of oil wells Spring Park, Minn Summary Reports, 1955 323 p illus 23 cm. $15 00 6794

Contents. Introduction. Hydraulic transmission of energy Single acting systems. Double acting systems. Wave transmission. Surface units. Patents. Bibliography Index by inventors. Patents on bottom hole units. Patents on *hydraulic surface* units. Patents on electric units.

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KINGSTON, BENSON M

Acidizing handbook, a treatise on the application of acid to oil wells Houston Gulf Publishing Company, 1947 116 p illus 21 cm. $3 50 6795

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LALICKER, CECIL GORDON

Principles of petroleum geology New York Appleton Century-Crofts Inc. 1949 377 p illus 24 cm (The Century earth science series Kirtley F Mather editor) $5 00 6796

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Note A useful, well-organized survey of the current knowledge of petroleum geology Outstanding features are the tabulations by region and geological strata of known petroleum deposits, the review of the prevailing theories of the origin and accumulation of petroleum, the detailed descriptions of the features of a considerable number of developed fields, and the thorough outline of discovery methods. Footnote references to related literature are included. The author has assumed that the reader will understand geological concepts and terminology however the presentation is not highly technical.

LANDES, KENNETH KNIGHT

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LEVORSEN, A. I

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LEVORSEN, A. I., AND OTHERS, editors

Stratigraphic type oil fields. Edited by A. I Levorsen assisted by N Wood Bass, north midcontinent states Ross L Heaton Rocky Mountain states W S W Kew California D Perry Olcott south mid-continent states Theron Wasson eastern states. Tulsa The American Association of Petroleum Geologists 1941 902 p illus. 23 cm $5 00 6799

Contents Foreword, by A. I. Levorsen. California Edison oil field and vicinity Kern county Calif., by E. C. Edwards. Kern Front oil field, Kern county Calif., by E. C. Edwards. Colorado Greasewood oil field, Weld county Colo., by C. S Lavington. Kansas Bush City oil field, Anderson county Kans., by H. H Charles. Chanute oil pool, Neosho county Kans.—a water-flooding operation, by W R. Dillard and others. Hugoton gas field, Grant, Haskell, Morton, Stevens, and Seward counties, Kans., and Texas county Okla., by J L. Garlough and G. L. Taylor Nikkel pool, McPherson and Harvey counties, Kans., by A. S. Bunte and L. R. Fortier Wherry pool, Rice county Kans., by H. E. McNeil

[illegible] graphical representations of PVT relationships, and [illegible] bibliography of [illegible] references. The author is on the staff of the [illegible] Research Corporation.

URES, LESTER CHARLES
Petroleum production engineering—oil field development. Fourth edition. New York McGraw Hill Book Company 1956. 792 p. illus. 24 cm. $12.50. 6811

Contents: Properties and occurrence of petroleum in nature. Practices of oil-field development. Drilling equipment and methods—general features. Drilling equipment—supporting structures. Cable-drilling equipment and methods. Rotary drilling—power equipment and [illegible]. Rotary-drilling equipment. Rotary drilling—the circulating system and its control. Rotary-drilling practice. Rotary drilling—special methods and equipment. Casing, casing design, casing methods, and casing equipment. Exclusion of water from wells. Fishing tools and methods. Well-logging methods and records. Well-surveying methods—range and methods. Well sampling—inspection of formation samples. Well-completion methods. Name index. Subject index.

Note: A standard engineering college textbook originally developed in the author's classes at the University of California. It [illegible] work to two other volumes written by the author and also designed primarily for college instruction, *Oil field exploitation*, 2nd ed., New York, 1953 and *Petroleum production economics*, New York, 1954. However, it may be said to stand independently. It presents [illegible] broad and fairly detailed picture of present-day techniques of drilling oil wells and conditioning them for the production of petroleum. The various techniques of well logging are described compactly and references to additional literature are supplied for all of them. The same is true for methods of completing wells. Extensive, well-selected literature lists are special features of this edition. Inclusion of [illegible] name index to the cited literature adds to its value as [illegible] reference book for graduate engineers. In comparison to the third edition, the book has been reorganized somewhat, revised to cover recent developments and literature, and provided with new indexes.

ZABA, JOSEPH AND W T DOHERTY
Practical petroleum engineers handbook. Fourth edition, revised and enlarged. Houston, Texas Gulf Publishing Company 1956. 818 p. illus. 23 cm. $14.00. 6812

Contents: General engineering data. Design. Prime movers, power transmission, compressors. Tubular goods. Drilling. Production. Transportation. Index.

Note: A reference book for operators, engineers, superintendents, foremen, and others engaged in petroleum production. It contains mainly of charts, tables, formulas, and other engineering data relating to the design of derricks, working pressures, connecting equipment, [illegible] and fire extinguishers, pump data, and pipelines. No attempt [illegible] made to deal with the chemistry and refining of petroleum. The third edition was published in 1949. Various sections and tabulations were revised and 141 pages of matter added in the fourth edition.

GEOPHYSICAL PROSPECTING

DIX, C HEWITT
Seismic prospecting for oil. New York Harper & Brothers 1952 414 p. 21 cm. (Harper's geoscience series Carey Croneis, editor) $8.00 6813

Contents: Introduction and general orientation. Summary of exploration methods commonly used. Summary of seismic methods currently used. Routine seismic crew operation—cost reduction. Efficient exploration programs. Routine philosophy. Basic technical tools. Datum corrections. Velocity measurements. Depth and dip computations. Strike-dip determinations. Presentation of results. Interpretations. Picking reflections. Refraction prospecting. Line refraction work. The physical processes involved. Basic physics reviewed. Propagation of seismic pulses. Recording. Bibliography. Index.

Note: Scientific knowledge and practical know-how have been expertly coalesced in this work. Although other methods are described, most of the space [illegible] devoted to seismic prospecting by the reflection method. Field techniques are described, but the main emphasis [illegible] on the interpretation of the records of the field work. No previous acquaintance [illegible] with seismic prospecting has been assumed. However, there is much in the book that is of interest to persons [illegible] considerable experience [illegible] with seismic prospecting. An unusual feature is the inclusion of mathematical lemmas and computations on the illustrations themselves. This makes [illegible] substantial part [illegible] the work available to readers [illegible] who do not know English. A comprehensive bibliography is included.

DOBRIN, MILTON BURNETT
Introduction to geophysical prospecting. New York McGraw Hill Book Company Inc. 1952 435 p. illus. 24 cm. $8.00 6814

Contents: General introduction. Gravity prospecting—fundamental physical principles. The earth [illegible] gravity and the concept of isostasy. Instruments for measurement of gravity. Gravity field measurements and reductions. The interpretation of gravity data. Magnetic prospecting—fundamental principles and instruments. The magnetism of the earth. Magnetic field measurements and their interpretation. Prospecting [illegible] the air-borne magnetometer. Basic physical principles of seismic [illegible] propagation. Earthquakes and the earth's internal constitution. Seismic instruments and the organization of seismic surveys. The seismic refraction method. The seismic reflection method. Electrical prospecting methods. Prospecting for radioactive minerals. Integration of geophysical methods as illustrated by case histories. Geophysical well-logging methods. Radio position location for geophysical surveys. Current research in geophysical exploration and the relation of geophysics to industry. Index.

Note: Current techniques in geophysical prospecting for petroleum and minerals are described in this book for advanced students in geology and mining engineering and for graduate engineers in these fields [illegible] find themselves in need of an introductory survey. Even though the work [illegible] an introduction, [illegible] the range of material is unfolded on scientific principles, instruments, methods of making observations and of interpreting them for the various established geophysical techniques. In addition, literature references to more extended treatments of particular phases are furnished. The author is Senior Research Technologist on the staff of the Magnolia Petroleum Company.

MOONEY, HAROLD M., AND W W WETZEL
The potentials about a point electrode and apparent resistivity curves for a two- three- and four layered earth. Minneapolis The University of Minnesota Press, 1956 146 p. illus. 23 cm. $4.50 set of master resistivity curves, $15.00 both, $18.00. 6815

Contents: Use of the tables and curves. Mathematical basis for the tables and curves. Tables. Bibliography.

Note: This work pertains to the geophysical technique of measuring the electrical resistance of buried soil and rock as [illegible] means of determining geologic structure. Essentially it consists of [illegible] separately packaged set of "Master Resistivity Curves" for "2 two-layer horizontal structures, 150 three-layered horizontal structures, and 1,000 four-layered cases [illegible] table of coefficients for use in numerical evaluation of the integral [illegible] and tables of the potential function [illegible]. The tables make it possible to compute apparent resistivity curves for any electrode arrangement, the master curves greatly simplify most such calculations. The set is of interest to geologists and specialists in geophysics.

NETTLETON LEWIS LOMAX, editor
Geophysical case histories. Volume I—1948. A collection of 60 papers by 61 authors assembled from papers published by the Society of Exploration Geophysicists, The American Association of Petroleum Geologists, and The American Institute of Mining and Metallurgical Engineers together with much new material. Tulsa, Okla. Society of Exploration Geophysicists, 1949 671 p. illus. 25 cm. $7.00. 6816

Note. A reference book written by an engineer who spent many years of his professional career in the petroleum industry. It covers the practical technical terms of the industry including terms from geology, chemistry, mechanics, electrical engineering, etc. commonly found in petroleum literature used in the petroleum industry. It includes some of the jargon such as "Christmas tree," but little of the slang. Definitions are expressed in technical terms. Approximately 3600 words and phrases are defined in this fourth edition, the last one completed by the author before his death.

PRATT, WALLACE EVERETT, AND DOROTHY GOOD, editors

World geography of petroleum. Princeton Published for the American Geographical Society by Princeton University Press, 1950 464 p illus 26 cm $9 00 6805

Contents (abridged) Part I, Petroleum in the ground, by E. Stebinger. Part II, The functional organization of the petroleum industry by W. B. Heroy. Part III, The world's petroleum regions. The Western hemisphere: The Caribbean area as a whole, by W. E. Pratt. Venezuela, by G. Zuloaga. Trinidad, by A. J. Frede. Mexico, by O. B. Knight. Colombia, by G. Barrow. North America, by A. I. Levorsen. The Eastern hemisphere: The Middle East as a whole, by G. M. Lees. Saudi Arabia and Bahrein, by M. Steineke and M. P. Yackel. The Union of Soviet Socialist Republics, by E. Stebinger. Europe west of the U. S. S. R., by L. C. Reed. Indonesia, British Borneo, and Burma, by L. Sweunis. The world as a whole. Petroleum in the polar areas, by W. E. Pratt. Petroleum on the continental shelves, by W. E. Pratt. Part IV. Aspects of utilization: The availability of petroleum—today and tomorrow, by K. F. Mather. Geographical aspects of petroleum use in World War II, by the Office of the Army-Navy Petroleum Board of the Joint Chiefs of Staff. World patterns of civilian utilization, by J. W. Frey. A statistical survey, by A. Van Burkalow. Appendix. Bibliography. Abbreviations. Note on glossaries. Conversion factors. Index.

Note. In this work, geography, petroleum geology, economics, and utilization have been combined in a successful synthesis. The result is an important background book that reads as easily as any standard work on economic geography and is suitable for both geographers and general readers. Original maps and much other reference material is included.

RISTER, CARL COKE

Oil! Titan of the Southwest. Norman University of Oklahoma Press 1949 467 p illus 24 cm $6 95 6806

Contents: Foreword, by E. DeGolyer. Texas' oil-spring era. The Red Man's hidden wealth. From Paola to Neodesha, Kansas. Corsicana, the curtain raiser. Queen of the Neches. Exploiting other salt domes. Red Fork, Cleveland, and Glenn pool. Louisiana in the news. Exploring the Red River uplift. Oklahoma steals the show. The Ranger oil boom. Desdemona and Breckenridge. Along the Mexia fault zone. Competition in oil. An Osage Monte Carlo. Arkansas' El Dorado. Texas forges ahead. Greater Seminole. Oklahoma City's bonanza field. Panhandle oil and gas. Permian basin discoveries. Fabulous East Texas. Finding new horizons. Oil at war. Oil conservation and control. An era of specialization. The impacts of petroleum. Appendix. Glossary. Bibliography. Index.

Note. A well-documented history of the petroleum industry in the southwestern United States of America from its beginnings. In addition to historical descriptions the author gives much information about the financial and economic aspects. The names of individuals and companies connected with the development occur frequently. Many interesting illustrations are included.

ROGERS, WALTER FRANCIS

Composition and properties of oil well drilling fluids. Houston Gulf Publishing Company 1948 525 p illus. 23 cm $10 00 6807

Contents. Introduction to drilling fluids. Drilling equipment and the drilling fluid. Testing equipment, methods and procedure. Specifications for drilling fluid materials. Charts and tables, mud weights and volumes. Mining and manufacture of bentonites, clays and weighting agents. Rheological and wall building properties of drilling fluids. Composition and properties of bentonite and clays. Viscosity reducing agents. Water-clay muds. Salt solutions, starch and gum muds. Oil-base muds. Sodium silicate muds. Prevention of lost circulation. Patent literature abstract. Bibliography. Author index. Subject index.

Note. A useful and authoritative summary of the theoretical and the practical knowledge pertaining to fluids and muds used in the drilling of oil wells. It is intended for young engineers who are just beginning to work in the field, and the author warns in the preface that it probably contains nothing which will be new to the expert. Nevertheless, there is a considerable amount of information which the engineer already experienced in the subject will find useful for reference. This includes fundamental data presented in graphs and tables, the lists of cited literature, and the descriptions of pertinent United States of America patents. The author is associated with the Houston Chemical Laboratory of the Gulf Oil Companies.

RUSSELL, WILLIAM L

Structural geology for petroleum geologists. New York McGraw Hill Book Company, Inc., 1955 427 p illus. 24 cm $7 75 6808

Contents. Introduction. Maps and cross sections. Physical principles and model studies. Folds. Faults. Joints and fractures. Unconformities. Salt domes. Buried hills and compaction. Sedimentary structures. Structural significance of lithology. Regional structures. Superficial structures. Structure of continental shelves. Dating structural events. Classification of traps for oil and gas accumulation. Structural factors in petroleum prospecting. Laboratory problems. Index.

Note. A complementary work to the author's *Principles of petroleum Geology* New York, 1951. It deals comprehensively and specifically with those aspects of structural geology which are of interest to petroleum geologists. Appropriately, the main emphasis is on topics which are directly related to oil finding; however some tangential matter is included too, for instance a discussion of the manner of deposition of sediments. The main topics are covered in considerable detail. Furthermore, their importance is usually pointed out in such statements as, "... It is generally recognized that open joints and fractures, when they occur in productive petroleum reservoirs, are extremely important in both petroleum geology and petroleum engineering." Extensive bibliographies are included in most chapters, and the names of the authors of the listed literature are included in the index.

SHAW, SILAS FREDERICK

Gas-lift principles and practices. Houston Gulf Publishing Company, 1939 156 p illus. 22 cm. $4 00 6809

Contents. History and invention. General principles controlling gas-lift operations. Lifting efficiency. Lift and submergence. Pressure. The eductor. Straight, or continuous gas-lift. Combination gas-lift flow. Intermittent gas-lift flow. Compressor plant installations. Gas-lift practices in various fields. Gas-lift practice in Seminole. Gas-lift practice in Oklahoma City, Oklahoma. Gas-lift practice in various fields and countries.

Note. In this technical work, the history and development of the process is discussed, and the fundamental principles that control the operation of the lift are emphasized. Data obtained from operations in the United States of America are presented. References are given at the end of most chapters. Diagrams and illustrations of the equipment are included.

STANDING, MARSHALL BURTON

Volumetric and phase behavior of oil field hydrocarbon systems New York Reinhold Publishing Corporation 1952 123 p illus. 29 cm. $10 00 6810

Contents. Introductory phase behavior and fluid flow concepts. Sampling methods and apparatus. Behavior of gases. Behavior of liquids. Vapor-liquid equilibria. Gas-condensate systems. Dissolved gas systems. Material balances. Glossary relating to hydrocarbon behavior. List of symbols. References. Appendix. General correlations of hydrocarbon behavior. Index.

Note. Pressure-volume-temperature relations of the hydrocarbon systems actually found in underground oil and gas reservoirs are covered in this book which was addressed not to chemists or other laboratory service but to petroleum engineers and geologists. The applications of laboratory tests to field conditions are the main theme. Problems such as good procedures in sampling are thoroughly discussed. There are 35 tables, 69 figures, practically all of which

Mining Engineering

Various Minerals

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on lime. Philadelphia American Society for Testing Materials 1940 118 p. illus. 23 cm. $1.00. 6822

Contents Lime investigations—an introduction to the symposium on lime, by J. R. Withrow. Variations in properties of dolomitic lime putties with methods of hydration, by J. E. Conley. The hydration of magnesian lime and the autoclave test, by F. C. Welch. Manufacturing lime for the glass industry, by A. H. Nuzum. Factors affecting milks of lime employed in industry, by D. R. Kaufmann. Quality of lime desired for water treatment, by C. P. Hoover. Prevention of after-precipitation in lime-treated industrial and municipal waters by threshold treatment, by O. Rice and others. Soil acidity and liming, by E. O. Fippen. Criteria for evaluation of agricultural ground limestone, by R. M. Salter and C. J. Schollenberger. Preliminary investigation of the determination of fineness in lime, by C. J. Koehler. Fundamental mechanics of calcination and hydration of lime and methods of control, by V. J. Azbe. Lime characteristics and their effect on construction, by W. C. Voss.

Note An extensive bibliography is given in Fippin's paper on soil acidity and liming and two other papers give short reference lists. The critical discussions following most of the papers contain further information on the subject.

BOERICKE, WILLIAM FAY

Prospecting and operating small gold placers. Second edition. New York John Wiley & Sons, Inc., 1936 144 p. illus. 19 cm. $4.25. 6823

Contents Introduction. How placer deposits have been formed. Examining placer ground, hints on prospecting. Panning, [illegible] estimating the values of [illegible] of gold and black sands. General information. The rocker its construction and operation. The long-Tom. Types of sluicing. Sluice-box construction the long-Tom. Cleaning-up recovery [illegible]. Methods of working placer ground. Under-currents and similar devices of fine gold from black sands, [illegible] amalgamation, [illegible]. Dry Use of mercury in placer mining, amalgamation. [illegible] mining claims placers. Placer mining machines. Location of placer mining claims. Bibliography [illegible], sale of placer gold, valuing placer property. Bibliography Appendix. Index.

Note Valuable information for the amateur as well as the more experienced placer miner. This second edition contains a number of important changes, chief among them being the reduction of all statements as to the value of gravel and gold quotations in terms of weight. The chapter [illegible] stated content in terms of weight. The chapter on placer mining machines has been entirely rewritten with much material added, and descriptions of few recent machines that have demonstrated their merit in the field are included. Diagrams and photographs are used liberally.

BUGBEE, EDWARD EVERETT

A textbook of fire assaying. Third edition. New York John Wiley & Sons, Inc., 1940. 314 p. illus. 23 cm. $6.25 6824

Contents Assay reagents and fusion products. Furnaces and furnace room supplies. Ore sampling. Balances and weights. Cupellation. Parting. The scorification assay. The crucible assay. The assay of complex ores and special methods. Sampling and assaying of bullion. The assay of solutions. The lead assay. The assay of ores and products containing metals of the platinum group. Practical assaying. Index.

Note The information in this book can be readily understood by the commercial assayer. The book starts with the fundamentals and the chemistry of all the reactions involved is clearly explained. The various sampling procedures for all types of precious metal ores and low-grade metallurgical products are described, together with standard practice for sampling and assaying all grades of gold and silver bullion. The third edition contains information as of 1940 with respect to the apparatus and reagents available for the assayer. Results of recent research, numerous new and special procedures for the assay of less common, but important ore mineral combinations and metallurgical products, data on the assay of metals of the platinum group, and new chapter on practical assaying are included also.

CAMERON, EUGENE N, AND OTHERS

Pegmatite investigations 1942–45 in New England. This report is based on work done jointly by Eugene N Cameron David M Larrabee, Andrew H McNair James J Page Glenn W Stewart, and Vincent E. Shainin. Washington D C. Government Printing Office, 1954 352 p. illus. (part col d) 29 cm (United States. Geological Survey Professional paper 255) $5 75 6825

Contents Introduction. Geologic setting of the deposits. Pegmatites. Mica deposits. Feldspar deposits. Beryl deposits. Descriptions of mines and prospects Maine. New Hampshire. Vermont. Connecticut. Bibliography Index.

Note The manufacture of [illegible] of equipment created shortages of mica, beryl, tantalite, and other pegmatite minerals early in World War II. The United States Geological Survey, under the sponsorship of the War Production Board, made an intensive study of New England pegmatite deposits beginning in 1942 and continuing into 1945. More than 300 pegmatite areas were mapped in detail and many others were given briefer examinations. Although the studies were chiefly concerned with mica and beryl pegmatites, much information on the occurrence of commercial deposits of feldspar and other pegmatite materials also is obtained. In the report resulting from these studies, the characteristics of the pegmatite mineral deposits of New England are discussed, and applications to mining, development and exploration are indicated. About five-sixths of the text is devoted to descriptions of individual mines and prospects. In addition to 119 maps, sections, and other illustrations in the text, there are 44 folding maps, plans, and sections in pocket.

FISCHER ELIZABETH C.

Annotated bibliography of the bauxite deposits of the world. Washington D C. Government Printing Office 1955 221 p. illus. 23 cm. (United States. Geological Survey Bulletin 999) $1.00 6826

Contents Introduction. Serials. Bibliography Index. Plate (folded, in pocket) Map showing the location of the principal bauxite districts of the world.

Note An annotated bibliography of more than 1,000 references on bauxite deposits of the world, with particular reference to their origin, mineralogy, stratigraphic position, physiographic setting, reserves, and production, dated through the year 1950. The entries are arranged alphabetically by author and the index provides both subject and geographical approach to the contents. The titles of the articles are given in the language of the original, but the annotations are written in English. Papers dealing with the technical aspects of the mining, processing, and uses of bauxite and those dealing with aluminum metal were not included unless they contain also information concerning the location, geology and mineralogy or reserves of the deposits.

GRIFFITTS W R. AND OTHERS

Mica deposits of the southeastern Piedmont, parts 1–11 This volume was printed as separate chapters, A–G inclusive based on investigations by W R. Griffitts, E. W Heinrich R. H. Jahns M. R. Klepper R. W Lemke, and J C. Olson. Washington, D C. Government Printing Office 1953 illus. 29 cm. (United States. Geological Survey Professional papers 248 A–G) Part A, $1.25 part B $0.60 part C, $1 75 part D $1.25 part E, $0.50 part F $1.50 part G $0 75 6827

Contents (abridged) Part i, General features, by R. H. Jahns and others. Part ii, Amelia district, Virginia, by R. W. Lemke and others. Part iii, Ridgeway-Sandy Ridge district, Virginia and North

—— Volume II—1956 A collection of 53 papers by 75 authors, assembled from papers published by the Society and the American Association of Petroleum Geologists, together with mostly new material. Edited by Paul L. Lyons Tulsa, Okla. Society of Exploration Geophysicists, 1956 676 p illus. 25 cm $7 00 6816A

Note. The purpose of the case history program of the Society of Exploration Geophysicists is to provide material by which geophysical surveys can be judged in the light of later development of the surveyed area as an aid in the interpretation and evaluation of other geophysical work. The papers published in these volumes deal mainly with the preliminary geophysical reconnaissance of various oil fields. They are concerned primarily with geophysics rather than geology but geological factors are given varying attention in the articles, ranging from none to considerable, depending upon the individual author. The authors presumed that the books' readers would have an understanding of the general principles and instrumentation by which seismic, gravity and magnetic surveys are carried out.

NETTLETON, LEWIS LOMAX

Geophysical prospecting for oil New York McGraw Hill Book Company, Inc., 1940 444 p illus. 23 cm $8 00 6817

Contents Part I, Gravitational methods. Fundamental principles and units. Gravity of the earth. Direct gravity-measuring instruments. The reduction of gravity measurements. The Eotvos torsion balance. Gravity calculations and interpretation. Isostasy Appendix I. Tables of normal gravity Gravity terrain correction charts and tables. Part II, Magnetic method Fundamental principles and units. Magnetism of the earth. Geomagnetic measuring instruments. Reduction of magnetometer observations. Magnetic calculations and interpretation. Part III, Seismic methods Fundamental principles. Theory of refraction shooting. Reflection shooting. The reduction of seismic observations. Seismic apparatus. Seismic field operations and interpretation. Appendix Derivation of equations for equal time circles. Part IV Electrical and miscellaneous methods and measurements in drill holes. Electrical prospecting methods. Electrical well logging. Miscellaneous prospecting methods and operations in wells. Part V Geophysical interpretation Geophysical interpretation.

Note. The purpose of this book is to provide in a single volume a connected presentation of the principles and practice of moder oil prospecting by geophysical methods. Particular care has been taken to explain clearly the necessary procedures for reducing field measurements to usable form.

SOCIETY OF EXPLORATION GEOPHYSICISTS

Cumulative index of the publications of the Society of Exploration Geophysicists Tulsa, Okla. The Society of Exploration Geophysicists 1948 127 p 24 cm. $2 50 6818

Contents Editorial note. Publications of the Society of Exploration Geophysicists. Officers of the Society of Exploration Geophysicists. Technical and editorial index—By authors—Index by subjects—Exploration General—Seismographic—Gravimetric—Magnetic—Electrical—Geochemical—Well measurements—Case histories—Miscellaneous—Reviews and new publications. Society round table section. Cumulative index of contents by volumes and numbers. Index of patent abstracts.

Note. A record of the literature published 1931 1947 by The Society of Exploration Geophysicists on the subject of geophysical prospecting. The present listing supersedes the previous one of 1940 which contained neither the index of patents nor the classification by subject. The volume has been published for the convenience of geologists and geophysicists—particularly those engaged in the search for new deposits of petroleum.

SOCIETY OF EXPLORATION GEOPHYSICISTS

Early geophysical papers of the Society of Exploration Geophysicists. Papers presented at meetings of the Society of Petroleum Geophysicists 1929 through 1935 reprinted from *Physics* and *Bulletin of the American Association of Petroleum Geologists* and *Journal of the Society of Petroleum Geophysicists.* Tulsa, Okla. Society of Exploration Geophysicists 1947 844 p illus 24 cm. $8 00 6819

Note. The chief motive for compiling this volume was to make available to new members of the Society papers that had been published elsewhere before the appearance of the first issue of the Society's *Geophysics.* Fifty-seven papers have been collected and reprinted without apparent change. Since many of the papers describe techniques or contain data that are still useful, the volume is one that should be added generally to library collections on geophysical exploration.

WYLLIE, M R J

The fundamentals of electric log interpretation New York Academic Press, Inc., 1954 126 p. illus. 21 cm. $4 50 6820

Contents (abridged) The theory of quantitative log interpretation. The practice of quantitative log interpretation. Selected bibliography Appendix Summary of logging techniques and their applications. Index.

Note. Electric logging in the sense in which the term is used in this book refers to group of techniques for the measurement of electrical resistances of rock formations and of electric potentials between adjacent formations. The measurements are made by specialized instruments lowered into the bore-holes of wells drilled to find oil and gas, and the interpretation of the log or record requires knowledge of electrical principles, and especially knowledge of the behavior of electric currents in rocks, water, drilling mud, etc. This book is a basic introduction. Log interpretation is covered as to fundamentals and common details, and the various developed systems of electric logging are described in reference to their applications, limitations and the necessary precautions in interpreting the logs produced by them.

VARIOUS MINERALS

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS

Coal preparation. Edited by David R. Mitchell Sponsored by the Seely W Mudd Memorial Fund. Second edition. New York The Institute 1950 830 p. illus. 23 cm. $8.00 6821

Contents. Economics of coal preparation, by J B. Morrow and D H. Davis. Characteristics of coal and its associated impurities, by H. F Yancey and others. Sampling, by T W Guy and R. E. Zimmerman. Use specifications for coal, by J R. Kerrick and others. Screening, by T Fraser and J S. Johnson. Breaking and crushing, by C. S. Jenkins and H. W Riley Preparation at the face, by J D Conner and M. H. Forester Hand picking, by D. H. Davis. Principles of gravity concentration, by B. D Thomas. Coal washers of the classifier type, by J Griffen. Launder washers, by C. P Proctor and J T Crawford. Jigs, by B. M. Bird and D. R. Mitchell. Concentrating tables, by E. W Gandrud. Dense-media processes, by B. M. Bird and D. R. Mitchell. Pneumatic coal cleaning, by E. C. Curtis and D R. Mitchell. Flotation, by R. E. Zimmerman. Miscellaneous processes, by D R. Mitchell and R. B. Hewes. Slurries, sludges, slimes and water treatment, by F P Hewes. Dewatering and thermal drying, by O R. Lancaster and others. Dedusting and dust collection, by T L. Garwood and F C. Lyons. Treatment of coal surfaces, by R. A. Sherman and J. M. Mark. Plant control and efficiencies, by R. E. Zimmerman. Loading, by D R. Mitchell and T Fraser. Index.

Note. A comprehensive treatise on the processing of coal from the time it is separated from the earth seam to its loading for delivery to the consumer. The book is useful to advanced students of mining engineering who are preparing for the coal industry and to men actively engaged in this industry. Many illustrations of equipment and many tables of data supplement the discussions. In the present edition, two entirely new papers have been substituted for two papers that appeared in the original edition published in 1943. Most of the other papers have been revised somewhat, and about half a dozen of them have been revised extensively. Some, but not all, of the bibliographies have been brought down to date.

Mining Engineering

Various Minerals

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on lime. Philadelphia American Society for Testing Materials 1940 118 p. illus. 23 cm. $1.00. 6822

Contents: Lime [illegible]—an introduction to the symposium on lime, by J. R. Withrow. Variations in properties of domestic lime putties with methods of hydration, by J. E. Conley. The hydration of magnesian lime and the autoclave test, by F. C. Welch. Manufacturing lime for the glass industry, by A. M. [illegible]. Factors affecting [illegible] of lime employed in industry, by D. [illegible]. Quality of lime desired for water treatment, by C. E. Washburn. Prevention of after-precipitation in lime-treated industrial and municipal waters by threshold treatment, by O. [illegible]. Criteria for soil acidity and liming, by E. O. Fippin. [illegible] by R. M. Salter and others. [illegible] of agricultural ground limestone, by [illegible]. Preliminary investigation of the determination of [illegible] C. J. Schollenberger. [illegible] in lime, by C. J. Koehler. Fundamental mechanics of [illegible] and hydration of lime and methods of control, by [illegible]. Lime characteristics and their effect on construction, by [illegible].

Note: An extensive bibliography is given in Fippin's paper on soil acidity and liming and two other papers give short reference lists. The critical discussions following most of the papers contain further information on the subject.

BOERICKE, WILLIAM FAY

Prospecting and operating small gold placers. Second edition. New York John Wiley & Sons, Inc., 1936 144 p. illus. 19 cm. $4.25. 6823

Contents: Introduction. How placer deposits have been formed. [illegible] placer ground, hints on prospecting. [illegible] the value of [illegible] of gold and black sands, estimating the value of [illegible]. General information. The rocker: its construction and operation. The long-Tom. Types of [illegible] construction. [illegible] Methods of working placer ground. Cleaning-up, recovery of fine gold from black sands, under-currents and similar devices. [illegible] Use of mercury in placer mining, amalgamation, retorting. Dry [illegible] Placer mining machines. Location of placer mining claims, [illegible] of placer gold, [illegible] placer property. Bibliography. Appendix. Index.

Note: Valuable information for the amateur as well as the more experienced placer miner. The second edition contains a number of important changes, chief among them being the revision of all statements as to the value of gravel and gold [illegible] of weight. The chapter [illegible] has been entirely rewritten with much [illegible] on placer mining machines has been entirely rewritten with much material added, and descriptions of [illegible] few recent machines that have demonstrated their worth in the field are included. Diagrams and photographs are used liberally.

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A textbook of fire assaying. Third edition. New York John Wiley & Sons, Inc., 1940 314 p. illus. 23 cm. $6.25 6824

Contents: Assay reagents and fusion products. Furnaces and furnace room supplies. Ore sampling. Balances and weights. Cupellation. Parting. The scorification assay. The crucible assay. The assay of complex ores and special methods. Sampling and assaying of bullion. The assay of [illegible]. The lead assay. The assay of ores and products containing metals of the platinum group. Practical assaying. Index.

Note: The information in this book can be readily understood by the commercial assayer. The book starts with the fundamentals and the chemistry of all the reactions involved is clearly explained. The various assaying procedures for all types of precious metal ores and low-grade metallurgical products are described, together with standard practice for sampling and assaying all grades of gold and silver bullion. The third edition contains information as of 1940 with respect to the apparatus and reagents available for the assayer. Results of recent research, [illegible] new and special procedures for the assay of [illegible], but important [illegible] unusual combinations and metallurgical products, data on the assay of metals of the platinum group, and [illegible] new chapter on practical assaying are included also.

CAMERON, EUGENE N., AND OTHERS

Pegmatite investigations, 1942–45 in New England. This report is based on work done jointly by Eugene N. Cameron, David M. Larrabee, Andrew H. McNair, James J. Page, Glenn W. Stewart, and Vincent E. Shainin. Washington D. C. Government Printing Office 1954 352 p. illus. (part col d) 29 cm. (United States. Geological Survey Professional paper 255) $5 75 6825

Contents: Introduction. Geologic setting of the deposits. Pegmatites. Mica deposits. Feldspar deposits. Beryl deposits. Descriptions of mines and prospects: Maine, New Hampshire, Vermont, Connecticut. Bibliography. Index.

Note: The manufacture of [illegible] equipment created shortages of mica, beryl, tantalite, and other pegmatite minerals early in World War II. The United States Geological Survey, under the sponsorship of the War Production Board, made an intensive study of New England pegmatite deposits beginning in 1942 and continuing into 1945. More than 300 pegmatite areas were mapped in detail and many others were given briefer examinations. Although the studies were chiefly concerned with mica and beryl pegmatites, much information on the occurrence of commercial deposits of feldspar and other pegmatite minerals was also obtained. In the report resulting from these studies, the characteristics of the pegmatite mineral deposits of New England are discussed, and applications to mining, development and exploration are indicated. About five-sixths of the text is devoted to descriptions of individual mines and prospects. In addition to 159 maps, sections, and other illustrations in the text, there are 43 folding maps, plates, and sections in a pocket.

FISCHER, ELIZABETH C

Annotated bibliography of the bauxite deposits of the world. Washington, D. C. Government Printing Office, 1955 221 p. illus. 23 cm. (United States. Geological Survey Bulletin 999) $1.00 6826

Contents: Introduction. Serials. Bibliography. Index. Plate (folded, in pocket): Map showing the location of the principal bauxite districts of the world.

Note: An annotated bibliography of more than 1,000 references on bauxite deposits of the world, with particular reference to their origin, mineralogy, stratigraphic position, physiographic setting, reserves, and production, dated through the year 1950. The entries are arranged alphabetically by author, and the index provides both subject and geographical approach to the contents. The titles of the articles are given in the language of the original, but the annotations are written in English. Papers dealing with the technical aspects of the mining, processing, and uses of bauxite and those dealing with aluminum metal were not included unless they contain also information concerning the location, geology and mineralogy or reserves of the deposits.

GRIFFITTS W. R. AND OTHERS

Mica deposits of the southeastern Piedmont, parts 1–11. This volume was printed as separate chapters A–G inclusive, based on investigations by W. R. Griffitts, E. W. Heinrich, R. H. Jahns, M. R. Klepper, R. W. Lemke, and J. C. Olson. Washington, D. C. Government Printing Office 1953 illus. 29 cm. (United States. Geological Survey Professional papers 248 A–G) Part A, $1.25 part B $0.60 part C, $1 75 part D $1.25 part E, $0.50 part F $1.50 part G $0.75 6827

Contents (abridged): Part 1, General features, by R. H. Jahns and others. Part 11, Amelia district, Virginia, by R. W. Lemke and others. Part 111, Ridgeway-Sandy Ridge district, Virginia and North

—— Volume II—1956 A collection of 53 papers by 75 authors, assembled from papers published by the Society and the American Association of Petroleum Geologists, together with mostly new material. Edited by Paul L Lyons Tulsa, Okla. Society of Exploration Geophysicists, 1956 676 p illus. 25 cm. $7 00 6816A

Note. The purpose of the case history program of the Society of Exploration Geophysicists is to provide material by which geophysical surveys can be judged in the light of later development of the surveyed area as an aid in the interpretation and evaluation of other geophysical work. The papers published in these volumes deal mainly with the preliminary geophysical reconnaissance of various oil fields. They are concerned primarily with geophysics rather than geology but geological factors are given varying attention in the articles, ranging from none to considerable, depending upon the individual author The authors presumed that the books' readers would have an understanding of the general principles and instrumentation by which seismic, gravity and magnetic surveys are carried out.

NETTLETON, LEWIS LOMAX

Geophysical prospecting for oil New York McGraw Hill Book Company, Inc., 1940 444 p illus. 23 cm. $8 00 6817

Contents. Part I, Gravitational methods Fundamental principles and units. Gravity of the earth. Direct gravity-measuring instruments. The reduction of gravity measurements. The Eotvos torsion balance. Gravity calculations and interpretation. Isostasy Appendix I. Tables of normal gravity Gravity terrain correction charts and tables. Part II, Magnetic method Fundamental principles and units. Magnetism of the earth. Geomagnetic measuring instruments. Reduction of magnetometer observations. Magnetic calculations and interpretation. Part III, Seismic methods Fundamental principles. Theory of refraction shooting. Reflection shooting. The reduction of seismic observations. Seismic apparatus. Seismic field operations and interpretation. Appendix Derivation of equations for equal time circles. Part IV Electrical and miscellaneous methods and measurements in drill holes. Electrical prospecting methods. Electrical well logging. Miscellaneous prospecting methods and operations in wells. Part V Geophysical interpretation Geophysical interpretation.

Note. The purpose of this book is to provide in a single volume connected presentation of the principles and practice of modern oil prospecting by geophysical methods. Particular care has been taken to explain clearly the necessary procedures for reducing field measurements to usable form.

SOCIETY OF EXPLORATION GEOPHYSICISTS

Cumulative index of the publications of the Society of Exploration Geophysicists Tulsa, Okla. The Society of Exploration Geophysicists 1948 127 p 24 cm. $2 50 6818

Contents Editorial note. Publications of the Society of Exploration Geophysicists. Officers of the Society of Exploration Geophysicists. Technical and editorial index—By authors—Index by subjects—Exploration, General—Seismographic—Gravimetric—Magnetic—Electrical—Geochemical—Well measurements—Case histories—Miscellaneous—Reviews and new publications. Society round table section Cumulative index of contents by volumes and numbers. Index of patent abstracts.

Note. A record of the literature published 1931 1947 by The Society of Exploration Geophysicists on the subject of geophysical prospecting. The present listing supersedes the previous one of 1940 which contained neither the index of patents nor the classification by subject. The volume has been published for the convenience of geologists and geophysicists—particularly those engaged in the search for new deposits of petroleum.

SOCIETY OF EXPLORATION GEOPHYSICISTS

Early geophysical papers of the Society of Exploration Geophysicists. Papers presented at meetings of the Society of Petroleum Geophysicists 1929 through 1935, reprinted from Physics and Bulletin of the American Association of Petroleum Geologists, and Journal of the Society of Petroleum Geophysicists. Tulsa, Okla. Society of Exploration Geophysicists 1947 844 p. illus 24 cm. $8 00. 6819

Note. The chief motive for compiling this volume was to make available to new members of the Society papers that had been published elsewhere before the appearance of the first issue of the Society's *Geophysics*. Fifty-seven papers have been collected and reprinted without apparent change. Since many of the papers describe techniques or contain data that are still useful, the volume is one that should be added generally to library collections on geophysical exploration.

WYLLIE, M R. J

The fundamentals of electric log interpretation. New York Academic Press, Inc., 1954 126 p illus 21 cm $4 50 6820

Contents (abridged) The theory of quantitative log interpretation. The practice of quantitative log interpretation. Selected bibliography Appendix Summary of logging techniques and their applications. Index.

Note: Electric logging in the sense in which the term is used in this book refers to a group of techniques for the measurement of electrical resistances of rock formations and of electric potentials between adjacent formations. The measurements are made by specialized instruments lowered into the bore-holes of wells drilled to find oil and gas and the interpretation of the log or record requires knowledge of electrical principles, and especially knowledge of the behavior of electric currents in rocks, water drilling mud, etc. This book is a basic introduction. Log interpretation is covered as to fundamentals and common details, and the various developed systems of electric logging are described in reference to their applications, limitations and the necessary precautions in interpreting the logs produced by them.

VARIOUS MINERALS

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS

Coal preparation. Edited by David R. Mitchell. Sponsored by the Seely W Mudd Memorial Fund. Second edition New York The Institute, 1950 830 p. illus. 23 cm. $8 00. 6821

Contents Economics of coal preparation, by J B. Morrow and D H. Davis. Characteristics of coal and its associated impurities, by H. F Yancey and others. Sampling, by T W Guy and R. E. Zimmerman. Use specifications for coal, by J H. Kerrick and others. Screening, by T Fraser and J R. Johnson. Breaking and crushing, by C. R. Jenkins and H. W Riley Preparation at the face, by J D Cooper and M. H. Forester Hand picking, by D. H. Davis. Principles of gravity concentration, by R. D. Thomas. Coal washers of the classifier type, by J Griffen. Launder washers, by C. P Proctor and J T Crawford. Jigs, by R. M. Bird and D R. Mitchell. Concentrating tables, by B W Gandrud. Dense-media processes, by R. M. Bird and D R. Mitchell. Pneumatic coal cleaning, by E. C. Curtis and D R. Mitchell. Flotation, by R. E. Zimmerman. Miscellaneous processes, by D R. Mitchell and R. E. Zimmerman. Slurries, sludges, slimes and water treatment, by F F Hewes. Dewatering and thermal drying, by O. R. Lasseter and others. Dedusting and dust collection, by T L. Garwood and F C Lyons. Treatment of coal surfaces, by R. A. Sherman and J. M. Pilcher Plant control and efficiencies, by R. E. Zimmerman. Loading, by D. R. Mitchell and T Fraser Index.

Note. A comprehensive treatise on the processing of coal from the time it is separated from the earth seam to its loading for delivery to the consumer. The book is useful to advanced students of mining engineering who are preparing for the coal industry and to men actively engaged in this industry Many illustrations of equipment and many tables of data supplement the discussions. In the present edition, two entirely new papers have been substituted for two papers that appeared in the original edition published in 1943. Most of the other papers have been revised somewhat, and about half a dozen of them have been revised extensively Some, but not all, of the bibliographies have been brought down to date.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on lime. Philadelphia American Society for Testing Materials, 1940. 118 p. illus. 23 cm. $1.00. 6822

Contents: Lime investigations—an introduction to the symposium on lime, by J. R. Withrow. Variations in properties of dolomitic lime putties with methods of hydration, by J. E. Conley. The hydration of magnesian lime and the autoclave test, by F. C. [illegible]. Manufacturing lime for the glass industry, by A. H. [illegible]. Factors affecting milk of lime employed in industry, by D. [illegible]. Quality of lime desired for water treatment, by C. P. Hoover. Prevention of after-precipitation in lime-treated industrial and municipal waters by threshold treatment, by O. Rice and others. Soil acidity and liming, by E. O. Fippin. Criteria for evaluation of agricultural ground limestone, by R. M. Salter and C. J. Schollenberger. Preliminary investigation of the determination of fineness in lime, by C. J. Koehler. Fundamental mechanics of calcination and hydration of lime and methods of control, by V. J. [illegible]. Lime characteristics and their effect on construction, by W. C. Voss.

Note: An extensive bibliography is given in Fippin's paper on soil acidity and liming and two other papers give short reference lists. The critical discussion following most of the papers contain further information on the subject.

BOERICKE, WILLIAM FAY

Prospecting and operating small gold placers. Second edition. New York John Wiley & Sons Inc. 1936 144 p. illus. 19 cm. $4.25. 6823

Contents: Introduction. How placer deposits have been formed. Examining placer ground. Hints on prospecting. Panning: properties of gold and black sands; estimating the value of colors. The rocker: its construction and operation. General information on sluicing. Sluice-box construction: the long-Tom. Types of riffles. Methods of working placer ground. Cleaning-up: recovery of fine gold from black sands; under-currents and similar devices. Use of mercury in placer mining: amalgamation, retorting. Dry placers. Placer mining machines. Location of placer mining claims; leasing, sale of placer gold, selling a placer property. Bibliography. Appendix. Index.

Note: Valuable information for the amateur as well as the more experienced placer miner. This second edition contains a number of important changes, chief among them being the revision of all statements as to the value of gravel and gold particles having a stated content in units of weight. The chapter on placer mining machines has been entirely rewritten with much material added, and descriptions of a few recent machines that have demonstrated their worth in the field are included. Diagrams and photographs are used liberally.

BUGBEE, EDWARD EVERETT

A textbook of fire assaying. Third edition. New York John Wiley & Sons, Inc., 1940. 314 p. illus. 23 cm. $6.25 6824

Contents: Assay reagents and fusion products. Furnaces and furnace room supplies. Ore sampling. Balances and weights. Cupellation. Parting. The scorification assay. The crucible assay. The assay of complex ores and special methods. Sampling and assaying of bullion. The assay of tellurides. The lead assay. The assay of ores and products containing metals of the platinum group. Practical assaying. Index.

Note: The information in this book can be readily understood by the commercial assayer. The book starts with the fundamentals and the chemistry of all the reactions involved is clearly explained. The various assaying procedures for all types of precious metal ores and low-grade metallurgical products are described, together with standard practice for sampling and assaying all grades of gold and silver bullion. The third edition contains information as of 1940 with respect to the apparatus and reagents available for the assayer. Results of recent research, numerous new and special procedures for the assay of less common, but important ore mineral combinations and metallurgical products, data on the assay of metals of the platinum group, and a new chapter on practical assaying are included also.

CAMERON EUGENE N AND OTHERS

Pegmatite investigations, 1942–45 in New England. This report is based on work done jointly by Eugene N Cameron David M Larrabee Andrew H McNair James J Page Glenn W Stewart, and Vincent E. Shainin. Washington, D C. Government Printing Office 1954 352 p illus. (part col d) 29 cm. (United States. Geological Survey Professional paper 255) $5 75 6825

Contents: Introduction. Geologic setting of the deposits. Pegmatites. Mica deposits. Feldspar deposits. Beryl deposits. Descriptions of mines and prospects: Maine. New Hampshire. Vermont. Connecticut. Bibliography. Index.

Note: The manufacture of war equipment created shortages of mica, beryl, tantalite, and other pegmatite minerals early in World War II. The United States Geological Survey under the sponsorship of the War Production Board, made an intensive study of New England pegmatite deposits beginning in 1942 and continuing into 1945. More than 300 pegmatite areas were mapped in detail and many others were given briefer examinations. Although the studies were chiefly concerned with mica and beryl pegmatites, much information on the occurrence of commercial deposits of feldspar and other pegmatite materials also was obtained. In the report resulting from these studies, the characteristics of the pegmatite mineral deposits of New England are discussed, and applications to mining, development and exploration are indicated. About five-sixths of the text is devoted to descriptions of individual mines and prospects. In addition to 139 maps, sections, and other illustrations in the text, there are 48 folding maps, plans, and sections in a pocket.

FISCHER, ELIZABETH C

Annotated bibliography of the bauxite deposits of the world. Washington D C. Government Printing Office 1955 221 p. illus. 23 cm. (United States. Geological Survey Bulletin 999) $1.00 6826

Contents: Introduction. Serials. Bibliography. Index. Plate (folded, in pocket): Map showing the location of the principal bauxite districts of the world.

Note: An annotated bibliography of more than 1,000 references on bauxite deposits of the world, with particular reference to their origin, mineralogy, stratigraphic position, physiographic setting, reserves, and production, dated through the year 1952. The entries are arranged alphabetically by author and the index provides both subject and geographical approach to the contents. The titles of the articles are given in the language of the original, but the annotations are written in English. Papers dealing with the technical aspects of the mining, processing, and uses of bauxite and those dealing with aluminum metal were not included unless they contain also information concerning the location, geology and mineralogy or reserves of the deposits.

GRIFFITTS W R. AND OTHERS

Mica deposits of the southeastern Piedmont, parts 1–11 This volume was printed as separate chapters, A–G inclusive based on investigations by W R. Griffitts E. W Heinrich, R. H. Jahns, M R. Klepper R. W Lemke, and J C. Olson. Washington, D C. Government Printing Office 1953 illus. 29 cm. (United States. Geological Survey Professional papers 248 A–G) Part A, $1.25 part B $0.60 part C, $1 75 part D $1.25 part E, $0.50 part F $1.50 part G $0.75 6827

Contents (abridged): Part I, General features, by R. H. Jahns and others. Part II, Amelia district, Virginia, by R. W. Lemke and others. Part III, Ridgeway-Sandy Ridge district, Virginia and North

Carolina, by W R. Griffitts and others. Part IV Outlying deposits in Virginia, by W R. Griffitts and others. Part V Shelby-Hickory district, North Carolina, by W R. Griffitts and J C. Olson. Part VI, Outlying deposits in North Carolina, by W R. Griffitts and J C. Olson. Part VII, Hartwell district, Georgia and South Carolina, by W R. Griffitts and J C. Olson. Part VIII, Outlying deposits in South Carolina, by W R. Griffitts and J C. Olson. Part IX, Thomaston-Barnesville district, Georgia, by E. W Heinrich and others. Part X, Outlying deposits in Georgia, by E. W Heinrich and others. Part XI, Alabama district, by E. W Heinrich and J C. Olson.

Note A thorough study based largely on field work, of the pegmatite bodies of a region in southeastern United States of America and embracing portions of the states of Alabama, Georgia, South Carolina, North Carolina, Tennessee, and Virginia. The primary motive for the study as search for commercial deposits of mica and, as would be expected, the report contains much information pertinent to the economic geology and mining history of the region. It is fully illustrated and includes number of folding maps in colors. As noted in the sub-title, it is published in the form of separate parts or chapters, however general title page and preliminary pages containing Contents and lists of illustrations are available for those who wish to bind the parts as single volume. However there is no common index, all the parts having separate indexes.

JOHNSON, JESSE HARLAN

An introduction to the study of organic limestones. Revised edition Golden Colorado School of Mines, 1951 185 p illus. 23 cm (Colorado School of Mines. Quarterly Volume 46, no 2) $2 00 6828

Contents Foraminifera. Porifera-sponges. Coelenterata. Echinoderma. Bryozoa. Worms and worm limestones. Brachiopoda. Mollusca. Arthropoda. Calcareous algae.

Note. An illustrated guide designed to serve as an introduction to the study of organic limestones. For each of the ten groups discussed there are introduction and list of bibliographical references, together with notes as to chemical composition, structures, chief divisions, and descriptions of the major deposits. A feature of the publication is the set of 104 photographic plates showing the various types of calcareous organic debris to assist in recognition.

JOHNSTONE, SYDNEY J

Minerals for the chemical and allied industries. New York John Wiley & Sons Inc., 1954 693 p illus 23 cm. $12 50 6829

Note. A reference manual of primarily technical information on about 75 metals and other raw materials. The arrangement is alphabetical by name of substance. The alphabetical arrangement is supplemented by detailed general index. Generally speaking, each substance, such as asbestos, is the subject of separate chapter or monograph. However a few related substances are grouped for instance, "Talc soapstone, steatite and pyrophyllite. The typical account f each includes information on such points as principal ores, known deposits, world production, smelting or refining methods, uses and standard specifications. Also, there is selected bibliography Although few if any substances are included which are not covered in other standard chemical reference books, more information is given on each than is usually supplied in the manuals of wider scope.

LADOO, RAYMOND BARDEEN, AND W M MYERS

Nonmetallic minerals Second edition New York McGraw Hill Book Company, Inc. 1951 605 p 24 cm. $11 00 6830

Note. A useful reference book of information about such materials as asbestos, asphalts, borax, clays, feldspar fuller' earth, gypsum, limestone, mica, phosphate rock, sand and gravel, slate, uranium minerals, and vermiculite. Altogether 90 minerals and groups of minerals are considered. The information given on typical mineral or group includes chemical composition, general description, physical properties, known deposits, mining methods, statistics of production for recent years, uses, prices, and bibliography. The first edition of the book appeared in 1925 This edition contains largely new material.

LOW, ALBERT HOWARD, AND OTHERS

Technical methods of ore analysis, by Arthur J Weinig and William P Schoder, based upon the text by Albert H Low Eleventh edition New York John Wiley & Sons, 1939 325 p illus (part col'd) 23 cm. $6 50 6831

Contents. Semi-micro methods. Aluminum. Antimony Arsenic. Barium. Beryllium. Bismuth. Cadmium. Calcium. Chlorine. Chromium. Cobalt. Copper Fluorine. Iron. Lead. Magnesium. Manganese. Mercury Molybdenum. Nickel. Phosphorus. Potassium and sodium. Silicon. Sulfur Tin. Titanium. Tungsten. Uranium. Vanadium. Zinc. Selectiv analyses. Preparation and standardization of solutions. Tables. Bibliography Author index. Subject index.

Note. This revision retains, with corrections, all the original material of Dr Low's ork which is still valid. Subjects unrelated to ore analysis, such as boiler water coal and coke, steel, oil shale, and crude petroleum have been omitted, as has the chapter on apparatus and that on logarithms. Although the eleventh edition is about 60 pages shorter than the preceding one, it actually contains more material, since repetition has been eliminated by means of cross references, and more concise presentation has been used. Material added includes chapters on the application of semi-micro methods to ore analysis, selective analyses and beryllium. A complete bibliography on ore analysis is gi en. The preparation and standardization f solution ha been placed in separate chapter with cross references in the text. Recent, recognized procedures ha been included for the analysis of chromium, copper fluorine, magnesium, manganese, molybdenum, phosphorus, potassium, titanium, uranium, vanadium, and zinc The illustrations are all new

PARDEE, JOSEPH THOMAS, AND C F PARK, JR.

Gold deposits of the southern Piedmont. Washington D C Government Printing Office, 1948 156 p illus. 29 cm. (United States. Geological Survey Professional paper 213) $6 50 including portfolio of maps plans, and sections. 6832

Contents Introduction. Bibliography Geography General geology Physiography History of mining. Production. Gold deposits: Distribution. Classification Lode deposits. Placer deposits. Mine descriptions: Virginia mines. North Carolina mines. South Carolina mines. Georgia mines. Alabama mines. Index.

Note. This report is concerned with the gold mines in the southern Appalachian gold belt, which stretches 10 to 100 miles wide along the southeast front of the Appalachian Mountains from Virginia to Alabama. The gold deposits ha been divided for purposes of description into two main groups—lodes and placers Under the heading Mine descriptions, brief accounts are given of large number of mines and prospects, and few extensively developed deposits are described in detail. The geology of the region is described only in so far as the geology seems likely to shed light on the extent of the gold deposits and their possibilities for future production. With the paper comes a box of large folding maps and plans.

SELVIG, WALTER ALFRED, AND OTHERS

American lignites geological occurrence, petrographic composition and extractable waxes by W A. Selvig W H Ode B C Parks and H J O Donnell Washington D C Government Printing Office 1950 63 p illus 26 cm. (United States Bureau of Mines Bulletin 482) $0.35 6833

Content (abridged) Occurrence and geology of lignite deposits in the United States. General nature and use of montan ax Commercial production of montan wax in Germany and Czechoslovakia. Commercial production of domestic montan ax Investigations of waxes extractable from British lignite. In estigations of ... waxes extractable from American lignites. ... tractable from peat.

Published reports on laboratory investigations of American and Canadian lignites. Laboratory extraction method. Extraction yields. Petrography of lignite coal. Petrographic characteristics of attrital and xyloid lignite coal. Petrographic composition of lignite from Arkansas, Texas, North Dakota, and California. Investigation of petrographic components contributing to extraction yields. Appendix. Description of coal samples.

Note. Because of the shortage of montan wax at the close of World War [illegible] and the fact that industry in the United States has had to rely on imported wax in the past, an investigation [illegible] started in 1945 to determine probable yields of wax from domestic lignite. Results of the investigation and the properties of extractable waxes are described in this bulletin. Also discussed are the occurrence and geology of lignite deposits of the United States from which samples were obtained for wax extraction and the petrographic composition of lignites, particularly in respect to those components that contribute to wax yields.

NININGER ROBERT D

Minerals for atomic energy a guide to exploration for uranium, thorium and beryllium. Second edition. Princeton D Van Nostrand Company Inc., 1956. 367 p. illus. (part col'd) 24 cm. $8.50. 6834

Contents: Part I, What to look for—uranium, thorium, and beryllium, their minerals and deposits. *Introduction.* Mineral and ore deposits. The uranium ore minerals. The other uranium minerals. Production and other significant deposits of uranium. The thorium minerals. Production and other significant deposits of thorium. The beryllium minerals. Production and other significant deposits of beryllium. Part II, Where to look—evaluation of various areas of the world. Introduction. Shield areas of the world. Mesozoic. Other areas of granitic and metamorphic rocks. Principal mountain systems of the world. Broad plains areas of sedimentary rocks. Other areas of North America. Other areas of the world. Part III, How to look—prospecting preparation, equipment and regulations, radioactivity and use of the counter, evaluation and sale, prices and markets. Introduction. Radioactivity and its detection. Prospecting with the counter. How to evaluate [illegible] discovery. Marketing uranium, thorium, beryllium, and associated ores. Appendices. Uranium non-ore minerals. Other thorium minerals. Mineral identification. Lindgren classification of mineral deposits. Sample testing and analysis. Questions and answers. Sources of additional information and aid. Manufacturers of Geiger and scintillation counters. Laws and regulations applying to prospecting in the United States. Location of mining claims in some western states. Prices and markets in the United States. Information on Canada. Information on Australia. Information on United Kingdom and British colonial territories. Sources of information outside of the United States. Conversion correction factors. Index.

Note. The new interest in uranium ores caused by the discovery of nuclear fission and its successful exploitation led to the publication in the United States of America of numerous books addressed to amateurs on prospecting for uranium. This book is one of the better of the kind. It covers thorium and beryllium minerals as well as uranium. Colored pictures of uranium minerals are included. The geological conditions associated with deposits of these minerals are well described, and there is [illegible] broad survey of areas of the world which contain known deposits or seem on the basis of geology to be favorable areas for prospecting. Techniques of prospecting with Geiger and scintillation counters are described and the reader is told how to evaluate his discoveries. Information is included on the laws relating to prospecting and claim location in the United States, Canada and Australia.

PAGE, LINCOLN R. AND OTHERS compilers

Contributions to the geology of uranium and thorium by the United States Geological Survey and Atomic Energy Commission for the United Nations International Conference on Peaceful Uses of Atomic Energy, Geneva Switzerland, 1955 Compiled by Lincoln R. Page Hobart E. Stocking and Harriet B Smith. Prepared as a cooperative effort of the United States Geological Survey and the United States Atomic Energy Commission and published with the permission of the Commission. Washington D C. Government Printing Office 1956. 739 p. illus. 29 cm. (United States. Geological Survey Professional paper 300) $6.00. 6835

Note: Between 1944 and the holding of United Nations International Conference on Peaceful Uses of Atomic Energy in 1955, the United States Government carried on intensive investigations concerning the geology of fissionable elements. It is thought that no other group of materials has been so thoroughly studied in so short [illegible] time in the [illegible] history of the geological sciences. The [illegible] papers here published, most of [illegible] which were presented at the Geneva Conference, comprise an exhaustive review of the geology of fissionable materials in the United States of America. The publication is enriched by data acquired after the Conference and by contributions [illegible] which arrived too late for actual presentation at Geneva. The papers include abundant illustrations and bibliographical references.

SHEPARD ORSON CUTLER, AND WALDEMAR F DIETRICH

Fire assaying. New York McGraw Hill Book Company Inc., 1940 277 p. illus. 23 cm. $6.00. 6836

Contents: The scope of fire assaying. Sampling. Weighing. Cupellation. Parting. Theoretical discussion of assay fusions and related smelting processes. The crucible assay. The scorification assay. The assay of bullion for gold and silver. The assay of materials requiring preliminary acid treatment. Assay of solutions for gold and silver. The fire assay for the platinum metals. Fire assay methods for base metals. The accuracy of the fire assay for gold and silver. The preparation of gold and silver bullion from amalgam and cyanide precipitate. Assay equipment and supplies. Appendices. Minimum equipment for [illegible] small assay office. List of assay supplies and reagents. Assay supply houses.

Note. A standard practical book. It provides [illegible] working knowledge of the practice of fire assaying [illegible] about the need for [illegible] comprehensive understanding of the physico-chemical principles involved. It shows how to apply scientific principles in such matters as crucible charge calculations, cupellation, and scorification procedures; and presents workable procedures for the determination of gold and silver in almost any type of natural or artificial material, for the determination of the individual members of the platinum group, and for some base metals.

METALLURGY

GENERAL

AMERICAN SOCIETY OF MECHANICAL ENGINEERS

ASME handbook, metals properties Edited by Samuel L Hoyt Sponsored by the Metals Engineering Handbook Board of the American Society of Mechanical Engineers. New York McGraw Hill Book Company, Inc., 1954 433 p illus 26 cm. $11 00 6837

Contents Ferrous: Iron. Cast irons. Cast steels. Wrought steels. ASTM steels. AISI steels. Non-ferrous Copper and copper base alloys. Aluminum and aluminum base alloys. Nickel and nickel base alloys. Zinc and zinc base alloys. Lead and lead base alloys. Tin and tin base alloys. Magnesium and magnesium base alloys. Special alloys Super alloys, wrought. Super alloys, cast. Index.

Note One of the four parts of the *ASME handbook* this volume is a compendium of data on approximately 300 metals and alloys which are in common use as engineering materials. Within each section—the titles of which are given above—individual metals and alloys are treated individually with the information about each presented in modified tabular form. The data given are classified under such subheads as "Chemical composition "Characteristics, Uses, "Common commercial forms, Technological properties, Mechanical properties, "Treatment temperatures" and "Critical points. Sources are given for the data presented.

AMERICAN SOCIETY FOR METALS

Atom movements, a seminar on atom movements held during the thirty second National Metal Congress and Exposition, Chicago, October 21 to 27, 1950, sponsored by the American Society for Metals. Cleveland The Society, 1951 240 p illus 23 cm $5 00 6838

Contents Formal basis of diffusion theory by L. S. Darken. Chemical techniques and analysis of diffusion data, by C. Wells. Tracer and other techniques in diffusion measurements, by R. E. Hoffman. Mechanisms of diffusion, by H. B. Huntington. Diffusion in alloys and the Kirkendall effect, by J Bardeen and C. Herring. Volume diffusion—an empirical survey by C. E. Birchenall. Grain boundary and surface diffusion by D Turnbull. Diffusion and high temperature oxidation of metals, by C. Wagner Gas-metal diffusion and internal oxidation, by F N Rhines. Diffusion in sintering, by P Duwez. The migration of grain boundaries, by J E. Burke. Summary by R. F Mehl. Subject index.

Note The term "atom movements" as employed in the papers comprising this volume has reference to the phenomenon of diffusion, particularly diffusion in metals and alloys. Each paper has been prepared by an expert in the field and is based on review of the literature of the subject and on investigations conducted at research laboratories operated by the United States Steel Company the General Electric Company the Massachusetts Institute of Technology and similar organizations. Extensive bibliographies and an index are included. The book is addressed to professional metallurgists.

AMERICAN SOCIETY FOR METALS

Cold working of metals. A seminar on the cold working of metals held during the thirtieth National Metal Congress and Exposition, Philadelphia, October 23 to 29 1948 sponsored by the American Society for Metals Cleveland American Society for Metals 1949 364 p illus 23 cm $5 00 6839

Contents Introduction, by M. Gensamer Strain hardening—effects f alloying elements and microstructure, by C. S Smith. Macroresidual stresses in metals resulting from plastic deformation, by W M. Baldwin, jr Structure of slip bands and cold-worked metal, by R. D Heidenreich. The crystallographic mechanisms of translation, twinning and bending, by C. S. Barrett. Deformation textures, by R. M. Brick. Recrystallization textures, by C. G. Dunn. Dislocation theory by W Shockley Nucleation of deformation, by J H. Hollomon. The effect of strain histories on the work hardening of metals, by T E. Tietz and J. E. Dorn. Dynamics of slip bands, by C. Zener. Plastic after-effects, by J G. Leschen. Work hardening under combined stresses, by L. R. Jackson. Creep of metals, by J D Lubahn. Cold work and fatigue, by A. M. Freudenthal. The effect of plastic deformation and solid reactions, by A. M. Freudenthal. The effect of plastic deformation on solid reactions, by B. L. Averbach and M. Cohen. The fracture stress of metals as affected by plastic deformation, the stress system, and size, by D. J. McAdam, jr

Note. In spite of the practical implication in the title of this book, most of the papers contained in it are devoted to fundamental theories and research. Some of the information presented has been derived from recent investigations and is here published for the first time. The papers are addressed to professional metallurgists, particularly those who are concerned ith research or ith the fundamental aspects of metal-forming processes. They are accompanied by references to related literature.

AMERICAN SOCIETY FOR METALS

Controlled atmospheres. This book contains the papers and discussions constituting the symposium on controlled atmospheres presented before the twenty third annual convention of the American Society for Metals held in Philadelphia, Penna. October 20 to 24 1941 Cleveland The American Society for Metals, 1942 232 p illus. 23 cm $4 00. 6840

Content Fundamental features of controlled atmospheres particularly for the heat treatment of steel, by H. W Gillett and B. W Gonser Chemical equilibrium as a guide in the control of furnace atmospheres by J B Austin and M. J Day Prevention of oxidation type of reaction, ferrous metals, by A. G. Hotchkiss and H. M. Webber. Prevention of oxidation type of reaction in the heat treatment f copper and its alloys, by E. G. de Coriolis and W Lehrer Heat treatment of the chromium-carbon stainless steels, by W E. Mahin and W C. Troy Methods for determining the degree of carburization or decarburization and evaluating controlled atmospheres, by N K. Koebel. Surface effects accompanying the heating of carbon tool steel in oxidizing atmospheres, by R. D Stout and T Abe. Cost of controlled atmospheres—equipment, instruments and operating, by Edward E. Slowter Atmospheric control in the heat treatment of aluminum products, by P T Stroup. Atmosphere control in the heat treatment of magnesium products, by C E. Nelson.

Note. Although each of these papers is complete in itself, taken as whole they constitute practical and comprehensive guide to the use of controlled atmospheres in the heat treatment of metals. Included with each paper is an abstract and discussion of its contents. In some cases there is brief bibliography There is no index.

AMERICAN SOCIETY FOR METALS

Fatigue. A series of educational lectures on fatigue presented to members of the ASM during the thirty fifth National Metal Con

gress and Exposition Cleveland October 19 to 23 1953 Cleveland The American Society for *Metals*, 1954 121 p. illus. 24 cm. $3.00. 6841

Contents: Basic concepts of fatigue damage in metals, by T. J. Dolan. Fatigue failure under resonant vibration conditions, by B. J. Lazan. Fatigue characteristics of large sections, by O. J. Horger.

Note: Although originally addressed to metallurgists the three papers in this book contain information which is also of much interest to machine designers. The first paper is a general outline of what is known about fatigue failures, the terminology, the underlying metallurgy and the characteristic phenomena. The other two papers deal with the problems and conditions which though specialized are of much current interest, especially in relation to the design of high-speed machines. Lists of related references to which the text is keyed accompany each paper. The authors are all specialists who have made contributions to the fundamental knowledge of the fatigue of metals.

AMERICAN SOCIETY FOR METALS

Grain control in industrial metallurgy A series of four educational lectures on grain control in industrial metallurgy presented to members of the A.S.M. during the thirtieth National Metal Congress and Exposition Philadelphia, October 23 to 29 1948. Cleveland American Society for Metals, 1949 179 p. illus. 23 cm. $5.00. 6842

Contents. The fundamentals of recrystallization and grain growth, by J. E. Burke. Recrystallization and grain control in ferrous metals, by R. L. Rickett. Recrystallization and grain size control in copper and copper alloys, by H. Burghoff. Grain control in wrought aluminum and magnesium products, by J. T. Robbins, Jr. Glossary of terms used. Index.

Note. In this volume four experts associated with fundamental research in metallurgy discuss a subject of the highest importance in metallurgical design and metal-working. The papers are addressed to practical metallurgists and are essentially elementary in technical terminology of the current knowledge of the subject. They are supplemented by graphs, tabulated data, illustrations, and bibliographies.

AMERICAN SOCIETY FOR METALS

High temperature properties of metal a series of five educational lectures presented to members of the A.S.M. during the thirty second National Metal Congress and Exposition, Chicago October 23 to 27 1950 Cleveland The American Society for Metals 1951 176 p. illus. 24 cm. $4.00 6843

Contents: Creep of metals, by E. R. Parker. Stress rupture testing, by N. J. Grant. High temperature fatigue testing, by H. J. Gover. Methods of high temperature oxidation testing and evaluation of observations, by C. Wagner. Some experiences in service (power, oil and chemical plants) by J. J. B. Rutherford. Index.

Note. The papers in this book were addressed originally to professional metallurgists, but they are of interest also to engineers working on machine design, especially the design of gas turbine parts and other mechanisms that must operate at extremely high temperatures. In general, each paper is a summary of recent research, but all of the authors have also scanned the literature and incorporated the pertinent material. Each paper is accompanied by list of references.

AMERICAN SOCIETY FOR METALS

Impurities and imperfections. A seminar on impurities and imperfections held during the thirty-sixth National Metal Congress and Exposition, Chicago October 30 to November 5 1955 sponsored by the American Society for Metals. Cleveland American Society for Metals, 1955 231 p. illus. 24 cm. $6.00 6844

Contents: Lattice vacancies and interstitials in metals, by H. Brooks and G. McKay. Dislocations, by J. C. Fisher. Grain boundaries, substructures and impurities, by R. W. Cahn. *Effects of impurities and imperfections on crystal growth*, by B. Chalmers. Impurities and imperfections in metallic diffusion, by D. Lazarus. Role of structural impurities in phase transformations, by D. Turnbull. *Effects of impurities and imperfections on mechanical properties*, by E. R. Parker and J. Washburn. Influence of impurities and imperfections on the electrical properties of metals, by J. S. Koehler. Structure dependent chemistry of metal surfaces, by W. D. Robertson. Effects of impurities and imperfections in semiconductors, by J. A. Burton. Vacancies and alkali halide crystals, by R. Maurer. Radiation disarrangement of crystals, by F. Seitz and J. S. Koehler. Subject index.

Note. Scientists working in such branches of physics as crystallography and semi-conductor phenomena have made important contributions to the fundamental knowledge of metals in recent years. In this book, these advances are explained and interpreted for the benefit of specialists in metallurgy. The authors include both physicists and metallurgists. Literature references and some illustrations are included.

AMERICAN SOCIETY FOR METALS

Metal interfaces. A seminar on metal interfaces held during the thirty third National Metal Congress and Exposition Detroit, October 13 to 19 1951 sponsored by the American Society for Metals. Cleveland American Society for Metals, 1952 335 p. illus. 24 cm $6.00. 6845

Contents The electronic theory of metallic surfaces, by C. Herring. Theory of internal boundaries, by H. Brooks. Grain shapes and other metallurgical applications of topology, by C. S. Smith. Measurement of solid, gas and solid, liquid interfacial energies, by H. Udin. Measurement of solid, solid interfacial energies, by J. R. Bean. Energies and structure of grain boundaries, by K. T. Aust and B. Chalmers. Boundary migration during grain growth, by R. L. Fullman. Interface migration in recrystallization, by P. A. Beck. Stress relaxation across interfaces, by A. S. Nowick. Phase transformations at interfaces, by A. H. Geisler. Mechanical effects of interfaces, by B. Chalmers. Metal surface phenomena, by H. H. Uhlig.

Note This volume contains original papers on a topic which is of interest not only in metallurgy but also in physics and chemistry. They deal with the pertinent fundamental theory, techniques of quantitative measurements, the effects of interface phenomena on stress relaxation, mechanical properties, etc. Although addressed primarily to metallurgists, the presentation in most of the papers is on a level that assumes familiarity on the part of the reader with the fundamentals of current atomic physics. Extensive lists of references are included. Most of the authors are associated with teaching and research in United States of America universities and industrial research laboratories.

AMERICAN SOCIETY FOR METALS

Metals handbook, 1948 edition prepared under the direction of the Metals Handbook Committee, edited by Taylor Lyman. Cleveland The American Society for Metals 1948. 1444 p. illus. 28 cm. $15.00. 6846

Contents (abridged). Steel compositions and physical data. General articles. Constitution of alloys. *Advertising section. Index.*

—— 1954 supplement. Prepared under the direction of the Metals Handbook Committee. Taylor Lyman editor Carl H. Gerlach, associate editor Cleveland The American Society for Metals, 1954 184 p. illus. 28 cm. $5.00. 6847

Contents (abridged). Metals and applications. Design and application. Processing and testing. Index.

—— 1955 supplement. Prepared under the direction of the Metals Handbook Committee. Taylor Lyman, *editor*, Carl H. Gerlach, *associate editor*, John Parina, *associate editor*, Helen Lawton, *assistant editor* Cleveland The American Society for Metals, *1955* 208 p illus. 28 cm $6 00 6848

Contents (abridged) Metals and applications. Design and application. Testing and inspection. Index.

Note. A standard, comprehensive reference book for metallurgists, engineers and others who make use of technical information on metals. Both ferrous and non-ferrous metals and alloys are covered. Part of the information is conveyed in articles, part in tables, graphs, and data sheets. In addition to data on specific metals and alloys, there are articles and reports on heat treating, metal cleaning, fabrication methods, testing, etc.

AMERICAN SOCIETY FOR METALS

Modern research *techniques in physical* metallurgy A seminar on modern research techniques in physical metallurgy held during the 34th National Metal Congress and Exposition, Philadelphia, October 18–24, 1952, sponsored by the *American* Society for Metals Cleveland American Society for Metals, 1953 335 p illus 23 cm. $6 00 6849

Contents Optical microscopy by G. L. Kehl. Field emission microscopy by E. W Müller *Electron diffraction* and microscopy of metals, by R. D Heidenreich. X-ray diffraction techniques, by C. S. Barrett. The diffuse scattering of x-rays, by B E. Warren and B L. Averbach. Crystal orientation and pole figure determination, by A. H. Geisler Techniques and applications of neutron diffraction by C G. Shull. Crystal growth and crystal boundary techniques, by B. Chalmers. Deformation of single crystals, by E. R. Parker High speed strain measurements, by G. B. Ernst. The metallurgical use of anelasticity by C. Wert. Ferromagnetic domains, by H. J Williams. Radioactive tracers in physical metallurgy research, by M. B Bever Radiation damage of metallurgical research techniques, by S. Segall. Subject index.

Not A useful survey of present-day research techniques applicable to the field of metallurgy Instruments and procedures are specifically described and some of the authors have pointed out unrealized potentialities in metallurgy Rather extensive lists of literature references are included, and some of the papers are accompanied by discussion.

AMERICAN SOCIETY FOR METALS

Properties of metals in materials engineering *A series of eight educational lectures on* properties of metals in materials engineering presented to members of the A.S M during the thirtieth National Metal Congress and Exposition, *Philadelphia,* October 23 to 29, 1948 Cleveland American Society for Metals 1949 177 p illus 23 cm. $4 00 6850

Contents Introduction, by R. L. Templin. Fundamental concepts, by M Gensamer Behavior of metals under direct or nonreversed loading, by J R Low Jr Applications of fatigue data to machine design, by R. E Peterson. Determination of the state of stress, by W M. Murray *Analysis of stress in aircraft engines*, by W T Bean, Jr Testing to specific deflections (buckling) by E. C. Hartmann. Design for energy absorption, by W P Roop. Index.

Note. The lectures collected in this volume were addressed to practical metallurgists. Each of the lectures presents compact review of the current knowledge of the specific topic mentioned in its title. The text of each is supplemented by graphical and tabular presentations of engineering data and by references to the pertinent literature.

AMERICAN SOCIETY FOR METALS

Relation of properties to microstructure. A seminar on relation of properties to microstructure held during the thirty fifth National Metal Congress and Exposition, Cleveland, October 17 to 23, 1953, sponsored by the American Society for Metals. Cleveland American Society for Metals, 1954 270 p. illus. 24 cm. $6 00 6851

Contents Structure-sensitive properties, by J H. Hollomon. The effect of grain boundaries on mechanical properties, by M. Gensamer Principles of solution hardening, by E. R. Parker and T H. Hazlett. Effect of dispersions on mechanical properties, by J. E. Dorn and C. D Starr Theories of *dispersion hardening*, by E. W Hart. Structure and alloy design, by A. D Schwope. Interactions of dislocations and solute atoms, by A. H. Cottrell. The relation of microstructure to brittle fracture, by J R. Low Jr. The strength of glass-reinforced structures, by G. Slayter Effect of microstructure on corrosion, by H. H. Uhlig. Relation of magnetic *properties to microstructure*, by L. J Dijkstra. Structure and coercivity by J F Libsch. Subject index.

Note Recently gained information on dislocations in crystals and related phenomena is presented in this volume and is related to the design of alloys of metals and to other matters of concern to metallurgists. The first paper summarizes some of the results of research conducted on perfect crystals. *Lowe's paper* "The relation of microstructure to brittle fracture, is based on research in the behavior of metals at low temperatures. Inclusion of the paper on glass reinforced plastics is noteworthy since the participants in the seminar were metallurgists rather than technicians from the plastics industries. *Illustrations and lists of literature references* are included.

AMERICAN SOCIETY FOR METALS

Residual *stress measurements. A series of* four educational lectures on residual stress measurements presented to members of the ASM during the thirty third National Metal *Congress and Exposition, Detroit, October 15* to 19, 1951 Cleveland American Society for *Metals 1952 210 p. illus. 24 cm. $4 50 6852*

Contents The nature, origin, and effects of residual stresses, by R. G. Treuting. The measurement of residual stresses by J J. Lynch Residual stress states produced in metals by various processes, by H. B. Wishart. Relief and redistribution of residual stresses in metals, by D D. Richards. Index.

Note The four lectures assembled in this volume are not limited to residual stress measurements as the book title indicates—but include also discussions of such aspects as the nature and origin of residual stresses, their beneficial use in such well-known processes as hardening by heat treatment and by shot peening and their release in instances where they are undesirable. The book as a whole is essentially a first course in the subject for men who are thoroughly familiar with metallurgical terminology and basic concepts. Although it is primarily of interest to metallurgists who are concerned with the working of metals, it holds some interest for technical men in other fields such as structural engineering and machine design.

AMERICAN SOCIETY FOR METALS

Theory of alloy phases. A seminar on theory of alloy phases held during the thirty seventh National Metal Congress and Exposition, Philadelphia, October 15 to 21, 1955, sponsored by the American Society *for* Metals Cleveland *American Society for Metals, 1956 378 p.* illus. 24 cm. $6 00. 6853

Contents Band theory of bonding in metals, by J. C. Slater The X-ray spectroscopy of solids, by C. H. Shaw Intermediate phases and electronic structure, by T B. Massalski Crystal structure and atomic size, by F Laves. Bonding in the shell metals, by H. Brooks. The electronic structure of metals and alloys, by L. Pauling. Intermediate phases in alloys of the transition elements, by P Duwez. Ferromagnetism and crystal structure of iron alloys, by U Roessler and others Atomic and magnetic ordering in transition metal structures, by J S. Kasper Atomic magnetic moments of transition elements in solid solution alloys, by C. G. Shull. Discussion, by R. J. Weiss and K. J. Tauer

General

The structure of [illegible], by B. L. Averbach. [illegible], by R. A. Oriani. Alloy phase diagrams, by G. V. Raynor. Index.

Note: The title notwithstanding, [illegible] comprehensive theory of alloys is not presented in this volume. Instead the 13 authors have surveyed and discussed various aspects of alloys in the light of the underlying physical knowledge. Thus Slater's paper begins "The metallurgist expects the physicist to be able to apply … mechanics to the problem of the cohesive energy of metals," then goes on to present in condensed form from the metallurgist's viewpoint the present state of the solving of problems in energy bands. The papers are all addressed to metallurgists. Most are accompanied by extensive lists of [illegible] literature.

AMERICAN SOCIETY FOR METALS

Thermodynamics in physical metallurgy; a seminar on thermodynamics in physical metallurgy held during the thirty first National Metal Congress and Exposition, Cleveland, October 15 to 21 1949 sponsored by the American Society for Metals. Cleveland The American Society for Metals, 1950. 317 p. illus. 23 cm. $5.00 6854

Contents: The principles of thermodynamics, by P. W. Bridgman. The role of statistical mechanics in physical metallurgy, by C. Zener. Application of thermodynamics to heterogeneous equilibria, by L. S. Darken. Application of electromotive force measurements to phase equilibria, by F. J. Dunkerley. On equations of state and the phase diagrams of simple binary alloys, by A. W. Lawson. The thermodynamics of liquid metallic solutions, by J. Chipman. Physical factors affecting order in metallic systems, by C. E. Birchenall. Heterogeneous nucleation, by J. H. Hollomon. Phenomena accompanying precipitation from solid solutions of C and N in alpha-iron, by C. Wert. Eutectoid decompositions, by J. C. Fisher. Thermodynamics of the martensitic transformation, by M. Cohen and others. A nucleation problem in ferromagnetism, by L. J. Dijkstra. Principles of solidification, by D. Turnbull. Contribution of thermodynamics to metallurgical research and operations, by J. B. Austin. Subject index.

Note: A collection of papers on advanced topics in metallurgy. Although the papers are addressed primarily to professional metallurgists, they deal less with the everyday work of such folk than with the advancing fundamental knowledge from which industrial practices are eventually derived. Most of the papers are accompanied by excellent lists of references to related literature, and in a few cases a transcript of discussion is included. The volume is of interest not only to metallurgists but to physical chemists and physicists as well.

AMERICAN SOCIETY FOR METALS

Utilization of heat resistant alloys. A symposium presented at the University of Michigan, March 11 and 12 1954 in honor of Albert Easton White on his 70th birthday for his pioneering and outstanding contributions to the research and development of alloys for high temperature service. Cleveland American Society for Metals, 1954 288 p. illus. 24 cm. $6.00 6855

Contents: Creep and fracture at elevated temperatures, by N. J. Grant. Factors involved in using high temperature test data for selecting materials and proportioning parts, by C. L. Clark. Alloys and their properties for elevated temperature service, by H. C. Cross. Some calculations for design for creep conditions, by F. F. Cheney. Engineering practice for selecting materials and proportioning components operating at high temperatures in the steam power industry, by H. A. Wagner and J. A. Fleckl. Criteria in the selection of materials for aircraft-gas-turbines, by H. Harshall and L. Luna. Production and fabrication of heat resistant alloys from the producers' viewpoint, by C. T. Evans, Jr. Fabrication of high temperature alloy steel piping suitable for central station and oil refinery service, by R. W. Emerson. Jets—from blueprint to engines, by W. E. Jones and A. J. Eisenberg. Metallurgical variables influencing properties of heat resistant alloys, by J. W. Freeman and others. Development of and acceptance testing procedures against specifications, by A. W. F. Green. A chronological list of the publications of Albert Easton White, compiled by R. A. Ubbeloh[?].

Note: A collection of original papers written for the occasion mentioned in the book title. The papers range from short summaries of problems or procedure to rather full accounts of relatively broad areas, for instance, methods of evaluating creep and creep rupture data. Fairly extensive literature lists are included in many of the papers. The bibliography of White's own writings is apparently complete from 1911 through 1952.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on deformation of metals as related to forming and service. Presented at the fifty first annual meeting American Society for Testing Materials, Detroit Mich., June 22 1948 Philadelphia American Society for Testing Materials 1949 117 p. illus. 23 cm. (Special technical publication no. 87) $2.00. 6856

Contents: Introduction, by L. L. Wyman. Tests of ductility in ship structure, by W. P. Roop. Notch-sensitivity of ship plate—correlation of laboratory-scale tests with large-scale plate tests, by N. A. Kahn and E. A. Imbembo. Measurement of ductility in sheet metals, by J. R. Low Jr., and T. A. Prater. Hydraulic bulge testing of sheet metals, by W. T. Lankford. Notched bar tension tests on annealed carbon steel specimens of various sizes and contours, by M. L. Fried and G. Sachs.

Note: A collection of original papers by outstanding research metallurgists. It reflects the new fundamental knowledge of plastic deformation and flow of metals and contains descriptions of new tests which are useful in relating this knowledge to metallurgical and structural design. There is some emphasis on metallurgical problems in ship design, but the usefulness of the material is not limited to this field. The papers are accompanied by abstracts of the discussions at the meeting. Illustrations, and selected lists of references.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on metallography in color 1948. Presented at the fifty first annual meeting American Society for Testing Materials, Detroit, Mich., June 21 1948. Philadelphia American Society for Testing Materials, 1949 64 p. illus. (part col'd) 23 cm. (Special technical publication no. 86) $4.50. 6857

Contents: Introduction, by L. V. Foster. Metallography in color, by R. P. Loveland. Microscope optics for color metallography, by J. R. Benford. Quality and quantity of illumination in color metallography, by R. P. Loveland. Insert plates I to X, four-color process illustrations. Color metallography simplified, by M. Clegg, Jr. Some applications of color metallography, by W. D. Forgeng. The application of color photography to the study of nonmetallic inclusions, by A. M. Hall and E. E. Fletcher.

Note: In these papers are described various techniques which have been developed for making photomicrographs in color of metal specimens. The procedures are based on the research and experience of the authors, all of whom are experts in the fields of metallurgy and metallography. The illustrations include reproductions in color of 37 photomicrographs. Lists of references and discussions of the papers are included.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on rapid methods for the identification of metals. Presented at the fifty second annual meeting American Society for Testing Materials, Atlantic City N. J., June 28 1949 Philadelphia. American Society for

Testing Materials, 1950 77 p illus 23 cm. (Special technical publication no 98) $1 75 6858

Contents: Development, present state, and outlook of spot test analysis, by F Feigl. Electro spot testing and electrography, by H. W Hermance and H. V Wadlow Instruments for rapid metal identification, by R. R. Webster Separating alloys by relative spot tests, by H. Kirtchik. Rapid methods for the identification of copper-base alloys, by R. P Nevers. Rapid identification of metal finishes, by A. Lewis and D R. Evans. Examination of plated and protective coatings by electrographic analysis, by N Galitzine and S. E. Q Ashley A field test kit and procedure for use in the rapid identification of some nickel alloys and stainless steels, by H. B. Lee. Rapid tests for identifying alloy steels, by E. C. Kirkham. General discussion.

Note. A collection of short but valuable original papers on recent developments in rapid methods for the identification or analysis of metals. The various procedures are described explicitly for the information of professional metallurgists and analytical chemists. The papers are supplemented by illustrations and literature references.

BARRETT, CHARLES S

Structure of metals crystallographic methods, principles, and data. Second edition New York McGraw Hill Book Company, Inc., 1952 661 p. illus. 24 cm. (Metallurgy and metallurgical engineering series, Robert F Mehl consulting editor) $11 00 6859

Contents The fundamentals of crystallography The stereographic projection. X-rays. Diffraction of X-rays by crystals. Laue and fixed-crystal methods. Rotating-crystal methods and the reciprocal lattice. The powder method. The determination of crystal structure. Pole figures and orientation determinations. Determination of constitution diagrams with X-rays. Structure of metals and alloys. Superlattices. The electron theory of metals and alloys. Stress measurement by X-rays. The plastic deformation of metals. Dislocation theory The structure of cold-worked metal. Preferred orientations resulting from cold work. Preferred orientations after annealing. Orientations in castings and in deposited films. Anisotropy Age hardening and transformations. Diffraction of electrons, atoms, and neutrons. Appendices. Index.

Note. A substantial work which is used both as a text in crystallography for advanced students of metallurgy and as a reference tool by metallographers. It presents from the standpoint of metallurgy and metallography the fundamental knowledge and the techniques of crystallography and shows applications not only to the study of metals and alloys but also to their reactions to cold working and other treatments. It is well documented with footnote citations to pertinent literature. The appendices contain a variety of basic information on crystal structure, the intensity of X-ray reflections, etc. The first edition was published in 1943. The work was extensively revised for this edition, particularly in the discussion of such matters as creep, dislocation, ferromagnetism, and insulators and semiconductors. Literature references and tables have also been revised.

BRAY JOHN LEIGHTON

Non ferrous production metallurgy Second edition New York John Wiley & Sons Inc., 1947 587 p illus. 24 cm. $7 50 6860

Contents Introduction. Metals and ores. Smelting, slags, and fluxes Aluminum. Antimony Arsenic. Beryllium. Bismuth. Cadmium. Chromium. Cobalt. Copper Gold. Lead. Magnesium. Manganese. Mercury Molybdenum. Nickel. Platinum. Selenium and tellurium. Silver Tin. Tungsten. Vanadium. Zinc. Secondary metals. Marketing of bullion, ores, and concentrates. The use of physical chemistry in metallurgical processes. Index.

Note Engineering students are here offered the basic principles of the industrial metallurgy of twenty-four non-ferrous metals. Some emphasis is placed on the economic aspects, hence, in addition to adequate descriptions of smelting and refining methods, data are given on the history production, consumption, ore resources, and marketing of the metals discussed. In this edition the economic information has been broadened and brought up to date. New material on aluminum, magnesium, nickel and tin—resulting from developments during World War II—and the chapter on application of physical chemistry to metallurgical processes, have been added. The arrangement whereby all of the information about a metal is contained in one chapter makes the book also useful for reference.

BRICK, ROBERT MAYNARD, AND ARTHUR PHILLIPS

Structure and properties of alloys the application of phase diagrams to the interpretation and control of industrial alloy structures. Second edition. New York McGraw Hill Book Company Inc., 1949 485 p illus. 23 cm. (Metallurgy and metallurgical engineering series, Robert F Mehl, consulting editor) $8.00 6861

Contents: Requisite tools of the metallurgist. Commercially pure metals. Solid solutions copper-base alloys. Cold-working and annealing. Cast eutectic alloys. lead-base systems. Age-hardening: cast-and wrought-aluminum alloys. Alloys of magnesium. Phase transformations two-phase copper alloys. Iron-carbon alloys. normalized and annealed steels. Theory of heat treatment of steels. Heat-treated engineering steels plain carbon and alloy types. Carbon and alloy tool steels. Special corrosion- and heat-resistant alloys. Cast irons. Monotectics sintered metal powders. Generalizations. Index.

Note: A concise presentation of the knowledge from the field of physical metallurgy which is important to the understanding of alloys. The author's theme is that alloys can be studied and understood only against background of knowledge of the significance of phase diagrams, microstructures, the characteristic properties of the structures, and the effects of metal treating processes upon all three. The first edition of the book was comparatively brief It has been greatly expanded in order to suit it for use in college courses and also to increase its value as a reference book for men concerned with the specifications and uses of alloys in industry The illustrative matter now includes large number of excellently reproduced microphotographs.

BRIDGMAN, PERCY WILLIAMS

Studies in large plastic flow and fracture, with special emphasis on the effects of hydrostatic pressure. New York McGraw Hill Book Company, Inc., 1952 362 p. illus. 24 cm (Metallurgy and metallurgical engineering series Robert F Mehl consulting editor) $10 00 6862

Contents (abridged) Part I. Tests under hydrostatic pressure The tension of steel under pressure. Two-dimensional tension under pressure. Tension tests under pressure on materials other than steel. Simple compression under hydrostatic pressure. Punching under pressure. The collapse of thick, hollow cylinders of steel under external pressure. The effect of external pressure on cavities in brittle materials. Wire drawing and extrusion under pressure. Part II, Other tests involving large deformations. Simple compression. Two-dimensional compression. Torsion combined with simple compression. Shearing combined with approximately hydrostatic pressure. Part III, Plastic flow and fracture after prestraining. Simple tension after prestraining in tension. Simple tension after prestraining in simple compression. Simple compression after prestraining in two-dimensional compression. Torsion after prestraining in tension under pressure. Index.

Note. In this new book Professor Bridgman, whose experiments in the domain of high pressure are internationally famous, has synthesized and interpreted the results of an extensive series of experiments made with the explicit purpose of understanding better the nature of both the phenomena of fracture under conditions of high stress and the phenomena of the large plastic flow which often precedes such fracture. Although the book is in the nature of an interim report rather than statement of conclusions, it contains many interesting observations some of which can undoubtedly be turned to practical account in industry It is potentially of interest to several groups including professional physicists working in crystallography and the physics of metals and research metallurgists.

BURTON, MALCOLM S

Applied metallurgy for engineers. New York McGraw Hill Book Company Inc., 1956 407 p. illus. 23 cm $7 50 6863

Contents. The nature of metals. Methods of metallurgical examination. Mechanical testing. Phases, phase changes, and phase

Metallurgy

General

diagrams. Production of metals. Principles of heat treatment. Heat-treating techniques. Surface-hardening methods. Foundry metallurgy. Casting processes. Molding materials. Foundry technology. Theory of metalworking. Hot-working processes. Cold-working processes. Metallurgical bonding of metals. Welding processes. Brazing and soldering. Welding metallurgy. Gas and arc cutting. Powder metallurgy. Index.

Note: A college textbook designed as a broad introductory survey for students preparing for careers other than metallurgy. As these [illegible] industries, most of the chapters are devoted to processes of metalworking. These processes are described in simple terms, and the extensive exposition is supplemented by numerous illustrations. In the preliminary chapters an up-to-date though simplified [illegible] of basic atomic physics and other fundamental aspects of metallurgy is given. The organization and style of the book make it potentially useful as a text for self-instruction as well as for use in organized courses.

Clark Donald Sherman and Wilbur R. Varney

Physical metallurgy for engineers. New York D Van Nostrand Company Inc., 1952 567 p. illus. 24 cm $6 75 6864

Contents: Metallurgy in engineering. Metals and alloy systems. Plain carbon steels. Iron-carbon alloys. Heat-treatment of steel. Low-alloy steels. Case-hardening and surface treatment. Function of alloying elements in steel. Tool steels. Principles of corrosion. Corrosion- and scale-resistant steels. High strength heat-resistant alloys. Cast irons. Precipitation hardening and recrystallization. Copper- and nickel-base alloys. Light metals and their alloys. Metallurgy of mechanical working. Metallurgy of casting. Metallurgy of soldering, brazing, and welding. Appendixes: AISI-SAE low-carbon steel compositions—1951. AISI-SAE free-cutting steel compositions—1951. AISI-SAE alloy steel compositions—1951. Typical [illegible] for AISI-SAE alloy steels. Hardenability bands. Heat-treatments for AISI-SAE alloy steels. Typical end-quench and tempered end-quench curves. Approximate hardness conversion table. Index.

Note: A textbook on physical metallurgy as it applies to the selection, treatment, and use of metals and alloys in engineering practice with emphasis throughout upon principles. The authors are professors of mechanical engineering at the California Institute of Technology where the subject-matter of the text has been presented over a period of many years in a course on physical metallurgy for engineering students. A list of references and a set of questions conclude each chapter.

Clark, Frances Hurd

Metals at high temperatures. New York Reinhold Publishing Corporation 1950. 372 p. illus. 23 cm. $8.50 6865

Contents: Introduction and theoretical aspects. Test methods and equipment for elevated temperatures. Plain-carbon and low-alloy steels. Chrome irons, moderately alloyed austenitic steels. Highly alloyed austenitic steels. Cobalt-base alloys. Nickel-base alloys. Noncommercial alloys. Manufacturing processes. Lower melting alloys. Testing. Subject index.

Note: In the first chapter of this book the author presents a critical digest of the present knowledge of the plastic flow of the metals. The second chapter is devoted to test methods, but the remaining chapters are largely compilations of data gathered from the published literature. As might be expected, the greater part of the cited literature has been published in the past decade. About half of the text is made up of tabular and graphical presentations of data. The text is concise discussion. Statements in the text and most of the tables and graphs, also, are related by means of key numbers to citations of the source articles.

Darken Lawrence S and Robert W Gurry

Physical chemistry of metals. With a collection of problems by Michael B Bever New York McGraw Hill Book Company Inc., 1953 535 p. illus. 24 cm. (Metallurgy and metallurgical engineering series Robert F Mehl, consulting editor) $9 50 6866

Contents: Introduction. Gases. Solids. Solid solutions and intermetallic compounds. Liquids. The first law of thermodynamics. The second law of thermodynamics, entropy and free energy. The third law of thermodynamics. Fugacity, activity and the equilibrium constant. Solutions. Phase relations. Heterogeneous equilibria. Free-energy-composition diagrams. Temperature-pressure diagrams. Nitrogen in iron and steel. The iron-carbon system. Electrochemistry: reversible cells. Formal basis of diffusion theory. Kinetics of metallurgical processes. Problems. Index.

Note. A senior and beginning graduate level text in which the development of the thermodynamics of metals and metallurgical processes is based on atomic structure rather than on molecular structure. Metallurgical physical chemistry is presented as a combination of some atomistics with much chemical thermodynamics, a "new" science founded on metallurgical experience plus physical and physicochemical experience and theory. Emphasis is on thermodynamics; in fact, a large part of the book is devoted to classical treatment of the subject. However, by giving little space to nonideal gases or to aqueous solutions and solutions of organic substances, space has been gained to include an extensive treatment of pressure-temperature-composition relations in heterogeneous systems where several phases may be of variable composition. Rate diffusion and related phenomena also are covered as they have any application to metallurgy. The authors (except Professor Bever) are with the Research Laboratory of the United States Steel Corporation.

Doan Gilbert E.

The principles of physical metallurgy Third edition. New York McGraw Hill Book Company Inc., 1953 331 p 24 cm. $6 50 6867

Contents: Part I. The physics of metals: The states of aggregation. The physical properties of metals. The mechanical properties of metals—their change with temperature. Part II. Metallography: The crystal structure of binary alloys—the phase rule. The structure of binary alloys—quenching. Nonequilibrium in binary alloys. The properties of binary alloys. The structure of ternary alloys at equilibrium. The properties of alloys. Part III. Metal technology: The shaping of metals. The heat-treatment and surface treatment of metals. The testing of metals. Commercial alloys, processes and problems. Index.

Note: A standard work used primarily as a textbook in courses offered to engineering students. It presents from the standpoint of physics and physical chemistry the fundamental knowledge of the physics of metals and metallography, then relates it to the processes of metal fabricating, heat treatment, etc. Approximately two-thirds of the space is devoted to the basic knowledge, and one-third to the applications. The second edition was published in 1941. The scope and level of treatment was unchanged in this third edition, but important revisions have been made in the third chapter to bring it into conformity with present-day electronic and atomic theory. The author is Manager of Metallurgical Research for the Koppers Company.

Dowdell Ralph Lewis and others

General metallography by Ralph L. Dowdell Henry S Jerabek, Arthur C. Forsyth and Carrie H. Green. New York John Wiley & Sons, Inc., 1943 292 p. illus. 23 cm. $5 75 6868

Contents: Introduction. Crystallization and crystal structure. Alloy systems and constitution diagrams. Classification of constitution diagrams pyrometry. Mechanical properties. Metallographic control. Cold working, plastic deformation, strain hardening. Iron and steel. Nonferrous metals and alloys. Corrosion. Appendix. Index.

Note: For beginners in the field of metallography. This book covers, in detailed but compact style, the principles governing the behavior of ferrous and nonferrous metals and alloys, their properties, structures, and conduct when processed and subjected to heat. It gives in clear concrete terms the characteristics of important commercial alloys. Tables of physical and mechanical properties of metals and alloys have been presented for instant reference. Many of the tables are taken from the American Society for Metals, *Metals handbook*, Cleveland, 1939. Diagrams and illustrations, among them photomicrographs of typical metallic structures, are included.

Elberfeld John

Metallurgical materials and processes. New York Prentice Hall, Inc., 1948 188 p. illus. 24 cm. $3 75 6869

Contents The refining of metals. Mechanical properties of materials. The fabrication of metals. Grain structure. The equilibrium diagram. The iron-carbon constitution diagram. The heat-treatment of steel. Ferrous metals and alloys. Non-ferrous metals and alloys. Welding metallurgy The cleaning and coating of metals. Powder metallurgy Furnaces and their controls. Metal testing. Metallographic inspection. Appendix. Reference reading list. Index.

Note. An elementary presentation suitable for home study as well as vocational school use. The material is largely descriptive but the fifth and sixth chapters are devoted to theory The book will not interest the reader who is planning to become a professional metallurgist, but it will be helpful to practical workers in industry who want a reliable but easy-to-understand account.

EVERHART, JOHN LAURENCE, AND OTHERS

Mechanical properties of metals and alloys by John L. Everhart, W Earl Lindlief, James Kanegis, Pearl G Weissler, and Frieda Siegel. Washington, D C Government Printing Office, 1943 481 p illus. 27 cm (United States Bureau of Standards Circular C447) $3 50 6870

Contents Introduction. Selection of the data. Organization of the data. Definitions and discussion. Aluminum and aluminum alloys. Copper and copper alloys. Iron and steel. Lead and lead alloys. Magnesium and magnesium alloys. Nickel and nickel alloys. Tin and tin alloys. Zinc and zinc alloys. Miscellaneous metals and alloys. Appendix. References. Index.

Note A compilation of data presented in tabular or graphic form compiled originally to answer questions pertaining to properties of metals and alloys received at the National Bureau of Standards. The present edition is based on the Bureau's Circular C101 the second edition of which was published in 1924 The present edition contains additional data on the properties of metals at high and low temperatures, on electrical and thermal conductivities, and on thermal expansion in connection with welding problems. Also, the tables have been rearranged to facilitate the location of data on specific alloys. The bibliography contains 774 numbered items. The text is keyed to it to indicate the sources of the data.

GILLETT, HORACE WADSWORTH

The behavior of engineering metals New York John Wiley & Sons, Inc. 1951 395 p illus 24 cm. $8 50 6871

Contents (abridged) General considerations. Tests and specifications. Simulated service. Notches and surface stress, external and internal. The statistical approach. Chemical and physical properties. Tonnage steels. Wrought steels of intermediate strength. Heat treated steels. Cold-worked metals. Ferrous castings. Steel, cast and malleable irons. The graphitic family Important nonferrous cast alloys and their idiosyncrasies. Alternate casting methods. Light wrought alloys titanium and zirconium. Some less common and some precious heavy metals Metal behaviors as affected by hydrogen. Machinability Inhomogeneous, clad, and coated metals. Metal films and surfaces. Powders and objects made by powder metallurgy Bearing metals. Surfaces in severe service. Severe service at high and low temperatures. Alternate materials, cost, conservation, codes. Appendix Sources of more detailed information. Author index. Subject index.

Note Here the special knowledge of the physical metallurgist is interpreted for the users of metals who do not have special training in metallurgy The book can well be used by such persons as complement to the standard compilations of engineering data about metals. It is in no sense a reference book of data, but it does contain lucid discussions of such topics as the properties of structural steel and what affects these properties, methods of testing the properties of metals, magnetic properties of metals, and the effects of cold working. Many special points and "tricks of the trade" are included that would be hard to find assembled elsewhere. Good selected lists of references accompany the chapters.

GROVER, H J, AND OTHERS

Fatigue of metals and structures, by H. J Grover, S A. Gordon and L R Jackson Battelle Memorial Institute. Prepared for Bureau of Aeronautics, Department of the Navy Washington D C. Government Printing Office, 1954 394 p illus. 24 cm (Navaer 00–25–534) $1 75 6872

Contents. The nature of fatigue failures. Nomenclature of fatigue and the organization of data. "Scatter" and dependability of fatigue-test results. Fatigue damage. Fatigue under combined stresses. Stress concentrations. Surface effects. Effect of size and shape upon the fatigue strength of a part. Effect of high temperatures on fatigue strength. Miscellaneous effects. Fatigue characteristics of engineering materials. Methods of using fatigue data in design. Fatigue characteristics of structural and machine components. Fatigue characteristics of composite structures. Methods of detecting and combating fatigue. Appendixes. Typical service-fatigue failures. Statistical analysis of fatigue data. Tables. References.

Note. Because gusts, vibration, and other sources of repeated stress are unavoidable in aircraft, it is important to the aircraft industry to design structures and machine parts for optimum freedom from fatigue failures under repeated stressing. With the passage of time, much experience in designing to resist failure has accumulated, both with regard to the knowledge of the behavior of materials in fatigue and in regard to design use of data on material properties. As a result of the need to provide help to designers, the Navy Bureau of Aeronautics commissioned Battelle Memorial Institute to survey the present state of knowledge in this field and to prepare this book reporting the results. The book, directed particularly to the designer or engineer with limited practical experience in fatigue problems, provides an illustrated summary of present-day information and gives references to published literature for more complete information on the subject.

GUY, ALBERT G

Elements of physical metallurgy Reading, Mass Addison Wesley Publishing Co. Inc., 1951 293 p illus. 25 cm. $8.50 6873

Contents Introduction. A survey of metallurgy Atomic structure. Crystal structure. Equilibrium diagrams. Structure of alloys. Physical properties. Elasticity of metals. Plasticity of metals. Corrosion. Diffusion in metals. Recovery recrystallization and grain growth. Age hardening. Heat treatment of steel. Appendix. Literature of metallurgy Index.

Note. An introductory work for college students who have completed courses in basic physics, chemistry and calculus. The treatment includes considerable emphasis on phase diagrams and has other up-to-date features. A short bibliography is appended to each chapter and in addition there is a discussion of the principal guides to metallurgical literature and of methods of searching them for information on problems.

HAMPEL, CLIFFORD A, editor

Rare metals handbook. New York Reinhold Publishing Corporation 1954 657 p. illus. 24 cm. $12 00 6874

Contents The rare metals, by C. A. Hampel. The alkaline earth metals calcium, barium, and strontium, by C. L. Mantell. Beryllium, by B. R. F Kjellgren. Bismuth, by H. E. Howe. Boron, by H. S. Cooper Cadmium, by F O. McCutcheon and J R. Musgrave. Cobalt, by C. R. Whittemore. Gallium, by A. P Thompson. Germanium, by H. R. Harner Hafnium, by D. R. Martin and P J Pizzolato. Indium, by J. R. Mills and others. Lithium, by P E. Landolt. Manganese, by C. A. Hampel. Molybdenum, by L. F Yntema and A. L. Percy The platinum metals, by F E. Beamish and others. Rare earth metals, by H. E. Kremers. Rhenium, by A. D. Melaven Selenium, by J R. Stone and P K. Caron. Silicon, by D. W Lyon. Tantalum and columbium, by L. F Yntema and A. L. Percy Tellurium, by J. R. Stone and P K. Caron. Thallium, by H. E. Howe Thorium, by W C. Lilliendahl. Titanium, by H. R. Ogden and R. W Gonser. Tungsten, by L. F Yntema and A. L. Percy Uranium, by G. Meister Vanadium, by H. E. Dunn and others. Zirconium, by A. W Schlechten. Physical properties of metals, by C. A. Hampel. Index.

Note A reference book of descriptive information and technical data on the individual metals and groups of metals named in the chapter titles. The organization of most of the chapters follows this pattern an introduction in which physical and chemical properties are described, the origin of the name of the metal is discussed, and the basic facts on its discovery and early history are given occurrence and associations in natural ores, production and economic statistics for the world insofar as they are available metallurgy physical properties chemical properties, chemical analysis fabricating techniques (for metals used as an engineering material) other applications, and literature references. A considerable part of each chapter is written as narrative exposition,

however, extensive use has been made of tables in presenting physical and chemical data.

HAYWARD, CARLE REED

An outline of metallurgical practice. Third edition. This edition sponsored by American Smelting and Refining Company. New York, D. Van Nostrand Company, Inc., 1952. 728 p. illus. 24 cm. $11.50. 6875

Contents: Introduction. Copper. Lead. Zinc. Aluminum. Nickel. Tin. Mercury. Antimony. Arsenic. Bismuth. Cadmium. Cobalt. Magnesium. Beryllium. Gold. Silver. Platinum. Chromium. Tungsten. Manganese. Vanadium. Molybdenum. Zirconium. Titanium. Uranium. Iron and steel. Non-ferrous alloys. Index.

Note: This book meets a two-fold need: for engineers it is a reference book giving modern practices in extracting and refining metals and giving general information regarding the sources, uses, and important alloys of the metals; for students beginning the study of metallurgy it is a textbook covering metallurgical practice in outline. Because of advances in the field of metallurgy since the second edition was published in 1943, some sections of the book have been entirely rewritten for the third edition, and new chapters on titanium and uranium have been added. Some certain old-time processes, such as copper blast-furnace smelting and the puddling process for wrought iron, have been dropped. The 63 tables have been brought up to date. A special feature is made of the illustrations, of which there are more than 430, about one-third of them entirely new. The author advises a careful study of the illustrations, as in many instances they are substitutes for printed descriptions of processes or apparatus.

HENDERSON, J. G.

Metallurgical dictionary. By J. G. Henderson. Assisted by J. M. Bates. New York, Reinhold Publishing Corporation, 1953. 396 p. 24 cm. $10.00. 6876

Note: About 5,000 terms are defined in this reference book. A few widely established trade names, such as "Alclad," "Alnico," "Grasse," and "Magnaflux," are included but, generally speaking, trade names are not represented. Instead, the book covers terms (such as "fastener") which are strictly metallurgical, and the metallurgical meanings of more common terms, such as "Banding." Definitions are clearly worded and adequate. The typical length is three or four lines, but some are much longer. Abbreviations and symbols are covered in an appendix.

HEYER, ROBERT HARRY

Engineering physical metallurgy. New York, D. Van Nostrand Company, Inc., 1939. 549 p. illus. 23 cm. $7.00. 6877

Contents: Pure metals. Principles of alloying. White metal bearing alloys. Light alloys. Die castings. Copper and its alloys. Irons and carbon steels. Heat treatment of steel. Low and medium alloy steels. Surface treatment of steel. Steel castings. Welding. Cast iron. High alloy irons and steels. Tool steels.

Note: This college textbook explains the application of metallurgical principles in the production of alloys, in their processing, and in their various uses in engineering. This fundamental knowledge is expanded with many practical examples to show the student the direct application of metallurgical principles to the choice, or even the formulation, of an alloy for a specific engineering purpose, and the various steps in heat treatment and other methods of processing which are necessary to its preparation.

HOTCHKISS, A. G., AND H. M. WEBBER

Protective atmospheres. New York, John Wiley & Sons, Inc., 1953. 341 p. illus. 24 cm. $8.00. 6878

Contents: Typical protective atmospheres. Basic chemical reactions of gases used for furnace atmospheres. Atmospheres for preventing or reducing oxides. Atmospheres for preventing decarburization. Atmospheres for carburizing, carbon restoration, and nitriding. Instruments for analyzing, controlling, and measuring gases. Storage, distribution, and handling of gases. Applications of protective atmospheres. Remedies for protective-atmosphere ailments. Index.

Note: A "protective atmosphere" is a gas or mixture of gases, other than air, used to exclude air, or in place of it, in various industrial processes. Hydrogen, nitrogen, carbon dioxide, helium and dissociated ammonia are typical of the gases used in such applications as the prevention of decarburization and oxidation of metals being processed, the control of color, the control of restoration of carbon, the addition of nitrogen, etc. In this book, the field is covered from the viewpoint of technicians, such as plant engineers in charge of manufacturing operations. The book is a combination of background information and descriptions of practical techniques. Literature references are included. Much of the material was published originally in the *General electric review.*

HOYT, SAMUEL L.

Metal data. Revised edition of *Metals and alloys data book.* New York, Reinhold Publishing Corporation, 1952. 526 p. illus. 26 cm. $15.00. 6879

Contents: Test specimens. Hardness tests. The wrought steels. Heat treated steels. Cast steels. The cast irons. Stainless steels. Heat- and corrosion-resistant casting alloys. Super-alloys. The nonferrous alloys. Additional metals. General data. Index.

Note: A standard reference handbook for the use of advanced engineering students, graduate engineers, and metallurgists. The information contained is given primarily in the form of charts and tables classified under the headings listed above. The chapter entitled "General data" contains a variety of useful information on such topics as the properties of the chemical elements, the heat content of metals, pyrometric cones, weights of sheets and plates, and various compilations of conversion tables. The first edition was published in 1943. In the present edition, the nature of the book is the same, but the contents have been much extended. More than 275 tables have been added. The number of figures has been increased from 40 to 111 and there are almost 200 more pages.

HULTGREN, RALPH

Fundamentals of physical metallurgy. New York, Prentice-Hall, Inc., 1952. 395 p. illus. 22 cm. $7.00. 6880

Contents (abridged): Introduction. The metallic state. Phases and simple equilibrium phase changes. Non-equilibrium phase changes. Decomposition of austenite. Ternary phase diagrams. Deformation of metals. Recovery and recrystallization. X-ray metallography. Crystal chemistry of metals. The casting of metals. Hot working of metals. Heat treatment of steel. Surface hardening of steel. Powder metallurgy. Welding metallurgy. Oxidation and corrosion. Metallography of alloying elements in steel. Properties of steel. Cast iron. Copper and copper alloys. Light metals. Preparation and examination of microscopic sections. Hardness testing. Pyrometry. Macroscopic examination—radiography. Index.

Note: An introductory textbook for college courses. It represents the approach to physical metallurgy which stresses the physical and chemical principles common to all alloys rather than the description of specific alloys. Phases and phase changes, for instance, are discussed at considerable length. Except for those parts which are intended to be co-ordinated with laboratory work, the book is also suitable for home reading by engineers out of college and other persons who have the necessary technical background. The author is Professor of Metallurgy in the University of California.

JOHNSON, CARL G., AND WILLIAM R. WEEKS

Metallurgy. Chapter XVII, Titanium, zirconium, indium, and vanadium, by William R. Weeks. Fourth edition. Chicago, American Technical Society, 1956. 454 p. 22 cm. $5.50. 6881

Contents: Properties of metals and tests to determine them. Chemical metallurgy. Producing iron and steel. Physical metallurgy. The theory of alloys. Shaping and forming metals. Bearing metals. Light metals and alloys. Copper and its alloys. Steel—man's servant. Heat treatments for steel. Surface treatments. Alloy or special steels. Classification of steels. Cast iron. Powder metallurgy. Titanium, zirconium, indium, and vanadium. The literature of metallurgy. Glossary. Index.

Note: An introductory book intended chiefly for the instruction of men in industry such as machinists and foundry workers who lack formal education in metallurgy but who wish to know some-

thing about the main principles and processes of the field. It is used as a textbook in vocational schools and as an elementary reference book in libraries. The first edition was published in 1918, the third in 1946. This fourth edition differs from the third edition only by inclusion of the chapter by Weeks, which is named in the title.

KEHL, GEORGE LOUIS

The principles of metallographic laboratory practice Third edition New York McGraw Hill Book Company, Inc., 1949 520 p illus 24 cm (Metallurgy and metallurgical engineering series, Robert F Mehl consulting editor) $7 75 6882

Contents. Preparation of specimens for microscopic examination. Etching of specimens for microscopic examination. Metallurgical microscopes and photomicrography The principles f photography Macroscopic examination of metals. Hardness testing. Special metallurgical tests. The principles of pyrometry and pyrometric practice. Thermal analysis. Appendix. Index.

Note. Although designed and used as textbook, this work is also a useful and comprehensive treatise on metallography It includes no laboratory experiments but, instead, describes how things are done, and why in laboratories set up for the study of the physical and mechanical properties of metals and alloys. The exposition is compact, but is sufficiently full for most purposes. It is supplemented by excellent lists f references and by more than 200 illustrations and 61 tables. Substantial revisions were made in preparing this edition.

KEYSER, CARL A.

Basic engineering metallurgy theories, principles and applications. New York Prentice-Hall, Inc., 1952 384 p illus 22 cm $6 75 6883

Contents (abridged) The structure of metals. The solid state—freezing, solutions, diffusion. Mechanical properties and metal failure. Equilibrium diagrams. The hardening of metals. Annealing—recovery recrystallization, and grain growth. Phase changes in iron and steel. Heat-treating equipment and operations. The alloying elements in steel. The light metals. Copper and zinc. Miscellaneous metals. Primary methods of fabrication—casting—powder metallurgy Electroplating and electroforming. Secondary methods of fabrication—mechanical working—joining and associated operations—machining and finishing. Index.

Note: An introductory textbook for college students f engineering. Approximately one-third of the space is devoted to theoretical aspects such as the physics of the solid state. The remainder is divided between discussions of heat treatment, the engineering properties of particular metals, and the chief processes of metal fabrication. The discussions are necessarily somewhat generalized, but in most parts they are sufficiently detailed to inform engineering students and engineers who are not specializing in engineering metallurgy The book is adequately illustrated and contains occasional footnote references to related literature.

LESSELLS, JOHN M

Strength and resistance of metals. New York John Wiley & Sons Inc 1954 450 p illus. 24 cm. $11 50 6884

Contents Tension. The elastic-stage modification. Tensile properties at elevated temperatures. Hardness. Impact. Fatigue—normal conditions—Controlling factors. Fracture of metals. Strain hysteresis. Mechanical wear Theories of strength and working stresses. Author index. Subject index.

Note Potentially of interest both to advanced students of mechanical engineering and to graduate mechanical engineers, this book is compact, well-organized statement of the knowledge f the behavior of metals, especially steel, under stress f the kinds encountered in structures and machines. It is limited to properties and behavior which have been observed and measured experimentally and it does not cover mathematical analysis. A wide range of specific data is presented on the topics named in the chapter titles and on sub-topics, such as the effects of surface conditions on fatigue failures, the effects of abrasive wear etc. The two chapters on fatigue account for more than one-quarter of the book's length and reflect the author's own interest and research in this area. Literature references are given throughout and the names f authors of the cited papers and books have been brought together in the author index. Problems for students to solve are segregated at the back of the book.

LIDDELL, DONALD MACY, editor

Handbook of nonferrous metallurgy Prepared by a staff of specialists. Second edition. New York McGraw Hill Book Company Inc., 1945 2 v illus. 23 cm Vol I, $9.50, vol. II, $12 00 6885

Contents (abridged) Volume I, Principles and processes Drying, by R. J Russell. Crushing and grinding, by H. Hardinge. Sampling, by D M. Liddell. Screening, by A. F Reed. Classification, by J V N Dorr and F L. Bosqui. Concentration, by D. M. Liddell. Flotation, by S. J Swainson. Dewatering, by J. V N Dorr and F L. Bosqui. Filtration, by D F Irvin. Pyrometry by W F Roeser and M. S. Van Dusen. Roasting and sintering, by A. S. Dwight. Refractories, by F A. Harvey Separation of solids and liquids from gases, by P E. Landolt and F H. Viets. Briquetting applied to metallurgy by A. L. Stillman and D. M. Liddell. Plant layout, by P E. Barbour The electric furnace in nonferrous metallurgy by D M. Liddell. Applied electrochemistry by C. G. Fink. Index. Volume II, Recovery of the metals Aluminum, by R. J Anderson. Magnesium and beryllium, by D M. Liddell. The alkali and alkaline-earth metals, by A. C. Loonam. Arsenic, by W C. Smith. Antimony by C. Y Wang and G. C. Riddell. Bismuth by W C. Smith. Lead, by R. G. Bowman. Treatment of zinc crust and electrolytic slime, by T D. Jones. The metallurgy of copper by F R. Pyne. Refining of gold and silver bullion, by E. J Wagor Electrolytic refining of lead, by G. Rehberg. The electrolytic zinc process, by F Laist and others. Pyrometallurgy of zinc, by W R. Ingalls. Cadmium, by W R. Ingalls. Mercury by G. L Gould. Chromium, by E. Perkins. The metallurgy of manganese, by E. A. Herman. Cobalt, by A. B. Schad and others. Nickel, by D M. Liddell. Tungsten, vanadium, uranium, and molybdenum, by H. A. Doerner Metallurgy of radium and uranium, by H. A. Doerner. Tin, by R. L. Hallett. Minor and rare metals, by D M. Liddell. Appendix. Index.

Note A comprehensive survey of current practices in the reduction of ores and the refining of crude metals. It is written in the terminology of this branch of metallurgy and is designed as reference book for use by advanced students and graduate mining engineers. In the present edition, there are 43 chapters, each of which is the work of one or mor outstanding experts. Compared to the first edition, hich was published in 1926, the amount of new material varies considerably from paper to paper. Some papers are only slightly revised while others ha been extensively or wholly rewritten. The editor of the work notes that some new processes known to himself and the contributors were omitted for reasons f military security

LORD, JAMES OSBORN

Alloy systems an introductory text. New York Pitman Publishing Corporation 1949 380 p illus. 24 cm. (Pitman metallurgy series Frank T Sisco, advisory editor) $6 00 6886

Contents (abridged) The metallic state defined. How conditions of solidification affect metal structure. The use of the equilibrium diagram in the interpretation of microstructures. The phase rule and its application to alloys Deviations from equilibrium. The iron-carbon alloys. The equilibrium relations of iron and carbon. Structures of slowly cooled iron-carbon alloys. Methods of manufacture of iron and steel. The thermal critical points of steel. The microstructures of heat-treated steels—theories of hardening. The chemistry of the carburizing process and controlled furnace atmospheres. Heat treatment of carburized steel liquid-bath carburizing. The McQuaid-Ehn test—hardenability Specific characteristics of nickel steels and manganese steels. Specific characteristics of chromium steels and molybdenum steels. Specific characteristics of tungsten steels and of tungsten and molybdenum high-speed steels. Copper—manufacture and properties—metallography The copper alloys. Aluminum bronze and other bronzes. Aluminum and aluminum alloy Magnesium and magnesium alloys. Appendixes Crystallography of metal crystal lattices. A deri ation of the phase rule. A selected book list for collateral reading. The use of periodical literature in teaching physical metallurgy Index.

Note The pertinent aspects of physics and physical chemistry are stressed in this textbook. There is much emphasis on thorough understanding of thermochemical equilibria and the interpretation of

Metallurgy

General

phase diagrams. The theoretical and basic material is followed by specific discussions of alloy systems and related metallurgical topics. The book is designed to give undergraduate students [illegible] working knowledge of the physico-chemical bases of alloys and also some acquaintance with the properties of specific alloys of outstanding engineering importance.

MERLUB-SOBEL, M.

Metals and alloys dictionary New York Chemical Publishing Company Inc., 1944 238 p. 23 cm. $4.50. 6887

Note: This dictionary defines metallurgical terms used in the United States of America. It is intended for the use of lay persons as well as for persons [illegible] technical backgrounds. The definitions are on the [illegible] rather brief, and the list of terms [illegible] selective rather than exhaustive.

MONDOLFO L. F., AND OTTO ZMESKAL

Engineering metallurgy New York McGraw-Hill Book Company Inc., 1955 397 p. illus. 24 cm. $8.00 6888

Contents: Extraction of metals. Atoms and crystals. Equilibrium diagrams. Structure and properties of alloys. Casting principles. Casting practice. Plastic deformation and annealing. Plastic working practice. Phase transformations in the solid state. Annealing practice. [illegible] and heat-treatment practice. Joining. Powder metallurgy. Corrosion and protection. Iron and similar metals. Nonferrous metals. Index.

Note: An engineering college textbook that affords [illegible] broad [illegible] of present-day metallurgical theory and practice. It [illegible] designed for the instruction of engineering students [illegible] are preparing for careers in fields other than metallurgy. Basic knowledge pertaining to atomic structure and to crystals is introduced early in the [illegible]. However, most of the space is devoted to descriptions of [illegible] metal fabricating and treating processes. Selected literature references are included, and the book [illegible] adequately illustrated.

MURRAY WILLIAM M. editor

Fatigue and fracture of metals a symposium held at the Massachusetts Institute of Technology June 19–22 1950 Edited by William M. Murray With a foreword by Jerome C. Hunsaker New York Published jointly by the Technology Press of the Massachusetts Institute of Technology and John Wiley & Sons, Inc., 1952 313 p. illus. 24 cm. $7.95 6889

Contents: General survey of the problem of fatigue and fracture, by M. Gensamer. The fatigue problem in airplane structures, by H. L. Dryden and others. Brittle fracture and fatigue in ships, by F. Jonassen. Brittle fracture and fatigue in machinery, by R. E. Peterson. Internal stresses and fatigue, by O. J. Horger and H. R. Neifert. Designing for fatigue, by R. L. Templin. Fundamentals of brittle behavior in metals, by E. Orowan. Experimental study on temper brittleness of slightly alloyed carbon steel, by P. A. Jacquet and A. R. Weill. The statistical aspect of fatigue failure and its consequences, by W. Weibull. A review of cumulative damage in fatigue, by N. M. Newmark. Significance of transition temperature in fatigue, by C. W. MacGregor. The influence of metallographic structure on fatigue, by P. L. Teed. Fatigue at elevated temperatures, by N. J. Grant. The techniques of physical metallurgy for studying fatigue damage, by J. T. Norton.

Note: A collection of original papers which were presented first at [illegible] conference which was planned to focus attention upon the fatigue and fracture of metals as an engineering problem. Together they convey [illegible] picture of the developed knowledge and practical experience, summarize recent advances, and point out problems still in need of basic research.

NEWTON JOSEPH

An introduction to metallurgy Second edition. New York John Wiley & Sons Inc., 1947 645 p. illus. 23 cm. $7.50 6890

Contents: Part 1. Adaptive metallurgy. Metals. The physical properties of metals and alloys. Alloys. Fabrication. Heat treatment. Corrosion. Part II. Extractive metallurgy: The sources of metals. Ore dressing. Chemical principles. Fuels and refractories. Pyrometallurgy. Hydrometallurgy. Electrometallurgy. Summary. Index.

Note: An introductory text for college students [illegible] stresses basic principles rather than details of current practices. Because of its comprehensive [illegible] scope, it is also useful as [illegible] reference book and source of information for lay readers. The revisions and [illegible] writing in this edition account for 108 additional pages as compared to the first edition (1938). The brief sections on pyrometry and calorimetry of the earlier edition have been omitted, but the section on corrosion now forms [illegible] complete chapter. The chapters on sources of metals and ore dressing have been considerably expanded.

OSGOOD WILLIAM R. editor

Residual stresses in metals and metal construction. Prepared for the Ship Structure Committee under the direction of the Committee on Residual Stresses National Academy of Sciences—National Research Council. New York Reinhold Publishing Corporation 1954 363 p illus. 24 cm. $10.00. 6891

Contents: Effects of residual stresses on the behavior of structures, by F. Campus. Residual stresses in welded pressure-vessel [illegible], by M. Hetényi. Some typical cases [illegible] here residual stresses set up by welding appear to have contributed to ship structural failures, by D. Arnott. Residual stresses as [illegible] factor in ship fractures, by [illegible] Admiralty Ship Welding Committee. Some notes on typical residual stresses encountered in welded ships, by F. Field. Some considerations regarding the generation and importance of residual [illegible] stresses, by L. E. Benson. Residual stresses in welding, by W. Spraragen. The significance of residual stresses, by C. W. MacGregor. Some remarks on the influence of residual stresses on the brittle, plastic, and fatigue behavior of structures, by F. P. Bullard. The influence of residual stresses on the behavior of ductile structures, by M. R. Horne. Shakedown of [illegible]-plastic structures, by P. G. Hodge, Jr. Microstresses originated by the inclusions, by N. J. Petch. The effect of residual stresses on high-speed impact rupture, by J. Mikhalevich. Correlation of residual stresses [illegible] fatigue strength of machine elements and related phenomena, by O. J. Horger and H. R. Neifert. Effect of residual stresses on the failure of engineering materials, by D. Rosenthal. Residual stresses and static fracture, by W. M. Baldwin, Jr. Author [illegible] reply to Baldwin's comments on the "Effect of residual stresses on the failure of engineering materials," by D. Rosenthal. Measurement of residual stress, by D. Rosenthal. Residual stresses associated with [illegible] stress, by G. B. Greenough. Precautions to be used in the measurement and interpretation of residual stresses by X-ray techniques, by W. R. Hyler and L. R. Jackson. Complete determination of the state of residual stress in solid and hollow metal cylinders, by H. Bühler. Determination of residual stresses below the surface, by W. Soete and R. Vancrombrugge. Summary: Superposition, flow and fracture. Microstresses. Latent energy. Buckling. Variation of temperature. Fatigue. Measurement of residual stresses. Ships. Recommendations for research. References. Bibliographical sources. Index.

Note: The failure of several welded ships on the ways or while at sea during World War [illegible] focused the attention of metallurgists and engineers on residual stresses in metals and structures. This authoritative book is one of the results. The 22 papers were contributed by eminent American and British specialists. Embodied in them are descriptions of [illegible] case histories of structural failure due to residual stresses, the results of numerous investigations of such failures, and the best opinion available to date on the causes of such stresses and how to avoid or minimize them. The papers are all written on [illegible] high technical level and are accompanied by literature references.

POLUSHKIN E. P

Defects and failures of metals their origin and elimination. Princeton D Van Nostrand Company Inc., 1956. 399 p. illus. 23 cm. $12.50. 6892

Contents: Introduction. Segregation. Blowholes and porosity in metals. Pipe. Impurities in metals. Decarburization of steel. Scaling. Harmful effects of residual stresses in metals. Fatigue of metals. Flakes. Failures in heat treatment. The embrittlement of

metals. The origin of cracks. Defects in shape, surface and size of metals. Wear of metals. Corrosion. Index.

Note. The kinds of defects and failures discussed in this book are named in the above-quoted chapter titles. Each kind is discussed concisely and explicitly with particular attention to causes, detection, and harmful effects. In practically all instances, there are one or more illustrations of the defect under discussion. Most of the illustrations are reproductions of photographs, and many are from micro-photographs. The reproductions are high in quality. Each chapter includes an extensive bibliography. As an aid to use of the bibliographies, each one is indexed by kind of defect. The book is useful to engineers and metallurgists as a reference work.

PULSIFER, HARRY BRIDGMAN

Inspection of metals Cleveland The American Society for Metals, 1941 180 p illus. 23 cm $3 50 6893

Contents Ideals in steel-making. Tests for composition. Surface inspection. Hardness testing. Tensile testing including shear. Soundness testing. Macrographic patterns. Microscopic structures and patterns. Grain size testing. Coatings and corrosion testing. Impact, fatigue and creep testing. Specifications. Nonferrous metals testing. Welding of metals. Constitution and treatment of a metal and its alloys.

Note An authoritative and concise volume intended for those learning to inspect metals and who have only a limited knowledge of metal-making practices. The various tests are enumerated, together with a description of testing techniques, and an explanation of how findings may be interpreted. A brief list of books for the reader requiring additional information is included. There is an index.

QUENEAU, B R

The embrittlement of metals A series of four educational lectures on the embrittlement of metals presented to members of the American Society for Metals at the thirty seventh National Metal Congress and Exposition, Philadelphia, October 15 to 21, 1955 Bibliography on the embrittlement of metals by G A Ratz Cleveland American Society for Metals 1956 90 p. illus. 24 cm. $3 00 6894

Contents. The embrittlement of metals. Temper brittleness. Tempered martensite brittleness. Embrittlement of stainless steels. Bibliography Index.

Note. Some of the accumulated knowledge on embrittlement of metals is surveyed for graduate metallurgists in this short book. Most of the discussion pertains to embrittlement from various causes in low- and medium-carbon alloy steels, tempered martensite brittleness in hardened steels, and embrittlement in stainless steels. These topics are treated concisely but ample references are given to the related literature. In the published volume the verbal exposition is supplemented by numerous graphical representations of data and by a selection of micro-photographs of steel specimens.

RHINES, FREDERICK N

Phase diagrams in metallurgy, their development and application New York McGraw Hill Book Company Inc., 1956 340 p illus. 24 cm. (Metallurgy and metallurgical engineering series Robert F Mehl consulting editor, Michael B Bever associate consulting editor) $12 00 6895

Contents Introduction. Unary systems. Binary isomorphous systems. Binary eutectic systems. Binary eutectoid systems. Binary monotectic systems. Congruent transformation of alloys. Binary peritectic systems. Binary peritectoid systems. Binary syntectic systems. Complex binary phase diagrams. Ternary isomorphous systems. Ternary three-phase equilibrium. Ternary four-phase equilibrium, Class I.—Class II.—Class III. Congruent transformation in ternary systems. Complex ternary systems. Multicomponent systems. Pressure-temperature diagrams. Determination of phase diagrams. Appendixes. Index.

Note. An introduction to the topic of phase diagrams in metallurgy. It is intended primarily for undergraduate engineering college students preparing for careers in metallurgy. Although the author makes it clear that phase equilibria has a thermodynamic basis, the thermodynamic foundations are not emphasized. Instead, the various classes of phase systems of interest in metallurgy are described and diagramed, and the reader is afforded practice in the construction of such diagrams. The three chapters on four-phase systems constitute an unusually full treatment for an introductory book and, according to the author contain some material never before published. Shaded perspective drawings of unusual clarity are used in this group of chapters. The author is a member of the staff of the Metals Research Laboratory of Carnegie Institute of Technology

RINEHART, JOHN S, AND JOHN PEARSON

Behavior of metals under impulsive loads. Cleveland The American Society for Metals, 1954 256 p illus 24 cm $5 50. 6896

Contents Concept of impulsive loading. Properties of materials under conditions imposed by impulsive loading. Propagation of transient disturbances. Explosives and explosions. Characteristics of impulsive loads. Methods of observation and apparatus—nonphotographic. High speed photographic techniques. Inelastic behavior under nonimpulsive loading. Fracturing under impulsive loading. Plastic deformation under impulsive loading. Structural changes under impulsive loading. Behavior under impact. Practical application of explosives. Conclusions.

Note The main topic of this book is how metals in the form of plates and other simple structures react to the kinds of high transient loads applied by explosions. However the primary viewpoint is metallurgical rather than structural. Also there are brief discussions of the effects of explosive charges on rocks, etc. as in blasting. In early chapters the contrasting reactions of materials under static loads and impulsive loads are described, the laws governing the propagation of transient disturbances in elastic bodies are summarized and certain fundamental properties of explosives are outlined. Most of the rest of the book is devoted to descriptions of experimental techniques and the results of experiments. The bibliography is limited to literature cited in the text, nevertheless it is an extensive one.

ROGERS, BRUCE A.

The nature of metals Cleveland Published jointly by American Society for Metals and the Iowa State College Press, 1951 248 p. illus. 19 cm $4 00 6897

Contents. The metals. How atoms are arranged in metals. Alloys. More about alloys. Solidification. Movement of atoms in solid metals. Some effects of atomic movements. Iron, steel and the A1 transformation. The hardening of steel. How metals are deformed. Recrystallization. Oxidation and corrosion. Appendix. Some terms in crystallography. Glossary. References. Questions. Index.

Note A well-written semi-popular book. It is addressed to college students, scientists in fields other than metallurgy who are curious about metals and lay readers possessing some acquaintance with the terminology of chemistry and physics. It introduces the reader to the physical nature of metals, especially their crystal structure, and to their reactions to metalworking processes and the environment. There are 121 illustrations, and many of these are reproductions of microphotographs.

SACHS GEORGE, AND KENT R. VAN HORN

Practical metallurgy, applied physical metallurgy and the industrial processing of ferrous and nonferrous metals and alloys. Cleveland American Society for Metals, 1940 567 p. illus. 23 cm. $6 00. 6898

Contents The constitution of alloys. Grain structure of alloys and segregation. The crystal structure of metals and alloys. Phase changes in the solid state. Deformation and recrystallization. Residual stresses. Furnaces and general melting problems. Castings: special cast production. Castings mechanical properties. Castings. Mechanical working fundamentals. Melting alloys and methods. Ingots. Mechanical working. Mechanical working forging and extrusion. Mechanical working. Rolling, annealing and drawing, straightening and fabricating.

hat treatments. Heat treatment of steels. Heat treatment of nonferrous metals.

Note: The theory and practice of the making and shaping of commercial metals and alloys and the physico-chemical and physical relationships of metallurgy presented in concise and simplified manner. One-third of the volume deals with the general principles of physical metallurgy while the remainder of the volume discusses the actual processes of metal and alloy manufacture. An appendix contains binary constitutional diagrams of commercially important ferrous and nonferrous alloys. The numerous footnotes constitute an extensive bibliography. There is an index.

SAMANS, CARL HUBERT

Engineering metals and their alloys. New York, The Macmillan Company 1949 913 p. illus. 24 cm. $10 75 6899

Contents: General characteristics of the metallic engineering materials. The pure metal. Metallurgical methods. Production of the metals—magnesium, aluminum, and zinc—from their ores. The production of pig iron and cast iron. Iron and steel making. Production of the metals—copper, nickel, lead, and tin—from their ores. The theory of alloys. The principles of heat-treatment. Shaping and forming the metallic materials. Corrosion, its effects and control. Protecting metals against corrosion. Alloys used broadly because of ease of fabrication. Pipe, tubing, and castings resistant to water corrosion. Alloys resistant to chemical corrosion and the action of heat. Alloys for applications requiring high strength and toughness. Alloys resistant to general wear and abrasion. Tool metals. Bearing alloys. Alloys used because of their special physical properties. Index.

Note: Although intended primarily as a textbook, the comprehensiveness of this work makes it suitable for use also as a reference tool by practicing engineers. All phases of metallurgy are treated but about three-fourths of the space is devoted to engineering metallurgy. The book is especially outstanding for an extensive range of technical data relating to the properties of the eight major engineering metals and their alloys. As the chapter titles indicate, alloys are grouped and discussed from the standpoint of their uses. There are 143 figures, many of which are reproductions of photomicrographs. Selected references to additional literature are appended to the chapters.

SCHUHMANN, REINHARDT, JR.

Metallurgical engineering. Volume I. Engineering principles. Reading, Mass. Addison-Wesley Publishing Co., Inc., 1952 390 p. illus. 25 cm. (Addison-Wesley metallurgy series. Morris Cohen, consulting editor) $8 50 6900

Contents: The unit processes of chemical metallurgy. Stoichiometry. The heat balance. Metallurgical fuels. Combustion of fuels and heat utilization. Fluid flow. Steady heat flow. Unsteady heat flow. Phases in pyrometallurgical systems. Refractory materials. Appendix. Index.

Note: A college textbook in which the traditional approach to the teaching of extractive metallurgy has been discarded in favor of teaching the basic principles and unit processes. The importance of physical chemistry is demonstrated, and analytical and quantitative solutions of engineering problems are emphasized. In the first volume basic principles common to the unit processes of extractive metallurgy together with discussions of metallurgical fuels and refractory materials are covered. The book is based on experience in teaching at Massachusetts Institute of Technology where the author was Associate Professor of Metallurgy.

SISCO, FRANK THAYER

Modern metallurgy for engineers. Second edition. New York, Pitman Publishing Corporation, 1948 499 p. illus. 24 cm. (Pitman metallurgy series. Frank T. Sisco, advisory editor) $6.00. 6901

Contents (abridged): Metallurgy and engineering. The fundamental structure of metals and alloys. The manufacture of iron and steel. Fundamentals of the heat treatment of steel. The significance of the static properties of metallic materials. The significance of the dynamic properties of metallic materials. Carbon steel as an engineering material. Gray cast iron and malleable cast iron. Low-alloy steels as engineering materials. *Fundamentals of hardenability.* High-alloy steels as engineering materials. Tool steels, die steels, and cemented hard carbides. Light alloys as engineering materials. Copper and copper-base alloys as engineering materials. Corrosion and corrosion resistance. The effect of temperature on the mechanical properties of ferrous and nonferrous alloys. Questions. References. Index.

Note: A comprehensive survey of current ferrous and nonferrous metallurgical practice. It is suitable for engineering students and also for engineers who need a general knowledge of the subject. The use of highly technical phraseology has been kept to a minimum, and emphasis is given to the practical aspects and to descriptions of the structure and properties of metals and alloys, rather than to the theories of physical metallurgy. This edition has been revised and enlarged to include material on new techniques and alloys which have been developed since the publication of the first edition in 1941. Two new chapters dealing with the hardenability of metals have been added, and the 13-page annotated bibliography has been brought up to date and now includes a list of recommended periodicals.

SMITH, DONALD PRITCHARD

Hydrogen in metals. Chicago, The University of Chicago Press, 1948. 366 p. illus. 23 cm. (The University of Chicago Committee on Publications in the Physical Sciences) $10.00 6902

Contents: Introduction. Occlusion and occluding metals. Occlusive characteristics—specific permeability and dimensional changes. The course and rate of occlusion. Occlusive capacity and solubility. Occlusion in endothermic occluders—Fe, Co, Ni, Cr, Cu, Pt, Ag. Occlusion by palladium and the phases and phase-field limits of palladium-hydrogen. The electrical conduction of Pd-H. Electrode potential and the overstepping phenomenon of Pd-H. Exothermic occlusion by metals other than palladium—Ti, Zr, Th, V, Cb, Ta; Ce, La, Cr, Pr, Nd, Sa. Anomalous and nonoccluding metals—Mn, Cr (?), Mo (??), platinum group—Au, W; the "B" metals. Ternary hydrogen alloys. *Magnetic and chemical relations.* Survey—the metal and the hydrogen. Supplementary notes. General bibliography (serving also as author index). Subject index (including topics and systems).

Note: A critical survey of the published information pertaining to occluded hydrogen, that is, the absorption or retention of hydrogen by massive solid metals. Absorption rates from the gaseous state and from solutions are given, solubility data are shown in graphs and charts, and supersaturated states, as well as gas evolution upon heating, are considered. There is considerable emphasis on the known effects of occluded hydrogen upon the mechanical, electrical, and magnetic properties of metals and upon the crystal lattice. The localization and activation of hydrogen by metal are covered. The bibliography, which is keyed to statements in the text, contains 1,470 annotated references and covers in addition to the main subject borderline topics such as photo-electric theory.

SMITH, GEORGE V.

Properties of metals at elevated temperatures. New York, McGraw-Hill Book Company, Inc., 1950 401 p. illus. 23 cm. (Metallurgy and metallurgical engineering series. Robert F. Mehl, consulting editor) $9 75 6903

Contents (abridged): Plastic deformation of single crystals. Plastic deformation of polycrystalline metal. Creep of polycrystalline metals. The fracture of metals. Theories of flow and fracture. Tests and test equipment. Effect of chemical composition on creep. Effect of melting and deoxidation practice, heat-treatment, and grain size. Effect of varying temperature and load and of the state of stress. Changes during service-testing and microstructural changes. Design for elevated-temperature service. References. Appendix. Name index. Subject index.

Note: This book is a comprehensive presentation of the knowledge which has been accumulated in the last quarter-century pertaining to the effects of high temperature upon metals and to the design of metals and alloys for high-temperature service. It is devoted to basic knowledge rather than applications, and is intended for graduate metallurgists and physicists. The statements in the text are keyed to a bibliography of 444 references. The author is on the staff of the Research Laboratory of the U. S. Steel Corporation.

SMITH, MORTON C

Alloy series in physical metallurgy New York Harper & Brothers, 1956 338 p. illus. 24 cm. $6 00 6904

Contents Alloys in general the phase rule. Constitutional diagrams, simple eutectic-type alloys. Binary alloys showing mutual solid solubility Intermediate phases in binary alloy series. Binary alloys with limited liquid solubilities. Changes in solid alloys. Alloys of iron and carbon the steels. The cast irons. Ternary and higher alloys. Index.

Note A companion volume to the author's *Principles of physical metallurgy* described below It is a college textbook designed to be studied after that work or after an equivalent course in the fundamentals of physical metallurgy has been completed. It constitutes an introduction to the physical chemistry of alloy formation and to the characteristics of some of the most common alloys. The aim is a basic understanding of alloy formation. Most of the space is devoted to binary alloys however in the final chapter the reader is introduced to the subject of alloys of more than two components and to practical ways of constructing and interpreting constitutional diagrams for these complex systems.

SMITH, MORTON C

Principles of physical metallurgy New York Harper & Brothers, 1956 417 p illus. 24 cm $6 00 6905

Contents. The atom. Crystallography Crystal structures. Polymorphism. Crystal imperfections. Electrical and magnetic properties of metals. Deformation of metals. The effects of permanent deformation. The effects of elevated temperature. Fracture. Index.

—— Alloy series in physical metallurgy New York Harper & Brothers, 1956 338 p illus 24 cm $6 00 6905A

Content Alloys in general—the phase rule. Constitutional diagrams—simple eutectic-type alloys. Binary alloys showing mutual solid solubility Intermediate phases in binary alloy series. Binary alloys with limited liquid solubilities. Changes in solid alloys. Alloys of iron and carbon—the steels. The cast irons. Ternary and higher alloys. Index.

Note These complementary books reflect the current interest in the scientific bases of metallurgy They contain some descriptive material, but in both volumes fundamental knowledge and a scientific approach are emphasized. Considerable space is devoted to the basic facts of atomic structure and crystal formation. When strictly metallurgical phenomena and process are under discussion the exposition is rendered, in so far as possible, in terms of this fundamental knowledge. In spite of this emphasis most metallurgical topics are expounded in the terms used by practical metallurgists rather than physicists. Readers are supposed to study *Principles of physical metallurgy* first however the two books may be used independently They are suitable for use as textbooks in college courses and as background reading for working metallurgists.

STANLEY, JAMES K

Metallurgy and magnetism A series of three educational lectures on metallurgy and magnetism presented to members of the ASM during the thirtieth National Metal Congress and Exposition, Philadelphia, October 23 to 29 1948 Cleveland American Society for Metals 1949 156 p illus 23 cm. $4 00 6906

Contents. Magnetic theory and definitions. Types of magnetic materials. Factors affecting magnetic properties. Magnetic analysis—a metallurgical tool. Appendixes Conversion table. Testing of magnetic materials References. Index.

Note A short but informative introduction which is addressed to metallurgists rather than to physicists. The treatment assumes familiarity with metallurgical concepts, terms, and with the reading of engineering graphs. Essentially the work is an outline which is adequate in itself for the metallurgists who want merely general understanding of magnetism. However key numbers directly in the text refer to the bibliography which includes 237 references to patents and periodical articles.

STOUGHTON, BRADLEY, AND OTHERS

Engineering metallurgy a textbook for users of metals. Fourth edition. By Bradley Stoughton, Allison Butts and Ardrey M. Bounds. New York McGraw Hill Book Company, Inc., 1953 479 p illus. 24 cm. $7 50 6907

Contents Introduction. Metals as materials of construction. The sources of metals. Sizing and shaping metallic bodies. Welding and joining metallic bodies. Metallurgical inspection and testing. The theory of alloys. Heat-treatment of metals and alloys. Properties and uses of iron and steel. Properties and uses of nonferrous metals. Examples of application of metals in engineering service. Corrosion and its prevention. Producing and refining iron and steel—effects on properties. Producing and refining nonferrous metals. Furnaces, refractories, and fuels. Measurement of temperature in industrial operations. Some available motion pictures. Index.

Note An introductory survey of metallurgy from the standpoint of engineers who are concerned with the selection and working of metals. It was designed and is widely used as college textbook. In addition, it is suitable for reading by persons out of college who have some knowledge of basic scientific terminology It can be used by such readers, not only for general view of the field but also for information on specific topics, such as the cutting of metals by flame, and the properties of molybdenum. The third edition was published in 1938. Much new material has been incorporated in this fourth edition. To make room for it, the discussions of production and refining of metals has been considerably shortened. The bibliographical lists have been revised.

VAN ARSDALE, GEORGE D , editor

Hydrometallurgy of base metals. George D Van Arsdale, editor in-chief prepared with the assistance of the Dorr Company staff New York McGraw Hill Book Company, Inc., 1953 370 p illus. 24 cm. $9.50 6908

Contents Chemistry of roasting and leaching. Crushing, grinding, classification. Roasting practice. Leaching and solution separation. Solution purification and metal recovery Operating data from practice—copper—zinc—miscellaneous. The history of hydrometallurgy The future of hydrometallurgy Index.

Note. A detailed survey of practical processes for recovering such metals as copper lead, zinc, antimony and uranium from ores by leaching with solvent, then precipitating the metal from the solvent. Preparatory processes, such as crushing, grinding, and roasting are also covered in detail. The three chapters on operating data account for more than half of the book length. These chapters describe in detail the plants, processes, and experience in a variety of ore processing plants which have been in practical operation for some time. Included in the miscellaneous chapters are descriptions of plants for the treatment of cobalt and uranium. The book is addressed primarily to graduate mining engineers.

WILLIAMS, ROBERT SEATON, AND VICTOR O HOMERBERG

Principles of metallography Fifth edition. New York McGraw Hill Book Company Inc. 1948 319 p illus 23 cm (Metallurgy and metallurgical engineering series Robert F Mehl, consulting editor) $6.25 6909

Content The simple alloy diagram The alloy diagram and its meaning. The plastic deformation and annealing of metals. The nonferrous alloy of technical importance. Iron and steel. The macroscopic examination of steel. Laboratory methods. Appendix. Index.

Note A brief text intended for use by college students of engineering who will need knowledge of metallography but who do not plan to become physical metallurgists. It discusses the characteristics, properties, and methods of analysis of the major ferrous and non-ferrous alloys. Emphasis is placed on the applications of metallography In this edition the chief revisions are found in the chapter on non-ferrous alloys. Several new tables have been added to the appendix.

WILLIAMS, SAMUEL ROBINSON

Hardness and hardness measurements. Cleveland The American Society for Metals 1942 558 p. illus. 23 cm. $7.50 6910

Contents: Theories and definitions of hardness. Atomic structure in relation to hardness. Underlying conditions in hardness measurement. Wear resistance in relation to hardness. Early rebound and modern scratch hardness methods. Early penetration hardness methods. Brinell and Rockwell hardness testing methods. Pyramidal indenter method of hardness testing. Elastic properties as measures of hardness. Rebound methods of measuring hardness. Pendulum method of measuring hardness. Physical processes which occur at the point where hardness test is made. Hardness tests on various non-metallic materials. Portable hardness testers. Correlation between hardness and the magnetic properties of solid matter. Magnetic methods of testing hardness. Hardness and magnetostriction. Electrical properties as measures of mechanical hardness.

Note: The volume deals primarily with hardness of metals and will be of value to the metallurgist as a reference tool. There is a discussion of what is meant by hardness and how it is brought about, followed by detailed descriptions of testing instruments, methods of operation, and interpretation of results. The 41-page bibliography will serve as a comprehensive guide to the literature of the subject. There is an index.

WOLDMAN, NORMAN E

Engineering alloys names, properties, uses. Revised edition. Cleveland American Society for Metals, 1954 1,033 p 23 cm. $15.00. 6911

Contents: Section I, Alloy index. Section II, Alloy data. Section III, Directory of manufacturers and their alloys. Section IV, Key index to manufacturers. Section V, Useful data. Appendix.

Note: A comprehensive metallurgical and engineering reference book. It consists largely of tables. The data presented were, in most instances, supplied by the manufacturers of the alloys. The most important section is that on alloy data. It is over 630 pages long and it consists of a table giving, for each alloy listed, the trade name, composition, properties, uses, and a key number identifying the manufacturer. The first edition of the book was published in 1936 and the second edition in 1943. The present edition—actually the third—contains data on more than 7,000 proprietary alloys which were not included in the preceding edition. The special section on uses and applications that appeared in the first two editions were deleted, but the information on primary uses in Section II has been retained.

WULFF JOHN AND OTHERS

*Metallurgy for engineers casting, welding and working. By John Wulff Howard F Taylor and Amos J Shaler Illustrations by George E. Schmidt, Jr New York John Wiley & Sons, Inc. 1952 624 p illus. 22 cm. $7.25 6912

Contents (abridged): Crystalline structure and properties of metals. Impurity and solubility. Phase equilibrium and alloy systems. Industrial non-ferrous alloys. Alloys of iron and carbon. Heat treatment of steel. Methods for determining mechanical properties of metals. Mechanism of deformation and effects of deformation of metals. Electrical and magnetic properties of metals. Corrosion. Introduction to sand casting practices. Casting processes other than sand casting. The metal in casting. Melting—heat flow—gases in metals. Powder metallurgy. Welding. Brazing and soldering. Metal working by compression processes. Stretching, drawing, and bending processes. Metal cutting. Appendix. Index.

Note: The extraction of metals from their ores is not covered in this book, but otherwise it is an inclusive treatment particularly suited to the needs of engineering students and graduate engineers whose interest in metals is confined to their properties and working. There are brief but clear explanations of each topic. [illegible] of each procedure as investment casting. Selected literature references are included with each chapter. The appendix contains short tables of general usefulness in metal specification and design. The authors are members of the Department of Metallurgy of Massachusetts Institute of Technology.

ZENER, CLARENCE

Elasticity and anelasticity of metals. Chicago The University of Chicago Press, 1948. 170 p. illus. 23 cm. $5.00. 6913

Contents: Part I, Elasticity of metals: Formal relations between stress and strain. Low-temperature elastic constants in cubic metals. Temperature dependence of elastic constants. Micro-elasticity. Part II, Anelasticity of metals: Formal theory of anelasticity. Measurement of relaxation spectrum. Physical interpretation of anelasticity. Index.

Note: The first monograph published under the auspices of the Institute of Metals of the University of Chicago, which was set up in 1946 to correlate knowledge and research in the fields of chemistry, physics, and mathematics that is of interest in the study of metals. It deals chiefly with deviations from perfect elastic behavior, but elastic behavior is reviewed concisely as a prelude to the discussion of anelasticity. It embodies much original research by the author as well as the pertinent findings that have been published previously. Related literature is cited in numerous footnotes.

CORROSION

AMERICAN SOCIETY FOR METALS

Surface protection against wear and corrosion. Two series of educational lectures on surface protection against wear and surface protection against corrosion presented to members of the ASM during the thirty fifth National Metal Congress and Exposition, Cleveland, October 19 to 23 1953 Cleveland American Society for Metals, 1954 461 p. illus. 24 cm. $6.00. 6914

Contents: Introduction, by H. S. Avery. Surface protection against wear: Testing for wear resistance, by H. S. Avery. Selecting materials for wear resistance, by H. S. Avery. Electroplated coatings, by J. M. Hodderick. Anodized coatings, by J. M. Hodderick. Case hardening of steel by carburizing, by M. B. Bever and C. F. Floe. Case hardening of steel by carbonitriding and cyaniding, by M. B. Bever and C. F. Floe. Case hardening of steel by nitriding, by M. B. Bever and C. F. Floe. Diffusion treatments for wear protection, by M. B. Bever and C. F. Floe. Metallizing, by H. [illegible]. Selective heat treatment, by S. L. Case and H. J. Grover. Hard facing—Hard facing alloys—Tungsten carbide hard facing—Chromium carbide hard facing—Martensitic irons—Cobalt-base alloys—Nickel-base alloys—Martensitic and pearlitic steels—Austenitic stainless steels—Austenitic manganese steels, by H. S. Avery. Hard facing for hot wear resistance, by T. Gaynor. Surface protection against corrosion: Economic justification of protective coatings, by C. C. Harvey. Surface preparation and pretreatment of metals prior to painting, by A. J. Liebman. Organic coatings for normal service, by A. J. Eickhoff. Corrosion prevention by paint maintenance in severe industrial atmospheres, by K. Tator. Specifications for the painting of metals, by J. Bigos. Cathodic protection and galvanizing, by H. A. Robinson. Metallizing, by H. S. Ingham. Electrodeposited coatings, by F. Ogburn. Index.

Note: Essentially this book is an introductory text for working metallurgists and other technicians who are concerned in a practical way with the protection of metals against wear and corrosion. Little if any new information is presented; instead, the two parts are authoritative expositions of accepted and practical knowledge. Most of the authors are specialists associated with metallurgical research in industrial laboratories.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on atmospheric corrosion of non-ferrous metals. Presented at the Fifty eighth Annual Meeting American Society for Testing Materials, Atlantic City N J June 29 1955 158 p. illus. 23 cm. $2.75 6915

Contents: Introduction, by W. H. Finkeldey. Report of Subcommittee VI on atmospheric corrosion. Resistance of aluminum-base

alloys to 10-year atmospheric exposure, by C. J Walton and W King. Effect of 10-year marine atmosphere exposure on some aluminum alloys, by F M. Reinhart and G. A. Ellinger Effect of natural atmospheres on copper alloys 10-year test, by A. W Tracy The atmospheric corrosion of copper—results of 10-year tests, by D H. Thompson, A. W Tracy and J R. Freeman, jr. Atmospheric galvanic corrosion of magnesium coupled to other metals, by H. O Teeple. Galvanic couple corrosion studies by means of the threaded bolt and wire test, by K. G. Compton and A. Mendizza. The atmospheric corrosion of rolled zinc, by E. A. Anderson. The use of lead and tin outdoors, by G. O. Hiers and E. J Minarcik. Atmospheric corrosion behavior of some nickel alloys, by H. R. Copson.

Note Committee B-3 of the American Society for Testing Materials conducted a long program of exposure tests of non-ferrous metals and alloys aimed at providing information on possible correlations between accelerated laboratory tests of corrosion and atmospheric corrosion and the usefulness of changes in tensile properties as measures of corrosion, as well as the resistance of the metals and alloys to atmospheric corrosion. Twenty-four non-ferrous metals and alloys were exposed to the atmosphere in seven locations scattered across continental United States of America. The lengths of the exposure periods ranged from a little over 18 years to more than 20 years. Data on loss of weight of the exposed specimens, average corrosion rate, changes in tensile strength, etc., are tabulated in the Report of Subcommittee VI included in this volume. The other papers are, for the most part, interpretations of the data.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on atmospheric exposure tests on non ferrous metals. Pittsburgh spring meeting, American Society for Testing Materials, February 27, 1946 Philadelphia American Society for Testing Materials, 1946 145 p illus 23 cm $1 65 6916

Contents Introduction, by W H. Kirkebey The corrosion of rolled zinc in the outdoor atmosphere, by E. A. Anderson. The behavior of nickel and monel in outdoor atmospheres, by W A. Wesley Resistance of copper alloys to atmospheric corrosion, by A. W Tracy The use of lead and tin outdoors, by G. O. Hiers. The resistance of aluminum-base alloys to atmospheric exposure, by E. H. Dix, jr and R. B Mears. Tracking troubles in atmospheric corrosion testing, by P S. Olmstead, W K. Campbell, and H. G. Romig. General discussion. Appendices.

Note Data accumulated from ten years of atmospheric corrosion tests conducted in various parts of the United States of America by the A.S.T.M are made available in these papers. Each paper is accompanied by a report of the discussion at the meeting.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on corrosion of materials at elevated temperatures. Presented at the fifty third annual meeting American Society for Testing Materials Atlantic City, N J June 26 1950 Philadelphia American Society for Testing Materials 1951 121 p illus. 23 cm. (Special technical publication no 108) $1 50 6917

Contents Introduction, by C. T Evans, jr Coal ash corrosion of metals at elevated temperatures, by C. T Evans, jr Stress corrosion tests on turbo-supercharger materials in the products of combustion of leaded gasoline, by G. B Wilkes, jr Creep as surface dependent phenomenon, by M. R. Pickus and E. R. Parker The effect of environment on the stress-rupture properties of metals at elevated temperatures, by O. C. Shepard and W Schalliol. Preliminary studies of the effect of oxidizing sulfurous atmospheres on the rupture strengths of inconel "X" and inconel, by A. M. Talbot and E. N Skinner Hydrogenizing effect of steam on ferrous alloys at elevated temperatures, by C. A. Zapffe and F K. Landgraf. Oil ash corrosion of materials at elevated temperatures, by C. T Evans, jr. The growing rôle of protective coatings for metals in high-temperature service, by W N Harrison.

Note These original papers were written for the information of metallurgists and engineers engaged in the design and construction of machines and industrial equipment subject to extremely high temperatures. Based on investigations conducted by experts in the field, they provide technical information regarding the behavior of various engineering materials under elevated temperatures. Discussions are included, and the paper on oil ash corrosion contains an extensive bibliography

BORGMANN, CARL WILLIAMS, AND OTHERS

Corrosion of metals a series of five educational lectures on corrosion of metals presented to members of the A. S M during the twenty seventh National Metal Congress and Exposition, Cleveland, February 4 to 8, 1946. Cleveland American Society for Metals, 1946 181 p illus. 23 cm $3 50 6918

Contents. Basic principles of metallic corrosion, by C. W Borgmann. Effect of composition and environment on corrosion of iron and steel, by C. L Larrabee. Corrosion resistance of stainless steels and high nickel alloys, by W O. Binder Copper and copper alloys in corrosive environments, by H. L. Burghoff. Corrosion of light metals (aluminum and magnesium) by E. H. Dix, jr. Index.

Note The papers listed above summarize the latest available information and are supported with numerous charts, diagrams, tables of data, photographs, and literature references. They are addressed to professional metallurgists and other technical men in the metal industries.

BRASUNAS, ANTON DE S , AND E E STANSBURY, editors

Symposium on corrosion fundamentals a series of lectures presented at the University of Tennessee Corrosion Conference at Knoxville on March 1, 2, 3 1955 Knoxville The University of Tennessee Press, 1956 255 p. illus 24 cm $5 00 6919

Contents. Corrosion in metal structures, by E. E. Stansbury Nature of corrosion, by A. S. Brasunas. Atmospheric corrosion, by H. R. Copson. Coating for atmospheric corrosion protection, by J L Richardson. High temperature corrosion, by H. Inouye. Liquid metal corrosion, by E. E. Hoffman. Principles of cathodic protection, by M. Stern. Corrosion problems in steam power and in industrial boiler plants, by R. M. Lemon. Corrosion failures in chemical plants, by M. G. Fontana. Inhibition of metallic corrosion in aqueous media, by H. C. Gatos. Passivation of stainless steel, by N. A. Nielsen. The influence of mechanical factors on corrosion, by J. J. Harwood. Geometric factors in electrical measurements relating to corrosion and its prevention, by W J Schwerdtfeger and I. A. Denison. Cathodic protection principles of system design, by H. C. Van Nouhuys. Use of plastics and plastic liners for corrosion protection, by R. B. Seymour. Trade names. Index.

Note A fundamental and at the same time practical survey of metallic corrosion is presented in this book. The basic knowledge of the subject is emphasized, but it is closely related to anticorrosive practices in industry. The authors of the papers addressed themselves primarily to graduate engineers.

LOGAN, KIRK HAROLD

Underground corrosion. Washington, D C. Government Printing Office, 1945 312 p. illus. 24 cm. (United States. National Bureau of Standards. Circular C450) $3 00 6920

Contents Introduction. Investigations of underground corrosion. Causes of underground corrosion. Investigations by the National Bureau of Standards. Results of field tests on ferrous materials. Interpretation of results on ferrous materials. Results of field tests on miscellaneous nonferrous materials. Results of field tests on protective coatings. Laboratory studies of corrosion. Soil surveys and tests. Determination of the condition of pipe line. Tests of coatings. Prevention of corrosion. Cathodic protection. References. Appendices Cooperators with the National Bureau of Standards in the corrosion investigations. Description of soils at test sites. Methods employed in cleaning of the National Bureau of Standards soil-corrosion specimens. Accumulation of data, calculations, and methods of reporting the data. Construction of the Denison corrosion cell. Denison's modification of the Hickling apparatus for measuring potentials. Index.

Note: This circular is an assembly of the results of the National Bureau of Standards investigations of underground corrosion which began in 1922, and is published for the information of persons concerned with the installation and repair of underground structures. In addition to a report on research results at the National Bureau of Standards and elsewhere, the book presents a general discussion of the corrosion problem and the conclusions to be drawn from the data.

NATIONAL ASSOCIATION OF CORROSION ENGINEERS

Bibliographic survey of corrosion 1952–1953 a compilation of corrosion abstracts. Houston, Texas National Association of Corrosion Engineers, 1956 382 p. 28 cm. $12.50. 6921

Contents: General. Testing. Characteristic corrosion phenomena. Corrosive environments. Preventive measures. Materials of construction. Equipment. Industries.

Note: Listed here is the fifth volume in this useful bibliographic series which provides a guide to the world literature on corrosion. As would be expected from the subtitle, most of the entries include abstracts of the indexed articles. The abstracts vary in length from single sentences to several paragraphs. Each volume in the series is independent of the others and contains its own index to authors and to subjects.

ROBERTSON WILLIAM D editor

Stress corrosion cracking and embrittlement. A symposium arranged by the Corrosion Division of the Electrochemical Society, Boston, October 1954 New York John Wiley & Sons, Inc., 1956 202 p. illus. 24 cm. (The Electrochemical Society series) $7.50. 6922

Contents: The phenomenon and mechanism of stress corrosion cracking, by J. J. Harwood. The structure of grain boundaries, by B. Chalmers. Structural factors associated with the stress corrosion cracking of homogeneous alloys, by W. D. Robertson. Stress corrosion cracking in heterogeneous alloys, by L. Graf. Metallurgical aspects of stress corrosion cracking in aluminum alloys, by E. C. W. Perryman. The mechanism of stress corrosion cracking observed in a magnesium alloy, by D. K. Priest. The role of boundary adsorption in stress corrosion cracking, by R. Speiser and J. W. Spretnak. Stress corrosion cracking of austenitic stainless steels in aqueous chloride solutions, by T. P. Hoar and J. G. Hines. The phenomenon of stress corrosion cracking in austenitic stainless steels, by C. Edeleanu. Stress corrosion cracking of mild steels, by R. N. Parkins. On the mechanism of chemical cracking, by U. R. Evans. Hydrogen in iron and its alloys, by W. R. Heller. Ductility of steel with varying concentrations of hydrogen, by T. Toh and W. M. Baldwin, Jr. Laboratory techniques for the investigation of stress corrosion cracking, by H. R. Copson. Index.

Note: Although metallurgists working in the United States of America are predominant in the list of contributors to this volume, there are four contributions from England, one from Canada, and one from Germany. A cross-section of current international thought is presented. In many cases the authors have described the results of their own researches and have correlated them with the work of others. Together the 14 papers represent a major contribution to the knowledge of stress corrosion cracking and embrittlement of metals and alloys.

SPELLER, FRANK NEWMAN

Corrosion causes and prevention. Third edition. New York McGraw Hill Book Company Inc., 1951 686 p. 24 cm. $12.00. 6923

Contents (abridged): Nature and mechanism of corrosion—theories of corrosion. Influence of methods of manufacture and treatment. Influence of factors internal to the metal—composition. Influence of factors external to the metal—classification of corrosion. Principles and methods of corrosion testing. Prevention of corrosion in the [illegible] in closed water systems by removal of dissolved gases—in steam generators—in steam and hot-water heating systems—in chemical industries—underground. Stray-current corrosion (electrolysis). Cathodic protection. Appendix. Index.

Note: Since 1926, when the first edition was published, this work has been known as an authoritative, useful presentation of the knowledge of corrosion of the ferrous metals. It is written from the practical viewpoint, but the theoretical aspects are adequately outlined. In the present edition there are one new chapter and a fair amount of revision. The type has been reset.

UHLIG HERBERT HENRY editor

The corrosion handbook edited by Herbert H. Uhlig and sponsored by The Electrochemical Society Inc. New York John Wiley & Sons Inc., 1948. 1 188 p. illus. 23 cm. $16.00. 6924

Contents (abridged): Glossary of terms used in corrosion. Abbreviations. Corrosion theory. Corrosion in liquid media, the atmosphere, and gases. Special topics in corrosion. High-temperature corrosion. High-temperature resistant materials. Chemical resistant materials. Corrosion protection. Corrosion testing. Miscellaneous information. General tables. Index.

Note: This reference tool brings together a wide range of data and technical information—some of it hitherto unpublished—regarding the behavior of metals and alloys in various surroundings, and the methods utilized for corrosion control. Papers have been contributed by over 100 engineers and research workers, and related literature is widely cited. Although the theories of metal corrosion and corrosion testing methods are discussed, the material is concerned primarily with the practical aspects of the subject.

POWDER METALLURGY

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on powder metallurgy. Philadelphia The American Society for Testing Materials, 1943 22 p. illus. 23 cm. $1.50 6925

Contents: The fundamentals necessary to apply powder metallurgy, by C. Hardy. The effect of pressure on the properties of compacts, by C. W. Balke. The influence of homogenization upon the physical properties of copper-nickel powder alloys, by F. N. Rhines and R. A. Meussner. The effect of particle size on the shrinkage of metal compacts, by P. E. Kalischer. Alloy powders, by T. H. Lasher. Metal powder bearings in America, by J. F. Kuzmick. The hot pressing of metal powders, by W. M. Pratt.

Note: Brief technical papers which include results of original experimental research and references to the application of powder metallurgy to the mass production of machine parts.

CONFERENCE ON POWDER METALLURGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Powder metallurgy papers presented at the 1940 and 1941 conferences on powder metallurgy held at the Massachusetts Institute of Technology edited by John Wulff Cleveland The American Society for Metals, 1942 622 p. illus 23 cm. $7.50. 6926

Contents (abridged): Glossary of powder metallurgy, by the editor. Developments in metal powders and products, by H. E. Hall. Effect of time, temperature, and pressure upon the density of sintered metal powders, by F. C. Kelley. Powder production and classification, by D. O. Noel. Metallic catalysts, by P. H. Emmett. Magnetic powders and production of cores for inductance coils, by E. E. Schumacher. Determination of the surface area and the average particle size of finely divided metals by use of low temperature adsorption isotherms, by P. H. Emmett. The electron microscope as a metallurgical tool, by G. G. Harvey. Sintering furnaces, by H. M. Webber. Alloy steel from powders, by J. Wulff. Manufacture of tungsten metal, by P. E. Wretblad. Cemented carbides, by L. W. Engle. Patent survey of powder metallurgy by A. W. Deller. Subject index.

Note: This volume contains 33 papers by specialists on almost as many aspects of powder metallurgy. Most of the papers are accompanied by bibliographies.

GOETZEL, CLAUS GUENTER

Treatise on powder metallurgy New York Interscience Publishers, Inc., 1949–52 3 v illus 23 cm. Vol I, $21 00, vol II, $25 00 vol III, $25 00 Set, $66 00 6927

Contents (abridged) Volume I, Technology of metal powders and their products. Principles. History Methods of powder production. Characteristics and properties of powders. Methods of testing powders. Powder conditioning and function of addition agents. The molding of powders into solid forms. Dies and punches. Presses. Hot-pressing apparatus and techniques. Sintering practices. Subsequent working. Finishing treatments. Author index. Subject index. Volume II, Applied and physical powder metallurgy Refractory metals and alloys. Hard metals and compositions. Electrical materials and products. Magnetic materials and products. Materials for structural parts. Porous products. Friction products. Dental alloys. Comparison of physical properties of sintered and fused industrial metals and alloys. Stress analysis of sintered metal structures. Appraisal of testing methods for sintered metals. Theories of bonding and sintering. The future of powder metallurgy Author index. Subject index. Volume III, Classified and annotated bibliography: Part I, Literature survey Part II, Patent survey Patent cross index. Subject index. Name index.

Note A comprehensive survey of the science and technology of powder metallurgy It is based on the literature and on the author's personal experiences in the field. Although the pertinent theory is adequately covered, most of the space in Volumes I and II is taken up with the technical aspects. Manufacturing, fabricating, and testing methods are presented in detail. Statements in the text are keyed to the literature citations. There are 628 figures in Volumes I and II. The bibliography is classified and contains full indexes. There are 899 pages in this volume.

IRON AND STEEL

AMERICAN FOUNDRYMEN'S ASSOCIATION

Alloy cast iron handbook, reviewed and revised by the Alloy Cast Irons Committee, Gray Iron Division American Foundrymen's Association Second edition. Chicago American Foundrymen's Association 1944 282 p illus 23 cm. $4 50 6928

Contents. Metallurgical principles of the effects of alloying elements in cast iron. Effects of alloying additions on cast iron. Effects of alloys on the physical and mechanical properties of gray irons. Ladle inoculants. White and chilled iron castings. Heat treatment of alloy cast iron. Foundry practice for alloy cast irons. Specific applications of alloy cast irons. Index.

Note A book covering the manufacture, uses, and properties of modern alloy cast irons, with extensive bibliographies. Elements discussed include aluminum, bismuth, carbon, chromium, cobalt, copper magnesium, manganese, molybdenum, nickel, phosphorus, silicon, sodium, sulfur titanium, tellurium, tungsten, vanadium and zirconium. The second edition not only revises and brings up to date the 1939 edition but also emphasizes methods of conserving alloys which the war emergency made necessary

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS

Basic open hearth steelmaking by the Physical Chemistry of Steelmaking Committee Iron and Steel Division, A I M E Second edition completely revised and enlarged. Edited by W O Philbrook and M B Bever in collaboration with H H Emerick and B M Larsen (Sponsored by the Seeley W Mudd Memorial Fund) New York The American Institute of Mining and Metallurgical Engineers 1951 940 p illus 26 cm. $8 00 6929

Contents: Part I, Practice Basic open-hearth furnaces, by H. K. Work and H. M. Banta. Survey of operations, by T S. Washburn. Open-hearth refractories, by R. B. Sosman and others. Open-hearth fuels, combustion, and instrumentation, by H. V Flagg and others. Raw materials, by T L. Joseph and others. Slag control, by W O. Philbrook and F M. Washburn. Charging and melting practice, by W O. Philbrook and others. Refining practice, by W O. Philbrook and others. Finishing and deoxidation practice, by H. B. Redding and R. K. Kulp. Molds and pouring practice, by H. J. Forsyth and L. G. Ekholm. Ingot structure and segregation, by J. W Halley Nonmetallic inclusions, by C. E. Sims. Properties of steel as influenced by constitution, by A. G. Forrest and R. W Farley Part II, Principles. Physical chemistry of high-temperature reactions, by J Chipman. Kinetics of metallurgical processes, by L. S. Darken. Physical chemistry of liquid steel, by J. Chipman. Physical chemistry of slag-metal reactions, by G. Derge and M. Tenenbaum. Physical chemistry of open-hearth refractories, by R. B. Sosman. Thermal changes in melting and refining, by L. S. Darken. Gas flow and heat transfer by B. M. Larsen. Combustion and utilization of fuel, by B. M. Larsen. Rates of open-hearth reactions, by B. M. Larsen. Index.

Note: In this book, the most important process for the manufacture of steel is described both for workers with only practical interests and for supervisors and metallurgists who need more basic understanding. The work is a co-operative one, and the authors of the various chapters are prominent metallurgists, chemists, etc., currently associated with steel manufacturing or with the teaching of metallurgy in colleges of engineering. Useful literature lists are included in the chapters. The first edition was published in 1944 Extensive revisions were made in preparing this edition, and the book is now about 300 pages longer

AMERICAN SOCIETY FOR METALS

Modern steels, manufacture, inspection, treatment and uses, a series of lectures organized by Pittsburgh Chapter, A. S. M., edited by Ernest E Thum Cleveland The American Society for Metals, 1939 374 p. illus. 23 cm $5 00 6930

Contents Raw materials and production of pig iron, by M. W Lightner Steel making process, by M. W Lightner. Steel pouring, by G. R. Fitterer Hot working, by E. E. Thum. Inspection and testing of steel, by G. R. Fitterer. Metallography by F H. Allison. Heat treatment, by A. W Demmler Alloy steels, stainless steels, and tool steels, by J P Gill.

Note: This series of papers on the manufacture, inspection, treatment and use of modern steels, prepared by experts in the field, will be of interest to both the metallurgist and general reader It is also intended for use as a college text and contains at the end of each section suggestions for additional reading and exercises. There is an index.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on evaluation tests for stainless steels, presented at the fifty second annual meeting of the American Society for Testing Materials Atlantic City June 30 1949 Philadelphia American Society for Testing Materials 1950 231 p. illus. 23 cm. (American Society for Testing Materials. Special technical publication no. 93) $2 50. 6931

Contents. Introductory summary by F L. LaQue. Present knowledge of low-carbon 18-8, by H. W Gillett. Corrosion resistance and mechanical properties of low-carbon austenitic stainless steels, by D C. Beck and others. Accelerated corrosion testing of chromium-nickel stainless steel weldments, by F K. Bloom and M. E Carruthers. An appraisal of methods for evaluating the corrosion resistance of stainless steels, by M. H. Brown and others. Some observations on tests for intergranular susceptibility of 18-8 Mo stainless steels, by H. Ebling and M. A. Scheil. Influence of carbon and molybdenum on the intergranular corrosion resistance of austenitic chromium-nickel steels with and without columbium, by W O. Binder and C. M. Brown. Comparative corrosion resistance of stainless steels in various acids, by E. B. Mears and others. Comparison of plant corrosion test results on austenitic stainless steels with results of Huey and Strauss tests, by H. O. Teeple. Results of some plant corrosion tests of welded stainless steels, by

G. F. Comstock. Testing multiple specimens of stainless steels in modified boiling nitric acid test apparatus, by W. R. DeLong. General discussion.

Note: The symposium of which this publication presents the papers was sponsored by A.S.T.M. Committee A-10 on Iron-Chromium, Iron-Chromium-Nickel, and Related Alloys. Its purpose was to present critical appraisal of some of the testing methods in use for evaluating certain corrosion-resistant characteristics of these alloys.

BAIN EDGAR COLLINS

Functions of the *alloying elements in steel.* Cleveland American Society for Metals *1939 312 p. illus. 23 cm. $5.00* 6932

Contents: Fundamental characteristics of steels. Alloying elements in unhardened steels. Effects of alloying elements in forming austenite. Effects of the elements in hardening steel. Effects of alloying elements in tempering.

Note: In this volume the author has undertaken to provide the reader with knowledge of the common alloying elements and their basic functions in steel. He directs special attention toward the improvement of the mechanical properties of steel, and toward those alloy steels which are usually hardened and tempered.

BRAY JOHN L.

Ferrous process metallurgy New York John Wiley & Sons, Inc., 1954 414 p. illus. 24 cm. $6.50 6933

Contents: Raw materials. The iron blast furnace. Wrought iron. The Bessemer process. The basic open hearth process. The acid open hearth process. Electric furnaces. Ingots and ingot molds. Index.

Note: An engineering college textbook about the making of iron and steel. Processes now in use and the equipment used in them are described in considerable detail and in lucid style. The viewpoint is that of engineers and other technicians engaged in steelmaking, and such aspects as the advantages and disadvantages of tilting open-hearth furnaces are discussed both expertly and practically. The book contains 90 figures, none of which is the reproduction of a photograph. In place of photographs the author has used clear line drawings which better illustrate principles and construction details.

BRIGGS CHARLES WILLERS

The metallurgy of steel castings. New York McGraw-Hill Book Company Inc., 1946. 633 p. illus. 23 cm. (Metallurgy and metallurgical engineering series Robert F Mehl, consulting editor) $12.00 6934

Contents: Basic practice for the production of steel for steel castings. Acid practice for the production of steel for steel castings. Gases, deoxidation, porosity and inclusions. Tapping and pouring. Liquid cast steel—liquid contraction and fluidity. The solidification of steel castings. Gates and risers. Contraction in the solid state. Hot-tear formation. Steel molding sands and cores. Effect of molten steel on sands, cores, and washes. Casting defects. Cleaning, chipping, and grinding of steel castings. Heat-treatment and metallography. Welding of steel castings. Inspection and properties. Index.

Note: A comprehensive survey of the technology of the manufacture of steel castings. Methods of making casting steel in converters, open-hearth furnaces, and electric furnaces are discussed and casting processes are described in detail. Technical and metallurgical control techniques as means of assuring quality are stressed. The author is Technical and Research Director of the *Steel Founders' Society of America.*

BULLENS, DENISON KINGSLEY AND OTHERS

Steel and its heat treatment, by D. K. Bullens and the metallurgical staff of the Battelle Memorial Institute. Fifth edition. New York John Wiley & Sons Inc. 1948–49 3 v illus. 23 cm. Vol. I, $9.75 vol. II $6.00 vol. III $10.50 6935

Contents (abridged): Volume I, Principles. Temperature conversion table. Steel numbering systems. Metallurgical journals. Section I, Terminology: Preliminary definitions. Equilibrium diagram. Nonequilibrium definitions and considerations. Metallographic structures and associated properties. Suitability of steel for heat treatment. Section II, Testing: Limitations of conventional tests. Conventional tests. Notched-bar impact testing. Special tests. Section III, Heat treatment in the pearlitic domain, below the critical range: Coldworked steel and its heat treatment. Precipitation hardening. Section IV Heat treatment involving transformation of austenite: Hardenability. S curves. So-called calculation of hardenability. Pretreatment of austenite, homogenization, overheating. Austenitic grain size and grain growth. Full annealing. Normalizing. Austempering, bainite, slack quenching. Quenching, martempering. Ms-Mf retained austenite. Spheroidizing, tempering, graphitization. Let us keep our eyes open. Index. Volume II, Tools, processes, control. Temperature conversion table. Steel numbering systems. Metallurgical journals. Section I, Control of surface conditions. Need for surface strength. Flame and induction hardening. Nitriding and cyaniding. Carburizing processes. Heat treatment of carburized steel. Controlled atmospheres. Fused baths. Section II, Heating and cooling: General considerations. Proper heating in forging and rolling practice. Sources of effective heat in heat treating. Control of the cooling phase. Section III, Heat treatment of ferrous castings. Quenching steel castings. Graphite and steels. Section IV Other applications of heat treatment. Heat treatment in relation to welding and machining. The human element. Index. Volume III, Engineering and special purpose steels. Section I, Engineering alloy steels. Limitations of carbon steels. Alloy effects on equilibrium and nonequilibrium diagrams. Alloying elements present in minor percentages. Behavior and costs of some individual alloying elements. Alloy steels for carburizing. Section II, Constructional alloy steels for heat treating: Simple alloy steels. Binary or double-alloy steels. Complex alloy steels. Steel castings. Toughness and workability at high hardness, quenching stresses and quenching cracks. Steels for quenched and tempered springs. Alloy steels for carburizing. Section III, Special steels: Nitriding steels. Steels for low-temperature service. Ferritic steels for high-temperature use, their properties and weldability. Austenitic steels for high-temperature use. Steels for corrosion and high-temperature resistance, especially corrosion. Steels for wear resistance. Carbon and intermediate tool and die steels. High-speed tool steels. Steels for magnetic uses. Index of steels. Subject index.

Note: The first edition of this work was published in 1916. As successive editions have appeared, it has become solidly established as a useful source of information for practical metallurgists, engineers, and other persons who desire reliable information about the heat-treating of steel. It is intended primarily for men who have picked up their knowledge of steel on the job, but appeals also to men who have studied metallurgy in college. Basic theory is treated in an elementary manner, and the various effects of heat treatment are related to it insofar as that is possible. Extensive bibliographies are included. This edition shows very extensive revision when compared to the fourth edition published in 1938.

CAMP JAMES MCINTYRE AND C B FRANCIS

The making, shaping and treating of steel a complete revision based on the original text. Sixth edition. Pittsburgh United States Steel Corporation, 1951 1584 p. illus. 23 cm. 6936

Note: A comprehensive reference book on the methods and products of the steel industry. It covers the basic chemistry and physics, the materials, and the processes of making pig iron and steel, the processes of forming the steel into commercially useful forms such as rails, structural shapes, sheets and wire, heat treatment, testing, and the special alloy steels. There are many illustrations and many graphical tabular presentations of data. The book is written in the terminology of the industry and is intended for the use of metallurgists, engineers and other readers with technical backgrounds in metallurgy. It was first published in 1920 and was gradually revised and enlarged in successive editions. The sixth edition represented a major revision. The seventh edition containing some revisions but not as many as the sixth edition was published in 1957 1,048 p., $7.50.

CASE, SAMUEL L., AND KENT R. VAN HORN

Aluminum in iron and steel. New York Published for The Engineering Foundation by John Wiley & Sons Inc. 1953 478 p. illus. [illegible] cm. (Alloys of iron research new monograph series) $13.00. 6937

Contents. Part I, Aluminum as deoxidizer in iron and steel The deoxidation of steel by aluminum. Oxide inclusions in steel deoxidized with aluminum. Sulphide and nitride inclusions in steel deoxidized with aluminum. The role of aluminum in austenitic grain-size control. Effect of aluminum on notch sensitivity and related properties of steel. Effect of aluminum on aging of steel. Some other consequences of the use of aluminum as deoxidizer Part II, Aluminum as an alloying element in iron and steel The constitution of binary and complex iron-aluminum alloys. The *manufacture of the simple* and complex iron-aluminum alloys. Aluminum in heat-resisting alloys. Aluminum in permanent-magnet alloys. The function of aluminum in nitriding steels. The aluminum coating of steel. Miscellaneous uses of aluminum as an alloying element in iron and steel. Bibliography Name index. Subject index.

Note. This new series under an old title is planned, according to its advisory committee, "to provide metallurgists and engineers with concise but comprehensive summaries of available data, as reported in the technical literature of the world, on the effect of selected metals on carbon steel and on simple and complex alloy steels and cast irons. This first volume on aluminum includes, in addition to the text, 341 references, arranged chronologically from 1897 to July 1952 many important phase diagrams, tables of useful data, graphs of research results, and photographs of particular microstructures. The first-named author is Technical Adviser for Battelle Memorial Institute, and the second-named is Director of Research for the Aluminum Company of America.

Comstock, George F

Titanium in iron and steel. New York Published for the Engineering Foundation by John Wiley & Sons, Inc., 1955 294 p illus 24 cm. (Alloys of iron research, monograph series, Frank T Sisco, director and editor) $9 00 6938

Contents Introduction. Titanium as deoxidizer in rimmed and killed wrought steels. The effects of titanium on nitrogen and sulphur in steel. Titanium in cast steel. Titanium in cast iron. General effects of titanium as the sole alloying element in pearlitic steels. Titanium in low-alloy steels. Carbide stabilization by titanium in low-alloy steels. Carbide stabilization by titanium in unalloyed steels or steels of less than 4% alloy content. Carbide stabilization by titanium in steels containing over 4% chromium. Titanium in precipitation-hardening steels and in complex heat-resisting alloys. Bibliography Name index. Subject index.

Note: An authoritative survey of the accumulated knowledge on titanium as deoxidizer and alloying element in iron and steel. Addressed to metallurgists who are working at the research and executive levels, the book is very compactly written and is designed primarily though not altogether, for reference. In addition to wide range of specific data, considerable amount of "know-how" is included for example, "with tilting furnace the slag should be held back until after the steel is tapped for if the alloy becomes coated with slag it is not effective as deoxidizer. The bibliography is arranged by year and all important statements and data in the text are keyed to it. The name index includes the authors of the cited literature.

Crafts, Walter, and John L Lamont

Hardenability and steel selection New York Pitman Publishing Corporation, 1949 279 p. illus 24 cm. (Pitman metallurgy series, Frank T Sisco, advisory editor) $6 00 6939

Contents. The hardenability pattern. Heating for hardening. The transformation of austenite. Quenching. Hardness and hardenability Hardenability test methods. Jominy hardenability control. Tempering after hardening. Mechanical properties and hardenability Factors in the selection of steel. Appendices. Bibliography Name index. Subject index.

Note: As these authors point out, the heat treatment of steel was known in ancient times and the operation of quenching and subsequent tempering are described rather fully in early classical writings. However, it is only in recent years [illegible] heat treating processes have been thoroughly studied and [illegible] correlated with conditions and results to the extent [illegible] of steel of a given composition can be predic[illegible] in the two decades, and especially in [illegible] has been made on the perfo[illegible] Leonardo[illegible] tury Laconically this book [illegible]

knowledge. It is organized and written primarily for engineers and other technically trained persons. The text is supplemented by a large amount of data presented tabularly and graphically The bibliography contains 139 references.

Enos, George Magee

Visual examination of steel. A series of three educational lectures presented to members of the American Society for Metals during the twenty first National Metal Congress and Exposition, Chicago, Illinois, October 23 to 27, 1939 Cleveland The American Society for Metals, 1941 123 p illus. (part col'd) 23 cm $3 00 *6940-1*

Contents. Surface of metals. Study and photography of rough surfaces at low magnifications. Fractures. Macro etching. Contact etching and printing, and other tests.

Note: This small volume is concerned primarily with one phase of metallographic technique, namely macroscopic examination in which the magnification is less than 10 diameters. The author has discussed good and poor techniques and their effect on the conclusions of the examiner Numerous photographs illustrate the various defects which occur in steel. There is brief bibliography and an index.

Grossman, M A.

Principles of heat treatment. A series of educational lectures on the principles of heat treatment of steels, first presented to members of the ASM during the seventeenth National Metal Congress and Exposition Chicago, 1935 and later extended to include the more recent developments Revised 1953 Cleveland American Society for Metals, 1953 303 p illus 23 cm. $6 00 *6942*

Contents Principles of hardening. Hardenability and quenching. Transformations during cooling. Tempering after quench-hardening. Normalizing and annealing. Case-hardening. Surface-hardening. Grain size. Determination of transformation diagrams. Appendix: The meaning of hardness, strength and toughness. References. Index.

Note In this book, written by an expert who was associated with the United States Steel Corporation during his lifetime, fundamental metallurgical phenomena are related to heat treatment methods and their effects upon steel. The various methods are specifically described but the main subject is why they transform steel as they do. The original lectures were addressed to metallurgists and the terminology of metallurgy was freely used. The book is nevertheless an introduction to its subject. It was first published in 1935 then revised in 1937 1940 and 1953

Hall, A. M

Nickel in iron and steel New York Published for The Engineering Foundation by John Wiley & Sons, Inc. 1954 595 p. illus. 24 cm (Alloys of iron research, new monograph series, Frank T Sisco director and editor) $14 00 6943

Contents Introduction. The melting and working of nickel alloy steels. Physical properties of irons and steels containing nickel. Metallography and heat treatment of wrought nickel steels—principles—practice. Room temperature tensile properties of quenched and tempered wrought nickel steels. Other room-temperature mechanical-property data on steels containing nickel. Effect of temperature on the mechanical properties of nickel steels. Corrosion of low-alloy steels and cast irons containing nickel. Welding steels containing nickel. Miscellaneous fabricating operations for steels containing nickel. Cast steels containing nickel. The history constitution, structure, and manufacture of cast iron containing nickel. The mechanical properties of cast irons containing nickel. Heat treatment, machinability wear resistance, and heat [illegible] of cast iron containing nickel. Bibliography Name Subject index.

Note: The second volume published of the new Alloys of Iron research monograph series. It is a compactly written reference volume on the iron and steel alloys generally classed as constructional steels and nickel cast irons. The first chapter is an outline of the main facts about the nickel minerals and the refining of nickel ores. The topics covered by the other 14 chapters are adequately indicated in their titles. In all chapters except the first, extensive use has been made of graphs and tables, hence, the quantity of information presented is greater than the number of pages might be taken to indicate. Literature sources are scrupulously given for all data. The bibliography is arranged chronologically and includes literature published as recently as 1933. The "Name Index" refers to citations of authors' writings both in the text and in the bibliography.

LUNDELL, GUSTAV ERNST FREDRICK AND OTHERS

Chemical analysis of iron and steel, by Gustav E. F. Lundell, James Irvin Hoffman and Harry Aaron Bright. New York John Wiley & Sons, Inc., 1931 641 p. illus. 24 cm. $11.50. 6944

Contents: Part I, General considerations. Part II, Methods for the determination of the constituents of irons and steels. Part III, Methods for the determination of oxygen, oxide inclusions, hydrogen and nitrogen. Part IV, Methods for the analysis of iron-alloys. Part V, Methods for the analysis of ores, limestones, fluorspar, refractories, slag, molding sands, and coal and coke. Index of authors. Index of subjects.

Note: This comprehensive book is intended chiefly for works chemists, whether those just beginning their career or those who have had considerable experience in the ferrous analysis field. The aim of the authors has been to give rapid methods suitable for routine analysis as well as methods that must be used in making analyses of the highest accuracy. Since no method of chemical analysis can be applied indiscriminately each procedure is discussed at sufficient length to enable the analyst to decide whether it can be applied to the determination in hand or, if not, whether it can be modified so as to be made suitable. Realizing that new alloys bring new problems, the authors have tried to lay down some general principles which will guide the analyst confronted with still newer alloys.

SAUVEUR, ALBERT

The metallography and heat treatment of iron and steel. Fourth edition. New York McGraw Hill Book Company Inc., 1935 531 p. illus. 27 cm. $15.00. 6945

Contents: Pure metals. Impure metals. Pure and impure iron. Wrought iron. Steel. Impurities in steel. The thermal critical points of iron and steel (their occurrence). The thermal critical points of steel (their causes). The thermal critical points of iron and steel (their effects). Cast steel. The mechanical treatment of steel. Heat treatment. Annealing and normalizing. The hardening of steel. The tempering of hardened steel. Theories of the hardening of steel. Miscellaneous heat treatments. The cementation and case hardening of steel. Alloy steels. Cast iron. Impurities in cast iron. Malleable cast iron. Constitution of metallic alloys. Equilibrium diagram of iron-carbon alloys. The phase rule. Appendixes: Manipulations. The optics of metallography. Tentative recommended practice for thermal analysis of steel. Index.

Note: A comprehensive treatment of the metallography of iron and steel, covering structure of metals, processes, manipulations, and apparatus. The book is intended primarily for students and for the manufacturers and users of steel, but it will also be of value to the interested layman. In this edition many of the chapters have been revised to meet recent developments, and two chapters have been added dealing with metallic crystals and the hardening of steel. There are numerous photographs of magnified cross-sections of various types of iron and steel.

SEABRIGHT LAWRENCE H.

The selection and hardening of tool steels. New York McGraw Hill Book Company Inc., 1950 263 p. illus. 24 cm. $7.00. 6946

Contents: Introduction, classification of tool steels: Primary steel requirements. Composite chemical analysis of steels in each group. Tool steels classified by wear-toughness ratio. Chemical composition of representative tool steels. The wear-toughness ratio in use. Recommended steels for various applications. Part I, Water-hardening steels: Group I, Maximum wear resistance—movement in hardening unimportant. Group II, General cutting tools—movement in hardening unimportant. Group III, General die work—movement in hardening unimportant. Group IV, Maximum toughness—movement in hardening unimportant. Part II, Oil- and air-hardening steels: Group V, Maximum wear resistance—movement in hardening important. Group VI, General cutting tools—movement in hardening important. Group VII, General die work—movement in hardening important. Group VIII, Maximum toughness—movement in hardening important. Part III, High-speed and hot-work steels: Group IX, Maximum wear resistance—resistance to high temperatures important. Group X, General cutting tools—resistance to high temperatures important. Group XI, General die work—resistance to high temperatures important. Group XII, Maximum toughness—resistance to high temperatures important. Appendix: Hardness conversion table. Temperature conversion table. Producers and distributors. Index of tool steels. Subject index.

Note: A compact reference book designed as a systematic guide to the composition and properties of the commercially available tool steels. Information on the heat-treatment and working of the individual steels is included also. The book will be useful to tool designers, metallurgists, and other technically trained people whose work requires an understanding of tool steels. In the "Index to tool steels" steels marketed in the United States of America, under trade names are identified and the names of the suppliers are given.

ZAPFFE, CARL ANDREW

Stainless steels an elementary text for consumers. Cleveland American Society for Metals 1949 368 p. illus. 23 cm. $5.00 6947

Contents: Historical background of the stainless steels. The corrosion resistance of the stainless steels. The metallurgical constitution of the stainless steels. Martensitic stainless steels. Ferritic stainless steels. Austenitic stainless steels. Production, fabrication and finishing. Glossary. Bibliography. Author index. Subject index.

Note: The consumers referred to in the title are not the ultimate purchasers of pots, pans, automobiles, etc., but manufacturers and purchasing agents who buy stainless steels for fabrication into finished products. The book provides a semitechnical description of the various important alloys known as stainless steels. The emphasis is on their properties, but a considerable amount of space is given also to the history of the stainless steels and to the ways in which they are manufactured. An excellent glossary and an extensive bibliography of the periodical and patent literature are included.

VARIOUS METALS

ABKOWITZ STANLEY

Titanium in industry technology of structural titanium. By Stanley Abkowitz, John J Burke and Ralph H. Hiltz, jr Princeton D Van Nostrand Company Inc., 1955 224 p. illus. 24 cm. $5 75 6948

Contents: Growth of the industry and production techniques. Properties of titanium and its alloys. Alloying and heat-treatment. Hot and cold shaping. Casting and powder metallurgy. Joining. Machining and grinding. Surface properties. Analytical and metallographic techniques. Selection of materials and applications. Index.

Note: A brief but authoritative outline of the present state of knowledge and practice pertaining to titanium as a structural material. There are two preliminary chapters which provide background information on the growth of the industry, methods of extracting and refining the metal, and the physical, chemical and mechanical properties of the refined metal and its alloys. The rest of the book is devoted largely to descriptions of fabricating processes. There are chapters on heat treating, shaping, casting, joining, machining, etc., and two short chapters on analytical techniques and on selection of titanium and its alloys for various applications. The authors are associated with the Watertown Arsenal Laboratory which has been a center for research in the metallurgy of titanium and the development of fabricating methods.

AMERICAN SOCIETY FOR METALS

Physical metallurgy of aluminum alloys. A series of five educational lectures on physical

metallurgy of aluminum alloys presented to members of the A. S M during the twenty eighth National Metal Congress and Exposition, Atlantic City Cleveland American Society for Metals, 1949 247 p illus 23 cm $5 00 6949

Contents Equilibrium diagrams of aluminum alloys, by W L. Fink. Metallography of aluminum alloys, by F Keller. Commercial aluminum casting alloys, by W E. Sicha. Commercial wrought aluminum alloys, by J A. Nock, Jr Thermal treatment of aluminum alloys, by E. H. Dix, Jr

Note A collection of lectures originally addressed to men concerned in practical ways with metallurgical research and design. The pertinent literature has been consulted and is referred to in the discussions. Especially impressive is the bibliography of 178 items on the determination and interpretation of equilibrium diagrams. The lecture on metallurgy includes many excellent microphotographs of structure.

AMERICAN SOCIETY FOR METALS

Zirconium and zirconium alloys. A symposium on zirconium and zirconium alloys presented to members of the ASM during the eighth Western Metal Congress and Exposition, Los Angeles March 23–27, 1953 Cleveland American Society for Metals, 1953 354 p illus 23 cm $7 50 6950

Content Zirconium ores, by O B Ralston The preparation of zirconium powder by H. S. Kalish. The extractive metallurgy of zirconium by the electrolysis of fused salts, by M. A. Steinberg and others. Some aspects of the iodide, or the hot wire, process for the manufacture of zirconium, by W M. Raynes The manufacture of zirconium sponge, by S. M Shelton and E. D Dilling. Consumable-electrode arc melting of zirconium metal, by W W Stephens and others. Fabrication of zirconium, by R. B. Gordon and W J Harford. Effect of hydrogen on the embrittlement of zirconium and zirconium-tin alloys, by W L. Mudge, Jr Determination of hydrogen in zirconium by the hot-vacuum extraction method, by R. K. McGeary A simplified procedure for the metallography of zirconium and hafnium and their alloys, by F M. Kain, Jr Recovery of cold-worked zirconium, by W A. Bostrom and S. A. Kulin. The solid solubility of tin in alpha zirconium, by G. R. Speich and S. A. Kulin. The system zirconium-silicon, by C. E. Lundin and others. The system zirconium-tin, by D J McPherson and M. Hansen. Observations on the alpha-beta transformation in zirconium, by E. E. Hayes and A. R. Kaufmann. Some properties of high purity zirconium and dilute alloys with oxygen by R. M Treco. The zirconium-nickel phase diagram, by E. T Hayes and others The zirconium-manganese phase diagram, by A. H. Roberson and E. T Hayes. A general comparison of the metallurgy of zirconium with that of better-known commercial metals, by A. D Schwope. The corrosion resistance of zirconium and its alloys, by L. B. Golden. Zirconium and nuclear reactors, by E. C. Miller Index.

Note. The metallurgy of zirconium and its alloys as of the close of 1952 is well surveyed in this volume. Literature references are included, and there are numerous illustrations, tables and graphs.

AMERICAN SOCIETY FOR TESTING MATERIALS

Elevated temperature properties of copper and copper base alloys Data compiled by and issued under the auspices of the Data and Publications Panel of the ASTM–ASME Joint Committee on Effect of Temperature on the Properties of Metals Prepared for the Panel by Clair Upthegrove and Henry L Burghoff Philadelphia American Society for Testing Materials 1956 244 p illus 28 cm. (American Society for Testing Materials. Special technical publication no 181) $5 50 6951

Contents Graphical presentations. Coppers. Brasses. Aluminum bronzes. Cupro-nickel and nickel brasses—cast, wrought, annealed, cold worked. Silicon bronzes—cast, wrought, annealed, cold worked. Tin bronzes—cast, annealed. Data sheets: Coppers. Brasses. Aluminum bronzes. Cupro-nickel and nickel brasses. Silicon bronzes. Tin bronzes.

Note. "This report is primarily a graphical summary of the elevated temperature data for coppers and copper-base alloys. The data for the coppers were limited to the wrought materials, while the data for the alloys are obtained from cast and wrought materials. The graphical presentations include, insofar as data are available, modulus of elasticity tensile strength, yield strength (0.5 per cent extension and 0.2 per cent offset) reduction of area, elongation, stress for creep rates for 0.000001 0.00001 and 0 0001 per cent per hr and stresses for rupture in 100, 1,000, 10,000 and 100,000 hr. Data sheets giving the original data for drawing the curves are included in the appendix. Also included are data sheets giving insufficient information for plotting or of such a nature as not to justify plotting, yet meriting inclusion on the basis of contributing to the limited information available on many of the coppers and copper-base alloys. The data sheets also give chemical composition, shape, sizes and processing information.

BARKSDALE, JELKS

Titanium, its occurrence, chemistry and technology New York The Ronald Press Company, 1949 591 p illus. 24 cm. $12 00 6952

Contents (abridged) The discovery of titanium. Geology and mineralogy of titanium. Production and imports of titanium-bearing ores. The chemistry of elemental titanium and its oxides. The chemistry of titanium salts. Organic compounds of titanium. Methods of chemical analysis of titanium compounds. Production of sulfate solutions of ilmenite for pigment manufacture. Hydrolysis of titanium sulfate solution. Filtering and washing hydrous titanium dioxide, acid recovery Composite pigments. Calcining, milling, and processing titanium dioxide to produce pigments. Colored titanium dioxide and titanate pigments. Chloride processes of pigment manufacture. Fluoride, nitrate, sulfide, and chloroacetate processes of pigment manufacture. Titanium pigment industry Uses of titanium pigments. Iron and steel. Nonferrous metals and alloys. Hard alloys. Electrical industry Ceramics. Mordants and dyes. Catalysts. Special applications. Literature cited. Index.

Note: A comprehensive survey of the science and technology of the metal titanium and its derivatives. A considerable part of the volume is devoted to the production of titanium pigment for use in paint and elsewhere as an obscuring or coloring material. However all of the reported uses are described, including such specialized applications as reagents in chemical analysis. The bibliography covers the international literature, including the patents. It runs to 77 pages and contains several thousand references.

BROWN, HIRAM, AND OTHERS

Aluminum and its applications by Hiram Brown with the collaboration of Alexander Klemin and others. New York Pitman Publishing Corporation, 1948 388 p. illus. 23 cm. (Pitman books on industrial materials and processes Alexander Klemin, advisory editor) $6.50 6953

Contents (abridged) Introduction to aluminum. Testing methods and definitions of terms. Aluminum alloys. Fabrication of aluminum alloys. Finishing of aluminum parts. Heat-treatment, aging, annealing, and stabilization A..., by E. H. Phillips. Aircraft engines, by M. H. Young. Aluminum castings for aircraft, by V. E. Woldman. Automoti... applications of aluminum alloys, by D. M. Biggs. Aluminum in railroads, by R. R. Borcelli. Resistance of aluminum-base alloys to marine exposure, by R. B. Mears and R. H. Brown. Aluminum in the electrical industry by R. A. Fry and W A. Graham. Aluminum in the chemical and related industries, by M F Walkinshaw. Aluminum, present and future, by A. A. Schwartz. Appendices. Index.

Note This semitechnical survey is especially suitable for executives and others who need specific and accurate information but do not need it in great detail. Many of the chapters are written by specialists in specific industries but the treatment in these conforms to the general pattern of the book. There are diagrams, sketches, illustrations of processes and definitions of technical terms, machines, and selected bibliographies.

Metallurgy

Various Metals

Butts, Allison editor

Copper the science and technology of the metal, its alloys and compounds. Prepared under the editorial supervision of Allison Butts, with chapters by specialists. New York Reinhold Publishing Corporation, Inc. 1954 936 p. illus. 24 cm. (American Chemical Society monograph series) $22 75 6954

Contents: The background of the copper industry, by L. Addicks. Copper minerals, ores, and ore deposits, by E. M. [illegible]. The concentration of copper ores, by F. L. Bosqui and others. Roasting, smelting, and converting, by W. R. Boggs. Anode furnace refining, by R. [illegible] and M. R. [illegible]. Copper slags and mattes, by C. R. Hayward. Thermodynamics of copper smelting, by R. A. [illegible]. Electrolytic copper refining, by C. W. Eichrodt and J. H. Schloen. Cathode melting and casting of merchant copper shapes, by R. H. [illegible]. Induction melting of copper and copper alloys, by [illegible]. Treatment of electrolytic copper refinery slimes, by J. M. Tama. The fire refining of copper, by H. R. Schloen and E. M. Elkin. The hydrometallurgy of copper, by J. O. [illegible], J. Miller. Copper and commercial forms of copper products, by S. [illegible]. The physical properties of copper-base alloys, by E. Cochran. Chemical properties and corrosion of copper, by J. S. Smart, Jr. [illegible], by F. T. Gilbert. The [illegible] of copper and copper alloys, by J. S. Smart, Jr. The physical effect of impurities in copper, by D. W. [illegible]. The isotopes of copper. [illegible] chemistry of copper, by J. [illegible] and R. E. [illegible]. Phase diagrams of copper alloy systems, by R. M. [illegible]. Magnetic properties of copper and copper alloys, by A. Butts. Copper-base foundry alloys, by W. Romanoff and others. Wrought copper alloys, by T. P. [illegible]. The making and Copper as an alloying element, by W. [illegible]. The making and casting of copper-base alloys, by W. Romanoff and others. Hot working of copper and copper alloys, by F. F. [illegible]. Cold working of copper and copper alloys, by W. T. [illegible]. Heat treatment of copper and copper-base alloys, by R. M. [illegible]. Machining characteristics of wrought copper and copper alloys, by R. [illegible]. Welding, brazing, soldering, and cladding of copper and its alloys, by A. N. Kugler. Production and use of copper by D. K. Crampton. Copper and copper alloys in the electrical industry, by L. V. Williams. Copper in the building industry by T. E. [illegible]. Automotive applications of copper and copper alloys, by E. W. Upham. The use of copper and copper alloys in ordnance, by A. L. Jamieson. Copper and copper-zinc alloy plating, by A. K. Graham. The simpler inorganic compounds of copper, by A. J. Renard, Jr. Copper as an agricultural fungicide, by J. D. Wilson. Copper powder and its applications, by D. S. [illegible]. Copper in organic chemistry, by R. A. [illegible] and H. Gilman. Copper in biology by F. F. Heyroth and J. Chabek. Copper in the production and nutritional quality of crops, by K. C. Beeson. Metallography of copper and its alloys, by F. R. Williams. The analytical chemistry of copper, by E. [illegible]. Name index. Subject index.

Note. Deviating from the most of the books in the American Chemical Society monograph series, this one [illegible] not [illegible] summary of the extant literature. Instead, the typical chapter is [illegible] survey of basic information and high points, accompanied by [illegible] selected list of references, and some chapters are very brief. Although the authors are specialists, the book [illegible] most useful as [illegible] cyclopedic reference for such persons as chemists, engineers, and purchasing agents who are not specialists in the metallurgy of copper but [illegible] are in need of fundamental information about the metal and its alloys.

Dean Reginald Scott

Electrolytic manganese and its alloys. New York The Ronald Press Company 1952 257 p. illus. 24 cm. $12.00 6955

Contents Production and properties of electrolytic manganese. Nonferrous alloys of electrolytic manganese. Ferrous alloys of electrolytic manganese. Index of names. Index of subjects.

Note The author of this technical monograph was [illegible] leading figure in the development of electrolytic manganese during his years of association with the United States Bureau of Mines. Here, he presents the current knowledge of both the metal itself and its alloys. The discussions of the production and properties of electrolytic manganese run to only 82 pages, hence, more than two-thirds of the book [illegible] given to descriptions of the alloys. These descriptions include [illegible] wide range of specific data on properties, heat treatment, and applications. The book is based on [illegible] digest of the periodical and patent literature, and each of the chapters is accompanied by long list of references.

Ellis Owen W

Copper and copper alloys a series of lectures on copper and copper alloys presented to members of the ASM during the twenty ninth National Metal Congress and Exposition, Chicago October 18 to 24 1947 Cleveland American Society for Metals, 1948. 184 p. illus. 23 cm $3.50. 6956

Contents. Historical development. The metallurgy of copper. The melting of copper and its alloys. Complex alloys of copper and zinc. Other alloys of copper. References. Index.

Note. In this book discussion is limited to the principles and processes in "the furnace metallurgy of copper and its alloys. No attempt is made to cover the properties and uses of the metals. It is written clearly but is definitely addressed to those [illegible] who are familiar with the subject. Many tables and diagrams are provided. References are made throughout to the 109 items listed in the bibliography at the end.

Everhart, John L.

Titanium and titanium alloys. New York Reinhold Publishing Corporation Inc., 1954 184 p. illus. 17 cm. $2 95 6957

Contents: Introduction. High purity titanium. Properties of commercial titanium. Properties of commercial titanium alloys. Heat treatment. Forming and fabricating. Joining. Machining and grinding. Cleaning and finishing. Applications. Appendix. Index.

Note A brief but authoritative survey of titanium as an engineering material. Currently used production and refining processes are outlined in the first chapter The rest of the space is devoted to matters of interest to engineers [illegible] who are concerned with the design of engines, airplane structures, etc. Selected literature references are included. The first version appeared as "Manual 82" in the May 1952, issue of Materials and methods, this book represents revised and considerably augmented new edition.

Grimaldi F S and others

Collected papers on methods of analysis for uranium and thorium. Compiled by F S. Grimaldi Irving May Mary H. Fletcher and Jane Titcomb. This report concerns work done on behalf of the U S. Atomic Energy Commission and is published with the permission of the Commission. Washington, D C. Government Printing Office 1954 184 p illus. 23 cm. (United States. Geological Survey Bulletin 1006) $1.25 6957A

Contents Summary of methods of analysis for the determination of uranium and thorium, by F S. Grimaldi and others. Methods for the complete decomposition of rock and ore samples to be analyzed for very small amounts of uranium and thorium, by M. D Foster and others. The Geological Survey cupferron precipitation-extraction method for the determination of very small amounts of uranium in naturally occurring materials, by F S. Grimaldi. The Geological Survey carbonate-phosphate-peroxide method for the determination of very small amounts of uranium in naturally occurring materials, by M. D. Foster and R. E. Stevens. Elimination of interference by nickel in the determination of uranium by means of zinc amalgam reductors, by F S. Grimaldi. The [illegible] fluorimetric determination of uranium in low-grade ores, by F S. Grimaldi and H. Levine. A volumetric filtering pipette, by F S. Grimaldi. A study of critical factors in the direct fluorimetric determination of uranium, by M. H. Fletcher. A direct fluorimetric method for the determination of small amounts of uranium in the field and laboratory by F S. Grimaldi and others. An improved fluorimeter for the determination of uranium in fluoride melts, by M. H. Fletcher and I. May A transmission fluorimeter for use in the fluorimetric method of analysis for uranium, by M. H. Fletcher and others. The design of the model [illegible] transmission fluorimeter, by M. H. Fletcher and others. A battery-powered fluorimeter for the determination of uranium, by I. May and M. H. Fletcher. Short routine direct method for the fluorimetric determination of uranium in phosphate rocks, by F S. Grimaldi and M. S. Getting. Fluorimetric determination of uranium in shales, lignites, and monazites after alkali carbonate separation, by N S.

Gatling and F S. Grimaldi. Noninterference of arsenate ion in the volumetric determination of uranium using the Jones reductor by J J Rowe. The fluorimetric determination of uranium in nonsaline and saline waters, by A. P Smith and F S. Grimaldi. The Geological Survey phosphate-fluoride-iodate method for the determination of very small amounts of thorium in naturally occurring materials, by F S. Grimaldi and J O Fairchild. The Geological Survey carbonate-iodate-iodine method for the determination of small amounts of thorium in naturally occurring materials, by J J Fahey and M. D Foster The determination of thorium in high-grade and low-grade ores, by F S. Grimaldi and C. M. Warshaw Mesityl oxide extraction method for thorium analysis, by H. Levine and F S. Grimaldi.

Note. Standard methods, refinements of standard methods and several new methods are described in the papers in this volume, which is a development of an extensive investigation of radioactive ores and other materials carried on in the United States of America in recent years. The first chapter presents a general discussion of uranium and thorium analysis, and is a useful introduction to the subject.

LEAD INDUSTRIES ASSOCIATION

Lead in modern industry manufacture, applications and properties of lead lead alloys, and lead compounds New York Lead Industries Association 1952 230 p illus 25 cm. $1 50 6958

Contents The history of lead. From mine to finished metals. Lead in modern living. Forms and fabricating processes. Lead storage batteries. Lead covered cable. Lead in modern chemical construction Corrosion resistance of lead and lead alloys. Composition of commercial pig lead. The soldering and welding of lead. Lead in modern plumbing Lead in modern architecture. Radiation protection Lead and lead alloy coatings. Soft solders. Bearing metals. Ammunition Other metallic lead products and alloys. White lead. Lead oxides. Tetraethyl lead. Other industrial lead compounds. White lead paints. Metal protecting lead paints. The safe handling of lead and its products. Specifications for lead, lead alloys and lead products. Physical constants of lead compounds. Index.

Note A miscellany of general, historical and technical information about lead. Anyone who is interested in the metals in general or lead in particular should find something of value in it, but it will be most useful to persons with technical interests in the subject. For instance the chapter on corrosion resistance is a compact statement of potential reference value to designers of chemical processing equipment. The chapters on specifications, properties and physical constants are largely composed of tables of reference data.

LI, K. C , AND CHUNG YU WANG

Tungsten its history, geology ore-dressing metallurgy, chemistry analysis applications, and economics Third edition. New York Reinhold Publishing Corporation, 1955 506 p illus 24 cm (American Chemical Society monograph No 94 William A. Hamor editor) $14 00 6959

Contents The history of tungsten. The geology of tungsten. The ore dressing of tungsten The metallurgy of tungsten. The chemistry of tungsten. Analysis of tungsten The industrial application of tungsten Substitution of tungsten. The economics of tungsten. Appendixes. Index.

Note The standard comprehensive monograph on tungsten. The second edition was published in 1947 and has been out of print for several years. In this third edition the scope of the work and the chapter titles are unchanged, but a considerable range of material has been added in several chapters and in the appendixes. The revision is not a complete one however Data on prices has been brought down to 1952 in contrast, the list of tungsten alloys originally based on a 1936 book by another author has been reprinted without change The type from which the book is printed was reset.

LUSTMAN, BENJAMIN, AND FRANK KERZE, JR., editors

The metallurgy of zirconium New York McGraw Hill Book Company Inc. 1955 776 p illus. 24 cm. (National nuclear energy series Division VII–Volume 4) $10.00 6960

Contents. Zirconium and its application in nuclear reactors, by H. Etherington and others. Application of zirconium for other uses, by R. L Jaffee. Occurrence of zirconium, by M. K. Kline. Zirconium production methods, edited by S. M. Shelton. Iodide-decomposition process for production, by Z. M. Shapiro. Melting and shaping of zirconium and its alloys, edited by R. B. Gordon. Joining and finishing of zirconium. Physical metallurgy of zirconium and its alloys, by A. R. Kaufmann and T T Magel. Zirconium alloy systems, edited by E. T Hayes. Mechanical properties of zirconium and its alloys, edited by F Foracher. Corrosion of zirconium and its alloys, edited by B. Lustman. Analytical chemical of zirconium, by E. R. Read. Appendixes: Metallography of zirconium, by H. P Roth. Industrial hygiene and safety by E. E. Barnes. Engineering data sheets. Glossary Contributing authors. Name index. Subject index.

Note. The current state of zirconium metallurgy including fabrication, is presented in explicit detail in this important work, which is based largely on research and development carried out under the sponsorship of the Atomic Energy Commission. The material included is not however limited to AEC-sponsored work or to nuclear energy applications. Uses which have been developed in other fields are covered in the chapter on applications for other uses. This is a short chapter but it has a bibliography of 66 references. Some of the chapters, for example that on corrosion, contain a wealth of data not previously collected into a single publication. The "Name index" includes the names of authors of all the literature cited in the reference lists and the subject index is an especially detailed one.

MATHEWSON C H , editor

Modern uses of nonferrous metals. Second edition Published for the Seeley W Mudd Fund. New York American Institute of Mining and Metallurgical Engineers, 1953 530 p illus. 21 cm. $7 00 6961

Contents The new industrial development and exploitation of metals and alloys, by Z. Jeffries. Aluminum, by F C. Frary Arsenic and antimony by K. C. Li. Beryllium, by C. B. Sawyer Bismuth, by W C. Smith and O. J Seeds. Chromium, by D. Sass. Cobalt, by B. E. Field and W A. Wissler Copper by D. K. Crampton. Gold, by F R. Carter Lead, by J O. Betterton revised by A. J Phillips. Magnesium, by J D. Hanawalt and W H. Gross. Manganese as a nonferrous metal, by R. S. Dean. Molybdenum, by R. S. Archer Nickel, by O. B. J Fraser and P D Merica. The platinum metals, by E. M. Wise. Quicksilver by C. N Schuette. Selenium and tellurium, by W E. Milligan. Silicon and germanium, by E. C. Schumacher Silver by R. H Leach. Tantalum and columbium, by D F Taylor Tin, by R. J Nekervis and B. W Gonser Titanium and zirconium, by W L. Finlay and R. I. Jaffee Tungsten by W P Sykes. Uranium, by C E. Smith. Vanadium, by A. U Seybolt. Zinc and cadmium, by W M. Peirce and E. A. Anderson. Index.

Note. The first chapter in this book is a brief essay on the relative abundance of metals, on the properties of the nonferrous metals that make them important in our civilization, and on the future of the nonferrous metals. Each of the other chapters is a survey of the current uses of the metal or group of metals named in its title. The book is designed primarily as a source of background knowledge for young metallurgists, but it is suitable also for reading and reference use by technicians and laymen. The first edition was published in 1935 Developments in nonferrous metallurgy such as the new importance of uranium have resulted in an increase in the number of chapters by five in the second edition. In addition, numerous revisions have been made in chapters retained from the first edition.

PAGONIS, GEORGE A

The light metals handbook. New York D Van Nostrand Company, Inc., 1954 2 v 24 cm. $10 00 6962

Contents (abridged) Volume I Part I, Magnesium and magnesium-base alloys. Classes of magnesium-base materials. Mechanical properties. Physical properties. Mechanical properties at elevated temperatures. Mechanical properties at low temperatures. Detailed properties of individual compositions. Heat treatment. Machinability. Joining methods. Part II, Aluminum and aluminum-base alloys. Classes of aluminum-base materials. Mechanical properties. Physical properties. Mechanical properties at elevated temperatures. Mechanical properties at low temperatures. Detailed properties of individual

compositions. Casting characteristics. Heat treatment. Machinability. Joining methods. Volume II: Tables on magnesium and magnesium-base alloys. Tables on aluminum and aluminum-base alloys.

Note: A reference work for engineers and technicians who select, hot-cast, or fabricate magnesium and aluminum alloys. It is of particular interest to men in these groups who are associated with aircraft manufacturing and other industries in which these light metals are extensively used. A wide range of data is presented, both on general classes of these alloys and on specific alloys with established designations. Nomenclature, specifications, properties, methods of working and joining are all covered. The data given on an individual alloy often fill two or more pages. The second of the two volumes is devoted entirely to tables of data.

RAUDEBAUGH, ROBERT JOHN

Nonferrous physical metallurgy. New York, Pitman Publishing Corporation, 1952. 345 p. illus. 24 cm. (Pitman metallurgy series) $7.00. 6963

Contents: Aluminum and its alloys. Magnesium and its alloys. Copper and its alloys. Nickel and nickel alloys. Alloys of cadmium, lead, tin, and zinc. Some less widely produced nonferrous metals and their alloys. Powder metallurgy and refractory-metal compounds. Author index. Subject index.

Note: A concise and practical account of the modern techniques employed in the processing, fabrication, and application of the more important nonferrous metals. Particular attention is given to recent developments in the field, such as the melting and casting of molybdenum, fabrication of ductile titanium, and the utilization of powdered metals. Numerous micrographs, tables of alloy properties and composition, and chapter bibliographies are included. Of interest primarily to metallurgical students and others requiring a review of modern metallurgical practices.

SHELTON, STEPHEN M., editor

Zirconium, its production and properties. Prepared by the staff of the Northwest Electrodevelopment Laboratory, Bureau of Mines, under the direction of Stephen M. Shelton. Washington, D. C., Government Printing Office, 1956. 180 p. illus. 26 cm. (United States. Bureau of Mines. Bulletin 561) $1.00 6964

Contents: Introduction. Zirconium ores, by A. J. Kauffman, Jr. Reduction processes, by A. H. Roberson. Magnesium-reduction process, by E. D. Dilling. Melting, by A. H. Roberson and R. A. Beall. Properties, by E. T. Hayes. Fabrication, by H. Kato. Alloys, by E. T. Hayes. Uses of zirconium metal, by J. H. McClain. Availability and cost of ductile zirconium, by E. D. Dilling. Analytical procedures: Chemical analysis, by W. F. Holbrook. Spectrochemical analysis, by D. M. Mortimore. Index of authors. Index of subjects.

Note: An illustrated technical report covering various phases of zirconium metallurgy in detail. Large-scale production of this metal was undertaken originally by the Northwest Electrodevelopment Laboratory of the Bureau of Mines at Albany, Oregon. Here the technical experience of the authors of this report was gained. Bibliographies appear at the ends of chapters.

SITTIG, MARSHALL

Sodium: its manufacture, properties and uses. With a chapter on the physical and thermodynamic properties of sodium, by George Wm. Thomson and Edward Garelis. New York, Reinhold Publishing Corporation, 1956. 529 p. illus. 23 cm. (American Chemical Society monograph series) $12.50 6965

Contents: Introduction. The manufacture of metallic sodium. Solubility and alloy formation. Handling metallic sodium. Uses of metallic sodium. The inorganic reactions of sodium. The use of sodium in organic reactions. The analytical chemistry of sodium. Physical and thermodynamic properties of sodium. Author index. Subject index.

Note: Publication of this volume reflects the current importance of sodium as an industrial chemical. In the chapters on reactions, many reactions are discussed which are of interest in the laboratory but have not yet found industrial application. However, the emphasis of the work as a whole is on the technology of sodium manufacture and on the industrial uses of the metal. Estimates of future uses, as in nuclear power plants, are included, along with information on established uses. The chapter on physical and thermodynamic properties is, with its appendix, a monograph within a monograph, being more than 140 pages long and providing a full range of data on these properties of metallic sodium. The volume is essentially a digest of the patent and journal literature published approximately to the end of 1954.

UDY, MARVIN J

Chromium. New York, Reinhold Publishing Corporation, 1956. 2 v. illus. 24 cm. $11.00 per vol., set $19.50 6966

Contents: Volume I. Chemistry of chromium and its compounds. Section I. General: History of chromium, by M. J. Udy. Mineralogy and geology of chromium, by T. P. Thayer. The analytical chemistry of chromium, by E. J. Serfass and R. F. Muraca. Relation of chromium to health, by A. M. Baetjer. Chromium in soils, plants, and animals, by O. K. Davis. Section II. Physical and chemical properties of chromium compounds: The physical and chemical properties of compounds of chromium, by M. C. Udy. Chromium chemicals—their industrial use, by M. Darrin. Production of chromium chemicals, by R. L. Copson. Chromium chemicals in the textile industry, by C. L. Howarth. Chromium chemicals in the tanning industry, by R. M. Lollar. Chromium chemicals in wood preservation, by H. W. Angell and W. H. Hartford. Chromium chemicals in corrosion prevention, by H. A. H. Pray. The manufacture and properties of chromium pigments, by V. H. Chalupski. Chromium chemicals in the graphic arts, by G. W. Jorgensen and M. H. Bruno. Chromium chemicals in the oil and gas industries, by M. Carcia. Index. Volume II. Metallurgy of chromium and its alloys. Section I. Recovery of chromium from its ores. Recovery of chromium from its ores, by M. J. Udy. European methods for production of ferrochromium, by H. H. Jensen. Electrowinning of chromium—chrome acid electrolyte, by M. J. Udy. Electrowinning of chromium from chromium-alum electrolytes, by R. R. Lloyd. Electroplating of chromium, by J. M. Hosdowich. Deposition of chromium by methods other than electrolysis, by M. J. Udy. Section II. Physical properties of chromium, its alloys and metallurgical uses: The physical and chemical properties of chromium, by M. C. Udy. Ductile chromium, by H. L. Gilbert and R. G. Nelson. Chromium in stainless steels, by V. N. Krivobok. Chromium in ferrous steels, by J. Strauss. Chromium in cast iron, by C. O. Burgess and H. E. Bruce. Chromium in high temperature alloys, by R. Sutton. Chromium in nickel-base alloys, by E. N. Skinner. Chromium in electrical-resistance alloys, by W. A. Gatward. Chromium in cobalt-base alloys, by H. Coon. Chromium in copper alloys, by F. R. Bound and E. I. Larsen. Chromium in titanium-base alloys, by M. C. Udy. Section III. Chromium in refractories. Chromium in refractories, by R. P. Heuer and others. Subject index.

Note: A comprehensive work written by 36 specialists. The chapters vary somewhat in organization and viewpoint but, generally speaking, each one is a compact digest of the published literature with the text keyed to a bibliography of source articles. Extensive tables of reference data are features of many of the chapters.

WHITE, D. W., JR. AND J. E. BURKE, editors

The metal beryllium. Cleveland, American Society for Metals, 1955. 703 p. illus. 24 cm. $8.00. 6967

Contents: Introduction, by C. B. Sawyer and B. R. F. Kjellgren. Importance of beryllium—A, Historical note on sources and uses of beryllium, by R. F. Griffith—B, The role of beryllium in the atomic energy program, by R. E. Fulder—C, The role of beryllium in industry, by N. W. Bass. Ores, by W. R. Griffitts and J. J. Norton. Reduction—A, Thermodynamic considerations in the preparation of beryllium metal, by H. H. Kellogg—B, The fluoride extraction of beryllium from beryl, by H. C. Kawecki—C, The sulphate extraction of beryllium from beryl, by C. W. Schwenzfeier, Jr.—D, The production of beryllium by the electrolysis of beryllium chloride, by C. R. Wichmann—E, Experimental reduction of beryllium, by T. T. Magel. Fabrication (chapter editor, H. H. Hausner)—A, The melting and casting of beryllium, by P. Corzine and A. R. Kaufmann—B, Fabrication of beryllium by powder metallurgy, by W. W. Beaver—C, Research and development in beryllium powder metallurgy, by H. H. Hausner and N. P. Pinto—D, Mechanical working of beryllium by extrusion, by P. Loewenstein and others—E, Mechanical working of beryllium by rolling,

forging and similar processes, by S. M. Bishop—F Machining of beryllium, by L. Duran—G Joining of beryllium, by D. C. Martin—H, Plating and cladding of beryllium, by J T Stacy Properties—A The physical and mechanical properties of beryllium metal, by D W Lillie—B The nuclear properties of beryllium, by J R. Stehn. The brittleness problem (chapter editor A. R. Kaufmann)—A, The relation of purity to brittleness in beryllium, by A. R. Kaufmann—B, Ductility of beryllium as related to single crystal deformation and fracture, by G. L. Tuer and A. R. Kaufmann—C, Ductility of beryllium as related to preferred orientation and grain structure, by J L. Klein and others—D Recovery and recrystallization of cold worked beryllium, by G. L. Tuer and others. Metallography by M. C. Udy Corrosion (chapter editor R. F Koenig)—A, Corrosion of beryllium in air by J L. English—B Corrosion of beryllium in water by J L. English—C, Corrosion of beryllium in liquid metals, by R. F Koenig. Alloys, by A. R. Kaufmann and P Cordino. Cermets and ceramics—A, Refractory compounds and cermets of beryllium, by W W Beaver—B, The refractory properties of beryllium oxide, by J F White. Health hazards, by M. Eisenbud. Analytical chemistry by C. J Rodden and F A. Vaci. Name index. Subject index.

Note. Research carried out under the auspices of the Atomic Energy Commission was the foundation for this treatise. More than half of the papers which make up the chapters were first prepared for presentation at a conference on beryllium cosponsored by the A.E.C. and the American Society for Metals in March 1954. However as printed in this volume, many of the conference papers have been revised and expanded also, additional papers written later have been included to round out the treatment. The point of view is primarily metallurgical, and the metallurgical aspects are covered thoroughly and in detail. The chapter on fabrication techniques and problems accounts for about one-fourth of the volume's length. Descriptions of experimental techniques and other matters of interest to scientists engaged in research on this metal are included. Nuclear and other properties of interest to physicists and engineers engaged in reactor design are described. Literature references are given. The Name index includes both the authors of chapters and the authors of cited literature.

SHIPBUILDING AND BOATBUILDING

Arnott David, editor

Design and construction of steel merchant ships written by a group of authorities. New York The Society of Naval Architects and Marine Engineers 1955 494 p illus. 28 cm. $14 00. 6968

Contents: Introductory by D. Arnott. Basic design, by J. F [illegible]. General arrangements and interior design, by V. N. [illegible]. Development of ship's structure, by D. [illegible] and R. I. [illegible]. Hull materials, by R. A. [illegible]. Structural design, by D. P. Brown. Hull materials, by A. A. [illegible]. Methods of joining structural parts, by A. A. [illegible]. Structural members—their function and design, by J. P. Comstock. Details of fittings, by D. T. Mallett and D. [illegible]. Cargo-handling, anchor, mooring and towing arrangements, by D. F. MacNaught. Anchor, mooring and towing arrangements, by J. W. Thompson. Hull piping systems, by C. E. [illegible]. Ventilation, heating and cooling, air conditioning, by D. K. Phillips. Lifesaving equipment, and electrical plant, by D. K. Phillips. Shipyard equipment and aids to navigation, by C. P. Murphy. Shipyard practice, by G. G. Holbrook. Hull preservation and maintenance, by J. W. Thompson. Glossary of hull terms. Index.

Note: The design and construction of present-day steel merchant ships is covered authoritatively and practically in this well-sponsored book. The necessity of designing merchant ships for specific trade and service conditions is emphasized, and a wide range of technical information is included to aid the ship designer in meeting this objective. The book is well illustrated and well indexed.

Baker, Elijah III

Introduction to steel shipbuilding Second edition. New York McGraw Hill Book Company Inc., 1953 398 p illus. 21 cm. $6 00. 6969

Contents: Strength of materials. Materials used in shipbuilding. Riveting and welding. Keels. Floors and double bottoms. Frames and framing systems. Shell plating. Deck beams. Pillars and girders. Decks. Bulkheads and flooring. Stem, stern frames, and rudder. Types of ships. Lines and offsets. Weight and displacement calculations. Stability. Trim, the inclining experiment, and damaged stability. Launching. Tonnage. Power and its measurement. Methods of determining power required. Propulsion. Propeller design. Testing the ship on trials. Maritime administration vessels. Glossary of shipbuilding definitions. Books recommended for advanced study. Index.

Note: A practical text developed originally for the instruction of apprentices in the employ of the Newport News Shipbuilding and Dry Dock Company. It describes the fundamental parts of present-day ships and outlines the basic design and construction techniques. Only simple mathematics is used, and the book is written in a style that makes it available to anyone with an interest in ships. The first edition was published in 1941. This edition is the result of considerable revision and expansion which included the addition of new chapters on the powering of vessels and the design of propellers. The number of illustrations was increased by 70.

Bradley Cliff

Building the small boat. New York The Macmillan Company 1946 222 p. illus. 21 cm. $3 49 6970

Contents: Building to design. Laying down. Getting out the parts. Setting up the frame. Planking. Finishing. Plywood. "[illegible]"—12'-0" [illegible] skiff. "[illegible]"—a 13'-0" [illegible]. "[illegible]"—a 14'-0" utility. "[illegible]"—an 18'-0" sportster. Index.

Note: An easily understood book of instructions for amateurs who are interested in constructing small wooden boats. By means of simple exposition and line drawings, the reader is told how to read simple blueprints, how to handle the necessary tools, how to do the specialized carpentry required, and how to assemble the various boat parts. Directions and working plans for building four small boats, rowboat, sailboat, an outboard motor boat, and an inboard motor boat, are included.

Chapelle, Howard I

Boatbuilding a complete handbook of wooden boat construction. New York W W Norton & Company Inc. 1941 624 p. illus. 25 cm. $10.00. 6971

Contents: Plans. Lofting. The backbone—setting up. Flat-bottom hull construction. V-bottom hull construction. Round-bottom hull construction. Lapstrake, and other construction methods. Joinerwork, plumbing, installation, sparmaking, and finishing. Tools and care, professional building. Index.

Note: A practical, well-written book on the construction of wooden boats. It is devoted primarily to amateur builders and beginners. The importance of planning the boat-building operation in advance is emphasized, and specific operations are explicitly described. Seventy pages are devoted to lofting. There are 116 figures, most of which contain several illustrations. Plans for 19 boats, ranging from a flat-bottomed rowboat to a 73-foot dragger are included.

Chapelle, Howard I.

Yacht designing and planning for yachtsmen, students and amateurs. New York W W Norton & Company Inc., 1936. 319 p. illus. 24 cm. $8.50 6972

Contents: Preface. Tools and materials. Preliminary design. The lines. The construction and joiner plans. The sail plan. Specifications. Appendix. Index.

Note: In this book for amateurs and yachtsmen who are not professional builders, the author has avoided the purely theoretical and has written a practical handbook which explains, with many drawings and diagrams, methods as actually carried out in the drafting room. The subject is treated from the point of view of American requirements and conditions.

Geiger, P H.

Noise-reduction manual. Originally prepared under the auspices of Office of Naval Research. Ann Arbor Engineering Research Institute, University of Michigan 1956 167 p. illus. 23 cm. $4 00. 6973

Contents: General procedures for noise reduction. Units useful in noise-reduction work. Sound absorption and insulation. Vibration damping. Vibration isolation. Instruments and techniques. Index.

Note: A manual of basic information and practical techniques applicable to the reduction of noise generated by engines, motors, machinery, etc. It grew out of a program of work and research sponsored by the United States Office of Naval Research; hence, most of the examples introduced in the discussions pertain to naval machinery. However the techniques of sound absorption, insulation and vibration damping which are described are as applicable to factories, repair shops, and other noisy enclosed places, as to

ships. The illustrations include drawings of devices for vibration insulation. Literature references are included in some of the chapters.

GERTLER, MORTON

A reanalysis of the original test data for the Taylor standard series Washington, D C Government Printing Office, 1954 308 p illus 22 × 28 cm (United States Navy Department. The David W Taylor Model Basin, Washington 7 D C Report 806) $3 50 6974

Contents. Notation. Formulas. List of tables. History of the Taylor standard series. Geometry of the Taylor standard series. Reduction of the original test data. Final presentation of data. Calculation of effective horsepower using revised contours. Validity of Taylor series comparisons. Use of the revised Taylor series contours with frictional-resistance formulations other than Schoenherr. References. Appendices Curves of half-breadth and waterline endings versus longitudinal prismatic coefficient for derived forms of the Taylor standard series. Contours of wetted-surface coefficients for standard series vessels. Curves of residual-resistance coefficient versus speed-length ratio and Froude number. Tables of the Schoenherr frictional-resistance coefficients versus Reynolds numbers. Tables of density and kinematic viscosity of water.

Note. Designed for the use of naval architects, this is a technical book, with many diagrams and tables, concerned with the subjects of ship resistance, ship propulsion, and ship models. It corrects errors discovered in the original test data for the Taylor standard series, the first of the mathematical series of ship forms to receive wide usage in the United States of America.

GOEHRING, EDWARD P

Marine piping handbook, for designers—fitters—operators Cambridge, Md Cornell Maritime Press, 1944 662 p illus 19 cm $6 00 6975

Contents. Pipes, fittings, flanges, and supports. Valves. Main and auxiliary machinery Hull drawings. Piping systems. Diagrammatic drawings and system calculations. Systems of drawings. Tables and information. Shipyard abbreviations and glossary Index.

Note. A text and reference book for designers, fitters, operating marine engineers, industrial and vocational teachers, and students. Complicated and exacting specifications are explained and analyzed, and all types of piping installation, large and small including high pressure, are treated.

HANSEN, EMIL M

Modern marine pipefitting Cambridge Md Cornell Maritime Press 1941 434 p illus 19 cm. $4 00 6976

Contents Introduction. Systems of drawing. Types of drawings. Symbols and conventions. Glossary of abbreviations and shipbuilding terms. General layout of ships. Ship structure. System of reading drawings Systems of piping Templates. Fabrication. Pipe-material classification. Valves and fittings. Types of joints and gaskets. Tests. Tools. Pipefitting practice. Glossary of pipefitting terms. Safety Useful tables and other data. Index.

Note A manual for marine pipefitters, giving methods of using plans and blueprints in the installation of piping, principally in naval vessels. It is designed primarily for new men in the work, and the author has endeavored to produce a work simple enough to obviate apprenticeship.

HANSEN EMIL M

Ship outfitter's handbook Cambridge Md Cornell Maritime Press 1943 291 p illus 23 cm $4 00 6977

Contents Systems of drawing. Types of drawings. Symbols and conventions. Glossary of abbreviations and shipbuilding terms. General layout of ships. Ship structure System of reading ship outfitting drawings. Ship outfitting jobs. Fabrication. Outfitting practice. Templates. Tests. Tools. Safety Tables and other data. Index.

Note This handbook is designed for beginners in ship outfitting. The layout and structure of ships are discussed and a method for effective use of blueprints is developed. There are numerous illustrations and a supplement of reproductions of working drawings.

LORD, LINDSAY

Naval architecture of planing hulls. Second edition Cambridge, Md. Cornell Maritime Press 1954 319 p illus. 24 cm $6 00 6978

Contents (abridged) Aspect ratio. Speed ratios. Loading of planes. Preliminary design. Lines. Weights. Hydrostatic calculations. Subdivision and flooding. Hydrodynamic calculations. Resistance and powering. Propulsion. Steering. Hull structure. Trials. Index.

Note. A manual of basic design principles and construction details for seaworthy speedboats, such as the PT boats of World War II fame. The author, a prominent naval architect with long experience in the design of such boats, shows that Froude's traditional speed-length ratio is not applicable to hulls that skim the surface, and advocates instead the use of several formulas involving speed-beam relationships. The constant angle plane, or monohedron, is advocated for planing bottoms as a means of providing constant lift and least suction. The book is a significant contribution to naval architecture.

MANNING, GEORGE CHARLES

Manual of ship construction, the fundamental principles of naval architecture for the operating personnel of the merchant service particularly those who are, or desire to become, officers. Princeton D Van Nostrand Company Inc. 1942 319 p illus. 22 cm. $4 00 6979

Contents. Ship language. Ship structure. Hull equipment and systems. Calculation of buoyancy and tonnage. Principles of stability Buoyancy and stability in damaged condition. Steering and rudders. Ocean waves and rolling. Propulsion. Appendix. Nomenclature of ships.

Note Prepared for the instruction of cadets in various maritime academies in the United States. It explains the characteristics of a ship and the methods of ship construction from the standpoint of operating officers—both deck officers and engineering officers. The fundamental principles are concisely explained, with numerous illustrations.

MANNING, GEORGE CHARLES

The theory and technique of ship design a study of the basic principles and the processes employed in the design of ships of all classes. New York Published by The Technology Press of The Massachusetts Institute of Technology and John Wiley & Sons, Inc. 1956 278 p. illus. 24 cm. $10 00 6980

Contents. Philosophy of ship design. Preliminary estimate of [illegible] of form. Preliminary displacement. Preliminary estimates of stability Preliminary lines and calculations. Design of general arrangements. Strength and weight calculations. Contract and final design. Appendices Computation of righting arms from principal dimensions and coefficients. Taylor's mathematical lines. Procedure in preliminary design. Index.

Note This new work supersedes the author's well-known *The basic design of ships*, New York, 1942. It is a new work rather than a revision although some material has been carried over from the older book. It is best described as an authoritative and compact introduction to the principles and techniques of present-day naval architecture. It deals with fundamentals and also with the important details. The greater part is technical and is addressed to advanced engineering college students who are preparing for careers in naval architecture. However, the first chapter and a few other sections are written in language intelligible to educated laymen. These parts of the book will be useful to readers outside the field of naval architecture who wish some knowledge of the problems and methods of ship design. The author is Professor of Naval Architecture at Massachusetts Institute of Technology

National Research Council

Bibliography of the submarine 1557 to 1953. Prepared by the Committee on Undersea Warfare National Academy of Sciences-National Research Council. Under the auspices of the Office of Naval Research. Washington, D C. National Academy of Sciences—National Research Council 1954 261 p. 24 cm. $1.50. 6981

Contents (abridged) General and historical non-technical. Special types of submarines. Design and construction—technical. Operations (other than warfare). Maintenance, repair, and related facilities. The submarine in war. Anti-submarine [illegible]. Data books. Author index.

Note: A comprehensive bibliography of the international literature. It is arranged under the main headings listed above, chronologically within those headings, and by nations under the [illegible] subdivisions. Many of the entries are briefly annotated.

Nowlin, Gordon A.

Connecting ships wiring. Boston Houghton Mifflin Company 1944 300 p. illus. 19 cm. $4.00. 6982

Contents: Part 1. Background information. Designating [illegible]. General [illegible] ship. Getting information about the job. General [illegible] information. Specific cable information. Part II. Lighting [illegible]. Designation of lighting circuits. Entering cables [illegible]. Connections. Distribution boxes. Testing the circuit. Part III. Interior communication circuits. Wiring [illegible] circuits. Part [illegible]. Cutting in and testing [illegible] circuits. Part V. The power system. Wiring and cutting in power circuits. Testing power circuits. Part [illegible]. Recent developments. Degaussing. New methods of [illegible] electrical cable ends. Index. Appendix.

Note: An interpretation of the principles and specifications governing the cutting in and connecting up of electrical equipment on board naval and commercial vessels. The practices described are standard procedures in the installation of electrical equipment and are applicable to most of the ships now being built in American yards. Electrical theory is purposely omitted and emphasis [illegible] upon the practical aspect of electrical wiring from the viewpoint of the beginning electrician and trainee.

Piper, John F

Marine electrical installation. Third edition. Cambridge Md. Cornell Maritime Press, 1943 450 p. illus. 19 cm. $3.50 6983

Contents: The modern vessel. Electrical systems. Tools. Temporary services. Electrical materials. Cable rack, hangers, and [illegible]. General wiring methods. Lighting systems. The power system. Interior communication systems. The generating plant. Laying out work. Conduit work and mechanical systems. Equipment [illegible]. Tests and trials. Appendices. Installation [illegible]. Tables and useful data. Elementary theory. Index.

Note: A handbook for the marine electrical worker. Electrical theory [illegible] discussed, and its practical application indicated. In the third edition new text material and new illustrations have been added, and sections have been provided on laying out, degaussing systems, and elementary theory.

Rabl, Samuel Suppler

Practical principles of naval architecture. Cambridge Md. Cornell Maritime Press, 1942 218 p. illus. 19 cm. $2.50 6984

Contents: Practical principles. Mathematics. Curves and graphs. The coefficients. Buoyancy and displacement. Centers and moments of gravity. Area and buoyancy. Stability, trim and the metacenter. Stability and trim calculations. Speed, resistance and power. The measurements of [illegible] ship. The inclining experiment. Launching. Strength of floating structures. Strength of materials. Curves of form, deadweight scale and capacity plan. Effect of flooded compartments. Appendices. Index.

Note: An elementary text and handbook for men in shipyards, [illegible] draftsmen, and men in the merchant marine. The author has included modern methods and also many [illegible] may be termed old fashioned, since many good ships still in use are constructed according to these older methods. This volume constitutes [illegible] second edition, revised, in which the chapter on the effect of flooded compartments [illegible] added. Additions have also been made [illegible] appendices on the admiralty coefficient and determining [illegible] by independent methods.

Rossell, Henry Eastin and Lawrence B Chapman editors

Principles of naval architecture. Written by a group of authorities. New York The Society of Naval Architects and Marine Engineers, 1939 2 v. illus. 28 cm. $6.00 per v. $11.00 set. 6985

Contents: Volume 1. Statics of naval architecture. Geometry of the ship, by W. Selkirk Owen. Freeboard, tonnage and capacity, by Harold F. Norton. Transverse stability, by S. A. Vincent. Longitudinal stability and trim, by John P. Macmillan. Subdivision of ships, by John P. Macmillan and John P. Comstock. Strength of ships, by David Arnott. Launching, by Henry H. W. Keith. Volume 2. Dynamics of naval architecture. The motion of ships among waves, by George C. Manning. Resistance and powering, by Kenneth S. M. Davidson. Propulsion and propellers, by Karl E. Schoenherr. Steering, by Karl E. Schoenherr.

Note: An authoritative publication containing information on various aspects of naval architecture. It [illegible] illustrated with diagrams, charts, and tables, and contains also practical examples and illustrations. It is intended both for naval architects and marine engineers and for students in naval architecture and marine engineering.

Society of Naval Architects and Marine Engineers

Historical transactions, 1893–1943 New York The Society of Naval Architects and Marine Engineers, 1945 544 p. illus. 28 cm. $3.50. 6986

Contents: David W. Taylor medalists. Part I. United States navy yards. Brief history of the Boston Navy Yard, by W. T. Tarrant. Brief history of the Cavite Navy Yard, by E. J. Dorn. The Charleston, S. C., Navy Yard, by W. M. [illegible]. Mare Island, then and now, by H. W. [illegible]. The New York Navy Yard, by J. H. [illegible]. Norfolk Navy Yard, by M. H. Simons. Pearl Harbor and its relation to the United States Navy, by F. A. [illegible]. The Philadelphia Navy Yard, by officers of the Industrial Department. The Portsmouth, N. H., Navy Yard, by J. G. Tawresey. The Puget Sound Navy Yard, by C. S. Freeman. Brief historical sketch of the navy yard at Washington, D. C., by E. W. Rea. Part II. Special types of vessels. The Pacific Coast steam schooner, by D. W. Dickie. Early American steamship lines, by F. J. Taylor. American merchant steamships, by C. E. Sewall. History of the United States coastwise steamers, by E. H. Rigg and A. J. Dickie. The development of steam navigation on Long Island Sound, by J. H. Gardner. History of tankers, by H. P. Frear. Outstanding New England types of fishing boats, [illegible], and yachts, by Q. Owen. Ferryboats, by E. Johnson. Part III. Private shipyards. History of Bath Iron Works Corporation, by W. S. Newell. History of Bethlehem [illegible] Fore River Yard, by H. E. Gould. History of Bethlehem's Wilmington plant—formerly the Harlan & Hollingsworth Corporation, by W. H. Collins. The Cramp shipyard, by W. Parrott. The Newport News Shipbuilding and Dry Dock Company, by R. L. Ferguson. The New York Shipbuilding Corporation, by J. F. Metten. History of the Pusey and Jones Corporation, by A. Q. Spitzenberger. The Roach shipyard, by W. P. Stephens and J. L. Rogers. Sun Shipbuilding & Dry Dock Company, by R. Haig. History of Bethlehem's San Francisco yard—formerly the Union Iron Works, by H. P. Frear. Part IV. The Navy Department and naval vessels. The organization of the Navy Department, by G. H. Rock. Types of naval ships, by H. E. Rossell. Medium-class warships of the United States Navy, by A. Crosby Brown. Revenue cutters, coast guard ships and lightships, by F. A. Hunnewell. Development of submarines in the United States, by A. I. McKee. Torpedo boats and destroyers, by H. P. Frear and W. S. Newell. Part [illegible]. Miscellaneous. Shipping on the Great Lakes, by J. C. Wonham. Development of transportation on the North Pacific Ocean, by A. F. Pillsbury. Water transportation on inland rivers, by V. B. Edwards and F. C. Cox. Part VI. Development and history. The development of marine engineering, by J. F. Nichols. The development and use of steel in shipbuilding, by E. F. Kenney. Developments in shipbuilding, by H. F. Morton. The development of marine welded [illegible], by J. H. King and E. S.

ships. The illustrations include drawings of devices for vibration insulation. Literature references are included in some of the chapters.

GERTLER, MORTON

A reanalysis of the original test data for the Taylor standard series Washington, D C Government Printing Office, 1954 308 p illus 22 × 28 cm (United States Navy Department. The David W Taylor Model Basin, Washington 7, D C Report 806) $3 50 6974

Contents Notation. Formulas. List f tables. History of the Taylor standard series. Geometry of the T ylor standard series. Reduction of the original test data. Final presentation of data. Calculation of effective horsepower using revised contours. Validity of Taylor series comparisons. Use of the revised Taylor series contours with frictional-resistance formulations other than Schoenherr Refer ences. Appendices Curves of half-breadth and waterline endings ersus longitudinal prismatic coefficient for derived forms f the Taylor standard series. Contours of wetted-surface coefficients for standard series vessels. Curves of residual-resistance coefficient versus speed-length ratio and Froude umber Tables of the Schoenherr frictional-resistance coefficients versus Reynolds numbers. Tables of density and kinematic viscosity of water

Note. Designed for the use of naval architects, this is a technical book, with many diagrams and tables, concerned with the subjects of ship resistance, ship propulsion, and ship models. It corrects errors discovered in the original test data for the Taylor standard series, the first of the mathematical series of ship forms to receiv wide usage in the United States of America.

GOEHRING, EDWARD P

Marine piping handbook for designers—fitters—operators. Cambridge Md. Cornell Maritime Press, 1944 662 p illus 19 cm. $6 00 6975

Contents Pipes, fittings, flanges, and supports. Valves. Main and auxiliary machinery Hull drawings. Piping systems. Diagrammatic drawings and system calculations. Systems of drawings. Tables and information. Shipyard abbreviations and glossary Index.

Note A text and reference book for designers, fitters, operating marine engineers, industrial and vocational teachers, and students. Complicated and exacting specifications are explained and analyzed, and all types of piping installation, large and small, including high pressure, ar treated.

HANSEN, EMIL M

Modern marine pipefitting Cambridge Md Cornell Maritime Press, 1941 434 p illus 19 cm. $4 00 6976

Contents Introduction. Systems of drawing Types of drawings. Symbols and conventions. Glossary of abbreviations and shipbuilding terms. General layout f ships. Ship's structure. System of reading drawings. Systems of piping. Templates. Fabrication. Pipe-material classification. Valves and fittings. Types of joints and gaskets. Tests. Tools. Pipefitting practice. Glossary of pipefitting terms. Safety Useful tables and other data. Index.

Note A manual for marine pipefitters, giving methods of using plans and blueprints in the installation of piping, principally in na al essels. It is designed primarily for new men in the work, and the author has endea ored to produce a work simple enough to obviate apprenticeship.

HANSEN EMIL M

Ship outfitter's handbook Cambridge Md Cornell Maritime Press 1943 291 p. illus. 23 cm $4 00 6977

Contents. Systems of drawing Types of drawings. Symbols and conventions. Glossary f abbreviations and shipbuilding terms. General layout of ships. Ship's structure System of reading ship outfitting drawings. Ship outfitting jobs. Fabrication. Outfitting practice. Templates. Tests. Tools. Safety Tables and other data. Index.

Note. This handbook is designed for beginners in ship outfitting. The layout and structure of ships are discussed and a method for effecti use of blueprints is developed. There are numerous illustrations and a supplement of reproductions of working drawings.

LORD, LINDSAY

Naval architecture of planing hulls. Second edition Cambridge Md Cornell Maritime Press, 1954 319 p illus. 24 cm $6 00. 6978

Contents (abridged) Aspect ratio. Speed ratios. Loading of planes. Preliminary design. Lines. Weights. Hydrostatic calculations. Subdivision and flooding. Hydrodynamic calculations. Resistance and powering. Propulsion. Steering. Hull structure. Trials. Index.

Note. A manual of basic design principles and construction details for seaworthy speedboats, such as the PT boats of World War II fame. The author prominent naval architect with a long experience in the design of such boats, shows that Froude's traditional speed-length ratio is not applicable to hulls that skim the surface, and advocates instead the use of several formulas involving speed-beam relationships. The constant angle plane, or monohedron, is advocated for planing bottoms as a means of providing constant lift and least suction The book is significant contribution to naval architecture.

MANNING, GEORGE CHARLES

Manual of ship construction, the fundamental principles of naval architecture for the operating personnel of the merchant service, particularly those who are, or desire to become, officers. Princeton D Van Nostrand Company Inc, 1942 319 p. illus. 22 cm. $4 00 6979

Contents Ship language. Ship structure. Hull equipment and systems. Calculation of buoyancy and tonnage. Principles of stability Buoyancy and stability in damaged condition. Steering and rudders. Ocean waves and rolling. Propulsion. Appendix. Nomenclature of ships.

Note Prepared for the instruction of cadets in various maritime academies in the United States. It explains the characteristics f ship and the methods of ship construction from the standpoint of operating officers—both deck officers and engineering officers. The fundamental principles are concisely explained, with numerous illustrations.

MANNING, GEORGE CHARLES

The theory and technique of ship design a study of the basic principles and the processes employed in the design of ships of all classes. New York Published by The Technology Press of The Massachusetts Institute of Technology and John Wiley & Sons Inc. 1956 278 p illus. 24 cm $10 00 6980

Contents. Philosophy of ship design. Preliminary estimate of displacement. Preliminary estimate of elements of form. Preliminary estimates of stability Preliminary lines and calculations. Design of general arrangements. Strength and weight calculations. Contract and final design. Appendices. Computation of rabbet areas from principal dimensions and coefficients. Taylor's mathematical lines. Procedure in preliminary design. Index.

Not This new work supersedes the author's well-known *The basic design of ships*, New York, 1945. It is a new work rather than re ision although some material has been carried over from the older book. It is best described as an authoritative and compact introduction to the principles and techniques of present-day na al architecture. It deals with fundamentals and also with the important details. The greater part is technical and is addressed to advanced engineering college students who are preparing for careers in na al architecture. However, the first chapter and a few other sections are written in language intelligible to educated laymen. These parts of the book will be useful to readers outside the field of na al architecture who ish some knowledge of the problems and methods of ship design. The uthor is Professor of Naval Architecture at Massachusetts Institute of Technology

NATIONAL RESEARCH COUNCIL

Bibliography of the submarine 1557 to 1953 Prepared by the Committee on Undersea Warfare National Academy of Sciences National Research Council. Under the auspices of the Office of Naval Research. Washington, D C. National Academy of Sciences—National Research Council, 1954 261 p. 24 cm. $1.50. 6981

Contents (abridged): General and historical-non-technical. Special types of submarines. Design and construction—technical. Operations (other than warfare). Maintenance, repairs, and related facilities. The submarine in war. Anti-submarine [illegible]. Data books. Author index.

Note: A comprehensive bibliography of the international literature. It is arranged under the main headings listed above, chronologically within these headings, and by nation under the chronological sub-divisions. Many of the entries are briefly annotated.

NOWLIN, GORDON A.

Connecting ships wiring. Boston Houghton Mifflin Company 1944 300 p. illus. 19 cm. $4.00. 6982

Contents: Part I, Background information. Designating interior [illegible] ship. Getting information about the job. General cable information. Specific cable information. Part II, Lighting circuits. Designation of lighting circuits. Entering cables into [illegible]. Connections. Distribution boxes. Testing the circuit. Part III, Interior communication circuits. Wiring interior communication circuits. Part IV, Cutting in and testing interior communication circuits. Part V, The power system. Wiring and cutting in power circuits. Testing power circuits. Part VI, Recent developments. Degaussing. New methods of making electrical cable ends. Index. Appendix.

Note: An interpretation of the principles and specifications governing the cutting in and connecting up of electrical equipment on board naval and commercial vessels. The practices described are standard procedure in the installation of electrical equipment and are applicable to most of the ships now being built in American yards. Electrical theory [illegible] purposely omitted and emphasis is upon the practical aspect of electrical wiring from the viewpoint of the beginning electrician and trainee.

PIPER, JOHN F

Marine electrical installation. Third edition. Cambridge Md Cornell Maritime Press, 1943 450 p. illus. 19 cm. $3.50. 6983

Contents: The modern vessel. Electrical systems. Tools. Temporary services. Electrical materials. Cable racks, brackets, and hangers. General wiring methods. Lighting systems. The power system. Interior communication systems. The generating plant. Laying out work. Conduit work and mechanical systems. Blueprint reading. Tests and trials. Appendices: Installation code. Tables and useful data. Elementary theory. Index.

Note: A handbook for the marine electrical worker. Electrical theory is discussed, and its practical application indicated. In the third edition new text material and new illustrations have been added, and sections have been provided on laying out, degaussing systems, and elementary theory.

RABL, SAMUEL SUPPLEE

Practical principles of naval architecture. Cambridge, Md. Cornell Maritime Press, 1942 218 p. illus. 19 cm. $2.50. 6984

Contents: Practical principles. Mathematics. Curves and graphs. The coefficients. Buoyancy and displacement. Centers and moments of gravity. Area and buoyancy. Stability: trim and the metacenter. Bulkhead and trim calculations. Speed, resistance and power. The measurements of [illegible] ship. The inclining experiment. Launching. Strength of floating structures. Strength of materials. Curves of form, deadweight scale and capacity plan. Effect of flooded compartments. Appendices. Index.

Note: An elementary text and handbook for men in shipyards, [illegible] draftsmen, and men in the merchant marine. The author has included modern methods and also some which may be termed old fashioned, since many good ships still in use were constructed according to these older methods. This volume constitutes second edition, revised, in which the chapter on the effect of flooded compartments [illegible] added. Additions have also been made to the appendices on the admiralty coefficient and determining [illegible] by independent methods.

ROSSELL, HENRY EASTIN AND LAWRENCE B CHAPMAN editors

Principles of naval architecture. Written by a group of authorities. New York The Society of Naval Architects and Marine Engineers, 1939 2 v. illus. 28 cm. $6.00 per v. $11.00 set. 6985

Contents: Volume I, Statics of naval architecture. Geometry of the ship, by W Selkirk Owen. Freeboard, tonnage and capacity, by Harold F Norton. Transverse stability, by R. A. Vincent. Longitudinal stability and trim, by John F Macmillan. Subdivision of ships, by John F Macmillan and John P Comstock. Strength of ships, by David Arnott. Launching, by Henry H. W Keith. Volume II, Dynamics of naval architecture: The motion of ships among waves, by George C. Manning. Resistance and powering, by Kenneth S. M. Davidson. Propulsion and propellers, by Karl E. Schoenherr. Steering, by Karl E. Schoenherr.

Note: An authoritative publication containing information on various aspects of naval architecture. It is illustrated with diagrams, charts, and tables, and contains also practical examples and bibliographies. It is intended both for naval architects and marine engineers and for students in naval architecture and marine engineering.

SOCIETY OF NAVAL ARCHITECTS AND MARINE ENGINEERS

Historical transactions 1893–1943 New York The Society of Naval Architects and Marine Engineers, 1945 544 p. illus. 28 cm. $3.50 6986

Contents: David W. Taylor medalists. Part I, United States navy yards: Brief history of the Boston Navy Yard, by W T. Tarrant. Brief history of the Cavite Navy Yard, by R. J. Davis. The Charleston, S. C., Navy Yard, by W M. Sanders. Mare Island, then and now, by H. W Linnehan. The New York Navy Yard, by J. H. Watt. Norfolk Navy Yard, by M. K. Simmons. Pearl Harbor and its relation to the United States Navy, by F A. Stevens. The Philadelphia Navy Yard, by officers of the Industrial Department. The Portsmouth, N. H., Navy Yard, by J G. Tawresey. The Puget Sound Navy Yard, by C. S. Freeman. Brief historical sketch of the navy yard at Washington, D. C., by E. W Rae. Part II, Special types of vessels: The Pacific Coast steam schooner, by D. W Dickie. Early American steamship lines, by F J. Taylor. American merchant steamships, by C. R. Kroll. History of the United States coastwise steamers, by E. H. Rigg and A. J. Dickie. The development of steam navigation on Long Island Sound, by J. M. Gordon. History of tankers, by H. F Frear. Outstanding New England types of fishing boats, whalers, and yachts, by G. Owen. Ferryboats, by E. Johnson. Part III, Private shipyards: History of Bath Iron Works Corporation, by W S Newell. History of Bethlehem Fore River Yard, by H. E. Gould. History of Bethlehem's Wilmington plant—formerly the Harlan & Hollingsworth Corporation, by W H. Collins. The Cramp shipyard, by W Purnell. The Newport News Shipbuilding and Dry Dock Company, by H. L. Ferguson. The New York Shipbuilding Corporation, by J. F Metten. History of the Pusey and Jones Corporation, by A. G. Spiegelhalter. The Roach shipyard, by W P Stephens and J. L. Bogert. Sun Shipbuilding & Dry Dock Company, by R. Haig. History of Bethlehem's San Francisco yard—formerly the Union Iron Works, by H. F Frear. Part IV, The Navy Department and naval vessels: The organization of the Navy Department, by G. H. Rock. Types of naval ships, by H. E. Rossell. Monitor-class warships of the United States Navy, by A. Crosby Brown. Revenue cutters, coast guard ships and lightships, by F A. Hunnewell. Development of submarines in the United States, by A. I. McKee. Torpedo boats and destroyers, by H. F Frear and W S. Newell. Part V, Miscellaneous: Shipping on the Great Lakes, by J. C. Workum. Development of transportation on the North Pacific Ocean, by A. F Pillsbury. Water transportation on inland rivers, by V R. Edwards and F C. Cole. Part VI, Development and history: The development of marine engineering, by J. F Nichols. The development and use of steel in shipbuilding, by E. F Kenney. Developments in shipbuilding, by H. F Norton. The development of marine watertube boilers, by J. M. King and R. S.

Cox. History of United States navigation and vessel inspection laws, by H. C. Shepheard. The American Bureau of Shipping 1862 1942 by J L. Luckenbach. Formation of the Society of Naval Architects and Marine Engineers, by W P Robert.

Note This volume as planned and ritten as an outline of the history of shipbuilding and shipping, ith emphasis on developments in the United States. The papers are not reprints but were expressly written for the collection. Most of them are illustrated and are accompanied by lists of pertinent literature and by discussions.

SWANSON, WILLIAM ELMER

Modern shipfitter's handbook. Second edition, revised and enlarged Cambridge, Md. Cornell Maritime Press, 1941 309 p illus 19 cm $3 50 6987

Contents Outline of ship construction. Blueprint reading. Mold loft. Structural shop and anglesmithing. Assembly Erection. Launching. Tools and their uses. Riveting. Rigging. Welding. Safety Glossary l construction terms. Tables. Appendix. Index.

Note. A pocket-size manual written from the point of view of the worker and the learner Working operations are illustrated by the use of drawings. New in this second edition is the appendix which covers tank or box assembly welded corners, winch house assembly port and deck lights, cylinder assembly stack construction, masts, derrick posts, etc.

TOMLINSON, JOSEPH L

Shipbuilding blueprint reading Chicago American Technical Society, 1942 208 p illus. 28 cm $3 00 6988

Contents (abridged) Shop arithmetic. Plates showing profile of modern cargo ship and midship section. Glossary of ship terms. Plates showing profile and deck plan, and abbreviations used on ship drawings. Typical ship drawings. Symbols and abbreviations. Developing the shape of the ship. Ship lines. Ship parts. Drawing projections. Welding and abbreviations. Deck beam bracket. Bulwark bracket. Gusset and floor bracket. Side stringer. Watertight flat deck. Rivet gages for channels and angles. Thickness and weight of steel plate. Engine foundation. Bow frame. Oil-tight bulkhead. Main deck plating. Fore-castle deck. Midship transverse frame. Forepeak profile.

Note: A wire-bound textbook with explanations, illustrations, and test questions, covering shop mathematics, nomenclature, abbreviations, and working drawings of the modern cargo vessel.

TULIN, ADAM F

Practical shell developing for steel shipbuilders, a manual for loftsmen, shipfitters, hull draftsmen and others who deal with steel ship construction. Second edition. New York Simmons-Boardman Publishing Corporation 1941 158 p illus. 24 cm. $4 00 6989

Contents. Shell plate developing and expanding. Sight edge expansions. Transferring fore and aft lines from the body Lining in frame lines. Lining in butts. Thickness plotting. Stretching and drawing templates. Miscellaneous. Bow table. Index.

Note. An advanced manual for loftsmen, shipfitters, hull draftsmen, and others who deal with steel ship construction. The modern center spot squaring method and the edge squaring method of shell developing are made clear with the aid of scale drawings and worked out examples. No theoretical treatment is given as the loftsman using the book is assumed to have had at least six months' experience.

MARINE ENGINEERING AND SEAMANSHIP

Conference on Ships and Waves

Proceedings of the first Conference on Ships and Waves, Hoboken, New Jersey October 1954 Edited by J W Johnson. Richmond, Calif. Council on Wave Research and Society of Naval Architects and Marine Engineers, 1955 509 p. illus. 27 cm. 6990

Contents: Part 1, The theory, measurement and prediction of sea waves. On the theory of irregular waves, by R. A. Fuchs. A technique for ocean wave measurement, by H. O. Farmer and [illegible]. Short time prediction. Prediction of wave motion, by R. R. Putz. [illegible] stochastic [illegible] of sea surface heights—prediction of [illegible], by L. J. Cote. Wave forecasting, by T. Saville, Jr. Wave [illegible] at the Hydrographic Office, by J. F. [illegible] and J. J. Schule, Jr. The ratio of the sea-surface wind to the gradient wind, by P. W. Johnson. Climatological data on the generation and propagation of waves in the North Atlantic, by F. E. DeLeonibus. Part 2, Theory of ship motion in a seaway: Progress of theoretical investigation of ship motions in a seaway, by G. P. Weinblum. On some recent developments in the theory of ship motions, by M. St. Denis and W. J. Pierson, Jr. Ships in a seaway, by J. J. Stoker and A. S. Peters. A linear theory of ship motion in irregular waves, by R. A. Fuchs. The oscillations of ships in solitary waves, by R. A. Fuchs and R. A. MacCamy. Forces and moments on submerged bodies moving under waves, by W. R. Cummins. Short time prediction of the motion of a ship in waves, by J. T. Fleck. Progress in theoretical and experimental studies of ship slamming, by V. G. Szebehely. Application of electronic computers to scientific problems, by J. J. [illegible]. Part 3, Laboratory equipment for model tests: The design of wave channels, by J. M. Caldwell. Wave machines, by J. [illegible]. Resistance tests and motion observations on models in a seaway, by F. H. Todd. Irregular waves in model tanks, by E. V. Lewis. Observation of ship motions by model testing, by B. V. Korvin-Kroukovsky. Resistance tests in waves by models, by E. Numata. Equipment for testing model ships and seaplane hulls in choppy seas, by E. F. Schade. Part 4, Model and prototype observations on ship motion: Observations on ship motions at sea, by A. C. [illegible]. Laboratory studies of the motion of freely floating bodies in non-uniform and uniform long crested waves, by O. [illegible]. Amphibious structures in the surf, by D. A. Patrick and R. L. Wiegel. Model studies of amphibious structures in the surf, by H. W. Iversen and R. C. Crooke. Model investigations of seaplanes in waves, by J. B. Parkinson. Forces on moored ships due to wave action, by J. T. O'Brien. Mooring cable forces caused by wave action on floating structures, by K. K. [illegible]. Distribution patterns of wave heights, ship motions and hull stresses, by N. H. Jasper. Waves of translation in operating towboats, by L. A. Baier.

Note: A large amount of research, much of it carried out in recent years in the United States of America, is represented by the papers in this volume. Papers such as Szebehely's on ship slamming survey the extant knowledge, covering both the published literature and recent research, and point out areas in need of research. Bibliographies are included in most of the papers. The publication is of interest to naval architects, oceanographers, applied physicists and applied mathematicians.

Cornell, Felix M and Allan C. Hoffman editors

American merchant seaman's manual for seamen by seamen. Fourth edition revised and enlarged. Cambridge, Md. Cornell Maritime Press, 1946 834 p. illus. (part col d) 19 cm. 6991

Contents. Marlinespike seamanship. Wire and wire splicing. Blocks and tackle. Deck seamanship. Cargo stowage and handling. Canvas work. Paints and painting. Ground tackle. Steering gear. Examination guide for lifeboatmen and able seamen. Handling small boats under oars. Handling small boats under sail. Signals. Tankerman guide. Construction and stability. Navigation (revised by Capt. [illegible]) Weather. Ship sanitation and first aid. The rules of the road. Safety. Consular regulations affecting [illegible] seamen. Laws pertaining to merchant seamen. General information. Index.

Note: A comprehensive handbook intended both for practical use on shipboard and as a textbook or self-instruction guide in preparation for such certificate examinations as A.B., Lifeboatman, and Tankerman. It is widely used in maritime service training schools in the United States of America. Typical examination questions are included. International code flags are reproduced in color. The fifth edition was published in 1957 836 p., $7.00.

Crenshaw R. S jr.

Naval shiphandling By R. S Crenshaw, jr Aided by James S. Russell and others. Annapolis United States Naval Institute 1955 395 p illus 27 cm. $4.50 6992

Contents: Seaman's eye. Forces affecting the ship. The destroyer. Mastering the situation. Handling alongside. Anchoring. Mooring. Handling at sea. Radar, sonar and CIC. Special maneuvers at sea. Restricted waters. Cruisers and battleships. Carriers. Submarines. Large amphibious and service ships. Landing ships. Arctic shiphandling. Pilots and tugs. Shiphandling tips. Mariners at work. Appendix: Propeller side forces. Resistance and power. Index.

Note: The art of handling ships at sea, in harbors and other restricted areas is covered in detail in this textbook. The handling of all classes and types of naval ships is covered. Much of the information contained in the book is applicable also to the handling of merchant ships. A large fraction of the 146 figures are diagrams of specific maneuvers. The title page bears the names of 16 authorities who contributed to the volume in addition to the author.

Gillmer, Thomas C

Fundamentals of construction and stability of naval ships. Annapolis The United States Naval Institute 1956 370 p. illus. 26 cm. $5.50. 6993

Contents. Planning and building the ship. Definitions and geometry of the ship. The ship's structure. The strength of ships and their structural material. Resistance, propulsion and steering. Buoyancy. Equilibrium and initial stability. Overall stability. Weight effects on stability. Impaired stability. Control of damage. Wave motion in water. Ship motion among waves. Dynamic stability. Dynamically supported craft. Submersible craft—the submarine. Appendices: Approximate method of integration in ship calculations. Computations for effective horsepower and propulsion theory. Lost buoyancy and free communication. Index.

Note: A textbook prepared for the use of midshipmen during their last year in the Department of Marine Engineering at the United States Naval Academy. It is concerned primarily with the stability of naval ships and is designed to provide information that will be useful in their control when stability or structure, or both, are damaged. In short, it deals with the portion of the area of naval science sometimes called damage control. Because of the importance of a fundamental knowledge of ship structure to officers responsible for the control of damaged ships, it contains a large part of discussions of topics from naval architecture. Portions of the book have been taken from other texts published by the United States Naval Institute. The author is Associate Professor of

Marine Engineering on the faculty of the United States Naval Academy

HEUVELMANS, MARTIN

Cargo deadweight distribution Cambridge, Md. Cornell Maritime Press, 1945 86 p illus 19 cm. $2 00 6994

Contents Problems of weight distribution. General cargo. Stability or vertical weight distribution. Free surface correction. Complex cargo. Résumé. Special considerations in stowage. General cargo plan Safe stowage and despatch. Interdependence of stowage and weight distribution. Deadweight scale. Trim scale. Conclusion.

Note A brief book for stevedores, ship's officers, and others directly concerned with the loading of ships. It is not intended to replace more comprehensive books on ship stowage. Instead, it deals as concisely as possible with practical methods of planning the distribution of cargo so as to obtain good stability and trim.

KING, RENO C, JR.

Practical marine engineering Second edition. Englewood Cliffs, N J Prentice-Hall Inc., 1956 541 p. illus 22 cm $7.35 6995

Contents. Introduction to the marine power plant. Boiler construction—general requirements. Construction of Scotch boilers. Water-tube boilers. Combustion. Boiler operation and maintenance. Boiler water problems. Reciprocating steam engines. Steam turbines. Electricity Refrigeration. Pumps and unfired pressure vessels. Miscellaneous equipment. Respiratory apparatus. Fire-fighting equipment rules and regulations. Engine-room mathematics. Index.

Note. A standard text on the marine steam power plant. As the table of contents indicates, it covers also other marine machinery such as pumps, which is the concern of operating marine engineers. It is used in preparation for examinations and is so organized and written that it is suitable for self-instruction as well as for study in organized courses. The first edition was published in 1948. The most noteworthy change in this second edition is the addition of the chapter titled, "Engine-room mathematics. The chapter on fire-fighting has been completely rewritten. There are a few changes in other chapters but, generally speaking, the revision of these has not been extensive or thorough. For example, the following passage from the first edition appears unchanged in the second edition "There is no great barrier to prevent the gas-turbine from becoming popular for marine as well as for industrial use. As this book is being prepared, tests are being run on gas-turbines, marine power plants."

KING, E R, AND J V NOEL, JR

Ship handling Princeton D Van Nostrand Company Inc., 1954 219 p illus. 24 cm. $5 00 6996

Contents Introduction. Factors in ship handling. Bridge personnel and procedures. Anchoring and mooring. Making a landing. Leaving a pier or another ship. Ship handling in restricted waters. Ship handling at sea. Emergency ship handling. Handling of special naval types Ship handling in ice. Index.

Note. The handling of ships is described in a practical and detailed manner in this book, whose authors hold the rank of Commander in the United States Navy The handling of both naval and merchant ships under all possible conditions is clearly explained, and the exposition is made interesting by the inclusion of incidents from actual experience. The book is even more inclusive than the chapter titles indicate. For example, the chapter on emergency shiphandling covers the following exigencies avoiding collision, steering casualties, heavy weather man overboard, bringing aboard survivors, and the handling of damaged ships.

KNIGHT, AUSTIN M

Modern seamanship Twelfth edition. Rewritten and revised by Ralph S Wentworth assisted by John V Noel jr and officers of the U S Naval Academy the U S Coast Guard Academy officers and civilian specialists in the Bureau of Ships and in the Bureau of Naval Personnel Navy Department With chapters on weather prepared by Frederick L Caudle. Princeton D Van Nostrand Company, Inc., 1953 606 p. illus. 24 cm. $7 50 6997

Contents. Part I, The sea and the ship Waves and surf. Types of ships. The hull. Methods of propulsion and steering. Instruments for navigation. Boats. Landing ships and landing craft. Ground tackle and anchoring. Mooring. Part II, Shiphandling: General principles of ship control. Docking and mooring—handling alongside. Station keeping. Handling boats. Towing and replenishment at sea. Salvage. Ice seamanship. Part III, Rules of the road, by R. S. Wentworth Principles and application. Lights and shapes of identification, Rules 1 16. Steering and sailing rules, Rules 17-32. Part IV Weather by F L. Caudle: The atmosphere and its circulation. Clouds, fog, and stability Weather elements, instruments, and reports. Weather of the middle latitudes. The tropical cyclone—thunderstorms—tornadoes. Appendices. Rope and cordage. Knotting and splicing. Mechanical appliances aboard ship. Index.

Note For several decades this book has been an official text at the United States Naval Academy Although it contains information that is useful to merchant seamen, it is designed primarily for instruction and reference use by naval officers and seamen. It describes explicitly and in detail the principles and techniques of naval seamanship and is fully illustrated. The first edition was published in 1901 and the 11th edition in 1945. In comparison to the 11th edition, the number of pages in this 12th edition are substantially fewer. Nevertheless, it contains two new chapters, and many of the chapters carried over have been revised. The scope and purpose are unchanged.

JONES, CECIL MORGAN

Small boat engine manual, selection, installation, maintenance, operation. Cambridge, Md. Cornell Maritime Press, 1948. 276 p. illus. 19 cm. $4 00. 6998

Contents (abridged) Choosing the right engine. How engines work. Cylinder blocks, crankshafts, connecting rods, and pistons. Valves, camshafts, and timing gears. Carburetors and fuel pumps. Electrical systems. Storage batteries. Transmission systems. Lubricating, cooling and fuel systems. Diesel fuel injectors, pumps, nozzles, blowers. Propellers, shafting, rudders. Auxiliary power plants, combination units, lighting. Trouble shooting—gasoline engines—Diesel engines. Laying-up, recommissioning, insurance, the motorboat act. Index.

Note: A carefully written book of factual information and instructions for the motorboat owner who personally operates and maintains his own craft. The author thoroughly covers the installation, operation, care, and minor repair of inboard two-cycle and four-cycle gasoline and Diesel engines. The chapter on trouble shooting is conveniently arranged in a series of typical situations involving engine failure, for each of which the cause or trouble is listed and the possible reasons for it are mentioned, after which the proper remedies are prescribed.

LABBERTON, JOHN MADISON, editor

Marine engineers handbook prepared by a staff of specialists. With the general engineering fundamentals reproduced from Mechanical engineers' handbook, Lionel S. Marks, editor in-chief New York McGraw Hill Book Company, Inc., 1945 2 013 p. illus. 20 cm. $20 00 6999

Contents Mathematical tables. Weights and measures. Mathematics. Mechanics of rigid bodies. Stresses in framed structures. Friction. Hydraulics. Dimensional analysis. Theory of models. Thermal properties of bodies and thermodynamics. Transmission of heat. Vibration. Mechanical properties of materials. Mechanics of materials. Pipe line problems. Materials of engineering. Machine elements. Pipe and pipe fittings. Power generation. Boilers. Steam engines. Steam turbines. Internal combustion engines. Hulls. Propellers. Reduction gears. Deck machinery Electric drive. Heating and ventilating. Pumps and compressors. Fans. Electrical engineering. Measuring instruments. Refrigeration. Ships' trials. Index.

Note. This handbook was planned as [illegible] successor to Sterling's *Marine engineers' handbook* New York, 1920, and included in it is the section on reciprocating engines that appeared in the older book. This section has been reset but not revised. The topics (as distinguished from the sections on general engineering reproduced from Marks' *Mechanical engineers' handbook*) are new. As in the older book, the sections are by various authorities and

as aged. The work is designed mainly for students of marine engineering and graduate engineers concerned with ship design and operation rather than for marine operating engineers.

LA DAGE, JOHN H.

Merchant ships a pictorial study By John H. La Dage, with C. L. Sauerbier G. N Steiner M. W Hirschkowitz, and A. E. Flore. Cambridge Md. Cornell Maritime Press, 1955. 481 p. illus. 29 cm. $15.00 7000

Contents (abridged) Part I, Living and working aboard ship, by J. La Dage. Part II, Types of merchant ships, by J. La Dage. Part III, Ship structure, by J. La Dage. Part IV The handling and stowage of cargo, by C. L. Sauerbier. Part Deck operations, by M. W J. La Dage and others. Part VI, Engineering operation, by M. W Hirschkowitz. Part VII, Docking and repairing the ship, by G. N. Steiner and J. La Dage.

Note: An unusual book which consists almost entirely of pictures (all of them reproductions of photographs) and well-written, explanatory captions. Some of these captions are short, but in many instances they are generous paragraph or two in length. As the part-titles quoted above indicate, most aspects of merchant ships including building and repairing are covered.

LA DAGE, JOHN H. AND LEE VAN GEMERT

Stability and trim for the ship's officer Second edition. Princeton D Van Nostrand Company Inc., 1956 216 p. illus. 22 cm. $5.85 7001

Contents: What is stability? Calculation of metacentric height (GM). The calculation of KM. The inclining experiment. Stability at large angles of inclination. Free surface. Damage stability Trim. Stability and trim computers and tables. Practical stability and trim considerations. Marine disasters due to loss of transverse stability Bibliography Appendix. Index.

Note: Ship's officers need thorough grasp of ship stability principles, both in order to avert capsizing the severely damaged vessel and in order most effectively and most safely to stow the cargo. The book has been produced to give ship's officers and candidates for mate's and master's licenses complete knowledge of the subject. The writing is compact, and the book contains considerably more information than the relatively small number of pages would indicate. The first-named author Chief of the Section of Naval Architecture in the United States Merchant Marine Academy and the co-author was formerly an instructor on the faculty of the same Academy. The first edition was published in 1944. In preparing this edition two chapters were extensively revised, and the chapter entitled "Practical stability and trim considerations" was added.

LATHAM, ROBERT F

Naval boilers. Second revised edition, completely rewritten. Annapolis Md. United States Naval Institute, 1956 180 p. illus. 28 cm. $5.50. 7002

Contents: Introduction to naval boilers. History and development of boilers. Modern express boiler design and construction. Operational boiler types. Boiler water treatment. Supplying heat to the boiler Principles of boiler operation and maintenance. Bibliography Index.

Note: A textbook developed at the United States Naval Academy and used there in course taken by first-year midshipmen. It covers in descriptive style the construction features and operating principles of steam-generating equipment used in vessels of the United States Navy Much of the material is, of course, applicable to similar equipment in merchant vessels. The preceding edition was published in 1949. The book was extensively reorganized and rewritten for this edition. Among the noteworthy additions is the chapter on the history of boilers.

LEDERER, EUGENE H.

Port terminal operation. Cambridge Md. Cornell Maritime Press, 1945 450 p. illus. 23 cm. $5.00. 7003

Contents (abridged) Part I, Port terminal management. Port terminal facilities. Port administration. Port services. Facilities for interchange between rail and water. Fuel and supplies. Port and harbor facilities. U. S. line administration. U. S. line organization. Handling cargo on the dock. Pier management. Warehousing. Storage precautions. Part II, Stevedoring Administration and operation. Handling ship cargo. Stevedoring charges. Part III, Stowage Responsibilities in stowage. Stowage problems and procedures. Part IV Lighterage and harbor boats. Lighterage operation. Rules governing boating operations. Towage Marine cableways. Cable. Harbor boat operation. Care and handling of rope. Up-keep and operation of motorcraft. Appendices. Suggested further reading. Port terminal safety code. Outline for specifications for repairs. Index.

Note. A comprehensive, practical manual designed for all persons concerned with the handling and stowage of ships' cargo. There is somewhat more emphasis on management principles, but details of the actual handling of cargo are also covered. Photographs and diagrams that illustrate correct and incorrect procedures, equipment for loading and unloading, and of harbor marine equipment supplement the text.

OLSON LOUIS B

Olson's small boat seamanship. New York D Van Nostrand Company Inc. 1956 417 p. illus. (part col d) 24 cm. $7.50. 7004

Contents: Boating is fun. Boating is more fun when you keep out of trouble What is boat? Types of boats. Waterways. Weather. Tide and current. Waves, sea, swell, breakers, and surf. Selecting your first boat. Materials of construction. Design and workmanship. Equipment. Navigation The chart. The magnetic compass. Aids to navigation. Piloting. Offshore navigation. Government services to boatmen. Marlinspike seamanship. Seamanship Rules of the road. Handling boat. Additional notes. Safety in boat. Search and rescue. Survival. First aid resuscitation, swimming. Signals and communications. Caring for your boat. Legal obligations and rights of boatmen financing, insurance. Comfort aboard. Courtesy flags boating organizations. Afterword. Index.

Note. A well-written book addressed primarily to owners of small boats but of interest to anyone who likes to learn well the handling of small sailing or power craft. It is more comprehensive than might be expected in book for beginners and amateurs and is written with authority The author is Rear Admiral in the United States Coast Guard and is Commander of the Third Coast Guard District.

OSBOURNE, ALAN editor

Modern marine engineer's manual. Cambridge, Md. Cornell Maritime Press, 1945–46. 2 v illus. 19 cm. Vol. I, $8.50 vol. II, $6.50 7005

Contents: Volume Mathematics and mechanics. Safety Engineering materials, pipe fittings and packing. Thermodynamics. Combustion. Boilers, boiler operation and maintenance. Reciprocating engines. Marine steam turbines. Bearings and shafting. Lubrication. Condensers. Pumps. Volume II, Marine Diesel engines. Modern marine refrigeration. Heating. Ventilation. Insulation. Steering gear and deck machinery. Modern marine electricity Instruments. Propellers and propulsion. Tests and trials. Tables. Index.

Note. A technical manual of marine machinery and Diesel engines for engineers and others concerned with the design or operation of merchant ships. A special section, 243 pages long, in the second volume, deals with Diesel engines.

PLUMMER, CARLYLE J

Ship handling in narrow channels. Cambridge, Md. Cornell Maritime Press 1945 107 p. illus. 19 cm. $2.00. 7006

Contents: Making suction an asset. Anchoring. Mooring. Best trim for maneuvering. Using tugs advantageously Use of anchors to maneuver. Conclusion.

Note Much original information on the handling of ocean-going vessels in narrow channels is contained in this small book. Some of the special problems discussed are getting away from bank in spite of suction, meeting and passing other ships, floating grounded vessel, dropping anchor to break sheer, and docking with right fair tide. The book is based on the author's own experience as pilot and ship's officer and is written for pilots and junior deck officers.

RIESENBERG, FELIX

Standard seamanship for the merchant service 627 illustrations Second edition New York D Van Nostrand Company, Inc., 1936 942 p illus (part col'd) 22 cm $10 00 7007

Contents Types of vessels. The hull. Ropes, knots, splices. Blocks and tackles. Steamer rigging, cargo gear. Sailing ship rigging, sails, canvas work. Deck machinery Holds, peaks, tanks. Stowage. Carriage of live stock. The tanker Passenger vessels. Boats. Compass, lead, log, piloting. The bridge. Rules of the road at sea. Ground tackle. Handling steamer. Handling a sailer Weather at sea. Safety on board ship. Ship maintenance.

Note This textbook is used for the instruction of cadets in various maritime academies in the *United States of America*. It explains the navigation and general handling of ships at sea, with particular attention to the needs f merchant marine officers. Safety devices and safety appliances are discussed in considerable detail.

SAUERBIER, CHARLES L

Marine cargo operations New York John Wiley & Sons, 1956 548 p illus 24 cm $12 00 7008

Contents: Shipowner's organization for cargo procurement, stowage, care, and delivery Cargo responsibility Principles of stowage. Planning the stowage. Stowage of the cargo. The ship's loading and discharging equipment. Materials handling principles and equipment. The ventilation of cargo holds. Research and development in the industry Index.

Note A broad and at the same time fairly detailed view of present-day marine cargo handling is presented in this book. The primary point f view is that of shipmasters and deck officers of cargo-carrying vessels. Responsibility for cargo is adequately covered, but the greater part of the space is given to such matters as stowage, loading and discharging and materials handling. The chapter on ventilation of cargo holds is also a long one. The main thesis is that scientific principles can and should be applied to all phases of handling and transportation of marine cargo. The uthor is member of the faculty of the United States Merchant Marin Academy and the book is organized so that it may be used as text. However it can be recommended to anyone who is concerned in a management capacity with marine cargo including even the officers of companies that ship goods by water

SEWARD, HERBERT LEE, editor

Marine engineering Written by a group of authorities New York The Society of Naval Architects and Marine Engineers 1942–44 2 v illus 28 cm $6 00 per v $11 00 set. 7009

Contents Volume Design and main propulsion units Propelling machinery by J R. Burkhardt. Power and revolutions, by J R. Burkhardt. Procedure in general design, by Benjamin Fox. Boilers, by E. G. Bailey and T B Stillman Reciprocating steam engines, by J C. Workman and J Lyell Wilson Steam turbines, by A. R. Smith and W E Blowney Diesel engines, by Louis R. Ford. Reduction gears, by C. R. Waller and A. Peterson. Propellers and shafting, by Richard H. Tingey Materials and metallurgical engineering, by Paul Ffield. Index Volume II, Principles and auxiliaries. Heat engineering and thermodynamics, by J Kenneth Salisbury Dynamic effects, by Frank M Lewis. Heat exchangers Part I Steam condensers, by Asa B Stevens. Part 2 Shell and tube heat exchangers, by Joseph Price and Eugene P Worthen. Pumps, blowers, compressors and ejectors, by Mark L. Ireland, Jr Distilling plants, by Joseph Price. Refrigeration, air conditioning, ventilation and heating, by H. E. Parker Piping, by Jakob L. Bergvall. Hull machinery by John Flodin. Electric propulsion, by Harry C. Coleman. Electric plant, by H. Franklin Harvey Jr. Lubrication, by A. Dudley Hall Trials, by Walter E. Thau. Index.

Note A comprehensive treatment of marine engineering, intended for the reader and student who is reasonably familiar with the underlying scientific principles and who has some acquaintance with merchant ships. The basic subjects of thermodynamics, theoretical and applied mechanics, and machine design are omitted although reference is occasionally made to these theories in developing certain analyses. The material is arranged for use as textbook for both organized classes and self-instruction. There are many detailed design drawings, performance charts, and tables of specifications in each chapter Theory is presented in considerable detail and examples of calculations are worked out. Extensive bibliographies are included at the end of each chapter

SHULTERS, EARL S

Marine air conditioning and refrigeration. Cambridge, Md Cornell Maritime Press, 1952 357 p 21 cm. $6 00 7010

Contents Marine air conditioning and refrigeration. Living accommodations conditioning. General cargo hold conditioning. Cargocaire silica gel plant. Kathabar plant. Refrigeration. Ship's service stores refrigeration. Cargo refrigeration. Freon-12 refrigeration plant. CO_2 refrigeration plant. Insulation. Appendices. Index.

Note A practical book designed for the instruction of marine operating personnel who are responsible for operation and maintenance of shipboard air conditioning plants. It contains several chapters on the general aspects of marine air conditioning and refrigeration, but most of the space is devoted to the chapters hich deal individually with specific types of plants. Each of these is described as to component parts, refrigeration cycle, properties of the refrigerant, and techniques of operating and repair. The book supersedes the author's *Modern marine refrigeration*, second edition, 1942.

SUMMERILL, JOHN F

Tanker manual Drawings by Richard Naylor New York Cornell Maritime Press 1947 150 p illus 19 cm. $3 00 7011

Contents The tanker Design and construction. Transfer operations. Tank cleaning. Classifications of oils. Maintenance. Dry cargo handling and stowage. Fire protection and prevention. Regulations for construction of tank vessels. Review questions. Useful tables and data. Index.

Note. Although the responsibilities and work of both officers and crew on a tanker have many similarities to those on vessel that carries dry cargo, there are also important differences. The purpose of this useful little volume is to explain those differences to experienced seamen. The proper methods of handling and carrying "black and "white" oils, vegetable oils, molasses, and latex are fully described. Among the 50 pages of tables are lists of conversion factors, pipe and cylinder capacities, specific gravities of oil, and data on pounds per gallon, barrels per ton, and cubic feet per ton.

TURPIN, EDWARD A, AND WILLIAM A. MACEWEN

Merchant marine officers handbook. New revised edition. Cambridge, Md Cornell Maritime Press 1950 828 p. illus. (part col'd) 18 cm. $7 00 7012

Contents. Everyday labors of a ship's offic r Instruments and accessories used in navigation. Piloting. Tides and currents. Sailings. Celestial navigation. Meteorology Cargo. Shiphandling. Cargo gear. Ground tackle. Signals. Rules of the road. Ship construction, maintenance and repair Tonnage and stability Fire. Emergencies. U S. navigation laws. Engineering for deck officers. First aid and ship sanitation. Appendices Examinations required for licensed officers. Enlistments in the Naval Reserve. Mathematics. Tables and useful information. Index.

Note. This book is both a reference book for use on shipboard and text for candidates for licenses as ship's officers. The day-to-day duties of ship's officers are described and a large amount of reference information on the topics listed in the above contents is compactly presented. The level of treatment presupposes familiarity with the fundamentals of seamanship. The volume is ell indexed. The first edition was published in 1942 For the present edition the volume was somewhat reorganized and various sections re revised.

UNITED STATES NAVAL ACADEMY

Naval auxiliary machinery Revised 1952 Annapolis United States Naval Institute 1952 262 p illus. (part col d) 28 cm $4 00 7013

Contents: Piping, fittings and valves. Packing and heat insulating materials. Pumps and air ejectors. Blowers. Heat exchanger equipment. Condensers. Distilling plants. Feed water systems. Fuel oil

systems. Refrigeration equipment. Compressed air systems. Centrifugal oil purifiers. Control instruments. Machinery outside the engineering spaces. Fire-fighting equipment. Appendix: Additional pumps. Additional forced draft blowers. Additional feed water systems and standard units. Index.

Note: A textbook prepared for use in the United States Naval Academy, the publication covers not only the pumps, blowers, distilling plants, and the oil and water systems, but also the appurtenances essential to their continued effective operation as part of the naval engineering plant, such as piping, valves, fittings, and insulating materials. Also discussed in the light of their contribution to the ship's primary function are the refrigeration and compressed air systems. Coverage likewise extends to important shipboard machinery located outside the engineering spaces, such as the steering gear, windlasses, and weight-handling equipment. Emphasis is upon the details of construction and the operating principles of the machinery.

UNITED STATES. NAVAL ACADEMY

Naval turbines, revised 1952. Annapolis, United States Naval Institute, 1952. 128 p. illus. 28 cm. $4.50. 7014

Contents: Elementary principles. Descriptive classification. Details of construction. Turbine accessories. Measurements and adjustments. Main propulsion turbine control and cruising arrangements. Auxiliary turbines and their control. Lubrication. Main propulsion shafting and propellers. Appendix: Additional turbine classifications. Additional turbine accessories and auxiliaries. Additional measurements and adjustments. Main propulsion turbine overspeed control. Index.

Note: Prepared primarily for the use of midshipmen of the United States Naval Academy, this textbook covers the details of construction and the operating principles of main propulsion and auxiliary turbines used aboard modern naval vessels. The subject matter is presented in a descriptive manner in order to familiarize the student with the machinery he will encounter aboard ship and to provide a background for the theoretical studies in subsequent courses in fluid mechanics and thermodynamics. The text is illustrated with extremely clear diagrammatic drawings and two folding plates giving design details of different types of turbines. The book is included in the bibliography for promotion examinations of officers of the *United States Navy* and should be of value also to any machinists or engineers concerned with turbines on naval ships. The publication is a revision of *Naval turbines* published by the United States Naval Institute in 1949.

WHEELER, W. L., JR.

Medical care of merchant seamen; a handbook of ship and aircraft sanitation and emergency medical aid. Second edition. Cambridge, Md. Cornell Maritime Press, 1945. 112 p. illus. 18 cm. $2.50. 7015

Contents: How to render medical care at sea. The maintenance of the human body. The medicine chest. Specific diseases and their therapy. Surgical first aid. Miscellaneous conditions—diagnosis and treatment. Childbirth at sea. Care of survivors. Rescuing a drowning person. Tanker precautions. Radio pratique. Radio messages requesting medical advice. Ship's hospital and dispensary. Medical first aid in aviation. Glossary. Index.

Note: A reference handbook intended for the use of seamen who possess little or no medical knowledge. It is written in plain language and the advice and instructions given are based on those materials and resources which are ordinarily available on ships and in lifeboats. Originally published for use during World War II, it has been considerably expanded in scope in this edition in order to cover the medical emergencies most commonly encountered on ships in peacetime. There are now 18 figures.

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UNITED STATES. NAVAL ACADEMY

Naval turbines, revised 1952. Annapolis, United States Naval Institute, 1952. 128 p. illus. 28 cm. $4.50 7014

Contents: Elementary principles. Descriptive classification. Details of construction. Turbine accessories. Measurements and adjustments. Main propulsion turbine control and cruising arrangements. Auxiliary turbines and their control. Lubrication. Main propulsion shafting and propellers. Appendix: Additional turbine classifications. Additional turbine accessories and auxiliaries. Additional measurements and adjustments. Main propulsion turbine overspeed control. Index.

Note: Prepared primarily for the use of midshipmen of the United States Naval Academy, this textbook covers the details of construction and the operating principles of main propulsion and auxiliary turbines used aboard modern naval vessels. The subject matter is presented in a descriptive manner in order to familiarize the student with the machinery he will encounter aboard ship and to provide a background for the theoretical studies in subsequent courses in fluid mechanics and thermodynamics. The text is illustrated with extremely clear diagrammatic drawings and two folding plates giving design details of different types of turbines. The book is included in the bibliography for promotion examinations of officers of the United States Navy and should be of value also to any mariners or engineers concerned with turbines on naval ships. The publication is a revision of *Naval turbines* published by the United States Naval Institute in 1949.

WHEELER, W. L., JR.

Medical care of merchant seamen; a handbook of ship and aircraft sanitation and emergency medical aid. Second edition. Cambridge, Md., Cornell Maritime Press, 1945. 112 p. illus. 18 cm. $2.50 7015

Contents: How to render medical care at sea. The maintenance of the human body. The medicine chest. Specific diseases and their therapy. Surgical first aid. Miscellaneous conditions—diagnosis and treatment. Childbirth at sea. Care of survivors. Rescuing drowning persons. Tanker precautions. Radio practices. Radio messages requesting medical advice. Ship hospital and dispensary. Medical first aid in aviation. Glossary. Index.

Note: A reference handbook intended for the use of seamen who possess little or no medical knowledge. It is written in plain language and the advice and instructions given are based on those materials and resources which are ordinarily available on ships and in lifeboats. Originally published for use during World War II, it has been considerably expanded in scope in this edition in order to cover the medical emergencies more commonly associated with ships in peacetime. There are now 18 figures.

NAVIGATION

AGETON, ARTHUR AINSLEY

Dead reckoning altitude and azimuth table. Third edition. Washington, D C Government Printing Office, 1943 49 p. illus 24 cm. (United States. Hydrographic Office. Publication no 211) $0 90 7016

Note. The Ageton dead reckoning tables, known familiarly as "H.O 211 have several distinct features as follows the dead reckoning position of the ship is used for working sights and plotting lines of position there is no interpolation for practical navigation the azimuth is most positively determinate and the solution is short, simple, and uniform under all conditions. This third edition contains two additional problems to illustrate the use of the table, and one additional use has been included. Miscellaneous conversion and correction tables are printed on the end papers.

AGETON, ARTHUR AINSLEY

Manual of celestial navigation. Princeton D Van Nostrand Company, Inc., 1942 103 p illus 24 cm $4 50 7017

Note This book gives tables for two methods of navigation, with examples of their use. There is an original arrangement of tables for solution of problems in celestial navigation from an assumed position, and there is also new application of this author's older methods published in H.O. 211 This second method solves sights from the dead reckoning position of ship. The material in this book offers all the advantages, with improvements, of H.O 211 and includes a method as fully universal as H.O. 214.

BOK, BART JAN, AND FRANCES WOODWORTH WRIGHT

Basic marine navigation Boston Houghton Mifflin Company 1952 422 p illus 25 cm $6 25 7018

Contents Introduction to marine navigation. Aids to navigation. Charts and publications. The lead and the log. The compass and its errors. Compass compensation. Tides and currents. Piloting. Dead reckoning and the sailings. The maneuvering board. Marine meteorology The sextant. The basis of celestial navigation. Time-keeping and the Nautical Almanac. Navigation by the sun N vigation by the stars. Solving the astronomical triangle. Navigation in emergencies. Problems. Recommended books for further study Answers to problems. Complete Ageton tables.

Note A simple treatment of coastwise and offshore navigation. The section on coastwise navigation emphasizes piloting, dead reckoning, the use of the compass, compass-corrections and compass-compensations, tides and currents. In the chapter on celestial navigation tabular methods are used. Much attention is given to the taking of sights. Chapters on weather and on navigation in emergencies are included.

BROUWER, DIRK, AND OTHERS

Spherographical navigation by Dirk Brouwer Frederic W Keator and D A. Mc Millen foreword by Captain P V H Weems New York The Macmillan Company, 1944 200 p illus 19 cm $4.00 7019

Contents The earth. The celestial sphere. Time and the use of the air almanac. The instruments used. Elementary plotting on the sphere. The fix. Daytime navigation. Polar flights. Day's work problem. Special use of the sphere. Plotting problems. Appendix.

Note. A manual of instruction on a simple system of celestial navigation. Practically no calculations are required and no tables are necessary except the *American air almanac* or the *United States nautical almanac.* A solution of the spherical triangle is made for the computed altitude based upon either the dead reckoning position or an assumed position. Aside from the simplification of the solution provided by the method, and the speed with which a solution can be obtained, the advantage lies in the ease with which it can be learned. This is largely due to the fact that the learner has visual picture of his problem before him at all times. Twenty-one figures illustrate the text.

CUGLE, CHARLES HURST

Cugle s practical navigation Sixth edition, completely revised by I J Stephens. New York E P Dutton & Company, 1952 823 p. illus. 25 cm. $15 00 7020

Contents (abridged) The international and inland rules of the road. Extracts from general rules and regulations (ocean and coastwise) and navigation laws of the United States. Deck officer's information. Stability and hull construction. Mathematics of navigation. Explanation of tables in the American practical navigator (Bowditch) Chart navigation. Dead reckoning and day's work. Speed of ship by wheel and percentage of slip. Construction of mercator chart. Middle latitude sailing. Great circle sailing. Time. Latitude by meridian altitude of sun. Meridian passage of star. Meridian passage of planet. Meridian passage of moon. Latitude by Polaris. Deviation by time azimuth of sun. Deviation by star planet and moon. Longitude by star Longitude by planet. Longitude by moon. The line of position. Intersection of lines of position by computation. Tides and currents. Identification of stars.

Note A standard book of rules and problems for students and amateur navigators, first published in 1924. The treatment is elementary and practical, and only essential theory is included. This edition has been revised to conform with the change in format of the *American nautical almanac* introduced in 1950. The Greenwich hour angle (G.H.A.) system of computing time is now employed, and new material has been added on the magnetic compass, electronic aids to navigation, and fuel conservation.

DIMICK, CHESTER EDWARD, AND CUTHBERT C HURD

Mathematics for mariners. New York D Van Nostrand Company Inc. 1943 253 p. illus 22 cm. $3 50 7021

Contents: Numerical calculations. Logarithms. Use of tables. Equations. Geometry Trigonometry Trigonometric functions of large angles. The general oblique triangle. Vectors. Relative displacement and velocity Tables. Index. Practice maneuvering board sheets.

Note. The authors of this text are officers in the United States Coast Guard and teachers in the United States Coast Guard Academy They ha prepared this text to teach or review the basic essentials of mathematics required for courses in navigation, gunnery seamanship, and elementary engineering. Elementary problems from these fields are used throughout the text to illustrate the application of the mathematical methods. A number of special developments, including the maneuvering board sheets that are used for convoy and fleet problems, are presented and explained.

DUTTON, BENJAMIN

Navigation and nautical astronomy Tenth edition. Prepared for the instruction of midshipmen at the United States Naval Academy Original edition (1926) by Commander Benjamin Dutton, U S Navy Revised by Com-

under Edwin A. Beito, U S Naval Reserve under the direction of the Head of Department of Seamanship and Navigation United States Naval Academy Annapolis United States Naval Institute 1951 850 p. illus. (part col'd) 26 cm. $6.00. 7022

Contents: Preliminary definitions; chart projections. Instruments used by the navigator. Magnetic compass errors. The sailings. Publications and charts. Dead reckoning and piloting. Electronic navigation. Nautical astronomy. Lines of position from celestial observations. The marine sextant; correction of sextant altitudes. Compound clocks and intervals. Finding t, d, and [illegible]. The complete solution for celestial line of position. Latitude observations. Sun, moon, azimuths, [illegible] star identification curves of [illegible] azimuths. The practice of navigation. Air navigation. Polar navigation. Lifeboat navigation. The maneuvering board. Appendices. Index.

Note: A standard text and reference book of navigation and nautical astronomy for midshipmen and naval officers. The new edition is revised and enlarged, and includes complete explanation and discussion of the new type (1950) *nautical almanac*. The articles on the gyro compass and logs have been extensively revised; the chapter on the maneuvering board has been expanded and numerous minor changes have been made to include recent developments. The edition also marks the substitution to conform with the new practice, of "zone time" for "civil time." An interim edition, [illegible], was issued in 1957 [illegible] $6.00.

Lyon Thoburn C

Practical air navigation. Seventh edition. Annapolis, Md. Weems System of Navigation Inc., 1955 407 p. illus. 21 cm. 7023

Contents: The problems of air navigation. The earth—its form and features. Chart projections for air navigation. Charts and chart reading. Instruments. Lightplane navigation. Dead reckoning. Special problems of dead reckoning. Air navigation computers. The scope and problems of radio navigation. Radio bearings. The *LF/MF* radio range system. The VHF omnirange. Radio direction finding (ADF). Low approach and landing. Airways flying. Pressure pattern flight. Celestial navigation. Polar navigation. Appendix. Index.

Note: This is the second commercially published edition of a work whose first five editions were published by the United States [illegible] and Geodetic Survey and the United States Civil Aeronautics Administration. Its purpose is to teach the principles and techniques of aerial navigation to [illegible] preparing to become airplane pilots. It covers both visual navigation and instrument navigation and techniques appropriate to short flights in light aircraft as well as to the navigation of large aircraft under instrument flying conditions. It introduces the reader to all systems in current use, including pressure pattern flying. Such features as numerous worked examples of problems and clear style make it suitable for use in [illegible] organized instruction or home study. The first nine chapters are available from the same publisher as a separate book under the title *Practical dead reckoning navigation*, while the remaining eight chapters form another book entitled *Practical radio navigation*.

Mixter, George Webber

Primer of navigation. Third edition. With problems in practical work and complete tables. Revised for third edition by Ramon O Williams. New York D Van Nostrand Company Inc., 1952 553 p. illus. 24 cm. $3.50. 7024

Contents: Introduction. Tools of the trade. The magnetic compass. Errors of the compass. Compass adjustment. Gyro systems. Lights, buoys, and beacons. They prevent collisions. Piloting. Radio on board ship. Mariners' terms. Dead reckoning. Loran and radar. Outward bound. Lighthouses in the sky. Summer lines. Nautical astronomy. The sextant and its use. Altitudes and their corrections. The bubble sextant. Time. The chronometer and timekeeping. The Almanac and its use. The Air Almanac. Methods. The noon sight. Polaris. Azimuths. Solutions for [illegible]. Days with the sun. The stars. Planets and the moon. All [illegible] day. Zero hour. Appendix. Index.

Note: A comprehensive text for students of navigation and experienced seamen. Navigational methods are presented as simply as possible, and the treatment requires no mathematical knowledge beyond simple arithmetic. All tables necessary for solving the numerous problems and exercises are included. Like other texts on navigation published since 1950, this volume has been revised to conform with the changes made in the 1950 edition of the *American nautical almanac*. A chapter on electronic navigation and a brief biography of George Mixter, who died in 1947, have been added to this edition.

Polowe, David

Navigation for mariners and aviators. Cambridge Md Cornell Maritime Press, 1942 516 p. illus. 24 cm. $5.00. 7025

Contents (partial): Part I, Piloting and dead reckoning. A brief history of navigation. The compass. Chart navigation for mariners. Piloting. Dead reckoning. Fog. Storms. [illegible], tides, currents, [illegible]. Part II, Celestial navigation. *Informal definitions and discussions.* The sextant. The chronometer. Time. Analysis of the *American nautical almanac*. How to find the ship's latitude. Ship's longitude and compass error. The day's work at sea. Practical astronomy. Part III, Appendices: Rules to prevent collisions of vessels. International rules. Inland rules. Boundary lines of the high seas. Pilot rules. Pilot rules for the Great Lakes. New motorboat law and amendments. Questions on the rules of the road. Examinations for licensed deck officers. Excerpts from the *Nautical almanac*. Polowe's compact useful tables. Dreisonstok's navigation tables for mariners and aviators. Index.

Note: Compiled for use by amateur and professional mariners, aviators, and students. A section of questions and answers is given to aid those preparing for mate's and master examinations. All the celestial navigation is worked by the short method of H O. no. 208 (Dreisonstok) because one formula [illegible] made to serve all purposes. Designed to be complete in itself the book contains the necessary tables and all pages from the *nautical almanac* used in working the sample problems.

Rabl Samuel Suppler

The star atlas and navigation encyclopedia. New York Cornell Maritime Press, 1946 161 p. illus. 29 cm. $5.00. 7026

Contents: Mathematics. Speed and distance—bearings. The compass. Latitude, longitude and charts. Nautical astronomy. Time and the Nautical almanac. Old time navigation methods. Modern navigation methods. Plotting the position. The sailings. The stars. Star finding methods. Primitive navigation. Index.

Note: This book is an agreeable combination of theory, practice, and star lore. It is aimed chiefly at owners of small yachts [illegible] to navigate their own craft, and amateurs [illegible] to instruct themselves in navigation. In addition to the adequate practical discussions of navigational essentials, the author has illustrated and described very briefly such modern aids and methods as the gyrocompass, radar and loran. His chapter on mathematics includes an interesting discussion of the use of graphic methods in the solution of navigation problems. The star index, star charts, and the drawings of constellations are features that will appeal to anyone interested in astronomy as well as to navigators.

Simonsen Svend T

Blue water navigation. New York Cornell Maritime Press, 1947 198 p. illus. 23 cm. $3.50 7027

Contents: The celestial sphere. Time. American nautical almanac. The sextant. Finding latitude at noon. Finding longitude at noon. Lines of position. Ageton method. Deviation of compass by azimuth of sun. Great circle sailing. Star identification. Intercept and azimuth by H. O. 214. Streamlined navigation. Solutions to practice problems. Excerpts from *American nautical almanac*. H. O. 211 tables.

Note: A textbook originally used by the Army during World War [illegible] and now revised for study at home as well as in classes. The discussion is confined to navigation with the sextant, chronometer and standard tables, and neither logarithms nor trigonometry is employed. Uses of the *American nautical almanac*, the *American air almanac*, H. O. 71, H. O. 211 H. O. 214 are illustrated in worked examples; and the *Rude star identifier* and *Rabl star finder* are described. For student navigators [illegible] do not have access to the sea, the author outlines the making and use of an artificial horizon. Enough excerpts from the *American nautical almanac* and H. O. 211 tables have been included for purposes of study. There [illegible] numerous number of practice problems with answers.

UNITED STATES NAUTICAL ALMANAC OFFICE

The air almanac, 1957, September December Washington, D C Government Printing Office, 1956 487–732, 60 p illus 25 cm. $2 00 7028

Note This publication is now produced jointly by H. M. Nautical Almanac Office, Royal Greenwich Observatory and the Nautical Almanac Office, United States Observatory The British and American editions are printed and published separately but are identical in content. They appear three times a year and furnish navigators with a convenient and reliable source of astronomical data required for aerial navigation.

UNITED STATES NAUTICAL ALMANAC OFFICE

The American nautical almanac for the year 1958 Issued by the Nautical Almanac Office, United States Naval Observatory under the authority of the Secretary of the Navy Washington, D C Government Printing Office, 1956 276, xxxv p illus. 25 cm $2 00 7029

Note This standard work is published annually and presents the data for the practice of astronomical navigation at sea. In addition to the tables which occupy most of the pages, there is an eight page explanation in which the use of the tables is discussed and illustrated by examples. Beginning with this issue, it became identical in content with the British *Abridged nautical almanac*, although printed separately in the United Kingdom and the United States of America.

UNITED STATES NAVY HYDROGRAPHIC OFFICE

Air navigation Washington, D C Government Printing Office, 1955 717 p illus. (part col'd) 25 cm (H O Pub no 216) $7 50 7030

Contents Earth and its coordinates. Chart projections. Aeronautical chart interpretation. Instruments. Elementary plotting. Wind and its effects. Dead reckoning procedure. Visual flight planning and procedure. Lines of position, bearings and fixes. Relative motion. Radio. Radar Hyperbolic navigation systems. Cruise control. Pressure pattern navigation. Navigational astronomy Measurement on the celestial sphere. Time. *Air almanac* Sight reduction. Sextant. Special methods. Complete solution by various methods. Star identification Compass systems. Polar navigation. Appendixes List of Government publications. Abbreviations and symbols. Conversion factors. Loran extracts. *Air almanac* extracts. H. O 249 extracts. H. O. 214 extracts. H. O. 211 extracts. H. O. 208 extracts. H. O. 218 extracts. Index.

Note A comprehensive and authoritative textbook. It was developed primarily for the use of airmen navigators in the United States Navy but is useful to any man who is studying aerial navigation in preparation for a career in the field. It is useful also as a reference book to navigators. It is written so as to introduce the reader to the subject and to prepare him for work as a navigator It includes many worked examples of navigational problems, several thousand illustrations, and an excellent bibliography including a bibliography of the manuals, tables and charts pertaining to aeronautical navigation which are available from the United States Government.

UNITED STATES NAVY HYDROGRAPHIC OFFICE

American practical navigator An epitome of navigation and nautical astronomy Originally by Nathaniel Bowditch. (Revised edition of 1938) Published by the United States Hydrographic Office under the authority of the Secretary of the Navy Washington, D C Government Printing Office, 1939 777 p. illus 26 cm. (H. O Pub no 9) 7031

Contents Part I, Text and appendixes: Abbreviations. Index to Part I. Navigation definitions. Navigation instruments and accessories. The compass error Piloting. The sailings. Dead reckoning. Nautical astronomy definitions. Nautical astronomy instruments. Time and the *nautical almanac*. Observed altitude corrections. Latitude. Longitude. Azimuth. The Sumner line of position. Short tabular methods of navigation. The practice of navigation at sea. Marine surveying. Tides. Ocean currents. Ocean waves. Winds. Cyclonic storms. Ice movements in the North Atlantic. Appendixes. Part II, Tables.

Note This standard reference work by the American mathematician and navigator Nathaniel Bowditch (1773–1838) first appeared in 1802 and has been a publication of the United States Hydrographic Office since 1866. Part I contains abundant examples of short tabular methods for solving observations of celestial bodies in navigation. Part II consists of 42 tables covering essential navigational data. It has been revised many times and a new revision was scheduled for publication in 1957

UNITED STATES NAVY HYDROGRAPHIC OFFICE

Navigation dictionary Washington, D C. Government Printing Office, 1956 253 p. 23 cm (United States. Navy Hydrographic Office. H. O Publication no 220) o p. 7032

Note Approximately 7,000 terms are defined in this authoritative work. In addition, there are seven pages of abbreviations and their meanings.

UNITED STATES NAVY HYDROGRAPHIC OFFICE

Sight reduction tables for air navigation. Volume I (Selected stars) Epoch 1960 0. Volume II (Latitudes 0°–39) (Declinations 0°–29) Volume III (Latitudes 40°–89) (Declinations 0 –29) Washington, D C. Government Printing Office, 1952–1957 3 v 30 cm. (H. O Pub no 249) Vol. I $2.25 vol II, $2.25 vol. III $2 50 7033

Note A series of tables planned for use with the *Air almanac* Volume I, for selected stars, is arranged for entering with latitude the hour angle of Aries (and the appropriate star name) The unique arrangement minimizes the time and effort required in sight reduction, and greatly facilitates rapid positioning in flight. The present star selection and format are the same as those employed in the previous edition for Epoch 1955.0. All data in the present volume have been recomputed for Epoch 1960.0. As in the preceding edition, the azimuth is measured from true north and refraction is not included. Volume II, for latitudes 0° 39° and Volume III, for latitudes 40°–89° provide complete data for the reduction of sights of sun, moon, planets, and stars within the declination range of these bodies, extending from the zenith to the horizon and below In contrast with Volume I, azimuth angle is tabulated instead of azimuth. Due to the format of Volumes II and III, the data and hence the tables are considered permanent in scope and character The arrangement of both volumes, with entering arguments of latitude, declination and hour angle is similar to that of the volumes of H. O. Pub. No. 214 Tables of computed altitude and azimuth. The latter series of tables is perhaps the most comprehensive available for the accurate reduction of marine observations.

UNITED STATES. NAVY HYDROGRAPHIC OFFICE

Tables of computed altitude and azimuth. Washington D C. Government Printing

Office, 1952 9 v. 30 cm. (H. O. Pub. no. 214) Vols. I–IX, $3.00 each. 7034

Contents: Volume I: Latitudes 0° to 9° inclusive. Volume II: Latitudes 10° to 19° inclusive. Volume III: Latitudes 20° to 29° inclusive. Volume IV: Latitudes 30° to 39° inclusive. Volume V: Latitudes 40° to 49° inclusive. Volume VI: Latitudes 50° to 59° inclusive. Volume VII: Latitudes 60° to 69° inclusive. Volume VIII: Latitudes 70° to 79° inclusive. Volume IX: Latitudes 80° to 89° inclusive.

Note: A standard reference set for marine navigation. It consists of tabulated solutions of the astronomical triangle, so arranged as to yield the navigator his computed altitude and azimuth by inspection. The tables are applicable equally to sights of the sun, moon, planets, and navigational stars, and inasmuch as they are designed for use in connection with celestial bodies of declinations both of the same name as and contrary name to the latitude, they apply both to the northern and southern hemispheres. The arrangement is on the basis of whole degrees of latitude, the data for each degree occupying a section of twenty-four pages, with two additional pages for star identification. Declination arguments in whole and half degrees head the main columns of each page, while hour angle arguments in whole degrees appear at the sides. Within the limits of each declination column are four groups of figures representing the altitude, the multiplier for hour-angle difference, and the azimuth. The primary method for which the tables were originally designed is the solution for lines of position. The set was first issued 1936–41. In the 1952 reprint listed here "the basic information remains unchanged. Some modification has been made in the descriptive text, and the illustrative examples have been changed to reflect recent advances in the *Nautical almanac*."

WEEMS, PHILIP VAN HORN

Marine navigation. New York D. Van Nostrand Company Inc., 1940. 443 p. illus. (part col'd) 23 cm. $6.75 7035

Contents: Preface. Introductory remarks. Position, direction and distance on the earth's surface. Charts. The magnetic compass. The gyro-compass. Instruments and aids to navigation. Chart navigation or "piloting." Piloting. Dead reckoning. Radio navigation. Meteorology for navigators. Celestial navigation—definitions and equipment. Time and hour angle. The theory of celestial navigation. Nautical almanacs. The sextant. The chronometer. Converting observations to positions. Selected methods of celestial navigation. Resulting lines of position. Practical navigation—a day's work. Appendices: Sources of information and equipment. Useful navigational formulas. Extracts from the Nautical and Air almanacs. Index.

Note: This basic textbook was developed for courses given at the Weems Institute of Navigation. It teaches the tabular methods of navigation that are official in the United States Navy and other United States services. It emphasizes those topics that are most important in practical navigation, such as piloting, chart navigation, and the various aids to navigation that are so widely used. For each important method, this book explains the definitions and principles, the equipment and instruments used, and the working procedure.

WILLIAMS, RAMON O., AND GEORGE WEBBER MIXTER

Navigation problems and solutions. Practical work—solutions—plotting—almanac data. New York D. Van Nostrand Company Inc. 1951 162 p. illus. 28 cm. $5.00 7036

Contents: Dead reckoning. Sumner line work. Noon sight problems. Latitude by Polaris. To solve for LOP. Work with the sun. Three star fixes. Planet and moon work. Practical work. Maneuvers in plot. Excerpts from Nautical almanac. Excerpts from Air almanac. Excerpts from H. O. no. 214.

Note: A useful collection for student navigators. It contains a wide variety of problems which are similar to those given in Naval Reserve Officers training courses in the United States of America. Detailed solutions of these problems and almanac tables used in working out the solutions are both included.

ZWENG, ALLAN C.

Practical manual of the E-6B computer. Third revised edition. North Hollywood Calif. Pan American Navigation Service 1955 133 p. illus. 27 cm. $3.00 7037

Note: A study guide and instruction manual for the E-6B computer, a mathematical instrument which is very widely used in solving problems in air navigation. In the expositions manipulations of the computer in solving various problems are explained step by step. Many worked examples are included and there are several hundred practice problems for the student. The first edition appeared in 1944. Added to this edition are some new problems and descriptions of two new computers, the E-6C and the E-10.

ZWENG, CHARLES A., AND JOHN DOHM

Flying the omnirange: a pilot's guide to the *omnidirectional radio range distance measuring equipment*, and the course line computer. Third edition. North Hollywood Calif. Published jointly by Pan American Navigation Service and Weems System of Navigation, Annapolis Maryland 1955 153 p. illus. 23 cm. 7038

Contents: The VHF system. How omnirange works. SFO to BUR by omnirange. Approach and let down. Omnirange receivers. Accuracy and maintenance. Distance measuring equipment. The course-line computer. TACAN. Appendix. Index.

Note: A practical textbook addressed to pilots and student pilots. It is clearly written and well illustrated. The preceding edition was published in 1952. The book has been completely revised for this third edition. A fourth edition was published in 1957. $4.00.

AERONAUTICS

GENERAL

BAUGHMAN, HAROLD EUGENE

Baughman's Aviation dictionary and reference guide. Revised by Ernest J Gentle & Charles Edward Chapel Third edition Los Angeles Aero Publishers, Inc, 1951 653 p illus 24 cm $7 50 7039

Contents (abridged) Dictionary Definitions, 2nd edition. Abbreviations. New definitions, 3rd edition. Reference guide Radar information. Illustrated nomenclature. Useful tables. Radio range orientation. General structural symbols & formulae. General aerodynamics symbols & formulae. Specifications. Materials. Shop mechanics. Safety rules.

Note A standard reference book. In this edition the main dictionary has not been revised but a supplement containing 3,000 new terms has been added on pages 263–338. Various changes including some omissions have been made in the "reference guide" section. The reduction in length by approximately 230 pages has been accomplished mainly by leaving out Civil Aeronautics Administration material readily available elsewhere.

FOGG, ROBERT STEVENS, AND OTHERS

Seaplane flying and operations by Robert S Fogg, William D Strohmeier and Daniel J Brimm, jr New York Pitman Publishing Corporation 1949 218 p illus 24 cm (Pitman books on private and business flying, Alexander Klemin advisory editor) $4 50 7040

Content Foreword, by Admiral R. E. Byrd. Introduction. Section I, Fundamentals of water flying Types f water aircraft. Taxiing and sailing. Docking procedure. Take-offs. Elements of flight. Landing. Securing and handling. Cross-country flying and general technique. Section II, Design, construction, and maintenance Engineering considerations. Preparation, installation check ing. Inspection maintenance, and repair Section III Seaplane bases Types f seaplane bases. How to operate a successful seaplane base. Appendix. Index.

Note A practical book for the noncommercial flyer and also for persons interested in going into the business of operating seaplane bases. The special techniques of handling planes designed to land on and take off from water are discussed from the beginner' standpoint.

GAMBLE, WILLIAM BURT, compiler

History of aeronautics a selected list of references to material in The New York Public Library New York The New York Public Library 1938 325 p 25 cm $2 00 7041

Contents Bibliography Traditional and literary accounts. General works. Lighter-than-air craft Balloons Airships. Heavier-than-air craft Airplanes and ornithopters. Seaplanes Gliders and gliding. Parachutes. Helicopters and autogiros Kites. Engines. Propellers Airplane flights. Military aeronautics. World War Civil aeronautics. Air mail. Polar expeditions. Associations and conferences. Jurisprudence. Aeronautics and science. Photography and surveying. Animal flight. Women in aeronautics. Miscellaneous. Index of authors. Index of subjects.

Note. This is list of over 5,000 references to books and periodical articles in many languages dealing with the history of aeronautics. In cases where title is not self-explanatory one- or two-line annotations are included.

HALPINE, CHARLES GREHAM

A pilot's meteorology Second edition Princeton D Van Nostrand Company, Inc. 1953 351 p illus. 23 cm. $5 00 7042

Contents. Introduction. The atmosphere—its characteristics, composition, and structure. The elements of meteorology and their measurement. Cloud types and obstructions to vision. Variations of temperature and their effects. Circulation f air—currents and winds. Air masses, fronts and disturbances—their development and effect. Weather reports. Weather maps. Weather forecasts. Ice formation of aircraft. Pressure-pattern flight or aerologation, by Robert M. Mansfield. Glossary Appendices: Explanation of teletype symbol weather reports. Winds aloft maps. Highest and lowest temperatures. Precipitation areas and amounts. 700-millibar constant pressure chart. Continental weather map. Airport weather maps (1 3) Beaufort scale. Index.

Note. A standard introduction to meteorology for student pilots and others who are interested in meteorology and eather forecasting from the standpoint of their applications in aeronautics. The level f treatment assumes no previous instruction in meteorology on the part of the reader On the other hand, the instruction is carried far enough to enable the reader who studies it thoroughly to understand the elements of weather observation and forecasting, to interpret the various cloud types in terms of their eather indications, and to understand official weather reports and weather maps. The book is organized for use as text. It is also suitable for self-instruction. It contains review questions, an extensive glossary and an appendix of weather maps reproduced in reduced scale. The first edition appeared in 1941 The terminal chapter, written by R. N Mansfield, is new in this second edition. Revisions and augmentations hav been made in other chapters, particularly in those on eather reports and maps. Some of the illustrations are new

HEFLIN, WOODFORD AGEE, editor

The United States Air Force dictionary Princeton N J D Van Nostrand Company, Inc 1956 578 p 25 cm $4 75 7043

Note. An authoritative dictionary hich was developed by the Research Studies Institute of the United States Air University The terms included were selected on the basis of systematic reading of variety of literature used by Air Force personnel, including such varied documents as official regulations, manuals, orders, engineering and scientific reports, official news releases and correspondence. Terms from the common language appear to be included only when they have special meanings in military aviation. Some slang terms in general use have been included, but most of the terms are those in good standing in the specialized language.

HUNSAKER JEROME CLARKE

Aeronautics at the mid-century New Haven Yale University Press 1952 116 p. illus. 22 cm $3 00 7044

Contents Fifty years of development. Air transportation. Social and political effects.

Note. A readable résumé of the past, present, and possible future of air transportation. The author traces the development of aircraft, and discusses various aspects f the present air transportation business, including fares, safety the human factor utomatic control, airports, and pri ate flying. The influence of the airplane on cities and on rural areas is touched on, and its effect on nations in peace and in war is elaborated at some length. The book is one of series of olumes based on the Dwight Harrington Terry Foundation Lectures on Religion in the Light of Science and Philosophy given at Yale University The author is Emeritus Professor of Aeronautical Engineering in the Massachusetts Institute of Technology

Note. The complex history of the first 50 years of American aviation is ably recounted in this book, published in connection with the 50th anniversary of the Wright brothers' famous first flight. All of the men (and women) who played prominent roles, whether as inventors, manufacturers, or only stunt fliers, are at least mentioned, and the more eminent ones are presented in full stature. The authors have found room also for accounts of the major technical developments, patent litigations, political and military maneuverings that affected the development of aviation, and even "human interest" facts about the magnates who organized the Wright Company. The book is both panoramic and easy to read. A generous number of pictures ranging from early unsuccessful flying machines to the latest delta-wing planes is included. There is an adequate index.

NICOLSON, MARJORIE HOPE

Voyages to the moon. New York The Macmillan Company, 1948. 297 p illus. 21 cm. $4 00 7052

Contents. The discovery of a new world. Supernatural voyages. Flight by the help of fowls. Wanton wings. Flying chariots. Variations on a theme. Epilogue. Bibliography Index.

Note. In this volume, an outstanding educator presents the results of her own explorations into man's fictional attempts to fly as these appeared in English publications of the seventeenth and eighteenth centuries. Despite the title, the subject is not flight to the moon exclusively but flight by man anywhere and by any means which should have been feasible, such as with the aid of angels or birds, by means of wings attached to the body or by chariots that flew as well as rolled. The book is based on extended research, but it is not primarily a scholar's tool. Rather it is aimed at educated general readers who find entertainment in exploring the ways of man's imagination. To aid the graduate student or scholar who insists on using the book, there is an extensive annotated bibliography

NORTHROP AERONAUTICAL INSTITUTE

Aircraft basic science. By the Technical Development Staff of Northrop Aeronautical Institute. Revised edition Charles Edward Chapel, chief editor Ralph D Bent, associate editor New York McGraw Hill Book Company, Inc. 1953 440 p illus 29 cm. (Northrop Aeronautical Institute series of aviation texts) $8 00 7053

Contents Theory of flight. Aircraft structural components. Blueprint reading. Aircraft plumbing. Fundamentals of aircraft electricity Aircraft storage batteries. Aircraft generators. Aircraft motors. Aircraft electrical systems. Pressure and mechanical instruments. Electrical instruments. Index.

Note The Northrop Aeronautical Institute, located in Hawthorne, California, is associated with Northrop Aircraft, Inc. This book is one of a series prepared by members of its staff It is designed for the practical instruction of student aircraft mechanics. A clear and thorough expository text is supplemented with large number of illustrations. The first edition was published in 1948 this second edition contains few changes.

PIPER, WILLIAM THOMAS

Private flying today and tomorrow in collaboration with D J Duffin. New York Pitman Publishing Corporation 1949 295 p illus. 24 cm (Pitman books on private and business flying Alexander Klemin advisory editor) $5 00 7054

Contents: Foreword, by L. Collins. What is private flying? How private flying grew The role of women in flying. What the personal plane can do. Your personal plane. Buying, renting, and the flying club. Operating costs and insurance. Learning to fly Cross-country flying. Airports—the key to privat flying. The future of private flying. Appendix Organization of flying clubs. Index.

Note. Practically every aspect of private flying is discussed in this book. The chief subtopics are named in the chapter titles quoted above. Also included are such things as complete picture sequence showing the various steps in taking small plane aloft and performing various standard maneuvers with it, a factual description with photographs of all of the light private planes and a few heavier ones being manufactured in the United States of America when the book was being written a survey of the many uses of light planes with special emphasis on their use in agriculture and model constitution and set of by-laws for flying clubs. The author is president of the Piper Aircraft Corporation.

UNITED STATES CIVIL AERONAUTICS ADMINISTRATION

Flight instructors' handbook. Washington, D C. Government Printing Office 1956 137 p illus. 27 cm. (United States. Civil Aeronautics Administration C.A.A technical manual no 105) $1 50 7055

Contents Part I, Fundamentals of teaching which apply to flight instruction. Instructor—student relationships. Basic instruction procedures. Tips on good instruction techniques. The learning process. Part II, Training curriculum and flight instruction procedures: The flight syllabus. Flight training procedures and maneuvers. Flight rule and flight test preparation. Transition training for different makes and models of aircraft.

Note. A manual to serve as reference book for instructors of student pilots rather than as a text. It is a companion work to C.A.A. Technical manual no. 106, *Pilot' handbook*. Together they supersede C.A.A. Technical manual no. 100, entitled *Flight instruction manual* and issued in April 1951

UNITED STATES CIVIL AERONAUTICS ADMINISTRATION

Pilots' radio handbook. Revised March 1954 Washington, D C Government Printing Office, 1954 122 p illus 24 cm. (United States Civil Aeronautics Administration. C.A.A. technical manual no 102) $0.60. 7056

Contents Radio and the VFR cross-country flight. Basic receiver-transmitter facts. Enroute radiotelephone procedures. Flight assistance service. Radio weather. Tower procedures. Flying the LF/MF range. Radio range orientation. The omnirange system. Radio frequencies. The common system. Common system equipments. A lation-radio publications. Glossary of aeronautical terms.

Note. This handbook supersedes Civil Aeronautics Bulletin No. 29 published in 1941. It explains in simple language the operation and use not only of the standard air-to-ground communications equipment but also of distance-measuring equipment, the very high frequency omnidirectional radio range (VOR) and radar. The care, treatment, and tuning of radio receivers are covered in detail. The handbook "seeks to encourage all pilots to use that added margin of safety the radio, which by the simple flip of switch connects the pilot with the world's most advanced airways system, manned by airways specialists trained to top efficiency and on duty around the clock and every day in the year.

UNITED STATES MUNITIONS BOARD AIRCRAFT COMMITTEE ANC–9 PANEL ON PROPELLERS

Aircraft propeller handbook. Issued jointly by Department of the Air Force (Air Research and Development Command) Department of the Navy (Bureau of Aeronautics) and Department of Commerce (Civil Aeronautics Administration) Washington D C. Government Printing Office 1956 391 p. illus. 26 cm (ANC 9 bulletin) $2 25 7057

Contents Introduction. Aerodynamic design and propeller performance. Structural design of propellers. Propeller construction. Propeller hubs. Propeller accessories. Ice control. Propeller controls. Propeller installations. Propeller testing. Propeller production inspection. Propeller maintenance problems. Propeller maintenance tools and equipment. Propeller specifications and standards. Index. Bibliography

Note A comprehensive monograph on the theory, design, and performance of the modern aircraft propeller. Its stated purpose is to serve as a general guide in consideration of some of the most common problems associated with design, construction, and use of both military and commercial aircraft propellers.

UNITED STATES. WEATHER BUREAU

Pilots weather handbook. Revised December 1955. Washington, D. C. Government Printing Office, 1955 143 p. illus. 26 cm. (United States. Civil Aeronautics Administration. C.A.A. technical manual no. 104) $1.50. 7058

Contents: Introduction. Basic concepts. Temperature. Pressure. Station. Stability of the air. Clouds. General circulation—winds. Air masses. Frontal weather. Thunderstorms. Icing and turbulence. Fog and stratus clouds. Weather observations and instruments. Weather charts. Pilots weather information. Flight planning and weather. Flying weather in the United States. Sailplane weather. Meteorological glossary.

Note: Originally issued in July 1944, this handbook supersedes Civil Aeronautics Bulletin no. 25, published under the title *Meteorology for pilots*, in 1943. The new handbook gives the pilot the authoritative source of information needed to prepare for the CAA pilot qualification examinations and to help him cope safely with the weather problems he encounters in actual flying. It takes into account important advances made during recent years in weather science, including new knowledge about aircraft icing, the structure of thunderstorms, the jet stream, and clear-air turbulence. The language is simple and the text is illustrated with 148 drawings, figures, charts, and maps.

VARNEY ALEX

The psychology of flight. New York D Van Nostrand Company Inc., 1950 269 p. 21 cm. $5.00. 7059

Contents: Why pilots behave as they do. Adapting to the new environment. Why we get off the beam. The case of the absent-minded pilot. Learning to relax. Learning to observe. Developing skill. Learning to coordinate. The building of confidence. The making of judgment. How a pilot can control his emotions. The need to win. The psychology of errors. When death strikes. The psychology of luck fever and checkride. The psychology of [illegible]. The psychology of instrument flying. The temperament of the pilot. The personality of the pilot. The key to power. Index.

Note: An advanced book addressed to student pilots and experienced pilots alike. In it the author, who has had a long and varied experience as a pilot and as head of a flying school, skillfully discusses the attitude of [illegible] and shows not only what causes difficulties in learning to fly but what leads experienced pilots into accidents. The book is not a scholarly one—in fact there is no documentation. Nevertheless, it belongs in the pilot's personal library and in library collections used by student [illegible].

ZWENG CHARLES A., AND ALLAN C ZWENG

Airline transport pilot rating 8th revised edition. North Hollywood, Calif Pan American Navigation Service, 1956 354 p illus. 26 cm. $5.50 7060

Contents: The airline pilot. Instruments. Instrument flying. Flying the [illegible] ILS and radar. Dead reckoning. Charts and chart reading. Radio communications and navigation aids. Radio [illegible]. Meteorology. Weather maps and reports. Weight and balance. Turbo-jet, turbo-prop, and compound engines. Air traffic control. Civil Air Regulations. Typical multiple-choice examinations. Index.

Note: A widely-used textbook and study guide. Its purpose is to assist pilots in preparing for the written examination given by the Civil Aeronautics Administration for the airline transport pilot rating. It presents the basic and technical knowledge that comes within the scope of that examination in a form that is convenient for study and review. The body of information presented is, of course, useful to anyone in need of professional grade technical information on the piloting of large aircraft, especially under United States of America conditions. Also included are the texts of the pertinent Civil Air Regulations and a large selection of questions (with answers) typical of the C.A.A. examination questions. The book was first published in 1943 and has been revised frequently. This eighth edition is the result of a major revision.

ZWENG, CHARLES A.

Flight engineers manual with typical multiple-choice questions and answers for the flight engineer examination. Third edition revised. North Hollywood Calif. Pan American Navigation Service, 1954 304 p. illus. 26 cm. 7061

Contents: The flight engineer's certificate. Fundamentals you should know. Aerial flight and aerodynamics. Fundamentals of aircraft engines and propellers. General maintenance and operation. Operation of a typical four-engine aircraft. Cruise control and performance charts. Flight instruments and computers. Aircraft loading and weight and balance. Civil Air Regulations for the flight engineer. Representative multiple-choice questions and answers for the flight engineer's examination. Index.

Note: A textbook designed to aid men in preparing for the Civil Aeronautics Administration written examination for the flight engineer's certificate. It presents the range of knowledge applicable to flight engineer's work on four-engine aircraft, and includes, in addition, a long section of multiple-choice questions which are typical of those asked on the C. A. A. examination. It was first published in 1947 and new editions appear frequently. A sixth edition containing the same number of pages was published in [illegible], $5.00.

ZWENG CHARLES A.

Flight instructor the standard methods of flight instruction, including flight maneuvers for primary and advanced training, and typical written and oral examinations for the flight instructor rating. 11th revised edition. North Hollywood, Calif Pan American Navigation Service 1955 262 p. illus. 26 cm. $5.00 7062

Contents: Fundamentals of instructing. Aerodynamics or theory of flight. Load factors on the airplane. *Principles of safe flying.* The use and care of the parachute. Flight instruction preliminaries. Elementary instruction in flight maneuvers. Intermediate and accuracy maneuvers. Advanced maneuvers. Acrobatic instruction. Cross-country flying. Instruction in night flying. Multi-engine instruction. Do's and don'ts for the instructor. Advice for the pilot. Civil Aeronautics Manual 50—Airman Agency Certificates (approved flying schools). Typical multiple-choice questions for the flight instructor written exam. The flight instructor oral examination. Index.

Note. The specific purpose of this manual is to help licensed airplane pilots prepare themselves for U. S. Civil Aeronautics Administration's examinations for flight instructor rating. It incorporates considerable material supplied by the CAA. It is revised frequently and in this 11th edition was also somewhat extended in scope.

AERODYNAMICS

BONNEY E. ARTHUR

Engineering supersonic aerodynamics. New York McGraw Hill Book Company Inc., 1950 264 p. illus. 24 cm. $6.50. 7063

Contents: Compression and expansion waves. One-dimensional flow—nozzles and diffusers. Two-dimensional characteristics. Airfoil characteristics. Bodies of revolution. Supersonic wind tunnels. Component design and performance. Index.

Note: An introduction to this specialized field of aerodynamics. Although mathematics is freely used in the exposition, the work is not a mathematical treatment of the subject. Rather, it is a statement of the basic physical principles combined with illustrations of their application in the design of aircraft. It is suitable for upper-class engineering students and also for engineers out of college who have studied courses in standard subsonic aerodynamics.

DAILEY, CHARLES LEE, AND F C WOOD

Computation curves for compressible fluid problems New York John Wiley & Sons Inc, 1949 33 p illus 29 cm $3 75 7064

Contents Section I, Energy relations and heat addition functions Point functions of local Mach number Heat addition in a constant area channel. Section II Plane shock and expansion relations Plane shock relations, Prandt Meyer expansion. Section III Cone flow relations—Taylor Maccoll theory

Note A collection of 26 charts which depict graphically the behavior of air as it flows past bodies moving at high rates of speed and under varying conditions of pressure, density and temperature. The material has been prepared for the use of aeronautical engineers concerned with the design of wind tunnel nozzles and diffusers, jet engine design and performance calculations, and with other problems involving compressible fluid flow The manual is intended to complement H. Liepmann and A. Puckett's *Introduction to aerodynamics of compressible fluid*, New York, 1947 which provides a detailed discussion of the theoretical aspects of the subject.

DEAN, ROBERT C, JR

Aerodynamic measurements. With contributions by David Z Baily and others Cambridge, Mass Massachusetts Institute of Technology, Gas Turbine Laboratory 1953 272 p illus 28 cm $8 00 7065

Contents Error determination and treatment of data. Temperature measurement. Pressure measurements. Velocity measurements. Flow direction measurements. Hot-wire anemometry Mass-flow measurements. Humidity measurements. Optical measuring techniques. The fundamental principles of dynamic measurement. Appendixes Review of fluid mechanics. Bibliography Psychrometric charts.

Note. A valuable presentation of scientific fundamentals and laboratory techniques. It was developed by "straining the literature in the course of the work of the Gas Turbine Laboratory of Massachusetts Institute of Technology and several staff members of this laboratory are listed on the title page as contributors. Instruments and techniques are adequately described however the main emphasis is on the fundamental relations. The volume is well illustrated and there is an excellent bibliography arranged in accordance with the chapter arrangement.

DOMMASCH, DANIEL O, AND OTHERS

Airplane aerodynamics by Daniel O Dommasch, Sydney S Sherby and Thomas F Connolly New York Pitman Publishing Corporation 1951 520 p illus 25 cm 7066

Contents (abridged) The atmosphere. Fundamental dynamics and thermodynamics of air Airfoil theory Wing theory Drag. The propeller Aircraft propulsion. The basic performance problem. Special performance problems. Maneuvers. Theory and design of control surfaces. Longitudinal stability and control. Lateral and directional stability and control. Seaplane problems. Appendixes Characteristics of representative NACA airfoils. Properties of the NACA standard atmosphere. Index.

Note An unusual integration of aerodynamic theory practical problems in airplane design, and airplane characteristics and performance. It is the outgrowth of material prepared for courses for experienced pilots, offered by the Test Pilot Training Division of the Naval Air Test Center In essence, it is a presentation of the fundamental principles of airplane flight for men with extensive experience in flying planes. Greater attention is given to the broader aspects, but minor details, such as the effects of application of brakes during the landing run, also are analyzed. A second edition was published in 1957 558 p., $7 75

EMMONS, HOWARD W

Gas dynamics tables for air New York Dover Publications Inc., 1947 46 p illus. 24 cm. $1 75 7067

Contents Tables Isentropic gas dynamics functions for air. Gas dynamics functions for normal shocks. Characteristics table. Acoustic velocity-temperature table. Graphical presentation of tabulated functions: Pressure ratio vs. mach number Velocity ratio vs. mach number Dynamic pressure vs. mach number. Area ratio vs. mach number. Density ratio vs. mach number. Mass velocity (or mass flux, flow per unit area) vs. mach number Temperature ratio vs. mach number Acoustic velocity ratio vs. mach number. Ratio of stagnation pressure downstream of a normal shock to the stagnation pressure upstream of the shock vs. mach number before the shock. Ratio of stagnation pressure downstream of a normal shock to the static pressure upstream of the shock vs. mach number upstream of the shock (this is the so-called Rayleigh pitot tube formula) Mach number downstream of a normal shock vs. mach number upstream of a normal shock. Ratio of velocities downstream and upstream of normal shock vs. mach number upstream of shock. Pressure ratio for a normal shock vs. mach number upstream of a normal shock. Acoustic velocity ratio for a normal shock vs. mach number upstream of the normal shock. Temperature ratio for a normal shock vs. mach number upstream of the normal shock. Density ratio for a normal shock vs. mach number upstream of the normal shock. Mach angle vs. mach number. Property angle vs. mach number. Variation of acoustic velocity with the temperature of air.

Note. A reference pamphlet of tables and graphs. The work is intended for aeronautical engineers who are engaged in the design of high-speed aircraft, and is based in part on research sponsored by Pratt and Whitney at Harvard University

FERRI, ANTONIO

Elements of aerodynamics of supersonic flows New York The Macmillan Company 1949 434 p. illus. 24 cm $10 00 7068

Contents: General considerations. Theory of two-dimensional flow—potential flow—characteristics system—small disturbances. Theory of shock waves. Theory of two-dimensional flow—interaction and reflection of shock waves and expansion waves. Theory of two-dimensional flow—characteristic theory for rotational flow Measurement of the physical quantities of a supersonic flow Supersonic profiles. Two-dimensional diffusers. Supersonic diffusers. General considerations for three-dimensional phenomena. Aerodynamic phenomena for body of revolution, analyzed by using the theory of small disturbances. Phenomena for conical bodies—hodograph system. Characteristic system for three-dimensional phenomena. Pressure drag of supersonic wings. Lift and induced drag of supersonic wings. Appendix. Index.

Note. This book deals chiefly with the physical phenomena of gas flow that are of significance in the prediction of the aerodynamic behavior of planes, projectiles, missiles, wind tunnel elements, etc., when air (or other gases) passes over their surfaces at supersonic speeds. The physical phenomena, the mathematical computations, and the applications are covered from the viewpoint of mathematicians and engineers concerned with aeronautical research and design. Although introductory to the subject, the book is written on the graduate-professional level. The author is Professor of Aerodynamics at the Polytechnic Institute of Brooklyn.

HEMKE, PAUL EMIL

Elementary applied aerodynamics. New York Prentice-Hall Inc. 1946 231 p. illus. 23 cm. (Prentice-Hall aeronautical engineering series K. D Wood editor) $4 50 7069

Contents. Units and dimensions. Physical properties of air. Flow of an ideal fluid. Lift and moment of an airfoil in an ideal, two-dimensional flow Three-dimensional flow around an airfoil Induced effects. Viscosity effects. Airfoils and their properties. Compressibility effect on airfoil characteristics. Propellers. Performance of conventional airplane. Helicopters. Index.

Note. A descriptive and analytical treatment of introductory aerodynamics for engineering students who have already had calculus, physics, and mechanics. Some of the chapters, for example the one dealing with ideal-fluid flow are rigorously developed, while others, such as those on compressibility effects and helicopters, are handled more simply Illustrative examples are freely used, and there are numerous problems as well as selected footnote references to related literature.

HOLLAND, RAY, JR.

The physical nature of flight. New York W W Norton & Company, Inc. 1951 287 p illus. 22 cm $1 49 7070

Contents (abridged) The atmosphere. Lift. Drag. Impact. Friction. The practical aspects of air flow Pressures. The vortex. Flow separations cause trouble. The stall made harmless. Wing sections

and [illegible]. Why planes require long wings. The tail [illegible] of [illegible]. Stability. Flight efficiency. How fast? Looking ahead. Index.

Note: This book on [illegible] flight and the control of planes is outstanding for clear, well-conceived [illegible] of both general [illegible] and details. The whole anatomy of the subject is carefully dissected and described. The meanings of such terms as "lift," drag, and "[illegible]" are explained in simple terms and [illegible]. It is suitable for lay readers, pilots, and even students who desire a general rather than [illegible] introduction.

KÁRMÁN, THEODORE VON

Aerodynamics selected topics in the light of their historical development. Ithaca Cornell University Press 1954 203 p. illus. 23 cm. $4.75 7071

Contents: Aerodynamic research before the era of flight. The theory of lift. Theories of drag and skin friction. Supersonic aerodynamics. Stability and aeroelasticity. From the propeller to the space rocket. Index.

Note: A brief, authoritative account of the historical development of the body of basic theory that underlies the design and [illegible] of present-day heavier-than-air craft. It is concerned with the research and theory rather than the performance of actual airplanes. The range in time is from the earliest attempt to understand flight down to the still-unrealized man-carrying space rocket. The story is an interesting one, and it is written in [illegible] that makes it [illegible] to anyone who knows the basic terminology of present-day aeronautics.

KÜCHEMANN, DIETRICH AND JOHANNA WEBER

Aerodynamics of propulsion. New York McGraw Hill Book Company Inc., 1953 340 p. 24 cm. (McGraw Hill publications in aeronautical science Jerome C. Hunsaker consulting editor) $9.00. 7072

Contents: Introduction. One-dimensional treatment of the basic [illegible] of propulsion. Two-dimensional [illegible] flow problems. Air intakes. Fairings of finite length. The ducted propeller. The [illegible] engine. The turbojet engine. Installation of jet engines. Jet problems. Aerodynamic propulsion in nature. [illegible]. Appendix. Index.

Note: A survey of the subject in which is incorporated the advances in the knowledge of propulsion aerodynamics which have resulted from investigations relating to the development of practical turbojets and to jet engines in recent years. However, it is not limited to jet engines, but includes the aerodynamics of fairings for piston engines and of propellers. The style is technical, and the book is intended for advanced students of aeronautical engineering and graduate engineers. Good bibliographies are included, and there are many citations of German literature. The authors were formerly associated with the Aerodynamische Versuchsanstalt Göttingen and are now residents of Great Britain.

KUETHE, ARNOLD MARTIN AND J. D. SCHETZER

Foundations of aerodynamics. New York John Wiley & Sons, Inc. 1950 374 p. 23 cm. $6.50 7073

Contents: The fluid medium. Kinematics of [illegible] fluid field. Dynamics of [illegible] fluid field. The flow about [illegible] body. The thin airfoil. Finite wing. Introduction to compressible fluids. The energy relation. Some fundamental aspects of isentropic flow. Waves. Airfoils in compressible flow. Introduction to the dynamics of viscous fluids. Laminar flow in tubes and boundary layers. Turbulence. Turbulent flow in tubes and boundary layers. Transition from laminar to turbulent flow. Some aspects of viscous compressible flows. Aerodynamic characteristics of wings. Appendix. Problems. Author index. Subject index.

Note: An outstanding college textbook in which the fundamental theory and concepts of aerodynamics are compactly surveyed. As the chapter titles indicate, perfect, viscous, and compressible fluids are all covered. The treatment assumes no previous acquaintance with aerodynamic concepts or terminology but the reader will need a sound knowledge of calculus. The authors are members of the Department of Aeronautical Engineering of the University of Michigan.

LIN, C. C.

The theory of hydrodynamic stability. New York Cambridge University Press, 1955 155 p. illus. 22 cm. $4.75 7074

Contents: Introduction. Stability of Couette motion. Stability of plane Poiseuille motion. General theory of hydrodynamic stability. Boundary layer over [illegible] flat plate. Other nearly parallel flows. Examples of stability problems of interest in astrophysics and geophysics. Mathematical theory for the stability of parallel flows. Bibliography. Author index.

Note: Hydrodynamic stability is [illegible] problem of such concern in the design of aircraft, [illegible] and other systems [illegible] it is desirable to avoid turbulence in the flow of [illegible] fluid such as air or water. This monograph presents the general theory in its present state of development and also the mathematical techniques of handling the problem. The entire field is not covered, rather the author has limited his treatment largely to Couette motion, plane Poiseuille motion, and to boundary layers. Various applications are suggested or illustrated, but the book is properly classed as applied mathematics rather than applied design. There is [illegible] long bibliography and statements in the text are keyed to it. The author is Professor of Mathematics at Massachusetts Institute of Technology.

MILES, EDWARD ROY CECIL

Supersonic aerodynamics a theoretical introduction. New York McGraw Hill Book Company Inc., 1950. 255 p. illus. 23 cm. $6.50 7075

Contents: Fundamental theory. Description and discussion. The potential equation. Characteristics in the plane. Linear theory of plane flow. The linear potential equation in three dimensions. Shock waves. Cones in supersonic flow. The method of characteristics for axially symmetric supersonic flow. Potential flow in the hodograph plane. Comparisons of adiabatic and shock flow [illegible] conclusions.

Note: In this work the current knowledge of aerodynamic laws and behavior at supersonic speeds is presented for advanced students of aeronautical engineering and for engineering school graduates already employed in the field. The emphasis is on mathematical methods in solving the problems involved, and [illegible] good part of the text is concerned with the solutions of nonlinear partial differential equations. Both computational and graphical methods of solution are considered. A knowledge of basic fluid dynamics is essential to understanding the text.

MISES, RICHARD VON

Theory of flight. With the collaboration of W. Prager and Gustav Kuerti. New York McGraw Hill Book Company Inc., 1945 629 p. illus. 23 cm. (McGraw Hill publications in aeronautical science Jerome C. Hunsaker consulting editor) $9.00 7076

Contents (abridged): Part I, Equilibrium and steady flow in the atmosphere. The atmosphere at rest. Bernoulli's equation—[illegible] and circulation. Momentum and energy equations. Perfect and viscous fluids—types of flow. Air resistance, or parasite drag. Part II, The airplane [illegible]. Empirical airfoil data. The wing of infinite span. The wing of finite span. Part III, Propeller and engine. Part IV, Airplane performance. Analytical methods of performance computation. Special performance problems. Part [illegible] Airplane control and stability. Moment equilibrium and static stability. Nonuniform flight. Dynamic stability of an airplane. Bibliographical and historical notes. Index.

Note: An outstanding textbook written for persons who are familiar with elementary mechanics and calculus. It is suitable for use in the later years of undergraduate engineering courses and in the first year of graduate courses. The treatment of the special topics is not intended to be exhaustive but is reasonably detailed nevertheless. A limited number of problems to be solved are included. The bibliographical and historical notes collected at the end of the volume trace the development of important theories and cite the fundamental literature.

PAI, SHIH I

Fluid dynamics of jets. Princeton D. Van Nostrand Company Inc., 1954 227 p. illus. 24 cm. $6.00. 7077

Contents Flow of a jet of inviscid and incompressible fluid. Subsonic flow of a jet of inviscid fluid. Supersonic flow of a jet of inviscid fluid. Laminar flow of a jet of viscous fluid. Turbulent flow of a jet of incompressible fluid. Turbulent flow of jet of compressible fluid. Jet mixing of gases of different kinds. The stability of a jet of incompressible fluid. Stability of a jet of compressible fluid. Appendix Fundamental equations of fluid dynamics. Author index. Subject index.

Note. An authoritative and important book. Although limited to the phenomena and theory pertinent to "the steady flow of jet of gas issuing from a nozzle into the surrounding stream at rest or in uniform motion, the material presented has implications for most fields of engineering in which fluid dynamics finds applications. The chapter titles given above indicate the organization of the material. In each of the chapters, the theoretical relationships are developed and are buttressed by the data derived from experiments. Literature references are given. The book is of interest to engineers and scientists working at the research level as well as to graduate students. The author is a member of the faculty of the Institute for Fluid Dynamics and Applied Mathematics of the University of Maryland.

PAI, SHIH I

Viscous flow theory I, Laminar flow Princeton D Van Nostrand Company, Inc., 1956 384 p illus. 24 cm. $7 75 7078

Contents Physical properties of gases and simple kinetic theory of gases. Generalization of laws of friction and of heat conduction. Fundamental equations of fluid dynamics of viscous compressible fluids. Some exact solutions of Navier-Stokes equations. Reynolds laws of similarity and dimensional analysis. Properties of the Navier Stokes differential equations. Theory of very slow motion. The boundary layer equations. Exact solutions of two-dimensional boundary layer equations of steady flow Approximate solutions of two-dimensional boundary layer equations of steady flow. Axially symmetrical and three-dimensional boundary layer flows. Unsteady flows in boundary layer. Boundary layer flows with suction and with injection. Linearized theory of viscous compressible fluid. References. Author index. Subject index.

Note: An important contribution to fluid dynamics. It deals with the theory of real fluids which are viscous and compressible. This theory is of special importance in high-speed aerodynamics, but also finds applications in other fields such as lubrication of machinery and heat transfer The treatment is analytical, and much of the book is concerned with the derivation and solution of pertinent equations. The literature, including the author's own extensive publications, is cited. Volume II, covering turbulent flow was published in 1957

PERKINS, COURTLAND D, AND ROBERT E. HAGE

Airplane performance, stability and control. New York John Wiley & Sons Inc. 1949 493 p. illus. 24 cm. $7 50 7079

Contents. Part I, Airplane performance Introduction. Drag estimation. Propulsion. Airplane performance. Part II, Airplane stability and control Static longitudinal stability and control stick-fixed. Static longitudinal stability and control stick-free. Maneuvering flight. Directional stability and control. Dihedral effect and lateral control. Longitudinal dynamics. Lateral dynamics. Appendix. Index.

Note. A sound presentation of aerodynamics as applied to airplane design in the subsonic range. It is addressed both to aeronautical engineering students enrolled in college courses and to graduate engineers already engaged in airplane design. It was developed over period of years while the authors were associated with the Boeing Airplane Company and Princeton University

POPE ALAN

Aerodynamics of supersonic flight, an introduction New York Pitman Publishing Corporation 1950 184 p. illus. 24 cm. (Pitman aeronautical publications aeronautical engineering series) $6 00 7080

Contents. Fundamental relations. Flow in duct. Two-dimensional flow The oblique shock. Approximate theories. Supersonic wind tunnels. Three-dimensional flow Appendix. Standard atmosphere. Index. Answers to problems.

Note: A brief survey of current theory and experimental methods. According to the author it is designed for use in one-semester college courses offered to students who wish to test their own interest in supersonic aerodynamics and thus determine whether to pursue the subject further. Previous college courses in calculus and elementary dynamics are assumed. The author's style is clear the book is well organized and very generously illustrated.

POPE, ALAN

Basic wing and airfoil theory New York McGraw Hill Book Company, Inc., 1951 294 p illus 24 cm $6 50 7081

Contents Vector analysis. Complex variables and Fourier series. The stream function. Other flow functions. The Joukowski transformation. Airfoil construction and pressure distribution. Thin-airfoil theory. Thick-airfoil theories. The finite wing. The monoplane wing. The field about the wing. Spanwise load distribution for arbitrary wings. Miscellaneous applications of perfect fluid theory Appendixes. Index.

Note A textbook designed for use in engineering college courses offered to advanced undergraduate students. The treatment is intermediate in level between the frankly introductory texts and the graduate-level treatises. The author is a member of the faculty of the Daniel Guggenheim School of Aeronautics of the Georgia Institute of Technology

POPE, ALAN

Wind tunnel testing Second edition. New York John Wiley & Sons, Inc., 1954 511 p. illus. 22 cm $8.50 7082

Contents The wind tunnel. Wind-tunnel design. Instrumentation and calibration of the test section. Model force, moment, and pressure measurements. Testing procedure. Wind-tunnel-boundary corrections. The use of wind-tunnel data. Small wind tunnels. Non-aeronautical use of the wind tunnel. Rotor testing. Transonic and transonic testing. Supersonic-wind-tunnel testing. Answers to problems. Appendix Numerical constants and conversion of units. Index.

Note A standard work, first published in 1947 It is organized for use as textbook in college engineering courses, however, its scope is wide enough to make it of interest also to graduate engineers who are beginning work in wind-tunnel design or use. Both theory and practice are adequately covered, and the expository text is well supplemented by illustrations and literature references. This second edition is nearly 200 pages longer than the first. Chapters carried over have been extensively revised and five new chapters added. The last three chapters are especially noteworthy as they cover the use of the wind tunnel at speeds greater than that of sound. The chapter on non-aeronautical uses refers to the wind-tunnel testing of boats, automobiles, bridges, buildings and shingle roofs (!) and is an indication of the many potential applications of wind-tunnel testing techniques.

RAUSCHER, MANFRED

Introduction to aeronautical dynamics. New York John Wiley & Sons Inc. 1953 664 p. illus. 26 cm $12 50 7083

Contents Kinematics of point. Dynamics of particle. Dynamics of groups of particles. Fundamental equations of fluid motion. Stream function and velocity potential. Fluid motion about simple bodies. Transformations. Airfoils. Airfoils in three dimensions. Viscosity Kinematics of rigid bodies. Dynamics of rigid bodies. Oscillations of systems with one degree of freedom. Oscillations of systems with more than one degree of freedom. Reading list. Problem solutions. Index.

Note. A textbook developed during many years of teaching at the Massachusetts Institute of Technology and designed for use in the junior year A substantial grounding in the fundamentals of both solid dynamics and fluid dynamics is skillfully interwoven with applications in aeronautical engineering. A wealth of equations and solved problems is included in the expository text.

SCANLAN, ROBERT H, AND ROBERT ROSENBAUM

Introduction to the study of aircraft vibration and flutter New York The Macmillan Company, 1951 428 p illus. 24 cm $10.00. 7084

Contents (abridged) Basic mathematical techniques. The Lagrange equations of motion and vibration theory. The linear [illegible] equations of motion [illegible]. The two-degree-of-freedom system. [illegible] system. Coupled beam vibration. Two-dimensional bifurcated system. [illegible] flutter theory. Experimental flutter theory. Three-dimensional flutter theory [illegible]. Normal (coupled) modes of vibration and flutter analysis. Normal (coupled) modes of vibration. [illegible] of flutter stability determinant. Wing torsional divergence. [illegible] reversal and effectiveness. Instrumentation and testing. Bibliography. Appendices: General equations governing subsonic and [illegible]. Subsonic incompressible theory of the forces on an [illegible] in two dimensions. Oscillating air forces in subsonic compressible flow. Oscillating air forces in supersonic flow. [illegible] compressible flow. Oscillating air forces in supersonic flow. Index. Table of subsonic incompressible aerodynamic coefficients. Index.

Note: An introduction to a specialized though highly important aspect of aeronautical engineering. It deals mainly with classical theory and problems. However, there is a chapter on swept-back theory and some discussion in the appendices of analysis of divergence and flutter under conditions of compressible flow. The mathematics employed includes matrix algebra. The book is suited to [illegible] and graduate engineering students and to professional engineers in need of an introduction to this special field. The bibliography runs to 13 pages.

Sears, W. R., editor

General theory of high speed aerodynamics. Princeton Princeton University Press 1954 758 p. illus. 25 cm. (High-speed aerodynamics and jet propulsion. Board of editors. Theodore von Kármán chairman Hugh L. Dryden and others) $15.00 7085

Contents: Part A, On the foundation of high speed aerodynamics, by T. von Kármán. Part B, Mathematical aspects of flow problems of hyperbolic type, by K. O. Friedrichs. Part C, Small perturbation theory, by M. A. Heaslet and H. Lomax. The wave equation and methods of solution. Two-dimensional supersonic steady state flow. Three-dimensional supersonic steady state flow. Axially symmetric supersonic steady state flow. Slender airplane theory. Unsteady [illegible]. Reciprocity relations and reverse flow theorems in aerodynamics. Small perturbation theories of transonic and hypersonic flows. Part E, Higher approximations, by M. J. Lighthill. Part F, Plane subsonic and transonic potential flows, by Y. H. Kuo and W. R. Sears. Part G, The method of characteristics, by A. Ferri. Introductory considerations. Two-dimensional potential flow. Axially symmetric rotational flow. Characteristics methods for problems in three independent variables. Linearized characteristics methods. Part H, Supersonic flows with shock waves, by A. Ferri. Two-dimensional and axially symmetric flow with shock waves. Transonic flow. Conical flow. Index.

Note: A graduate-level presentation of accumulated knowledge which [illegible] to the aerodynamics of high-speed aircraft and rockets. It [illegible] addressed to graduate students of engineering and physics and to graduate engineers and applied physicists preparing for or at work on design and research in this field. It is part of an important series which [illegible] planned for completion in twelve volumes, however [illegible] may be used independently.

Shapiro, Ascher H

The dynamics and thermodynamics of compressible fluid flow In two volumes. New York Ronald Press Company 1953–54 2 v 24 cm. $16.00 per vol $30.00 per set. 7086

Contents. Volume [illegible] Part I, Background. Foundations of fluid dynamics. Foundations of thermodynamics. Introductory concepts to compressible flow. Part II, One-dimensional flow. Isentropic flow. Normal shock waves. Flow in constant-area ducts with friction. Flow in ducts with heating or cooling. Generalized one-dimensional continuous flow. Part III, Introduction to flow in two and three dimensions. The Equations of motion for steady irrotational flow. Part IV, Subsonic flow. Two-dimensional, subsonic flow with small perturbations. Hodograph method for two-dimensional, subsonic flow. Three-dimensional, subsonic flow. Part [illegible] Supersonic flow. Two-dimensional, supersonic flow with small perturbations. Method of characteristics for two-dimensional supersonic flow. Oblique shocks. Appendices. Theory of characteristics. Tables of compressible-flow functions. Index. Volume [illegible] Part [illegible] Supersonic flow. Axially symmetric supersonic flow. Supersonic flow past wings of finite span. Hypersonic flow. Part VI, Mixed flow. The hodograph method for mixed subsonic-supersonic flow. Transonic flow. Drag and lift at transonic speeds. Part VII, Unsteady motion in one dimension. Unsteady one-dimensional, continuous flow. Unsteady one-dimensional shock waves. Part VIII, Flow of real gases with viscosity and heat conductivity. The laminar boundary layer. The turbulent boundary layer. Boundary layers in tubes and in the presence of shock waves. Index for volumes [illegible] and II.

Note: Although organized as [illegible] textbook with the traditional problems to be solved appended to most chapters, this treatise can also be [illegible] as [illegible] reference book of practical methods. Theory and rigorous analysis have not been slighted, but there is emphasis on methods of analysis, working formulas, etc., of [illegible] to the working engineer. In line with this emphasis is the presentation in graphical form of the results of most of the analyses discussed in the text. Many of the applications indicated are in the field of aerodynamics in the supersonic range, but the scope of the work is broad enough to make it of interest to engineers and scientists working in any field that includes problems in compressible fluid flow. The author is Professor of Mechanical Engineering in the Massachusetts Institute of Technology.

Wood Karl D

Technical aerodynamics. Third edition. Ann Arbor Mich. Published by the author distributed by Ulrich s Book Store, 1955 510 p. illus. 23 cm. $7.50 7087

Contents: Introduction. Fluid statics and zero-flow thermodynamics. Fluid dynamics and thermodynamics of flow. Frictionless incompressible flow. Frictionless compressible flow. Incompressible boundary-layer flow. Compressible and heat-conducting boundary-layer flow. Aerodynamic test facilities. Airfoils and aspect ratio effects at low speeds. Airfoil compressibility effects. Airfoil viscosity effects. High-lift devices. Airfoil selection. Drag estimates and power calculation. Aeronautical power plants. Airplane propellers. Helicopter performance. Airplane performance. Convertiplanes. Missile performance. Stability and control. Appendices. Answers to problems. Index.

Note. A general and at the same time reasonably detailed introduction to aerodynamics. It is designed for the instruction of engineering students [illegible] are preparing for careers in the design of aircraft. A considerable range of reference material, such as graphical representations of the characteristics of current NACA airfoils, is included in the appendix. The preceding edition was published in 1947. In this third edition, the book has been well revised to keep it abreast of the progress in airplane development. It now contains information on jet-propelled airplanes, missiles, helicopters and other topics not included or not covered so fully in the preceding edition. A complementary work *Airplane design*, 10th edition, 1954, also published by the author and distributed by the University Book Store, Boulder Colorado, is available.

AIRCRAFT STRUCTURES

Aero Publishers Inc., editors

Aircraft template development, compiled and edited by Aero Publishers, Inc. and associated aeronautical staff. First edition revised. Los Angeles Aero Publishers, 1942 312 p. illus. 23 cm. $4.00. 7088

Contents: Templates and their uses. Aircraft factory nomenclature and related subjects. Mathematics for the template maker. Elementary drafting. Engineering drafting. Principles of mathematical development. Tools and equipment used by the template maker. Typical aircraft parts and their flat pattern developments. Photographic reproduction of templates. Trade ethics and safety precautions. Tables and charts. Glossary.

Note: An introduction to the fundamental principles of aircraft template manufacture. Written for both the student and the active worker, its purpose is to provide material for classroom instruction which can be used in conjunction with technical shop experience. There are numerous blueprints of typical aircraft parts, together with related problems and exercises. An appendix includes [illegible] glossary, decimal and metric equivalents, drill sizes, and [illegible] table of trigonometric functions.

Anderson Newton H.

Aircraft layout and detail design with a foreword by C. T Reid. Second edition. New York McGraw Hill Book Company Inc., 1946 437 p illus. 21 cm. $7.00 7089

Contents (abridged) Requirements for [illegible] good layout. Descriptive geometry of aircraft layout. Airfoils. General design considerations.

Connections. Forgings. Castings. Machined fittings. Fundamental principles of fitting analysis. Strength calculations for riveted and bolted joints. Bending. Torsion. Shear and its application to thin web beams. Columns. Appendix. Index.

Note. More than 100 pages of new material have been added in the present edition of this work. The single chapter on fabrication methods that appeared in the first edition has been expanded to form four chapters covering the design of forgings sand, permanent mold and die castings, machined fittings extrusions and sheet metal. Other added material includes information on mechanical properties of materials, plotting of bending-moment and shear diagrams, and new illustrations and problems. The book is designed as a text for advanced courses in engineering schools and for courses offered to men already at work as draftsmen in the aircraft industry

ASHMEAD, GORDON B

Aircraft production methods Philadelphia Chilton Company, 1956 293 p illus. 23 cm. $7 50 7090

Content Introduction to aircraft production Master plaster pattern and foundry Sheet metal preparation. Sheet metal forming: The drop hammer etc. The draw press, etc. Bending rolls, etc. The Guerin process. The Verson-Wheelon press. Heat treatment. Surface treatment. Tooling for production with plastics. Optical tooling. Assembly tooling. Welding. Machining: The machine shop. Duplicating, etc. Spar milling, etc. Carbon cutting manufacture, etc. Chemical milling. Exhaust stack line. Landing gear Plastics. Inspection. Summary Index.

Note Rather than the systematic treatise promised by the title, this book is essentially a pictorial presentation of standard and novel methods of producing aircraft parts and structures. It contains 314 figures, all of which are reproductions of photographs of manufacturing operations or of manufacturing operations or of manufactured parts. In comparison to the superb array of illustrations, the text is slight.

BARTON, MILLARD VERNON

Fundamentals of aircraft structures. New York Prentice Hall, Inc, 1948 298 p illus. 24 cm (Prentice-Hall aeronautical engineering series K D Wood editor) $5 00 7091

Contents Part I, Aircraft loads and design specifications Design requirements. Aircraft loads. Part II, Structural analysis Behavior of loaded material. Load transmission in single span beams and cantilever beams. General structural relationships and elastic energy Load transmission in multiple span beams. Frames and rings. Part III Structural stability Columns and beam columns. Compressive strength of thin sheet members. Part IV Stress analysis Bending. Combined bending and shear Torsion. Combined torsion, bending and shear Combined stresses and allowable stresses. Connections. General design considerations. Index.

Note Essentially an introduction to the basic principles of stress analysis as applied to the problems of aircraft design and construction. The book is written for aeronautical engineering students and describes the behavior of specific airplane structural members under various conditions of stress and strain, and outlines the methods for calculating the values of such strains. The treatment requires a knowledge of integral and differential calculus. Problems to be solved and short bibliographies accompany most of the chapters.

BISPLINGHOFF RAYMOND L, AND OTHERS

Aeroelasticity By Raymond L Bisplinghoff, Holt Ashley and Robert L Halfman. Reading Mass Addison Wesley Publishing Company Inc 1955 860 p illus. 23 cm (Addison Wesley series in mechanics Eric Reissner consulting editor) $14 50 7092

Contents. Introduction to aeroelasticity Deformations of airplane structures under static loads. Deformations of airplane structures under dynamic loads. Approximate methods of computing natural mode shapes and frequencies. Aerodynamic tools—two- and three-dimensional incompressible flow Aerodynamic tools—compressible flow Wings and bodies in three-dimensional unsteady flow Static aeroelastic phenomena. Flutter Dynamic response phenomena. Aeroelastic model theory Model design and construction. Testing techniques. Appendices Mathematical tools. References. Author index. Subject index.

Note. Aeroelasticity is in this work treated strictly from the viewpoint of aeronautical engineering. Undoubtedly some of the material is applicable to the study of other structures exposed to aerodynamics forces, such as bridges, but these applications are not mentioned. Deformation of airplane structures under static and dynamic loads, analysis of the behavior of airfoils, wings, and aircraft bodies under various ideal and actual conditions, flutter model theory model design and construction, and testing techniques for both full scale aircraft structures and models are all covered. The treatment is at a graduate level. Mathematics including matrix algebra is used extensively

COXEN, HARRY HERSCHELL, AND OTHERS

Aircraft sheet metal blueprint reading, by Harry H Coxen, Gerald E Jackson, and Gilbert D Masters Chicago American Technical Society, 1944 132 p illus. 27 cm. $2 75 7093

Contents (abridged) Abbreviations used on aircraft sheet metal blueprints. How a drawing describes an object. Scale and size of drawings. Reading simple three-view drawing. Kinds of drawings, and what they represent. Dimensions, what they indicate, and where they are found on drawings. Sectional drawings. Practical questions based on typical sheet metal drawings. Blueprints. Channel section. Bracket side. Frame angle. Seat bracket. Rudder nose section. Flare bracket. Frame, fuselage.

Note. A practical text for use in training classes for aircraft workers. The authors have designed the book for students who have not had training in mechanical drawing and who do not intend to acquire such training before entering the industry

FREUDENTHAL, ALFRED M, editor

Fatigue in aircraft structures Proceedings of the International Conference held at Columbia University, January 30 31 and February 1, 1956 New York Academic Press Inc. 456 p illus 23 cm. $12 00 7094

Contents Part I, Physical theories of fatigue Mechanism of fatigue, by W A. Wood. The mechanism of fatigue in aluminum and aluminum alloys, by P J E. Forsyth. Experiments relating to the origin of fatigue cracks, by N Thompson. On the effects preceding fatigue failure of high-strength aluminum alloys, by R. F Hanstock. Performance of metal under repeated loading, by M. Hempel. Part II, Prediction of fatigue life and fatigue strength Fatigue cracks as stress raisers and their response to cyclic loading, by C. E. Phillips. Scatter of fatigue life and fatigue strength in aircraft structural materials and parts, by W Weibull. Accumulation of fatigue damage, by A. M. Freudenthal and R. A. Heller. Performance fatigue testing with respect to aircraft design, by E. Gassner Structural fatigue research and its relation to design, by P D Brooks. The elements of a helicopter fatigue substantiation program, by H. T Jensen. Part III, Prevention of fatigue failure The relationship between load spectra and fatigue life, by B. Lundberg and E. Eggwertz. Fatigue testing in relation to transport aircraft, by R. J Atkinson. Fatigue engineering in aircraft, by P Kuhn. Some remarks on the French approach to the problem of fatigue, by J Cavillon. Aspects of fatigue design of aircraft structures, by F Turner The extent of the fatigue problem in aircraft design, by H. Giddings. Practical aspects of fatigue in aircraft structures, by R. L. Schleicher Aircraft structural fatigue research in Australia, by W W Johnstone and A. O. Payne. Author index. Subject index.

Note A collection of major importance in contemporary aircraft design. The 19 papers in it delineate the status of the fatigue factor in the design of aircraft structures at the time of the conference mentioned in the book's title. Six countries are represented in the lists of authors. All of the contributors are specialists; furthermore, other specialists participated in the discussions of the papers, and excerpts from these discussions are included in the volume. Several of the authors have described laboratory tests on structural elements and whole structures in considerable detail. Illustrations are included of some test set-ups. Literature references are included in the papers.

FUNG, Y C

An introduction to the theory of aeroelasticity New York John Wiley & Sons Inc. 1955 490 p illus. 24 cm. $10.50 7095

Contents: Fundamentals. Some aeroelastic problems in civil and mechanical engineering. Divergence of lifting surface. Steady-state aeroelastic problems in general. Flutter phenomenon. Fundamentals of flutter analysis. Engineering flutter analysis and structural design. Transient loads, gusts. Buffeting and stall flutter. Applications of Laplace transformation. General formulation of aeroelastic problems. Fundamentals of non-stationary airfoil theory. Oscillating airfoils in two-dimensional incompressible flow. Oscillating airfoils in two-dimensional compressible flow. Unsteady motions. Model—experiments. Appendixes. Index.

Note: Aeroelasticity defined in this book as the study of the effect of aerodynamic forces on elastic bodies. It is synthesis and further development of knowledge and methods from aerodynamics and structural analysis. At the present time, it is of greatest interest in aeronautical engineering, but it has potential application in any field of engineering where steel or other elastic structures are exposed to the wind. This book by faculty members of the California Institute of Technology presents a fairly detailed account of the present state of the field. Primarily about airplanes in connection with design, it includes also some practical nonaeronautical matter such as tabulation of means for prevention of flutter. Most of the chapters contain extensive bibliographies. It is potentially of interest both to graduate students of aeronautical engineering and to graduate engineers and scientists already at work in aeronautical research and design. Designers of suspension bridges will find of interest.

GERARD GEORGE

Minimum weight analysis of compression structures. New York New York University Press, 1956. 194 p. illus. 22 cm. $6 00 7096

Contents: Minimum weight analysis of elements. Behavior of compression structures. Stringer, panel-rib construction. Wide-column construction. Plate construction. Sandwich construction. Cylindrical shell construction. Comparative efficiency in bending. Practical considerations. Structural efficiencies of materials. Ideal stress for minimum weight. Appendix: Review of literature on minimum weight analysis. Bibliography. Index.

Note: Analytical methods for obtaining minimum weight designs of the various types of constructions used in the wings of modern supersonic aircraft are the subject of this book. The principal types considered are named in the titles of the third to the seventh chapters listed above. However the analytical methods presented are applicable to other types as well. The book is intended for graduate students of aeronautical engineering and for graduate engineers already at work in the aircraft industry. It contains a number of graphs and tables of reference value and a selected, chronological, annotated bibliography of the significant literature from 1919 to 1955. The author is a member of the staff of the Research Division of the College of Engineering of New York University.

KUHN PAUL

Stresses in aircraft and shell structures. New York McGraw Hill Book Company Inc., 1956. 435 p. illus. 24 cm. (McGraw Hill publications in aeronautical science. Jerome C. Hunsaker consulting editor) $14 00 7097

Contents: Part 1, Methods of analysis: Preliminary topics. Elementary theories. Diagonal tension. Shear lag. Two-spar structures. Four-flange shells under torsion (with restrained warping). Multi-stringer single-cell shells under torsion (with restrained warping). Cutouts in plane panels and box beams—in circular cylinders. Part 2, Experimental evidence: Tests and their evaluation. Verification of elementary theories. Diagonal-tension tests. Shear-lag tests. Torsion-box tests. Cutout tests. Appendix. Index.

Note: An important book on the stress analysis of aircraft structures and other stiffened-shell structures. The author is Assistant Chief of the Structures Division of the National Advisory Committee for Aeronautics and its contents are based in part on the results of research conducted by the Division and in part on the literature. The subject is treated at the level of graduate engineers engaged in aircraft structural design and research, however, both elementary and advanced methods of analysis are presented. The reliability of the various approaches is indicated. Diagonal tension is given special attention. About one-fourth of the book is devoted to summaries of experimental evidence in support of the methods of analysis presented in the main part.

LE MASTER, CLARENCE ALLEN

Aircraft sheet metal work how to do blueprint reading, template layout, patterns for bends, riveting, soldering, brazing welding, drop hammer work. Chicago American Technical Society 1944 387 p. illus. 24 cm. $4.50. 7098

Contents: Hints for safety and production. Tools. Files and their uses. Blueprint reading. Measuring and measuring tools. Template layout and bench work. Pattern development for bends. Rivets and riveting. Skin fitting. General fabrication. Soldering, brazing, and welding. Use of drop hammer. Assembly repairs, techniques, projects. Aluminum and related metals. Steel in aircraft construction. Index. Decimal equivalent table.

Note: A beginning textbook aimed at the training of aircraft sheet metal workers. The first chapter deals with safety rules, and other preliminary chapters deal with the accumulation of kit of tools, blueprint reading, and measuring. The various operations in metal work are then treated step by step. The treatment throughout is on practical basis.

NEVILLE, LESLIE E.

Aircraft designers' data book. New York McGraw Hill Book Company Inc. 1950. 534 p. illus. 29 cm. $12.50. 7099

Contents: General design characteristics. Wing and auxiliary surface design. Empennage design. Fuselage, body and hull design. Landing gear design. Control systems. Fuel and lubrication systems. Power-plant installations. Miscellaneous design details. Rotating-wing aircraft. Turbine engines. Index.

Note: A reference book for both engineers and draftsmen employed in the design of airplanes. It contains many hundreds of drawings, together with a small number of photographs, of the mechanical details of the structures and mechanisms of a wide range of modern airplanes. Compact discussions of structures are also included. Condensed specifications of United States military, personal, and transport aircraft and of leading Canadian, British and French planes are tabulated in the appendix. Most of the material has been compiled from Aviation and Wings.

NILES ALFRED S AND JOSEPH S NEWELL

Airplane structures. Volume I. Fourth edition. New York John Wiley & Sons, Inc., 1954 607 p. illus. 24 cm. $7 75 7100

Contents: General design requirements. Reactions, shears, and bending moments. Beam deflections. Continuous and restrained beams. Properties of materials. Simple bending. Torsion. Truss analysis. Graphical methods. Ties, columns, and compression panels. Buckling effects in beams. Combined stresses. Connections. Deflections, dummy-unit-load method. Introduction to statically indeterminate structures. Appendices. Index.

—— Volume II. Third edition. New York John Wiley & Sons, Inc., 1943 439 p. illus. 24 cm. $6 75 7101

Contents: Statically indeterminate structures. Beam-columns. Incomplete tension fields. Shell analysis. Curved beams and rings. Critical loads. Torsional column failure. Allowable stress data. Bibliography. Index.

Note: A standard text designed for students and others who have completed introductory college courses in calculus and basic structural theory. It covers stress analysis in such structures as aircraft with high strength-weight ratios, and its chief purpose is to prepare students for practical work in airplane structural design. Without slighting fundamental and theoretical aspects, the authors have given adequate attention to empirical and practical methods. Also, they have criticized currently used methods where criticism is due, for instance, "Many of the fatigue analyses currently available must be used with caution." The third edition was published in 1943. The fourth edition of Volume represents very extensive revision in expository text, bibliographies, and problems. In recognition of the fact that the book is sometimes used for self-instruction, partial answers to the problems are included in the appendix. The current edition of Volume is the third as listed above.

NORTHROP AERONAUTICAL INSTITUTE

Aircraft maintenance and repairs. Revised edition By the Technical Development Staff of Northrop Aeronautical Institute Charles Edward Chapel, Ralph D Bent, James L. McKinley New York McGraw Hill Book Company, 1955 444 p illus 29 cm. $8 00 7102

Contents. Fundamentals of aircraft hydraulics. Flow control valves. Pressure control valves. Hydraulic systems. Hydraulic brake actuating systems. Landing gear. Heat-treating and inspection of metals. Aircraft gas-welding equipment. Gas-welding techniques. Gas-welding techniques for ferrous metal. How to weld aluminum alloys. Aircraft construction and repair by welding. Aircraft sheet-metal tools, machines, and methods. Aircraft layout work. Aircraft riveting. Aircraft sheet-metal repairs. Aircraft woodworking tools and machines. Glue, screws, and nails for aircraft woodwork. Construction and repair of wooden aircraft. Fabric covering. Dope and its application. Aircraft wire and cable work. Assembly and rigging. Weight, balance, and loading. Index.

Note An established practical text, developed at leading school for the training f aircraft mechanics. The explicit elementary style and the numerous illustrations make it suitable for home study as well as for use in organized courses. The first edition was published in 1949 In this revised edition the chapter titles are nearly identical, and the number of pages is the same. However some revisions have been made. The chapter on riveting has been largely rewritten and re-illustrated. Important and moderately extensive changes have been made in the chapter on construction and repair of wooden aircraft, but in most chapters the only revision is the substitution of an illustration or the addition of paragraph or two of new matter.

PEERY, DAVID J

Aircraft structures. New York McGraw Hill Book Company Inc., 1950 566 p 24 cm. $7 75 7103

Contents (abridged) Equilibrium of forces. Inertia forces and load factors. Shear and bending-moment diagrams. Beams with unsymmetrical cross sections. Analysis of typical members of semimonocoque structures. External loads on the airplane. Mechanical properties of aircraft materials. Joints and fittings. Design f members in tension, bending, or torsion. Design of compression members. Design of webs in shear Special methods of analysis. Appendix. Index.

Note A textbook written primarily for use in undergraduate work in engineering colleges. The uthor who is Professor of Aeronautical Engineering at the University of Michigan, has emphasized basic structural theory and methods of analysis. Little material has been included on the design of specific airplanes or the properties of specific materials. The chapters are supplemented by good lists of related literature.

SECHLER, ERNEST EDWIN

Elasticity in engineering Galcit aeronautical series New York John Wiley & Sons Inc. 1952 419 p illus 24 cm $10 00 7104

Contents Part I, Fundamental equations and analysis methods. Introduction. Uniform stress conditions. Non-uniform stress conditions. Strain conditions. Stress-strain relations. The stress function. Elastic energy principles. Part II, Engineering problems in stable structures Two-dimensional stress problems. Theory f simple beams. Continuous and redundant structures. The torsion problem. Stable plates and shells. Part III, Engineering problems in instability Columns. Beam columns. Instability of plates and shells. Index.

Note An intermediate-level text for engineering college students and graduate engineers. Methods of analysis which ha proved useful in connection with the design f aircraft structures are emphasized, but the usefulness of the methods covered is not limited to the aeronautical field.

SHANLEY, FRANCIS REYNOLDS

Basic structures. New York John Wiley & Sons, Inc., 1944 392 p illus. 22 cm. $5 50 7105

Contents: Structural analysis methods. Forces and moments. Force transmission. Equilibrium and reactions. Stability constraints, and redundancies. Behavior of materials under load (physical properties) Axially loaded members. Transverse forces. Truss analysis. Shear webs. Curved shear webs. Torsion. Bending—symmetrical. Unsymmetrical bending. Bending (special cases) Bending deflections. Combined bending and shear. Combined shear and torsion. Combined bending and axial loading. Combined stresses. Joints. References. Appendix. Answers to problems. Index.

Note: This textbook for students and practicing engineers deals with the basic principles of structural engineering, with special reference to aeronautics. The use of calculus and advanced mathematics has been avoided, and numerous practical problems and answers are given for each chapter. An appendix includes tables and diagrams relating to the properties of materials under various conditions of stress and strain. There are three pages of references.

SHANLEY, FRANCIS REYNOLDS

Weight-strength analysis of aircraft structures. New York McGraw Hill Book Company Inc., 1952 394 p illus 24 cm. (The Rand series) $8 50 7106

Contents Part I, Principles of optimum structural design Methods of analysis. Principles of structural design for minimum weight. General instability of stiffened shells in pure bending. Minimum weight of stiffened cylindrical shells in pure bending. Effect of torsional-stiffness requirements on wing structural weight. Part II, Structural-weight equations. General weight-analysis methods. Weight analysis of the sheet-stringer-rib type of wing structure. Effective depth of airfoil sections. Evaluation of integration factors. Inertia and shear reduction factors. Wing ribs and secondary structure. Nonoptimum structural weight. Weight analysis of thick-plate type of wing structure. Weight analysis of thin-wing structures. Weight analysis of fuselage and shell structures. Part III, Material properties and behavior Analysis of stress-strain-time relations. Stress-strain-time properties of some aircraft materials, by L. R. Jackson and others. Inelastic-column theory Principles of creep buckling. Effect of creep on column deflection, by T P Higgins, jr. Index.

Note. An important treatise for aircraft designers and stress analysis. It presents methods of analyzing and predicting the structural weight of aircraft and missiles. Part discusses methods by which the minimum weight can be determined for any material and conditions of loading. These principles of design for minimum weight are utilized to derive weight equations for wing and fuselage structures, the subject matter of Part II. A number of reports prepared in the course of investigations f new materials and extreme operating conditions are included in Part III. These reports demonstrate engineering methods by which the effects of temperature and time can be included in structural design and weight calculations. While not designed as a textbook, certain of its parts have been used by the author as basis for graduate course in structures, and some problems used in this course have been included in Parts and II. Bibliographical references appear at the ends of most chapters.

TEICHMANN, FREDERICK KURT

Airplane design manual Third edition. New York Pitman Publishing Corporation 1950 382 p illus. 24 cm (Pitman aeronautical publications aeronautical engineering series) $8 00 7107

Contents: Procedure in design. Types of airplanes Airfoil selection Preliminary weight estimate. The three-view The balance diagram. The cockpit. Instruments and equipment. The passenger cabin. Heating and entilating. Soundproofing. The power plant. Design of the wing The landing gear Tail surfaces. Control systems. The fuselage. Preliminary performance calculations. Elementary longitudinal stability calculations. Materials of construction. Appendix. Weight data. Miscellaneous design data on American airplanes. Airplane data. Materials design data. Index.

Note. An introduction to practical design of airplanes and their component parts. Although moderate amount of mathe- ing with wing design) many topics are discussed without the use of mathematics at all. The book is particularly suitable for such readers as production workers in airplane manufacturing plants and draftsmen, especially those who must gain their knowledge of the subject in home study In this revised edition there is fair amount of new material including discussions of jet engines, recent research in seating arrangements, and new structural materials.

Titterton George F

Aircraft materials and processes. Fifth edition. New York. Pitman Publishing Corporation, 1956. 398 p. illus. 23 cm. $7.50 7108

Contents: Definitions. Testing aircraft materials. Steel and its alloys. Aircraft steels—properties and uses. Heat treatment of steel. Surface hardening. Shaping of metal. Corrosion-resisting steels. Nickel alloys. Copper and its alloys. Wrought aluminum alloys. Aluminum-alloy castings. Magnesium alloys. Metal-joining processes. Corrosion and its prevention. Wood and glue. Fabrics and dope. Paints. Transparent materials. Rubber and synthetic rubber. Titanium and its alloys. High temperature problems. Selection of materials. Appendices: Weights of common aircraft materials. Standard gages. Standard sizes, weights and tolerances of round steel tubing. Standard sizes, weights, and tolerances of round aluminum-alloy tubing. Streamline tubing. Strength of steel cable. Zonals. Index.

Note: A wide range of practical information and engineering data on the materials used in aircraft and the processes of fabricating them is covered in this standard book. The level of treatment is introductory in the sense that the author has not assumed on the part of his readers previous acquaintance with aircraft manufacturing. On the other hand the book contains sufficient basic information to make it useful as a reference book in technical libraries and on the desks of engineers and technicians in the aircraft industry. The fourth edition was published in 1951. This fifth edition is 42 pages larger and contains expanded sections on high temperature problems and titanium as well as many new and revised items of data. The author is an engineer on the staff of the Grumman Aircraft Engineering Corporation.

AIRCRAFT ENGINES

American Society for Testing Materials

Symposium on materials for gas turbines. Forty-ninth annual meeting, American Society for Testing Materials, Buffalo N. Y., June 24–28, 1946. Philadelphia American Society for Testing Materials, 1946 199 p. illus. 23 cm. $3.00. 7109

Contents: Introduction, by R. L. Mochel. Heat-resisting metals for gas-turbine parts, by H. C. Cross and W. F. Simmons. High-temperature alloys developed for aircraft turbosuperchargers and gas turbines, by J. W. Freeman, and others. Chromium-base alloys, by E. M. Parke and F. P. Bens. Metallurgy of high-temperature alloys used on current gas turbine designs, by P. B. Badger, Jr., and W. O. Sweeny Jr. Alloys and ceramic materials for high-temperature service, by H. C. Cross. Resistance of iron-nickel-chromium alloys to corrosion in air at 1600 to 2200 F by A. deS. Brasunas, and others. Comparative properties of aluminum alloy sheet at elevated temperatures, by A. E. Flanigan, and others. Tensile and creep strengths of some magnesium-base alloys at elevated temperatures, by A. A. Moore and J. C. McDonald.

Note: A compilation and condensation of governmental and industrial wartime research in the field of heat-resisting metals and alloys. Photographs of alloy micro-structures, phase diagrams, charts, drawings, and data tables are included. The references cited include patents, government reports, scientific and technical journals, and books. The work is intended for metallurgists and metallurgical engineers.

Casamassa, Jack V., editor

Jet aircraft power systems, principles and maintenance. New York McGraw Hill Book Company Inc., 1950 338 p. illus. 23 cm. $6.50. 7110

Contents (abridged): History and design of jet machines. The modern gas turbine engine (turbo jet). Gas turbine propeller combination (turbo prop). Athodyds—pulse and ram jets. Rockets. Theory and evaluation. Jet propulsion theory. Air inlets, casing, and exhaust systems. Thrust augmentation methods. Materials for gas turbines. Gas turbine fuel systems. Lubrication systems. Ignition and starter systems. Servicing and operation. Production problems. Inspection, maintenance, and overhaul. Jet transports. Addenda. Principal jet engines developed by Pratt & Whitney Aircraft. Cooling for "hot" parts. Boeing designs for jet transports. Lockheed proposals for jet transports. Jet fuel (proposed). Russian jet designs. Glossary. Appendix. Visual aids. Index.

Note: An introductory textbook designed for men who are preparing for employment as mechanics on jet aircraft engines. Descriptions of the types of such engines and of their component parts comprise about two-thirds of the book. Only about one-third is devoted to inspection, maintenance, and overhaul operations. There are numerous special features of value to the beginner, including numerous illustrations, study questions, references to other reading, and a glossary of jet terms.

Driggs Ivan H. and Otis E. Lancaster

Gas turbines for aircraft. New York The Ronald Press Company 1955 349 p. illus. 24 cm. $10.00 7111

Contents: Perspective. Fundamentals. Cycle analysis of gas turbines. Flow of compressible fluids in ducts and passages. Compressors. Turbines. Combustion. Gas-turbine performance. Control problems. Aircraft performance analysis. Early development of gas-turbine engines. Problems. Appendix. Index.

Note: Design methods for jet and turboprop aircraft engines and methods of analyzing the performance of such engines are the two subjects covered in this authoritative book. Although organized so that it may be used as a graduate-level text, the viewpoint is essentially that of the practicing engineer. The chapter on cycle analysis, for instance, is not limited to the ideal gas cycle but includes also modifications such as are found in all developed engines. The theoretical and mathematical material is supplemented by a moderate amount of descriptive matter on engine elements, as well as on complete engines. The first-named author is Chief Scientist, United States Naval Air Development Center and the second-named is Assistant Director of the Research Division of the U. S. Navy's Bureau of Aeronautics.

Durham Franklin P

Aircraft jet powerplants. New York Prentice-Hall Inc., 1951 326 p. illus. 22 cm. $6.25 7112

Contents: Introduction. Principles of thrust and the energy equation. Thermodynamic properties of air and gas. Turbojet engine processes. Turbojet engine performance. Turbopropeller engine processes and performance. Duct flow and the inlet diffuser. Air compressors. Combustion chambers or burners. Nozzle flow and the jet nozzle. Turbines. The ramjet engine. The rocket motor. Appendix. Index.

Note: A college textbook intended for upperclass students in engineering colleges. The main types of jet powerplants, such as the turbojet engine, turbopropeller engine, and the rocket, are described very briefly in the first chapter. After this introduction, the theory and the performance characteristics of jet engines and their component parts are covered. Algebra and calculus are both used in the mathematical computations, and the treatment assumes previous courses in thermodynamics and fluid mechanics.

Finch Volney Cecil

Jet propulsion—turbojets. Millbrae, Calif. The National Press, 1948. 328 p. illus. 22 cm. $5.50. 7113

Contents: History and development. Thermodynamic considerations. Performance of compressor-turbine jet propulsion engines. Efficiencies of gas turbines and jet powerplants. Graphical solution of the performance of turbojets. Effects of temperature, humidity, icing, and dust upon turbojet performance. Mean specific heats for aircraft gas turbines. Centrifugal compressors. Axial-flow compressors. Aircraft gas turbine design. Fuel systems and fuels for jet airplanes. The combustion chamber. The combustion process. Lubrication of turbojets. Thrust augmentation. Materials. Appendix. Index.

Note: A compact introduction which is suitable for use by intermediate students of engineering and by persons out of school who understand calculus and are accustomed to reading graphs. Fundamental engineering theory is presented from the standpoints of thermodynamics and aerodynamics, and specific data are furnished on such aspects as efficiency and on design factors. The book is based on the published literature including a number of papers and reports of wartime research. Good lists of selected references accompany the various chapters. The appendix contains a range of useful data on alloys, fuels, etc.

FIOCK, ERNEST FRANK, AND CARL HALPERN

Bibliography of books and published reports on gas turbines, jet propulsion, and rocket power plants, 1910 through 1953 Washington, D C Government Printing Office 1951–54 2 parts 23 cm. (United States National Bureau of Standards Circular 509 and Supplement) Main work, $0 25, Supplement, $0 50 7114

Contents Main work, 1910–1950 Introduction Classification of recent power plants. Rating of jet engines. Scope and arrangement of the bibliography Bibliography: Books, 1910 through 1950 Gas turbines and jet power plants. Atomic energy Periodical reports, 1940 through 1950: Development and future role. Theory and performance. Turbojet and propjet engines. Other types of gas turbines. Intermittent or pulsejets. Ramjets. Compounding and thrust augmentation. Rockets. Jet-propelled helicopter rotors and propellers. Compressors and their components. Turbines and their components. Combustion and combustion chambers. Thermal properties f working media. Aerodynamic factors. Metallurgy machining, and welding. Ceramic materials in gas turbines. Research programs. Nomenclature. Atomic energy Miscellaneous. Supplement, 1950–1953 Scope and arrangement of the bibliography Bibliography Books, 1950 through 1953: Gas turbines and jet power plants. Atomic power Periodical reports, 1950 through 1953 Jet propulsion. Turbojet and propjet engines. Other types of gas turbines. Intermittent or pulsejets. Ramjets. Rockets. Engine components. Compound engines. Thrust augmentation. Engine noise. *Metallurgy* and *fabrication*. Ceramics and metal-ceramics. Aerodynamic factors. Thermal properties of working media. Jet turbine- and rocket-propelled aircraft. Guided missiles and drones. Anti-icing. Interplanetary considerations. Test *facilities*. Research programs. Atomic power Miscellaneous.

Note A bibliography of books and periodical articles mainly in the English language, but including some titles in German, French, and Italian. The works ar listed under the headings noted above within each group they are arranged by year of publication. Periodical references prior to 1940 are not included. Circular 509 is revision of Circular 482 The latter was issued in 1949 and listed publications through 1948. The Supplement, which is nearly double the size of the main work, reflects the increased attention to the subject in the recent periodical literature.

HERMANN, RUDOLF

Supersonic inlet diffusers and introduction to internal aerodynamics. Minneapolis Minneapolis Honeywell Regulator Company Aeronautical Division, 1956 378 p illus 23 cm. $16 00 7115

Contents Various diffuser types, their functions and applications in supersonic aerodynamics. Diffuser with the normal shock in front—flow process, efficiency and the starting or swallowing process in one-dimensional analysis. Diffuser with the normal shock swallowed—flow process and efficiency in one-dimensional analysis. The two-dimensional symmetric multiple shock diffuser with wedge of constant angle installed in a duct. The two-dimensional multiple shock inlet diffuser with equal upper and lower wedge angles. Analysis of a two-dimensional multiple shock system for optimum pressure recovery Comparative evaluation of two-dimensional unsymmetric multiple shock inlet diffusers composed of wedges with unequal angles or angular steps. The axially symmetric spik inlet diffuser—basic analysis of on-design mach number operation. The axially symmetric spike inlet diffuser—experimental data and comparison with analysis. Appendix of numerical tables. References. Terminology Index.

Note. An important treatise on the internal dynamics of such structures as the inlet diffusers used on turbojets and ram jet aircraft engines. It was based on an extensive program of study and experimental research, and it presents range of results not previously published. It is directed to applied scientists and engineers who are working at the research and top design levels in jet engine and missile design. The author is Professor of Aeronautical Engineering in the Uni ersity f Minnesota.

KATZ, ISRAEL

Principles of aircraft propulsion machinery New York Pitman Publishing Corporation 1949 477 p illus. 24 cm. (Pitman aeronautical publications, Alexander Klemin, advisory editor) $7 00 7116

Contents (abridged): Part I, Orientation. General classification. The principal commercial-transport and heavy military piston engines. The principal low- and medium-powered piston engines. The principal gas-turbine powerplants. Part II, Development. Early engines. A critical evaluation of powerplant progress. Current developments. Part III, Fundamental aspects. Principles of pulse jets. Piston-engine cycles. Continuous-combustion cycles. A better fuels. Part IV Performance Performance criteria and reliability Power availability Operating characteristics. Response to controls. Maintenance ease. Part V Piston engines: Principal moving parts. Fixed parts. Valve systems. Engine accessories. Bearings and lubrication. Ignition systems. Cooling systems. Part VI, Gas turbines. Turbo-powerplant composition. Gas-turbine accessory systems. Turbo-power plant controls and operating techniques. Part VII, Advanced power plants Rocket motors. Part VIII, Application: Installation principles. Engine testing and instrumentation. Index.

Note. A well-organized introduction to aircraft engines of all types. It is designed primarily as an introductory text for use in engineering colleges, but it reads so easily that it is suitable for certain groups of readers who are not in college. Theory is stressed, but it is well leavened with descriptive material. Most chapters are short, and a considerable part of the exposition is expressed in the form of tabulated "points. There is a generous number of illustrations.

LISTON, JOSEPH

Power plants for aircraft. New York Mc Graw Hill Book Company, Inc., 1953 577 p. illus 24 cm $9 00 7117

Contents. Basic requirements and achievements. Utilization of available energy Fuels. Charge handling. Cylinder and burner phenomena. Performance. Turbine engine characteristics. Structural and mechanical requirements. Index.

Note An engineering college textbook in which the main emphasis is on matters that are basic to all types of airplane engines from piston to jet. Such aspects as combustion in cylinders and burners are covered specifically and in fair detail, and are supplemented by references to source articles in which fuller treatments are available. Since the book is intended for upperclass engineering students, familiarity with basic thermodynamics and engineering mathematics is assumed. Graphs are used freely in the exposition. The author is *Professor of Aeronautical Engineering* in Purdue University

NORMAN, CARL ADOLPH, AND R. H ZIMMERMAN

Introduction to gas-turbine and jet propulsion design. New York Harper & Brothers, 1948 286 p illus 24 cm $5 00 7118

Contents Introduction. Fundamental mathematics. Approximate gas-turbine analysis. Accurate computations. Entropy expansion, compression, and gas chart. Combustion chambers. Turbines and turbine details. Compressors. Materials and general design considerations. Aircraft power plants. Stationary marine, and locomotiv plants. Rockets. Appendix Derivation of disk formulas. Index.

Note In this excellent textbook the authors hav strive to present the subject simply and concretely so that the book will have appeal for engineering students. Basic principles and problems are explored thoroughly for an introductory work, and the many examples of practical and experimental applications are related directly to design problems. The reader will need an understanding f ordinary algebra and some familiarity with graphs.

NORTHROP AERONAUTICAL INSTITUTE

Aircraft power plants by the technical development staff of Northrop Aeronautical Institute. Charles Edward Chapel Ralph D Bent, James L. McKinley Revised edition. New York McGraw Hill Book Company 1955 392 p. illus 29 cm. $8.00. 7118A

Contents. Power-plant progress. Internal-combustion engine principles. Fuel and fuel systems for aircraft. The float-type carburetors.

The pressure-injection type of carburetor. Supercharging and induction systems. Aircraft-engine classification, construction, and operation. Aircraft-engine lubricants. Engine-starting systems. Ignition systems. Valve and ignition timing. Engine control systems. Engine instruments. Propellers for light planes. Propeller inspection, maintenance, and repair. The principles of jet propulsion. Use of the gas turbine. Modern turbojet engines. Jet engine systems, operation and inspection. Acknowledgments. Index.

Note: The mechanism, maintenance, repair, and inspection of aviation engines and propellers is explained in clear and thorough manner in this book, which is one of a three-volume series designed for use in the training of student aircraft mechanics. Numerous self-pointed illustrations are a special feature. The first edition was published in 1946. Material was added on fuels, ignition systems, jet and turbojets in this second edition.

SMITH C. W.

Aircraft gas turbines. New York John Wiley & Sons, Inc., 1956 448 p. illus. 24 cm. (General electric series) $8.75 7119

Contents: Introduction. Elementary principles of aircraft propulsion. The Brayton cycle. Cycles derived from the basic Brayton cycle. Other gas turbine cycles. Elementary gas dynamics. Theory of flow in ducts, nozzles, and diffusers. Intake and exhaust systems of aircraft gas turbine power plants. Transfer of energy between fluid and rotor. Centrifugal compressors. Axial-flow compressors. Turbine and exhaust systems. Combustion chamber. Dynamics of dynamic similarity. Working criteria. Control and accessories. Stresses and materials. General performance and limitations. Appendix. Bibliography. Index.

Note: An excellent introduction to gas turbine engineering. As the title indicates, turbines for use in aircraft are emphasized, but much of the material is equally applicable to the other varieties of gas turbines including large stationary units designed for power plants. The treatment is broad and fundamental. Topics such as the Brayton cycle, fluid flow in ducts, nozzles and diffusers, and compressor theory have been given most of the space. Embodied in the theoretical material is a good deal of specific information on mechanical details, for instance descriptions and comparisons among the types of exhaust nozzle for the discharge of air. The level of treatment assumes that the reader will have had considerable undergraduate education in mechanical engineering but no earlier assumption was made in relation to courses in gas dynamics and aerodynamics. The bibliography is selected though fairly extensive and arranged in accordance with the book chapters.

THORNER, ROBERT H

Aircraft carburetion. New York John Wiley & Sons, Inc., 1946. 393 p. illus. 22 cm. $5.00. 7120

Contents: Introduction. Principles of physics that apply to carburetion. Basic carburetion. Introduction to diaphragm carburetors. Float carburetors. Bendix-Stromberg injection carburetors. The Chandler-Evans carburetor. Comparison of float, Holley, Stromberg, and Chandler-Evans carburetors. Testing aircraft carburetors. Flight operation. Index.

Note: The general principles of aircraft carburetor construction and operation are presented here clearly by means of discussions covering several representative types of carburetors. The book is designed for pilots, flight engineers, airplane engine mechanics, and other persons who need basic understanding of how carburetors work. It is not, however, a maintenance or repair manual. There are many excellent photographs, cut-away diagrams, and charts. The author is Research and Consulting Engineer of the Holley Carburetor Company.

ZUCROW MAURICE JOSEPH

Principles of jet propulsion and gas turbines. New York John Wiley & Sons, Inc., 1948. 563 p. illus. 24 cm. $8.50. 7121

Contents: Review of fundamental principles. Momentum and energy relationships for fluids. Thermodynamics of gas flow. Thermodynamic properties of air. Airplane performance calculations. The airplane propeller. The gas-turbine power plant. The gas-turbine type of thermal jet engine (the turbo-jet engine). Air compressors. Turbine characteristics. The combustion chamber. The rocket motor. Some aspects of high-temperature metallurgy. Index.

Note: An authoritative treatment of the fundamental theories and basic principles underlying the design and characteristics of gas turbines and jet propulsion engines. It was developed for use in ESMWT courses given during 1943 and 1944 to graduate engineers working in aircraft plants in the Los Angeles area. Certain data has had to be omitted for reasons of military security. Nevertheless, the book should be useful both to aeronautical engineering students and graduates. The references given at the end of each chapter constitute an extensive bibliography of the subject.

AIRCRAFT MAINTENANCE

BRIMM DANIEL JOHNSON AND H. EDWARD BOGGESS

Aircraft maintenance. Second edition. New York Pitman Publishing Corporation, 1950. 475 p. illus. 24 cm. (Pitman aeronautical publications Alexander Klemin, advisory editor) $5.50. 7122

Contents: Introduction. Aircraft woodwork. Aircraft metal work. Aircraft fabric work and finishing. Rigging, handling, maintenance. Aircraft hydraulics. Index.

Note: An introductory text for men who are preparing to become licensed aircraft mechanics. It is used both as a text in organized vocational classes and as a self-instruction book. The first edition appeared in 1942. The present edition represents a very extensive revision, with important changes in both the discussions and the illustrations. Also the publisher has given the book an improved format.

DRAKE, ROLLEN H.

Aircraft electrical systems, hydraulic systems, and instruments. New York The Macmillan Company 1949 393 p. illus. 24 cm. (Drake's aircraft mechanic series) $4.00 7123

Contents: Introduction. Part I, Aircraft electrical systems: Fundamentals of electricity. Glossary of electrical terms. Magnetism and magnetic effects. Sources of electric current. Generators and motors. Electric circuits. Electric devices. A typical aircraft electrical system. Starting systems. Engine electrical systems. Part II, Aircraft hydraulic systems: Hydraulic principles. Operation of the hydraulic system. Flow control valves. Pressure-control valves. Hydraulic brake systems. Types of hydraulic systems. Vacuum and de-icer systems. Part III, Aircraft instruments: Fundamental principles of aircraft instruments. Flight instruments. Automatic pilots. Navigation instruments. Engine instruments. The turbo-supercharger control system. Index.

—— Aircraft engine maintenance and service. New York The Macmillan Company, 1950 237 p. illus. 23 cm. (Drake's aircraft mechanic series) $4.00 7124

Contents: Introduction. Fuel, lubrication, ignition, cooling and induction systems. Glossary of terms used in aircraft engines. Inspection procedures. Periodic inspections. Trouble shooting. Engine overhaul. Disassembly. Cleaning and refinishing. Overhaul inspection. Magnetic inspection. Repair and replacement. Engine assembly. Engine installation, run-in, and storage. Propeller maintenance and service. Index.

—— Aircraft engines. New York The Macmillan Company 1948. 348 p. illus. 24 cm. (Drake's aircraft mechanic series) $4.75 7125

Contents (abridged): Fundamentals of internal combustion engines. Metals and alloys used in aircraft engines. Glossary of terms used in aircraft engines. Cylinders. Pistons assembly. Crankshafts. Valves and cams. Electrical fundamentals. Fuel and fuel systems. Lubricants and lubrication systems. Propeller fundamentals. Controllable-pitch propellers. Engine installation and cooling systems. Engine instruments. Starting and starting systems. Engine theory and operation. Jet propulsion. Index.

—— Aircraft maintenance and service New York The Macmillan Company, 1949 352 p illus 24 cm (Drake's aircraft mechanic series) $4 00 7126

Contents Introduction. Component parts of the airplane. Glossary Inspection. General maintenance of the airplane. The light airplane. Technical drawings. General safety practices. Glues, glued joints, and plywood. Dopes and finishes. Approved repairs. Woods used in aircraft. Metals used in aircraft. Alloys used in aircraft. Fabric-covered construction. Plywood construction. Typical wood and fabric repairs. Welded repairs. Drilling, burring, filing, and riveting in sheet-metal repairs. Layout and bend allowance. Forming sheet metal. Assembly Index.

—— Aircraft sheet metal. New York The Macmillan Company, 1947 233 p illus. 24 cm. (Drake's aircraft mechanic series) $4 75 7127

Contents (abridged) Aluminum and aluminum alloys. Magnesium and magnesium alloys. Iron and iron alloys. Glossary of terms used in aircraft sheet metal. Heat treatment of sheet metal. Tools and machinery General safety practices. Technical drawings. Layout. Bend allowance. Shrinking and stretching. Forming aluminum and aluminum alloys. Drilling. Riveting. Forming magnesium alloys. Forming corrosion-resistant alloys. Sheet-metal repairs. Index.

—— Aircraft welding New York The Macmillan Company, 1947 254 p. illus. 24 cm (Drake s aircraft mechanic series) $4 75 7128

Contents (abridged): Iron and iron alloys. Aluminum and aluminum alloys. Heat treatment. Glossary of terms used in aircraft welding. Technical dra ings. Methods of welding. General safety practices. Welding equipment. Flames used in welding and cutting. Fundamentals and technique of welding. Joints used in aircraft welding. Testing welded joints. Welding steel plate. Oxy-acetylene cutting. Welding aluminum and aluminum alloys. Welding copper and copper alloys. Welding of castings. Hard surfacing. Construction of a welded engine mount. Welded repairs to aircraft. Index.

—— Aircraft woodwork. New York The Macmillan Company, 1946 197 p illus 24 cm (Drake s aircraft mechanic series) $4 75 7129

Contents (abridged) Aircraft woods—their identification and uses. Selection of aircraft wood. Glossary of terms used in aircraft woodwork Plywood. Fundamentals of aircraft woodworking. Technical drawings and their interpretation Joints and laminations. Aircraft doping and finishing. General safety rules. Construction of root bay of fabric-covered wing. Construction of fabric-covered aileron. Wood propellers. Approved fabric repairs. Approved plywood repairs. Approved wing-structure repairs. Approved fuselage repairs. Index.

Note A series of practical, simply-worded beginner' textbooks, suitable for use in vocational courses and for self-instruction purposes. A particular effort has been made to include all material needed to meet the requirements of the Civil Aeronautics Administration aircraft mechanic's license. In each volume, numerous photographs and drawings form a valuable addition to the textual material. The series when completed will include volumes on aircraft electrical and hydraulic systems, instruments, and engine maintenance, and aircraft maintenance.

SIEGEL, PHILIP

The aircraft mechanic a manual for certificate candidates New York Pitman Publishing Corporation 1946 313 p illus 24 cm (Pitman aeronautical publications Alexander Klemin advisory editor) $4 50 7130

Contents. Civil air regulations, techniques, and practices. Aircraft propellers. Aircraft hydraulics. Aircraft rigging and assembly Aircraft wood, fabric, covering, and finishing. Aircraft sheet metal, riveting, welding, and soldering. Index. Answer key

Note. The contents of this volume and the arrangement are designed to assist mechanics in preparing for the examination for an aircraft mechanic certificate as set by the Civil Aeronautics Administration. The fundamental principles of each subject are briefly outlined, but most of the material deals with maintenance and repair operations that concern the mechanic in his daily work. A short bibliography and approximately 00 review questions of the multiple choice type follow each chapter

SPARTAN SCHOOL OF AERONAUTICS

Aircraft propellers. Tulsa, Okla. Spartan School of Aeronautics, 1954 252 p. illus. (part col'd) 28 cm. $8 00 7131

Contents. Introduction to propellers. Fixed and adjustable pitch type propellers. Maintenance and repair Counter weight propellers. Counter weight propeller governor Quick-feathering hydromatic propeller Hydromatic propeller governors. Blade de-icing. Index.

Note. A practical textbook containing much information on both fixed-pitch and adjustable-pitch propellers currently used on airplanes. It is an introduction to the subject, and is intended primarily for the use of students taking courses in preparation for careers as aircraft mechanics. It contains many detailed illustrations of mechanisms and numerous pictures of maintenance and repair operations. Most of the illustrations have been taken from manufacturers' publications, and the same is true of the instructions for repairs and maintenance. However it is convenient to have the material assembled and to have it explained in a coordinated manner.

UNITED STATES CIVIL AERONAUTICS ADMINISTRATION

Personal aircraft inspection manual. Washington, D C Government Printing Office 1950 81 p illus 26 cm. (United States. Civil Aeronautics Administration. C A. A technical manual no 101) $0 75 7132

Contents. Introduction. Part I, Inspection fundamentals. The maintenance process. The inspection process. The forces of attrition. General inspection information. Part II, Inspection techniques: Fuselage—hull. Cabin—cockpit. Engine—nacelle. Landing gear. Wing—center section. Empennage. Propeller Radio. Miscellaneous.

Note. This illustrated manual is designed for the use of student mechanics, pilots, and personal aircraft owners. It provides general guide for the inspection of personal aircraft and is intended to be employed in connection with manufacturers' service handbooks wherever possible. The details of inspection are described in simple, nontechnical language, and photographic illustrations are provided in abundance t show the exact area under discussion and points to be checked.

UNITED STATES DEPARTMENT OF DEFENSE. MUNITIONS BOARD AIRCRAFT COMMITTEE

Wood aircraft inspection and fabrication. Department of the Air Force Air Matériel Command Department of the Navy Bureau of Aeronautics Department of Commerce Civil Aeronautics Administration. Issued by the Subcommittee on Air Force-Navy-Civil Aircraft Design Criteria, Munitions Board Aircraft Committee. Washington D C. Government Printing Office 1951 335 p. illus. 26 cm (Bulletin ANC—19) $1.25 7133

Contents. Wood. Wood as an aircraft material. Identification of ood. General characteristics. Defects and blemishes. Requirements for ood in specific parts. Modified wood Plywood, laminated wood, compreg, impreg, heat-stabilized wood. Plywood. Glued laminated members. Resin-treated plywood and laminated wood (impreg and compreg) Heat-stabilized compressed wood (staypak) High-strength laminated paper plastic (papreg) Combination materials. Acetylated ood. Aircraft glues Kinds. Properties of aircraft glues. Use characteristics of aircraft glues. Control of glue quality Processing and fabrication Seasoning and storage of lumber Control of humidity in factories. Gluing. Bag-molded plywood and structures. Gluing and assembly operations. Temperature measurement. Machining, bending and other woodworking operations. Finishing wood in aircraft.

[illegible] manufacture. Miscellaneous: List of specifications. Glossary. Index.

Note: An illustrated bulletin for use in the inspection and fabrication of wood parts of military and commercial aircraft. The technical material, covering information on wood, modified wood, glues, and processing, [illegible] based chiefly upon the results of investigations conducted by the Forest Products Laboratory of the United States Forest Service. The bulletin was prepared jointly by the Laboratory and by the ANC-19 Panel on Sandwich Construction for Aircraft of the Subcommittee on Air Force-Navy-Civil Aircraft Design Criteria. Strength data and other design criteria are beyond the scope of this bulletin; for such data the reader is referred to *Bulletin ANC-18, Design of wood aircraft structures* (see below).

UNITED STATES. DEPARTMENT OF THE NAVY

Aviation structural mechanic handbook. Prepared by Naval Air Technical Training Command for publication by Bureau of Naval Personnel. Washington, D C. Government Printing Office 1953 259 p. illus. 20 cm. (Navy training courses. Navpers 10328) $0.70. 7134

Contents: Structural maintenance hand tools and bench equipment. Sheet metal, structural maintenance machines and power equipment. Sheet metal operations. Aircraft metals. Heat treatment and metallurgy. [illegible] Aircraft [illegible] Structural finishing and corrosion prevention. Aircraft [illegible] Oxygen [illegible] and repair. Inspection and repair. Nonmetallic materials. [illegible] Aircraft hydraulics. Naval aviation publications. Index.

Note: This handbook has three objectives: to provide [illegible] ready source of charts, tables, and specifications needed by the aviation structural mechanic; to furnish [illegible] source of information on materials and methods used in structural repair of naval aircraft; to provide [illegible] for the aviation structural mechanic to use in preparing for advancement in rating. It is one of [illegible] series of Navy training courses for aviation structural mechanics.

VALE, JOHN W., JR.

The aviation mechanic's aircraft manual with questions and answers. New York McGraw Hill Book Company Inc. 1949 748 p. illus. 21 cm. $6.75 7135

Contents (abridged): Tests of light and characteristics of the [illegible] identification, heat-treatment, and testing of metals. Aircraft [illegible] welding practice and general fusion of metals. Woods and glues used in aircraft construction. Aircraft fabrics and finishes. Aircraft [illegible] their repair and maintenance. Rubber seals used in airplanes, their repair and maintenance. Landing gears and special landing devices. Aircraft brakes, their care and maintenance. Aircraft electrical systems. Aircraft fuel systems. Parachute flares and other safety devices. The mechanics of aircraft control systems. Aircraft inspection and maintenance. Appendixes: Principal definitions and [illegible] AN parts. Tables. Index.

Note: A comprehensive handbook of practical information. The author has endeavored to cover in it all the topics which the student aircraft mechanic should be familiar with before taking the Civil Aeronautics Administration license examinations. The text is compact, easy to understand, and [illegible] supplemented by nearly 400 illustrations. Much of the exposition is cast in the form of questions and answers.

HELICOPTERS

GESSOW ALFRED AND GARRY C MYERS JR.

Aerodynamics of the helicopter New York The Macmillan Company 1952 343 p. illus. 22 cm. $6.00. 7136

Contents: The development of rotating-wing aircraft. An introduction to the helicopter. An introduction to hovering theory. Hovering and vertical-flight performance analyses. Factors affecting hovering and vertical-flight performance. Autorotation in vertical descent. Physical concepts of blade motion and rotor control. The aerodynamics of forward flight. Forward flight performance. The prediction and effects of rotor blade stall. An introduction to helicopter stability. An introduction to helicopter [illegible] problems. Appendixes. Index.

Note: A presentation for advanced students of aeronautical engineering [illegible] are preparing for careers in helicopter design and graduate engineers already at work in the industry. It is introductory to helicopter dynamics, but the reader will need previous education in basic aerodynamics. It is based largely on research done at the Langley Aeronautical Laboratory of the National Advisory Committee for Aeronautics—research in which the authors have had part. One of the appendixes contains [illegible] bibliography of NACA publications on rotating wing aircraft, and another contains selected list of other literature.

NIKOLSKY ALEXANDER A.

Helicopter analysis. New York John Wiley & Sons, Inc., 1951 340 p. 23 cm. $10.75 7137

Contents: Review of airscrew theory. The helicopter in steady vertical flight. Hinges, flapping, and feathering systems. Forward flight. Mathematical analysis of problems in dynamic stability. Theory of dynamic stability and control response of helicopters near hovering flight. Longitudinal stability of [illegible] laterally stabilized helicopter equipped with articulated blades in forward flight. The elastic analysis of rotor blades. References. Appendixes: The effect of second-harmonic flapping, twist, and triangular distribution of induced [illegible] theory. Second-harmonic terms for the solution of blade bending moments by the tabular method. Index.

Note: A valuable book for engineers concerned [illegible] helicopter design and for advanced students of aeronautical engineering [illegible] are preparing for work in this field. [illegible] addition to being [illegible] presentation of the current status of helicopter aerodynamic and stability analysis, it contains some material not published before. It has been developed from lectures given by the author to graduate students in the Aeronautical Engineering Department of Princeton University.

YOUNG RAYMOND A.

Helicopter engineering. New York The Ronald Press Company 1949 255 p. illus. 24 cm. $10.00 7138

Contents: Part I, Theory and performance of helicopters: Introduction to rotary-wing design. Development of the theoretical aspects of rotor-blade theory. Mechanics of the rotor system. Fundamental design considerations. General performance evaluation. [illegible] flight performance. Vertical flight performance. Jet reaction rotor blades. General theory of stability. Part II, Structural design—application and theory: Rotor-blade design. Rotor-blade stress analysis. Factors affecting helicopter design. Appendixes: General conversion tables. Nomenclature and definitions. References for further reading. Index.

Note: A useful presentation of the chief aerodynamic and structural problems in helicopter design and of accepted methods of solving them. The basic laws and theories of aerodynamics are discussed but only insofar as they have direct application to the problems of helicopter design. The author recognizes that some aspects of helicopter engineering are necessarily still based on "art or trial-and-error, and throughout the book he has taken care to point out the limitations of theory and to indicate where research or experiment must be undertaken. He is an aeronautical engineer on the staff of the Bureau of Aeronautics of the United States Navy and [illegible] member of the Subcommittee on Helicopters of the National Advisory Committee for Aeronautics; and the book is based both on experience and the published literature.

ROCKETS AND MISSILES

BONNEY E. ARTHUR AND OTHERS

Aerodynamics propulsion structures and design practice. By E. Arthur Bonney Maurice J Zucrow and Carl W Besserer Princeton D Van Nostrand Company Inc., 1956 595 p. illus. 23 cm. (Principles of guided missile design edited by Grayson Merrill) $12.50 7139

Contents (abridged): Part I, Aerodynamics: The place of aerodynamics in the guided missile. Atmospheric considerations [illegible]

sumed in guided missile design. Aerodynamic considerations in composite design. Supersonic aerodynamics relating to missile design. Aerodynamic characteristics of the airframe components. Aerodynamic characteristics of the full configuration. Aerodynamic loads. Wind tunnels and ballistic ranges. Flight tests and flight trajectories. Aerodynamic aspects of launching and boost phase. Part II, Propulsion Classification and essential features of propulsion engines for guided missiles. Momentum theory applied to propulsion. Elementary gas dynamics. Flow through nozzles. Flow through diffusers. The turbojet engine. The ramjet engine. Fundamentals of rocket engines. Part III, Structures and design practice Design criteria. Design for environmental conditions. Reliability concepts—reliability of guided missile elements. Packaging engineering. Composite design. Index.

Note The second volume published in series devoted to guided missile design. All of the parts and chapters are related to guided missiles hence, the part titled Aerodynamics" deals not with aerodynamics in general but with aerodynamics of missiles, and the same is true of the chapters on propulsion and structures. Much of the material is basic, for example, the discussion of flow through nozzles. However some specific information on developed rockets and rocket elements is included. Developments still classified for reasons of military security are of course not described. Fairly extensive literature references are given. This volume and the series as a whole is addressed to graduates, scientists and engineers who have recently entered or are about to enter research or design work on guided missiles.

HARVARD UNIVERSITY COMPUTATION LABORATORY

Tables for the design of missiles Cambridge, Mass Harvard University Press, 1948 226 p illus 28 cm. (The Annals of the Computation Laboratory of Harvard University Vol. XVII) $8 00 7140

Contents (abridged) Part I, Definitions of the tabulated functions. Part II, Method of computation. Part III, Interpolation in the tables. Part IV The use of the tables. Part V Non-standard ogives. Tables.

Note A set of ballistics tables with directions for their use in determining the flight characteristics of projectiles. The rapid computation of such typical mathematical factors in missile design as position of center of gravity volume, polar and transverse moments of inertia are made possible by use of the auxiliary functions whose variations are tabled here. The work is for ballisticians and was originally calculated for the U S. Navy by Harvard University's automatic sequence controlled calculator

LEY, WILLY

Rockets missiles, and space travel New York The Viking Press, 1951 436 p illus 24 cm 7141

Contents The beginnings of an idea. The decades of the great dreams. 'The rockets' red glare. Prophets with some honor The battle of the formulas. Success, failure, and politics. The return of the war rocket. Peenemünde. White Sands. The rocket into cosmic space The spaceship. Terminal in space. Appendixes: Rocket airplanes and rocket-assisted take-off. Notes and tables. Bibliography Index.

Note The first edition of this book, published in 1944 bore the simple title *Rockets* and ran to only 287 pages The next edition, published in 1947 was entitled *Rockets and space travel* and was 374 pages long. The book remains rather solid but quite readable survey for general readers and rocket enthusiasts and it still contains many reference features including full account of early rocket work in Germany (in which the author played an important part) historical accounts of the leading rocket societies of the world, and an annotated international bibliography of works on rockets. A revised and enlarged edition was published in 1957 528 p., $6 75

LOCKE, ARTHUR S

Guidance. In collaboration with Charles H Dodge and others New York D Van Nostrand Company, Inc 1955 729 p illus. 24 cm (Principles of guided missile design editor Grayson Merrill) $12 50 7142

Contents Fundamental problems of missile guidance. Prior developments. Terrestrial and celestial references. Transmission of radio waves. Emission, transmission and detection of the infrared. Mathematical groundwork. Servo system theory Tactical considerations. Measurements of missile motion. Detection and information gathering. Target considerations. The analysis of flight paths. Prelaunching and launching. The missile airframe. Economic considerations. Missile guidance systems. Bandwidth studies. Missile guidance bandwidth studies. Simulation, computation and telemetry The system concept. Index.

Note This book, the first in a series of basic treatises, is devoted to the problems and methods of guiding missiles while they are in flight. The variety of these is suggested by the chapter titles. In certain parts, the style and presentation are primarily descriptive but in others, in fact in the majority of chapters, the style is technical. In addition to the chapter entitled, Mathematical ground work, mathematical analysis is an important feature of other chapters such as those on servo systems. Although it can be assumed that considerable knowledge has been omitted because military authorities have not yet released it for publication, the book is a comprehensive and basic one for scientists and engineers working in the field or preparing for such work. The chief author was formerly associated with the Radar Division of the Naval Research Laboratory and his collaborators are still on its staff.

MERRILL, GRAYSON, AND OTHERS

Operations research—armament—launching By Grayson Merrill, Harold Goldberg, Robert H. Helmholz. Princeton, N J D Van Nostrand Company, 1956 508 p. illus. 23 cm (*Principles of guided missile design edited by Grayson Merrill*) $10 00 7143

Contents. Operations research National procedure. Fundamental problems. Determination of an operational requirement. Determination of performance specifications. Determination of operational suitability and best tactical doctrine. Mathematics of operations research. Some examples of operational analysis as applied to guided missiles. Armament. Armament, its definition and necessity National organization and determination of military characteristics for armament. Preliminary organization and required skills for armament research and development. Targets, target kills, and target vulnerability Warheads. Fusing requirements and fuse agents. Safety and arming requirements and safety and arming components. Armament systems engineering considerations. Evaluation and testing of armament systems. Launching: Elements of launching. Launching systems characteristics. Design principles. Index.

Note The third volume published in the series whose first two volumes are listed under Bonney and Locke above. It is devoted more to the planning and administrative aspects of missile development than to the engineering aspects however most of its contents are of interest to engineers engaged in missile research and development, if for no other reason than that engineers are now usually important members of planning and operations research teams. All three parts of the book contain information which is useful for orientation in this field and at this writing is not to be found in any other book.

ROSSER, JOHN BARKLEY, AND OTHERS

Mathematical theory of rocket flight, by J Barkley Rosser Robert R. Newton, and George L. Gross. New York McGraw-Hill Book Company, Inc. 1947 276 p. illus. 23 cm. $6 00 7144

Contents. The equations of motion of a rocket. Motion after burning. Motion during burning. Boundary conditions. Properties of the rocket functions. Appendices. A simplified theory of flow through a nozzle. Derivation of principle 1 Minor factors affecting the flight of rocket. Functions for use with an unstable rocket Functions for use with jet damping. Bibliography Glossary of symbols. Index.

Note. Technically this book is *Final report no. B 2-2 of the Allegany Ballistics Laboratory*, OSRD 5878. As its origin would suggest, the work was written primarily for persons with advanced training in science. The flight characteristics of rockets throughout the entire trajectory are described in detail, chiefly by means of complex mathematics. Many of the sections are preceded by rather brief non-mathematical explanations. These passages are intended to make the book useful to the non-mathematical reader but they account for such small fraction of the text that the book's use

primarily is as an introduction to the subject for scientists about to engage in rocket research for the first time.

SUTTON, GEORGE P

Rocket propulsion elements an introduction to the engineering of rockets. Second edition. New York. John Wiley & Sons, Inc., 1956. 483 p. illus. 22 cm. $10.25 7145

Contents: Classification and definitions. Rocket history. Nozzle theory and thermodynamic relations. Rocket propellant performance calculations. Heat transfer. Liquid propellants. Liquid propellant rocket thrust chambers. Liquid propellant rocket systems. Solid propellant rocket fundamentals. Solid propellants. Design of solid propellant rockets. Flight performance. Rocket testing. Reference bibliography. Index.

Note: A secondary text for engineering students and graduate engineers planning to specialize in the rocket and jet engine field. The basic principles of rocket propulsion are well covered, but emphasis is placed on the practical problems relating to the design and construction of rocket propulsion systems. The book is liberally scattered with illustrations of rockets and rocket parts, and with many review exercises and problems. In this edition the general scope and arrangement of the previous edition have been retained, but much new material incorporating developments since 1949 has been added. More specifically, there is a new chapter on heat transfer; the subject of solid propellants is now covered in three chapters instead of the former one; and the earlier chapter references have been combined and brought up to date to form an extensive bibliography of approximately 450 references.

WIMPRESS, R. N

Internal ballistics of solid fuel rockets—military rockets using dry-processed double-base propellant as fuel. New York McGraw Hill Book Company Inc., 1950 214 p. illus. 24 cm. $5.50. 7146

Contents: Nomenclature. Relation of internal to external ballistics. Characteristics of propellant gases. Burning properties of propellants. Steady-state flow of compressible fluids. Nozzle performance. Flow of gas inside rocket motors. Determination of reaction pressures in rocket motors. Design of propellant grains. Characteristics of burning in perforations. Ignition. Effect of physical properties of propellant on ballistic performance. End-burning grains. Static testing equipment. Heat transfer. Index.

Note: The contents of this book were developed largely in connection with investigations at the California Institute of Technology under contract with the Office of Scientific Research and Development during World War II. They pertain chiefly to the types of rockets fired from lightweight rocket-launching equipment in the course of land and aerial operations. No attempt was made to incorporate knowledge obtained by workers outside the project and there is no bibliography; nevertheless, the book represents an important contribution to the subject.

AIRPORTS

FROESCH, CHARLES, AND WALTHER PROKOSCH

Airport planning. New York John Wiley & Sons Inc. 1946 250 p. illus. 29 cm. $9.00. 7147

Contents: The airport and the community. Present and future aircraft. Airway and airport traffic control. Airport types. Fundamental airport requirements. Airfield planning. Airfield construction. Airport lighting. Airport building design. Hangar design. Special services. Special problems and miscellaneous facilities. Glossary. Index.

Note: This book indicates the relationship of airports to the communities they serve, and shows how the characteristics of aircraft affect the design of airports. Flexibility to meet the changing demands of new types of aircraft is stressed, and airport accessibility, size, obstructions, utilities, and necessary buildings are discussed. The work is primarily a survey of the factors influencing airport design, rather than a detailed manual of construction methods, and as such is intended for architects, engineers, contractors, airfield managers, and city planners. There are sectional plans, photographs and chapter bibliographies.

UNITED STATES. CIVIL AERONAUTICS ADMINISTRATION

Airport paving Washington, D C. Government Printing Office, 1956 56 p. illus. 26 cm. $0.40. 7148

Contents: I. Airport pavements, their functions and purposes. Types of pavements. Specifications and standards. Aeronautical and operational considerations. Stage construction of airport pavements. II. Soil investigations and evaluation. Soils and materials. Soil classification. Subgrade classification. Textural classification of soils. III. Pavement design: Factors influencing pavement thickness. Flexible pavements. Designing the flexible pavement. Rigid pavements. Designing the rigid pavement. Joints in concrete pavement. Reinforced concrete. IV. Multiple wheel undercarriage and equivalent single wheel load. Relationship between wheel arrangement and loading effects on flexible pavements. Determination of equivalent single wheel loads on flexible pavements. Determination of equivalent single wheel loads on rigid pavements. The [illegible]. Conversion factors for determining equivalent single wheel loads. V. Airport pavement overlays: Pavement condition survey. Subgrade and drainage. Preliminary design data. Flexible and bituminous overlays. Concrete overlays. Preparation of existing surface for the overlay. Materials and methods. VI. Pavements for secondary airports. Design of secondary airport pavements. Soil stabilization. Aggregate-turf.

Note: The purpose of this manual is to provide a guide for engineers whose responsibility includes the design of pavements for airports to serve aircraft engaged in civil flying. The manual contains all essential data required for the design of airport pavements to comply with CAA standards.

PHOTOGRAPHY

ABRAMSON, ALBERT

Electronic motion pictures, a history of the television camera. Berkeley University of California Press, 1955 212 p illus 23 cm $5 00 7149

Contents The camera of the future. Progress to 1900. *Experimentation and theory (1900–1923)* Television becomes reality (1923–1929) Early television systems and film. The introduction of the electronic camera. Improved cameras, film recording, and large screen television. Commercial operations (1946–1955) *Television film recording today* *Electronic motion pictures.* Notes. Glossary of terms. Index.

Note: Primarily this book is a compact history of the electronic, or television, camera. The significant steps in its development are recounted, and illustrations of the major early devices are included. Secondarily it is a survey of the new potentialities of motion picture making that have been made available by the electronic camera and associated developments, such as image recording on magnetic tape. Current techniques of making films for use on television are described in a semitechnical manner A long bibliography is included.

ADAMS, ANSEL

Camera & lens studio, darkroom, equipment. New York Morgan and Morgan, Inc., 1948 120 p illus 23 cm (Basic photo series 1) $3 75 7150

Contents (abridged) Selection of equipment. Setting up the camera. Camera adjustments. Lens coverage. Selection of lenses. Perspective. Wide-angle lens effects. Scale. Focus. Depth of field. Long-focus lenses and telephotography Shutters. Miniature cameras and lenses. Studio equipment. Copying. Darkroom equipment. Finishing room. Negative storage. Print storage. Print display devices. Insurance and legal precautions. Lens data. Filters. Field equipment. Index.

—— Natural light photography Basic photo 4 New York Morgan and Morgan, Inc 1952 118 p illus 24 cm. $3 00 7151

Content (abridged) Qualities of natural light. Film response and filters. *The polarizers. Visualization. Landscape Seascape. Still* and moving water Snow and ice. Foliage. Desert photography Clouds. The moon and moonlight. Naturalistic details. The miniature camera out of doors. Portraiture. *Synchro-sunlight.* Architecture and industry *Objects of art.* Index.

—— The negative exposure and development—*Basic photo 2* New York Morgan and Morgan Inc. 1948 120 p illus. 23 cm. $3 00 7152

Contents Description of terms used in this book. Light. The effect of light on the negative. The gray scale. Visualization. The exposure chart. Placement of values on the exposure scale. Obtaining optimum opacity Gamma. Fog. Lens flare and image contrast. *Speed rating of films. Exposure meters.* Developers and development. The stop bath. The fixing bath. Washing. Drying. Development of the miniature negative. Light sources included in the image. Copying. Some problems *of* interpretation. Special methods and treatments. Spotting and retouching negatives. Formulas. Negative defects. Index.

—— The print contact printing and enlarging Basic photo 3 New York Morgan and Morgan, Inc. *1950 120 p illus. 24 cm.* $3 00 *7153*

Note Four books in a series written by this author In the series the author presents a wide range of information on principles and techniques with the avowed purpose of helping his readers develop a personal approach to photography The material goes beyond the needs of the average amateur photographer but is well suited to meet the needs of both amateurs and professionals who wish to do work with a distinct individual quality

ANTHONY, ANNE J

Negative and print retouching for amateur and professional Illustrations by the author New York Greenberg Publisher, Inc., 1950. 138 p. illus. 27 cm. $5 50. 7154

Contents. Part I, Negative retouching "Look pleasant, please. The tools of the trade. The purpose and use of the retouching tools. The negative. The technique of pencil retouching. Dye retouching Etching. Summary of the fundamentals. Corrective retouching. Correcting mechanical and processing errors. Now it's up to you. Part II Print retouching Photographic papers. General print retouching —basic equipment. Retouching the glossy print. Retouching the semi-matte print. Retouching the matte print. Retouching the warm-tone and toned print.

Note. A practical guide to the art of correcting, improving, or altering a photograph by working on the negative or print. Necessary materials and tools are listed, and the detailed descriptions of each process are supplemented with numerous illustrations and before-and-after photographs. The material is primarily of interest to *the professional photographer but is sufficiently simplified to meet* the needs of the amateur.

BOND, FRED

Better color movies quick, simple answers to common problems of amateur movie makers. *Second edition San Francisco* Camera Craft Publishing Company 1955 159 p. illus (part col d) 24 cm $4 95 7155

Contents. Fundamentals of better color movies. Sunlight characteristics. Color and how to use it. Exposure calculations. Outdoor color movie problems. Sunsets, night street scenes, effects. Color movies by artificial light. Theatricals, indoor sports events. Filters for shooting color movies. *Flowers and gardens in color movies.* Color continuity or contrast. Editing and titling color movies. Lenses, angle of coverage, depth of field. Close-up movies of small objects. Better projection for better movies. Post script. Alphabetical index.

Note Written by a professional photographer this book is addressed to amateurs who have had some introduction to the taking of moving pictures. It presents basic information on colors, exposure, lighting by sunlight and artificial light, filters, etc., along with expert discussions of the problems of photographing scenes requiring special techniques.

BOND, FRED

Kodachrome and Ektachrome *color photography from all angles. Applicable to the common problems of all color photography enthusiasts 35 mm bantam 120 size, movie and cut sheet color films. All illustrations by the author,* except where otherwise designated. Fourth edition. San Francisco *Camera* Craft Publishing Company 1955 *252* p. illus. (part col d) *28 cm. $8 75* 7156

Contents. Color and art. Some characteristics of color. Color response. Color characteristics of color. Sunlight characteristics. [illegible] of light angle on color. Outdoor exposure calculations. The [illegible] good color pictures? Landscape problems in color. [illegible] color by artificial light. Photoflash in still color work—[illegible]. Problems and suggested solutions. Portraits, camera studies, still life. Photographing flowers and gardens in [illegible], special effects, trick shots. Filters for color color [illegible]. [illegible]—shooting and processing. [illegible]—print making and coloring. [illegible]—negatives and positives. Making [illegible] prints. Duplicating—copying—coloring. Checking lenses and [illegible]. [illegible]. Alphabetical index.

Note: A [illegible] book in which the author discusses the peculiar problems of color photography mainly from the viewpoint of the advanced amateur. Some technical information is included, but the main value of the work lies in the critical discussions of factors that must be considered in the taking of good color photographs. In its current edition it contains 16 color plates which are reproductions of color photographs and 161 black-and-white illustrations.

BOUCHER, PAUL E.

Fundamentals of photography with laboratory experiments. Third edition New York. D Van Nostrand Company Inc. 1955. 526 p. illus. (part col d) 24 cm $6 75 7157

Contents: Historical development and use of the hand camera. [illegible] and lens selection. Camera lenses and diaphragms. The [illegible] of lens. Camera shutters and shutter-speed measurement. Some properties of the photographic emulsion. The process of development. The control of negative contrast. Printing processes. Printing paper developers. Color characteristics of light filters and film. Enlarging or projection printing. The preparation of lantern and film slides for projection. Intensification and reduction. Toning and dye printing prints. Color photography. Ultraviolet and infrared photography. X-ray photography. Motion picture photography. Composition and better pictures. Portraits—outdoor and indoor. Copying, paper negatives, table-top and microfilm photography. Laboratory experiments. Appendix. Index.

Note: A broad, introductory view of the theory and practice of photography is presented in this book, which is used both as textbook [illegible] college courses and as reference book and guide for amateur photographers. Classroom needs are met by the inclusion of selected references for further reading, review questions and a series of laboratory experiments. For advanced amateurs, the book offers more basic theory than is found in the usual elementary guides for amateurs, reference information such as formulas for developers, and [illegible] directions for the various photographic procedures of both still and motion picture photography in black and white and in color. The second edition was published in 1947. For this third edition, numerous sections and three new chapters were added.

CAMERON JAMES ROSS

Motion picture projection and sound pictures. 12th edition. Coral Gables Cameron Publishing Company 1952 869 p. illus. 21 cm. $12.50. 7158

Contents (abridged): Early attempts at projection. Working principle of projection. Special purpose projection. Motion picture electricity. Light and lenses. Resistance in arc circuits. Open [illegible] [illegible] systems. Electronic-control arc lamp. Sound. Amplifier systems. Speaker systems. Picture projection. [illegible] sound equipment. RCA reproducing equipment. Motiograph. [illegible] projector. [illegible] projector. Radio projection. [illegible] pictures. Theatre television.

Note: A text addressed to operators of motion picture projection equipment and to men studying for that occupation. As the chapter [illegible] part of the book is devoted to background information on electricity, optics, etc., and part of it to very specific information about particular makes of projectors. The book is not well organized but is, nevertheless, widely used because of the specialized information included.

CAMERON JAMES ROSS

Sound motion pictures recording and reproducing. With chapters on motion picture studio and film laboratory practice. Seventh edition. Coral Gables Cameron Publishing Company 1950 879 p illus. 21 cm. $12.50. 7159

Contents (abridged): Historical—photography—photography and motion—sound transmission—elementary talking machines—recording and reproducing sound. Light and lenses. Sound. Electronic [illegible]. Studio practice. Editing. Rerecording. RCA recording system. Magnetic tape recorders. Disc recordings. Microphone technique. The motion picture camera. Composite photographic processes. History of animated cartoons. Motion picture laboratory. Film processing. Film production for television. Production with [illegible] lamps. Stereophonic reproduction. RCA. [illegible]. [illegible] [illegible] projector.

Note: A widely used handbook of background and practical information for men concerned with the recording, editing, and projection of sound motion pictures. A good deal of historical information is included along with the practical. In the chapters devoted to specific sound systems or projectors the information given is addressed particularly to operators of the machines. Not outstanding for style or organization, the book is nevertheless useful because of the wide range of specialized information in it.

CHAMBERLAIN KATHERINE

An introduction to the science of photography New York The Macmillan Company 1951 292 p illus. 24 cm. $7 00. 7160

Contents: How photography began. Making a print. Films and their processing. Cameras. Factors that influence the critical definition of the photographic image. Exposure and exposure meters. The [illegible] of photography. Projection printing. The reflection and refraction of light. The formation of images by pinholes and lenses. More photographic optics. The rendering of color in monochrome. Introductory considerations regarding color photography. The additive processes of color photography. Color transparencies by subtractive processes. Color prints. Appendix. Index.

Note: An elementary text designed to provide the amateur photographer with an understanding of what takes place during the various operations leading to the production of a photograph. Much practical information is given regarding the selection of cameras, the techniques of contact and projection printing, the use of exposure meters, etc. but emphasis is placed on the theory underlying photographic optics, formation of images, and making of negatives and prints. The fundamentals of color mixing and the different color processes are discussed at some length.

CLARK, WALTER

Photography by infrared its principles and applications. Second edition. New York John Wiley & Sons Inc., 1946 472 p. illus. 22 cm. $6 00 7161

Contents. The subject. The general practice of infrared photography. Photographic darkroom practice. Characteristics of photographic materials. Photographic sensitizing for the infrared. Herschel effect and indirect methods of infrared photography. Sources of infrared radiation. Examination and differentiation of materials by infrared. Medical infrared photography. Infrared photography applied to botany and paleontology. Infrared photomicrography. Special applications of infrared photography. Camouflage detection by infrared photography. Penetration of radiation through the atmosphere general and theoretical. Penetration of radiation through fog and haze, practical observations. Optical characteristics of materials in the infrared. Appendix I: Infrared materials available commercially. Appendix [illegible] Weights and measures—conversion tables. Appendix III. Kodak formulas for photographic processing solutions. Name index. Subject index.

Note: Very substantial revisions and additions have been made in this edition of the standard book in infrared photography. The chapter on camouflage detection by infrared has been added, the bibliographies have been revised to include literature published as late as 1945, and many parts of the original text have been rewritten or amplified. Although the book is designed primarily for practical photographers, [illegible] specialists in scientific and other advanced types of photography, it is also useful as a survey of the knowledge and literature of the subject. A third edition was in preparation in 1957

EASTMAN KODAK COMPANY

Abridged scientific publications from the Kodak Research Laboratories. Volume xxxII

1950 Rochester, N Y The Eastman Kodak Company 1954 320 p illus 24 cm. 7162

Note. Fifty-three technical papers on various topics pertaining to the theory and practice of photography are published in this volume, which is the 32nd in series of annual compendia of scientific papers issued by the Kodak Research Laboratories. The articles have all been published previously in standard scientific journals and are here given in an abridged form which is longer than the usual abstract but is shorter than the original article. References to the original source of publication are given in all cases. Author and subject indexes are included. The 33rd volume in the series covering papers published during 1951 was issued in 1957

EASTMAN KODAK COMPANY

How to make good pictures a guide for the amateur photographer Rochester, N Y Eastman Kodak Company, 1951 224 p illus (part col'd) 20 cm. 7163

Contents (abridged): The what, why and how Let's make a picture. Good and better pictures. Inside camera. Choosing your equipment. Pictures in full color Part II, Getting down to cases: Pictures right around home. Pictures about town. Pictures in the country Pictures from the air Picturing people. Pictures after dark. Sports and action pictures. Picturing flowers. Part III, Light in the dark room Developing, printing, and enlarging. Part IV Put your snaps to work: To get the most out of your pictures. General index and glossary of photo terms.

Note. A long-established and widely used book. It presents in simple form the elementary principles of photography for the amateur who wants to secure good snapshots in black-and-white or in color It is written in an elementary factual style and is limited largely to information of practical interest to that large group of photographers ho aim only at taking good snapshots. New editions are published frequently The 30th edition was issued by Random House in 1937 190 p., $1 95

EDGERTON, HAROLD E , AND JAMES R. KILLIAN, JR.

Flash! Seeing the unseen by ultra high speed photography Second edition Boston Charles T Branford Company 1954 215 p illus (part col d) 29 cm. $6 50 7164

Contents (abridged) The meaning of the pictures. Living motion. Bullets in action. Sports. Drops and splashes. In the service of science and industry Creatures in action. People in action. Supplementary data. Bibliography

Note The first edition of this book was pioneering publication on photography by electronic-flash lighting. Dr Edgerton, member of the faculty of the Massachusetts Institute of Technology has played an important role in the development of stroboscopic flash lamps for the taking of pictures. The book consists primarily of photographs taken by this method of lighting. However in this edition there is a technical appendix which contains an exposition of the theory of electronic flash lighting, survey of equipment, list of manufacturers in the United States of America and few other countries, and valuable description of light meter for use with electronic flash.

EVANS RALPH M AND OTHERS

Principles of color photography By Ralph M Evans W T Hanson jr and W Lyle Brewer New York John Wiley & Sons Inc. 1953 709 p illus 24 cm. $13 50 7165

Contents: Response of the eye to light in simple fields. Systems of color specification and measurement. Responses to light in complex fields. Visual processes and color photography Response of photographic materials. Color response of photographic materials. Photographic formation of the color image. Color photographic systems. Types of dyes and other colorants. Optical characteristics of colorants in combination Measurement of density Color sensitometry Analysis of color-sensitometric characteristics. Reproduction characteristics of a hypothetical subtractive color process. Duplicating. Copying a color photograph. Color reproduction theory for additive photographic processes—subtractive photographic processes. Bibliography Author index. Subject index.

Note: In this important book, theory is emphasized, but here theory is still lacking, the empirical knowledge is presented. The scope is not the mechanics of processes of color photography but the basic knowledge now vailable for the development of processes of color photography for understanding those in use and for conducting further research. The presentation is painstaking and detailed. Mathematics is freely employed in dealing with matters where the state of the knowledge permits mathematical proof. The bibliography is extensive. The authors are all members of the staff of the Color Technology Division of the Eastman Kodak Company and the first-named author is the Director of this unit.

FEININGER, ANDREAS

Advanced photography methods and conclusions New York Prentice-Hall, Inc., 1952 244 p illus. 29 cm. $7 50 7166

Contents. Part I, Thoughts about photography Part II, Experimentation. Part III, Observation. Part IV Imagination.

Note. An eminent American professional photographer has combined technical information with esthetic theorizing in this book, written for both amateur and professional photographers. Included is a chapter on building photographic equipment for special needs not satisfied by commercially available apparatus. His discussions of equipment are specific. His discussions of the artistic elements of photography are less concrete but are none the less valuable. The book is illustrated with a variety of outstanding photographs of various types.

FEININGER, ANDREAS

Feininger on photography New York Crown Publishers Inc., 1949 409 p. illus. 29 cm $4 95 7167

Contents. Part I, The technique of making photograph: The equipment of a photographer. The materials of photographer. The darkroom. The functions of the camera. The processing of negatives and prints. Learning from mistakes. Part II, The art of making photograph Contrasts and how to control them. Color and how to control it. Controlling space and perspective. Light and lighting. Motion. Planning and directing the picture story Composition and the importance of the "insignificant. Conclusions and the "photographic" techniques.

Note. An earlier and somewhat more technical book than the author's *Advanced photography* described above. It contains ry specific advice on such matters as buying and testing lenses, developing of negatives, and the control of light and shade. Though not reference book, a fair amount of reference material is included. Use for reference is hampered, however by the lack of an index. The book is of interest to advanced amateurs and to beginning professional photographers.

FEININGER, ANDREAS

Successful color photography Second edition Englewood Cliffs N J Prentice-Hall, Inc. 1955 271 p. illus. (part col'd) 23 cm. $4 95 7168

Contents The new medium. A survey for the beginner. The nature of color—of color perception—of the color film. How to take color photograph. How to process color film. Mistakes. How to learn through experimentation. How to present color photographs. Index.

Not Contending that color photography is distinctly different from black-and-white photography in its requirements and potentialities, the author of this book presents an elementary analysis of the psychological and technical differences, together with ide range of technical information. The book is addressed primarily to amateurs who are familiar with the techniques of black-and-white photography and are beginning to work with color The basic technology of color photography is well covered. In addition, the author has included many special points from his own extensive experience, together with an inspiring view of the potentialities of color photography for artistic and personal expression.

FEININGER, ANDREAS

Successful photography Englewood Cliffs N J Prentice-Hall Inc., 1954 249 p. illus. 24 cm. $4 95 7169

Content (abridged) Part I, General principles. Part II, Tools and materials. Part III, How to tak pictures. Part IV How to

ening and print. Part ... Learning from mistakes. Part vi, Practical plate density. Part vii, Learning from experience. Part viii, How to use photography Part ix, Appendix. Index.

Note: Although written by a professional photographer who is also the author of several books for professionals, this book is addressed to amateurs and beginners in photography The author has assumed that the reader will have had no previous introduction to photography and, therefore, has devoted the first part to basic principles. However, the contents of subsequent parts, although still elementary, are more advanced and more detailed than in some books written for the same audience. The reader is told what to do in carefully detailed steps. He is also told the reasons for the procedure.

GOSSET TOWNSEND

A guide to photographic control. New York. Duell, Sloan and Pearce 1948. 200 p. illus. 24 cm. $4.00. 7170

Contents: Preface Light in the darkroom. Part i: Control through aim. Part ii: Control when taking the picture. Part iii Control when processing the negative. Part iv Control when making the print. Conclusion. Bibliography Index.

Note: Management of the entire photographic process so as to produce the effect that is desired is the theme of this book. The author points out that a photograph can be planned to commemorate, to instruct, to entertain, or to provide vicarious thrills. Approximately the first one-fifth of the book deals with planning the photograph, but the remainder is concerned with technical matters such as correct exposure, the use of filters, artificial lighting and with developing, fixing, drying, enlarging, printing, etc. A number of formulas for photographic chemicals are given. The author is Director of Photography for Stephens College.

HARKNESS, NORRIS, AND ERNEST E. DRAPER

Table top photography New York Harcourt, Brace and Company 1940. 150 p. illus. 24 cm. $4 75 7171

Contents: Table top opportunities. Photographic equipment. Fundamentals of composition in pictorialism. The simpler picture. Fundamentals of more ambitious pictures. Backgrounds. Small details. Let's do one. Hints for the model builder. Movies in table top. Notes on the plates. Index.

Note: A practical guide to the art of making and taking table top photographs. The text is supplemented by numerous pictures and captions, illustrating the various steps in setting up a scene and the final result.

KAISER, JULIUS B

Make your own stereo pictures. New York. The Macmillan Company 1955 344 p. illus. 21 cm. $5 95 7172

Contents: What is stereo photography? Equipment. I. Single-lens camera. II, Single-lens cameras. The stereo camera. Composition for stereo. Technique—the outdoor scene. Adjusting lens separation. Technique—the closeup. Flash and floodlighting. Color. Making, mounting and viewing equipment. Mounting procedure. Principles of stereo projection. Projecting the stereo show. Stereo horizons. Index.

Note: A useful book on the techniques of taking and projecting stereoscopic photographs. It is addressed to amateur photographers as implied in the title. The discussions are as non-technical as possible, and the descriptions of techniques are explicit and detailed.

KING, WALTER S AND ALFRED L. SLADE

The airbrush technique of photographic retouching. New York The Macmillan Company 1954 115 p. illus. (part col d) 29 cm. $9.50. 7173

Contents: Meet the airbrush. Basic retouching principles. Industrial property and buildings. Machinery. Portraiture. Portrait montage. Display ads for newspapers. [illegible] effects—equipment. Converting a monochrome print to color. Retouching the color print. Some do's and some don't's. Examples from the studio of a master craftsman.

Note: A presentation of practical techniques based on the use of the airbrush in retouching photographs. It is intended for craftsmen who are already familiar with the commercial retouching by other methods. Over half of the space is devoted to series of pictures which show step-by-step how typical operations with the pencil airbrush are carried out.

LESTER, HENRY M , AND JOHN M CARROLL

Photo-lab-index the cumulative formulary of standard recommended photographic procedures. New York Morgan & Morgan, 1956 illus. 22 cm. $19 95 7174

Contents. Introduction and index. Ansco. Ilford. Gevaert. Special films. DuPont. Eastman Kodak. Haloid. Film data. Filter data. Illumination. Photopapers. Miscellany—weights, measures, conversions. Photographic chemicals. Cine data. Darkroom. Color data. Photographic optics. Defects in negatives and prints. Transparencies and slides. Copying. Photomechanical processes. Special processes. Photo words. Television.

Note: A standard manual of useful information and technical data on photographic procedures, processes and materials. It is designed primarily for reference in commercial photographic workshops. Part of the information, as in the section on weights and measures, is general. A substantial portion applies particularly to the products of individual manufacturers. The volume is issued in looseleaf format and is kept up-to-date by supplements issued quarterly. A fully detailed index which is revised frequently is included.

LOOTENS, JOSEPH GHISLAIN

Lootens on photographic enlarging and print quality All photographs by the author New York American Photographic Book Publishing Company 1944 258 p. illus. 22 cm. $4.50. 7175

Contents. In the beginning—how to get the proper negative. The enlarger. Choosing the right paper for the negative. The paper developer. More about developers. Fixing, washing, and drying. The test strip and how to use it—determining the proper negative for your equipment. The test strip—determining the proper contrast grade of paper for your negatives. Dodging and printing-in. Flashing for tone control. Chemical reduction. Print intensification. Combination printing. Photomontage. Photographic border printing. Retouching with new concepts. Pictures to make you think. Choosing the paper for your subject matter. Blue and brown toning. Formulary. Print quality questionnaire. Index.

Note: A manual intended to show the average photographer how to gain the optimum qualities of detail, contrast, tone, texture, and demarcation in enlargements from various types of negatives. Technical data on exposure, grade of paper, and development are given for all of the specimen enlargements used as illustrations, and various methods of montage, dodging, masking, retouching, and intensification are outlined.

LURAY HOWARD

"Strobo"—the lively light. Second edition, revised. San Francisco Camera Craft Publishing Company 1954 144 p. illus. 24 cm. $4.00. 7176

Contents (abridged) What it will and will not do. Basic electronics for photographers. Choosing a speed light. Exposure and development. Choice of film. Filters, exposure and development—color. Guide numbers and exposure meters. Applications to specific problems. The future. Glossary. Electronic symbols. Bibliography. Index.

Note: A brief, practical manual on the use of high-speed gaseous discharge lamps in taking photographs by flashlight. It was written for professional photographers, hence a preliminary chapter is devoted to an outline of the fundamental electronic principles. About three-fourths of the space is occupied by discussions of photographic techniques in which these high-speed lamps are advantageous. The illustrations include some remarkable examples of high-speed photography.

MCCOMBS, KENNETH MONROE

Commercial photography Chicago American Technical Society, 1951 363 p. illus. 22 cm. $5 00. 7177

Contents. Commercial photography as a career The first requirement—a camera. Technique of camera operation. Professional photographic films. The photographer's darkroom. Negative processing. Photographic printing. Print finishing procedures. Outdoor photography Night photography Composition in professional photography Models in photography Studio portraiture. Portraiture of special subjects. Third dimensional portrait lighting. Commercial fashion, and news photography Illustrative photography Color photography Legal aspects of photography How to sell pictures. New improvements in commercial photography Your future in professional photography Index.

Note. A very practical introduction. It is slanted particularly for students who are studying commercial photography in trade schools, but it is suitable also for those learning this business by themselves. Throughout, the book, the instructions are compact, specific, and often given in step-by-step style. The author is a successful commercial photographer who is head of the photography department of the Los Angeles Trade-Technical Junior College.

Mack, Julian Ellis, and Miles J Martin

The photographic process. New York Mc Graw Hill Book Company Inc, 1939 586 p illus (part col'd) 25 cm. $8 50 7178

Contents Introduction. Photographic optics. Lenses. Cameras and accessories. The photographic emulsion and the latent image. Exposure and the negative. Development of the negative and auxiliary processes. Color and its influence in photography Positive prints. Projection printing. Natural-color photography Scientific and technological photography Photochemical reproduction. Pictorial photography Appendix. Mathematics. Formulary Manual.

Note. A comprehensive treatment of photography presented simply enough for the student who is not trained in chemistry yet with sufficient scope and scientific rigor to justify its use in a course in photography at the college level. The details are considered as special examples of the general principles outlined, so that the student, instead of merely learning certain techniques, will be prepared to cope with new photographic problems as they arise.

Mees, Charles Edward Kenneth

Photography Second edition revised New York The Macmillan Company, 1942 227 p illus (part col'd) 22 cm. $3 95 7179

Contents. The history of photography The manufacture of photographic materials. Modern photographic practice. The formation of the photographic image. Tone values and their reproduction by photography Motion picture photography The photography of colored objects. Color photography Some applications of photography Index.

Note A brief but comprehensive study of both the art and the science of photography The work is not a handbook of photography but rather a nontechnical exposition of its beginnings, development, and present stage. Intended mainly for the general reader but of considerable interest to the amateur or professional photographer as well. None of the subjects is treated in any great detail, the main purpose being to present a general review of the whole subject in a simple and popular style. The second edition contains new material on the process of development, the formation of the latent image, and the tripack processes of color photography

Mees, Charles Edward Kenneth

The theory of the photographic process Revised edition New York The Macmillan Company 1954 1 133 p illus. 24 cm $21 50 7180

Contents. Part I, The photographic material edited by J A. Leermakers. The light-sensitive material, by H. Baines and R. Stauffer The size of the silver halide grains, by R. P Loveland. The preparation and properties of gelatin, by J Russell. Part II, The action of radiation edited by J H. Webb The sensitivity of the silver halide grains and their response to light, by W F Berg and J. H. Webb. The relation between the exposure given to light-sensitive layer and the density obtained after development, by P C. Burton. The reciprocity intermittency clayden, and Villard effects, by W F Berg. Solarization and the Herschel, Sabattier Albert and internal-image effects, by G. Kornfeld and G. W S. Stevens. The action of charged particles on the photographic emulsion, by J H. Webb. The latent image produced by X-rays, by G. Kornfeld. Part III, Optical sensitizing; edited by B. H. Carroll and L. G. S. Brooker Spectral sensitivity by M. Ellis and B. H. Carroll. Sensitizing and desensitizing dyes, by L. G. S. Brooker. The mechanism of optical sensitizing, by W West and B. H. Carroll. Part IV Development and the after-processes; edited by T H. James and A. Weissberger The mechanism of development, by T H. James. The developing agents and their reactions, by A. Weissberger The kinetics of development, by T H. James. The electrochemistry of developers, by A. Weissberger. Fixation and washing, by H. Baines. Reduction, intensification, and toning, by A. Murrlage. Part V The physics of the photographic process edited by L. A. Jones General sensitometry and the technique of sensitometric exposure, by J L. Tupper. Quantitative evaluation of the developed image, by J. L. Tupper and K. S. Weaver. The measurement of spectral sensitivity by J. L. Tupper. The interpretation of sensitometric results, by J. L. Tupper. The theory of tone reproduction, by C. N Nelson. The structure of the developed image, by G. C. Higgins. The sensitometry of color films and papers, by F Williams. Abbreviation of journal names. Author index. Subject index.

Note. Since the publication of the first edition in 1942, this book has been recognized as the standard critical summary in English of the scientific knowledge pertaining to photography It is of interest particularly to advanced students who are preparing for careers that will require a thorough knowledge of the physics and chemistry of photographic materials, but is used also by graduate physicists and chemists as a manual and guide to the scientific literature. Although about the same length as the first edition (1,124 pages in contrast to 1,133 pages) this edition is thoroughly revised. As the table of contents shows, the chapters are now all signed; furthermore, the preparation of each part was the responsibility of one or more editors. Generally speaking, space was made for new material by eliminating the historical information. As in the first edition, the chapters include substantial bibliographies to which the text is key-numbered. The author index includes all of the cited literature, the subject index is adequately detailed.

Morgan, Willard D, and Henry M Lester, editors

Leica manual and data book. Thirteenth edition. John S Carroll, Dorothy S. Gelatt, associate editors. New York Morgan & Morgan Publishers, 1955 456 p illus. (part col'd) 23 cm. $6 00 7181

Contents. Leica cameras and equipment. Lenses for the Leica. Films and exposure. Filters for black and white. Taking pictures outdoors. Indoors and artificial light. Developing the negative. Enlarging and printing. Selected color photographs. Color with the Leica. Copying and closeups. Slides and projection. Pictures for publication. Medical photography Appendixes: Leica camera models. Tables and formulas. Index.

Note This book is both a guide for amateur and professional photographers to the use of the Leica camera and a treatise on photography with miniature cameras. The full range of Leica cameras and accessory equipment is described, but the descriptions are accompanied by authoritative and useful information on photographic techniques and by many pages of reference data. The book was first published in 1935 and the twelfth edition was published in 1951 The nature of the book was changed somewhat in the thirteenth edition. The emphasis on special applications has been given up and the space has been used for more detailed information on picture-taking, developing, etc.

Mortensen, William

Mortensen on the negative. New York Simon and Schuster, 1940 283 p. illus. 25 cm. $6 00 7182

Contents (abridged) Part I, Equipment and materials. Part II, Optics. Part III, Sensitometry Part IV The nine negatives.

Note: This book is for the advanced amateur. It is written in a lively style and includes much information which is not often found in books for amateurs. The author endeavors first to tell his readers how to recognize a good negative, and second how to produce such negatives. He urges that the photographer keep his equipment and methods as simple as possible. The book has no index.

NEBLETTE, CARROLL BERNARD

Photography: its materials and processes. Fifth edition. New York D Van Nostrand Company 1952. 500 p. illus. 26 cm. $10.00 7183

Contents (abridged) Light sources for photography. Photographic optics. Photographic objectives. Photographic light filters. Photographic camera. Fundamentals of photochemistry. The photographic emulsion. Color sensitivity of photographic emulsions. The sensitometry and physical properties of negative materials. The silver halide grain, the mechanism of exposure, and the latent image. Photographic exposure effects. The theory of development. Photographic developers. Fixing and washing. Diffusion-transfer reversal process. Photographic sensitometry. Photographic tone reproduction. Reproduction of color in monochrome. Structure of the image. Exposure meters. Photographic exposure and exposure meters. Negative processing. Improvement of the negative. Printing processes. Principles of three-color photography. Three-color separation negatives. Subtractive printing processes. Screen and lenticular processes. Multilayer processes. Accuracy of color reproduction. Subject index. Author index.

Note A standard text and reference book on the technical phases of photography. This edition has been very substantially revised and rewritten. The emphasis has been shifted further towards materials and processes, and writings of 14 specialists in addition to the author have been included. The treatment of most topics [illegible] but informative. Literature references are included for most topics. The book is addressed to scientists, including but not limited to those who are preparing for research in photography and [illegible] such as photo-chemistry. Little space is devoted to the popular practice of photography; however, it contains much information that will be useful to those commercial photographers and serious amateurs who wish to know more about the scientific and technical bases of their craft.

NEWHALL, BEAUMONT

The history of photography from 1839 to the present day New York Simon and Schuster 1949 256 p 27 cm. $3 95 7184

Contents The daguerreotype. The [illegible] image. The mirror with a memory. Prints from paper. Portraits for the million. Pictorial effect. The faithful record. The conquest of action. Photography as an art. The straight approach. Documentary. Instant vision. Experiments in abstraction. For the printed page. In color. Sources of quotations. Selected bibliography. Index.

Note In 1937 the Museum of Modern Art, New York, organized an exhibition of photographs covering the period 1839 to 1937. The present volume is an expansion and elaboration of the catalogue which was prepared for the exhibition. As might be expected, emphasis is placed on the artistic aspects of the subject, but attention [illegible] given to the evolution of apparatus and techniques. Numerous reproductions of photographs taken with various types of equipment by famous photographers are included.

SIMMONS, ALBERT DIXON

Photography for sportsmen. New York D Van Nostrand Company Inc., 1951 172 p. illus. 24 cm. (A Van Nostrand sporting book edited and designed by Eugene V Connett) $5.00. 7185

Contents Snapshots. Field equipment. Exploring the world of color. Through the view finder. Getting close to nature. Fins, Fur, Feathers. Seeing the unseen through slow motion. Editing. Jungle [illegible]. Story shots for all.

Note A book on still and motion picture photography in the outdoors especially intended for sportsmen who take their cameras on hunting and fishing trips. The author has avoided technical language of photography [illegible] possible and has produced [illegible] text [illegible] illustrated with many of his own striking and [illegible] photographs.

SIPLEY, LOUIS WALTON

A half century of color New York The Macmillan Company 1951 216 p. illus. (part col'd) 26 cm. $8.00. 7186

Contents There is always [illegible] background. The new century moves forward. Post-war innovations. Color grows during the depression. The camera and the press. The dye-coupler takes over. Color rating and control systems. The half century closes.

Note In this lavishly illustrated book, the main steps in the development of color photography and color reproduction in the graphic arts are described by the director of the American Museum of Photography. An expertly written text, it is supplemented by many examples of color reproductions that represent high points in the development of these two arts. The illustrative matter was assembled at considerable cost and effort and probably [illegible] never be duplicated again in book form. Much of the historical information appears to have been derived at first hand from [illegible] have spanned the developments that are described. Although the book has considerable historical value, there are no literature references and no index.

SOCIETY OF MOTION PICTURE AND TELEVISION ENGINEERS

Principles of color sensitometry A report of the Color Sensitometry Sub-committee H E. Bragg and others C. F J Overhage, editor New York Society of Motion Picture and Television Engineers, 1950 72 p illus. 23 cm. $1.00. 7187

Contents Introduction. Sensitometric exposures. The processing of sensitometric tests. Quantitative evaluation of the image. Densitometer design principles. Transformations between integral and analytical densities. Interpretation of sensitometric results. Statistical aspects of color sensitometry. References.

Note Much of color sensitometry is built on basic principles familiar in sensitometry of black-and-white materials. Some principles are new. It is the object of this report to outline these principles and to describe the methods and instruments of color sensitometry in order to give the workers in the field of color motion picture photography [illegible] comprehensive view of the present state of the science as it applies to them. The treatment is not detailed, and in some places rigor has given [illegible] way to better understanding, but the coverage is intended to be comprehensive.

SQUIRE, LORENE

Wildfowling with a camera. Philadelphia J B Lippincott Company 1938. 262 p. illus. 30 cm. $7.50 7188

Contents I take pictures of ducks. Calendar of [illegible] prairie marsh. Birds of the water's edge. Geese. Northern [illegible]. Fall flight.

Note A book of photographs of wild ducks, geese, and other birds of the water's edge, mostly in flight. The emphasis in all of the pictures reproduced in this volume is upon artistic composition and setting, rather than upon scientific detail. Owing to a number of reasons, including use of telephoto lenses, trying conditions of light, and intentional use of soft-focus photography, the images are not [illegible] very sharp, but the pattern of bird flight, with its beauty and motion, is expressively recorded.

SUSSMAN AARON

The amateur photographer's handbook revised by the author and with revisions by Bruce Downes. Fourth edition. New York Thomas Y Crowell Company 1952 399 p. illus. (part col'd) 24 cm. $3 95 7189

Contents The growth of photography. The magic of light. All about the lens. The mystery of "f." The shutter. What camera shall I use? Introducing your first camera. Film and exposure. The picture. Portraits and close-range work. Action and flash photography. All about filters. How to take pictures of children. Developing. Printing. Fun with your camera. Lantern slides and transparencies. Three-dimensional pictures. What [illegible] next? Color photography. Hints and suggestions. Supplemental glossary. Index.

Note A practical and well-written manual designed to assist the amateur photographer obtain good pictures with [illegible] minimum of experience and equipment. The treatment is broad rather than detailed, and in the descriptions of methods and techniques the theoretical aspects of the subject are not emphasized. On the other hand, there is [illegible] wide range of practical technical data.

UNITED STATES BUREAU OF NAVAL PERSONNEL

Photography Prepared by Standards and Curriculum Division, Training, Bureau of Naval Personnel Navy training courses. Edition of 1947 Published by Navy Department, Washington, D C Washington, D C. Government Printing Office, 1947 2 v illus 20 cm (Navpers 10371–10372) Vol 1, $1 00, vol 2, $0 75 7190

Contents: Volume 1, Fundamentals The Navy photographer Light and lenses. View cameras and hand cameras. Negative materials. Shooting techniques. Photographic chemicals and solutions. Film development. Contact and projection printing. Negative and print troubles. Flash photography Filters. Infrared photography Making identification photographs. Copying. Portraiture and group photography Lantern slides. Photography with Fab-screens. Quiz. Answers to quiz. Appendix. Index. Volume II, Specialized fields Color photography Aerial cameras. Aerial film. Aerial photography—the "know how" Stereoscopy—depth in pictures. Motion picture cameras. Motion picture processing. Motion picture technique. Motion picture projectors. Care of equipment. Administration, regulations, records. Quiz. Answers to quiz. Index.

Note. A two-volume handbook written in relatively simple language. The volumes were prepared for classroom use by the Naval Air Technical Training Command and the Training Publications Section of the Bureau of Naval Personnel. The work contains detailed directions and suggestions for all phases of naval photography and may be of value also to those outside the Navy who require a manual covering all the fundamentals of photography The 1947 edition differs from that of 1945 chiefly in its containing indexes not present in the original edition.

FOOD TECHNOLOGY

ADVANCES IN FOOD RESEARCH. Volume IV Edited by E. M. Mrak and G F Stewart. Editorial board, E. C. Bate-Smith and others. New York. Academic Press, Inc. 1953 457 p. illus. 24 cm. $9.00. 7191

Contents: Wiltshire bacon, by N. E. Gibbons. Work methods design and work simplification, by L. E. Davis. Nutritional stress factors and food processing, by S. Lepkovsky. The chemistry of chlorophyll (with special reference to foods), by S. Aronoff. Flavor problems in edible fats, by H. J. Dutton. Fish preservation in tropical fish, by A. G. van Veen. The effects of heat upon the nutritive value of protein, by E. E. Rice and J. F. Beuk. Insects attacking stored products, by A. E. Michelbacher. The use of sorbic acid in processing foods, by J. C. Rosenfeld. Author index. Subject index.

—— Volume v Edited by E. M. Mrak and G. F Stewart. Editorial board E. C. Bate-Smith and others. New York Academic Press, Inc., 1954 538 p. illus. 24 cm. $11.50 7192

Contents: Oxidative rancidity and discoloration in meats, by B. M. Watts. The chemistry of the sugar-amine reaction and its relationship to food problems, by H. Gehman and E. M. Osman. The chemistry and technology of the pretreatment and preservation of fruit and vegetable products with sulfur dioxide and sulfites, by M. A. Joslyn and J. B. S. Braverman. Statistical methods in food research, by B. Ostle and R. G. Tischer. Flavonoid compounds in foods, by E. C. Bate-Smith. The color problem in foods, by G. Mackinney and C. O. Chichester. Composition of wine—organic constituents, by M. A. Amerine. Author index. Subject index.

—— Volume vi. Edited by E. M. Mrak and G. F Stewart. Editorial board, E. C. Bate-Smith and others. New York Academic Press, Inc., 1955 398 p. illus. 24 cm. $9.00 7193

Contents: Applications of research to problems of candy manufacture, by L. F. Martin. Bacterial spoilage of meat with special reference to Californian conditions, by R. H. Vaughn. Microbiological implications in the handling, slaughtering, and dressing of meat animals, by J. C. Ayres. Microbiological problems of frozen food products, by G. Borgstrom. Potato granules, development and technology of manufacture, by R. L. Olson, and W. O. Harrington. The thermal destruction of vitamin B1 in foods, by K. T. H. Farrer. Tunnel dehydrators for fruits and vegetables, by P. W. Kilpatrick, and others. Author index. Subject index.

Note. The scope of this series is apparent from the chapter titles listed above. Each of the chapters, or papers, is a critical review of the literature pertinent to its topic. Recent literature is emphasized, however, the authors are not limited to the reviewing of the literature of a specified span of time but cover whatever is necessary to their topics. Extensive bibliographies are included in all of the chapters. The treatment is on a professional level.

AMERICAN ASSOCIATION OF CEREAL CHEMISTS

Cereal laboratory methods, with reference tables. Fifth edition. St. Paul American Association of Cereal Chemists, 1947 341 p. illus. (part col d) 24 cm. 7194

Contents: Wheat and other whole grains. Experimental milling. Wheat flour, semolina and similar products. Feeds and feeding stuffs. Rye flour. Experimental malting. Malt. Enzymatic and physical-chemical methods. Vitamin assay methods. Baking methods. Bread. Experimental macaroni processing. Macaroni products. Fats and shortening materials. Leavening agents. Yeast foods, bleaching agents and flour improvers. Sanitation methods. Appendices. Glossary of cereal chemical terms. Statistical principles and experimental errors. Preparation and standardization of solutions. Reference tables. Index.

Note. A compilation of standard methods for specialists in cereal chemistry and others such as public health workers who are concerned with the inspection and laboratory examination of cereal products. It describes laboratory procedures in detail and contains supplementary information. The first edition was published in 1922 and revisions were published approximately every six years to 1947. A sixth edition was in preparation in 1957.

AMERINE, MAYNARD ANDREW AND LOUISE B WHEELER

A check list of books and pamplets on grapes and wines and related subjects, 1938–1948. Berkeley and Los Angeles University of California Press, 1951 240 p. 24 cm. $5 00 7195

Contents: Check list. Addendum. Subject index. Index of authors, editors, and translators not alphabetically listed. Index of country or state of publication. Bibliography.

Note: A comprehensive bibliography within the decade covered. It is international in scope and includes both books, pamphlets, and government publications but not articles in journals, except in instances where an article was also issued separately. The main arrangement is alphabetical by name of author.

AMERINE, MAYNARD ANDREW AND M A. JOSLYN

Table wines, the technology of their production in California. Berkeley and Los Angeles University of California Press, 1951 397 p. illus. 24 cm. $4.50 7196

Contents: Introduction: Wines and grapes. Trends in the industry. The winery and its equipment: Design and construction. Equipment. Sanitation. Recommended procedures for making wines: From grapes to new wines. Clarifying and aging. Dry red wines. Dry pink wines. Dry white wines. Sweet table wines. Sparkling and carbonated wines. Preparing wines for market: Finishing operations. Testing and analyzing. Wine disorders. Winery by-products. Technological principles: Composition of grapes. Composition of table wines. Alcoholic fermentation. Preparation of fermentation. Appendices: Forms and reference tables. General references and citations. Index. List of illustrations. List of tables.

Note: An inclusive survey of good practices. It is addressed particularly to managers, chemists, and other technicians associated with the table wine industry in the state of California. However, most of the information presented is applicable also to wineries in other regions. Typical equipment is described and illustrated, but this phase of the subject is not covered comprehensively. The text is supplemented by 38 tables of reference data and a 27-page international bibliography.

ANDERSON JOHN ANSEL, editor

Enzymes and their role in wheat technology New York Interscience Publishers, Inc., 1946. 371 p. illus. 23 cm. (American Association of Cereal Chemists. Monograph series. Volume 1) $6.50. 7197

Contents The general chemistry of enzymes, by W M Sandstrom. Amylases, by M L. Caldwell and M. Adams. Applications of the amylases in milling and baking technology by E. Kneen and R. M. Sandstedt. Esterases, by H. E. Longenecker Esterases in relation t milling and baking, by B Sullivan. Oxidizing enzyme systems, by E. S. Guzman Barron. Oxidizing enzyme systems of wheat and flour by B Sullivan. Proteases, by A. K. Balls and M. W Kies. Role of proteases in baking, by F C. Hildebrand. The mechanism of alcoholic fermentation by C. H. Werkman. Yeast fermentation, by Lawrence Atkin, and others. Author index. Subject index.

Note. The initial volume in a series of monographs projected by the American Association of Cereal Chemists. Except for the generalized discussion of the first paper only those particular enzymes which are of interest to cereal chemists have been treated. Of the tw papers devoted to each class of enzyme, the first review present knowledge of both the animal- and plant-derived enzyme, while the second discusses the role of that enzyme in heat processing and tilization. The papers are monographic in style and organization and are accompanied by long bibliographies of the related literature. The fact that the titles of the journal articles are included as part of the bibliographical information deserves special mention.

ASHBROOK, FRANK G

Butchering, processing, and preservation of meat. New York D Van Nostrand Company, Inc., 1955 318 p illus 22 cm $4 75 7198

Contents Man s eating customs. Meat characteristics. Food planning. Preslaughter considerations. Butchering hogs. Butchering cattle. Butchering sheep and lambs. Dressing game animals. Handling hides and skins. Cutting the carcass. Dressing poultry and wild fowl. Procuring, cleaning, and cutting fish. Preserving meat, fowl, and seafood. Meat products and by-products. Helpful references. Publications f the Department of Agriculture. Publications of the Department of the Interior Motion pictures produced by the Departments of Agriculture and the Interior. Reference books. State game departments. United States Agricultural Experiment Stations.

Note. A practical book on the farm butchering and preservation of meat, which is useful both as guide for farm families producing their own meat and as a textbook for teachers and students in agricultural colleges and high schools. It covers all necessary steps from the slaughter of the animal until it is ready for the icebox or locker and devotes space to poultry fish, and game as well as to cattle, hogs, and sheep. Practical instructions for slaughtering, cleaning, and freezing the meats are accompanied by numerous photographic and diagrammatic illustrations.

ASSOCIATION OF FOOD INDUSTRY SANITARIANS, INC

Sanitation for the food preservation industries. Prepared by the Association of Food Industry Sanitarians, Inc. in cooperation with the National Canners Association. Editorial committee Stephen M Anderson and others New York McGraw Hill Book Company Inc, 1952 284 p illus. 24 cm (McGraw Hill series in food technology editor Frank K Lawler) $7 00 7199

Contents Organization of the sanitation program. Inspection techniques. Housekeeping. Animal and bird pests. Insect pests. Sanitary significance of microorganisms. Water supply Construction and maintenance of buildings and equipment. Cleaning. Chlorination. Employee facilities and industrial hygiene. Feeding and housing f employees. Waste treatment and disposal. Laboratory aids. Glossary of terms. Index.

Note. An officially sponsored manual which makes available practical information on efficient methods of establishing and maintaining optimum conditions f cleanliness in plants devoted to the canning, freezing, and dehydrating of foods. Organized in modified outline form and written in simple language, it can be comprehended by anyone with secondary school education. On the other hand, its scope is sufficiently broad to make it useful to management personnel as well as to workers. Literature references are included.

BATES, FREDERICK JOHN, AND OTHERS

Polarimetry, saccharimetry and the sugars, by Frederick J Bates and associates. Washington, D C Government Printing Office, 1942 810 p. illus. 23 cm. (United States. National Bureau of Standards. Circular 440) $4.25 7200

Contents Part I, Polarized light, polarimeters, saccharimeters, and accessory apparatus Introduction. Polarized light. Measurement of rotation in circular degrees. Measurement of rotation in sugar degrees. Temperature corrections and control. Accessory apparatus. Part II, Raw and refined sugars and sugar products: Polarization of raw and refined sugars. Clerget method. Chemical methods for the determination of reducing sugars. Analysis of sugar mixtures. Analysis of special products. Determination of pentoses. Densimetry Refractometry Determination of moisture. Determination of ash. Electrical conductance of sugar solutions. Measurement of hydrogen-ion concentration. Colorimetry Measurement of turbidity Viscosity of sugar solutions. Solubility of the common sugars. Boiling points of sucrose solutions. Candy tests. Preparation and purification of pure sugars. Purity Packing of sucrose. Part III, Preparation and properties of the sugars and their derivatives: Optical activity configuration, and structure in the sugar group. Mutarotation and sugars in solution. Methods for the preparation of certain sugars. Methods for the preparation of certain sugar derivatives. Crystallography of the sugars. Melting points. Part IV General information: Standard samples. Tests. Part V Appendixes. Index.

Note This circular supersedes National Bureau of Standards *Circulars* nos. 12 and 44 dated 1906 and 1917 respectively The main object of the treatise is to explain the application and manipulation of polarized light for industrial, analytical, and theoretical purposes. An attempt is made to answer as far as possible the numerous requests made to the Bureau over a period of years for information on the theory and application of polarized light in the chemistry of the sugars. The general subjects of magneto and electro optics in relation to polarized light are omitted as lying beyond the province of the work. The material is based mainly on a survey of the technical literature of the field, and each chapter is followed by a list of references cited in the text. There are 149 tables of chemical and physical data relating to the sugars and summary of United States customs regulations governing the eighing, taring, sampling, classification, and polarization of imported sugars and molasses.

BLANCK, FRED C, editor

Handbook of food and agriculture. New York Reinhold Publishing Corporation, 1955 1 039 p. illus. 24 cm. $15 00 7201

Contents. Soils, by E. Winters. Soil fertility by C. L. W Swanson. Soil microbiology by C. Thom. Fertilizers, by A. L. Mehring. Insecticides, fungicides and herbicides, by C. C. Roan. Growth regulants, their nature and action, by L. P Miller Enzymes, by C. V Smythe. Oxidative rancidity and antioxidants, by R. W Riemenschneider The essential nutrients, by D. M. Hegsted. Storage of agricultural raw products, by R. T Porter Food preservation, by C. R. Fellers. Effect of canning and dehydration on the utrition values of foods, by L. E. Clifcorn and G. T Peterson. Food spoilage and deterioration, by H. E. Goresline Cereals and cereal products, by C. O Harrel and D. M. Dicks. Dairy products, by B. H. Webb. Vegetable fats and oils, by E. W Eckey Sea foods, by H. L. A. Tarr Animal products, by H. R. Kraybill. The chemistry of plants, by L. B. Rockland. Poultry products, by H. Lineweaver and A. A. Klose. Food engineering, by J H. Nair. Food packaging, by C. O. Ball. Food quality and quality control, by A. Kramer Disposal of food plant wastes, by N H. Sanborn. Chemicals in foods, by C. N Frey Food, drug, and cosmetic act, by P B. Dunbar. Appendix. Index.

Note The title notwithstanding, this is reference book for food technologists and others who are interested in the food processing industries. The chapters on agricultural topics account for only 315 pages, and they are intended as background information for food technologists. The typical chapter is about 33 pages long and is concise survey of basic aspects and includes bibliography of substantial length. The appendix of the olume contains wide range of information on laws, regulations, utrition standards, organizations interested in food, etc. Also included here is 16-page classified bibliography

BLUMENTHAL, SAUL

Food products. Brooklyn, N. Y. Chemical Publishing Company, Inc., 1947. 986 p. 22 cm. $12.00. 7202

Contents: Basic food ingredients. Milk and milk products. Condensed, cream, cider and tea. Dessert powders and puddings. Eggs, dressings and pickles. Fish, food foods, health food, meat, food, soy products, baking powder. Pie fillings and pies. Cookies, biscuits and cakes. Flavors, syrups and beverages. Fruits and vegetables. Canned goods. Jams and preserves. Plant sanitation and [illegible] food control. Composition of foods and prevention of [illegible]. Preservation of foods by dehydration and freezing. Weights and measures. Chemical dosimetry. Abbreviations. Bibliography. Index.

Note: A revised and expanded version of the author's *Food manufacturing*, 1942. It is particularly suited to executives of food manufacturing firms and to persons who are considering entering the business. It presents the manufacture of food as a series of operations governed by well-defined physical, chemical, and bacteriological principles. Hundreds of formulas for the preparation of food products on a commercial scale are included.

BROWNE, CHARLES ALBERT, AND F. W. ZERBAN

Physical and chemical methods of sugar analysis; a practical and descriptive treatise for use in research, technical, and control laboratories. Third edition. New York, John Wiley & Sons, Inc., 1941. 1,353 p. illus. 23 cm. $22.50. 7203

Contents: Sampling of sugar and sugar products. Determination of moisture in sugar and sugar products by methods of drying. Densimetric methods of analysis. Principles and uses of refractometry. Polarized light: theory and description of polariscopes. Theory and description of saccharimeters. Polariscopic determination. Specific rotation of sugars. Methods of sample preparation. Methods of direct or double polarization. Special methods of saccharimetry. Miscellaneous physical methods as applied to the examination of sugars and sugar solutions. Qualitative methods for the identification of sugars. Reduction methods for determining sugars. Special quantitative methods. Combined methods and the analysis of sugar mixtures. Special methods for miscellaneous carbohydrate products. Appendix of sugar tables. Author index. Subject index.

Note: A practical and descriptive treatise for use in research, technical and control laboratories dealing with sugar. The book is a revision of the formerly published *Handbook of sugar analysis*. No attempt is made to describe all the apparatus and methods used in sugar analysis; careful selection has been made, and full discussion of these is given. Emphasis has been placed upon principles; apparatus and modifications are left to the individual chemist. Important newer physical and chemical methods for the examination of sugars and sugar products are clearly outlined. A section on the pH determination of sugar products has been added. Since the substances that accompany sugars exert great influence upon the chemical composition and properties of sugar products, greater attention is devoted in the present volume to some of the more important of these extraneous impurities for their bearing on questions of origin and chemical treatment. References to special works and to original articles are helpful. Brief descriptions of older methods are given, for historical interest.

CRUESS, WILLIAM VERE

Commercial fruit and vegetable products; a textbook for student, investigator and manufacturer. Third edition. New York, McGraw-Hill Book Company, Inc., 1948. 906 p. illus. 23 cm. (McGraw-Hill publications in the agricultural sciences, R. A. Brink, consulting editor) $12.00. 7204

Contents (abridged): Microorganisms in relation to fruit and vegetable products. Brief history of canning. Tin and glass containers. General considerations in establishing a cannery. Washing, blanching, and peeling fruits and vegetables. Grading fruits and vegetables for canning. Sirups and brines used in canning. Exhaust and vacuum. Canning of fruits. Pickling and canning of olives. Canning of vegetables. Spoilage of canned foods. Unfermented fruit beverages. Fruit and vegetable sirups and concentrates. Fruit jams, butters, preserves, and confections. Sun drying of fruits. Dehydration of fruits. Dehydration of vegetables. Vinegar manufacture. Pickles. Olive and coconut oils. Utilization of waste fruits and vegetables and disposal of waste. Waters. Frozen-pack fruits and vegetables. Vitamins. Plant pigments and related compounds. Enzymes of fruits and vegetables. Plant sanitation. Index.

Note: A standard manual of information on commercial canning and preserving. Widely used as a textbook, it serves equally well as a reference book on the technology of the industry. The topics mentioned in the chapter titles are discussed in considerable detail, and in addition each chapter is accompanied by an extensive list of the related literature. Much new material is presented in this edition, which is about 100 pages longer than the second edition (1938).

FRANDSEN, JULIUS HERMAN, AND D. HORACE NELSON

Ice creams and other frozen desserts. Amherst, Mass., J. H. Frandsen, 1950. 318 p. illus. 24 cm. $5.25 7205

Contents: History, development, and importance of the ice cream industry. Food value of ice cream. Classification of ice creams, sherbets, and ices. Composition and properties. Ice cream ingredients. Stabilizers and emulsifiers. Flavoring and coloring materials. Calculation of ice cream mixes. Restandardizing and calculating some unusual mixes. Calculating cost of mixes, amount of overrun, per cent overrun, etc. Making and processing the mix. The freezing process. Packaging, hardening, and shipping. High fat and high serum solids ice cream. Ices and sherbets. Fancy molded ice creams, novelties, and specialties. List of formulas. Defects, scoring, and grading. Sanitation. Refrigeration. Some laboratory tests often used in ice cream plants. Soda outlets. Formulas for soda fountain use. Reference material. Index.

Note: A manual of the commercial manufacture of ice cream, particularly as it is done in the United States of America. Formulas are included for a variety of flavors of standard ice creams and also for novelty types, such as spumoni, fruit [illegible], sherbet, and water ice. Also, there are formulas for syrups and toppings used in making the ice cream dishes and drinks that are sold at soda fountains. Soda fountain recipes are included because many manufacturers of ice cream maintain such retail outlets.

GORTNER, WILLIS ALWAY, AND OTHERS

Principles of food freezing, by Willis A. Gortner, Frederick S. Erdman and Nancy K. Masterman; edited by L. A. Maynard. New York, John Wiley & Sons, Inc., 1948. 281 p. illus. 22 cm. $4.50. 7206

Contents (abridged): A foreword, by L. A. Maynard. Part I, The product—Frozen food. An introduction to food freezing. The raw material. Processing for freezing. Packaging for freezing. Freezing rates and food quality. The storage of frozen food. Cooking frozen foods. Part II, The consumer and his needs: Home freezing. The patron and the community locker plant. Part III, The engineering of food freezing: The role of heat in engineering design. Construction of low-temperature space. Refrigeration for low temperatures. The freezing process. Freezing equipment for the home. Locker plants. Freezing for commerce. Author index. Subject index.

Note: A biochemist and food scientist, an engineer, and a home economist co-operated on a survey of community and home frozen-food services, equipment, and operation, and present in this book a digest of their findings and of the investigations of others. The result is not a handbook of the details of processing but rather a discussion of the conditions that insure nutritious, palatable and economically produced frozen food. The basic principles in selecting, processing, freezing, and storing food which will apply alike to large-scale commercial freezing plants, community lockers, and farm and home units are outlined. Consideration is given to the human as well as to the mechanical factors; for example, there is considerable discussion of dos and [illegible] on home freezers. Advantages and disadvantages of methods, equipment, and management are discussed, differing opinions are objectively considered, technical points are explained.

Food Technology

HALLIDAY, EVELYN GERTRUDE, AND ISABEL TILTON NOBLE

Hows and whys of cooking Third revised edition Chicago The University of Chicago Press, 1946 328 p. illus 21 cm $5 50 7207

Contents Vegetables. Factors which contribute toward success in the preparation of muffins, cakes, biscuits, and pastry Muffins. Cakes containing shortening. Angel-food and sponge cakes. Baking-powder biscuits. Pies. Candy Ice-cream. Beef. Meal planning. Index.

Note This work is a successful combination of chemistry and traditional cook book material. Its distinguishing quality is that cooking is viewed as an application of science and the various manipulations and processes are explained and described as carefully as the procedures outlined in a chemistry laboratory text. A considerable part of the space is given over to tested recipes. The book is used in homes, commercial food establishments, and in college courses in domestic science. The present edition contains newly added information on baked foods, the cooking of vegetables, and number of new recipes.

HEWSTON, ELIZABETH M, AND OTHERS

Vitamin and mineral content of certain foods as affected by home preparation By Elizabeth M Hewston, Elsie H Dawson, Lucy M Alexander and Elsa Orent Keiles, Bureau of Human Nutrition and Home Economics, Agricultural Research Administration Washington, D C Government Printing Office, 1948 76 p illus. 26 cm. (United States. Department of Agriculture. Miscellaneous publication no 628) $0 40 7208

Contents. Purpose and plan of study Preliminary studies on 20 common foods Preparation, cooking, sampling. Methods of analysis for 20 foods. Results on 20 foods. Summary and conclusion on 20 foods. Potatoes. Carrots. Green peas. General summary Literature cited. Appendices A simple and rapid method for moisture determination using infrared lamps. Extraction of riboflavin from navy beans. Interfering substances in the determination of riboflavin in fresh and cooked peas.

Note. What constitutes good cooking from a nutritive standpoint? T help answer this question, the study reported in this pamphlet was made. Preliminary studies were made on the cooking of 20 foods, including egetables, meats, poultry breads, and cereals methods of preparation and cooking in general home use were employed. Measurements were made of loss from cooking of selected nutrients, including ascorbic acid, thiamine, nicotinic acid, riboflavin, carotene, and minerals. The results are presented both in text and in tables. More comprehensive studies were made of potatoes, carrots, and peas, and the results similarly reported.

HONIG, PIETER, editor

Principles of sugar technology Houston Elsevier Publishing Company, 1953 767 p illus 25 cm. $15 00 7209

Contents Part I, Physical and chemical properties of sugars and nonsugars. Chemical properties of sucrose, by H. Hirschmüller Physical properties f sucrose, by H. Hirschmüller Physical and chemical properties of the reducing sugars (dextrose and levulose) by E. J McDonald. The non-nitrogenous organic acids of sugar cane, by L. F Martin. The nitrogen-containing nonsugars (the amino acids and proteins) by L. F Wiggins. The complex organic nonsugars of high molecular weight, by L. F Martin. The lipids of sugarcane, by R. T Balch. Color and colored nonsugars, by T R. Gillett. Inorganic nonsugars, by P Honig. The agents used in sugar manufacture, by K. D Dekker The physical and technical conditions in sugar manufacture (temperature, density and *p*H) by G. W Payne. Part II, Purification f technical sugar solutions. Chemical technology of the purification process, by P Honig. Fundamental reactions of the clarification process, by J H. P yne. Technology of the clarification process, by J G. Davies. Clarification of cane juices by means of the sulphitation process, by J Marches. The carbonation process, by P Honig. Middle juice carbonation, by T Y Chou. Ion exchange, by J. H. Payne. Author index. Subject index.

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HUGHES, OSEE

Introductory foods. Third edition. New York The Macmillan Company, 1955 551 p illus 22 cm. $4 75 7210

Contents Introduction. Fruits and fruit preparation. Vegetables and vegetable preparation. Milk and milk products other than butter and ice cream. Eggs and egg cookery Meats and meat cookery Frosted foods. Carbohydrates and carbohydrate cookery Beverages. Fats and oils. Salads and salad dressings. Gelatin. Freezing and frozen desserts. Batters and doughs. Food preservation. Meal planning. Meal service. Appendices. Index.

Note. A standard textbook designed for use in introductory courses offered by college departments of home economics. The various classes of foods are described with emphasis on their nutritive values. Basic food preparation and preservation techniques are discussed. Much information that is generally useful in buying and preparing food is included. The second edition appeared in 1949. Several chapters were revised and the number of illustrations was increased for this third edition.

HUNZIKER, OTTO FREDERICK

Condensed milk and milk powder Prepared for factory, school and laboratory Seventh edition completely revised. La Grange, Illinois O F Hunziker, 1949 630 p. illus. 24 cm. $7 00 7211

Contents (abridged) Chemical composition and reaction of milk. Physical properties of milk. The milk condensery Thermodynamics of milk condensing. Description of the acuum pan. Steam requirements for forewarming and condensing. Factory sanitation. Quality of milk supply and its control. Sweetened condensed milk: Definition, intake and standardization. Condensing the milk. Sweetened condensed skim milk—condensed whey Packaging. Evaporated milk. Inspection, standardizing and forewarming. Irradiation, fortification, homogenization. Cooling, standardizing, canning. Sterility and heat stability Viscosity color flavor, mineral deposits. Plain, superheated, frozen condensed milk. Concentrated buttermilk, sour skim milk. Sterilized sweet milk and sweet cream. Composition and ferments of concentrated milks. Concentrated milk defects. The dried milk industry Milk drying systems. Thermodynamic and engineering aspects. Manufacture of dried whole milk. Manufacture of dried buttermilk. Manufacture of dried whey Manufacture of dried malted milk—dried ice cream—dehydrated sweetened condensed milk. Yield, composition, properties of dried milks. Keeping qualities of dried milks. Vitamins in milk and milk products. Manufacture of milk sugar of commerce. Factory tests and analyses. Index.

Note: As in previous editions, this volume presents the latest available information on apparatus and processes that will be of interest to advanced students, research workers, and plant managers concerned with large-scale commercial dairy operations. Numerous illustrations of equipment are again included, and the statistical data and official standards ha been revised through 1948. The material is based on the author's own experience and on a review of the literature of the subject, and in this re ision more than 600 references to world literature are provided.

JACOBS, MORRIS BORIS

The chemical analysis of foods and food products. Second edition. New York D Van Nostrand Company Inc., 1951 902 p. illus. 23 cm $12 00 7212

Contents General methods. Physical chemical methods. Coloring matters in foods. Chemical preservatives in foods. Metals in foods.

Food Technology

[illegible]

[illegible]

JACOBS, MORRIS BORIS, editor
The chemistry and technology of food and food products. Second completely revised and augmented edition, prepared by a group of specialists under the editorship of Morris B. Jacobs. New York Interscience Publishers Inc., 1951 3 v 24 cm. Vol. I, $15.00 vol. II, $18.00 vol. III, $18.00. Set, $45.00. 7213

Contents: [illegible]

Note: [illegible]

JARVIS NORMAN DONALD
Curing of fishery products. Washington D C. Government Printing Office 1950. 271 p. illus. 23 cm. (United States. Department of the Interior Fish and Wildlife Service. Research report 18) Paper $0.60. 7214

Contents: [illegible]

Note: [illegible]

JENSEN LLOYD BRYAN
Meat and meat foods processing and preservation from meat plant to consumer New York The Ronald Press Company 1949 218 p. illus. 22 cm. $4.00. 7215

Contents: [illegible]

Note: [illegible]

JENSEN LLOYD BRYAN
Microbiology of meats. Third edition. Champaign, Ill. The Garrard Press, 1954 422 p. illus. (part col d) 23 cm. $6.00. 7216

Contents: [illegible]

Note: [illegible]

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Hows and whys of cooking Third revised edition Chicago The University of Chicago Press, 1946 328 p. illus 21 cm $5 50 7207

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Contents General methods. Physical chemical methods. Coloring matters in foods. Chemical preservatives in foods. Metals in foods.

Food Technology

Contents (abridged) Preservation of foods by freezing. Preparation [illegible] for fruits. Thawing and using frozen fruits. Processing [illegible] for vegetables. Thawing and cooking frozen vegetables. [illegible] of meat for freezer storage. Selection. Slaughtering. [illegible] Aging. Cutting. Wrapping. Labeling. Freezing. Storage. [illegible] Thawing and cooking frozen meat. Poultry. Eggs. Fish. Miscellaneous products. Freezing of cooked food. Care of frozen foods [illegible]. Packaging materials. A partial list of manufacturers of supplies for frozen food lockers. Sanitation. [illegible] Cartons and containers. Stockinet. Heat-sealing equipment. [illegible] references.

Note Intended for the housewife as well as for locker-plant operators, the pamphlet contains complete and detailed information as to what to freeze and how to prepare it. It includes general [illegible] for such matters as maximum length of time frozen products [illegible] be left before using, methods of defrosting, and [illegible] are not suitable for preservation by freezing. Separate instructions are given for each variety of fruits and vegetables.

MILLER, ALBERT RAUCH
Meat hygiene. Philadelphia Lea & Febiger 1951 420 p. illus 24 cm. $7.50 7223

Contents History. Elements of meat hygiene. Ante-mortem inspection. Post-mortem inspection. Trichinosis. Physical and chemical characteristics of meat and the principal organs. Factors relating [illegible] Facilities for inspection. Materials [illegible] in plant operation. [illegible] Preparation of meat and meat food products. Meat [illegible] Adulteration and misrepresentation. Deteriorative changes [illegible] Organized meat hygiene control. Appendix. Bibliography. Index.

Note A college text and reference manual designed primarily for use by students of veterinary medicine and graduate veterinarians. It [illegible] useful also to public-health officers and other persons who are concerned with the sanitary handling of meat. Although the [illegible] phase is emphasized, most of the processes involved in the slaughtering of animals and the processing of their meat are described in some detail. Hence, the book is also [illegible] description of meat packing as it is currently practiced in the United States of America. The author is Chief of the Federal Meat Inspection Service of the United States Department of Agriculture.

NATIONAL RESEARCH COUNCIL
The use of chemical additives in food processing. Prepared by the Food Protection Committee of the Food and Nutrition Board. Washington, D C. National Academy of Sciences—National Research Council, 1956 91 p. 24 cm. (National Academy of Sciences —National Research Council. Publ. 398) $2.00. 7224

Contents Introduction. Part I. Technological benefits of intentional additives. Cereal products. Processed fruits and vegetables. Beverages. Dairy products. Confections, sweeteners, and sugars. Meat products and fats. Discussion. Part II. Intentional additives used [illegible] processed foods. Preservatives. Antioxidants. Sequestrants. Surfactants. Stabilizers, thickeners. Bleaching and maturing agents. Buffers, acids, alkalies. Food colors. Nonnutritive sweeteners. Nutrient supplements. Flavoring agents—aromatic chemicals, essential oils and others. Miscellaneous. Chemical additive index.

Note One of [illegible] series of reports on chemical additives in foods by the Food Protection Committee. It [illegible] survey of the extent of use and technological benefits of use of intentional chemical additives, excluding treatment chemicals and naturally occurring substances used as additives. It presents concisely the names of chemicals used, their purposes such as "[illegible]," "[illegible] agent," "buffer," and data on levels of use, standards and regulations governing usage.

NATIONAL RESEARCH COUNCIL. ADVISORY BOARD ON QUARTERMASTER RESEARCH AND DEVELOPMENT
Dry whole milk a symposium sponsored by the Quartermaster Food and Container Institute for the Armed Forces Quartermaster Research and Development Command, U S. Army Quartermaster Corps. Oriental Institute University of Chicago September 22 23 1954 Edited by J M. McIntire W K. Stone and Martin S. Peterson. Advisory Board on Quartermaster Research and Development Committee on Foods. Washington D C. National Academy of Sciences—National Research Council, 1955 194 p. illus. 23 cm. Gratis. 7225

Contents Introduction—the problem in review. Importance of dry milk products to the Armed Forces, by J. D. Peterman. Purpose and scope of the symposium, by D. K. Tressler. Review of Quartermaster contract research work on flavor aspects of dry whole milk, by J. M. McIntire. Chemical aspects: Chemistry of dry milk products during processing and storage, by R. Jenness and S. T. Coulter. Chemical changes in fat and lactose of milk products with special reference to flavor, by S. Patton and others. Physicochemical properties of the proteins in skimmilk powder, by K. K. Fox and others. Manufacturing and processing: Development and manufacture of dry cream products, by O. F. Garrett. Fundamentals of spray drying, by W. R. Marshall, jr. Dependability: Review of research on the dependability of dry whole milk at the Quartermaster Food and Container Institute, by W. K. Stone. The influence of processing procedures on the dispersing properties of dry milks, by U. S. Ashworth. Methods for improving the dependability of dry whole milk, by H. A. Hollender. Effect of processing on particle size of dry milk and relationship to dependability, by A. M. Swanson. Final considerations: Production of powdered milk products and the inspection service, by M. C. Lockwood. The current status of nonfat dry milk solids, by R. J. Remaley. Summary of discussion, by S. T. Coulter.

Note Although the symposium whose proceedings are published in this volume was primarily concerned with the need of further research on dry whole milk as a food product of value to the Armed Forces of the United States of America, the papers presented are of interest throughout the milk products industry. Participants in the symposium were actively engaged in research on dry milk products, and the results of recent investigations are reported in many of the papers. The title notwithstanding, the papers were not limited to dry whole milk, but included, as well, dry milk from which the fat is removed before dehydration. Transcripts of discussion are included for each paper and several of the papers contain extensive bibliographies.

OWEN, WILLIAM LUDWELL
The microbiology of sugars, syrups and molasses. A reference book for the raw sugar manufacturer or refiner and for all industries engaged in the manufacture, storage or commercial utilization of sugars, syrups and molasses. Published by Barr-Owen Research Enterprises. Minneapolis Burgess Publishing Company 1949 275 p. illus. 22 cm. $5.00. 7226

Contents Source of microorganisms in factory juices. The microbial flora of sugar cane and beet juices. Typical fermentations of cane and beet juices. Fermentation of diffusion juices from sugar beets. The appraisal of the microorganisms in cane juices and beet diffusion juices. The progressive decomposition of microorganisms incident to the manufacturing process. The microbiology of syrups. The microbiology of raw sugars. The deterioration of blackstrap molasses in storage. Author index. Index.

Note This publication brings together information from the voluminous literature on the microbiology of sugar and sugar products and provides for sugar technologists and other scientists interested in the subject [illegible] convenient source of references applicable to problems connected with fermentation in sugar manufacture and the deterioration of sugars or syrups and molasses. The last chapter, which covers the deterioration of blackstrap molasses in storage, deals with [illegible] chemical rather than [illegible] microbiological phenomena, but is included in the book because of the economic importance to the sugar industry of preventing this type of loss, for which microorganisms have sometimes been held responsible. The author is director of the William L. Owen Laboratories, Baton Rouge, and bacteriological consultant for [illegible] number of Louisiana industrial concerns, including sugar refineries.

teriologist of the staff of the Research Laboratories of Swift & Company

JOSLYN, MAYNARD ALEXANDER

Methods in food analysis applied to plant products New York Academic Press, Inc., 1950 525 p illus. 23 cm $10 50 7217

Contents (abridged) Statistical analysis, errors, expression of results. Sampling. Moisture content and total solids. Ash content and ashing procedures. Extraction methods and separation processes. Densimetric methods. Refractometric methods. Polarimetry and saccharimetry Colorimetry and spectrophotometry Potentiometric and related methods. *pH* and buffer capacity Viscosimetric and other physical methods. Acidimetry Alcoholometry Carbohydrates. Pectins and pentosans. Tannins. Organic nitrogenous compounds. Index.

Note. A work in which basic physical and chemical principles and techniques, rather than specific laboratory procedures, are discussed. Also, the author has assumed that his readers will be concerned more with the estimation and control of the quality of food products than with the detection of adulteration. The book is addressed to upperclass and graduate college students who understand the principles and techniques of qualitative and quantitative analysis. It is written in the style of a monograph, with keyed references from the text to extensive bibliographies. For chemists already at work in the field, especially those concerned with manufacturing, it is a useful survey of applicable techniques and a guide to the literature.

LOWE, BELLE

Experimental cookery from the chemical and physical standpoint. Fourth edition New York John Wiley & Sons, Inc., 1955 573 p. illus. 23 cm $7 50 7218

Contents The relation of cooking to colloid chemistry Food acceptability Sugar cookery Frozen foods. Fruits and vegetables. Pectic substances, jelly jam. Gelatin. Meat and poultry Emulsions. Milk and milk products. Eggs. Starch, flour, and bread. Batters and doughs. Fats and oils. Index.

Note Cookery and related methods of food preparation are presented from a scientific standpoint in this standard textbook. The basic physics and chemistry are described and the results of many experimental studies are incorporated with references to the source articles. Experiments for students to make in college laboratories are included. The book is used primarily in the instruction of college students of home economics, and is useful also to technical personnel in the food processing industries as survey and guide to the literature.

MCGINNIS, R A., editor

Beet sugar technology New York Reinhold Publishing Corporation 1951 574 p illus 24 cm $14 00 7219

Content (abridged) History Growing sugar beets. The tare laboratory Storage of beets. The diffusion process. Juice purification—fundamental chemistry—first carbonation—second carbonation—adsorbing and absorbing agents. Evaporators and fuel economy Crystallization. Packaging and storage. Special sugar products. Lime and carbon dioxide production. The saccharate processes. The pulp drier Waste disposal and by-product recovery The boiler house. Technical accounting and process control. Appendixes. Glossary of technical terms in common use in the beet-sugar factory Laboratory thickening test sample data and calculations. Books relating to beet-sugar agriculture and beet-sugar manufacture. Author index. Subject index.

Note. Although primarily treatise on the manufacture of beet sugar the first 132 pages of this volume are devoted to the history of the industry the culture of sugar beets, and other facets of the subject which are not parts of the actual manufacturing process. Thus the book provides rounded view of the subject. The chapter on the growing of sugar beets is only 48 pages long and includes 10 references to literature. In contrast, the manufacturing process is fully described with special attention to those unit operations which are peculiar to the manufacture of beet sugar Discussions are included of special aspects such as liquid sugar The volume is the work of many authors, some of whom wrote whole chapters and others parts of chapters. Authorship of the various chapters and parts are indicated in the volume. Each chapter includes references to journal literature in addition to the bibliography of books in the appendix.

MARKLEY, KLARE STEPHEN, editor

Soybeans and soybean products. New York Interscience Publishers, Inc., 1951 2 v illus. 24 cm. (Fats and oils, a series of monographs on the chemistry and technology of fats, oils, and related products, editorial board A E Bailey and others) $14.50 per vol. 7220

Contents Vol. I. Production: History of soybean production, by W J Morse. World soybean production and trade, by E. L. Burtis. Structure and composition Structure and genetic characteristics of the soybean, by L. F Williams. Chemical composition of soybean seed, by W J Morse. Chemical composition of soybean oil, by B. F Daubert. Chemical characteristics of soybean oil, by S. T Bauer Physical properties of soybean oil, by M. E. Jefferson. Proteins and other nitrogenous constituents, by S. J. Circle. Other constituents of the soybean, by B. F Daubert. Nutritive factors in soybean products, by H. H. Mitchell. Processing: Grading and evaluation of soybeans and derived products, by E. Freyer. Handling and storage of soybeans, by L. E. Holman. Biological processes in stored soybeans, by M. Milner Mechanical processing of soybeans, by L. F Langhurst. Vol. II. Solvent extraction practices, by L. F Langhurst. Utilization of soybean products. Production and utilization of lecithin, by J Stanley Processing of edible soybean oil, by J W Bodman and others. Nutritional value of soybeans and soybean products, by H. J Deuel, Jr. Edible soybean oil products, by H. C. Black and K. F Mattil. Soybean oil by-products, by R. W Lehmann and N D. Embree. Nonedible soybean oil products, by T F Bradley Soybean oil meal for livestock and poultry by J W Hayward. Soybean protein food products, by R. S. Burnett. Soybean protein industrial products, by R. S. Burnett. Other soybean products, by J M. Smith and F O. Van Duyne. Author index, Volumes I-II. Subject index, Volumes I-II.

Note. Each of the 25 monographs in this comprehensive work has been prepared by an expert, and is well documented with literature references. Although the levels of the monographs vary the work as a whole is technical and is designed for professional workers in fields where a knowledge of soybean processing or soybean products is essential.

MARSHALL, ROY E

Cherries and cherry products. New York Interscience Publishers, Inc., 1954 283 p. illus 23 cm (Economic crops, a series of monographs on the chemistry physiology and technology of food and food products Z I Kertesz editor) $8 50 7221

Contents The history of the cherry The cherry industry Species, groups and varieties. Development and structure of the fruit. Some environmental factors affecting cherry production. Some management factors affecting cherry production. Diseases and insects and their control. Chemical and physiological changes in cherry fruits. Fruit maturity and fruit handling. Factors affecting the post-harvest life of the cherry Pretransit treatment and transportation. Preservation by canning. Preservation by freezing. Brined cherries and their products. Cherry juice. Dehydration of cherries. Standards and grades for cherries. Author index. Subject index.

Note A very compact presentation based on the literature and keyed throughout to citations of source articles. Although horticultural information—some of it rather detailed—is included, economic aspects and food technology are emphasized. Results reported in literature published as late as 1953 are included. The book will be valuable to such technicians as the research personnel of canneries and frozen-food processing plants, county agricultural agents, and specialists in economic crops.

MATLACK, MARION BROOKS

Instructions on processing for community frozen food locker plants. Revised edition. Washington D C. Government Printing Office 1948 52 p. illus. 26 cm (United States. Department of Agriculture Miscellaneous publication no 588) $0 15 7222

graphs on the chemistry physiology and technology of food and food products Z. I. Kertesz, editor) $9 75 7232

Contents (abridged): History and distribution of the apple Kind Cultivation of apples. Distribution of the apple industry in the United States and Canada. Varieties of apples. Tree characteristics. Fruit characteristics. Development and structure of the apple fruit. Some environmental and cultural factors affecting the chemical composition and physiology of apples. Chemical changes and physiology of apple fruit on the tree. Chemical changes and physiology of apple fruit after harvest: Transpiration (water loss) Carbohydrates. Acids. Nitrogen compounds. Minerals. Fats, oils, and waxes. Color compounds. Enzymes. Vitamins. Organic emanations from apples. Composition of internal atmosphere of apples. Respiration. Fruit maturity and quality. Prestorage treatments of apples. Cleaning apples. Grading apples. Wrapping and waxing apples. Carbon dioxide treatment of apples. Processing of apples. Storage of apples in fresh state. General considerations of apple products manufacture: Chemical constituents affecting products manufacture. Nutritional value of apples and apple products. Preparation and preservation of apples: Development of dried, canned, and frozen apples. Apples used for drying, canning, and freezing preservation. Fruit preparation. Preservation by drying. Preservation by canning. Preservation by freezing. Preservation with chemicals. Apple juice, sirup, and concentrate. Fermentation products of apples: Cider. Apple wine. Apple brandy. Industrial alcohol. Cider vinegar. Miscellaneous fermentation products. Jelly, butter and other apple confections. Apple pomace. Composition. Preservation. Utilization. Appendix. Author index. Subject index.

Note: In this treatise the chief emphasis is on the chemistry physiology and processing of the apple fruit after it has been harvested. However, certain preharvest aspects which affect the chemistry and physiology after harvest are discussed. The chapters pertaining to storage and to the manufacture of apple products account for more than half of the book's length. Much of the information on manufacture has been collected from such sources as patents and articles in journals. There are over 900 literature references.

SPENCER, GUILFORD LAWSON AND GEORGE P MEADE

Cane sugar handbook a manual for cane sugar manufacturers and their chemists Eighth edition, revised, rewritten, and enlarged. New York John Wiley & Sons, Inc., 1945. 834 p. illus. 22 cm. $16.50. 7233

Contents (abridged): Manufacture of raw sugar: Economic phases of the sugar industry. Raw material. Extraction of the juice. Steam plant and fuel. Purification of the juice. Chemical reagents used in sugar processes. Evaporation and heating. Preservation of the juice and sirup during shutdowns. Crystallization of the sugar. Purging, packing, and warehousing the sugar. Blackstrap molasses and edible sirups. Keeping and refining qualities of raw sugar. Sugar refining. Sugar analysis and chemical control of the factory: Sugars and other constituents of the cane. Optical methods in sugar analysis. Double polarization methods—Clerget sucrose. Chemical methods in sugar analysis. Hydrogen-ion (pH) control. Color and turbidity in sugar products. Sampling and averaging. Analyses of the sugar cane. Analyses of the juice. Analyses of the sirup, massecuites, and molasses. Analyses of sugars. Analysis of the filter press cake. Analysis of the bagasse. Checking factory waste and boiler feed water for sugar. Definitions and expressions used in sugar house work. Chemical control. Sugar house calculations. Methods of cane purchase. Fermentation and microorganisms in sugar manufacture and refining. Analyses of limestone, lime, sulfur, and sulfurous acid. Analyses of flue gases. Special reagents. Reference tables. Index.

Note: A technical survey of the various phases of cane sugar manufacture and refining, written primarily for the control chemist. This edition has been considerably enlarged with introduction of the material on the theory and practice of crystallization in cane, blackstrap molasses and edible sirups, and the manufacture of refined sugars. Other chapters on methods of cane purchase, composition of cane, uses of bagasse, warehousing of sugar, and vegetable carbon processes in refining have been revised and expanded.

STORCK JOHN AND WALTER DORWIN TEAGUE

Flour for man s bread a history of milling. Illustrated by Harold Rydell. Minneapolis University of Minnesota Press, 1952 382 p. illus. 27 cm. $7.50 7234

Contents: The hoe [illegible] shall follow. Dust makes the man. The grinding of wild grains begins. Grain cultivation begins. Farming and milling tools appear—and bread. The grain empires. Milling becomes [illegible] business. Water turns the millstones. Man masters the [illegible] for milling. Man [illegible] new power resources. Milling comes to America. Oliver Evans invents the automatic mill. Westward ho! Automatic milling and the powder start [illegible] revolution in American milling. Rollers and gradual reduction advance the milling revolution. The automatic all-roller gradual-reduction mill completes the revolution. The business side of milling gains importance. The modern mill and its flour. The new era of organization and research. Looking forward. Vocabulary of milling terms. References and notes. Index.

Note: A well-documented, popular history of the development of flour milling. The main theme [illegible] the chain of improvements in technical processes from the earliest hand-stone methods to the highly mechanized, efficient, and sanitary modern mill. In the early chapters, [illegible] here the authors have leaned heavily on archeological accounts of early civilizations, the account has [illegible] decided antiquarian flavor. In the later chapters, there is more emphasis on major inventions and the contributions of prominent millers. Also, there are frequent mentions of the names of large milling companies in the United States of America. The book is an outgrowth of [illegible] project [illegible] hence, liberal use is made of illustrated matter including not only pictures but also few charts and maps. The References and notes are arranged according to chapter and constitute bibliography of source materials on flour milling.

TANNER, FRED WILBUR

The microbiology of foods. Second edition. Champaign Ill Garrard Press, 1944 1 196 p. illus. 24 cm. $12.50 7235

Contents: Food preservation. The bacteria. Yeasts and molds. Bacteriology of water and sewage. Microbiology of milk. Bacteriological milk analyses. Pasteurization of milk. Microbiology of cream and butter. Microbiology of cheese. Microbiology of frozen desserts, ice cream, and similar products. Microbiology of concentrated milk. Fermented milks. Intestinal microbiology. Microbiology of fruits and fruit products. Microbiology of vegetables and vegetable products. Microbiology of tomato products. Microbiology of bread. Fermented foods. Microbiology of sugar and sugar products. Microbiology of fish and shellfish. Meat and meat products. Microbiology of eggs and egg products. Microbiology of canned foods. Microbiology of miscellaneous food products. Microbiological methods of assaying food for vitamins. Culture media. Index.

Note: The book is both [illegible] comprehensive manual of tests and methods of analysis and [illegible] guide to the literature. In this second edition, the subjects of mycology and microbiology has been greatly expanded. All of the major methods of analysis found up to the time of the preparation of this edition have been included with full discussion and details.

TRESSLER, DONALD KITELEY AND CLIFFORD F EVERS

The freezing preservation of foods. Second edition revised and enlarged. Westport, Conn. The Avi Publishing Company Inc., 1947 932 p. illus. 21 cm. 7236

Contents (abridged): Food freezing—present importance and potentialities. Cold storage, sharp freezers and sharp freezing. Quick freezing and the quick freezing systems. Freezing cabinets and walk-in freezers. Frozen food locker plants. Packaging materials and problems. Adaptability of vegetables and vegetable varieties to freezing. The freezing of vegetables. Adaptability of fruits to freezing. The preparation for freezing and freezing preservation of fruits. The manufacture and freezing of fruit juices. The preparation of foods for home freezing. The preparation and freezing of meat—poultry—fish—shellfish. The freezing of dairy products. Precooked frozen foods. The storage, transportation and marketing of frozen foods. The nutritive value of frozen foods. The cooking and serving of frozen foods. The microbiology of frozen foods. The importance of quality control and standards in the frozen foods industries. Appendix. Index.

Note: The standard presentation of this subject for use in the commercial industry. In spite of the fact that the emphasis is on commercial practices, the book does contain directions which are presented simply enough so that they can be followed by householders interested in full-scale freezing for their own use. The

PARKER, MILTON E, AND OTHERS

Elements of food engineering By Milton E Parker with the collaboration of Ellery H Harvey and E S Stateler Volume one. New York Reinhold Publishing Corporation, 1952 386 p illus 24 cm $8.50 7227

Contents Engineering factors in food processing. Agricultural and nutritional aspects of food production. Foods and food processing. The food-processing industry Refined foods processing Wheat and corn flours—rice and oats milling—minor cereal flours—fats and oils—sugars, syrups, starches, and gums—food protein derivatives—spices, essential oils, condiments, and flavoring extracts—beverages and fermentation products—salts. Index.

—— Volume two-three, Unit operations By Milton E Parker, with the collaboration of Ellery H Harvey and E S Stateler New York Reinhold Publishing Corporation 1954 2 v 24 cm. Vol 2, $8 50, vol 3, $6 75 7227A

Contents Volume two. Section I, Assembly of raw materials: Materials handling. Separating. Section II, Preparation of raw materials Cleaning. Separating (continued) Disintegrating. Separating (continued) Pumping. Section III, Conversion of raw materials Mixing. Heat exchange. Heating applications. Refrigerating applications. Index. Volume three. Section III, Conversion of raw materials (continued): Evaporating and distilling. Dehydration and drying. Controlling. Section IV Treatment of final products Coating, decorating, and forming. Packaging—materials—methods. Index.

Note. A treatise on the engineering aspects of present-day large-scale food processing, designed for study and reference use by college students who are preparing for technical positions in the food processing industries and by engineers and technicians already employed in these industries. The first volume is devoted largely to technical descriptions of processes and products of principal segments of the industry The other two volumes provide rather detailed descriptions of the unit processes and the machinery used in the industry The chapters on packaging contain numerous illustrations of typical packages.

PARKER, MILTON E

Food plant sanitation. New York Mc Graw Hill Book Company, Inc, 1948 447 p illus. 23 cm (McCraw Hill series in food technology L. V Burton chairman) $7.50 7228

Contents Role of sanitary practice in quality control. Sanitary aspects of buildings and equipment. Sanitary aspects of water supply Wastes disposal and utilization. Establishment and development of sanitary practices. Employee training in sanitary practices. Maintaining sanitary practices. Salient legal aspects of pest control. Safe and effective insect control. Safe and effective rodent control. Fungicides, germicides, and sanitizers. Effective detergency Effective cleaning practice and operations. Sanitary packaging practice. Sanitary aspects of packaging materials. Appendix Excerpts from U S laws and regulations. Index.

Note A practical guide to the techniques of sanitary food handling, from the time the raw material is received at the factory until it is processed and packaged ready for delivery The book is based on a study f current practices and will be of value to anyone connected with the food industries. It discusses general methods for establishing and maintaining sanitary conditions in food plants and offers specific instructions for pest control measures and the provision of physically clean and sanitary food contact surfaces. The discussions of the relative effectiveness of various insecticides, detergents, cleansers and packaging materials are useful feature of the book.

PRESCOTT, SAMUEL CATE, AND BERNARD E PROCTOR

Food technology New York McGraw Hill Book Company Inc., 1937 630 p illus. 23 cm. $9 00 7229

Contents Introduction. Wheat and milling. Corn and corn products. Minor cereals. Vegetables. Fruits. Sugars and sirups. Meat and meat products. Fish and fish products. Poultry and eggs. Milk. Dairy products. Baking. Canning. Refrigeration. Dehydration. Salt, vinegar and pickled products. Vegetable oils, mayonnaise. Fruit juices. Jellies and jams. Confectionery Coffee, tea, and spices.

Note. The material in this volume is based largely on courses given by the authors at the Massachusetts Institute of Technology chemistry and engineering in the preparation of food products. It deals with the economic applications of biology physics, and discusses the sources, preparation for market, and methods of quantity handling of various types of foods. The fundamental principles of manufacturing and treatment, rather than detailed descriptions of individual processes, are emphasized.

PYLER, ERNST JOHN

Baking science and technology, by E J Pyler In collaboration with the staff of the Siebel Institute of Technology, in two volumes Chicago, Ill. Siebel Publishing Company, 1952 2 v illus. 24 cm $15 00 7230

Contents (abridged) Volume I. Part I, Basic science: The carbohydrates. Fats and oils. The proteins. The enzymes. The vitamins. Yeast, molds and bacteria. Part II, Materials of baking: Wheat flour Miscellaneous flours. Sugars and syrups. Plastic baking fats. Milk and milk products. Eggs and egg products. Bibliography I. Volume II Part III, Baking technology: Dough mixing. Fermentation. Dough make-up. The baking process. Rye bread production. Physical and chemical testing methods. Part IV Aspects of cake baking: Cake ingredients. Flavor Cake baking technology Part V Bakery equipment. Flour handling equipment. Dough handling equipment. Oven equipment. Cooling, slicing and wrapping equipment. Bakery sanitation. Appendix. Bibliography II. Subject index.

Note A comprehensive account of the basic principles and processes underlying the baking industry and of the chief ingredients used. It is based on Siebel's *Manual for bakers and millers*, 1924, but the material has been so thoroughly revised and rewritten as to constitute new work. Emphasis is placed on bread making, but other types of baking are also discussed from the point of view of the chemical reactions involved, the quality and properties of the ingredients, and the equipment and techniques employed. Numerous photographs of bakery equipment and an extensive bibliography are included.

SHERMAN, HENRY CLAPP

Food products. Fourth edition. New York The Macmillan Company, 1948 428 p. illus. 22 cm. $5 50 7231

Contents. The chief constituents and functions of food. General principles of food, control and management. Milk. Milk products other than butter. Eggs. Meats and meat products. Poultry game, fish, and shellfish. Grain products. Vegetables. Fruits. Nuts. Edible fats and oils. Sugars, sirups, and confectionery Food adjuncts, unclassified food materials, and extra foods. The problem of the best use of food—with some aspects of food economics. Appendices Simple statistical treatment of data. Food values and their variations. Index.

Note: A broad study of foods and food products. The typical chapter deals with single type of food and includes. (1) an account of its production and market preparation, plus details of marketing and storage methods, and discussion of its relative economic importance, (2) sanitation, inspection and purity standards, (3) general composition, mineral content, and structural items, (4) special characteristics, digestibility nutritive value, and dietary importance. Several pages following each chapter are devoted to recommended reference and suggested readings covering all aspects of the subject—nutritional, chemical, and technological. Revision of these reading lists and modification of the tabulated data concerning amino acids in food proteins represent the major changes in this edition. The volume is designed for professional dietitians, college students of nutrition, and the advanced general reader.

SMOCK, ROBERT MUMFORD, AND A M NEUBERT

Apples and apple products. New York Interscience Publishers Inc. 1950 486 p. illus. 22 cm. (Economic crops a series of mono-

The treatment of some topics is brief; for instance, there are only five pages on insect pests. On the other hand, abundant literature references are given, there being nearly 400 such in the book. Topics related to marketing, for example ripening methods, are treated more fully but even in these parts only the main facts are outlined.

VON LOESECKE, HARRY WILLARD

Drying and dehydration of foods. Second edition. New York Reinhold Publishing Corporation, 1955 300 p. illus. 22 cm. $7.50 7243

Contents: Types of dehydrators. Sun-drying and dehydration of fruits. Dehydration of vegetables. Dehydration of eggs, milk, butter and cheese. Dehydration of meat, fish, beef blood and gelatin. Dehydration of miscellaneous foods. Plant sanitation. Nutritive value of dried and dehydrated foods. Packaging and storage. Reconstitution of dehydrated foods; some analytical methods. Index.

Note: Publication of the first edition of this book in 1943 established it as the standard American treatise on its subject. The second edition has the same scope as the first. The book is a survey of published literature and experience, and is written from the standpoint of the commercial food preservation industry. Most of the chapter titles in the second edition are identical with those in the first, and the length of the book is about the same. However, the revision has been thorough, and new matter appears in most chapters. One chapter in the former edition, that on costs, has been dropped, and a new chapter entitled "Dehydration of miscellaneous foods" has been inserted in its place. Data on production have been revised, and many new techniques are described. The literature references have been revised in accordance with the changes in the text.

WINTON, ANDREW LINCOLN AND KATE BARBER WINTON

The analysis of foods. With 208 illustrations. New York John Wiley & Sons, Inc., 1945 999 p. illus. 22 cm. $16.50. 7244

Contents: Introduction. Part I, General microscopic methods. General physical methods. General chemical methods. Organic elements. Constituent groups—water (volatile matter), protein, fat (ether extract); nifext (nitrogen-free extract); fiber; ash. Water. Protein. Fat. Nifext. Fiber. Ash. Alcohols. Vitamins. Natural colors. Artificial colors. Chemical preservatives. Part II, Special methods. Cereal foods. Fatty foods. Vegetable foods. Fruit foods. Saccharine foods. Alcoholic beverages. Dairy products. Animal foods. Alkaloidal products. Food flavors. Leaven. Salt. Index.

Note: A comprehensive manual of both official and nonofficial chemical methods for qualitatively and quantitatively determining the basic constituents of foods. The necessary laboratory apparatus and stock reagents are discussed, and physical methods of analysis such as those involving the use of the microscope, refractometer, polariscope, and colorimeter are also mentioned. Procedures are described in great detail to enable the laboratory worker to follow them correctly. Some very common methods and tests that are adequately described in other standard analytical manuals, for example, the Liebig method for determination of carbon and hydrogen, are not covered. Extensive lists of the international literature appear throughout the book, and the text is keyed to them. The work is designed as a reference book for professional analytical chemists and as a textbook for advanced chemistry students.

ZIEGLER, P THOMAS

The meat we eat. Fourth edition, revised. Danville Ill. The Interstate Printers and Publishers 1956 553 p. illus. 23 cm. $4.00. 7245

Contents (abridged): Part one: Federal and state meat inspection. Hog slaughter. Cattle slaughter. Lamb slaughter. Veal and calf slaughter. Packing house by-products. The preservation, smoking and storing of meats. Cold storage and refrigerated food lockers. Dressing poultry and game. Part two: Meat as a food. Federal meat grading. Cutting pork and rendering lard. Sausages. The beef carcass. Preparing and serving meats. Meat judging. Meat identification. Appendix: Organizations that promote meat. Index.

Note: A practical manual in which most of the space is given to descriptions of slaughtering methods adaptable to farms and small slaughter houses and to the preparation of meat for use as human food. Such techniques as the slaughtering of hogs and the cutting up of the carcass are described very specifically. Related matters, such as the value of meat as food and governmental grading and inspection of meat, are discussed more briefly. There are more than 233 figures, many of which are reproductions of photographs of slaughtering and cutting-up operations. Selected literature references are included.

appendix includes a range of useful information on such topics as standards for frozen foods, tests for quality and laws relating to the operation of frozen food locker plants. A third in edition in two volumes was published in 1937 Vol. I Fresh Foods, $12.00 Vol. II, Precooked and prepared foods, $10.00.

TRESSLER, DONALD KITELEY, AND JAMES McW LEMON

Marine products of commerce, their acquisition, handling, biological aspects and the science and technology of their preparation and preservation In collaboration with A. E Alexander and others Second edition, revised and enlarged. New York Reinhold Publishing Corporation, 1951 782 p illus. 24 cm. $20 00 7237

Contents (abridged) The ocean, its potentialities and products. Salt from sea water Magnesium, bromine and other products from sea water The red algae of economic importance. The brown algae. The precious coral industry Economic importance of the world' fisheries. American fishing gear and fishery methods. Fish and shellfish as food. Refrigeration and freezing of fish. The principles of fish salting. Canning of fish and fish products. Fish meal and oil. Fish liver oils. Fish glue and isinglass. Manufacture of leather from marine sources. The oyster industry of the world. The clam industry of the United States. The American shrimp industry The lobster fishery Marine turtles and terrapins. The whaling industry Seal fisheries. Commercial sponges. Index.

Note A cyclopedic reference book that is unique in its field. The first edition was published in 1923 The viewpoint and scope of the present edition are essentially the same as the first, but the contents f the book are new Under chapter titles, such as are given above, both economic and technical information are presented. The chapters are supplemented by bibliographies that include the periodical and patent literature.

TURNBOW, GROVER DEAN, AND OTHERS

The ice cream industry by Grover Dean Turnbow, Paul Hubert Tracy and Lloyd Andrew Raffetto Second edition. New York John Wiley & Sons, Inc., 1947 654 p illus. 24 cm. $7 00 7238

Contents. The history and development of the ice cream industry Classification and recipes. Composition of the mix. Selection of milk products. Sweetening agents. Mix stabilizers. The use of eggs in ice cream. Standardization of ice cream mixes. Mix preparation. Freezing ice cream with the batch freezer Freezing ice cream with the continuous freezer Flavoring ice cream. Hardening ice cream. Packaging and delivering. Ice cream specialties and novelties. Sherbets and ices. Sanitary control of ice cream plants. Washing and sanitizing. Food value of ice cream. Ice cream defects. Physical and chemical properties of ice cream mixes. Merchandising. Plant costs and records. Engineering in the ice cream plant. Laboratory tests used in the ice cream industry Appendix. Index.

Note A comprehensive treatise on commercial methods f manufacturing and marketing ice cream. It is suitable for use both as a text in organized courses in schools and as reference manual in the industry The present edition represents an extensive rewriting and enlargement of the first edition published in 1928. New material has been added on the composition and standardization of mixes, the selection of ingredients, freezing, hardening, packaging, delivery sanitary control, and merchandising. Reference lists f related literature, some f them containing as many as 150 entries, are appended to most of the chapters. The authors are former or present university professors.

UNITED STATES AGRICULTURAL RESEARCH ADMINISTRATION

Experimental compression of dehydrated foods Washington D C Government Printing Office 1948 57 p illus. 26 cm (United States Department of Agriculture. Miscellaneous publication 647) Gratis 7239

Contents Introduction. Definitions of terms. General problems in food compression. Procedures and equipment. Results of compression studies on specific dehydrated vegetables. Compression of specific dehydrated fruits. Compression of spray-dried whole egg powder Results of compression tests on cereal and soya flours. Summary of compression conditions for specific foods and volume reductions effected by compression. Storage behavior of compressed food products. Preliminary experiments on the use of in-package desiccants with compressed dehydrated foods. Prescribe compression. Unsolved problems. Literature cited.

Note This publication reports the results of investigations on compressed dehydrated foods undertaken during World War by the Bureau of Agricultural and Industrial Chemistry the Bureau of Plant Industry Soils, and Agricultural Engineering, and the Bureau of Human Nutrition and Home Economics. Problems of handling, transportation, and storage of food for overseas shipments led to the need for reducing the bulk of such foods as far as possible. The experiments were carried on over a two-year period. The results form a groundwork for further advances in food-compression techniques.

UNITED STATES PUBLIC HEALTH SERVICE

Manual of recommended practice for sanitary control of the shellfish industry Recommended by the United States Public Health Service 1946 Prepared by direction of the Surgeon General. Washington, D C. Government Printing Office, 1946 44 p illus. 23 cm (United States. Public Health Service. Public health bulletin no 295) $0 15 7240

Contents Introduction. General administrative procedures. Definitions. Growing areas. Harvesting and handling. Preparing for market, processing Shucking and packing plant. Shucking room. Packing and shipping room. Index.

Note A guide for state and local health authorities who exercise supervision over the sanitary quality of shellfish shipped in interstate commerce. It enumerates and describes the specific items of sanitation recommended.

VAN HOOK, ANDREW

Sugar its production technology, and uses. New York The Ronald Press Company, 1949 155 p illus. 22 cm. (A volume of the Humanizing science series edited by Jaques Cattell) $3 25 7241

Contents Sugar and the sugars. Production—cane Production—beet. Commercial and trade aspects By-products. recent and anticipated developments. History Index.

Note. This book brings together in readable form, with many illustrations, the essential facts about the growing, processing, and refining of sugar the scientific basis of its technology its uses both present and potential, and brief history of sugar from ancient times to the present day It is especially suited for those outside the sugar industry who want or need well-rounded picture of the sugar industry and its background.

VON LOESECKE, HARRY WILLARD

Bananas chemistry physiology technology Second revised edition New York Interscience Publishers Inc 1950 189 p illus. (part col d) 22 cm (Economic crops a series of monographs on the chemistry physiology, and technology of food and food products Z. I Kertesz, editor Volume I) $6 00 7242

Contents. History and growth of the trade. Structure and development. Commercial storage and ripening methods. Banana physical changes during ripening. Transportation of bananas. Chemical products. Nutritive value in health and disease. Diseases and insect pests of bananas. World banana production and trade. Author index. Subject Index.

Note. An inclusive survey of economic, horticultural, and nutritional information on one of the world's most important fruits.

The treatment of most topics is brief; for instance, there are only three pages on insect pests. On the other hand, abundant literature references are given, there being nearly 400 such in the book. Topics related to marketing, for example ripening methods, are treated most fully but even in these parts only the main facts are outlined.

VON LOESECKE, HARRY WILLARD

Drying and dehydration of foods. Second edition. New York Reinhold Publishing Corporation, 1955 300 p. illus. 22 cm. $7.50 7243

Contents: Types of dehydrators. Sun-drying and dehydration of fruits. Dehydration of vegetables. Dehydration of eggs, milk, butter and cheese. Dehydration of meat, fish, beef blood and gelatin. Dehydration of miscellaneous foods. Plant sanitation. Nutritive value of dried and dehydrated foods. Packaging and storage. Inspection of dehydrated foods, some analytical methods. Index.

Note: Publication of the first edition of this book in 1943 established it as the standard American treatise on its subject. The second edition has the same scope as the first. The book is a survey of published literature and experience, and is written from the standpoint of the commercial food preservation industry. Most of the chapter titles in the second edition are identical with those of the first, and the length of the book is about the same. However, the revision has been thorough, and new matter appears in most chapters. One chapter in the former edition, that on costs, has been dropped, and a new chapter entitled "Dehydration of miscellaneous foods" has been inserted in its place. Data on production have been revised, and many new techniques are described. The literature references have been revised in accordance with the changes in the text.

WINTON, ANDREW LINCOLN AND KATE BARBER WINTON

The analysis of foods. With 208 illustrations. New York John Wiley & Sons Inc. 1945 999 p. illus. 22 cm. $16.50 7244

Contents: Introduction. Part I, General microscopic methods. General physical methods. General chemical methods. Organic elements. Constituent groups—water (volatile matter); protein; fat (ether extract); nifext (nitrogen-free extract); fiber; ash. Water. Protein. Fat. Nifext. Fiber. Ash. Alcohols. Vitamins. Natural colors. Artificial colors. Chemical preservatives. Part II, *Special methods.* Cereal foods. Fatty foods. Vegetable foods. Fruit foods. Saccharine foods. Alcoholic beverages. Dairy products. Animal foods. Alkaloidal products. Food flavors. Leaven. Salt. Index.

Note: A comprehensive manual of both official and unofficial chemical methods for qualitatively and quantitatively determining the basic constituents of foods. The necessary laboratory apparatus and stock reagents are discussed, and physical methods of analysis such as those involving the use of the microscope, refractometer, polariscope, and colorimeter are also mentioned. Procedures are described in great detail to enable the laboratory worker to follow them correctly. Some very common methods and tests that are adequately described in other standard analytical manuals, for example, the Liebig method for determination of carbon and hydrogen, are not covered. Extensive lists of the international literature appear throughout the book, and the text is keyed to them. The work is designed as a reference book for professional analytical chemists and as a textbook for advanced chemistry students.

ZIEGLER, P THOMAS

The meat we eat. Fourth edition revised. Danville Ill. The Interstate Printers and Publishers, 1956 553 p. illus. 23 cm. $4.00 7245

Contents (abridged): Part one: Federal and state meat inspection. Hog slaughter. Cattle slaughter. Lamb slaughter. Veal and calf slaughter. Packing house by-products. The preservation, smoking and storing of meats. Cold storage and refrigerated food lockers. Dressing poultry and game. Part two: Meat as a food. Federal meat grading. Cutting pork and rendering lard. Sausages. The beef carcass. Preparing and serving meats. Meat judging. Meats identification. Appendix: Organizations that promote meat. Index.

Note: A practical manual in which most of the space is given to descriptions of slaughtering methods adaptable to farms and small slaughter houses and to the preparation of meat for use as human food. Such techniques as the slaughtering of hogs and the cutting up of the carcass are described very specifically. Related matters, such as the value of meat as food and governmental grading and inspection of meat, are discussed more briefly. There are more than 330 figures, many of which are reproductions of photographs of slaughtering and cutting-up operations. Selected literature references are included.

TEXTILES

AMERICAN VISCOSE CORPORATION

Rayon technology (including acetate) handbook for textile mills. Prepared by the Textile Research Department, American Viscose Corporation Second edition. New York McGraw Hill Book Company, Inc., 1953 344 p illus 23 cm. (Textile technology series. C W Bendigo consulting editor) $7 00 7246

Contents Rayon and acetate on the cotton system—worsted system—woolen system. Rayon and acetate from yarn to fabric. Standard fabric constructions. Rayon and acetate in knitting mills—dyeing and finishing. Industrial applications. Textile chemicals. Appendix. Index.

Note The methods of processing rayon and acetate staple into yarn the preparation of their yarns for weaving and knitting operations dyeing, and the calculations involved in producing the finished fabric are covered in detail in this book. The chapter on industrial applications covers uses of these fibers in such classes of goods as rubber paper and plastics. The book is intended for mill men and other technical personnel already familiar with the textile technology of cotton silk and wool. The first edition was published in 1948. This second edition contains two new chapters and many revisions in the chapters carried over from the first edition.

ATWATER, MARY MEIGS

The shuttle-craft book of American hand weaving, being an account of the rise devel opment, eclipse, and modern revival of a na tional popular art together with information of interest and value to collectors, technical notes for the use of weavers & a large collec tion of historic patterns With illustrations Revised edition. New York The Macmillan Company 1951 341 p illus. 23 cm. $7 50 7247

Contents Origins and development. Weaving horizons—the scope of this book. Beginner's problems. Design of the fabric. Choice of pattern and color. Setting up the loom. Adjustments, knots, the tie-up. Weaving. The plain weave. The twill weave. The four harness overshot weave. Additional four-harness weaves. The summer and-winter weave. The "spot or Bronson weave. Double-faced twill and damask. The double weave. Leno. Rug-making. Pick-up weaving Finishes. Index.

Note This is the completely revised edition of standard handbook on American weaving first published in 1928. It gives an account of the history of hand-weaving, its origin, development, decline, and modern revival It also gives instructions for weaving and other information including advice on the choice of looms and materials. Patterns for weaving are presented in technical diagrams and in photographic reproductions. Writing on the basis of long experience with the craft of hand-weaving, the author gives detailed directions for the fundamental processes, gives accounts of the weaves and patterns current in colonial North America, and supplies information on weaves from the southwestern United States of America, Mexico, Guatemala, and Peru. The author does not endeavor to cover Scandinavian weaving, tapestry weaving, draw loom weaving, or fly-shuttle weaving. Although beginners without other instruction may find the work somewhat advanced, the book is to be recommended for any persons seriously interested in the practice of hand-weaving.

BENDURE, ZELMA, AND GLADYS PFEIFFER

America's fabrics, origin and history, manufacture characteristics and uses. Photographic layout by Crystal Stephen, fabric photographs by Nat Messik. New York The Macmillan Company 1946 688 p. illus. (part col'd) 24 cm $10 00 7248

Contents. America's fabrics. Wool. Cotton. Linen. Minor vegetable fibers. Silk. Rayon. Other synthetics. Asbestos. Yarn. Weaving. Knitting. Twisting. Felting. Chemistry Pretreatments. Dyeing. Printing. Finishing. Home fabrics. Fabrics defined. Testing and standards. Index.

Note. An encyclopedic survey designed to provide information for persons who are not specialists in textile technology such as students, manufacturers who use fabrics, interior decorators, consumers, and persons connected with the selling of textile products. A wide range of information is covered from how the basic fibers are produced to the qualities and uses of the finished fabrics. Fabrics of minor importance are included along with those of major importance. The book is lavishly illustrated with views of textile machinery manufacturing operations, and fabrics.

BERKLEY, EARL ESCO, AND OTHERS

Structure determined by X ray and strength of cotton fiber, by Earl E Berkley, Orville C. Woodyard, H. D Barker Thomas Kerr, and C J King Washington D C. Government Printing Office, 1948 64 p. illus. 23 cm. (United States. Department of Agriculture Technical bulletin no. 949) Gratis. 7249

Contents. Experimental background of X-ray method. Relation to yarn strength. Influence of growing conditions. Influence of species and varieties. Outline of X-ray method. Literature cited.

Note. In comparing cotton samples for selection in breeding, the X-ray method supplements rather than replaces strength methods. The X-ray technique serves also as a research tool in determining reasons for differences in strength and other properties and in comparing natural and synthetic fibers. This study on the development of the X-ray method shows X-ray measurement to be valuable tool in cotton-breeding and general fiber-research. The pamphlet is illustrated by tables, graphs, charts, and photographs.

BLACK, MARY E

Key to weaving a textbook of hand-weaving techniques and pattern drafts for the beginning weaver Revised and enlarged. Milwaukee The Bruce Publishing Company 1949, 324 p illus. 27 cm. $6 50 7250

Contents. The loom. Preparing the loom. General information. Two-harness weaves. Three-harness weaves. Four-harness weaves. Five-harness weaves. Six-harness weaves. Eight-harness weaves. Weaving homespuns. Floor coverings. Bibliography. Glossary of weaving terms. Weaving terms in foreign languages. Index.

Note The author of this detailed and fully-illustrated text is Director of the Handicrafts Division, Department of Trade and Industry Nova Scotia. As indicated, the book is written for the beginner and provides descriptions of the various types of looms and methods of setting them up. The greater part of the volume, however consists of instruction for weaving specific patterns and varieties of textures. In this edition new material has been added on warping, threading, two-harness weaving, and weaving of narrow webs on wide looms. The final chapter on floor coverings is also new.

Textiles

CARMICHAEL, W L., AND OTHERS

Callaway textile dictionary by W L. Carmichael, George E. Linton, and Isaac Price. La Grange, Ga. Callaway Mills 1947 392 p. illus. 20 cm. $4.00. 7251

Note. Between 5,000 and 6,000 terms are defined in this dictionary. The average definition is less than [illegible] in length, and is generally simple and non-technical. The compilers have confined themselves to the component of woven fabrics and yarns, including the processes of dyeing and finishing, and the nature and manufacture into finished [illegible] of natural and synthetic fibers. In addition to these definitions, many colors and trade chemicals are included and are defined from a textile point of view. There are approximately 25 illustrations showing textile raw materials, processing machinery and typical weaves.

HARRIS, MILTON editor

Handbook of textile fibers. Washington, D. C. Harris Research Laboratories, Inc., 1954 356 p. illus. 28 cm. $12.50 7252

Contents: Textile terms and definitions. Fiber types and sources. Composition and structure of textile fibers. Chart of fiber properties. Physical properties of textile fibers. Chemical properties of textile fibers. Effect of biological agents. Identification of textile fibers. Yarn numbering and count systems. Chemical and engineering tables. Economic and production data. List of textile periodicals. Index.

Note: A useful though somewhat miscellaneous compilation of commercial and technical information. The glossary defines approximately 1,200 terms; the lists of man-made fibers give names of manufacturers in the United States of America and other countries, and the section entitled "Composition and structure of textile fibers" includes 14 microphotographs of cross sections and longitudinal views of textile fibers. The sections on physical and chemical properties cover [illegible] wide range of data and are the heart of the volume. Together they are 136 pages long. The economic and production data are worldwide.

HESS, KATHARINE PADDOCK

Textile fibers and their use. Fifth edition. Chicago J B Lippincott Company 1954 547 p. illus. 21 cm. $5.50. 7253

Contents (abridged). Section one, Textile construction, finish and design: How fabrics are constructed. How yarns are constructed. How processing alters and reduces cloth. How dyes are applied to textiles. How design is obtained in fabrics. Section two, The textile fibers. Textile fibers—their classification and essential properties. Cotton and flax. Wool and other hair fibers. Silk, the queen of fabrics. Asbestos, other seed hairs. Linen and other bast and leaf fibers. Synthetic fibers—science in competition with nature. Section three, Textiles and the consumer. The consumer and the textile market. How to select fabrics for clothing and household use. The care of fabrics. Appendix. Index.

Note: Although primarily [illegible] textbook for college courses in home economics, this book [illegible] used also for information by lay consumers of textiles. It is introductory to the study of textile fibers, but presents nevertheless [illegible] wide range of facts on not only fibers and their properties, but also on their processing. The latter chapters on selection and care are written strictly from the consumer viewpoint. The first edition was published in 1931 and the fourth edition in 1948. The fifth edition is the result of considerable revision, particularly in the discussions of such topics as the synthetic fibers and special finishes for fibers and fabrics.

HEYN A. N J

Fiber microscopy a textbook and laboratory manual. New York Interscience Publishers Inc. 1954 419 p. illus. 18 cm. $5.50 7254

Contents: The microscope and its manipulation. Preparation and examination of the untreated fiber. Cotton. Flax and hemp. Ramie and jute. Mounting and staining of whole fibers. Microscopy. Recording of observations. Wool and other animal hair fibers. Hand sectioning. Rayons. Resolving power. Silk. Mechanical sectioning. Bast fibers. Leaf fibers. Regenerated protein and alginate fibers. Synthetic fibers. Mineral fibers and starches. Fiber identification. Polarizing microscope—investigation of submicroscopic structure. Special optical methods. List of reagents. Index. Selected fibers—photomicrographs.

Note: An introduction to the use of the microscope in textile testing and manufacturing. It was written for use as [illegible] textbook and is organized so that it can be used as [illegible] elementary as well as advanced course. The exposition of most points is sufficiently explicit and clear so that the reader [illegible] he must study the subject by himself can use the book to advantage, especially if he has access to laboratory apparatus. The author [illegible] he is [illegible] member of the faculty of the School of Textiles of Clemson College, has included literature references and other material [illegible] which has reference value for laboratory technicians already at work in the field.

JACKSON LLOYD HAROLD

Yarn and cloth calculations. New York Textile Book Publishers, Inc., 1947 198 p. illus. 21 cm. $4.25 7255

Contents: Yarn numbering systems. Converting from one yarn system to another. Ply yarns and resultant counts. Grey cloth calculations. Warp calculations. Filling calculations. Cloth calculations. Theory of fabric construction. Calculations based on fabric tests. Fabric analysis. Index. Engineering constants for textile equipment.

Note: A practical and valuable tool for anyone connected with the manufacture of textile fabrics or who is studying to enter the industry. It explains the various yarn systems and illustrates the mathematical calculations relating to cloth construction and fabric analysis with numerous worked examples. Review problems are also given at the end of each chapter.

KASWELL ERNEST R.

Textile fibers, yarns, and fabrics a comparative survey of their behavior with special reference to wool. New York Reinhold Publishing Corporation, 1953 552 p. illus. 24 cm. $11.00. 7256

Contents: Part 1, The inherent properties of textile fibers. The tensile properties of fibers. The torsional repeated stress properties of fibers. Fiber stresses and deformations other than tensile. Friction. Moisture absorption properties of fibers. Thermal properties of fibers. The stability of fibers to environmental conditions. The microbiological properties of fibers. The dyeing characteristics of fibers. Part 2, The properties of textile structures which are dependent upon fabric geometry as well as upon inherent fiber characteristics: Yarn and fabric geometry. Compressional resilience. Thermal transmission properties of textile structures. Air permeability. Moisture transmission. Water repellency and water resistance. Crease retention, wrinkle resistance, and dimensional stability. Abrasion and wear resistance. Felting and shrinkage. Fabric soiling, soil removal, laundering, and dry cleaning. Fabric hand. Fabric drape. Luster. Bibliography. Author index. Subject index.

Note. A reference volume of wide scope. Its origin is told in the following excerpt from the preface: In January 1950, the Wool Bureau, Inc., requested Fabric Research Laboratories, Inc., to survey the literature relative to the properties of the wool fiber, the relationship of these fiber properties to the functional characteristics of wool textiles, and to ascertain wool's relative position in the field of textile fibers. In ascertaining "wool's relative position," the author and his assistant searched the literature for technical information on all fibers, including the synthetics and have presented what they found in [illegible] compact text which is supplemented by 171 tables. If there is an unwarranted bias in favor of wool, it is difficult to find. For example, it is clearly shown that nylon is superior to wool in abrasion and wear resistance. References to the source publications are given for all important statements and data.

KETTERING JAMES H. AND RITA M KRAEMER

Commercial cotton-bleaching processes and their effect on fabrics. Washington, D C. Government Printing Office, 1947 37 p. illus. 23 cm. (United States. Department of Agriculture. Technical bulletin no 941) Gratis. 7257

Contents: Introduction. Literature review. Constituents removed. Mill processes. Materials. Methods of evaluating fabrics. Discussion of results. Summary and conclusions. Literature cited.

TEXTILES

AMERICAN VISCOSE CORPORATION

Rayon technology (including acetate) handbook for textile mills. Prepared by the Textile Research Department American Viscose Corporation Second edition New York McGraw Hill Book Company Inc., 1953 344 p illus. 23 cm. (Textile technology series C W Bendigo, consulting editor) $7 00 7246

Contents Rayon and acetate on the cotton system—worsted system—woolen system. Rayon and acetate from yarn to fabric. Standard fabric constructions. Rayon and acetate in knitting mills—dyeing and finishing. Industrial applications. Textile chemicals. Appendix. Index.

Note The methods of processing rayon and acetate staple int yarn the preparation of their yarns for eaving and knitting operations dyeing, and the calculations involved in producing the finished fabric are covered in detail in this book. The chapter on industrial applications covers uses of these fibers in such classes of goods as rubber paper and plastics. The book is intended for mill men and other technical personnel already familiar with the textile technology of cotton, silk and wool. The first edition was published in 1948. This second edition contains two new chapters and many revisions in the chapters carried over from the first edition.

ATWATER, MARY MEIGS

The shuttle-craft book of American hand weaving, being an account of the rise devel opment, eclipse, and modern revival of a na tional popular art together with information of interest and value to collectors technical notes for the use of weavers & a large collec tion of historic patterns. With illustrations. Revised edition. New York The Macmillan Company 1951 341 p illus. 23 cm. $7 50 7247

Contents Origins and development. Weaving horizons—the scope of this book. Beginner's problems. Design of the fabric. Choice of pattern and color. Setting up the loom. Adjustments, knots, the tie-up. Weaving. The plain eave. The twill eave. The four harness overshot weave. Additional four-harness weaves. The summer-and-winter weave. The "spot" or Bronson eave. Double-faced twill and damask. The double weave. Leno. Rug-making. Pick-up weaving. Finishes. Index.

Note This is the completely revised edition of standard handbook on American weaving first published in 1928. It gives an account of the history of hand-weaving, its origin, development, decline, and modern revival It also gives instructions for weaving and other information including advice on the choice of looms and materials. Patterns for eaving are presented in technical diagrams and in photographic reproductions. Writing on the basis of long experience ith the craft of hand-weaving, the author gives detailed directions for the fundamental processes, gives accounts of the weaves and patterns current in colonial North America, and supplies information on weaves from the southwestern United States of America, Mexico, Guatemala, and Peru. The author does not endeavor to cover Scandinavian weaving, tapestry eaving, draw-loom eaving, or fly-shuttle eaving. Although beginners ithout other instruction may find the work somewhat advanced, the book is to be recommended for any persons seriously interested in the practice of hand-weaving.

BENDURE, ZELMA, AND GLADYS PFEIFFER

America s fabrics, origin and history manufacture characteristics and uses. Photographic layout by Crystal Stephen, fabric photographs by Nat Messik. New York The Macmillan Company 1946 688 p. illus. (part col'd) 24 cm. $10 00 7248

Contents. America's fabrics. Wool. Cotton. Linen. Minor vegetable fibers. Silk. Rayon. Other synthetics. Asbestos. Yarns. Weaving. Knitting. Twisting. Felting. Chemistry Pretreatments. Dyeing. Printing. Finishing. Home fabrics. Fabrics defined. Testing and standards. Index.

Note An encyclopedic survey designed to provide information for persons ho are not specialists in textile technology such as students, manufacturers who use fabrics, interior decorators, consumers, and persons connected with the selling of textile products. A wide range of information is covered from how the basic fibers are produced to the qualities and uses of the finished fabrics. Fabrics of minor importance are included along ith those of major importance. The book is in fully illustrated with views of textile machinery manufacturing operations, and fabrics.

BERKLEY, EARL ESCO, AND OTHERS

Structure determined by \ ray and strength of cotton fiber by Earl E. Berkley, Orville C Woodyard H. D Barker, Thomas Kerr, and C. J King Washington D C. Government Printing Office 1948 64 p. illus. 23 cm. (United States Department of Agri culture. Technical bulletin no 949) Gratis. 7249

Content Experimental background of X-ray method. Relation to yarn strengths. Influence of growing conditions. Influence of species and varieties. Outline of X-ray method. Literature cited.

Note: In comparing cotton samples for selection in breeding, the X-ray method supplements rather than replaces strength methods. The X-ray technique serves also as research tool in determining reasons for differences in strength and other properties and in comparing natural and synthetic fibers. This study on the development of the X-ray method shows X-ray measurement to be valuable tool in cotton-breeding and general fiber-research. The pamphlet is illustrated by tables, graphs, charts, and photographs.

BLACK, MARY E

Key to weaving a textbook of hand weaving techniques and pattern drafts for the beginning weaver Revised and enlarged. Milwaukee The Bruce Publishing Company 1949 324 p illus. 27 cm. $6 50 7250

Contents The loom. Preparing the loom. General information. T o-harness eaves. Three-harness eaves. Four-harness eaves. Five-harness weaves. Six-harness eaves. Eight-harness weaves. Weaving homespun. Floor coverings. Bibliography Glossary of eaving terms. Weaving terms in foreign languages. Index

Note The author of this detailed and fully-illustrated text is Director of the Handicrafts Division, Department of Trade and Industry Nova Scotia. As indicated, the book is ritten for the beginner and provides descriptions of the various types of looms and methods of setting them up. The greater part of the volume, however consists of instruction for eaving specific patterns and varieties of textures. In this edition new material has been added on arping, threading, two-harness eaving, and weaving of narrow webs on wide looms. The final chapter on floor coverings is also new.

Note A comprehensive manual on the use of the microscope in textile [illegible]. The book describes the available equipment [illegible] its advantages and limitations and its application, including the preparation of specimens, new and improved techniques, fabric, yarn, and fiber analysis, etc.

SIU, RALPH GUN HOY

Microbial decomposition of cellulose with special reference to cotton textiles. New York. Reinhold Publishing Corporation, 1951 531 p. illus. 22 cm. $14.00. 7263

Contents: Part I, Introduction: Cellulose decomposition in nature. Part II, Structure and properties of cotton fabrics: Morphological, physical and chemical features of cotton fibers. Structural features of cotton fabrics. Part III, Causal organisms: Morphological and taxonomic aspects. Effect of nutritional and environmental factors on cellulolytic activity of microorganisms. Part IV Mechanism of degradation: Gross attack on fabrics. Biochemical transformation of cellulose molecules. Part [illegible] Methods of prevention: Theoretical considerations. Methods for testing microbiological resistance of cotton fabrics. Prevention of microbiological damage by physical barriers. Prevention of microbiological damage by toxic inhibitors. Prevention of microbiological damage by chemical modification. Author index. Index of microorganisms. Subject index.

Note: A synthesis of scientific information on the deterioration and destruction of cellulosic materials by bacteria and fungi. The author [illegible] discussions of basic matters, such as causal organisms, are [illegible] of interest to anyone concerned [illegible] the topic, but his [illegible] and his information on prevention of deterioration are largely restricted as the title indicates to cotton textiles. The [illegible] documentation is indicated by the fact that there are approximately 1,200 names in the author index. The author is Research Director of the Pioneering Research Laboratories of the U. S. Army Quartermaster Corps.

SKINKLE, JOHN HENRY

Textile testing physical chemical and microscopical. Second edition revised and enlarged. New York Chemical Publishing Company Inc. 1949 353 p. illus. 22 cm. $7.75. 7264

Contents: Part [illegible] Physical testing: Statistical analysis. Moisture determination. *Fiber testing. Yarn testing. Fabric testing*: construction—properties dependent upon the space—water and fabric relationships—tactile and draping qualities (handle)—serviceability, wear, abrasion. Strength and strength testing of fibers, yarns, and fabrics. Part II, Chemical testing: Introduction and general considerations. General and inorganic extraneous matter. Organic extraneous matter. *Fiber mixtures*. Swelling and damage in cellulose fibers. Damage to wool. Damage to silk. Part III, Microscopical testing: Identification. Quantitative microscopical determinations. Index.

Note: In its second edition this useful manual has been enlarged by 64 pages and improved by thorough revisions of text and format. The most important addition [illegible] scheme of analysis to identify organic matter in finishing agents, in which the presence or absence of certain groups [illegible] determined first, then each group is analyzed for its individual components. The lists of references have been extended.

SPEEL, HENRY C editor

Textile chemicals and auxiliaries. New York Reinhold Publishing Corporation 1952 493 p. 24 cm. 7265

Contents: Part I, The nature and processing of fabrics. The physical and chemical nature of fibers, by R. K. Roberts. Preparation of fibers and fabrics, by S M Edelstein and others. Chemical aspects of textile dyeing and printing. Technology of pigment application, by V W Chase. Textile finishing, by H H Mosher. Fabric stabilization, by E. C Pfeffer, Jr. Coated fabrics, by E W K Schwarz and J A Bennett. Part II, *Raw materials in fabric processing*. Water, by V J Calise. Fats, oils, and waxes, by F P Greenspan. Starches, gums and glues. Solvents and other organic chemicals, by C P McClelland. Surfactants, by K. D. Langley and E I [illegible] Soap, by G. W [illegible] Sulfated oils and fats, by R. A. Pingree. Anionic surfactants (sulfates, sulfonates and others) by J. W McCutcheon and H. C. Speel. Non-ionic surfactants, by H. C. Speel. Cationic finishing agents, by R. W Ashley. Synthetic resins, by J. E. Lynn and A. S. Nyquist. Cellulose finishes, by J. A. Clark. Water-resistant treatments, by R. A. Pingree. Flameproofing, by R. W Little. Mothproofing and mothproofing agents, by H. Luttringhaus. Miscellaneous auxiliaries, by H. C. Speel. Author index. Subject index.

Note: A handbook of basic and practical information [illegible] the emphasis on the latter. In both the chapters on processes and those on materials the presentation is descriptive and concise. However, each chapter is supplemented by an extensive bibliography. Citations of patents are included in some of the bibliographies. The book is useful as [illegible] survey for technically trained persons [illegible] *beginning* work in the textile industry and as [illegible] desk reference book for technologists already established in this industry or in the chemical manufacturing industry. A second edition [illegible] published in 1957 543 p., $13.50.

VON BERGEN WERNER, AND HERBERT R MAUERSBERGER

American wool handbook a practical text and reference book for the entire wool industry. *Second enlarged edition*. New York Textile Book Publishers, Inc., 1948. 1,055 p. illus. 19 cm. $8.80 7266

Contents: Foreword, by A. Boss. Historical and economic background. Sheep breeds—sheep raising. *Physical properties of wool*. Chemical nature and properties of wool. Specialty hair fibers. Reclaimed wools and secondary raw materials. Grading and production of wool. The marketing of wool. Sorting, scouring and carbonizing. Blending and woolen carding. Spinning woolen yarns. Worsted carding, combing, topmaking. English and French worsted drawing. Worsted yarn spinning. Processes preparatory to weaving. Weaving of woolens and worsteds. Woolen and worsted weaves. Dyeing, *bleaching and printing*. Wet finishing operations. Dry finishing operations. Manufacture of carpets and rugs. The manufacture of felts. *Physical and chemical testing*. Bibliography. Subject index.

Note: The [illegible] scope of the first edition (1938) of this book has been retained, but most chapters now include descriptions of new processes and machinery and recent data on the economics of wool production. The chemical and physical properties of wool and the latest methods developed to prevent shrinkage are presented in two chapters instead of one. Other additions include [illegible] description of continuous solvent degreasing and wool grease recovery processes, twist tables for woolen and worsted yarns, an explanation of the American system of spinning, matching of colors, and new mothproofing methods. The bibliography has been expanded from 11 to 21 pages. The work, designed primarily for use in the raw wool and textile industries, is useful also for reference in libraries.

WARD, KYLE, JR. editor

Chemistry and chemical technology of cotton. New York Interscience Publishers, Inc., 1955 782 p. illus. 24 cm. $20.00. 7267

Contents: The chemistry of the cotton: Composition, by J. D. Guthrie. Chemical properties of cotton cellulose, by C. M. Conrad. Sizing, by F G. La Piana. Bleaching, by E. I. Valko. Dyeing, by R. K. Fourt. Printing and related processing of cotton fabrics, by A. E. Hurst. Mercerization, by C. F Goldthwait. Water-resistant treatments, by *H. A. Schuyten*. Fire resistance, by J. M. Church and S. Coppick. Treatment of cotton to provide mildew and rot resistance, by G. A. Greathouse and C. J. Wessel. The use of resins for creaseproofing, shrinkproofing, glazing, and embossing cotton fabrics, by D. H. Powers. Treatment of cotton for the rubber industry by E. T Lessig and others. Testing and evaluation of cotton textiles, by R. K. Worner. The laundering of cotton fabrics, by J. F Oesterling. Chemical changes in cotton fabrics during processing and use, by J. D. Dean. Glossary. Author index. Subject index.

Note: Aside from the first chapter, this composite treatise is concerned with the chemical engineering aspects of cotton as textile material. The individual chapters are monographic in nature and are, in most cases, based on [illegible] survey of the related literature and include references to sources. On the other hand, several of the chapters contain few literature citations. The level of treatment suits the book to teaching and reference use by chemists and technicians employed in the textile processing industries. The editor is associated with the Institute of Paper Chemistry and the contributors are, for the most part, on the staffs of research organizations and manufacturing companies in the United States of America.

Note. Because of the importance of bleaching in the purification of cotton, the Southern Regional Research Laboratory of the Department of Agriculture investigated the chemistry of the various bleaching operations as applied commercially in order to improve the processes and raise the quality of the resultant fabric. The part of the program here reported is the survey of 11 representative modern commercial bleach processes. The report includes comparison of the different methods the determination of what is accomplished in each step and of the characteristics or quality of acceptable or marketable fabrics and a discussion of some measurable properties of the fabrics, especially those indicating deterioration.

LINTON, GEORGE E

The modern textile dictionary New York Duell, Sloan and Pearce, 1954 772 p illus. 24 cm. $12 50 7258

Note A reference book of broad scope within its designated field. Terms pertaining to fibers, fabrics and finishes are found along with terms pertaining to the history of costume, to laundering and cleaning of textiles, to tailoring, names of animals that produce textile fibers, names of textiles used in the chemical industry etc. The terms are arranged in alphabetical order and are defined, but etymology and pronunciation are not indicated. There are few reproductions of drawings in the text itself. In addition, there is a 32-page insert of illustrations on coated paper The pictures in this section include portraits of men who have had large influence on the textile industry photomicrographs of textile fibers, photographs of textile manufacturing operations and machines, and diagrams of fabric constructions.

MAUERSBERGER, HERBERT R , AND OTHERS

American handbook of synthetic textiles, American synthetics handbook, a practical text and reference book for the entire textile and related industries By Herbert R. Mauersberger and twenty collaborators Over 430 tables, charts flowsheets, and illustrations New York Textile Book Publishers, Inc., 1952 1,216 p illus 20 cm $9 80 7259

Contents Historical background. Economics and statistical background, by S. B. Hunt. Preparation of cellulose. Cellulosic fiber yarn and tow processes. Manufacture of nylon yarns and staple. Manufacture of synthetic fibers, filaments and yarns (other than nylon) Processing of synthetic staple. Winding, coning and filling preparation. Warping and warp sizing. Throwing and twisting, by V A. Schiffer Weaving of synthetic fabrics. Synthetic grey goods constructions. The manufacture of knit goods, by G. A. Urlaub. Dyeing of synthetics, by A. R. Macormac. Dye nomenclature, by A. R. Macormac. Synthetic piece goods printing, by H. P Newmann. Finishing of synthetic fabrics, by L. Shapiro. Performance standards for rayon fabrics, by J Labarthe, jr. Identification of synthetic fibers by X-ray diffraction, by A. N J Heyn. Books, bibliographies and literature references. Appendix. Index.

Note. The first edition of a useful reference book. It is addressed primarily to the personnel of the textile industry and is written largely in technical terminology A very wide range of information is included, running from an outline of the historical development of synthetic fibers and textiles to formulas for use in the printing of piece goods. A number of chapters contain bibliographies in addition to the general bibliography at the end of the book. The volume in hand contains approximately 100 pages of advertising which are not included in the pagination given above.

MAUERSBERGER HERBERT R editor

Matthews' textile fibers their physical microscopic, and chemical properties Sixth edition Prepared by a staff of specialists under the editorship of Herbert R. Mauersberger New York John Wiley & Sons 1954 1,283 p illus 24 cm. $18 50 7260

Contents: Introduction, by H. R. Mauersberger Cellulose—sources, constitution, and chemical properties, by P C. Scherer. Cotton—history growth, and statistics, by R. F Nickerson. Cotton fiber—microscopic characteristics, by T L. W Bailey jr Cotton fiber—physical properties, by R. F Nickerson. Cotton fiber—chemical properties, by C. F Goldthwait and J D Guthrie. The bast fibers, by B Montgomery The leaf fibers, by B. Montgomery Miscellaneous plant fibers, by A. C. Whitford. Paper fibers and yarns, by E. R. Chatterton. Wool—history grades, and statistics —Microscopic and physical properties—chemical nature and properties, by W von Bergen. Specialty hair fibers, by W von Bergen. Textile fur fibers, animal brush fibers, and down, by M. Bachrach. The silk fibers and yarns Worm silk, by C. J. Bick—Spider silk, by J G. Albright. Regenerated rayon fibers, filaments, and yarns, by A. R. Macormac. Acetate fibers and yarns, by H. D Smith and H. R. Childs. Synthetic fibers, filaments, tow and yarns, by H. R. Mauersberger Mineral or inorganic fibers and yarns Asbestos, by A. S. Rossiter—Fibrous glass and filaments, by T S. Rogers. Identification methods and quantitative fiber analysis, by W Krauss. X-ray diagrams of natural and synthetic fibers, by A. N J Heyn. Fiber-testing methods, by E. R. Schwarz. Index.

Note. Used widely as text and reference book since the publication of the first edition 50 years ago, this standard work is already known to most persons with interests in the textile field. Comparing the sixth edition with the fifth, the scope and organization are not materially changed. Two chapters, the second and third of the fifth edition, have disappeared as separate entities, and the two former chapters on identification methods and fiber analysis have been combined. The chapter on X-ray diagrams has been newly added. All other chapters of the sixth edition were represented by equivalents in the fifth edition. The amount of revision in these ranges from none at all, as in the chapter on the physical properties of the cotton fiber to a complete rewriting by new author as in the chapter on the leaf fibers (entitled "Structural or hard vegetable fibers") in the fifth edition. Obviously complete rewriting of the book has been avoided, and the old plates have been saved where possible but where new developments have made chapters or smaller sections of text obsolete, the necessary revision has been carried out.

MERRILL, GILBERT ROSCOE, AND OTHERS

American cotton handbook a practical text and reference book for the entire cotton industry, by Gilbert R. Merrill, Alfred R. Macormac and Herbert R. Mauersberger Second revised edition. New York Textile Book Publishers Inc., 1949 943 p. illus. 20 cm. $8 50 7261

Contents Historical background. Economic and statistical background of cotton growing and manufacturing, by J. R. Walker. Cellulose and the cotton fiber The cotton plant its cultivation and varieties. Ginning, cleaning and marketing. Opening and picking. Carding and combing. Drawing and roving operations. Standard and long draft spinning. Winding and twisting. Spooling, warping and slashing. Weaving of cotton grey goods. Knitgoods manufacture. Bleaching and processes preparatory to dyeing. Dyes and cotton dyeing. Printing piece goods. Cotton goods finishing. Physical testing of fibers, yarns and fabrics, by E. R. Schwarz. Chemical testing, by L. P Sheehan. Nomenclature of cotton dyes. Bibliography Subject index.

Note. A comprehensive technical and economic reference book. By far the greater portion of space is given to manufacturing processes. Substantial changes were made in preparing this edition. Several chapters which appeared in the first edition do not appear in this one. These include such useful chapters as the one on cotton grey goods construction, the one on the laundering of cotton materials, and the glossary of cotton terms. On the other hand, treatments are now included of such operations as bleaching, dyeing, printing, and finishing. The most notable change is found in the bibliography which has been approximately tripled in number of entries.

SCHWARZ, EDWARD ROBINSON

Textiles and the microscope. New York McGraw Hill Book Company Inc., 1934 329 p illus. 23 cm. $6 00 7262

Contents. Introductory Microscopes for textile research. Manipulation of the microscope. Illumination for the microscope. Accessory equipment. Micrometry Specimen mounting. Preparation of cross sections. Recording data. Photomicrographic apparatus. Photomicrographic technique. Stereoscopic photomicrography Polarized light Applications of polarized light. Fabric analysis. Yarn analysis. Fiber analysis Appendix.

MISCELLANEOUS TECHNOLOGY

GENERAL

BEITAL, LOUIS C.

Packaging engineering. New York Reinhold Publishing Corporation, 1954 [illegible] p. illus. 23 cm. $9.50. [illegible]69

[illegible]

KINGERY ROBERT E.

How-to-do-it books a selected guide. Second edition revised. New York. R. R. Bowker Company 1954 62 p. 23 cm. $4.50. 7[illegible]0

Note: A useful guide to available books, pamphlets, government documents, etc. on a very wide range of topics, many of which fall in the larger areas of handicrafts, building, repairing, gardening, farming, etc. [illegible]

CLEANING

BERG NORBERT J

Wetcleaning. Silver Spring. Md. National Association of Dyers and Cleaners of the United States and Canada, 1945 288 p. illus. 20 cm. $3.50 7271

Contents. The wetcleaning process. Equipment. Water. Soaps and synthetic wetcleaning detergents. [illegible]

Note: A practical manual written for workers in drycleaning plants. [illegible]

[illegible] garments, and there is also information on the use and care of equipment.

HARRIS JAY C

Detergency evaluation and testing. New York Interscience Publishers, Inc., 1954 [illegible]10 p. illus. 19 cm. $3.[illegible]5. [illegible]

Contents (abridged) Introduction. [illegible]

Note: The contemporary status of the evaluation of detergents and related cleaning methods is well surveyed in this small manual. [illegible]

MAHER, JENNIE WISNESKI

Silk finishing. Revised edition. Silver Spring Md. National Association of Dyers and Cleaners of the United States and Canada, 1943 2[illegible]8 p. illus. 19 cm. $3.50. 7273

Contents. Introduction. Equipment and accessories for general finishing. Equipment and accessories for specialty finishing. Fibers and fabrics. [illegible] General finishing. Finishing the decorative details. Special problems of the finisher. [illegible] Specialty finishings: Velvets, knit blocking, pleating and fluting. The sewing department. Inspection, assembly, and packaging. [illegible] Index.

Note: A working manual and reference book for students and workers in the drycleaning industry. It deals with the restoration of the original appearance, shape, and size of silk garments by applying steam, water, air, and chemicals and solvents, in conjunction with heat and pressure, using hand and mechanical methods. The revised edition has been prepared to serve also as a textbook in the association vocational school at Silver Spring, Maryland.

NIVEN WILLIAM W., JR.

The fundamentals of detergency Under the sponsorship of the American Institute of Laundering New York Reinhold Publishing Corporation, 1950. 256 p. illus. 24 cm. $6.50. 7274

WEINDLING, LUDWIG

Long vegetable fibers, manila sisal, jute, flax and related fibers of commerce. New York Columbia University Press, 1947 311 p illus 24 cm $5 00 7268

Contents The uses and development of vegetable fibers. Characteristics of vegetable fibers. Economic aspects of the industry. Manila hemp cultivation. Manila hemp commercial practices. Sisal cultivation. Sisal commercial practices. Istle, New Zealand, and Mauritius fibers. Cordage and other hard-fiber manufactures. The cordage industry in the United States and Canada. Jute cultivation. Jute manufacturing. Jute industry Flax cultivation. Linen manufacturing and the linen industry Hemp. Sunn hemp and ramie. Index.

Note: In this book, over-all pictures are given of the industries based on the fibers that are mentioned in the chapter titles. Cultivation of the plant from which the fiber is produced, preliminary treatment of the fiber; its marketing, the technology of spinning, weaving and related processes, uses, economic aspects such as the number of persons employed in the world industry and prices over a period of years are among the topics covered. However, the economic aspects are emphasized. There are a few footnote references to pertinent literature but, unfortunately no bibliography of account. The illustrations are relatively few

NATIONAL FIRE PROTECTION ASSOCIATION

NFPA handbook of fire protection Crosby Fiske-Forster Robert S. Moulton, editor Eleventh edition. Boston National Fire Protection Association, International, 1954 1,560 p. illus. 17 cm. $10.50. 7281

Contents (abridged) Fire losses and fire protection engineering. Common and miscellaneous hazards. Ovens and furnaces. Air conditioning and blower systems. Flammable liquids. Plastics and film. Dust explosions. Fire-resistive construction. Flameproofing and protective treatments. Protection of records. Existing buildings. Fire extinguishers. Fire pumps. Water tanks. Automatic sprinkler protection. Extinguishing agents and systems. Signaling systems and devices. Hydraulic calculations. Appendix. Index.

Note A cyclopedic reference book on fire hazards and fire protection. In the field of protection it describes methods and devices which have won recognition as standard in the United States of America. It contains also many tables of reference data. In the present edition, the volume is organized in 23 chapters, selection of which listed by title above. Early editions were by E. W. Crosby, E. A. Fiske, and H. W. Forster hence the subtitle.

HANDICRAFTS

BAXTER, WILLIAM THOMAS

Jewelry gem cutting and metalcraft. Third edition, revised and enlarged. New York McGraw-Hill Book Company Inc., 1950. 334 p. illus. 21 cm. $4 95 7282

Contents: Metalcraft. Jewelry making. The art of gem stone cutting. Identification of gem stones and gem minerals. Dealers. Magazines devoted to mineralogy and gem cutting. Books of interest. Index.

Note The techniques of jewelry making and gem cutting described in this volume are based on methods taught by the author in his classes at Woodrow Wilson High School, Washington, D C. The material is thus written for the guidance of novices and amateur craftsmen. This edition follows the pattern set by the previous editions and employs numerous photographs to supplement the detailed working instructions. New sections have been added on facet cutting of gem stones, centrifugal casting, and making spoon-handled forks and spoons. The list of equipment dealers and the brief bibliography have been brought up to date.

DAKE, H. C.

The art of gem cutting complete. Sixth edition. Spokane J D Simpson & Company 1936. 128 p. illus. 23 cm. $2 00 7283

Contents (abridged) Gem cutting as a hobby. Part I, Cabochon cutting. Part II, Facet cutting. Part III, Gemology. Part IV, Special lapidary technic. Part V, Useful lapidary notes.

Note A booklet of instructions and miscellaneous related information for amateur lapidarists. The information given covers details of the tools and equipment required. A variety of gem cutting and polishing techniques is described. Included is some material of "hobby" nature, particularly portraits and photographs of the workshops of amateur gem cutters, and textual accounts of experiences in their hobby. The book is not well organized, nor is there an index. Nevertheless, it has a wide appeal as indicated by the fact that six editions have been published since 1938.

HOME, RUTH M.

Ceramics for the potter Peoria Charles A. Bennett Company Inc., 1952 229 p. illus. 24 cm. $5.00 7284

Contents: From elements to clays. Clays: their classification and use—their characteristics. The effects of heat on clays. Clay resources of the world. Bodies from naturally occurring clays. Blended-paste porcelain—soft-paste porcelain. From slips to glazes. The porcelain glaze. Odds and ends of glazes. Glass. Enamels. Shaping. Pattern and colour. Kilns. The future of pottery. Appendices. Bibliography. Index.

Note This book is a blend of historical, scientific, and technical information rendered in terms that anyone—layman or professional—with serious interest in pottery can understand. Although the text includes some mathematical and chemical symbols, it is written in a pleasant lucid style and is designed for straight reading. Basic technical data of a reference nature, such as atomic weights, chemical composition of clays and glaze formulas, are collected in the appendices.

HUNT WALTER BERNARD

Indian silversmithing. Milwaukee Bruce Publishing Company 1952 160 p. illus. 27 cm. $5.50 7285

Contents (abridged) Tools and equipment. Concha buttons. Money clips. Tie clasps and hair clips. Lapel pins and brooches. Rings. Tarnishing or antiquing. Turquoise in Indian jewelry. Channel work. Ear ornaments. Concha belts. Neckerchief slides. Appliqued work. Pill and stamp boxes. Oval and round saltcellars. Bracelets. Arm guards or ketoh. Belt buckles. Squash-blossom necklaces. Wrist-watch bands. Miniature vases and canteens. Index.

Note. A good book on a class of handicraft articles popular with amateur jewelry makers. The tools and the operations of making with silver and turquoise, jewelry articles patterned after those made by the Navajo Indians and other tribes in the Southwest, are described clearly for beginners. There are 70 figures and four plates in color, all of which appear to be reproductions of photographs. In addition, there are 43 plates of reproductions of drawings made by the author. The author is an authority on American Indian crafts and many authentic designs are shown. However, the inclusion of such articles as salt-cellars and an antique tea strainer indicates that the book is not limited to articles of Indian origin.

KENNY JOHN B

The complete book of pottery making. With photographs and drawings made especially for this book by the author New York Greenberg Publisher Inc., 1949 252 p. illus. (part col d) 27 cm. $7 50. 7286

Contents. Introduction to clay Getting started. The potter's wheel. Plaster of paris. Molds. Slip casting. More about plaster. Clay and clay bodies. The fire. Glazes. Mixing glazes. Decoration. Do potters eat? Index.

Note. A detailed and practical guide to the art of pottery making for both the beginner and advanced craftsman. The author progresses gradually from the elementary operations performed by hand and on the wheel to the more difficult techniques of making molds, firing, and glazing. Numerous sketches and photographs showing the various stages of each process constitute an important feature of the book. A final chapter discusses the possibilities of pottery making as a career.

NORTON F H.

Ceramics for the artist potter Cambridge Addison-Wesley Publishing Company Inc. 1956. 320 p. illus. 27 cm. $10.00 7287

Contents (abridged) Part 1, How we do it: Forming by hand. Forming on the wheel. Forming by casting and pressing. Finishing. Drying. Biscuit firing. Glazing. Part 2, Why we do it: Application of design theory to pottery. Clays. Nonplastic ceramic materials. Ceramic bodies. Mold making. Temperature measurement. Ceramic sculpture. Control of shrinkage, warpage, and cracking. Compounding glazes. Color and its measurement. Ceramic stains. Special methods of decoration. Pottery equipment. Glossary of ceramics terms. Appendix. Index.

Note: Written by a professor in the Department of Ceramics in Massachusetts Institute of Technology this book is addressed to amateurs and is particularly suitable for those who want to learn pottery-making without the guidance of an instructor. The first (and shorter part) explains the basic techniques. The second part is for craftsmen who wish to make fine pottery or at least to understand how such pottery is made. It discusses design, materials and advanced techniques. The whole book is written in a simple direct style and is exceptionally well illustrated. It contains a variety of useful reference data including formulas for glazes and a directory of suppliers of equipment. References to other literature are included in the chapters of both parts.

Content (abridged) Part I Fundamental considerations of the detergent process Introduction and historical review Nature and properties of detergents. Chemistry of unbuilt detergent solutions. Surface activity of unbuilt detergent solutions. Nature and properties of builder solutions. Electrical phenomena in detergency Influence of builders on the nature and surface activity of detergent solutions. Part II, Practical considerations of the detergent process: Separation of soil from fabric. Dispersion of soil in the detergent solution. Stabilization of dispersed soil. Present knowledge of detergency vs. present washroom practice. Appendix. The theory of Castle and Palmer on the effect of electrolytes on surface activity Author index. Subject index.

Note. In this new book, the chemical and physical principles which underlie surface activity and detergent action are discussed for the benefit of chemists and other persons in such industries as laundering, textiles, and printing inks. Theory is presented compactly but adequately for the purpose. The relations between theory and application are carefully drawn, with most illustrations taken from the laundry industry Although the book is not for chemists, some knowledge of fundamental chemistry including physical chemistry is necessary to follow the exposition. There are some footnote references to related literature.

NIVEN, WILLIAM W , JR., editor

Industrial detergency New York Reinhold Publishing Corporation, 1955 340 p illus 24 cm. $8 75 7275

Contents Introduction. The fundamentals of detergency Detergent materials, by H. M. Gadberry The laundry industry by L. G. Johnston. Drycleaning, by H. M. Gadberry and W W Niven, Jr Textile processing, by M. H. Gurley Jr Foods and beverages, by J F Greer. The dairy industry by J R. Perry Dishwashing, by H. M. Gadberry Metals industries, by M. J Stutzman. General industrial cleaning, by H. M. Gadberry Author index. Subject index.

Note How to manage the cleaning of diesel locomotive interiors is one of the many cleaning problems discussed in some detail in this book. The central theme is cleaning on an industrial scale or in the course of industrial operations, and three of the chapters are largely devoted to general aspects. The greater part of the space is dedicated to the specialized cleaning problems of particular industries—those named in the chapter titles and others. Problems, materials, and techniques are all discussed, with the main emphasis on the management viewpoint and strong secondary emphasis on mechanical and chemical aspects. There are numerous pictures of cleaning apparatus and techniques, and a generous sprinkling of literature citations.

CLOCKS AND WATCHES

FRIED, HENRY B

The watch repairer's manual. Princeton D Van Nostrand Company Inc. 1949 307 p illus 24 cm $6 50 7276

Contents The modern watch. Cleaning and overhauling watch movement. How to case watch. Adjusting cannon pinion. Mainspring repairs, How to make a stem. Fitting a balance staff. How to make balance staff Adjusting balance staff How to true balance wheel. How to poise balance wheel. Replacing a pallet jewel. Replacing a roller jewel. Causes of overbanking (out of action) Adjusting pallet-guard fingers. How to put watch in beat. Collecting and studding hairspring. General repairs. Trouble shooting. Appendices. Bibliography Index.

Note An excellent book whether it is used as text or reference manual. All watch repairing operations which the average watchmaker will need to know are described explicitly and the majority of them are also illustrated in clear generously-proportioned drawings. The book is suitable for use either in organized courses or in home study The author is executive secretary of the Horological Society of New York.

KELLY, HAROLD CALEB

A practical course in horology Peoria Chas. A Bennett Co Inc 1944 192 p illus. 20 cm. $3 25 7277

Contents: Wheelwork. Gearing. Lever escapement. Controlling mechanism. Train problems. Jeweling. Making balance staff. Pivoting. Fitting balance springs. Escapement adjusting. Cleaning and oiling. Preliminary notes in adjusting. Position adjusting. Adjustments to isochronism. Adjustment to temperature. Practical work of adjusting.

Note. A clearly written manual designed for the man actually engaged in watchmaking or repairing and for students. The book is divided into three main parts: general principles, practical repairing, and adjusting. Review questions are given at the end of each chapter the answers to which are embodied in the text. A brief bibliography and a nine-page glossary of terms are appended.

RAWLINGS, ARTHUR LIONEL

The science of clocks and watches. Second edition. New York Pitman Publishing Corporation, 1948 303 p. illus. 23 cm. $6 95 7278

Contents. Time and its measurement. Oscillatory motion. The pendulum. Dissipation of energy by swinging pendulum. Escapements and other impulse devices. Electric pendulum clocks. Escapement errors. Balance-wheel clocks and watches. Isochronism of balance-wheel movements. The marine chronometer. The four-hundred-day clock. Gear trains. Weights, mainsprings, and their accessories. Friction and lubrication. Striking clocks. Perpetual calendars. On the selection and management of a domestic clock. On the selection of a good watch. Synchronous electric-motor clocks and the quartz-crystal clock. Harmonic motion in a cycloidal path and the calculation of circular error. Bibliography Index.

Note. In its second edition, this work has been substantially revised and enlarged. There is newly added material on the photographic zenith tube, a summary of records of the Shortt "free pendulum" clocks, the Hamilton marine chronometer quartz-crystal clocks, the radio time signal service, and the poising of watch balances. The chapters on striking clocks and on perpetual calendar clocks are also new additions. The work remains a well written technical treatise that will be of primary interest to specialists and advanced hobbyists, but parts of it, for example the chapter on the selection and management of domestic clock, are written for the layman.

FIRE PREVENTION

BOND, HORATIO, AND WARREN Y KIMBALL

Industrial fire brigades training manual. Second edition. Boston National Fire Protection Association, International, 1954 158 p. illus. 28 cm $3 25 7279

Contents Plant fire protection. Fire causes and hazards. Making forcible entry Handling rope. Using fire extinguishers. Handling ladders. Handling hose. Producing effective fire streams. Salvage practice. Rescue work and emergency equipment. Care and inspection of plant fire brigade equipment. Fire fighting. Index.

Note. This manual is designed primarily for use in classes in industrial establishments where employees are assigned to carry out fire fighting duties. Emphasis is put on training classes, drills, and the need for utilizing the availability of modern developments in fire prevention and fighting. Illustrations and diagrams are well selected for the purpose of instruction. It is one of the many publications on fire prevention and fire-fighting issued by the association.

NATIONAL FIRE PROTECTION ASSOCIATION

The national fire codes. Boston National Fire Protection Association International 1955–56 4 v illus. 22 cm. 7280

Contents (abridged) Volume I, Flammable liquids and gases. Volume II, Combustible solids, dusts, chemicals and explosives. Volume III, Building construction and equipment. Volume IV Extinguishing equipment.

Note "The National Fire Codes are compilations of standards developed by the National Fire Protection Association, International, non-profit technical and membership organization devoted to the reduction of loss of life and property by fire. These standards are purely advisory as far as the National Fire Protection Association is concerned, but are widely used as basis of good practice by property owners and others in the United States, Canada and other countries. New editions, containing important revisions, appear frequently New editions of all four volumes were published in 1957 $4.00 per volume.

Contents (abridged). Basement waterproofing. Bookcases. Chairs [illegible] and spot removal. Concrete mixing, patching, cleaning. Electric wiring and lighting installation instructions. Fireplaces and chimney, windows and screens. Floors and flooring. Furniture repair and finishing, with upholstery repairing. Glass and glazing. Hinges and doors. Lattice-work. Oil burners, care and adjustment. Paint and painting. Plaster and plastering. Refrigerators, electric. Roofs and roofing. Sewing machines, upkeep and adjustments. Tile, floor and wall. Toasters, electric, troubles and remedies. Vacuum cleaners, troubles, care. Washing machines, repairs and replacements, troubles and remedies. Weatherproofing. Woodworking. Index.

Note: A handy summary of practical information pertaining to maintenance and repairing of domestic and household articles. Several small construction projects also are covered. Most of the articles are brief, but some of them run to 20 pages. As the table of contents (abridged above) indicates, the range of topics is wide. The main arrangement is alphabetical but there is also an index [illegible] the book.

WHITMAN ROGER BRADBURY

First aid for the ailing house. Fourth revised edition. New York McGraw Hill Book Company Inc., 1946. 394 p. illus. 21 cm. 7295

Contents: Home heating. Plumbing. Concrete. Painting. Metal work. Walls. Roofs and windows. Inside walls. Floors. Interior woodwork and [illegible]. Waterproofing. Insects. [illegible] and [illegible]. Cleaning—spot and stain removal. Furniture. [illegible] Outdoor damage. Miscellaneous. Information on [illegible]. Index.

Note: A handbook of practical information for homeowners who [illegible] to do their own maintenance and repairing. It is based on a syndicated newspaper column that has appeared for many years in [illegible] newspapers in the United States of America. The fifth edition was published in [illegible], [illegible] p., [illegible].

KNOTS AND SPLICES

ASHLEY CLIFFORD WARREN

The Ashley book of knots. Garden City Doubleday and Company Inc., 1944 620 p. illus. 28 cm. $12.50. 7296

Contents: On knots. Occupational knots. Knob knots, single-strand, stopper or terminal, single-strand lanyard, single-strand knots, multi-strand stopper or terminal, multi-strand lanyard, [illegible] lanyard, multi-strand buttons tied in hand, multi-strand buttons tied on table. Single-loop knots. Double- and multiple-loop knots. The noose. Knots tied in the bight. Clove hitch and other crossing knots. Binding knots. Turk's-head knots. Round knots (multi-strand bends). Bending and [illegible]. Hitches to spar and rail (right-angle pull). Hitches to mast, [illegible] and other (lengthwise pull). Hitches to stake and [illegible], pile and bollard. Ring hitches. Hooks, beckets, and toggles. Miscellaneous hitches. Occasional knots. Lashings and seizings. [illegible] and other knot coverings. Flat or two-dimensional knots. Fancy knots—square knotting. Tricks and puzzles. Long and short splices (multi-strand bends). Eye splices (multi-strand [illegible]). Odd splices. Chain and crown sennits. Flat sennits. [illegible]. Practical [illegible]. Decorative [illegible] (applied knots). Bibliography. Glossary. Index.

Note: Over 3,800 knots, sennits and splices are described and drawn by the author-artist, with emphasis on the practical uses of the knots. There are [illegible] bibliography and [illegible] glossary [illegible] knot terms.

DAY CYRUS LAWRENCE

The art of knotting and splicing. Second edition revised. *Annapolis, Md.* U S Naval Institute, 1955 224 p. illus. 27 cm. $5.00 7297

Contents: Introduction. Some elementary considerations. Knots and bends. *Fixed loops.* Running knots and nooses. Hitches and [illegible] knots. Miscellaneous operations. Splicing. End knots and multi-strand knots. Turk's-heads. Sennit. Bibliography and index.

Note: The excellence of the illustrations, picturing successive stages in the tying of knots and loops enough to demonstrate the sequences clearly distinguishes this book from other manuals on the same subject. The introduction includes [illegible] rather detailed account of the history and folklore of knots, information on the strength and security of knots, and explanations of technical terms used in the text. The first edition, [illegible], reflects [illegible] experience of the author *Sailor's Knots,* 1935, was published in 1947. In this second edition there are two new plates and additional literature references have been added to the bibliography.

GRAUMONT RAOUL, AND JOHN HENSEL

Encyclopedia of knots and fancy rope work. Fourth edition, completely revised and enlarged by Raoul Graumont. Cambridge, Md. Cornell Maritime Press 1952 690 p. illus. 25 cm. $10.00. 7298

Contents. Notes on the history of knots and rope making. Elementary rope work. [illegible] knotting. End rope knots. Rope splicing. [illegible]. Turk's heads. Sennit braiding. Ornamental knotting. [illegible], fringes, and needle-work. Useful rope designs. Miscellaneous knotting. Splicing [illegible] rope. *Appendix.* Terminology. Glossary. *Index. Appendix Index.*

Note. A reference book of the rope knotting and splicing lore of land and sea. Included are descriptions, instructions for tying, and photographic illustrations of knots, ties and splices of interest to seamen, soldiers, surgeons, farmers, etc. In this edition, there are 347 plates most of which have been reproduced from photographs. The typical plate shows eight or even more examples of rope work.

GRAUMONT RAOUL AND ELMER WENSTROM

Fisherman's knots and nets. New York Cornell Maritime Press 1948. 203 p. illus. 21 cm. $3.00. 7299

Contents: Angler' and all fisherman's knots. Commercial fishermen knots. Fishing traps and seines. Netmaking and repairing. Index.

Note: Four hundred and thirty-seven examples of knot tying and net making are included in this book for the amateur and professional fisherman. Photographs and diagrams supplement the text and clearly illustrate each of the described knots, nets, hitches, tackles, bends, and splices.

GRAUMONT RAOUL

Handbook of knots. New York Cornell Maritime Press 1945 194 p. illus. 18 cm. $2.00. 7300

Contents (abridged). Hitches. Bends. Sheepshanks. Bowlines. [illegible] knots. [illegible] and ornamental knots. General knots. Sennit braiding. Eye and cut splices. Splices, grommets and whippings. General knot work. [illegible]. Rope cuffs and [illegible]. Rope ladder making. Methods of [illegible]. Various types of [illegible]. Net making and [illegible]. Blocks and tackles. Terminology. Care and handling of rope. Glossary. Index of knots. Index of knots by job and hobby.

Note: A pocket-size text on rope tying intended for both beginners and experts. It provides clear instructions on [illegible] over 400 knots useful in some 30 trades and sports. It is illustrated with more than 40 full-page plates of photographs showing the knots described. The index of knots by job and hobby is [illegible] particularly useful feature.

GRAUMONT RAOUL AND JOHN HENSEL

Splicing wire and fiber rope. New York Cornell Maritime Press, 1945 114 p. illus. 25 cm. $3.00. 7301

Contents: List of illustrations. Wire splicing. Rope splicing. Terminology. Glossary. Index.

Note: This description of the varied methods used in splicing wire and fiber rope is well illustrated with numerous explanatory diagrams and photographs. The authors have attempted to include every known type of wire and rope splice. There is [illegible] short section on the [illegible] of blocks.

SINKANKAS, JOHN

Gem cutting, a lapidary's manual. Princeton, N J D Van Nostrand Company, Inc., 1955 413 p illus (part col'd) 23 cm. $8 95 7288

Contents How to get started. Sawing. Grinding and lapping. Sanding and polishing. Other cutting processes and equipment. Money-saving shortcuts. Cabochon gems. How to cut cabochons. Faceted gems. Faceting equipment. How to cut faceted gems. The nature of gemstones. The description and treatment of individual gemstones. Collecting gem material. Miscellaneous useful information. Appendices. Index.

Note. An outstanding book on gem cutting as an amateur handicraft. It describes modern techniques fully and supplies up-to-date information on suitable stones and sources of supply. Some of the techniques are essentially hand methods, requiring only simple equipment, but methods based on modern power machinery also are fully described. There are 94 figures and considerable range of reference data on weights and measures, gem minerals, societies of lapidarists, etc.

HOUSEHOLD REPAIRING

BEDELL, EARL L , AND ERNEST G GARDNER

Household mechanics. Second edition. Princeton D Van Nostrand Company, Inc., 1945 241 p illus 29 cm. $5 00 7289

Contents Woodworking. Metalworking. Painting and finishing in the home. Care of electric appliances. Water supply and waste disposal. The care of doors. The care of windows. Using concrete, mortar and plaster Using rope and twine. The home workshop. Index.

Note. The first edition of this manual, published in 1937 was planned for use in vocational school courses. Although the second edition is still (except for the final chapter) organized in jobs, each f which is organized as teaching unit, more attention has been paid to the needs of the homeowner who does his maintenance work, with the result that the book is now also satisfactory manual of instructions for numerous simple household repairs. The instructions for each operation are clear and explicit, and there are numerous illustrative drawings.

CROUSE, WILLIAM HARRY

Home guide to repair upkeep and remodeling New York Grosset and Dunlap Inc , 1954 358 p illus 23 cm $1 98 7290

Contents Carpentry Painting. Plastering. Wallpaper hanging. Concrete. Brick and stone masonry The electrical system. Plumbing —water gas, sewerage. Linoleum and tilework. Heating, ventilating, and air conditioning. Care and repair of floors. Inside walls and ceilings. Doors and windows. Outside walls. Roofs. Basements. Attic rooms. Building garage. Adding wing. Care and repair of furniture. Fire and other hazards. General insurance regulations. Insect and vermin control. Care of grounds. Features of prefabricated homes. Other upkeep and repair jobs. Index.

Note Simple and practical directions for the performance of many maintenance and repair operations are given in this book, which is addressed to householders who wish to do such tasks themselves or to understand how they should be done. Some of the topics, for example, building an extension to an existing house, are treated superficially but in most cases the information given is adequate to the purpose. This issue is reprint of the original edition issued by the McGraw-Hill Book Company in 1948.

HAWKINS, REGINALD R , AND CHARLES H ABBE

Home mechanic's outdoor handbook. New York Garden City Books 1954 490 p illus 21 cm $2 95 7291

Contents Driveways. Walks, stepping stones, steps, curbs, edgings. Terraces. Walls, tree ells and boxes, window ells, compost enclosures. Outdoor fireplaces, grills, incinerators Fences, gates, stiles. Breezeways, arbors, and trellises foot bridges and other small structures. Small buildings. Garden pools. Swimming pools. Sprinkling systems. Tennis courts other recreation areas. Outdoor lighting. Basic operations. Planning the grounds. Bibliography Index.

Note. A manual of information on how to build driveways, terraces, outdoor fireplaces, and many other structures hich enhance the utility and beauty of the well-kept yard. It is written primarily to enable homeowners to design and build such structures themselves, but the suggested plans and construction details will be helpful also to those who have the actual work done by others. Much practical information is included which is not readily available elsewhere. The chapter on basic operations discusses such matters as stump removal, grading, concrete-making, and masonry operations. Numerous sketches and working designs are included. Although practically all of the typical garden structures are covered, the book is essentially one for the average homeowner rather than the garden hobbyist.

THE HOME MECHANIC'S HANDBOOK an encyclopedia of tools, materials, methods, and directions. New York Garden City Books, 1954 804 p illus 21 cm $3 95 7292

Contents. Painting and decorating section. Knowing paint. Brushes and other painting equipment. Color in painting and decorating. Color mixing and use. Exterior painting. Interior home painting. Finishing with stain, shellac, and varnish. Decorative paint finishes. Wall papering. Automobile refinishing. Woodworking section The common woods and their uses. Woodworking tools and how to use them. Materials used by the woodworker. Hints for the woodworker Wood turning. Repair jobs and projects. Metalworking section The common metals and their uses. Metal working tools and their uses. Hints for the metal worker Using the engine lathe. Metal projects. Plumbing section Pipe, pipe fittings, valves, fixtures, and insulation. Tools used in plumbing work. Pipe measuring, cutting, threading, and installation. House plumbing jobs. Masonry section Concrete. Plastering. Stucco. Bricklaying materials and tools. Bricklaying operations. Glossary of bricklaying terms. Concrete blocks. Glass blocks. Electrical section: Brief sketch of electrical principles. Electrician's tools. General operations in electrical work. Signalling systems. Electrical wiring with BX cable. Electrical wiring in rigid conduit. Electrical appliances. Fixed electrical equipment.

Note The home mechanics to whom this book is addressed are the multitudes of persons who make things in home workshops without benefit of advice or assistance from skilled craftsmen, or perform repairs about their dwellings. The information included is in general what this class of reader needs: discussions of tools and their care common materials, their uses, standard dimensions, and working directions for making such things as concrete walks, specific and detailed directions for repairing leaky faucets, hanging wallpaper etc. There are more than 700 illustrations, some of which are rather poorly reproduced. This issue is reprint of the original edition published by the D. Van Nostrand Company in 1945.

KINNEY, RALPH PARSONS

The complete book of furniture repair and refinishing Easy to follow guide with step-by step methods. New York Charles Scribner's Sons 1950 240 p illus. 25 cm. $3.50. 7293

Contents Restoration. Repairs. Removing old finish. Preparing for new finish. Refinishing. Reviving old finishes. Enameling and "antiquing" furniture finishes. More about materials. Tools for the beginner. More hand tools. Sharpening and care of tools. Care and storage of paints and brushes. The home workshop—hints and shop practice. Care of furniture. Formulas. Reference books. Acknowledgments. Index.

Note One of the better books on this subject for amateur craftsmen. The restoration and refinishing of old furniture are emphasized, but part of the material is applicable as ell to the finishing of new furniture and to the finishing or refinishing of articles of wood other than furniture. Most of the text consists of concise discussions of specific points or detailed directions for specific operations. Many of the illustrations have been made from photographs of refinished antique furniture.

MANLY, HAROLD PHILLIPS, editor

Drake s householders' cyclopedia, a 'how to-do-it" book construction installation, maintenance and repair home buildings their equipment, furnishings and accessories. Chicago Frederick J Drake & Co. 1948 646 p. illus 20 cm. $5 00 7294

and Webster 1954 [illegible] p. illus. (part col'd) [illegible] cm. $3.[illegible] 7309

Contents: [illegible] Index.

Note: A [illegible] guide and reference book for homeowners and [illegible] who do painting and related kinds of finishing and [illegible] around their own homes. Materials, equipment and techniques are described in simple language.

UNITED STATES. BUREAU OF RECLAMATION

Paint manual for the control of paints and painting. First edition, revised reprint, December 1955 Washington, D. C. Government Printing Office, 1954 [illegible]03 p. illus. 24 cm. $1.75. 7310

Contents: Paints and paint materials. Introduction. [illegible] Index.

Note: A practical manual based on the extensive experience of the United States Bureau of Reclamation. It describes paints and painting practices used by the Bureau in the finishing and maintenance of structures in its charge. The descriptions are explicit and useful. The specifications listed in the appendix are issued by various units of the Federal Government.

VANDERWALKER, FRED NORMAN

Drake's cyclopedia of painting and decorating; methods, tools materials for home and the workshop, finishing walls, floors, furniture, automobiles, boats, houses etc. data for arts and crafts workers. Chicago Frederick J Drake & Co., 1945 358 p. illus. 20 cm. $3.00. 7311

Note: In this book no attempt is made to treat any subject exhaustively but practical information is given on some 150 topics, ranging from acoustic ceiling painting to washing painted walls and [illegible]. Considerable attention [illegible] devoted to paint [illegible] and mixing colors. An extensive index makes this [illegible] ready reference manual on materials, tools, and work procedures.

VANDERWALKER, FRED NORMAN

Wood finishing, plain and decorative methods, materials, and tools for natural, stained, varnished, waxed, oiled, enameled, and painted finishes antiqued, stippled, streaked, and rough glazed finishes stain making formulas. Revised edition. Chicago Frederick J Drake & Co., 1944 361 p. illus. 19 cm. 7312

Contents: Wood finishing in general. Preparation of new and old surfaces. Stains in general. Factory prepared stains. Water stains. Chemical water stains, acid and alkaline. Color pigment water stains. [illegible] Oil stains. Varnish [illegible] Varnish and shellac. Varnishing, rubbing, polishing. Varnish defects and their causes. [illegible] Index.

Note: A practical manual of materials and methods. [illegible]

WAKELING ARTHUR, editor

Wood finishing and painting step by step over 500 complete up-to-date practical schedules for furniture and woodwork, walls, floors and all types of interior and exterior surfaces, including masonry and metal. Also boat and auto finishes. New York The Home Craftsman Publishing Corporation, 1955 55 p. [illegible] cm. $3.95 7313

Contents: Part 1. Interior surfaces. Furniture. Specialty finishes. [illegible] Index.

Note: A reference book of "schedules" or directions for specific finishing and refinishing operations. [illegible]

PAPER

AMERICAN PAPER AND PULP ASSOCIATION

The dictionary of paper including pulps, boards paper properties and related paper making terms. Second edition. New York American Paper and Pulp Association, 1951 393 p. 24 cm. $6.50. 7314

Contents: Philosophy of definitions. Classification and definitions of pulps. Classification of waste materials used in the paper and board industries. Definitions of papers, boards, and papermaking terms. Bibliography.

Note: More than 3,000 terms employed in the various branches of the paper industry are defined in this semi-official work. The definitions, though prepared by experts in the field, are designed for use by both laymen and technically trained readers. As in the previous edition, the majority of the terms refer to types of paper and include concise information on methods of manufacture, history, uses, and properties. The changes made in this revision are of [illegible] nature and include an expansion of the introductory chapters on pulps and waste materials, the insertion of some new terms, and revision of the two-page bibliography.

CASEY, JAMES P

Pulp and paper chemistry and chemical technology. New York Interscience Publishers, Inc., 1952 2 v. illus. 24 cm. $18.00 per vol. Set, $33.00. 7315

Contents: Volume 1, Pulping and papermaking: Cellulose and hemicellulose. Lignin. Pulpwood. Pulping. Bleaching. Fiber preparation. Nature of fiber bonding. Sheet formation. Fillers and loading. Internal sizing. Surface sizing. Wet strength. Coloring. Microbiology. Water. Author index. Subject index. Vol. II, Properties of paper and converting: Properties of paper. Use of statistics in the paper industry. Pigment coating. Printing. Laminating and pasting. Internal treatment of paper with resinous materials. Coating with resinous materials. Resins. Corrugating. Author index. Subject index.

Note: A comprehensive treatise in which papermaking is treated as essentially a chemical process. However, there is little in it of chemical theory. Instead, the author has presented detailed information on the various processes that enter into the manufacture of

LEATHER

O'FLAHERTY, FRED, AND OTHERS, editors

The chemistry and technology of leather Volume 1—Preparation for tannage. Edited by Fred O'Flaherty William T Roddy and Robert M Lollar New York Reinhold Publishing Corporation, 1956 495 p illus. 23 cm. (American Chemical Society monograph series) $14 00 7302

Contents. Introduction, by F O'Flaherty Histology of animal skins, by W T Roddy Non-protein constituents of skin, by R. M. Koppenhoefer The chemical structure and macromolecular organization of the skin proteins, by J H. Highberger Preservation of hides and skins, by F L. DeBeukelaer Washing and soaking, by A. W Goetz. The practice of unhairing, by W Merrill. The mechanism of unhairing, by H. B. Merrill. The chemistry of liming, by R. M. Lollar The practice of bating, by H. R. Wilson. Bating, by J Pfannmuller The acid and base binding properties of proteins, by R. Saxon and M. Harris. Pickling, by R. Stubbings. Skin degreasing, by K. G. A. Pankhurst. Author index. Subject index.

Note. The first volume published of projected four volume treatise on the chemistry and technology of leather As indicated in the above table of contents, it is a collaborative work comprised of chapters written by individual authors. The chapters in this first olume very somewhat in style, but most are essentially critical digests of published literature with all important statements keyed t literature citations. An exception in this volume is Goetz' chapter "Washing and soaking, which is the statement of an expert unsupported by published literature. The chapters are addressed to such readers as chemists and top-level technicians already at work in the leather industry and advanced students preparing for this field.

ORTHMANN, AUGUST CARL

Tanning processes. Chicago The Rumpf Publishing Company, 1945 414 p 23 cm. $12 50 7303

Contents (abridged) Calf leather Goatskins. Sheepskins. Chrome side leather tanning. Patent leather Chrome retan sole leather Pigskin. Horse hide tannages. White leather Harness leather. Vegetable tanned sole leather Miscellaneous leathers. Coloring and coloring materials. Fatliquoring. Leather finishing materials. Chemicals used in the tannery Vegetable tanning materials. Water in the tannery Index.

Note A practical work written by an experienced leather man and designed for practical tanners. Many formulas are given in full, and the properties of their chief ingredients are described. There are occasional references to related literature but no systematic bibliography

MODEL MAKING

HERTZ, LOUIS H.

Advanced model railroading New York Simmons-Boardman Publishing Corp 1955 340 p illus 24 cm $4 95 7304

Contents Going forward with model railroading. Elements of control. Propulsion and control. Signaling and interlocking. More about signaling and interlocking. Electronic controls. Electric-eye devices. Modelmaking from scratch. Construction, conversion, and super-detailing. Castings and patternmaking Tools and machining. Salvaging parts and using junk materials. Live steamer construction. Model railroading, today and tomorrow Keeping posted. Index

Note. This book by ell know writer on model railroading covers variety of topics as the above table of contents shows. Of special interest are the chapters on controls, casting and machining. Some of the material is of potential interest to model builders, both amateur and professional, who work in other fields. The book is adequately illustrated and well indexed

JOHNSON, GENE

Airplane model building New York Cornell Maritime Press, 1946 141 p illus. 23 cm $3 00 7305

Contents. Getting started. Tools and materials. Model kits. Flight theory Gliders and stick models. Solid scale models. Built up scale and flying models. Covering. Finishing and painting. Gasoline engines. Miscellany Helicopters. Control line flying. Model clubs. Index.

Note: An elementary manual designed especially for the beginning model builder. The language is simple, and the instructions for cutting, shaping, and assembling the various parts are explicit. There are 61 full pages of illustrations and set of removable full-scale plans for constructing 11 different models including the Sikorsky R-6 helicopter the Piper Cub cruiser—model J3, and the Aeronca "K" seaplane. The chapter on gas engines is brief and discusses only methods for selecting an engine of proper displacement.

JOHNSON, GENE

Ship model building Second edition. Cambridge, Md. Cornell Maritime Press, 1953 273 p illus. 23 cm. $3 50 7306

Contents (abridged) Hull blocks. Blocking and profiling. The cradle-bowsprit. Propellers. Planking. Bulwarks. Rails. Channels. Ladders. Ventilators. Anchors. Steering wheels. Hatches. Companionway hoodings. Lifeboats and other small stowed boats. Ship's bells. Funnels. Wireless antennas. Fog horns and bells. Miscellaneous fittings. Masts. Yards. Sails. Old-time guns. Modern armaments. Bases. Painting. Tools. Index.

Note A book that appeals to all he are interested in ships and ship models. The processes in model building are explained, from hull shaping and laying out to more complicated tasks. Suggestions are given for the preparation of home-made tools and devices, where ready-made ones are not available. The illustrations are special feature. In this second edition, there are 147 full-page plates, each of which contains reproductions of several drawings of details of ship and ship model construction.

WINTER, WILLIAM J

The model aircraft handbook. Third edition. Illustrations by H. A. Thomas, Paul Plecan and Bruce Wennerstrom. New York Thomas Y Crowell Company, 1953 200 p. illus. 20 cm. $3 50 7307

Contents Types of model planes. Preparation of working plans. Aerodynamics and proportions. Construction. Landing gears and pontoons. Propellers. Covering. Miniature gas engines. Tanks. Rubber models. Control-line models. Jet models. Free-flight models. Radio control. Flying and adjusting. Scale models. Payload models. Glossary Index.

Note. A standard book on model airplane design and construction. It introduces the reader to this field and provides wide range of information on aircraft details and model construction techniques. There are many scores of drawings, including airfoil and wing sections.

PAINTING

CREWDSON, FREDERICK M

Spray painting industrial and commercial Wilmette Ill. Frederick J Drake and Company 1948. 169 p. illus. 19 cm. 7308

Contents Common paint pigments. Paints and enamels. Oil and spirit varnishes. Shellac. Lacquer Synthetics. Equipment. The technique of spraying. Spraying standard materials. Spraying defects, their cause and remedy Bronzes and their application. Flock, or suede finishes. Striping and lettering Pearl lacquer, the aristocratic finish. Automatic spraying. Electrostatic spray painting. Agricultural spraying. Automobile spray painting. The sprayer's "ten commandments. Index.

Note. This manual provides simple descriptions and outlines of the materials and techniques of spray painting. It is intended for men in the craft. The present edition contains some useful material that did not appear in the 1941 edition. A new edition was scheduled for publication in 1957

DEVOE HOME DECORATING INSTITUTE

Do-it yourself guide to successful home painting and decorating New York Simon

Note: The *manufacture of pulp and paper* prepared by the Joint Executive Committee of the Vocational Education Committees of the Pulp and Paper Industry of the United States and Canada, was published during 1921–3 in five volumes. During 1922–29 second edition was issued of volumes 3, 4, and 5, and during 1937–39 third edition of the same volumes appeared. The present work is [illegible] revision and expansion of these three volumes. The [illegible] has not been so much rewritten as revised by interpolating and [illegible] the text of the third edition. Much new material including new tables and illustrations has been added. It is still intended for [illegible] workers in pulp and paper manufacturing industries. Although designed both for school use and home study the treatment [illegible] so authoritative and thorough that the work is in [illegible] small encyclopedia of pulp and paper manufacture.

KANTROWITZ, MORRIS SAMUEL, AND OTHERS

Permanence and durability of paper: an annotated bibliography of the technical literature from 1885 A.D. to 1939 A.D., by Morris S. Kantrowitz, Ernest W. Spencer and Robert H. Simmons. Washington, D. C. Government Printing Office, 1940. 114 p. 23 cm. (United States. Government Printing Office. Technical bulletin no. 22) $0.15 7325

Contents: Introduction. Annotated bibliography of paper permanence and durability. Subject index. Author index.

Note: A listing in reverse chronological order of 290 articles that appeared in more than 120 paper trade journals and magazines published in the United States and abroad. More than half of the articles listed were published between 1930 and 1939. An annotation [illegible] or describes each article included. Foreign titles are translated into English. The publication is intended to serve as [illegible] ready reference source to librarians, paper chemists, and others seeking [illegible] of information in the field.

MOSHER, ROBERT H., editor

Specialty papers: their properties and applications. Prepared by a staff of specialists under the editorship of Robert H. Mosher. New York. Chemical Publishing Company Inc., 1950. 520 p. illus. 23 cm. $10.00. 7326

Contents (*abridged*): Gift wraps, fancy box and packaging papers, by R. H. Mosher. Decorative papers. Display papers and lamp shade stock, by R. H. Mosher. *Paper drapes*, by J. C. Pickering. [illegible] papers, by B. Kahanan. Functional and protective papers. [illegible] packages, by J. J. Aaron. Metal-parts wrappers, by R. H. Mosher. High-gloss specialty papers. Flint-glazed papers, by R. [illegible]. Friction-glazed papers, by R. H. Mosher. Brush-enamel papers, by F. C. Haywood. Miscellaneous decorative papers. Metal-[illegible] papers, [illegible] coated and printed papers, etc., by R. H. Mosher. Miscellaneous functional papers. Photosensitive papers, by C. E. C. [illegible]. Asphalt and waterproof papers, by M. L. [illegible]. Waxed papers, by A. M. Worthington. Gummed and [illegible] tapes and labels, by F. W. Jarrell. Carbon papers, by [illegible]. *Films*, by W. R. Allen. Metal-foil papers, by J. [illegible]. Glossary, by R. H. Mosher. Index.

Note: Each chapter in this work contains information on the history, properties, uses, and manufacture of [illegible] specific type of specialty paper. Practically all of the chapters are accompanied by [illegible] bibliographies. The book appears to be the only [illegible] treatment of the subject.

MOSHER, ROBERT H., editor

The technology of coated and processed papers. Prepared by a staff of specialists under the editorship of Robert H. Mosher. New York. Chemical Publishing Company Inc., 1952. 733 p. illus. 22 cm. $15.00 7327

Contents: Introduction, by R. H. Mosher. Theory of high polymers and their application to the paper-converting industry, by R. [illegible]. Chemistry of paper coatings and instruments for the measurement of their flow properties, by F. Dewey. Water-soluble coatings, by R. H. Mosher. Solvent coatings and solvent-recovery systems, by M. Baron. Water-dispersion coatings, by R. H. Mosher. Hot-melt coatings, by R. C. Miller. Organosol and plastisol coatings, by J. M. Parsons. Paper-converting machinery, by F. W. Egan. Printing inks and printing processes, by R. H. Mosher. Adhesives and lamination processes, by F. C. Campion. Saturating agents and paper saturation, by W. A. Abramowitz and others. Machine production of printing papers and resin-treated specialties, by R. H. Mosher. The testing of raw stock, raw materials and specialty papers, by R. H. Mosher. Index.

Note: A companion volume to R. H. Mosher, ed., *Specialty papers: their properties and applications*, described above. The title published first describes the papers themselves, and this one is devoted mainly to the technology of their manufacture. Each chapter is the work of [illegible] specialist associated with the paper converting industry or with [illegible] supplier to this industry and is accompanied by [illegible] bibliography. A wide range of information on present-day materials and processes is presented. There are 102 tables of useful data and 130 figures. The editor is General Manager of the Miami Valley Coated Paper Company.

TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY

Pulp and paper manufacture: bibliography and United States patents, 1954. Compiled by Jack Weiner. New York. Technical Association of the Pulp and Paper Industry, 1955. 752 p. 23 cm. 7328

Contents: List of journals covered. Bibliography. Patents. Author index. Subject index. Patent index.

Note: An annual classified bibliography of the international journal literature and United States patents, compiled at the Library of the Institute of Paper Chemistry. The arrangement is alphabetical by subject. Adequately full references are given to the original journal publications, but there are no annotations in the section covering this literature. However, the section of patents contains, in addition to the citation, date of issue, etc., the claim that was published in the *Official Gazette* of the United States Patent Office; thus there is some description of the content of each patent. The annual editions are cumulated from time to time into volumes that cover several years.

WEST, CLARENCE JAY

Alkaline processes. Part II, Black liquors. Appleton. The Institute of Paper Chemistry, 1952. 377 p. 27 cm. (The Institute of Paper Chemistry. Bibliographic series. No. 178) $10.00. 7329

Contents: Books. General articles. Analytical methods. Evaporation. Combustion. Causticizing. Lime sludge. Soda and sulfur losses. Distillation. Purification methods. Uses. Stream pollution. Instrumentation. Odors. Author index. Patent index.

Note: An extensive listing of books and periodical articles which describe the various methods employed for the recovery and utilization of waste liquors produced in the manufacture of pulp. The 2,261 references are annotated and grouped according to the above-indicated subjects.

WEST, CLARENCE JAY

Paper testing. Second edition. Appleton. The Institute of Paper Chemistry, 1949. 182 p. 27 cm. (The Institute of Paper Chemistry. Bibliographic series. No. 139–144) $5.00. 7330

Contents: Introduction. General articles. Bending strength. Bursting strength. Compressibility. Creasing quality, brittleness. Folding endurance. Stiffness, softness, rigidity. Stress-strain properties. Stretch, elasticity. Tearing strength. Tensile strength. Wet tensile strength. Author index. Patent index.

Note: A comprehensive listing of all the important articles relating to the methods of testing the strength of papers. The entries are annotated and grouped as indicated above. In this edition the number of references has been increased from 224 to 480.

pulp and paper including only the strictly mechanical, on the physical and chemical properties of paper the kinds and properties of paper coatings, etc. There are many hundreds of footnote references to the literature.

GRAFF, JOHN HENRY

A color atlas for fiber identification Appleton The Institute of Paper Chemistry, 1940 27 p illus (part col'd) 36 cm. $12 50 7316

Note. In this work the colors produced in reactions between fibres important in the paper industry and standard stains are illustrated in color Also included are directions for preparing and using the stains.

GRAFF, JOHN HENRY

Microscopy of pulp and paper Appleton, Wisconsin The Institute of Paper Chemistry, 1952 398 p 27 cm (The Institute of Paper Chemistry Bibliographic series Number 177) $15 00 7317

Note A bibliography which is complementary to the author's *Pulp and paper microscopy* issued by the same publisher in 1942 The arrangement is alphabetical by name of author and there are fully detailed author and subject indexes. Each entry is annotated. The international literature has been covered and the coverage is essentially complete through 1949 In addition some references have been added to material that appeared during 1950.

HUNTER, DARD

Papermaking the history and technique of an ancient craft. Second edition, revised and enlarged New York Alfred A Knopf, 1947 611 p illus 24 cm $15 00 7318

Contents (abridged) Writing substances of the ancients. Ts'ai Lun and the invention of paper The first text printing upon paper The hand-mould. The maceration of materials for papermaking. Early papermaking processes and methods. Paper a sacred material. The paper and the papermakers of Europe and America during the early years of printing. Ancient watermarks. Latter-day watermarks. Papermaking materials. The paper-machine and its inventors Printing revolutionizes papermaking. Handmade papers vs. machine-made papers. The watermarking of machine-made papers and the use of watermarks in detecting forgery Present-day papermaking by hand in Europe. Chronology of papermaking, paper and the use of paper Bibliography Notes. Index.

Note. A comprehensive history that deals mostly with paper making techniques but also pays some attention to the social and cultural importance of paper as a writing and printing material. It is intended for students of cultural history and general readers. The chapters on the watermarking of machine-made papers and present-day papermaking by hand in Europe are new in this edition, and certain other parts of the book, including the bibliography have been revised or expanded.

HUNTER, DARD

Papermaking in pioneer America. Philadelphia University of Pennsylvania Press 1952 178 p illus. 24 cm $6 50 7319

Contents The beginning of papermaking. Equipment and operation of early mills. Pennsylvania, 1690. New Jersey 1726. Massachusetts, 1728. Maine, 1731 35. Virginia 1744 Rhode Island, 1764. Connecticut, 1766. New York, 1768. Maryland, 1776. North Carolina, 1777 New Hampshire and Vermont, 1777–93 Delaware, 1787 Kentucky 1793 Western Pennsylvania, 1796. South Carolina, 1806 Ohio, 1807 Georgia, 1810. Tennessee, 1811 Nathan Sellers—pioneer paper-mould maker American papermakers, 1690–1817 Check list Index.

Note. A scholarly account, based on extensive research, of the beginnings of the manufacture of paper in the United States of America. The accounts of early papermaking in the various states account for most of the volume. The list of papermakers includes both individuals and firms.

INSTITUTE OF PAPER CHEMISTRY

Catalog of the library, September, 1940 Decennial index—*Library notes* volumes 1–10 1930–1940 Appleton The Institute of Paper Chemistry, 1940 672 p 21 cm. (Institute of Paper Chemistry affiliated with Lawrence College, Appleton, Wisconsin. Bulletin) $25 00 7320

Contents Catalog of the library Periodicals. Books and pamphlets. Author index. Decennial index—*Library notes*, volumes 1 10 Author index. Subject index.

Note. This volume is in two parts, the library catalog occupying the first third, the ten-year index to the Institute's *Library notes* occupying the last two thirds. The books and pamphlets in the library are listed alphabetically under subject, followed by an author index of 23 pages. The author index to *Library notes* covers 113 pages, followed by subject index of 191 pages. The volume is of value as bibliography of paper chemistry as well as being an essential tool to those maintaining a file of *Library notes*.

JOINT TEXTBOOK COMMITTEE OF THE PAPER INDUSTRY OF THE UNITED STATES AND CANADA

Pulp and paper manufacture, prepared under the direction of the Joint Executive Committee on Vocational Education representing the pulp and paper industry of the United States and Canada. J Newell Stephenson, editor in-chief Volume 1 Preparation and treatment of wood pulp. New York McGraw Hill Book Company, 1950. 1,043 p. illus. 23 cm. $10.00. 7321

Contents Structure and properties of pulpwood. Preparation of pulpwood. Manufacture of mechanical pulp. Manufacture of sulphite pulp. Manufacture of alkaline-process pulps. Treatment of pulp. Bleaching of wood pulps. Testing of wood pulp. Index.

—— Volume 2 Preparation of stock for paper making New York McGraw Hill Book Company, 1951 587 p. illus. 24 cm. $7 50 7322

Contents Pulping of rag and other fibers. Wastepaper; beating and refining. Fiber stock preparation deinking processes. Beating and refining. Fiber and loading. Sizing of paper Paper coloring. Semi-chemical, high yield chemical, and special groundwood pulping processes. Bibliography Index.

—— Volume 3 Manufacture and testing of paper and board New York McGraw Hill Book Company, 1953 945 p illus. 24 cm. $11.00 7323

Contents Papermaking machines. Auxiliary apparatus and operations preliminary to paper machines. The Fourdrinier section. Press part. Cylinder machines, vats, and presses. The dryer part. Calenders, slitters, and winders. The paper-machine drive. Specialty papermaking machines. Paper-production calculations. Appendix Handmade papers. Finishing of paper Coated papers. The coating process. Gummed papers. Waxed and lacquer-coated papers. Paper testing Physical tests. Microscopy of paper Chemical tests. Bibliography Index.

—— Volume 4 Auxiliary paper mill equipment. New York McGraw Hill Book Company Inc., 1955 732 p. illus 24 cm. $9.00 7324

Content Instrumentation and process control. Pumps, pumping apparatus, and agitation equipment. Materials handling. Heating and ventilation. Steam. Water Electrical equipment. Bearings and lubrication Bibliography Index.

upon the equipment of American railways. Second edition. New York Simmons-Boardman Publishing Corporation, 1955 242 p. illus. 23 cm. $5.75 7339

Contents The mechanics of train operation and train braking. Wear of wheels. Railway car axles. Locomotive and car truck design—oil journals and riding qualities. Draft gear. Conclusion. Index.

Note A discussion of the braking of railway trains presented from the standpoint of railway mechanical engineering. All aspects of the subject are covered, including the forces involved in train retardation, the principles and mechanical features of the various types of brakes, the weight of equipment, stresses in wheels and axles. A theory is advanced to explain the development of thermal cracks in wheel treads. The first edition, based on lectures given at the Massachusetts Institute of Technology, was published in 1941. For the second edition the book was revised so as to include reference to present-day railway equipment and to take into account the revised rules of the Association of American Railroads.

VAN METRE, T WILLIAM, AND RUSSEL GORDON VAN METRE

Trains, tracks and travel. Ninth edition. New York. Simmons-Boardman Publishing Corporation, 1956. 501 p. illus. 24 cm. $4 95 7340

Contents Clearing the way. Our railroad system. The railroad track. The steam locomotive. The electric locomotive. Diesel-electric and gas turbine locomotives. Freight cars. Passenger train cars. The [illegible] story. Passenger stations and terminals. Freight terminals. Railroad shops and engine terminals. The operation of trains. Railroads and national security. Index.

Note An expertly written, popular account of railroads in the United States of America, their history, rolling equipment, and operation. It appeals to young people, railroad fans, and general readers. The first edition was published in *1926*, and the succeeding editions portray [illegible] gradual but major evolution in the equipment of American railroads. The present edition, written in collaboration with the author's son, contains several new chapters in addition to thoroughly revised parts of several *chapters carried over from the* eighth edition, 1950.

WOODWORKING

CRAMLET ROSS C.

Woodwork visualized. Milwaukee The Bruce Publishing Company 1950 158 p. illus. 27 cm. $2.50. 7341

Contents (abridged) Tool identification and classification. Lumber. Saws. Planes. Chisels. Knives. Wood files. Layout tools. Boring tools. Fastening tools. Driving tools. Scraping tools. Tool sharpening. Joinery. Fastenings. Hardware. Finishing. Projects. Index.

Note An introductory book to the common hand woodworking operations and to the tools with which they are performed. It is included here because of the unusual method of presentation. Almost the entire space is given to [illegible] series of plates on which tools and operations are shown in exceptionally clear drawings. The drawings are accompanied by legends that explain the tool or operation.

DAHL, ALF AND J DOUGLAS WILSON

Cabinetmaking and millwork tools materials, construction, layout. Second edition. Chicago American Technical Society 1956. 352 p. illus. 22 cm. $6.50 7342

Contents The cabinetmaker's work. *Safety practices* in cabinetmaking. Woodworking tools. Cabinet and millwork joints. Fundamentals of blueprint reading. Board measure. Fundamentals of stock billing. Rod layout. Steel square layout. Geometrical shop layout jobs. Lumber, adhesives, veneers, and plywood. Standards of construction, sizes, and design. Layout and construction of cabinet work. Doors. Windows and sash. Window sash, and door frames. Interior trim and exterior woodwork. Stair layout. Appendix. Index.

Note A practical text on the making of wooden cabinets, doors, windows, interior trim, etc. It is designed for the instruction of vocational school students and apprentice carpenters who are preparing to specialize in interior woodwork and cabinetmaking. Some previous introduction to carpentry tools and carpentry practices appears to have been assumed, however, there is one chapter in which the hand and machine tools used in cabinetmaking are described. The book is very fully illustrated. The first edition was published in 1951. In this second edition the first 221 pages appear to be identical with those of the first edition, but beginning with the 13th chapter all of the material is newly added.

FABBRO MARIO DAL

How to make built-in furniture. New York F W Dodge Corp. 1955 262 p. illus. 26 cm. $6 95 7343

Contents (abridged) General instructions. Built-in furniture designs. Index.

Note The building of such furniture and fixtures as bookshelves, radiator enclosures, bars, room dividers, clothes closets and kitchen cabinets is covered in this book. In the first part, matters of general *applicability such as taking measurements*, selecting lumber, anchoring furniture to floors, walls and ceilings, and finishing wood are covered. The second and much longer part is devoted to drawings, dimensions, lists of materials and specific instructions for the building of *102 built-in furniture pieces*. All of the pieces described have been designed to fit harmoniously into rooms furnished in the modern style; however some of them, especially the bookshelves and cabinets, will suit other styles of decoration as well. The book *is specifically addressed to amateur craftsmen* who are interested in constructing furniture for their own homes.

HAINES, RAY EDWARD, *AND OTHERS*

The wood-turning lathe. By Ray E. Haines, John V Adams John G Miller Robert L. Thompson, and Raymond Van Tassel. New York D Van Nostrand Company Inc., 1952 132 p. illus. 26 cm. (The home work shop series) $3.50. 7344

Contents History and basic principle of the lathe. The home workshop lathe. Basic tools and accessories—*their care and use*. Basic operations. Advanced and special operations. Projects. Index.

Note An introductory book for home mechanics. In it the wood-turning lathe, the tools and accessories used with it, and the basic operations on it are described clearly and simply. Both tools and operations are also shown in pictures. The chapter on projects accounts for more than half of the space. It contains detailed descriptions, including lists of materials and dimensioned drawings, for [illegible] variety of useful articles such as lamps, salt and pepper shakers and small tables.

HJORTH HERMAN

Machine woodworking. Milwaukee The Bruce Publishing Company 1937 371 p. illus. 23 cm. (The Hjorth series of woodworking texts) $3.25 7345

Contents Preface. Historical development of woodworking machinery. Circular saws. Operations performed on [illegible] universal or variety circular saw. Band saws and jig saws. Planing and scraping machines. Shapers and routers. Mortisers, borers, and tenoners. Wood-turning lathes. Sanding machines. Gas-motor machinery and equipment. Installation and maintenance. References. Index.

Note A textbook for technical, trade, and vocational schools, useful also as [illegible] handbook for the practical trade-trained shopman and for the largely self-trained home *craftsman*. *Review* questions are given at the ends of the chapters. The author has also written *Principles of woodworking* (described below)

HJORTH HERMAN

Principles of woodworking. Revised and enlarged. Milwaukee The Bruce Publishing Company 1948 445 p. illus. 24 cm. $4.50 7346

Contents: History of woodworking tools. Hand tools. Machine tools. The sharpening of tools. Planing and squaring to dimensions. Grooved joints. Dowel joints. Lap or halving joints. Mortise-and-

WEST, CLARENCE JAY
Pulping processes Parts I–IV Appleton, Wis. The Institute of Paper Chemistry, 1949–54 4 v 27 cm. (The Institute of Paper Chemistry Bibliographic series. Nos 172–175) Vol 1–3, nos 172–174, $5 00 each, vol. 4, no 175 $10 00 7331

Contents (abridged) Part I, Nitric acid process. Part II, Chlorine process. Part III, Ammonia, magnesium, and sodium bases for sulfite pulping. Part IV Semichemical processes.
Note An extensive bibliography of articles, books, and patents descriptive of the various types of pulping processes which have been studied experimentally or which are in actual commercial use. The entries are annotated and within each subgroup are arranged alphabetically by author Each volume includes patent and author indexes.

WEST, CLARENCE JAY
Slime control and prevention. Appleton The Institute of Paper Chemistry, 1949 76 p 27 cm. (The Institute of Paper Chemistry Bibliographic series No 170) $5 00 7332

Note A bibliography of periodical articles and manufacturers' literature on the control of slime in pulp and paper plants. References relating to the treatment of processing water or the preservation of moist pulp are not included. The entries are annotated and arranged alphabetically by author

WEST, CLARENCE JAY
Wet strength of paper Second edition Appleton The Institute of Paper Chemistry, 1951 155 p 27 cm. (The Institute of Paper Chemistry Bibliographic series. No 168) $5 00 7333

Note A bibliography of books, articles and patents on the treatment of paper to give it wet strength and on the testing and uses of such paper The entries are annotated. In this edition, there are 391 references as compared with 177 in the first edition. An index to the listed patents is provided.

RAILROAD OPERATION

BRUCE, ALFRED W
The steam locomotive in America its development in the twentieth century New York W W Norton & Company, Inc. 1952 443 p illus 24 cm. $8 50 7334

Contents Railways, railroads, and locomotives. Early development of the steam locomotive. The steam locomotive industry General development of the steam locomotive, 1901 to 1950. The basic development of power transmission, 1901 to 1950. Development of basic elements. Progressive development of individual types of steam locomotives Development of special-service locomotives Growth and development of the steam locomotive. The competitors of the steam locomotive The future design of the steam locomotive Résumé. Index.
Note Although the sub-title of this book indicates a limitation in time to the present century the earlier development of the steam locomotive from its beginnings to the close of the 19th century is adequately outlined Beginning with 1900, the author gives a detailed account. His chapter on the development of basic elements is over 150 pages long and in it he has described fully the evolution of such parts of the steam locomotive as the boiler mechanical stokers, grates, engines, valves, driving wheels, etc. Inserted pages near the center of the volume contain reproductions of photographs of 168 typical locomotives, and legends under the photographs supply technical details. There is no bibliography

DRENNAN, C M
Air brake study course New York Simmons-Boardman Books 1954–1955 3 v illus. 28 cm Vols I and II, $4 75 per vol, vol. III, $6 75 7335

Contents (abridged) Volume I, ABC's of airbrakes, with air brake dictionary: Section I, Train brake control. Section II, Air brake fundamentals. Section III, Air brake dictionary Index. Volume II, car air brakes. Section I, Car air brake devices. Section II, Freight car brakes. Section III, Passenger car brakes. Index. Answers to quizzes. Volume III, Locomotive air brakes: Section I, Locomotive devices. Section II, Locomotive brake equipments. Section III, Locomotive brake equipments with electric controls. Section IV Locomotive braking force control. Index. Answers to quizzes.
Note. These three volumes constitute a practical course in the principles and operation of air brakes currently used on railroad equipment in the United States of America. They are addressed to railroad men and are composed of simple diagrammatic illustrations, short, straightforward explanations of the illustrations, and numerous review questions.

HENRY, ROBERT SELPH
This fascinating railroad business. Second edition revised. New York The Bobbs-Merrill Company, 1943 520 p illus. 22 cm. $4.00. 7336

Contents The road of rails. Evolution of track. Laying out the line. Beneath the rails. Rails of steel. Behavior of track. Above valley stream, and road. Under mountain and river. Structures along the way Carriers of the word. Guardians of the way The first hundred years of steam. Steam—second century Oil, gas, and juice. Train cars. Houses on wheels. Keeping them running. Terminals and trains. Service of supply Growth of the service. Selling the service. "The Company" The company's business. Railroad men. The iron war horse. The business of railroading. An "anatomy" of American railroads. Acknowledgments. Index.
Note A historical work, written mainly for the general reader. Although considerable emphasis is placed on the development of railroads as a business, construction, equipment, and railroad organization are also treated.

MCGOWAN, GEORGE F
Diesel-electric locomotive handbook—electrical equipment. New York Simmons-Boardman Publishing Corporation, 1951 290 p illus. 21 cm. $2 75 7337

Contents The electric transmission. Electrical fundamentals. The electric generator The traction motor Exciters, auxiliary generators, motor blowers, dynamic braking. Batteries. Contractors, etc. Electro-motive division electrical equipment. Alco-General Electric electrical equipment. Lima-Hamilton locomotive electrical equipment. Baldwin Locomotive electrical equipment. Fairbanks, Morse electrical equipment. Index.

—— Diesel-electric locomotive handbook—mechanical equipment. New York Simmons-Boardman Publishing Corporation 1951 262 p. illus. 21 cm. $2 75 Set, $4.85 7338

Contents The development of the Diesel-electric locomotive. Fundamentals. Lubricating and cooling. Fuel systems—fuel. Pistons, piston rings, liners. Connecting rods, bearings, crankshafts. Valves, timing, heads. Governors. The steam generator The air compressor. The American Locomotive Company Diesel engine. The Baldwin Locomotive Diesel engine. The electro-motive Diesel engine. The Fairbanks-Morse Diesel engine. The Lima-Hamilton Diesel engine. The gas-turbine locomotive. Index.
Note Practical books suitable for use in home study by operating and maintenance personnel, especially those preparing to take qualifying examinations for more responsible positions. They are organized in short paragraphs, each of which is introduced by a caption in heavy type. Other aids to facilitate study are a liberal number of good illustrations and numerous electric circuit diagrams. According to the preface, the chapters devoted to specific locomotives have been thoroughly checked for accuracy by the manufacturers.

SILLCOX, LEWIS K
Mastering momentum a discussion of modern transport trends and their influence

upon the equipment of American railways. Second edition. New York Simmons-Boardman Publishing Corporation, 1955 242 p. illus. 23 cm. $5 75 7339

Contents. The mechanics of train operation and train braking. Railway car wheels. Railway car axles. Locomotive and car truck design—all sections and riding qualities. Draft gear. Conclusion. Index.

Note. A discussion of the braking of railway trains presented from the standpoint of railway mechanical engineering. All aspects of the subject are covered, including the forces involved in train operation, the principles and mechanical features of the various types of brakes, the weight of equipment, stresses in wheels and axles. A theory is advanced to explain the development of thermal cracks in wheel treads. The first edition, based on lectures given at the Massachusetts Institute of Technology, was published in 1941. For the second edition the book was revised so as to include information on present-day railway equipment and to take into account the revised rules of the Association of American Railroads.

VAN METRE, T WILLIAM AND RUSSEL GORDON VAN METRE

Trains, tracks and travel. Ninth edition. New York Simmons-Boardman Publishing Corporation, 1956 501 p. illus. 24 cm. $4 95 7340

Contents: Clearing the way. Our railroad system. The railroad track. The steam locomotive. The electric locomotive. Diesel-electric and gas turbine locomotives. Freight cars. Passenger train cars. The streamliner story. Passenger stations and terminals. Freight terminals. Railroad shops and engine terminals. The operation of trains. Railroads and national security. Index.

Note: An expertly written, popular account of railroads in the United States of America, their history, rolling equipment, and operation. It appeals to young people, railroad fans, and general readers. The first edition was published in 1926, and the successive editions portray gradual but major evolution in the equipment of American railroads. The present edition, written in collaboration with the author's son, contains several new chapters in addition to thoroughly revised parts of several chapters carried over from the eighth edition, 1950.

WOODWORKING

CRAWLEY ROSS C.

Woodwork visualized. Milwaukee The Bruce Publishing Company 1950 158 p. illus. 27 cm. $2.50. 7341

Contents (abridged) Tool identification and classification. Lumber. Saws. Planes. Chisels. Knives. Wood files. Layout tools. Boring tools. Holding tools. Driving tools. Scraping tools. Tool sharpening. Joinery. Fastenings. Hardware. Finishing. Projects. Index.

Note: An introductory book to the common hand woodworking operations and to the tools with which they are performed. It is included here because of the unusual method of presentation. Almost the entire space is given to a series of plates on which tools and operations are shown in exceptionally clear drawings. The drawings are accompanied by legends that explain the tool or operation.

DAHL, ALF AND J DOUGLAS WILSON

Cabinetmaking and millwork tools, materials, construction, layout. Second edition. Chicago American Technical Society 1956 352 p. illus. 22 cm. $6.50 7342

Contents: The cabinetmaker's work. Safety practices in cabinetmaking. Woodworking tools. Cabinet and millwork joints. Fundamentals of blueprint reading. Board measure. Fundamentals of stock billing. Rod layout. Steel square layout. Geometrical shop layout jobs. Lumber, adhesives, veneers, and plywood. Standards of construction, sizes, and design. Layout and construction of cabinet work. Doors. Windows and sash. Window sash, and door frames. Interior trim and exterior woodwork. Stair layout. Appendix. Index.

Note: A practical text on the making of wooden cabinets, doors, windows, interior trim, etc. It is designed for the instruction of vocational school students and apprentice carpenters who are preparing to specialize in interior woodwork and cabinetmaking. Some previous introduction to carpentry tools and carpentry practices appears to have been assumed. however there is one chapter in which the hand and machine tools used in cabinetmaking are described. The book is very fully illustrated. The first edition was published in 1953. In this second edition the first 111 pages appear to be identical with those of the first edition, but beginning with the 11th chapter all of the material is newly added.

FABBRO, MARIO DAL

How to make built in furniture. New York F W Dodge Corp., 1955 262 p illus. 26 cm. $6 95 7343

Contents (abridged) General instructions. Built-in furniture designs. Index.

Note. The building of such furniture and fixtures as bookshelves, radiator enclosures, bars, room dividers, clothes closets and kitchen cabinets is covered in this book. In the first part, matters of general applicability such as taking measurements, selecting lumber, anchoring furniture to floors, walls and ceilings, and finishing wood are covered. The second and much longer part is devoted to drawings, dimensions, lists of materials and specific instructions for the building of 102 built-in furniture pieces. All of the pieces described have been designed to fit harmoniously into rooms furnished in the modern style; however some of them, especially the bookshelves and cabinets, will suit other styles of decoration as well. The book is specifically addressed to amateur craftsmen who are interested in constructing furniture for their own homes.

HAINES RAY EDWARD, AND OTHERS

The wood-turning lathe. By Ray E Haines, John V Adams John G Miller Robert L. Thompson, and Raymond Van Tassel. New York D Van Nostrand Company Inc. 1952 132 p. illus. 26 cm. (The home workshop series) $3 50 7344

Contents. History and basic principle of the lathe. The home workshop lathe. Basic tools and accessories—their care and use. Basic operations. Advanced and special operations. Projects. Index.

Note. An introductory book for home mechanics. In it the wood-turning lathe, the tools and accessories used with it, and the basic operations on it are described clearly and simply. Both tools and operations are also shown in pictures. The chapter on projects accounts for more than half of the space. It contains detailed descriptions, including lists of materials and dimensional drawings, for a variety of simple articles such as lamps, salt and pepper shakers and small tables.

HJORTH HERMAN

Machine woodworking. Milwaukee The Bruce Publishing Company 1937 371 p. illus. 23 cm. (The Hjorth series of woodworking texts) $3.25 7345

Contents: Preface. Historical development of woodworking machinery. Circular saws. Operations performed on universal or variety circular saw. Band saws and jig saws. Planing and scraping machines. Shapers and routers. Mortisers, borers, and tenoners. Wood-turning lathes. Sanding machines. Glue-room machinery and equipment. Installation and maintenance. References. Index.

Note. A textbook for technical, trade, and vocational schools, useful also as a handbook for the practical trade-trained shopman and for the largely self-trained home craftsman. Review questions are given at the ends of the chapters. The author has also written *Principles of woodworking* (described below)

HJORTH HERMAN

Principles of woodworking. Revised and enlarged. Milwaukee The Bruce Publishing Company 1948 445 p. illus. 24 cm. $4.50 7346

Contents: History of woodworking tools. Hand tools. Machine tools. The sharpening of tools. Planing and squaring to dimensions. Grooved joints. Dowel joints. Lap or halving joints. Mortise-and-

WEST, CLARENCE JAY

Pulping processes Parts I–IV Appleton, Wis The Institute of Paper Chemistry, 1949–54 4 v 27 cm. (The Institute of Paper Chemistry Bibliographic series Nos 172–175) Vol 1–3, nos. 172–174, $5 00 each, vol. 4, no 175, $10 00 7331

Contents (abridged) Part I, Nitric acid process. Part II, Chlorine process. Part III, Ammonia, magnesium, and sodium bases for sulfite pulping. Part IV Semichemical processes.

Note An extensive bibliography of articles, books, and patents descriptive of the various types of pulping processes which have been studied experimentally or which are in actual commercial use. The entries are annotated and within each subgroup are arranged alphabetically by author Each volume includes patent and author indexes.

WEST, CLARENCE JAY

Slime control and prevention. Appleton The Institute of Paper Chemistry, 1949 76 p 27 cm. (The Institute of Paper Chemistry Bibliographic series No 170) $5 00 7332

Note. A bibliography of periodical articles and manufacturers' literature on the control of slime in pulp and paper plants. References relating to the treatment of processing water or the preservation of moist pulp are not included. The entries are annotated and arranged alphabetically by author

WEST, CLARENCE JAY

Wet strength of paper Second edition. Appleton The Institute of Paper Chemistry, 1951 155 p 27 cm (The Institute of Paper Chemistry Bibliographic series No. 168) $5 00 7333

Note A bibliography of books, articles and patents on the treatment of paper to give it wet strength and on the testing and uses of such paper The entries are annotated. In this edition, there are 391 references as compared with 177 in the first edition. An index to the listed patents is provided.

RAILROAD OPERATION

BRUCE, ALFRED W

The steam locomotive in America its development in the twentieth century New York W W Norton & Company Inc. 1952 443 p illus 24 cm $8 50 7334

Contents. Railways, railroads, and locomotives. Early development of the steam locomotive The steam locomotive industry General development of the steam locomotive, 1901 to 1950. The basic development of power transmission, 1901 to 1950 Development of basic elements. Progressive development of individual types of steam locomotives. Development of special-service locomotives. Growth and development of the steam locomotive. The competitors of the steam locomotive The future design of the steam locomotive Envoi. Index.

Note Although the sub-title of this book indicates a limitation in time to the present century the earlier development of the steam locomotive from its beginnings to the close of the 19th century is adequately outlined. Beginning with 1900, the author gives a detailed account. His chapter on the development of basic elements is over 130 pages long and in it he has described fully the evolution of such parts of the steam locomotive as the boiler mechanical stokers, grates, engines, valves, driving wheels, etc. Inserted pages near the center of the volume contain reproductions of photographs of 168 typical locomotives, and legends under the photographs supply technical details. There is no bibliography

DRENNAN, C M

Air brake study course. New York Simmons-Boardman Books 1954–1955 3 v illus 28 cm. Vols I and II $4 75 per vol vol. III, $6 75 7335

Contents (abridged) Volume I, ABC's of airbrakes, with an brake dictionary' Section I Train brake control. Section II, Air brake fundamentals. Section III, Air brake dictionary Index. Volume II, car air brakes. Section I, Car air brake devices. Section II, Freight car brakes. Section III, Passenger car brakes. Index. Answers to quizzes. Volume III, Locomotive air brakes Section I, Locomotive devices. Section II, Locomotive brake equipments. Section III, Locomotive brake equipments with electric controls. Section IV, Locomotive braking force control. Index. Answers to quizzes.

Note: These three volumes constitute practical course in the principles and operation of air brakes currently used on railroad equipment in the United States of America. They are addressed to railroad men and are composed of simple diagrammatic illustrations, short, straightforward explanations of the illustrations, and numerous review questions.

HENRY, ROBERT SELPH

This fascinating railroad business. Second edition revised. New York The Bobbs-Merrill Company, 1943 520 p. illus. 22 cm. $4 00. 7336

Contents. The road of rails. Evolution of track. Laying out the line. Beneath the rails. Rails of steel. Behavior of track. Above valley stream, and road. Under mountain and river. Structures along the way Carriers of the word. Guardians of the way The first hundred years of steam. Steam—second century Oil, gas," and juice. Train cars. Houses on wheels. Keeping them running. Terminals and trains. Service of supply Growth of the service. Selling the service. "The Company" The company's business. Railroad men. The iron war horse. The business of railroading. An "anatomy" of American railroads. Acknowledgments. Index.

Note A historical work, written mainly for the general reader. Although considerable emphasis is placed on the development of railroads as business, construction, equipment, and railroad organization are also treated.

MCGOWAN, GEORGE F

Diesel-electric locomotive handbook—electrical equipment New York Simmons-Boardman Publishing Corporation, 1951 290 p illus. 21 cm. $2 75 7337

Contents. The electric transmission. Electrical fundamentals. The electric generator The traction motor Exciters, auxiliary generators. Electric motor blowers, dynamic braking. Batteries. Contactors, etc. Electro-motive division electrical equipment. Alco-General Electric electrical equipment. Lima-Hamilton locomotive electrical equipment. Baldwin Locomotive electrical equipment. Fairbanks, Morse electrical equipment. Index.

—— Diesel-electric locomotive handbook—mechanical equipment New York Simmons-Boardman Publishing Corporation, 1951 262 p illus 21 cm $2 75 Set, $4.85 7338

Contents. The development of the Diesel-electric locomotive. Fundamentals. Lubricating and cooling. Fuel systems—fuel. Pistons, piston rings, liners. Connecting rods, bearings, crankshafts. Valves, timing, heads. Governors. The steam generator The air compressor. The Baldwin The American Locomotive Company Diesel engine. The Electro-motive Diesel engine. The Lima Locomotive Diesel engine. The electro-motive Diesel engine. The Lima-Hamilton Diesel engine. Fairbanks-Morse Diesel engine. The gas-turbine locomotive. Index.

Note. Practical books suitable for use in home study by operating and maintenance personnel, especially those preparing to take qualifying examinations for more responsible positions. They are organized in short paragraphs, each of which is introduced by a caption in heavy type. Other aids to facilitate study are the caption in heavy type. Other aids to facilitate study are numerous electric circuit diagrams, number of good illustrations and numerous electric circuit diagrams. According to the preface, the chapters devoted to specific locomotives have been thoroughly checked for accuracy by the manufacturers.

SILLCOX, LEWIS K

Mastering momentum a discussion of modern transport trends and their influence

INDUSTRIAL ENGINEERING

GENERAL

ABRUZZI, ADAM

Work, workers and work measurement. New York Columbia University Press 1956 318 p. 24 cm. $7.50. 7352

Contents: Part I. Work measurement, theory, practice, and fact. The basic problems of tolerance. The nature of time study. The [illegible] of [illegible] procedures. Work measurement in practice. Part II. A work measurement theory: procedures, applications, and results. The problems of time measurement. The nature and function of [illegible] standardization. Production rates in the short term. Interpreting short-term studies. Production rates in the long term. Interpreting long-term studies. [illegible] studies of production activity. Measuring and estimating delays. Part III. The theory of human work, levels, tasks, and observations. The nature of standard data systems. Standard element estimation and related problems. Standard data estimation and related problems. The fundamental character of work. The nature of work fatigue. Fatigue, skill, and work. Principles and admonitions. Bibliography. Index.

Note: The author's *Work measurement*, 1952, was widely acclaimed as an important contribution to the theory and methodology of work measurement. In that book he was chiefly concerned with presenting evidence to show that previously accepted methods of timing and standard data were invalid and with describing valid procedures. In this book, which is a successor to *Work Measurement*, he has expanded his material into a complete theory of work that includes not only measurement methodology but also an analysis of the nature of work and of fatigue and a forecast of the new nature of workers in the era of automation. Again the author is very critical of the theories and methods of classical industrial engineering.

ALFORD, LEON PRATT

Principles of industrial management. Revised edition. Revised and rewritten by H. Russell Beatty New York The Ronald Press Company 1951 779 p. illus. 24 cm. $6.75 7353

Contents (abridged): The background of modern industrial management. The effects of mechanization. Expansion of industry in the United States. The ownership of industry. Planning—objectives and policies. Organization for control. Organization for operation. Simplified practice and engineering standards. Control of purchasing. Inventory control. Production planning and control. Quality control. Inspection. Motion and time study. Classification and symbolization. Cost accounting. Maintenance of buildings and machinery. Personnel administration. Wage and salary administration. Employment and personnel services. Industrial safety—accident and disaster prevention. Index of names. Index of subjects.

Note: An unusually comprehensive and thorough presentation of the basic principles and practices of industrial management. The book, although intended primarily for use as a college text, has considerable value as a reference manual for the practicing executive. Emphasis is placed on fundamentals, but numerous illustrations of actual management techniques are included. This edition, a revision of *Principles of industrial management for engineers*, New York, 1940, has been extensively rewritten and enlarged. New chapters have been added on industrial leadership and marketing, and the sections on quality control and motion and time study have been greatly expanded—changes which account for almost 330 additional pages.

ALFORD, LEON PRATT AND JOHN R. BANGS, editors

Production handbook. Staff editor George E. Hagemann. New York The Ronald Press Company 1944 1,676 p. illus. 19 cm. 7354

Contents: Plant organization. Production planning and control. Production control systems. Purchasing. Materials control and standardization. Storekeeping. Time study and operation analysis. Motion study—work simplification. Inspection. Quality control. Plant layout. Machinery. Tools, jigs and fixtures. Materials handling. Job evaluation. Merit rating. Wage plans. Job estimating. Classifications and symbols. Principles of management. Plant maintenance. Measures of performance. Manufacturing costs. Factory budgets. Plant personnel. Index.

Note: This manual covers intensively the problems of directing the men, materials, and machines of a manufacturing establishment. It deals with more effective turning out of product, living up to time schedules, working under the requirements of budgets, and other factors entering into the planning and control of efficient production under present-day conditions. It is designed to be of practical daily use to the manufacturing men for whom it is primarily intended, and also to be readily understandable and helpful to others beside those with specialized technical background. Eighty-nine executives and professional men are listed as its contributing and consulting editors. The second edition, under the editorship of Gordon B. Carson, Dean of the College of Engineering of Ohio State University, was published in 1958, 1,744 p., $18.00.

APPLE, JAMES MACGREGOR

Plant layout and materials handling. New York Ronald Press Company 1950. 367 p. illus. 23 cm. $7.00. 7355

Contents (abridged): The plant layout function. Production planning. Introduction to the materials handling problem. Materials handling equipment. Materials handling and related functions. Operations planning. Layout planning. Service departments. Checking and approving the layout. Plant location. Industrial plant buildings. Appendix: Conveyor data. Lift trucks. Materials handling surveys. Railroad and highway transportation. Building construction and service facilities. Plant layout template and model standards. Bibliography. Index.

Note: In this work, plant layout and materials handling are presented as elements in industrial engineering. Much emphasis is put on co-ordination of the plant layout and the materials handling systems with the over-all plan and function of the plant. Typical equipment is discussed and illustrated, but this matter is incidental to the main theme. The book is suitable for use both as a textbook and as an introduction or "refresher" for practicing engineers.

BARNES, RALPH MOSSER, AND NORMA A. ENGLERT

Bibliography of industrial engineering and management literature to January 1 1946. Fifth edition. Dubuque Wm. C. Brown Company 1946 136 p 28 cm. $3.00. 7356

Contents (abridged): Books and bulletins. Articles and papers. Abbreviations of titles of magazines and papers used in bibliography. Classification of articles and papers by subjects.

Note: The present edition of this standard bibliography contains 4,163 entries. The scope is not exhaustive, but the compilers have apparently attempted to list all of the important books and articles published in the English language and some of the material published in other languages, especially in French and German. The entries are not annotated. "The classification of articles and papers by subject" is in effect a detailed subject index to the individual articles.

BETHEL, LAWRENCE L. AND OTHERS

Industrial organization and management, by Lawrence L. Bethel, Franklin S. Atwater George H. E. Smith, Harvey A. Stackman, jr

tenon joints. Miter joints. Dovetail joints. Miscellaneous constructions. Gluing and clamping. Metal fastenings. Wood turning. Surface decoration. Upholstery Wood finishing. Wood. Applied projects.

Note A manual for vocational and secondary school students, and for adults with whom woodworking is a hobby The operation and use of the principal hand- and machine-woodworking tools are described clearly and in detail, with emphasis in their application to cabinetmaking. In this edition, several of the chapters, such as those dealing with machine tools and wood turning, have been expanded, and new chapters have been added on the history of woodworking tools and the making of miter joints.

HOARD, F E , AND A. W MARLOW

The cabinetmaker's treasury New York The Macmillan Company, 1952 267 p illus. 26 cm. $6 50 7347

Contents Essential processes in cabinetmaking. Chairs. Stools. Tables. Beds. Cupboards. Chests. Desks. Mirrors and dressing glasses. Clock cases. Period characteristics of English and American furniture. Glossary

Note A book addressed to craftsmen (both amateur and professional) with some previous experience in woodworking. Certain fundamental operations, such as the making of joints, the construction of bracket feet, fluting and reeding of turnings, and carving are discussed briefly in the first chapter The rest of the book is devoted to scaled drawings of furniture pieces and to fairly detailed procedures for making the pieces. Altogether there are 102 full-page plates of drawings. The book is especially suited to the needs of skilled amateur craftsmen who are interested in the making of fine furniture.

KLENKE, WILLIAM W

The art of wood turning Completely revised. Peoria, Ill. Chas A. Bennett Co Inc., 1954 186 p illus 23 cm $3 85 7348

Contents Selecting lathe. Tools and equipment. Grinding and sharpening. Spindle turning. Design in wood turning. Darning ball. Sandpapering in the lathe. Finishing. Things to make. Combination turning. Index.

Note. This book contains simple, practical advice on the choice of lathe, clear descriptions of the basic woodturning operations, and host of projects ranging from the simple to the complex. Dimensioned line drawings are included for each project and in some instances there is also photograph of the finished article. Projects range from simple articles such as candlesticks to complex ones such as Windsor style chairs and four-poster beds. Some matter has been carried over from previous editions, but the book has been revised from end to end both in text and pictures and printed in a ew format. An excellent book for the home craftsman with a oodworking lathe.

MARGON, LESTER

Construction of American furniture treasures measured drawings of selected museum pieces with complete information on their construction and reproduction 38 full-page plates, 344 detail drawings and more than 40 photographs of the work of the most famous early American cabinetmakers. New York The Home Craftsman Publishing Corporation, 1949 167 p illus. 30 cm. $4 95 7349

Note: Measured drawings constitute the outstanding feature of this book. As indicated in the title, the furniture depicted is American and all of the pieces illustrated are now in the collections of museums or historic houses. Each piece represented is shown in a photograph, then its dimensions and construction details are shown in one or more plates of drawings. The book is intended for amateur craftsmen and cabinetmakers who are interested in making replicas of historic furniture consequently the illustrations are accompanied by detailed directions for construction and finishing of the pieces.

PELTON, B W

Furniture making and cabinet work, a handbook. New York D Van Nostrand Company, Inc. 1949 596 p. illus. 24 cm. $7 95 7350

Contents. Cabinetmaking. Indoor furniture construction. Outdoor furniture. Built-in furniture and conveniences. Furniture finishing. Veneers and inlays. Upholstery and seat weaving. Restoration, repair and refinishing. Salvaging discarded furniture. Principles of interior decoration. Indoor remodeling. Index.

Note. Practical and detailed instructions for the amateur craftsman in the art of constructing a wide variety of indoor and outdoor furniture. Each project includes a dimensioned drawing, list of materials required, and step-by-step construction methods. The project section is preceded by description of basic woodworking operations and tools. The final chapters, although less detailed than the ones on furniture, provide information on the basic steps in room remodeling and interior decoration.

SHEA, JOHN GERALD, AND PAUL NOLT WENGER

Woodworking for everybody Second edition. Princeton D Van Nostrand Company Inc. 1953 207 p illus. 28 cm. $4.25 7351

Contents (abridged) The story of wood. Shop equipment. Processes. Joinery Woodworking machinery Tool sharpening. Wood finishing. Safety first. Index.

Note. An informative, well-illustrated introduction to woodworking. It is used both as textbook in high school manual arts classes and as manual of information for amateur and hobbyist woodworkers. It describes tools and techniques and provides dimensioned drawings and working directions for about sixty projects.

Ronald Press Company 1947 819 p. illus. 24 cm. $5.50. 7363

Contents (abridged): Part I, Organization and operation of industrial enterprises: Principles of organization. Principles of management. Analysis of the industrial problem. The company organization. Controller's department. Engineering department. Purchasing department. Material control—storekeeping. Manufacturing department. Inspection division. Power and maintenance division. Sales department. Management of personnel relations. Part II, Production control and time study: Tool control. Production control. Routing. Planning. Time study. Part III, Illustrations from practice: An illustration of the layout and arrangement of a textile mill. A system of dispatching (Chrysler Corporation). Bibliography. Index.

Note: A college textbook which provides a broad introduction to the problems and methods of practical management of industrial enterprises. Methods followed by outstanding corporations in the United States of America are emphasized. The author is Chairman of the Department of Management and Industrial Relations of the School of Commerce of New York University.

FOLTS, FRANKLIN E.

Introduction to industrial management text, cases, and problems. Fourth edition. New York. McGraw Hill Book Company 1954 684 p. illus. 23 cm. $6.75 7364

Contents (abridged): Part I, Economics of production: Specialization of labor (division of labor). Simplification. Standardization. Diversification. Expansion. Integration. Part II, Factors of production: Raw materials supply. Plant location. Plant layout. Power. Job standards and wage payment methods. Part III, Control of the production process: Product development and introduction. Planning and scheduling. Quality control. Organization. Index. Alphabetical list of cases and problems.

Note: A standard textbook, first published in 1933 and published in third edition in 1949. It teaches industrial management largely by the case method, that is to say by the study and discussion of "case histories" selected to illustrate specific problems in industrial management. The author is a member of the faculty of the Graduate School of Business Administration of Harvard University.

HEMPEL, EDWARD HENRY editor

Small plant management. A guide to practical, know-how management. A Small Plant Committee research study prepared under the auspices of the Management Division of the American Society of Mechanical Engineers. Edited by Edward H. Hempel chairman Small Plant Committee, A. S. M. E. New York. McGraw Hill Book Company Inc. 1950. 548 p. illus. 24 cm. $7.00 7365

Contents: The project and its findings, by J. K. Louden. Part I, Small plants as economic factors: The economic and industrial importance of small plants, by A. D. H. Kaplan. Small plant financing and banking, by E. D. Rosen. Community progress created by small plants, by J. Colbert. Government interest in small plants, by C. F. Hughes. Part II, Management tasks: Old and new concepts of management, by E. H. Hempel. Top management planning for the small plant, by E. H. Hempel. Organizing the small plant, by J. D. Mooney. Operating the small plant, by A. Ehlrecht. Supervising and controlling the small plant, by T. A. Marshall, Jr. Part III, How to solve the important problems of small plant management: How to fulfill the legal requirements, by J. R. Tiffany and S. Warne. How to get best workers and labor relations, by W. R. Mansfield. How to get along with the union, by W. Gomberg. How to buy best facilities and materials, by H. T. Coster. How to obtain best productivity, by F. Capps. How to do technical research, by F. W. Miller. How to get best sales, by A. E. DuPuget. How to do and use accounting, by C. W. Bennett. How to pay and save in taxes, by E. J. Donahue. How to make savings and use profits, by J. K. Louden. Part IV, Small plant future: The general outlook for small plants in the United States, by E. E. Shaw. Small plant opportunities in Latin America and other countries, by J. J. [illegible]. Bibliography and suggestions for small plant management library. Index.

Note: This book of up-to-date management techniques was written after more than a year of study of the factors leading to the successful management of small factories and shops. The Small Plant Committee of the Management Division of the American Society of Mechanical Engineers outlined 20 topics for inclusion and selected 20 authors to cover the approved topics. The resulting work contains detailed information and practical advice on all phases of the business operation of small industrial concerns. While prepared especially for plants employing less than 100 persons the book should be useful also to the managers of small plants with more employees.

IRESON WILLIAM GRANT

Factory planning and plant layout. New York Prentice-Hall Inc., 1952 385 p. illus. 22 cm. $6.00 7366

Contents: Introduction to factory planning. Product analysis for factory planning. Economic analyses in factory planning. Principles of layout and departmentalization. Methods and procedures in factory planning. Common errors in layout. The layout of auxiliary departments. Materials handling. Materials-handling equipment and applications. Factory services. Factory buildings and building features. Planning personnel facilities. Management aspect of factory planning. Problems in factory planning and plant layout. Appendices. Index.

Note: The planning and layout of small and medium-size factories is emphasized in this well-written book. The treatment is introductory and is intended chiefly for college students taking first courses in the subject. The discussion of any one aspect is usually brief, but the information given is well selected and is presented in straightforward manner. Good bibliographies accompany the chapters. There are 114 illustrations.

IRESON WILLIAM GRANT AND EUGENE L. GRANT editors

Handbook of industrial engineering and management. Englewood Cliffs, N J Prentice Hall Inc., 1955 1,203 p. illus. 24 cm. $16.00. 7367

Contents: Structure of business organizations, by E. Dale. Managerial economics, by J. Dean. Engineering economy, by P. T. Norton, Jr. Manpower management and employment relations, by D. Yoder. Motion and time study, by M. E. Mundel. Factory systems and procedures, by L. P. Bell. Industrial climatology, by R. K. Lindsey. Factory planning and materials handling, by W. G. Ireson. Industrial standardization, by L. R. Moore. Tool engineering, by L. E. Doyle. Industrial safety, by R. E. Donovan. Industrial hygiene, by O. E. Byrd. Industrial statistics, by A. H. Bowker and G. J. Lieberman. Inspection and quality control, by W. H. Lewis. Industrial operations research, by A. W. Swan. Industrial budgeting, by R. Villers. Trade unions and industrial engineering, by W. Gomberg. Index.

Note: Some of the features—for example, interest tables—of this book are strictly reference in nature, but it is not primarily a reference book. Despite close printing and a two-column page, there are 1,183 pages of textual matter of almost 70 pages per chapter. The typical chapter is a compact, critical appraisal of the current status of a phase of industrial engineering. It will contain formulas, graphic and tabular presentation of data, etc., if the topic calls for them, but most of the matter will be narrative discussion intended for reading. Such a chapter as Gomberg's "Trade unions and industrial engineering" could stand alone as a book, also, it requires as close reading for comprehension as any book on industrial engineering. The volume is well indexed, and each chapter is equipped with a preliminary outline to facilitate the finding of sub-topics. Several of the chapters contain bibliographies of some length, but there is no general bibliography or even an attempt to list the major literature of the field. This is unfortunate, since readers attracted to the volume will undoubtedly wish to read more on some topics.

JOHNSON FORREST HAYDEN, AND OTHERS

Job evaluation by Forrest Hayden Johnson Robert W Bolse, Jr and Dudley Pratt Illustrated by J Gurney Miller New York John Wiley & Sons, Inc., 1946. 288 p. illus. 22 cm. $4 90 7368

Contents (abridged): Building a job-evaluation plan. Typical factory job-evaluation plan. Typical clerical and technical job-evaluation plan. The job-evaluation manuals. Relating job evaluation to

Third edition New York McGraw Hill Book Company, Inc., 1956 719 p illus 24 cm. (McGraw Hill industrial organization and management series L C Morrow, consulting editor) $6 75 7357

Contents (abridged) Industrial America—role of management, government and labor Industrial risk and forecasting. Product research and development. Product improvement and engineering. Production planning. Physical facilities. Production control. Materials control. Quality control. Plant engineering. Methods analysis and control. Principles of industrial relations. Personnel management. Employee training. Wage and salary administration. Financial controls. Coordinating the enterprise. Bibliography Visual bibliography Index.

Note. This book is both an introductory textbook for college students of industrial management and a manual of information for lawyers, accountants, and others whose dealings with industry require knowledge of the fundamentals of industrial organization and management. Generally speaking, the chapters are organized on the following framework: (1) statement of fundamental and background information, (2) case examples illustrating the application of principles, (3) discussions of controversial issues and of the outlook for the f ture, and (4) problems and questions taken from actual situations that have arisen in industry The second edition was published in 1950. In preparing the third edition, there was some reorganization of the material, numerous sections were revised, and information was added on number of topics including automation and operations research.

BETHEL, LAWRENCE L , AND OTHERS

Production control, by Lawrence L. Bethel, Walter L Tann, Franklin S Atwater, and Edward E Rung Second edition. New York McGraw Hill Book Company, Inc , 1948 289 p illus. 24 cm. $5 00 7358

Contents The concept of control. Organization for control. Production forecasting. Product development. Production analysis. Relating budgeting to production. Routing of operations and processes. Scheduling production. Dispatching. Follow-up—expediting. Control of materials. Classification and identification. Quality control. Relating cost to production. Coordination. Appendices. Bibliography Index.

Note. An introductory text. The first edition was designed for use in classes offered to newcomers in the field during the great increase in factory staffs in the United States of America during World War II. In this edition, the book has been revised to adapt it to the needs of men preparing for peace-time industry A broad but practical view of the subject is given. The various basic operations in the planning and control of production of manufactured goods in American factories are explained clearly but, as is appropriate in a brief introductory work, are not covered in great detail. Many useful forms for production records are shown in the appendices. The bibliography although limited to books, runs to four pages and lists further reading on all the major branches of the topic.

BROADED, CHARLEY HOOKER

Essentials of management for supervisors. New York Harper & Brothers 1947 239 p illus 22 cm. $5 50 7359

Contents (abridged) The planning function. The organizing function. The command function. The control function. The co-ordinating function. Building confidence. Developing initiative. Correcting mistakes (reprimanding) Adjusting people to new situations. Getting co-operation. Work simplification. The supervisor instructs. Summary of the four phases of supervision. Evaluation of supervisory practices. Related references. Index.

Note. An introductory guide to the techniques of successful supervision of personnel in business enterprises. Its brief and concise text is popularly written and arranged in fashion to make it not only easy to understand but also easy to remember. T this end, the key points are recapitulated at the end of each section dealing with one of the main phases of supervisory activity The analysis of the various functions and requirements of a supervisor is preceded by brief explanation of the basic principles of free enterprise economy and business operation. A series of check charts and short list of selected bibliographical references are appended.

BUCKINGHAM, EARLE

Production engineering New York John Wiley & Sons, Inc., 1942 268 p. 23 cm. $5.00. 7360

Contents. Introduction. Section I, Preparation for production Production design. Planning the equipment. Tool design. Testing the design and equipment. Section II, Production operation and control. Planning and operating for production. Selecting, training, and direction of operators. Quality control. Cost reduction. Section III, Supporting activities: Standardization. Factory costs for the engineer Process development. Product development. Summary Index.

Note Descriptive in character, this work discusses the problem of production from an engineer's viewpoint. It clearly shows the engineer's position in an industrial organization and gives the relation which he bears to other functional groups within a large company It shows the object of production engineering and its relationship to the many other activities of an industrial organization, and describes how the work of production is the co-ordinated result of the efforts of many individuals.

CANNING, RICHARD G

Electronic data processing for business and industry New York John Wiley & Sons, Inc., 1956 332 p illus. 24 cm. $7.00 7361

Contents Electronic data processing—a new management tool. Patterns of data processing. Summary of electronic data processing machines. Programming typical clerical operations. The systems study The electronic system—initial design—detailed design. The role of operations research. Equipment characteristics. Management's program for obtaining reliable system. Appendices: Overcoming barriers to the acceptance of new ideas and methods, by E. Tannenbaum. Casting out nines. Bibliography and references. Index.

Note. A complete illustrated summary of electronic data processing intended more for the businessman or industrial engineer than as a textbook. There is concentration on the following questions. (1) What is electronic data processing? (This is answered by the presentation of the basic pattern of data processing systems and the major subdivisions within the basic pattern.) (2) What can it do for a company? (This is answered by the presentation of examples of the use of electronics in business and discussion of the characteristics of the various types of equipment from the user's point of view) (3) How should company proceed to investigate it? (This is answered by the description of a program for developing logical cours of action within the company.) As much as possible the author has used the language of management and has avoided the technicalities of the electronic equipment.

CLEETON, GLEN URIEL, AND CHARLES W MASON

Executive ability, its discovery and development. Yellow Springs Ohio Antioch Press, 1946 540 p 22 cm. $4.50 7362

Contents (abridged) The executive problem. Executive functions. Executive qualities. Measurement of executive traits. Prediction of executive success. Development of executive ability Hints to prospective executives. Executive attitudes and emotional nature. Executive control of personnel. Modern executive techniques. The executive in democracy Appendix. Bibliography Norms for executive check list for self-evaluation. Norms for interest test. Norms for executive attitude questionnaire. Index of names. Index of organizations. Subject index.

Note A fully developed study of the characteristics, functions, and duties of executives in democratic society A considerable part of it is based upon the principles of psychology and there are full descriptions of such psychological topics as tests for discovering and measuring executive ability The responsibilities of executives to modern society are discussed at length. The book was first published in 1934, but the present edition has been so thoroughly revised and enlarged that it is essentially new work. It is suitable for use as a text in college courses and also as professional reading for both young and mature executives out of school.

CORNELL WILLIAM BOUCK

Organization and management in industry and business. Third edition. New York The

Industrial Engineering

General

[illegible] Labor-management relations, by D. E. Farr and K. Cusick. Product-classification methods, by E. G. Brisch. Part I, C. Lee. Product-classification methods, by L. C. Turner. [illegible] and design. Plant location, by L. C. Turner. Plant layout, by R. Muther. Replacement of machinery and equipment, by R. Muther. Production-line techniques, by R. Muther and E. T. Schnee. Tool and gage design, by R. A. [illegible]. Fixture design, by R. Fulton. Tool and gage design, by J. P. Watson and [illegible]. Measurement-device design, by J. P. Watson and [illegible]. Other aspects of industrial engineering. [illegible] Estimating data and costing procedures, by F. P. Stark, Jr. Slide-rule cutting speed and feed charts, by C. F. Stephenson. Curves and nomographs, by R. P. [illegible], by F. E. MacArthur. Curves and nomographs, by G. D. Wilkinson. Office methods and standards, by L. C. Pratt. Housekeeping [illegible] methods and standards, by L. C. Pratt. Economic-lot-size determination, by [illegible], by F. R. Alvarez. Operator training [illegible]. Safety, by H. W. Heinrich. Supervisory training in work simplification, by L. M. Gilbreth. Suggestion systems, by E. K. Roberts, Jr., by A. E. Magnuson. Suggestion systems, by E. K. Roberts. Personnel testing, by E. [illegible] procedures, by W. Scott. Operations research, by R. O. Ferguson and M. J. McCreath. Preparation of effective reports, by R. Frank. [illegible] methods, by O. Dusenbury. Nonindustrial [illegible] of industrial engineering, by L. M. Gilbreth. The [illegible] of automation, by H. L. Waddell. Index.

Note: The broad scope of this handbook for graduate industrial engineers is apparent from the chapter titles, which are listed in [illegible] Many of the chapters on such topics as methods [illegible] For the most part, the handbook is especially noteworthy. For the most part, the individual chapters are concise statements in typical handbook style of fundamentals and useful data. When appropriate they contain worked examples of typical problems, useful forms, charts and tables. Literature references are included in most of them.

MOORE, FRANKLIN G

Production control. New York McGraw Hill Book Company Inc., 1951 455 p. illus. 24 cm. $6.50. 7374

Contents: Production control defined. Types of production. Types of production control. Forecasting and scheduling. Authority in [illegible]. Basic information required for order control. Determining, drawing numbers, and identification systems. Determining [illegible] and materials requirements in order control. Programs for [illegible] in order control. Initiating production and controlling [illegible] in progress with order control. Flow control. Block and load control. Mechanical tabulation. Reproduction of forms and [illegible] systems. Relationships of the production control department with other departments. Value of production control. Cases and problems. Bibliography. Index.

Note: This introduction to the basic principles and methods of production control is designed for use in college courses in business and management. In order to illustrate why certain procedures are followed various techniques and forms employed in industry are described in detail. Numerous flow charts and 70 case studies and selected problems are included. The author is a faculty member of the University of Michigan.

MUTHER, RICHARD

Practical plant layout. With a foreword by Harold B Maynard. New York McGraw Hill Book Company Inc., 1955 363 p. illus. 29 cm. $12.00. 7375

Contents (abridged): Part I. The nature of plant layout. Part II. Factors influencing plant layout. Material factor. Machinery factor. Man factor. Movement factor. Waiting factor. Service factor. Building factor. Change factor. Part III. How to plan the layout. Approach to layout engineering. Get the facts. Diagram the flow. Measure the time involved. Visualize the layout. Evaluate alternative layouts. Part IV. Mastering and training for plant layout. Appendixes. The operation process chart. The flow chart. The number of machines required. Aisle widths. Classification of industrial material-handling equipment. Suggestions for office layout and office spacing. Suggestions for arranging small or servicing machine shop. Railroad clearances and freight-car dimensions. Highway truck dimensions. Index.

Note: The complex process of planning the arrangements of layouts of factories and related industrial establishments, such as warehouses, is treated analytically and in detail in this book. According to the author, there are eight important factors to be considered in the planning of any layout. These factors are presented and discussed individually in the book's second part. The steps in planning a layout are explained in equal detail in the third part. The author emphasizes the importance of collecting facts on such aspects as materials to be stored, sequence of operations, and material and space requirements for individual operations. The use of visual aids, such as templates and three-dimensional scale models, both in planning layouts and in presenting them to management and operating personnel is well explained. The appendixes contain a wide range of useful reference information. There are numerous illustrations but no systematic bibliography.

PLANTY, EARL GERALD, AND OTHERS

Training employees and managers for production and teamwork by Earl G Planty William S. McCord and Carlos A. Efferson. With a foreword by Robert W Johnson. New York The Ronald Press Company 1948. 278 p. 24 cm. $5.00. 7376

Contents (abridged): Part I. Training—what it is and what it does. Part II. Organizing, installing, and administering a training program. Position of training in company organization. Who should teach? Qualifications of the training director. What to teach. Mechanics of the training program. Part III. Teaching and the training program: Teaching aids. Selecting and improving the training staff. Aims and objectives of management, supervisor, and executive training. Technical and professional training. Trade and machine training. Office and business training. Special training problems of the small company. The integrated program. Selected references. Index.

Note: The theme of this volume is that a well-planned program of in-service training is an effective means of improving plant efficiency, employee morale, and labor-management relations in industrial firms. Based on the authors' experience in establishing and conducting industrial training programs, it describes and [illegible] the techniques and programs which have proved successful. The very practical discussions of what training can and cannot accomplish, and the descriptions of methods of organization, administration, and actual training programs are useful to training directors, executives, personnel managers, and others concerned with training work in industry.

PROBST, JOHN BERNARD

Measuring and rating employee value. New York The Ronald Press Company 1947 166 p. illus. 24 cm. $6.00 7377

Contents (abridged): Part I. Employee rating plans in general: Ratings and their purposes. Types of rating plans. A critical analysis of rating plans. Part II. An improved rating system: The Probst system in operation. Testing a rating system. Statistical analysis of ratings. Part III. The system in practice. Special experimental tests of rating methods. Filling supervisory and key positions. Measuring personal fitness. Appendixes: Origin and development of the scoring stencils and formula scales in the Probst rating system. Time studies. Los Angeles statistical chart and data. The order of lay-off. Oral interviews—analysis of a six-year study. An experimental test in England with the Probst rating system. Directions for conducting an experimental test in measuring the worth of employees. Index.

Note: The greater part of this book is concerned with the rating system developed by the author and known by his name. The system is described, and illustrations are given of the forms that are used. The procedures of making the ratings, checking, and interpreting them are discussed. A number of examples of actual results of using the system in various types of organizations, including governmental, are incorporated in the discussion.

ROETHLISBERGER, FRITZ JULES AND WILLIAM J DICKSON

Management and the worker an account of a research program conducted by the Western Electric Company Hawthorne Works, Chicago with the assistance and collaboration of Harold A. Wright. Cambridge, Mass. Harvard University Press 1939 615 p. illus. 24 cm. $6.00. 7378

Contents: Part I. Working conditions and employee efficiency: Introduction. Planning the relay assembly test room. Experiment with rest pauses. Experiment with shorter working days and weeks. Testing the fatigue and monotony hypotheses. Testing the effects of wage incentives. The test room operators. The relay assembly test room supervision. Part II. A plan for the improvement of employee relations: Growth and development of the

pay scales. Assigning employees to evaluated jobs. The system in operation. Appeal procedure. Recognition of individual merit. Bibliography Index.

Note. A job-evaluation system that combines features of the ranking, factor-comparison and point systems is presented. The plan reflects the authors experiences in several companies, including Boeing Aircraft. It is based on analyses of the jobs by the job-evaluation department and a committee on which the workers are represented. Jobs are analyzed for such factors as mental ability experience and training required, complexity of duties, responsibilities, physical effort, working conditions, and unusual hazards, point values are assigned to these factors. Analysis procedures are discussed in detail.

KIMBALL, DEXTER SIMPSON, AND DEXTER S KIMBALL, JR.

Principles of industrial organization Sixth edition New York McGraw Hill Book Company, Inc., 1947 531 p illus. 23 cm. (McGraw Hill industrial organization and management series, L C Morrow, consulting editor) $6 50 7369

Contents. The background of industry The industrial revolution. The economic and social effects of inventions. The growth of industrial enterprises. Other industrial tendencies. Formation and maintenance of policies. Industrial ownership. Location, arrangement, and construction of industrial plants. Principles of organization. Coordination and executive control system. Classification and identification. The control of production. Operation standardization —time and motion studies. Purchasing. Stores and stock. Standards and standardization. Attainment of standards—inspection. Principles of cost finding. The depreciation of wasting assets. Equipment policies. The compensation of labor Job evaluation and merit rating. Measures of management. The mechanization of industry Industrial relations. Industrial democracy Résumé—science in industry Index.

Note. This work has become widely known and used as a good introductory survey of the basic principles and practice of industrial organization and management with considerable emphasis upon the social functions and obligations of industry Its chief use is as a college textbook, but it is useful also as a source of information for mature readers. Numerous minor revisions have been made in this edition and in various parts, e.g., the discussion of labor unions, complete sub-sections have been rewritten. The chapter on job evaluation and merit rating is new and the reference lists have been revised.

KOEPKE, CHARLES AUGUSTUS

Plant production control. Second edition. New York John Wiley & Sons Inc., 1949 568 p illus 24 cm $7 50 7370

Contents (abridged) An analysis of some production factors. Organization for production control. Ordering, receiving, storing, and issuing materials. Standardization to aid production. Small tools and tool cribs. Plant capacity maintenance, and repair Coordination of sales and manufacturing. Planning for the production program. Scheduling and releasing orders. Measures of factory performance. Index.

Not This text discusses primarily the concepts and problems f controlling and planning production, that is, the flow of materials through a commercial enterprise. Such phases of industrial engineering as design and layout and time and motion study are not discussed in detail. Discussion questions and bibliographies are given at the end f each chapter The work will be of value to industrial and design engineers and to all production control personnel. This edition has been extensively rearranged and also revised to incorporat the current practices for controlling production.

LYTLE CHARLES WALTER

Job evaluation methods Second edition New York The Ronald Press Company 1954 507 p illus 24 cm $7 50 7371

Contents A minor function becomes major one Policy and organization. Methods and techniques. Choosing job characteristics Selling the project. Setting up measuring scales. Job analysis—describing and specifying. Rating the jobs Classifying the jobs. Locality surveys—setting the general age level. Building the rate structure. Operating and adjusting. Merit rating. Applying evaluation to office and supervisory positions. Applying evaluation to executive and professional positions. Incentives vital to man—job and control. Index.

Note A modern, comprehensive, and systematic survey of the field of job evaluation. Suitable for use in senior or graduate courses in colleges of engineering and commerce, the book is useful also to persons in industry who wish to learn the principles and fundamentals before proceeding to the exact ways in hich job evaluation plans are devised, set up, and made to operate smoothly The author presents the subject of job evaluation analytically according to the functional steps comprising the evaluation procedure, each chapter being confined to a single phase of the hole procedure. The second edition has been revised throughout.

MALLICK, RANDOLPH W , AND ARMAND T GAUDREAU

Plant layout planning and practice. New York John Wiley & Sons Inc., 1951 391 p. illus. 25 cm. $8 00 7372

Contents (abridged) Part I, Approach to plant layout The role of plant layout in management. Ascertaining the need for a relayout. Basis for designing a plant layout. Techniques of plant layout engineering. Part II, Planning the processing departments: Framework of plant layout procedure. Determining the capacities for the design. Analyzing, balancing, and routing the operations. Planning and equipping the work station. Internal transportation of plant material. Part III, Designing plant service facilities. Receiving, shipping, and warehouse areas. Storerooms and storage facilities. Test areas, inspection points, and dispatch stations. Maintenance facilities, tool cribs, and sprinkler systems. Power and lighting systems. Planning office layouts. Employee service facilities. Part IV Justifying the layout project: Buildings for housing the plant layout. Presenting the proposal to the management. Bibliography Index.

Note. An outstanding work on this subject. Well organized, well written, and very generously illustrated, it is designed for practical use by corporation executives and plant engineers. The material is applicable both to the design of new layouts and the redesign of established ones.

MAYNARD, H. B , editor

Industrial engineering handbook. New York McGraw Hill Book Company, Inc., 1956 1,513 p illus 23 cm. $17.50 7373

Contents. Part I, The industrial engineering function: Development of industrial engineering, by L. F Urwick. The scope of the industrial engineering function, by T A. Marshall Jr. Organizing for industrial engineering, by H. G. Crockett. Management's use of industrial engineering, by J K. Louden. The foreman's part in industrial engineering, by P Carroll. Selling—a necessary skill for the industrial engineer by G. H. Elliott. Industrial engineering terminology definitions approved by ASME Work Standardization Committee. Part II, Methods. Methods engineering, by W Rodgers. Processing and operation planning, by I. R. Grass. Process-chart procedures, by W R. Mullee and D. B. Porter Operation analysis, by G. J. Stegemerten. Motion study by A. R. Shaw Making and using industrial motion pictures, by E. C. Mead. Material handling, by R. W Mallick. Methods laboratory by R. S. Fries. Part III, Work measurement Standardization of work measurement, by R. Presgrave. Methods of measuring time by R. S. Bulla. Stop-watch time study by A. E. Shaw Performance rating, by C. A. Anderson. Work sampling, by C. L. Brisley Measurement of machine interference, by K. O. W Sandberg. Frequency studies, by N. M. Mitchell. Memo-motion study by G. D. Wolfe. Standard data and charts, by P Carroll. Time formulas, by L. B. Grella. Measurement of storeroom, janitor and shipping and receiving work, by C. W Fenton. Planning and measuring maintenance and construction work, by F F Middleswart. Uses of time standards, by J. W Dargan. Administrative procedures and clerical routines, by W K. Hodson. Part IV Predetermined-elemental-time standards: Use of predetermined-elemental-time standards, by R. Stelly Methods-time measurement, by J L. Schwab. The work-factor system, by J. H Quick and others. Basic motion timestudy by R. Presgrave and G. B. Bailey Motion-time analysis, by A. B. Segur Part V Wage payment: Industrial relations and industrial engineering by E. N Hay Wage-incentive plans, by J O. P Hummel and J W Nickerson. Group systems of wage payment, by H. B. Maynard. Job evaluation, by D. J Chesler and others. Merit rating by M. W Richardson. Wage administration, by R. D. Cook. Part VI, Control procedures Production planning and control, by T M. Landy The Gantt chart, by W Clark. Inventory control, by R. F Neuschel. Quality control, by J. Manuele. Cost control, by E. J. A. J Bergfeld and D P Streeter Budgetary control, by

[illegible] Control and the automatic factory—continuous manufac[illegible] in intermittent manufacturing and the [illegible] effects of automation. The computers. Operations research and linear programming. Appendix. Index.

Note: This [illegible] up-to-date college textbook for industrial engineering. It presents the basic theoretical principles, and applications of these principles, in the field of production control, which is [illegible] in modern manufacturing concerns of all [illegible]. Emphasis is placed on the interrelationship between production control and the other functions of manufacturing. Each chapter [illegible] summary and conclusions [illegible] and detailed questions. The book also includes many actual [illegible] such as Bell and Howell Company, Eli Lilly and Company, the Ford Motor Company and the General Electric Company as well as smaller manufacturing companies.

YOUNGER, JOHN AND JOSEPH GESCHELIN

Work routing, scheduling and dispatching in production. Third edition. New York The Ronald Press Company 1947 168 p. illus. 24 cm. $4.50. 7385

Contents: Work routing. Instruction forms. Economics of [illegible]. Analysis of operations. Importance of the machine. [illegible] of production equipment. Economics of mass production. [illegible] Cost accounting for planning. [illegible] Job shop planning. The Gantt chart in work [illegible]. Centralized versus decentralized planning. [illegible] Tools, jigs, and fixtures. Planning [illegible] Materials handling. Production personnel. [illegible] Planning for expansion or [illegible]. Rhythm in manufacturing. Sundry problems. Index.

Note: A reference manual for business executives, particularly [illegible] concerned with expediting production in order to lower costs and achieve maximum output. The volume is suitable also as [illegible] textbook for students of industrial engineering. The [illegible] is practical, however, the fundamental principle underlying each step in the routing process is carefully explained, and examples of [illegible] operations are cited from the experiences of [illegible] manufacturing concerns. In modernizing the work for the third edition practically every chapter has been rewritten and [illegible] new illustrations representing the latest practices.

TIME AND MOTION STUDY

BARNES, RALPH MOSSER

Motion and time study. Third edition. New York. John Wiley & Sons, Inc., 1949 559 p. illus. 24 cm. 7386

Contents (abridged): History of motion and time study. Extent [illegible] motion and time study may be profitably used. Process analysis. Activity charts—man and machine charts. Operation analysis. Fundamental hand motions. Motion study and micromotion study equipment. Making the motion pictures. Fatigue. The relation of motion and time study to wage incentives. Stop-watch time study—time study equipment—making the time study—determining the rating factor—determining allowances and time standard. Determining time standards from elemental time data and formulas. Determining time standards for die and tool work. Determining time standards for assembly operations. Motion and time study training programs. Appendixes. Bibliography. Index.

Note: A thorough study of the basic principles and methods of motion and time study. It is devoted almost exclusively to [illegible] techniques and each phase of the subject is well [illegible] with case studies drawn from various manufacturing fields. Revisions and changes in this edition are largely based on the author's survey of eighty factories. New chapters on process analysis, [illegible] process charts, activity charts, and machine charts have been added, and numerous action photographs are now included. The fourth edition was published in 1958, 665 p., $8.25.

BARNES, RALPH MOSSER

Motion and time study applications. Second edition. New York John Wiley and Sons, Inc., 1953 188 p. illus. 28 cm. $2.90 7387

Contents (abridged): The changing concept of industrial engineering. Employment, wages and price trends, from the annual report of the Eastman Kodak Company. Motion study training programs for supervisors and foremen, by H. Engstrom. Motion study applied to clinical dentistry. Process chart for manufacturing [illegible] bracket. Motion study research. How level affects pin-positioning [illegible] one-hand and two-hand work—A study of [illegible] A study of the [illegible] small parts. Which pedal is best. A study of the development of skill during performance of [illegible] factory operation. A study of eye movements in inspection work. Folding paper cartons. The development of an improved method for [illegible] Harvesting vegetables and preparing them for market. Industrial application of the ratio-delay method.

Note: A complementary book to the author's *Motion and time study*, described above. Essentially it is a collection of "case" [illegible] in other words, concrete examples of techniques and [illegible] applications of motion and time study and of research pertaining to them. Some of the material has been reprinted from other publications but much of it is original. The book is suitable for use in college courses and other instruction and for home study by persons who have had some introduction to the field.

BARNES, RALPH MOSSER

Work methods manual. New York John Wiley & Sons Inc. 1944 136 p. illus. 22 cm. $3.50. 7388

Contents: Introduction. Developing [illegible] better method. The job breakdown. Process charts—flow diagrams. Activity charts—man and machine charts. Operation analysis—right- and left-hand charts. Fundamental hand motions—motion analysis—[illegible] charts. Ten principles of motion economy. Putting the new method into effect. Index.

Note: A compact yet complete and practical presentation of the principles of work simplification and motion economy. The style is nontechnical, and the material is suitable for use by supervisors, foremen, and workers. Motions and methods used in performing various manual jobs are analyzed. The text is supplemented by clear pertinent illustrations.

CARROLL, PHIL

Timestudy for cost control. Third edition. New York McGraw Hill Book Company Inc., 1954 301 p. illus. 23 cm. $5.00 7389

Contents: What [illegible] Management includes control. Use standard data. Build your standards department. Type of [illegible] Equip and train your men. Take element timestudies. Define work content. Rate performance. Train men to rate. Apply [illegible] factors. Set element standards. Plan your [illegible]. Analyze the variables. [illegible] What work should be done. [illegible] your standard data. Chart standard data. Build working data. How to set and record standards. Apply work standards. [illegible] results through measurement. Maintain consistent standards. Extend your [illegible] to control. Manual of reference data. Index.

Note: A practical book on the use of "standard times" as [illegible] of work performed. It deals with the usefulness of time study not only in connection with wage incentive plans but also as a means of acquiring [illegible] thorough knowledge of the products, equipment and methods used in [illegible] plant. However, the primary subject is how to build up correct standard time data as [illegible] means of controlling costs and how to apply these data [illegible] maintaining good employee relationships. Methods applicable to small plants [illegible] there is not enough time study work to justify the hiring of specialists are emphasized and are explained in detail. The third edition has the same organization and scope as the second edition published in 1941 however, new information has been added in several chapters.

CARROLL, PHIL

Timestudy fundamentals for foremen. With a foreword by Glenn Gardiner Second edition. New York McGraw Hill Book Company Inc., 1951 209 p. illus. $3.50 7390

Contents: What timestudy gives to industry. Why you should understand timestudy. How to begin [illegible] timestudy. Looking at the job details. How long does it take? How long should [illegible] take? How to set consistent element times. What job details repeat? How to set standards. Be sure to explain timestudy. Incentive plans explained. You can improve methods. How your job changes. Are you looking ahead. Selected references. Index.

Note: A small book written in simple language. Its purpose is to acquaint foremen and supervisors with the basic principles and methods of conducting timestudies. The explanations of how such

interviewing program. The practical operation of the plan. The urgency and tone of industrial topics. Part III, A conceptual scheme for the understanding of employee dissatisfaction. The analysis of complaints. The interviewing method. Complaints and personal equilibrium. Attitudes within the supervisory organization. Complaints and social equilibrium. Part IV Social organization of employees. Method and procedure in studying a shop department. The output situation in the bank wiring observation room. The supervisory situation in the bank wiring observation room. Interemployee relations in the bank wiring observation room. The internal organization of the group in the bank wiring observation room. Social control of work behavior. Formal vs. informal organization. Part V Applications to practice of research results. An industrial organization as a social system. A restatement of the human problems of management. Implications for personnel practice. Index.

Note. A continuous, chronological history of a series of experiments carried on over a five-year period among industrial workers. The experiments were designed to disclose the causes of poor morale and inefficiency and to help determine methods of improvement. The book includes detailed records of many personal interviews of workers by investigators.

RYAN, THOMAS ARTHUR

Work and effort, the psychology of production. New York The Ronald Press Company, 1947 323 p illus. 24 cm. $5 25 7379

Contents Introduction. The meaning of efficiency or economy of work. Measuring the cost of work. I, Metabolism and muscular fatigue. II, Fatigue in sedentary work. III, Physiological tests of effort and fatigue in sedentary work. Statistical indices of efficiency. Specific factors in governing efficiency and productivity. Work methods and efficiency. Incentives and motives. "Nervous" fatigue and boredom. Time standards and rate setting. Merit rating and job evaluation. Psychological problems in accident control. Skill and practice. Index of names. Index of subjects.

Note. In this work, numerous investigations that have been made to discover the psychological factors in the productivity of industrial workers are described and the conclusions drawn from them are stated. The research methods used in the investigations are evaluated. The objects are to state what is currently known about the psychology of efficient work, to point out areas where knowledge is still insufficient, and to describe sound methods of research. Sources and other related literature are cited in footnotes. The book is suitable for college students who are studying industrial management. It is also of interest to graduate psychologists and personnel directors in industry.

SHUBIN, JOHN A., AND HUXLEY MADEHEIM

Plant layout, developing and improving manufacturing plants. Englewood Cliffs, N J Prentice-Hall, Inc., 1951 433 p illus. 24 cm $5 75 7380

Contents Survey for establishing an enterprise. Product design and selection of equipment. Industrial processes. Management policies and layout objectives. Plant location and its influence on plant layout. Plant layout tools and techniques. Combining the elements of production—product layout and process layout. The layout of a new plant. Revising and improving existing plant layout. Materials handling. Industrial building. Index.

Note This book, a textbook for college students of engineering and management, presents the principles, techniques, and procedures connected with the selection and layout of new plant facilities and the modification of existing facilities to create additional output capacity or turn out new products. Numerous diagrams, photographs, and actual cases are included to illustrate the wide application of the principles and practices. Review questions are included at the end of most of the chapters.

SMYTH, RICHARD C., AND MATTHEW J MURPHY

Job evaluation and employee rating New York McGraw Hill Book Company Inc. 1946 255 p illus. 23 cm. (McGraw Hill industrial organization and management series L. C. Morrow consulting editor) $5 00 7381

Contents. Part I, Job evaluation. Purpose and significance. Ranking and grading methods of job evaluation. Factor-comparison method of job evaluation. Point method of job evaluation. Comparison of job-evaluation systems. Job descriptions. Installing and maintaining the job-evaluation plan. Employee classification. Labor market wage survey. Determining the wage scale. Basic wage administration policies. Part II, Merit rating. Introduction to merit rating. Types of merit-rating plan. Some statistical and psychological problems in rating. Developing the merit-rating plan. Administering the merit-rating plan. Index.

Note A concise but useful study of the outstanding types of systems used in industry in the United States of America at the time the book was written. Considerable attention is paid to the details of establishing a rating system in an organization and to the psychological aspects of fair administration of it.

SPRIEGEL, WILLIAM R

Spriegel and Lansburgh Industrial management. 5th edition New York John Wiley & Sons, Inc., 1955 640 p illus. 24 cm. $6 75 7382

Contents (abridged) Part I, Introduction: The historical background of modern industry. Basic managerial decisions. Part II, Organization structure. Part III, The product: Product development and research. Processes and materials. Inspection for quality control. Part IV The plant and equipment. Plant location. The factory building and plant layout. Material handling. Machines and equipment. Lighting. The maintenance department. Part V Motion and time study. Part VI, Wage payments—basic relation of employer and employee. The basis of industrial wages. Special forms of wage payments. Part VII, Buying, selling, and cost control. Part VIII, Material and production control. Part IX, Personnel administration and management (industrial relations): The organization and policies of the personnel division. Employee service activities. Business training. Management and organized labor. Industrial safety. Bibliography. Index.

Note. A successful presentation of the problems, ideals and methods of modern industrial management. Both the theoretical and practical aspects are covered. The book is used widely in college courses and also as an introductory survey for business executives, labor leaders, and supervisory personnel. The first two editions were written by Richard H. Lansburgh, and he was coauthor of the third edition, while Professor Spriegel wrote the fourth and fifth editions. The chapter on job evaluation was added in this fifth edition, various revisions were made in the chapters carried over and a selection of literature published since the fourth edition was written was added to the bibliography.

STANWAY, H GEDDES

Applied job evaluation a manual of installation and operating methods. New York The Ronald Press Company, 1947 81 p. illus. 24 cm. $4 00 7383

Contents The basis of job evaluation. Step procedure in job evaluation. Installation and administration of a job evaluation plan. Review of methods of job evaluation. Reference reading. Index.

Note The material in this practical book is based on the author's long personal experience in setting wage rates and job standards, first as a steel mill union official, then as head of an industrial engineering department, and later as a consulting management engineer. The book is designed to meet the specific needs of executives, supervisors, and personnel men who are not specialists in job evaluation but who must understand and possibly even institute and administer a job evaluation program. Samples of the necessary forms and charts are included.

VORIS, WILLIAM

Production control. Text and cases. Homewood Ill. Richard D Irwin, Inc., 1956 413 p illus. 24 cm. $7.20 7384

Contents The function of production control and its place in the organizational structure of a manufacturing concern. The interrelationship of functions in a manufacturing concern. The types of industries, manufacturing, control, and definitions of key manufacturing terms. The production control department—its functions, its personnel, and its structure. The sales and manufacturing forecasts. Production control in intermittent manufacturing. Inventory control. Production control in the small company. Visual and mechanical control in manufacturing. Production control in continuous manu-

[illegible]. Control and the automatic factory—continuous manufacturing. Automation in international manufacturing and the economic effects of automation. The computers. Operations research and linear programming. Appendix. Index.

Note: This [illegible] an up-to-date college textbook for industrial engineers. It presents the basic theoretical principles, and applications of these principles, in the field of production control, [illegible] in [illegible] technical [illegible] in modern manufacturing concerns of all [illegible]. Emphasis [illegible] placed on the interrelationship between production control and the other functions of manufacturing. Each chapter contains ample illustrative figures, [illegible] summary and conclusions [illegible], and detailed questions. The book also includes many actual [illegible] [illegible] from organizations such as Bell and Howell Company, Eli Lilly and Company, the Ford Motor Company, and the General Electric Company, as well as smaller manufacturing companies.

YOUNGER, JOHN, AND JOSEPH GESCHELIN
Work routing, scheduling and dispatching in production. Third edition. New York The Ronald Press Company 1947 168 p. illus. 24 cm. $4.50. 7385

Contents: Work routing. Instruction forms. Economics of [illegible]. Analysis of operations. Importance of the machine. Economics of production equipment. Economics of mass production. [illegible]. Interrelation of work routing, standardization, and cost [illegible]. Cost accounting for planning. Coordination of engineering and production. Job shop planning. The Gantt chart in work routing. Centralized versus decentralized planning. Company policies. Quality control. Scheduling. Tools, jigs, and fixtures. Planning [illegible] the sales curve. Materials handling. Production personnel. Planning the new building. Planning for expanding or lowering production. Rhythm in manufacturing. Sundry problems. Index.

Note: A reference manual for business executives, particularly those concerned with expediting production in order to lower costs and achieve maximum output. The volume is suitable also as a college textbook for students of industrial engineering. The treatment [illegible] practical, however, the fundamental principle underlying each step in the routing process is carefully explained, and examples of its successful operation are cited from the experiences of representative manufacturing concerns. In modernizing the work for the third edition practically every chapter has been rewritten and [illegible] with new illustrations representing the latest practices.

TIME AND MOTION STUDY

BARNES RALPH MOSSER
Motion and time study Third edition. New York. John Wiley & Sons, Inc., 1949 559 p. illus. 24 cm. 7386

Contents (abridged): History of motion and time study. Extent [illegible] which motion and time study may be profitably used. Process analysis. Activity charts—man and machine charts. Operation analysis. Fundamental hand motions. Motion study and micromotion study equipment. Making the motion pictures. Fatigue. The relation of motion and time study to wage incentives. Stop-watch time study—time study equipment—making the time study—determining the rating factor—determining allowances and time standard. Determining time standards from elemental time data and formulas. Determining time standards for die and tool work. Determining time standards for assembly operations. Motion and time study training programs. Appendixes. Bibliography. Index.

Note: A thorough study of the basic principles and methods of motion and time study. It is devoted almost exclusively to [illegible] techniques and each phase of the subject is well illustrated with case studies drawn from various manufacturing fields. Revisions and changes in this edition are largely based on the authors' survey of eighty factories. New chapters on process analysis, using process charts, activity charts, and machine charts have been added and numerous action photographs are now included. The fourth edition was published in 1958, 665 p., $7.25.

BARNES RALPH MOSSER
Motion and time study applications. Second edition. New York John Wiley and Sons, Inc., 1953 188 p. illus. 28 cm. $2 90 7387

Contents (abridged): The changing concept of industrial engineering. Employment, wages and price trends, from the annual report of the Eastman Kodak Company. Motion study training program for supervisors and foremen, by H. Engstrom. Motion study applied to clinical dentistry. Process chart for manufacturing mounting bracket. Motion study research. How bend affects pre-positioning time—A study of one-hand and two-hand work—A study of time used to position small parts. Which pedal is best. A study of the development of skill during performance of [illegible] factory operation. A study of eye movements in inspection work. Folding paper cartons. The development of an improved method for sorting personal laundry. Harvesting vegetables and preparing them for market. Industrial application of the ratio-delay method.

Note: A complementary book to the author's *Motion and time study* described above. Essentially it is [illegible] collection of "case" material in other words, concrete examples of techniques and applications of motion and time study and of research pertaining to them. Some of the material has been reprinted from other publications but much of it is original. The book is suitable for use in college courses and other instruction and for home study by persons [illegible] have had some introduction to the field.

BARNES RALPH MOSSER
Work methods manual. New York John Wiley & Sons Inc., 1944 136 p. illus. 22 cm. $3.50. 7388

Contents: Introduction. Developing [illegible] better method. The job breakdown. Process charts—flow diagrams. Activity charts—man and machine charts. Operation analysis—right- and left-hand charts. Fundamental hand motions—motion analysis—flame charts. Ten principles of motion economy. Putting the new method into effect. Index.

Note: A compact yet complete and practical presentation of the principles of work organization and motion economy. The style is nontechnical, and the material is suitable for use by supervisors, foremen, and workers. Motions and methods used in performing various manual jobs are analyzed. The text is supplemented by clear pertinent illustrations.

CARROLL PHIL
Timestudy for cost control. Third edition. New York McGraw Hill Book Company Inc., 1954 301 p. illus. 23 cm. $5.00 7389

Contents: What measures output? Management initiates control. Use standard data. Build your standards department. Types of men. Equip and train your men. Take element timestudies. Define work content. Rate performance. Train men to rate. Apply other factors. Set element standards. Plan your selection. Analyze the variables. Separate setup time. What work should be done. Write up your standard data. Chart standard data. Build working data. How to set and record standards. Apply work standards. Seek results through measurement. Maintain consistent standards. Extend your domination to control. Manual of reference data. Index.

Note: A practical book on the use of "standard times" as measures of work performed. It deals with the usefulness of time study not only in connection with wage incentive plans but also as means of acquiring [illegible] thorough knowledge of the products, equipment and methods used in [illegible] plant. However, the primary subject is how to build up correct standard time data as [illegible] means of controlling costs and how to apply these data [illegible] maintaining good employee relationships. Methods applicable to small plants [illegible] there is not enough time study work to justify the hiring of specialists are emphasized and are explained in detail. This third edition has the same organization and scope as the second edition published in 1943 however, new information has been added in several chapters.

CARROLL, PHIL
Timestudy fundamentals for foremen. With a foreword by Glenn Gardiner Second edition. New York McGraw Hill Book Company Inc., 1951 209 p illus. $3.50 7390

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Note: A small book written in simple language. Its purpose is to acquaint foremen and supervisors with the basic principles and methods of conducting timestudies. The explanations of how such

a study is applied and what it can accomplish are given clearly and simply Numerous charts and cartoons help to enliven and clarify the textual material. The first edition was published in 1944. This second edition is an extensive revision. The chapter on incentive plans, in particular has been revised and enlarged, and the bibliography now includes books published since 1944

DERSE, JOSEPH C

Machine operation times for estimators, standard data and methods. New York The Ronald Press Company, 1946 156 p illus 24 cm. $6 00 7391

Contents Benefits of detailed estimating. Imposed limits on estimating with standard data. Element breakdown applicable to turret lathes and screw machines. Fundamental steps in the estimating of turret lathe and screw machine jobs. Turret lathe and screw machine cases. Estimating engine lathe operations. Estimating of drill press operations. Estimating of milling operations. Estimating of gearcutting operations. Production grinding estimating. Estimating a complete part. Index.

Note: For the estimator of machine jobs in metal-working plants this book provides time studies which are the results of experience and long periods of testing. Accompanying the data are details of the operations performed, and of the conditions under which the tests took place. There are instructions for adapting the standard data to individual conditions and for making allowances in applying standard data to varying types of machines. The book is well illustrated, with photographs of the machines described, together with tables of specifications for those machines.

GEPPINGER, H C

DMT Dimensional motion times. Development and application New York John Wiley & Sons Inc., 1955 100 p illus. 28 cm. $5 00 7392

Contents. Section I, Development of DMT: Definition. Scope of application. Contribution of DMT to the field of industrial engineering. General motion terms and combinations. DMT training requirements. The need for the dimensional approach. DMT research and development. Section II, Introduction to DMT tables: Motion classifications, codes, and descriptions. Grasping rod-type parts from trays. Grasping block-type parts from trays. The effect of contour irregularities on grasping times. Scattered grasp. Isolated grasp. Comparison of grasping times for jumbled, scattered, and isolated parts. Hole and pin positioning. Section III, The DMT tables Explanation of motions and tables. Data sheet DMT 1. Data sheet DMT-2 Data sheet DMT-3. Data sheet DMT-4. Data sheet DMT 5 Section IV Typical application and problems. The effect of part size and target diameter on cycle time. The significance of the basic motion cycle. Methods analysis by DMT Supplemental applications. Other cases of positioning. Section V Special applications Weight factors. Momentary pressure or force. Focus and inspect. Section VI Developing standards and improving methods *Steps for analyzing production methods.* Establishing and computing production standards. Design and methods economies characterized by DMT Index.

Note. The author of this original work is Supervisor of Motion and Time Study Training for General Electric Company Bridgeport, Connecticut, where thousands of tests were conducted over a two-year period with a view to finding a common and simple yardstick for grasping movements made by workers in manufacturing operations. DMT (dimensional motion times) is shown to be a practical and systematic procedure for measuring and analyzing factory processes that have been subdivided into specific operations and that, because of their volume of production, conform to a standardized method of operation. The data established are the result of "actual laboratory tests, conducted under closely controlled conditions, with a great number of accurately dimensioned parts and necessary fixtures. The book is addressed to professional industrial engineers and specialists in time and motion study

GOMBERG, WILLIAM

A trade union analysis of time study Second edition New York Prentice-Hall, Inc. 1955 318 p illus 22 cm (Prentice-Hall industrial relations and personnel series Dale Yoder, editor) $5 00 7393

Contents Part one Parallel development—industrial engineering and collective bargaining through World War II. The time study problem today Time study in the field of scientific systems. Time study as a scientific system. How accurate a time-measuring instrument is wanted? Mechanical sources of variation. Accounting for the fatigue factor. Psychological sources of variation. Sociological sources of variation. Conclusion of part one. Part II Defining the job—present practices, time and motion study Analyzing and accounting for allowance in the raw data. The "normal" worker. S.A.M. rating study Standard data. A look backward. A look forward. Appendix. Bibliography Index.

Note: This book by the Director of the Management Engineering Department, International Ladies' Garment Workers' Union, analyzes the rational basis behind industrial time-study practice from the standpoint of trade-unionism. The author re-examines the nature of the scientific method and the nature of the problem posed by time study compares contemporary time-study techniques with the requirements of a scientific technique, and examines the possibility of applying such a scientific technique to everyday rate problems. When the original edition of the book appeared in 1948, its presentation of statistical methods of treating time-study data was an innovation. In the second edition, published 1955, the author includes developments in the field of work-measurement techniques during the period between 1948 and 1955. Meanwhile, support for the hypotheses of the author had arisen from other sources. Part one covers the theoretical requirements for a science of time study Part two compares existing time-study practice with the scientific ideal in time study The book is especially addressed to the active time-study practitioner

HADDEN, ARTHUR A., AND VICTOR K. GENGER

Handbook of standard time data, for machine shops. New York The Ronald Press Company, 1954 473 p 23 cm. $10.00 7394

Contents (abridged): Part I, Machinability of metals. Part II, Handling elements and allowances. Part III, Lathes (Turning) Part IV Milling. Part V Drilling. Part VI, Grinding. Part VII, Precision boring (Boring) Part VIII, Broaching. Part IX, Horizontal and vertical boring mills. Part X, Planers and shapers. Part XI, Punch press. Part XII, Arc welding. Part XIII, Gear cutting. Part XIV Assembly Part XV Power sawing. Appendix. Combined manual elements. Inspection—checking frequency Production time tables. Example of standard development. Glossary of terms used in standard data. Index.

Note: Standard times for the performance of operations in machine shops are presented in this work. The data are based on thousands of time studies made during the course of 25 years' professional practice in time study by the authors and the staff of their company McClure, Hadden & Ortman, Inc. The times given presume the use of standard equipment operated by the average man. Machine shop operations are covered in detail, for example "Wheel dressing time," and "Power press—handling parts in tote box," as well as times for machine feeds. Methods of using the data are fully explained.

LESPERANCE, J P

Economics and techniques of motion and time study Dubuque Wm. C. Brown Company, Inc., 1953 258 p. illus. 23 cm. $4.50. 7395

Contents (abridged) Definition and scope of scientific management. The method or approach of motion and time study analyst. Phase number one (-six) of motion study master plan. Introduction to time study by analysis and time study by synthesis. Suggested pattern for related functions in time study by analysis. The purpose and method of stopwatch reading, of electric-clock reading and of wink counter or microchronometer reading. The measurement of tempo. The analysis of working conditions including the analysis of the fatigue problem. Time study by synthesis. A summary and comparison of time study by analysis and synthesis. Bibliography Index.

Note. A relatively brief but nevertheless useful presentation of the methods and detailed techniques of motion and time study. The subject is covered from the viewpoint of management, but attention is given also to the human relations aspect. Cost aspects are considered, especially in a chapter devoted to a discussion of the presentation of a revised method based on the results of motion and time study to top management. Actual techniques of motion and time study are described very explicitly with illustrations of typical time study diagrams, therblig charts, timing devices, etc.

MAYNARD, HAROLD BRIGHT, AND G J STEGEMERTEN

Operation analysis. New York McGraw Hill Book Company Inc., 1939 298 p. illus. 23 cm. $5.00. 7396

Contents: Preface. The function of methods engineering in industry. Approach to operation analysis. Limitations of operation analysis. Types of methods study. Field of application of the types of methods study. Process charts. The operation process chart. Flow process charts. The analysis sheet. Use of the analysis sheet. Operation analysis: purpose of operation. Complete list of all operations performed on part. Inspection requirements—material [illegible] material handling—set-up and tool equipment—[illegible] common problems for operation improvement. Man and machine process charts. Plant-layout practices. Operation analysis—working conditions and methods. Operation-analysis check sheet. Progress process chart. Index.

Note: A description of the procedure for conducting operation analysis. It is designed for students of methods engineering, [illegible] and other men connected with the productive activities of any industrial enterprise. The authors have tried to make operation analysis [illegible] specific, systematic procedure which would [illegible] results in the form of methods improvements.

MORROW, ROBERT LEE

Time study and motion economy with procedures for methods improvement. New York. The Ronald Press Company 1946 338 p. illus. 24 cm. 7397

Contents: Recent problems of methods change. Operation analysis. The process charts and diagrams. Right- and left-hand process charts. How to do more work with less effort. Inspection plans. [illegible] techniques. Fundamentals and uses of time study. Time-study equipment. Time study procedure. Terms used in time study. Leveling and rating. Synthetic leveling. Fatigue in industry. The [illegible] study. The [illegible] study. Final computations. The standard data method. Organizing and training time study personnel. How to secure employee, union, and management cooperation. Straight-line production. Automatic machine studies and work assignments. Feeds and speeds for the cutting of metals. [illegible] selected time method. Index.

Note: Most of this book deals with practical, up-to-date techniques that have been tested in many types of manufacturing plants. It [illegible] simply and carefully worded, and although directed mainly at managers of small factories, it is suitable also as [illegible] for regular college courses in the subject. The descriptions of [illegible] and of ways for obtaining employee, union, and management cooperation are particularly useful. No bibliography is included, but there are occasional footnote references. A second edition under the title *Motion economy and work measurement* was published in 1957. 446 p., $7.50.

MUNDEL, MARVIN E.

Motion and time study principles and practice. Second edition. Englewood Cliffs N J Prentice-Hall Inc., 1955 575 p. illus. 24 cm. $7.00 7398

Contents: What motion and time study can accomplish. The human factor. The scope of motion and time study. How to start the analysis. Process chart—product analysis—man analysis. Work [illegible] analysis. Process chart—combined analysis. Operation charts. Multiple-activity analysis—man and machine charts—multi-man charts. Micromotion study. Micromotion study and therbligs. Memomotion study. Cyclegraphic and chronocyclegraphic analysis. Time study—introduction. Direct time study—definition of standard time. Recording the standard practice. Recording the time values. Rating. [illegible] rating. Objective rating. Allowances. Synthesized time standards—elemental data—basic data. Statistical time standards. Applying motion and time study standards. Appendix: Data on human [illegible]. Problems. Bibliography. Index.

Note: A systematic and practical introduction to time and motion study is provided in this college textbook. The basic principles that underlie all successful motion and time studies are presented, and [illegible] examples from many industries and types of work are described in detail, so that the reasoning behind the application of procedures may be seen. Techniques are fully described. The illustrations include numerous reproductions of charts and other forms. The first edition was published in 1950. Several chapters have been added in this second edition, and revisions have been made in those carried over. Literature published since 1950 is added to the bibliography, which is now 33 pages long.

MYERS, HERBERT J

Simplified time study for factory supervisors shop stewards and cost men. New York The Ronald Press Company 1944 140 p illus. 22 cm. $3.50 7399

Contents: A need for brief and simple instructions. Who should know about time study. The time study equipment. First steps in time study. Another simple step. Leveling factors. Allowances. Making the time study—hand operation. Time study of machine operation. Time study calculations. Accumulating basic data for future use. Making use of basic time standards. Some further considerations. Other methods and [illegible] goal. Index.

Note: A guide for the factory supervisor, foreman, shop steward, or cost man, rather than for the professional time study engineer. The object is to simplify the subject of time study for the layman. There are numerous photographs, drawings, charts, diagrams, and examples of time study sheets.

NADLER, GERALD

Motion and time study New York McGraw Hill Book Company Inc., 1955 612 p. illus. 24 cm. $7.50 7400

Contents: Section 1, Introduction to motion and time study: The philosophy of motion and time study. Approach to motion and time study problems. Section 2, Goal determination: Defining the problem. Section 3, Analysis of work: Starting the analysis. Product process chart. Form process chart. Man process chart. Operation chart. Multi-activity chart. Therblig and simo charts. Other analysis techniques. Section 4, Application of principles of methods design. Areas and principles of methods design. Applying the check list. Section 5, Selection of feasible solution: Factors involved in selection. Evaluation worksheet. Illustrations. Section 6, Formulation of methods design: Proposed charts. Section 7, Review of methods design: Necessity and procedures for review. Section 8, Test of methods design: Methods of testing. Section 9, Installation of methods: Requirements of good installation. Section 10, Standards setting: Concepts and problems of standards setting. Recording [illegible] and method. Timing. Pace comparison (rating). Difficulty comparison. Allowances. Standard data. Applying and controlling standards. Problems. Bibliography. Motion-picture bibliography. Index.

Note: An up-to-date and detailed textbook covering the entire field of motion and time study. It sets forth [illegible] procedures for motion and time study, which has proved successful in all types of work and has the advantage of being readily understood. New techniques are described, and the results of new research in the field of motion and time study are presented. Illustrations in the text are clear and plentiful. As it presents [illegible] thorough overview of the subject, the volume should be of interest and value to industrial engineers as well as to teachers and students of industrial engineering.

NIEBEL, BENJAMIN W

Motion and time study An introduction to methods, time study and wage payment. Homewood, Ill. Richard D Irwin, Inc., 1955 433 p. illus. 23 cm. $7.20 7401

Contents: Methods, time study and wage payment today. Development of motion and time study. Operation analysis. Process charts. Motion study. Micromotion study. Taking motion pictures for micromotion study and film analysis. Synthetic basic motion times. Determination of factory cost. Time study requirements. Time study equipment. Elements of time study. Performance rating. Allowances. The standard time. Standard data. Formula construction. Work sampling studies. Establishing standards on indirect work. Uses of time standards. Sign-level wage payment plans. Characteristics of sound wage incentive system. Training for methods, time study and wage payment. Appendix: Glossary of terms. Collection of helpful formulas. Special tables. Bibliography. Index.

Note: A college textbook for students of industrial engineering in the areas of methods, time study and wage payment. The author emphasizes fundamental principles in describing procedures used in conducting proved methods programs and proved techniques of work measurement. The requirements and methods of installation of wage payment plans are discussed in detail. Many illustrated examples and case histories are given in the text. Sets of text questions and several questions are included at the ends of most chapters.

NORDHOFF, WILLIAM A.

Machine shop estimating New York Mc Graw Hill Book Company, Inc., 1947 486 p illus. 21 cm. $8 00 7402

Contents The machine-shop estimator and his function. The estimator's tools. How to make tables and use them. What goes into an estimate. Machining elements—turning and allied operations. Machining elements—boring and allied operations. Machining elements—facing and allied operations. Machining elements—threading and tapping operations. The turret lathe family Automatic screw machines and turret lathes. The vertical turret lathe. The machine-shop lathe (engine lathe) The automatic lathe. The light boring mill. Drilling machines and drill operations. Milling machines and milling operations. Profilers and routers. Shapers. Grinders and grinding operations. Tapping and threading. Broaching machines and broaching. Hobbing machines—gears, splines, and serrations. Power hack saws and abrasive-cutoff machines. Oxyacetylene metal cutting. Appendices. Index.

Note. A useful manual that is based on material originally prepared at the Douglas Aircraft Company for the speedy training for new workers during World War II. The treatment is concise and practical. A considerable part of the text is given over to descriptions of machine tools and their functions. This material is augmented by an imposing number of data tables useful in estimating and by reproduction of photographs of machines, diagrams, charts and forms for the recording of data.

SYLVESTER, LAWRENCE ARTHUR

The handbook of advanced time-motion study New York Funk & Wagnalls Company, 1950 273 p illus 24 cm $5 00 7403

Contents. Introduction. Part I, The theory of work and the causes of deviations in rates of production: The nature of human work. Work can be measured. The concept of a fair day's work. The theory and nature of individual differences. The effects of variable conditions. A summary of theory Part II, Advanced practice of time-motion engineering: The human side of time-motion study Personal contacts. Tools and equipment. How to take a time-motion study Predicting base and standard time values. Standard data versus job time study Maintaining standardized conditions. Administration of the time-motion department. Conclusion Looking forward. Acknowledgments. Index.

Note. The author president of a management engineering firm, has written this book primarily for graduate industrial engineers and others, such as union stewards, who have professional interests in time-motion studies. Human work is regarded as having three components. 1 Mechanical component—Force × distance. 2 Human component pace (rhythm) and skill, etc. 3. Conditional component —posture, light, heat, ventilation, hazards, and interruptions. The basic importance of the human element and of industrial relations is stressed. Examples of the application of the methods discussed in various industries are given in graphic or tabular form. Statistical interpretations of the various results of time-motion studies are included.

QUALITY CONTROL

BOWKER, ALBERT H, AND HENRY P GOODE

Sampling inspection by variables. New York McGraw Hill Book Company Inc. 1952 216 p 24 cm. $5 00 7404

Contents. Introduction. General principles of sampling inspection by variables. Properties of the variables plans. Installation of the variables plans. Operation of the variables plans. Plans for use when the standard deviation of the product is known. Procedures for two-sided specification limits. Illustrative applications The use of control charts in sampling inspection Construction of sampling plans and standard procedure. The mathematics of sampling inspection by variables. Appendix. Computing techniques and methods of applying the acceptance criteria. Tables and charts. Index.

Note. A manual of inspection plans based on the measurement of a variable or variables—a basis of inspection that is in contrast to the system of rejection or acceptance on the basis of specified attribute. Most of the book is devoted to the design, installation, and operation of practical and statistically sound plans. The book is organized along the lines of and complements *Sampling inspection*, New York, 1948.

BUTTERBAUGH, GRANT ILLION

A bibliography of statistical quality control, supplement. Seattle University of Washington Press, 1951 141 p. 23 cm. $2 00. 7405

Contents. Part I, Periodical literature. Part II, Manuals, monographs, pamphlets. Part III, Books. Index of authors. Index of subjects.

Note. A supplement to the author's *Bibliography of statistical quality control* issued by the same publisher in 1946. The original work and the supplement together record 1437 periodical articles, books, and manuals published in the English language. Most of the entries are accompanied by an annotation several lines in length. A few of the entries have very short annotations and some are not annotated.

DODGE, HAROLD FRENCH, AND HARRY G ROMIG

Sampling inspection tables single and double sampling New York John Wiley & Sons, Inc., 1944 106 p illus. 22 cm. $3 75. 7406

Contents Introduction. A method of sampling inspection. Single sampling and double sampling inspection tables. Using double sampling inspection in manufacturing plant. Sampling inspection tables. Index. Charts.

Note A reprint of three articles which appeared originally in the *Bell System technical journal*. The purpose of the papers is to outline sampling inspection methods for the use of manufacturers, which will be satisfactory to both producer and consumer from the points of view of inspection costs and the elimination of defective products.

ENRICK, NORBERT L

Quality control a manual of quality control procedure based upon scientific principles simplified for practical application in various types of manufacturing plants. Second enlarged edition. New York The Industrial Press, 1954 181 p illus. 23 cm. $4 50 7407

Contents Part I: Fundamentals of inspection. Procedure in installing lot-by-lot inspection. Sampling continuous products. Installing process inspection. Special control charts for use when equipment is old and worn. Applying quality control in the plant. Tolerances and allowances in interchangeable manufacture. Mass production gaging. Use of inspection data in establishing specifications. Management aspects of quality control. A typical case history Statistical basis of modern quality control. Mathematical theory of control charts. Part II Further discussion of product variability Control charts computed from center lines. Acceptance control charts. Control charts for per cent defective product. Analysis of variance. Common interchangeable terms. Appendix. Index.

Note A simplified, largely nonmathematical explanation of statistical quality control methods, and the manner of their application in industry It is intended to serve as practical guide for plant inspectors, and such theoretical matters as the law of probability and the science of statistics are segregated in two chapters. These chapters are not essential to the understanding or use of the rest of the volume, and may be omitted by the reader if he is not mathematically prepared for them. The first edition was published in 1948. Most of Part II has been added in this second edition. This part includes a simplified explanation of the analysis of variance and extends the range of control charts.

FEIGENBAUM, ARMAND VALLIN

Quality control principles practice, and administration. New York McGraw Hill Book Company Inc. 1951 443 p. illus. 24 cm (Industrial organization and management series, L. C Morrow, consulting editor) $7 50 7408

Contents: The principles of quality control. Part I, Quality control—tool of management: What is "quality control"? What are

the [illegible] in controlling quality? What are the jobs of quality control? What is the organization of quality control? Part II. The statistical point of view: Frequency distributions. Control charts. Sampling tables. Special methods. Part III. Applying quality control in the plant: New-design control. Incoming-material control. Product control. Special process studies. Part IV. Introducing quality control into the plant: Selling the quality-control program. Summary of modern quality control. Index.

Note: An over-all presentation of quality control from the management and administrative viewpoint. It is primarily practical text, based on experience with quality control in numerous industries during World War II and after. The necessity for keeping the quality control program within bounds so that it does not cost more in time or money than its results justify is emphasized. A wide variety of practical procedures, relating not only to inspection but to record-keeping and follow-through, is described. The author is secretary of the Quality Control Co-ordinating Committee of the General Electric Company.

Grant, Eugene Lodewick

Statistical quality control. Second edition. New York, McGraw Hill Book Company, Inc., 1952. 557 p. 24 cm. (McGraw Hill industrial organization and management series, L. C. Morrow consulting editor) $7.00 7409

Contents (abridged): Part I, What will statistical quality control do? Objectives of statistical quality control. Some representative applications. Part II, The Shewhart control chart for variables: Some fundamental statistical concepts. Why the control chart works—examples of processes in control—examples of processes out of control. Directions for simple $\bar{X}$ and R charts. The selection of rational subgroups. Part III, Other Shewhart control charts: Some fundamentals of the theory of probability. The control chart for fraction defective. The control chart for defects. Part IV, A statistical approach to acceptance procedures. Some statistical aspects of tolerances. Some fundamental concepts in acceptance sampling. Acceptance sampling by attributes. Acceptance sampling by variables. Part V, Making statistical control work: Some cost aspects of quality decisions. Organizing for statistical quality control. Appendices. Glossary of symbols. Bibliography. Tables. Name index. Subject index.

Note: A standard exposition of the theory and methods that form the basis for quality control procedures. It is intended for persons such as plant executives and industrial engineers who expect to make practical use of control charts and sampling plans. The wide applicability of quality control to a large variety of economic and industrial operations is demonstrated, and analyses of actual case histories in industry are included. In this edition, two chapters have been rewritten, and the number of problems for the reader to solve has been much increased. Answers have been given to some of the problems for the benefit of persons studying the book at home. Relatively minor changes are in various other parts. The author is Professor of Economics of Engineering at Stanford University.

Heide, John D

Industrial process control by statistical methods. New York, McGraw Hill Book Company, Inc., 1952. 297 p. illus. 24 cm. $6.00. 7410

Contents: Introduction. Presentation of data. Process frequency distributions. Control charts. Limit lines. Operating specifications. Technical problems. Study of process data. Factory installation. Practical program aids. Factory interpretation of charts. Organization and administration. Quality reporting and quality rating. Evaluation of test procedures and test results. Appendices. Index.

Note: A practical book on statistical quality control written primarily for personnel in manufacturing establishments who will be directly concerned with the use or supervision of statistical quality control procedures. Quality control is correctly presented as a logical basis for mass production. The reader is first introduced to its statistical bases and to the design of control charts. In the later chapters various practical steps in installing a quality control program and using it in the factory are treated. The author holds the position of Industrial-Statistical Analyst with the United States Rubber Company.

Juran, Joseph M, editor

Quality-control handbook. New York, McGraw Hill Book Company, Inc., 1951. 800 p. illus. 24 cm. (McGraw Hill industrial organization and management series, L. C. Morrow consulting editor) $12.00 7411

Contents: Economics of quality, by J. M. Juran. Specifications of quality, by J. M. Juran. Organizing for quality, by C. E. Scott, Jr. Introducing statistical quality control in a going plant, by D. Shainin. Acceptance of quality, by J. M. Juran. Control of quality by J. M. Juran. Assurance of quality, by J. M. Juran. Statistical methods in the quality function, by J. W. Enell. Paper work in the quality function, by J. M. Juran. Applications of electric accounting machines to quality control, by International Business Machines Corporation. Quality control of textile production, by J. C. Wintermeier. Quality control in the chemical process industries, by C. A. Bicking. Quality control in aircraft manufacture, by J. G. Rutherford. Quality control of electron tubes, by Sylvania Electric Products, Inc. Vendor inspection, by D. Shainin. Quality control in screw-machine operations, by L. A. Seder. Appendices. Glossary of symbols. Tables and charts. Index.

Note: It is important to notice that this book deals with the whole subject of quality control rather than with the statistical aspects only. However, the latter are adequately treated, not only in the chapter on statistical methods but in sections in other chapters. The book is intended for executives and others in industry who are directly concerned with the control of quality of manufactured products and with organizing and administering quality control programs in manufacturing plants. It is a practical, direct treatment, full of useful information for its intended readers.

Kennedy, Clifford W

Quality control methods. New York, Prentice-Hall Inc., 1948. 243 p. illus. 24 cm. $6.00. 7412

Contents (abridged): Part I, Acceptance sampling: Sample size. Sampling tables. Double sampling. Sequential sampling. Part II, Batch control—per cent defective methods: Grand lot system. The error inherent in sampling. Practical applications of per cent defective methods. Part III, Distributions and the standard deviation: Frequency distributions. The standard deviation. Estimating lot quality. Part IV, A range and range: Comparison between standard deviation and average-range methods. Interpretation and use of charts. Practical application of average-range method. Part V, Guide to the administration of methods. Where and how to start quality control techniques. Commercial examples of applications. Bibliography. Appendix. Index.

Note: An introductory exposition in which the basic principles and techniques of quality control are explained in some detail and with the use of frequent references to common experience. The treatment is very elementary nevertheless it is adequate for many persons who wish only to make practical use of the knowledge in a small manufacturing plant or to understand procedures in operation in a large establishment.

Rice, William B

Control charts in factory management. New York, John Wiley & Sons, Inc., 1947. 149 p. illus. 23 cm. (Wiley mathematical statistics series) $3.90. 7413

Contents: Statistical quality control—what it is and what it does. The role of inspection. Statistical control. $\bar{X}$ and R charts. p and pn charts. Case histories of control charts. Organization of statistical-quality-control program. Index.

Note: An introductory treatment but not a popularization. It is written in the terminology of the subject, but the author has covered only those aspects that are of interest to executives of manufacturing organizations and other persons who need a practical rather than a statistician's understanding of control charts. Charts based on the inspection of variables and the inspection of attributes are both discussed; and the exposition is pointed up with fifteen case histories from industry. The last chapter tells how to install a statistical-quality-control program in a factory.

SAFETY

Alden, John Leslie

Design of industrial exhaust systems. Second edition. New York, The Industrial Press, 1948. 252 p. illus. 22 cm. $3.50 7414

NORDHOFF, WILLIAM A.

Machine shop estimating New York Mc Graw Hill Book Company, Inc., 1947 486 p. illus. 21 cm. $8 00 7402

Contents. The machine-shop estimator and his function. The estimator's tools. How to make tables and use them. What goes into an estimate. Machining elements—turning and allied operations. Machining elements—boring and allied operations. Machining elements—facing and allied operations. Machining elements—threading and tapping operations. The turret lathe family Automatic screw machines and turret lathes. The vertical turret lathe. The machine-shop lathe (engine lathe) The automatic lathe. The light boring mill. Drilling machines and drill operations. Milling machines and milling operations. Profilers and routers. Shapers. Grinders and grinding operations. Tapping and threading. Broaching machines and broaching. Hobbing machines—gears, splines, and serrations. Power hack saws and abrasive-cutoff machines. Oxyacetylene metal cutting. Appendices. Index.

Note. A useful manual that is based on material originally prepared at the Douglas Aircraft Company for the speedy training for new workers during World War II. The treatment is concise and practical. A considerable part f the text is given over to descriptions f machine tools and their functions. This material is augmented by an imposing umber of data tables useful in estimating and by reproduction of photographs of machines, diagrams, charts and forms for the recording of data.

SYLVESTER, LAWRENCE ARTHUR

The handbook of advanced time-motion study New York Funk & Wagnalls Company, 1950 273 p illus. 24 cm. $5 00 7403

Contents: Introduction. Part I, The theory of work and the causes of deviations in rates of production The nature of human work. Work can be measured. The concept of a fair day's work. The theory and nature of individual differences. The effects of variable conditions. A summary of theory Part II, Advanced practice of time-motion engineering The human side of time-motion study Personal contacts. Tools and equipment. How to take a time-motion study Predicting base and standard time values. Standard data versus job time study Maintaining standardized conditions. Administration of the time-motion department. Conclusion Looking forward. Acknowledgements. Index.

Note The author president of management engineering firm, has written this book primarily for graduate industrial engineers and others, such as union stewards, who have professional interests in time-motion studies. Human work is regarded as having three components 1 Mechanical component—Force × distance. 2 Human component pace (rhythm) and skill, etc. 3 Conditional component —posture, light, heat, ventilation, hazards, and interruptions. The basic importance f the human element and of industrial relations is stressed. Examples of the application of the methods discussed in various industries are given in graphic or tabular form. Statistical interpretations of the various results of time-motion studies are included.

QUALITY CONTROL

BOWKER ALBERT H , AND HENRY P GOODE

Sampling inspection by variables. New York McGraw Hill Book Company Inc. 1952 216 p 24 cm $5 00 7404

Contents Introduction. General principles of sampling inspection by variables. Properties f the variables plans. Installation of the variables plans. Operation f the variables plans. Plans for use when the standard deviation of the product is known. Procedures for two-sided specification limits. Illustrative applications. The use of control charts in sampling inspection Construction of sampling plans and standard procedure The mathematics of sampling inspection by variables. Appendix. Computing techniques and methods f applying the acceptance criteria. Tables and charts. Index.

Note: A manual of inspection plans based on the measurement of variable or variables—a basis of inspection that is in contrast to the system of rejection or acceptance on the basis of a specified attribute. Most of the book is devoted to the design, installation, and operation of practical and statistically sound plans. The book is organized along the lines of and complements *Sampling inspection*, New York, 1948.

BUTTERBAUGH, GRANT ILLION

A bibliography of statistical quality control, supplement. Seattle University of Washington Press, 1951 141 p 23 cm. $2 00. 7405

Contents. Part I, Periodical literature. Part II, Manuals, monographs, pamphlets. Part III, Books. Index of authors. Index of subjects.

Note: A supplement to the author's *Bibliography of statistical quality control* issued by the same publisher in 1946. The original work and the supplement together record 1437 periodical articles, books, and manuals published in the English language. Most of the entries are accompanied by an annotation several lines in length. A few of the entries have very short annotations and some are not annotated.

DODGE, HAROLD FRENCH, AND HARRY G ROMIG

Sampling inspection tables single and double sampling New York John Wiley & Sons, Inc., 1944 106 p. illus. 22 cm. $3 75 7406

Contents Introduction. A method of sampling inspection. Single sampling and double sampling inspection tables. Using double sampling inspection in manufacturing plant. Sampling inspection tables. Index. Charts.

Note A reprint of three articles which appeared originally in the *Bell System technical journal*. The purpose of the papers is to outline sampling inspection methods for the use of manufacturers, which will be satisfactory to both producer and consumer from the points of view of inspection costs and the elimination of defective products.

ENRICK, NORBERT L.

Quality control, a manual of quality control procedure based upon scientific principles simplified for practical application in various types of manufacturing plants. Second enlarged edition New York The Industrial Press, 1954 181 p illus 23 cm $4 50 7407

Content Part I Fundamentals of inspection. Procedure in installing lot-by-lot inspection. Sampling continuous products. Installing process inspection. Special control charts for use when equipment is old and worn. Applying quality control in the plant. Tolerances and allowances in interchangeable manufacture. Mass production gaging. Use of inspection data in establishing specifications. Management aspects of quality control. A typical case history Statistical basis of modern quality control. Mathematical theory of control charts. Part II. Further discussion of product variability Control charts computed from center lines. Acceptance control charts. Control charts for per cent defective product. Analysis of variants. Common interchangeable terms. Appendix. Index.

Note. A simplified, largely nonmathematical explanation of statistical quality control methods, and the manner of their application in industry It is intended to serve as practical guide for plant inspectors, and such theoretical matters as the law of probability and the science of statistics are segregated in two chapters. These chapters are not essential t the understanding or use of the rest of the volume, and may be omitted by the reader he is not mathematically prepared for them. The first edition was published in 1948. Most of Part II has been added in this second edition This part includes simplified explanation of the analysis of variance and extends the range of control charts.

FEIGENBAUM, ARMAND VALLIN

Quality control principles, practice and administration. New York McGraw Hill Book Company Inc. 1951 443 p. illus. 24 cm (Industrial organization and management series L. C. Morrow consulting editor) 7408
$7 50

Contents. The principles of quality control. Part I, Quality control—tool of management. What is quality control"? What are

DALLA VALLE, JOSEPH MARIUS

Exhaust hoods. Second edition revised and enlarged. New York The Industrial Press, 1952. 146 p. illus. 24 cm. $3.50 7420

Contents: Theory of flow of gases into an opening. Velocity characteristics of common types of unobstructed openings. Velocity contours of hoods with special boundary conditions. Criteria for determining hood effectiveness. Canopy type hoods. Hoods for dust and mist control—total enclosures and screening. Hoods for dust control—partial enclosures for grinding. Hoods for dust control—miscellaneous. Hoods for control of fumes, vapors and gases. Booth-like structures for fumes, vapors and gases. Grille-type openings under suction. Hoods for woodworking machinery. Examples of hood design calculations. Hood entrance losses. Essentials of hood construction. Index.

Note: A practical work on the design and uses of hoods and canopies used to carry off dusts, fumes, etc., generated during manufacturing and other processes. It is based on laboratory research and practical design experience and includes discussions of both the aerodynamic aspects and the practical ones. Typical hoods for a variety of applications are illustrated. The first edition appeared in 1946. Additional ordinates, several new chapters, and a number of new illustrations have been incorporated in this edition.

DALLA VALLE, JOSEPH MARIUS

The industrial environment and its control. New York Pitman Publishing Corporation, 1948. 225 p. illus. 23 cm. $5.00 7421

Contents: Problems and trends. Psychrometry. The atmospheric environment. Illumination and radiant energy. Noise, vibration, and fatigue. The thermal environment. Industrial ventilation. Design of local exhaust hoods. Design of exhaust systems. Measurement of air flow. Air pollution. Industrial dust collection. Appendix. Index.

Note: A compact treatment which is aimed chiefly to engineers who may be called upon to design ventilating systems and other devices which may affect the health of workers in factories. In other words, the book is written for the type of specialist who is coming to be known as industrial health engineer and who is an engineer rather than a medical man. The material is authoritative and well presented, but the range of topics is somewhat less broad than might be expected.

GUELICH JOSEPH

Chemical safety supervision New York Reinhold Publishing Corporation, 1956 221 p. illus. 23 cm. $4.50. 7422

Contents (abridged): How to investigate a chemical accident. Teaching the doctor chemistry. Special first aid for chemical accidents. What you should know about occupational disease. An eye safety program that works. Demonstrations you can perform. Water. Protect the man—clothing—equipment. Receiving and storing chemicals. Transferring and moving chemicals. Handling flammables—a serious problem. Working tanks safely. Safe sampling, gauging methods and air testing. What labels can teach you. Tank car safety. Your responsibility to the public. Disaster planning. Laboratory safety—a check list. Help from the insurance company. Chemical hazards—an inspection check list. The future of chemical safety. Reference material for chemical safety. Index.

Note: A practical manual of precautions and practices designed to avoid accidents in chemical manufacturing plants and other industrial establishments where hazardous chemicals are handled. It is addressed to supervisors and is written in a direct, simple style. Cartoon-type illustrations are used to drive home important points. The appendix of reference material lists books, pamphlets, catalogs, publications of the Manufacturing Chemists Association and of the National Safety Council which are pertinent to safe practices in the handling of chemicals.

GRAY DWIGHT E AND JOHN H. MARTENS

Radiation monitoring in atomic defense. New York D Van Nostrand Company Inc., 1951 122 p. illus. 21 cm. $3.50 7423

Contents: Part I. Background information. What is atomic energy? What is nuclear radiation? What kinds of hazards do atomic explosions produce? What radiation hazards result immediately from an atomic explosion? What radiation hazards continue after an atomic explosion? What basic protective measures can be taken against atomic explosions? How are nuclear radiations detected and measured? Part II. Instruments and equipment. Basic considerations. The Geiger counter survey meter. The ionization chamber survey meter. The proportional alpha counter. Pocket chambers and dosimeters. Film badge dosimeters. The AEC emergency monitoring kit. Future defense monitoring instruments. Bibliography. Index.

Note: A short, clearly written nonspecialist's book on the detection and measurement of dangerous radioactive radiation and on the instruments which are used for such detection and measurement. It is addressed primarily to civil defense personnel whose duties will include the protection of others from dangerous radiation in times of emergency. It should be of interest also to laboratory workers who handle radioactive materials and to safety personnel in industrial establishments where use is made of such materials.

HEINRICH HERBERT WILLIAM

Industrial accident prevention a scientific approach. Third edition. New York McGraw Hill Book Company, Inc., 1950. 470 p. illus. 24 cm. $8.00. 7424

Contents: Principles of accident prevention. Basic philosophy of accident prevention. Safety organization—first aid and hospital—creating and maintaining interest. Facts and fact finding. Accident analysis. Selection of remedy. Application of remedy—corrective action. Machine, prime-mover and power-transmission guarding. Process and procedure revision. Personal protective devices. Illumination and color. Occupational disease. Motor-vehicle fleets. Safety psychology. Fatigue. Education. Formula for supervision. Accident statistics. Summary. Appendixes: Chronology of industrial accident prevention. Background of industrial safety. Standards for mechanical guarding. Illustration of industrial interest. Causes of compensated accidents. Relation of age to industrial injuries. Bibliography. Index.

Note: In this text for students and safety engineers emphasis is placed on the basic principles and methods of accident prevention, rather than on detailed discussions of specific safety measures. Descriptions of protective devices and case histories are included, but only to illustrate how an accident situation may be analyzed and corrected. On the other hand, administrative aspects, such as methods of persuading top management to institute or supplement the safety program in a plant, are covered in some detail. The major changes evident in this edition include newly added chapters on motor-vehicle fleets, solving supervisory problems, personal protective devices, and a section on safety education courses. Books published since 1941 have been added to the bibliography.

HEMEON W C L.

Plant and process ventilation. New York The Industrial Press, Inc., 1955 437 p. illus. 24 cm. $9.00 7425

Contents: Objectives and general considerations. Dynamic properties of airborne contaminants. Dispersion mechanics—pollution, entrainment, induction. General principles of local exhaust. Local exhaust and exterior hoods. Control velocities and X-distance for exterior hoods—booths. Air flow in materials-handling systems. Exhaust for hot processes. Characteristics of free air jets—blow and exhaust systems—air curtains. General ventilation. Design of duct systems. Exhaust systems for dust. Evaluation and control of heat exposures. Field observations—reliability of design data. Fans, injectors, natural draft chimneys and roof ventilators. Exhaust air cleaning—dust collection. Index.

Note: The main subject of this important book is the analysis of factory ventilation problems in terms of the quantity of air required for adequate ventilation and the best flow patterns for the moving air. The illustrations include many diagrammatic representations of flow patterns related to typical situations found in industry. Principles and techniques of designing duct systems, selecting fans, etc., are covered more compactly. In fact, the mechanical material, though presented in sufficient detail for the needs of experienced engineers, is definitely subordinated to the analytical material. Worked examples of typical problems are included in both the analytical and design parts. The author is Engineering Director of the Industrial Hygiene Foundation of America, Inc., and a recognized specialist on control of industrial dusts.

Contents. Flow of fluids. Hoods for dust control. Hoods for fume, smoke and vapor control. Air flow through hoods. Pipe resistance. Piping design. Dust separators. Low pressure conveyors. Centrifugal exhaust fans. Axial flow fans. Structural details and system planning. Field measurements and their interpretation. Index.

Note. A manual prepared for the guidance of engineers, factory supervisors, and others responsible for the selection design or construction of exhaust systems used in the removal of industrial dusts and fumes. The volume stresses the practical aspects of the subject but contains considerable data on air flow and other theoretical aspects. The chapters on hoods for fume, smoke and vapor control and axial flow fans have been added in this edition.

AMERICAN FOUNDRYMEN'S SOCIETY

Engineering manual for control of in-plant environment in foundries. Des Plaines, Ill. American Foundrymen's Society 1956 145 p illus 29 cm $7 75 7415

Contents. Introduction to principles of foundry ventilation and industrial hygiene problems. Exhaust hoods and system design. Practical design of sand handling ventilation systems. Molding and core making problems. General principles of ventilation for melting and pouring operations. Cleaning room. Industrial hygiene and miscellaneous control measures. Radiation. Welding and woodworking. Dust and fume collectors, fans and motors. Maintenance and testing. Engineering data. Name and address of state territorial and provincial regulatory agencies. Glossary Bibliography Index.

Note. An authoritative work developed by the Dust Control and Ventilation Committee of the American Foundrymen's Society Good practices in the control of dusts are the main subject, but other environmental factors that affect the health, safety and comfort of workers in foundries are dealt with in some degree. The chapter on radiation covers rather fully the control of radiant heat from the industrial hygiene standpoint and contains also an adequate discussion of the control of ultraviolet radiation from electric arcs. On the other hand although radiation from such equipment as X-ray testing devices is mentioned as hazard, protection techniques are not discussed. Ventilation principles, practices and equipment are covered thoroughly and explicitly Engineering data for the design of systems are furnished, and there are descriptions and illustrations of hoods, dust collectors, fans, electrostatic precipitators, etc.

AMERICAN STANDARDS ASSOCIATION SECTIONAL COMMITTEE ON A SAFETY CODE FOR CRANES, DERRICKS, AND HOISTS

American standard safety code for cranes, derricks and hoists Approved by American Standards Association January 1943 New York Published by The American Society of Mechanical Engineers 1943 91 p. illus 19 cm. $2 50 7416

Contents (abridged) Part I, Construction and installation General rules. Overhead and gantry cranes. Jib and pillar cranes. Locomotive crawler and motor-truck cranes. Derricks. Simple drum hoists. Overhead electric hoists and base-mounted electric hoists. Air hoists. Sheaves, pulleys, slings, chains, and ropes. Part II, Inspection, testing, and maintenance. Part III, Operation.

Note. The purpose of this code is to present co-ordinated set of rules to serve as guide for state and municipal authorities. The suggestions leading to accident prevention are given both as mandatory and as advisory provisions, and compliance with both types may be required of employees by their employers. The code also finds application in industry serving as guide to both manufacturers of equipment and to the purchasers and users of the equipment. It was reviewed and reaffirmed without change by the sponsoring society in 1952.

ASSOCIATED GENERAL CONTRACTORS OF AMERICA, INC

Manual of accident prevention in construction. Fourth revised edition Washington D C The Associated General Contractors of America Inc., 1952 257 p. illus. 24 cm. $3 00 7417

Contents Introduction. Accident prevention organization. Housekeeping. Sanitation. First aid. Demolition. Arc welding. Gas welding and cutting. Flammable gases and liquids. Handling and storage of materials. Excavation. Shoring. Barricades. Explosives. Pile driving. Form construction and concrete placement. Hoists, cranes, and derricks. Steel erection. Masonry Scaffolding. Ladders. Power saws. Hand tools. Road and street construction. Motor graders, bulldozers and tractors. Conveyors and cableways. Equipment upkeep. Motor trucks. Garages and repair shops. Tunnels. Shafts. Compressed air work. Boilers. Unfired pressure vessels. Railroad construction. Quarries and gravel pits. Laying pipe line. Boats and barges. Temporary electrical installations. Fire hazards and prevention. Protective clothing. Camp housing and sanitation. Occupational diseases. Inspection. Reference tables. Alphabetical index.

Note. A practical and clearly presented guide to safe ways of performing construction work. The text is supplemented by numerous photographs, diagrams, and specifications and throughout the book emphasis is placed on the importance of educational work and of proper organization and methods. This edition includes new sections on housekeeping, welding, power saws, flammable gases and liquids, bulldozers and tractors, and boats and barges. Reference tables of weights and safe working loads are included.

BLAKE, ROLAND P, editor

Industrial safety By T O Armstrong and others. Second edition Englewood Cliffs, N J Prentice-Hall Inc. 1953 474 p. illus. 23 cm. $6 50 7418

Contents. By W H Kesler Introduction to safety engineering. Brief history of industrial safety in America. Accident cost. Appraising safety performance. Circumstances surrounding accidents. Analyzing causes of accidents. Fundamentals of accident prevention. By R. P Blake. Accident distribution. The elements of an effective safety program. By M. A. Glabel Job safety analysis. Plant inspection. Accident investigation. Layout and arrangement; purchasing for safety Plant housekeeping. Maintenance. Handling material. Hand tools. Low-voltage electrical hazards. By S. W Homan Fundamentals of machine guarding. Guarding of transmission machinery Guarding of woodworking machines. Guarding metal-working machines. By R. P Blake The prevention of falls. Methods of promoting safe practice. By T L. Armstrong Appraising employee attitude toward safety Safety organization. Safety education and training. By R. P Blake Safety and health standards and rules. By C. B. Bosler Accident records and reports. First aid. Personal protective equipment. Fire prevention and protection. Bibliography Index.

Note. This book is used both as textbook for safety engineering classes and reference book for foremen and others who are directly responsible for the operation of safety programs. It provides practical view of principles and practices, and is well organized for both study and reference. The first edition was published in 1943. Two chapters were added and several others were revised in preparing this second edition.

BRANDT, ALLEN DEMMY

Industrial health engineering New York John Wiley & Sons Inc., 1947 395 p. illus. 24 cm. $7 50 7419

Contents Industrial atmospheric contaminants and their industrial hygiene significance. Evaluating industrial atmospheric health hazards. Principles of control and methods employed. General ventilation. Local exhaust ventilation—hood design. Design of local exhaust systems. Collectors. Exhausters. Measuring air flow in industrial ventilation. Control measures for common operations and for an industry Exhaust systems—specific design data and illustrations of installations. Respirators and protective clothing. Heating, ventilating, and air conditioning for temperature, humidity comfort, and odor control. Radiant energy Industrial illumination. Industrial noise and its control. Plant sanitation and hygiene. Bibliography Appendix. Index.

Note The author who is Industrial Hygiene Engineer of the Bethlehem Steel Company defines his specialty as "the science of maintaining the worker's environment at condition conducive to good health, that is keeping all harmful environmental exposures away from workers. His work contains comprehensive discussion of practical methods of protecting workers, and it is written from the point of view of the engineer directly in charge of the program. The text is supplemented by diagrams, many tables of useful data, and 12-page bibliography

ing Office, 1956. 280 p. illus. 23 cm. (United States. Department of Labor Bulletin no 67) $1.00. 7431

Contents: Introduction to industrial safety. Development of the industrial safety movement. The States' part in safety. Accident cost. Accident causes. Appraising safety performance. Accident reports and records. Safety — responsibility of management. Arousing and maintaining safety interest. Safety organization. Safety education and training. Plant inspection. Job safety analysis. Accident investigation. Planning layout and arrangement. Plant housekeeping. Maintenance and safety. Handling materials. Hand tools. Low voltage electrical hazards. The prevention of falls. The importance of safeguarding machinery. Safeguarding power transmission apparatus. Point-of-operation guarding. Common explosion hazards. Fire prevention and protection. Lighting and color. Personal protective equipment. Technical report preparation. Safety standards.

Note: Safety subjects presents the fundamentals of safe operating practices for industrial establishments. The publication was originally prepared for use as a textbook for safety-training courses sponsored and conducted by the Bureau of Labor Standards for state factory inspectors. The course is scheduled for 130 hours, and the text includes material for a course of that length. At the ends of the chapters appear questions for class use. In addition to its use as a textbook, the bulletin can also be used to advantage by foremen, safety engineers, and others responsible for safety in manufacturing plants.

YAFFE, CHARLES D., AND OTHERS, editors

Encyclopedia of instrumentation for industrial hygiene. Prepared and issued cooperatively by the University of Michigan Institute of Industrial Health and School of Public Health and the Occupational Health Program of the Public Health Service, U. S. Department of Health, Education and Welfare. Technical editors Charles D Yaffe, Dohrman H. Byers, Andrew D Hosey Ann Arbor University of Michigan, Institute of Industrial Health, 1956 1,243 p. illus. 32 cm. $30.00. 7432

Contents (abridged): Instruments for sampling and analyzing air for contaminants in industrial environments. Laboratory type instruments of specific application to industrial hygiene. Instruments specially designed for atmospheric pollution evaluation and meteorological measurements. Instruments for measuring air velocity and pressure, etc. Instruments for measuring ionizing radiation. Instruments for measuring ultraviolet, visible and infrared energy. Appendix. Subject index. Name index.

Note: Instruments exhibited at the Symposium on Instrumentation in Industrial Hygiene held at the University of Michigan, May 24–27 1954, together with a few additional instruments, are described in this volume. Generally speaking, for each instrument, information is given on uses, operating principle, dimensions and weight, performance characteristics, manufacturer or other source, price in the United States of America as of 1954, and operating, calibrating and maintenance procedures. One picture of the described instrument is included and, in most instances, there are additional illustrations. In each of the seven sections of the book, the descriptions of individual instruments are preceded by several signed papers on measurement problems and techniques of the field covered by the section.

MATERIALS HANDLING

HETZEL, FREDERIC VALERIUS, AND RUSSELL K. ALBRIGHT

Belt conveyors and belt elevators. Third edition, revised and enlarged. New York John Wiley & Sons, Inc., 1941 439 p illus. 23 cm. $5.50 7433

Contents: Section I, Belt conveyors. General description of component parts. Development of belt conveyors. Belts and belt manufacture. Supporting and guiding the belt. Driving the belt. Design of belt conveyors. Tension and take-up devices. Loading the belt. Discharging from the belt. Protecting and cleaning the belt. Weighing and sampling. Package conveyors. Particular uses of belt conveyors. Life of belts. When to use belt conveyors. Section II, Belt elevators. General description. Centrifugal discharge elevators. Elevator buckets. Continuous bucket elevators. Belts for elevators. Fastening buckets to belt. Driving belt elevators. Elevator boots. Inclined elevators. Appendixes: Weights of materials bought and sold by the bushel. Weights of minerals, ores, chemicals. Weights of miscellaneous materials. Index.

Note: This book offers explicit and comprehensive information on how to select, install, and operate belt conveying machinery. It covers broad principles and specific details, explains theoretical angles, and describes the methods of efficient practice. Considerable space is given to the operation and maintenance of plants under a variety of circumstances as met with in practice. Tables of sizes, capacities, power consumption and other useful data are printed in convenient form.

HUDSON WILBUR G

Conveyors and related equipment. Third edition. New York John Wiley & Sons, Inc., 1954 524 p. illus. 24 cm. $9 75 7434

Contents: General principles. Screw conveyors. Flight and apron conveyors. The bucket elevator. The skip hoist. Bucket carriers. Cable hoists. The continuous-flow conveyor. Pneumatic and hydraulic conveyors. The belt conveyor. Aerial tramways. Storage and transport. Bins and bunkers. Unloading water-borne cargoes. Crushers, hammermills, and pulverizers. Screens, feeders, and gates. Car unloaders. Weighing. Chains, drives, drive groups, motors. Power-plant coal and ash handling. Some problems and solutions. Dust explosion hazards. Appendixes. Index.

Note: A standard work used both as a text in engineering colleges and as a reference book in engineer's offices and plant libraries. It covers materials handling equipment, not only conveyors but also related devices such as car dumpers, scales, and pallets. The second edition was published in 1949 and was 448 pages long. Although a considerable portion of the material in this third edition is identical with the second edition, the book has been adequately revised. Numerous small additions have been made at the ends of many chapters. In some cases the added material relates to new devices or devices which have taken on new importance in recent years. Changes have been made also in the illustrations and in the tables.

IMMER JOHN R.

Materials handling New York McGraw Hill Book Company Inc., 1953 591 p. illus. 24 cm. $8.50. 7435

Contents (abridged): Part I, Introduction: History. Principles. Part II, Motion and time study: Work simplification. Time study and standard times. Part III, Materials handling equipment: Horizontal) fixed routes. Overhead movement of materials. Vertical movement of materials. Horizontal movement—nonfixed path. Industrial storage facilities. Part IV, Packaging section: Packaging methods and materials. Research in packaging and materials handling. Part V, Analysis: How to solve a handling problem. Methods of analysis. Types of surveys. Determination of handling costs. Part VI, Organization: Production control. Integration of equipment. Safety. Part VII, Special handling problems: Machine operations. Warehousing activities. Assembly. Air cargo handling. Railroad and truck handling. Handling bulk materials. Appendix: Selected sources of information. Bibliography of magazine references. References to specific industries. Index.

Note: The general principles of efficient materials handling, the organizational and cost aspects, and the technical details of typical installations are covered in this engineering college text. There is considerable emphasis on management aspects, especially in the co-ordination of materials handling with related matters such as work simplification. The [illegible] figures include many photographs and diagrams of equipment and installations. An unusual feature is the inclusion in the appendix of a classification scheme for information about materials handling.

STOCKER, HARRY E.

Materials handling: principles, equipment and methods. Second edition. Englewood

INDUSTRIAL HYGIENE FOUNDATION OF AMERICA, INC

An annotated bibliography on noise, its measurement effects and control. Pittsburgh Industrial Hygiene Foundation of America, Inc., 1955 364 p 22 cm. $7 50 7426

Contents Measurement of sound and noise Instruments—standards—calibration—performance. Techniques—standards—methods—use of instruments. Evaluation—interpretation of results—surveys. Effects of noise General effects—auditory—psychological—fatigue—adaptation. Effects on workers—special occupations—acoustic trauma. Effects from specific sources—industrial—civilian—military Measurement of hearing loss Instruments Techniques. Evaluation. Reduction and control of noise Methods. Examples of noise reduction and control. General. Index of subjects. Index of authors.

Note Although not represented as comprehensive, this bibliography lists 2336 journal articles, pamphlets and books that bear on noise as problem in public and industrial health. Annotations are given for representative publications in each section, but the majority of entries are not annotated. Good subject and author indexes are included.

MANUFACTURING CHEMISTS' ASSOCIATION, INC

Guide for safety in the chemical laboratory Prepared by and published for The General Safety Committee of the Manufacturing Chemists' Association, Inc., Washington, D C New York D Van Nostrand Company, Inc., 1954 234 p illus 22 cm. $4 50 7427

Contents General rules for laboratory safety Laboratory design and equipment. Handling glassware. Handling and storage of containers. Miscellaneous hazards. Flammability Chemical hazards. Toxicity Radiation safety and contamination control in the laboratory Pressure vessel hazards. Clothing and personal protective equipment. Laboratory first aid and suggestions for medical treatment. The packaging and transportation of chemicals. Literature references. Index.

Note A manual of basic information. In it are outlined good safety practices, safety features to be incorporated when chemical laboratories are designed, the chief hazards in chemical laboratories, and suggestions for first aid and medical treatment. In addition, protective clothing and equipment are described, and there is selected bibliography of publications containing safety information. The book is essentially self-contained with most of the topics being covered concisely and adequately Many of the 39 plates are reproductions of photographs of laboratories and equipment designed for safety

NATIONAL SAFETY COUNCIL

Accident prevention manual for industrial operations Third edition Chicago National Safety Council Inc. 1955 1,339 p illus 23 cm $18 00 7428

Contents Basics of safety Safety organization. Safety committees. Removing the hazards from the job. Human behavior and industrial safety Safety education. Maintaining employee interest in safety Public relations and publicity for safety Accident records and injury rates. Accident investigation, analysis and cost. Workmen compensation insurance Sources of help for the safety man. Industrial buildings and plant layout. Plant construction and maintenance. Boilers. Pressure vessels. Refrigeration equipment. Handling and storage of materials Hoisting apparatus and conveyors. Elevators and plant railroads. Power trucks and tractors. Ropes, chains, and slings. Principles of guarding and transmission guards. Metal forming and shearing. Machine tools. Woodworking machinery Guarding equipment in selected industries. Local exhaust systems and ventilating. Welding and cutting. Hand and portable power tools. Electrical hazards. Flammable liquids. Fire prevention. Fire extinguishment and control. Emergency action plans. Personal protective equipment. Industrial sanitation and personnel facilities. Medical, nursing and first-aid services in industry Industrial hygiene. Industrial poisons. Table of chemical hazards. Motorized equipment. Safety engineering tables. Index.

Note A comprehensive reference book of principles and good practices. It is written for use by safety engineers and foremen or anyone else who has an interest in good safety practices. Although illustrations are not special feature, there is a large number of them. This third edition is the result of major revision and reorganization of the preceding edition. The purpose of the book remains the same, but much new material was added. The volume is now organized in 44 separately paged sections, but there is a detailed index covering all the sections.

SAX, NEWTON IRVING, AND OTHERS

Handbook of dangerous materials. Assisted by M J O'Herin and W W Schultz. New York Reinhold Publishing Corporation 1951 848 p 26 cm 7429

Contents References. List of abbreviations and symbols. General chemicals. Explosives. Fungus diseases and fungicides. Radiation and radiation hazards. Shipping regulations. General index.

Note. A work of interest to factory managers, safety personnel, and industrial physicians. The first part is an alphabetically arranged compilation of materials that are hazardous to human beings because they are poisonous, cause allergic reactions, or are explosive. The following points are covered for most of the materials included: hazardous properties, storage and handling, synonyms, chemical formula, chemical and physical properties, shipping regulations. The writeups of many of the materials include one or more literature references, but literature references are not always given. The section on fungus diseases includes much information on diagnosis and treatment. The section on shipping regulations is reprint without editorial comment of the current regulations pertaining to explosive and hazardous materials of the Interstate Commerce Commission. A revised and enlarged edition under the title, *Dangerous properties of industrial materials*, was published in 1957 1 467 p., $19.50.

SIMONDS, ROLLIN H., AND JOHN V GRIMALDI

Safety management, accident cost and control. Homewood, Ill. Richard D Irwin, Inc., 1956 555 p illus 24 cm. $8.35 7430

Contents Section I, Introduction The problem and how to approach it. History Section II, Objectives, responsibility and organization Specific objectives. Responsibility for accident prevention. Organization. Section III, Accident cost analysis. Nature and importance of accident costs. How to find the cost of accidents in company Statistical data on uninsured costs. Section IV Motivating safety and locating the hazards. Motivation. Locating and defining accident sources. Section Accident-producing physical conditions and their control Layout and design. Machinery hazards and guards. Electricity and material handling and storage. Section VI, Health hazards and their control: Environmental control for health. Personal protective equipment. Section VII, Special problems and auxiliary functions. Employee selection, placement, and counseling. Employee training procedures. Psychological aspects of accident prevention. Auxiliary functions of the safety department. Control of catastrophes. Fire prevention and protection. Commercial vehicle fleet safety New product development. Waste disposal. Appendices Common industrial health hazards, their occurrence and properties. Properties of selected flammable materials. Index.

Note A college textbook of rather comprehensive scope. It presents a broad picture of the principles and techniques of safety management in industry including tangential matters such as catastrophe control, new product testing and disposal of industrial wastes. The theme of high costs of accidents and of poor safety management runs through the book. Nevertheless the book is addressed primarily to safety engineers (and to students preparing for careers in this field) rather than to top business executives. Numerous illustrations of safety devices and protective equipment are included. There are occasional references to pertinent literature but the bibliography is not a feature. The first-named author is Professor of Management in Michigan State University and his co-author is Director of the Industrial Division of the Association of Casualty and Surety Companies.

UNITED STATES BUREAU OF LABOR STANDARDS

Safety subjects Fourth edition. Revised 1956 Washington D C Government Print

AGRICULTURE

GENERAL

ADVANCES IN AGRONOMY Prepared under the auspices of the American Society of Agronomy Volume v Edited by A. G. Norman. New York. Academic Press, Inc., 1953 422 p. illus. 24 cm. $8.50. 7437

Contents: A half century of wheat improvement in the United States, by F. C. [illegible] and others. The soil organic fraction, by [illegible] Progress in agricultural engineering, by [illegible] Chemical weathering of minerals in soils, by M. L. Jackson [illegible] The changing pattern of agronomy and [illegible] and G. D. [illegible] Soil management [illegible] in Canada, compiled by R. R. McKibbin. [illegible] for conservation and productivity by G. R. [illegible] Author index. Subject index.

—— Volume vi. Edited by A. G. Norman. New York Academic Press, Inc., 1954 383 p. illus. 24 cm. $8.50 7438

Contents: Progress in forage improvement, by R. R. McCrabb and [illegible] Requirement and availability of soil water, by O. J. [illegible] A pattern for international co-operation in agriculture, by [illegible] New concepts of management of corn belt soils, by J. G. [illegible] Seed-bed requirements, coordinated by J. O. [illegible] Technological aspects of trace element usage, by A. A. [illegible] Crop adaptation and climate, by C. P. Wilsie and R. H. [illegible] Potassium in plant nutrition, by K. Lawton and R. L. Cook. [illegible] improvement, by J. R. Quinby and J. H. Martin. Author index. Subject index. Cumulative author index, Volumes i–vi. Cumulative subject index, Volumes i–vi.

—— Volume vii. Edited by A. G. Norman. New York Academic Press, Inc., 1955 431 p. illus. 23 cm. $8.80. 7439

Contents: Soil aggregation, by J. P. Martin and others. Recent changes in Swedish crop production, by E. Åberg. Mineral nutrition of plants as related to microbial activities in soils, by C. H. [illegible] Improvement of the sugar beet in the United States, by [illegible] Grass seeding viewed by pedologist, G. R. [illegible] and others. [illegible] to federal service to agriculture, by J. S. [illegible] The [illegible] of soil nitrogen by W. R. [illegible] and C. O. [illegible] Weed control in principal crops [illegible] by F. L. [illegible] the southern United States, by W. B. [illegible] Mineralization of organic nitrogen in soil, by G. W. [illegible] and D. A. Van [illegible] The place of microbiology in soil science, by A. C. [illegible] Author index. Subject index.

—— Volume viii. Edited by A. G Norman. New York Academic Press, Inc. 1955 423 p. illus. 24 cm. $8.80 7440

Contents. Field crop production and soil management in the Pacific Northwest, by M. B. [illegible] and others. Anhydrous ammonia as nitrogen fertilizer, by W. B. Andrews. Progress in grass breeding, by D. C. Smith. Molybdenum as fertilizer, by A. J. Anderson. The evolution of crop plants for winter hardiness, by [illegible] The determination of lime and fertilizer requirements of soils through chemical tests, by J. W. Fitts and W. L. Nelson. Tall fescue, by J. R. Cowan. The mineral nutrition of corn as related to its growth and culture, by L. B. Nelson. Organic soils, by J. R. Dawson. Author index. Subject index.

Note: This review series has been published annually since 1949. The individual reviews are topical rather than chronological. In other words, they present advances in selected areas of agronomy rather than the research results published in given year or any other arbitrary period of time. Topics pertaining to soils, fertilizers, and soil water appear more often than others, but other topics are covered as the need listed above indicate. Each paper is [illegible] review of published literature and is accompanied by an extensive bibliography.

BEYER, GLENN H.

Farm housing in the Northeast. A survey of facilities, activities, possessions, and preferences of families on owner-operated farms. The factual findings by Glenn H. Beyer with the assistance of the Northeastern Farm Housing Technical Committee. Ithaca Cornell University Press, 1949 458 p. illus. 24 cm. $4.50. 7441

Contents (abridged): Introduction and background: Methodology [illegible] Part i, Geographic distribution and economic groups of families [illegible] The present pattern of farmhouses. Age of dwelling units. Type of construction. Size of house. Equipment and facilities. Part ii, Household activities. Food preparation and preservation. Laundry work. Sewing. Entertaining. Part iii, Household inventories: Food. Clothing and sewing materials. Bedding and household linens. Need for additional storage space. Part iv General housing preferences. The dwelling unit. Equipment and furniture. Household activities. Part [illegible] Summary. Glossary. Index.

Note: An analytical presentation of the results of present housing facilities and housing needs of families living on farms in the states of Connecticut, Maine, Massachusetts, New Jersey, New York, Pennsylvania, Rhode Island, and West Virginia. The data were gathered largely by personal interviews. They throw light not only on housing requirements but also on household activities on farms. For example, information is included on the kinds and quantities of foodstuffs preserved in [illegible] year. The book is one product of [illegible] project which has as its ultimate goal the development of functional house plans suited to the needs of farm families in the region covered.

BLACK, JOHN DONALD AND OTHERS

Farm management by John D Black, Marion Clawson, Charles R. Sayre, and Walter W Wilcox. New York The Macmillan Company 1947 1,073 p. illus. 24 cm. $7.50. 7442

Contents (abridged): Part i, Introduction: The farm management function. The ends of farming. Farming in changing world. Part ii, Systems of farming: The management of one-crop farming. Specialized livestock farms. Diversified-crop farms. Feed-and-livestock farms. Crop-and-livestock farming. Production for use of the farm family. Part iii, Principles and methods of analysis: The location of agricultural production. Size of farms. Adjusting farm production to markets and prices. Farming costs. Accounts, records, and surveys. Part iv Problems of management: The management of farm equipment. The management of labor on farms. The management of land. The management of rented farms. Financing the farm business. The valuation of farm property. The role of public agencies in farm management. Part [illegible] Management by types of farming: Wheat farming. Cotton farming. Sugar and specialty crops. Fruit and nut farming. Vegetable farming. Dairy farming. Irrigation farming. Cattle ranching. Sheep ranching. Poultry farming. Part-time and self-sufficing farming. The management of farm woodland. Part-time and self-sufficing farming. Part vi, Finale: Agriculture in the national economy. Index.

Note: A comprehensive work written from the viewpoint that farming is business based on applied science. It is designed primarily for use as textbook in agricultural colleges, and the treatment assumes that the reader will have some knowledge of agricultural methods and of fundamental economic principles. The necessity for analyzing farm operations from the economic standpoint is constantly stressed, and variety of case histories of such analyses are included. The fifth part contains tabloid analyses of

Cliffs, N J Prentice-Hall, Inc. 1951 330 p illus. 23 cm $6 50 7436

Contents Part one, Materials-handling principles. Terminal time principle. Handling and mechanical-equipment principles. The performance principle. The principle of standardization. The principle of obsolescence. The flexibility principle and the speed principle. Dead weight, equipment details, maintenance and repairs. The principle of safety Straight-line and fatigue principle. Other principles of materials handling. Part two, Equipment and methods Fork trucks and pallets. Tractors and trailers. Conveyors. Cranes. Miscellaneous equipment. Selection of equipment. Plant layout and building design as related to materials handling. Organization and management. Index.

Note. A compact presentation of principles of materials handling in industrial establishments is combined with descriptions of types of equipment and standard methods in this book, which is an introductory survey for executives and foremen rather than comprehensive treatise for specialists. There is some emphasis on the economic aspects of materials handling. The first edition was published in 1951 Several chapters were rewritten for this edition.

[illegible]

[illegible]

[illegible] L., editor

Irrigated agriculture in the West. Washington, D. C., Government Printing Office [illegible] p. illus. [illegible] 23 cm. (United States. Department of Agriculture. Miscellaneous publication no. [illegible]) Gratis. [illegible]449

Contents: [illegible]

Note: [illegible]

Hambidge, Gove

The story of FAO. Princeton, D. Van Nostrand Company, Inc., 1955. 303 p. illus. [illegible] cm. $6.95 [illegible]450

Contents: Part I, The background. [illegible] Part II, FAO's growth and development. [illegible] New directions. Part III, Technical [illegible]: Near East and Africa. Far East. Latin America. Europe. Appendix. Some source material. Index.

Note: A detailed narrative history of the Food and Agriculture Organization of the United Nations, written by a staff member with the assistance of other staff members of the FAO and intended for the general reader. The general account is presented in the first [illegible] pages. The remainder of the book is devoted to region-by-region and country-by-country survey of the accomplishments of the FAO, including most of the large and some of the small projects undertaken. The details chiefly concern the countries of Asia, Africa, and Latin America, as the FAO deals in the main with the problems of countries that have not reached a high state of economic development. The story is an inspiring one of co-operative effort in many countries [illegible] hundreds, perhaps thousands, of scientists and other experts are joined in spreading agricultural knowledge and its practical application, and in helping effect changes in agrarian institutions to make new advances possible.

Haystead, Ladd, and Gilbert C. Fite

The agricultural regions of the United States. Norman, University of Oklahoma Press, 1955. 288 p. illus. [redacted] cm. $4.00. 7451

Contents: The nonexistent "typical" American farm. New England—land of abandonment. The Middle Atlantic states—prime market. Delmarva—[illegible] region. The Middle South—[illegible] belt. The Deep South—the shifting cotton belt. The corn-hog belt—backbone of democracy. The north Northcentral region—dairy-[illegible]

[illegible]

[illegible], Ulysses Prentiss

A history of agriculture in [illegible] New York, Oxford University Press, 19[illegible] [illegible] p. illus. [illegible] cm. [illegible] 45[illegible]

Contents: [illegible]

Note: [illegible]

Hunt, Robert L.

Farm management in the South. Danville, Ill., The Interstate Printers & Publishers, 1953. 531 p. illus. 21 cm. $3.50. [illegible]453

Contents (abridged): Farming in [illegible] of southern agriculture. [illegible] of production. [illegible] farm power and equipment. [illegible] Specialized and diversified farming. [illegible] The farm layout. Cooperation in [illegible] of marketing farm products. Conservation and farm management. Appendix: Selected references. Glossary of terms. Index.

Note: An elementary textbook [illegible] introduction to the agricultural situation and to agricultural practices in the southern and southeastern states of continental United States of America. It is intended primarily for the instruction of students in agricultural courses at the high-school level. Many of the [illegible] figures are photographs of farming scenes and farming practices. There are [illegible] tables and many of these are presentations of economic data. In some instances, however, the economic data are old and do not fairly represent the recent agricultural situation in the area.

Iowa State College and the Iowa Agricultural Experiment Station

A century of farming in Iowa, 1846–1946 by members of the staff of the Iowa State College and the Iowa Agricultural Experiment Station. Published in commemoration of the one hundredth anniversity of Iowa's statehood. Ames, The Iowa State College Press, 1946. 357 p. illus. [illegible] cm. $5.00. 7454

Contents: An overture, by E. D. Ross. Struggle for land ownership, by W. G. Murray. The soil that grows the crops, by [illegible] and A. J. Englehorn. Growing the bumper corn crop, by G. F. Sprague and J. C. Cunningham. The fields of [illegible] grain, by H. D. Hughes. Forage crops that feed the livestock and [illegible] the soil, by H. D. Hughes and M. E. Heath. Winning the fight against plant diseases, by J. C. Gilman and M. [illegible]. Man and nature battle injurious insects, by Carl J. Drake. Weeds that chal-

the economic situations of the important types of farming in the United States of America. The bibliographical material consists of selected lists appended to the chapters.

BRUNNER, EDMUND DE SCHWEINITZ, AND OTHERS, editors

Farmers of the world the development of agricultural extension. Edited by Edmund de S Brunner, Irwin T Sanders, and Douglas Ensminger New York Columbia University Press, 1945 208 p 23 cm. $3 00 7443

Contents About the authors. Introduction What extension is, by D Ensminger and I. T Sanders. Nonliterate societies. Diversity and change in the culture of nonliterate peoples, by S. T Kimball. Extension work in the Pacific islands, by F M. Keesing. Peasant societies. Characteristics of peasant societies, by I. T Sanders. Promoting cooperative agricultural extension service in China, by Hsin-Pao Yang. Extension experience in India, by D. S. Hatch. Extension work among the Arab fellahin, by A. I. Tannous. Extension in the Balkans, by C. E. Whipple. Extension work in Latin America, by C. P Loomis. Euro-American society· Euro-American rural society by C. C. Zimmerman. Extension in the United Kingdom, by R. Rae. Agricultural extension services in northwest Europe, by P L. Yates and L. A. H. Pieters. Agricultural extension in the United States, by E. de S. Brunner and C. B. Smith. Conclusion The role of extension in world reconstruction, by M. L. Wilson and E. de S. Brunner Index.

Note A survey of the problems and experiences in various parts of the world in instructing rural people in improved agricultural practices and other matters that affect their well-being. Each author has discussed the problems in his particular region against the cultural background and economic situation of the farmers there. The primary aim of the volume is to aid in pointing the way to the most effective procedures.

BULLOCK, BENJAMIN FRANKLIN

Practical farming for the South. Second edition Chapel Hill The University of North Carolina Press, 1946 526 p. illus. 21 cm. $3 00 7444

Contents Part I, Plant production Soils and soil fertility Plant growth and reproduction. Plant propagation. Improvement of plants. The home garden. The home orchard. Field crops. The farm woodlot. The rural home and its surroundings. Part II, Animal production Feeding and care f farm animals. Improving farm animals. Milk production for the farm home. Pork production on the farm. The farm poultry flock. Honey bees on the farm. Part III, Farm financing and literature Credit for small farm operators. Farmers' cooperatives. Farm publications. Note on plowing. Appendices Farmers continue to plow What about DDT? Electricity on the farm. Battery brooders. Index.

Note The purpose of this volume is not only to be of use as a handbook to farmers and as a textbook to students but also to serve as an introduction to the basic principles of farming for the benefit of teachers and rural social workers. The common farm operations are discussed in detail, not only for the benefit of beginners but also to guide established farmers in good practices. The second edition covers certain subjects somewhat more fully than the original edition of 1944 and also includes discussion of later developments f general interest in the field of agriculture, such as rural electrification, new methods of insect control. Although written by Southerner the book does not particularly emphasize the "southern aspect, except for the sections dealing with such crops as cotton and tobacco. An excellent bibliography is included, which lists not only books and government pamphlets, with their publishers, dates and prices, but also farm magazines and papers.

CASTETTER, EDWARD FRANKLIN, AND WILLIS H BELL

Pima and Papago Indian agriculture. Albuquerque The University of New Mexico Press, 1942 245 p illus 23 cm. (New Mexico University School of Inter American Affairs. New Americana studies I) $3.50 7445

Contents (abridged) The Pimans. Land, climate and vegetation. Early basis of Piman subsistence. Piman cultivated crops. Selection, development, and ownership of land. Agricultural implements. Planting, irrigation and cultivation. Harvest, storage and seed selection. Cultivation and utilization of tobacco—a ceremonial crop. General ceremonial aspects of Piman agriculture. Bibliography Index.

Note: The material presented in this monograph is based upon field studies made by the authors among the Pima-Papago in the falls of 1938, 1939 and 1940, supplemented by data from the relevant historical, ethnographical, and archaeological literature. The account of the history of Pima and Papago agriculture and of the general basis of subsistence of these people represents a composite of ethnography archaeology and the history of agriculture, with the latter perhaps predominating. The territory covered lies largely within the area known as the Sonoran desert, lying partly in southern Arizona and northwest Mexico. The bibliography contains about 180 references.

CASTETTER, EDWARD FRANKLIN, AND WILLIS H. BELL

Yuman Indian agriculture, primitive subsistence on the lower Colorado and Gila rivers. Albuquerque The University of New Mexico Press, 1951 274 p. illus. 24 cm. $6 00 7446

Contents The country The people. General basis of subsistence. Agricultural implements. Cultivated crops. Agricultural techniques. Semicultivation of seed plants. Wild plant and animal products. Ritualism and group activities. Summary discussion, and interpretation. Bibliography Index.

Note: A complementary work to the authors' *Pima and Papago Indian agriculture*, Albuquerque, 1942 Agricultural crops and practices are the main topics, but these are described in their environmental and social setting. The first two chapters of the book are basic and account for approximately one-quarter of the total space. Agricultural practices are described in all the available detail. These include various techniques of food preservation; for example, methods of preparing pumpkins for indefinite storage. The book is of interest to students of anthropology as well as to readers interested in the history of agriculture.

FRIEDMAN, JOAN, AND RICHARD J FOOTE

Computational methods for handling systems of simultaneous equations with applications to agriculture. Agricultural Marketing Service, United States Department of Agriculture. Washington D C. Government Printing Office 1955 109 p illus. 26 cm. (United States Department of Agriculture. Agriculture handbook no 94) $0.55 7447

Contents Introduction. A 3-variable multiple regression problem. Elementary principles regarding matrices and determinants. Limited information approach for systems of simultaneous equations. Tests to be made after completing the analysis. Use of simultaneous equation models for analytical purposes. Coefficients of correlation for systems of equations. Literature cited. Appendix. Abbreviated Doolittle method. A general method. Additional comments on matrix multiplication. Glossary of terms

Note This handbook is designed to meet the needs of research workers who are without basic training in the use of systems of simultaneous equations in agricultural economic research but have an acquaintance with standard methods for handling single equation multiple regression analyses. It provides description of the steps in the more common types of problems and illustrates them.

FULMER, JOHN LEONARD

Agricultural progress in the cotton belt since 1920 Chapel Hill The University of North Carolina Press 1950 236 p. illus. 23 cm. $3 50 7448

Contents Trends in the cotton belt. Regional trends. Farm organizational changes. Mechanization. The mechanical harvesting of cotton. Urbanization and agriculture. Other dynamic factors in

General

PATTERSON DAVID DOUGLAS

Statistical technique in agricultural research. A simple exposition of practice and procedure in biometry New York McGraw Hill Book Company Inc., 1939 263 p. illus. 23 cm. (McGraw Hill publications in the agricultural sciences L. J Cole, consulting editor) $5.00. 7460

Contents: General principles. Analysis of variance. Goodness of fit and contingency tables. Diagrams. Correlation. Regression. Field experiments. Serial and perennial crop experiments. Recent developments in field experimentation. Selected bibliography. Appendix. Index.

Note: This book is an attempt to meet the demand for more elementary exposition of the statistical technique than is customarily found in the usual statistical textbooks. A detailed analysis of data drawn from representative series of experiments typical of some of the commonest statistical problems encountered by the average research worker in agricultural problems. No mathematics beyond elementary algebra is required.

RANGE, WILLARD

A century of Georgia agriculture 1850–1950. Athens University of Georgia Press, 1954 333 p. illus. 24 cm. $5 00 7461

Contents: Part I. The end of the Golden Age, 1850-1865. The last golden decade. Years of war. Invasion and the aftermath. Part II. The long depression, 1865-1900. Reorganization of labor and management. The cotton controversy. Attempts at diversification. The cultivation of cotton. The agrarian revolt. Evaluation of the long depression. Part III. The revolutionary new century, 1900-1950. The emergence of cotton. The continuation of diversification. The problem of marketing. The revolution in agricultural education. The revolution in agricultural credit. The landlord and the tenant. Notes. Bibliography. Index.

Note: A comprehensive account of the history of agriculture in [illegible] one which has been primarily an agricultural one since the white man first took up residence in it. The principal viewpoint is economic; nevertheless, much information is included on crops and practices, on education of farmers, etc. The book was based on [illegible] survey of the literature, and references are given to the [illegible] publications.

RICK, FRANKLIN MERINO

The 4-H story a history of 4-H club work. Ames The Iowa State College Press, 1951 308 p. illus. 24 cm. $3.00 7462

Contents (abridged): Times of the earliest pioneers. The government sponsors corn club. Corn clubs take hold in the South. Canning clubs get under way. The cloverleaf goes national. Club work grows in the North and West. Congress passes the Smith-Lever act. Club work with Negroes expands. The national committee is formed. Early days of the club congress. National camp established. 4-H crosses the seas. New legislation for extension. War, and the Bankhead-Flannagan act. Summing up. Bibliography. Index.

Note: The 4-H clubs, whose origin and development are recounted in this book, have been major influence in the education of young people for better living and for leadership in rural life. They have reached their widest development in the United States of America. This book is devoted mainly to the U. S. A., but there is some information on comparable organizations in other countries. It is written simple style and is of potential interest not only to persons directly concerned with the organization and guidance of 4-H clubs but also to persons with some general interests in rural life and agricultural betterment. There is bibliography.

SAUER, CARL O

Agricultural origins and dispersals. New York The American Geographical Society 1952. 110 p. illus 23 cm. (Bowman memorial lectures. Series two) $4.00 7463

Contents: Man—ecologic dominant. Planters of the Old World and their household animals. The planters of the New World. Seed and harvest. Herdsmen and husbandmen.

Note: A wide range of knowledge pertaining to the history of man control of plants and animals in agriculture is covered in the five lectures published in this volume. However, the author' primary theme was not but is known but but is not known or known only partly. A typical section is the three-page discussion entitled Problems in the distribution of Cucurbita," or squash, which the author shows to have been an important food plant in ancient American civilization, though probably of Asiatic origin. The author point of view is questioning one, and his topics are interesting. A short, selected bibliography is included.

SHANNON FRED ALBERT

The farmer s last frontier agriculture, 1860–1897 New York Farrar & Rinehart, Inc., 1945 434 p. illus. 24 cm. (The economic history of the United States. Volume V) $6.00. 7464

Contents: Nature and the farmer. Agricultural settlement in new areas. Disposing of the public domain. Land and labor in the new South. Southern crops and special problems. The progress of farm mechanization. The expansion of prairie agriculture. Special problems of prairie farmers. The livestock frontier and the Great-Plains farmer. Finance and marketing problems of the range country. Specialized agriculture and eastern adjustments. Governmental activity in agriculture. The agrarian uprising. Farmers' cooperative movements. The farmer and the nation. The literature of the subject. Appendix. Index.

Note: A well-documented history of American agriculture in the latter half of the 19th century. The emphasis throughout the work is on the economic aspects, but there is much specific information on prices of livestock and other crops and the earnings of farm labor, as well as on the larger economic aspects. However, there is also good deal of information on the farming techniques and agricultural implements of the period. The chapters on the settlement of the last large areas of public land are of special interest.

UNITED STATES. DEPARTMENT OF AGRICULTURE. OFFICE OF FOREIGN AGRICULTURAL RELATIONS

Agricultural geography of Europe and the Near East. By Lois B Bacon, Reginald G Hainsworth, Naum Jasny Clarence M Purves, Lazar Volin, and Clayton E. Whipple. Washington D C. Government Printing Office, 1948 67 p. illus. (part col d) 27 cm. (United States. Department of Agriculture. Miscellaneous publication no. 665) $1.50. 7465

Contents: Introduction. Explanation of maps and graphs. Production, trade, and consumption of agricultural products in Europe, excluding the Soviet Union. Climate: Average annual precipitation. The temperature and frost-free season. Natural vegetation. The soils of Europe. Soil profile. A, B, C horizons. Soil properties. Description of natural soil groups. Uplands. Lowlands. Mountains. Conclusion. The population of Europe and the Near East. Land utilization. The principal regions. Zone of summer rains. Zone of summer drought. The crop pattern. Intermediate crops. Light-soil, cool-climate crops. Root crops. Ample-moisture, cool-climate crops. Scant-moisture crops. Mediterranean crops. Crops of minor world importance. Conclusions. The livestock industry: Summer-rain zone. Summer-drought zone. Europe position in international agricultural trade. Wheat. Corn. Sugar. Tobacco. Cotton. Wool. Flaxseed. Olive oil. Other vegetable oils. Europe-United States trade.

Note: Maps and charts, some in color, show in graphic manner the agricultural geography of Europe and the Near East, including population, altitude, climate, vegetation, soils, and crop and livestock statistics. The brief texts accompanying the maps give economic, historical, or physical facts; [illegible] the subject is of basic importance, such as soils, rainfall, etc., there is additional information presented in the main body of the text. Accurate postwar figures on European agriculture not being available, the base period for data used in preparing most of the maps is 1935–37

lenge Iowa crops, by A. L. Bakke, and others. Hog raising—a big business, by W A. Craft and A. L. Anderson. Iowans feed beef cattle for market, by P S. Shearer The development of Iowa's high-producing dairy cattle, by C. Y Cannon. Sheep production in the livestock enterprises, by W F Le Grange. Horses pull Iowa into prominence by A. B Caine. Eggs and meat from Iowa poultry by George F Stewart. Combating animal diseases—and winning, by C Murray Growing fruits, vegetables, and flowers, by B. S. Pickett, and others. Trees of our times—and pioneer times, by G. B MacDonald. Bees—the beneficial insect, by F B. Paddock. Dairy product output from Iowa farms, by M. Mortensen. The marketing phase of Iowa farm living, by S. H. Thompson. The role of machinery in Iowa farming, by J B. Davidson. Trends in farm structures, by Henry Giese. Agricultural journalism in Iowa, by K. R. Marvin. The farm standard of living in Iowa, by E. E. Hoyt. Schools for the farm boy and farm girl, by M. L. Cushman. Farmers' organizations, by L. R. Schmidt. The pattern of farm management, by J Hopkins. Index.

Note This volume provides a detailed yet diversified account of the origins and growth of farm practices in a state where 213,000 farms embrace 95 per cent f the area of the state. Although limited to this one state, it is in many respects typical of the history of agricultural America during the past century

KLAGES, KARL HENRY WILLIAM

Ecological crop geography New York The Macmillan Company, 1942 615 p illus 24 cm. $7 00 7455

Contents (abridged) Part I, The social environment of crop plants. Part II, The physiological environment of crop plants. Part III, The ecological factors. Part IV The geographical distribution of crop plants. Author index. Subject index.

Note This book attempts to place the many problems incident to the distribution of crop plants on a physiological basis. It is intended for college students of crop ecology and plant geography and for agronomists in general, economists, geographers, and others. Bibliographies are given at the end of each chapter

MCGEE, R. V

Mathematics in agriculture New York Prentice-Hall illus 22 cm (Prentice ries Albert A Bennett

Content Mathematical Lengths, areas, and volumes angle and trigonometry practical measureme Tables. Index.

Note Mathematic are explained in thi applications in thi 1942 The order an second edition but problems

MALONE CAR

How to m guide for M The Iowa St illus 24 cm

Contents Who making—the mana farm. Getting star stock into the far Putting the farm up on yourself table Index.

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Agriculture

MIGHELL, RONALD L General

American agriculture its structure and place in the economy For the Social Science Research Council in cooperation with the U S Department of Agriculture, Agricultural Research Service and the U S Department of Commerce, Bureau of the Census. New York John Wiley & Sons, Inc., 1955 187 p. illus 23 cm. $6 50 7458

Contents: Agriculture today and yesterday Agriculture in the total economic process. Dimensions of the agricultural plant. Structure of commercial farms—scale—type. Farm tenure and debt. Part-time and residential farms. Group interests in agriculture. Social features of the structure of agriculture. Changes and structural strain. Appendix. Publications from the 1950 Census of Agriculture. Bibliography Appendix tables. Index.

Note Although essentially a socio-economic account of agriculture in the United States of America as of 1950, this book is included here because of the light that it throws on such matters as types of farms and trends. Essentially it is a nontechnical interpretation of census data, designed for reading and reference by anyone in need of information on such topics as the importance of agriculture in the present economy of the United States, changes in types of farms and products over the past half-century, the dollar values of various products and the most characteristic types of agriculture for various regions. Although tables and graphs are used in the presentation, the information is conveyed largely in the form of a narrati text designed for straightforward reading.

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and ... in ... of ..., by J. ... and dairy ... on ... of K. ... by C. A. ... Antibiotics in ... of antibiotics, by J. ... Third session, ... of action of antibiotics in ... action of antibiotics in poultry ... of action of antibiotics on ... by K. R. Johansson. ... from ... birds, by T D. R. ... Fourth session, Crop ... by W J ... preservation: Control of ... by H. L. A. Tarr The use of ... other than fish, by F E. M. ... Fifth session, Public ... in ... by W A. ...

... this volume.

... Literature

Agriculture

General

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RECK, FRANKLIN MERING

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Note The 4-H clubs, whose origin and development are recounted in this book, have been a major influence in the education of young people for better living and for leadership in rural life. They have reached their widest development in the United States of America. This book is devoted mainly to the U. S. A., but there is some information on comparable organizations in other countries. It is written in a simple style and is of potential interest not only to persons directly concerned with the organization and guidance of 4-H clubs but also to persons with more general interests in rural life and agricultural betterment. There is a bibliography

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UNITED STATES. DEPARTMENT OF AGRICULTURE. OFFICE OF FOREIGN AGRICULTURAL RELATIONS

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Contents Introduction. Explanation of maps and graphs. Production, trade, and consumption of agricultural products in Europe, excluding the Soviet Union. Climate Average annual precipitation. The temperature and frost-free season. Natural vegetation. The soils of Europe Soil profile. A, B, C horizons. Soil properties. Description of natural soil groups. Uplands. Lowlands. Mountains. Conclusions. The population of Europe and the Near East. Land utilization The principal regions. Zone of summer rains. Zone of summer drought. The crop pattern Intermediate crops. Light-soil, cool-climate crops. Root crops. Ample-moisture, cool-climate crops. Scant-moisture crops. Mediterranean crops. Crops of minor world importance. Conclusions. The livestock industry Summer-rain zone. Summer-drought zone. Europe's position in international agricultural trade Wheat. Corn. Sugar. Tobacco. Cotton. Wool. Flaxseed. Olive oil. Other vegetable oils. Europe-United States trade.

Note Maps and charts, some in color, show in graphic manner the agricultural geography of Europe and the Near East, including population, altitude, climate, vegetation, soils, and crop and livestock statistics. The brief texts accompanying the maps give economic, historical, or physical factors where the subject is of basic importance, such as soils, rainfall, etc., there is additional information presented in the main body of the text. Accurate postwar figures on European agriculture not being available, the base period for data used in preparing most of the maps is 1935–37.

kings Iowa crops, by A. L. Bakke, and others. Hog raising—a big business, by W A. Craft and A. L. Anderson. Iowans feed beef cattle for market, by P S. Shearer The development of Iowa's high-producing dairy cattle, by C. Y Cannon. Sheep production in the livestock enterprise, by W F La Grange. Horses pull Iowa into prominence, by A. B Caine. Eggs and meat from Iowa poultry by George F Stewart. Combating animal diseases—and winning, by C. Murray Growing fruits, vegetables, and flowers, by B. S. Pickett, and others. Trees of our times—and pioneer times, by G. B MacDonald. Bees—the beneficial insect, by F B. Paddock. Dairy product output from Iowa farms, by M. Mortensen. The marketing phase of Iowa farm living, by S. H. Thompson. The role of machinery in Iowa farming, by J B Davidson. Trends in farm structures, by Henry Giese. Agricultural journalism in Iowa, by K. R. Marvin. The farm standard of living in Iowa, by E. E. Hoyt. Schools for the farm boy and farm girl, by M. L. Cushman. Farmers' organizations, by L. B Schmidt. The pattern of farm management, by J Hopkins. Index.

Note This volume provides a detailed yet diversified account of the origins and growth of farm practices in a state where 213,000 farms embrace 95 per cent of the area of the state. Although limited to this one state, it is in many respects typical of the history of agricultural America during the past century

KLAGES, KARL HENRY WILLIAM

Ecological crop geography New York The Macmillan Company, 1942 615 p illus 24 cm $7 00 7455

Contents (abridged) Part I The social environment of crop plants. Part II, The physiological environment of crop plants. Part III, The ecological factors. Part IV The geographical distribution of crop plants. Author index. Subject index.

Note. This book attempts to place the many problems incident to the distribution of crop plants on a physiological basis. It is intended for college students of crop ecology and plant geography and for agronomists in general, economists, geographers, and others. Bibliographies are given at the end of each chapter

MCGEE, R V

Mathematics in agriculture. Second edition. New York Prentice-Hall, Inc. 1954 208 p illus 22 cm. (Prentice-Hall mathematics series Albert A. Bennett, editor) $5 00 7456

Contents. Mathematical operations. Percentage. Equations. Lengths, areas, and volumes. Ratio and proportion. The right triangle and trigonometry Averages. Graphs. Special applications of practical measurements. Exponents logarithms the slide rule. Tables. Index.

Note. Mathematical concepts and techniques of use in agriculture are explained in this book together with many illustrations of their applications in this field. The first edition was published in 1941 The order and titles of the chapters are the same in this second edition but revisions have been made, especially in the problems.

MALONE CARL C

How to make your farm pay a practical guide for Midwest farm operators. Ames The Iowa State College Press 1950 371 p illus 24 cm $4 25 7457

Contents Who should farm. Where should you farm? Money-making—the management problem. Choosing the type and size of farm. Getting started. Laying out the cropping system. Fitting livestock into the farm plan. Making the most from your livestock. Putting the farm plan together When you go to market. Checking up on yourself Helpers—public and private. Around the family table. Index.

Note A reliable introduction to sound farm management practices for farms in the Corn Belt and adjacent farming regions in the area of the United States of America known as the Midwest. The region includes areas where several main types of farming are practised including the growing of corn, wheat, beef cattle and hog raising, dairying, and "mixed" farming. The main theme of the book is that farming is a business and farm management practices for the main types of farming, corn, cattle raising, and hog raising are discussed at length, with shorter discussions of other types of farming and crops. Record-keeping is emphasized and sample farms are included. The author is a faculty member of Iowa State College.

MIGHELL, RONALD L

American agriculture its structure and place in the economy For the Social Science Research Council in cooperation with the U S Department of Agriculture, Agricultural Research Service, and the U S Department of Commerce, Bureau of the Census New York John Wiley & Sons, Inc., 1955 187 p. illus. 23 cm $6 50 7458

Contents. Agriculture today and yesterday Agriculture in the total economic process. Dimensions of the agricultural plant. Structure of commercial farms—scale—type. Farm tenure and debt. Part-time and residential farms. Group interests in agriculture. Social features of the structure of agriculture. Changes and structural strain. Appendix: Publications from the 1950 Census of Agriculture. Bibliography Appendix tables. Index.

Note: Although essentially a socio-economic account of agriculture in the United States of America as of 1950, this book is included here because of the light that it throws on such matters as types of farms and trends. Essentially it is a nontechnical interpretation of census data, designed for reading and reference by anyone in need of information on such topics as the importance of agriculture in the present economy of the United States; changes in types of farms and products over the past half-century the dollar values of various products and the most characteristic types of agriculture for various regions. Although tables and graphs are used in the presentation, the information is conveyed largely in the form of a narrative text designed for straightforward reading.

NATIONAL RESEARCH COUNCIL

Proceedings First International Conference on the Use of Antibiotics in Agriculture, held under the auspices of The Agricultural Board and The Agricultural Research Institute, National Academy of Sciences—National Research Council 19–21 October 1955 Washington D C National Academy of Sciences—National Research Council 1956 278 p. illus 25 cm. (National Academy of Sciences—National Research Council. Publication 397) $2 50 7459

Contents (abridged) Retrospectives and prospectives, by R. J. Dubos. First session, Growth response in animals. Response of poultry to antibiotic supplementation of feeds, by J. McGinnis. Antibiotics for swine, beef cattle, sheep, and dairy cattle, by T J. Cunha. Influence of antibiotics on carcass quality of pigs, by H. Clausen. Summary by J. K. Loosli. Second session, Special biological problems: Test animals, by C. A. Baumann. High level use of antibiotics, by R. S. Pomeroy Antibiotics in reproduction, by N R. Ellis. Mutagenic effects of antibiotics, by J. J. Christensen. Summary by T C. Byerly Third session, Mode of action of antibiotics in animals. Fundamentals of mode of action of antibiotics in animals, by E. Freerksen. Mode of action of antibiotics in poultry by G. F Combs. Mode of action of antibiotics on animal growth (rats, swine, and ruminants) by K. R. Johansson. Mode of action of antibiotics—evidence from germfree birds, by T D. Luckey Summary by H. R. Bird. Fourth session, Crop usage. Improving plant health with antibiotics, by W J. Zaumeyer Summary by J. C Dunegan. Food preservation. Control of bacterial spoilage of fish with antibiotics, by H. L. A. Tarr The use of antibiotics in the preservation of foods other than fish, by F E. Deatherage. Summary by E. M. Mrak Fifth session, Public health aspects. Emergence of resistant strains in chronic intake of antibiotics, by M. Finland. Antibiotic residues, by W A. Randall. Summary by C. S. Keefer.

Note The conference of which this volume is the product represented a landmark in present-day agriculture. Scientists from 11 nations participated, and as the titles of the papers show a broad view of the subject was taken. The authors and titles of the formal papers are listed above. Not listed are the panel discussions of which there were six. Transcripts of these discussions are included in the volume. Literature references are included for most of the papers.

Soils and Fertilizers

Ames. Iowa State College Press, 1956 218 p. illus. 24 cm. $3.95 7471

Contents: Part I, Over-all methodological considerations. Methodological problems in fertilizer use, by E. O. Heady. [illegible] by G. L. Johnson. Part II, [illegible] by R. L. Anderson. [illegible] by C. R. Hildreth. [illegible] by D. D. Mason. Part III, [illegible] by J. T. Pesek. [illegible] by W. L. Parks. [illegible] by R. W. Kolmberg. [illegible] by D. B. Ibach. Part IV, Application [illegible] by E. G. [illegible] by R. C. Woodworth. [illegible] by E. L. [illegible] by E. O. Heady. Part [illegible] by T. P. Hignett. Index.

Note: Papers originally presented at [illegible] symposium sponsored by the Tennessee Valley Authority in June, 1955, [illegible] All contain literature references.

Baver, L. D.
Soil physics. Third edition. New York John Wiley & Sons, Inc., 1956 489 p. illus. 24 cm. $7.75. 7472

Contents: Introduction. The soil as [illegible] system. The [illegible] composition of soils. Physical behavior of soil-water [illegible] Soil structure. Soil air. Soil water. Principles of soil [illegible] Principles of soil drainage. Soil temperature. Physical [illegible] Index of authors. Subject index.

Note: A broad survey written primarily from the standpoint of [illegible] As in the earlier editions, extensive reference lists of the [illegible] The second edition was published in 1948. In this third edition, there are two new chapters [illegible]

Bear, Firman E., editor
Chemistry of the soil. New York Reinhold Publishing Corporation, 1955 273 p. illus. 24 cm. (American Chemical Society Monograph series. No. 126) $8.75 7473

Contents: Soil development, by [illegible] Chemical composition of soils, by [illegible] Colloid chemistry of soils, by S. J. Toth. Cation and anion exchange phenomena, by L. Wiklander. Soil organic matter, by G. K. Fraser. Soil fixation of plant nutrients, by L. T. Kardos. Oxidation-reduction processes in soils, by F. G. [illegible] Acid, alkaline, alkali, and saline soils, by D. Thorne and L. F. Seatz. Trace elements, by R. L. Mitchell. Soil chemistry and plant nutrition, by A. Mehlich and M. Drake. Appendix: Methods in soil analysis, by A. L. Prince. Index.

Note: Although plant nutrition is not discussed explicitly until the final chapter of this book, the central theme is nevertheless soil chemistry in relation to plant nutrition. In the chapters preceding that final one, the accumulated scientific knowledge bearing on the development of soils and on their complex chemistry is [illegible] Bibliographies of the related literature are included. The monograph [illegible] appendix [illegible] description of selected procedures for soil analyses, in which the methods are described in sufficient detail to guide soil chemists in laboratory work. The volume is primarily [illegible] reference book for graduate scientists [illegible] interest and work require scientific knowledge of soil chemistry; also, it will serve as [illegible] for graduate chemists about to enter such fields as soil analysis, food products analysis and manufacture of agricultural chemicals.

Bear, Firman E.
Soils and fertilizers fourth edition. New York John Wiley and Sons, Inc. 1953 420 p. illus. 24 cm. $6.50. 7474

Contents: Factors affecting plant growth. Nitrogen and mineral requirements of crops. Water requirements of plants. Origin and classification of soils. Chemical composition of soils. Some biological processes in soils. Some physical properties of soils. Soil water. Soil air. Soil solutions. Control of soil water. Plowing and cultivating. Organic matter. Soil conservation. Animal agriculture. Nitrogen resources. Phosphorus resources. Potassium resources. Calcium resources. Magnesium resources. Sodium resources. Sulfur resources. Trace elements. Mixed fertilizers. Selection and use of fertilizers. Yield potentialities of crop plants. Miscellaneous topics. Index.

Note: A standard work widely used as [illegible] text in introductory courses in agricultural colleges since the publication of the first edition in 1924. It provides [illegible] concise but readable survey of the accumulated knowledge pertaining to soil productivity and fertility. Due attention is given to chemical composition and physical properties of soils, water and air in soils, organic matter and plant nutrients, including trace elements. The third edition was published in 1942. For this fourth edition the book was somewhat reorganized and thoroughly rewritten with the addition of [illegible] Many of the tables, of which there are now 157, and more than half of the illustrations, of which there are now 104, are new. The majority of the references in the bibliographies are to literature published since 1942.

Beaumont, Arthur Bishop
Garden soils their use and conservation. Illustrated. New York Orange Judd Publishing Company Inc. 1948. 280 p illus. 22 cm. $4.00. 7475

Contents: Foreword. The soils that feed us. Garden soils and [illegible] Organic matter for garden soils. How to improve garden soils. Tillage of garden soils. Conservation of garden soils. Composts for the home garden. Soil fertility and fertilizers. The use of fertilizers. [illegible] Selected references. Appendix. Approximate content of certain plant nutrients in nitrogen, phosphoric acid, potash, calcium oxide, and magnesium oxide. Glossary. Index.

Note: Intended primarily for home vegetable gardeners, this book presents the findings of soil science and recent advances in knowledge of plant nutrition in as nontechnical language as is possible. Much of what is written may equally well be applied to flower gardening. The author was formerly Professor of Soils at the University of Massachusetts.

Collings, Gilbeart H.
Commercial fertilizers their sources and use. Fifth edition. New York McGraw Hill Book Company Inc., 1955 617 p. illus. (part col d) 23 cm. $8.50. 7476

Contents: Origin and development of use of commercial fertilizers. Source, production, and use of sodium nitrate. Manufacture and use of sodium nitrate—of ammonium sulfate—of ammonium nitrate—of synthetic nitrogenous fertilizers. Sources and uses of organic nitrogenous fertilizers—of the natural phosphates—of bone phosphate and basic slag. Manufacture and use of the superphosphates. Use of ammonia solutions as sources of nitrogen in mixed fertilizers. Production, manufacture, and use of the potash fertilizers. Fertilizers carrying the secondary essential elements—sulfur, calcium, and magnesium—the newer essential elements—elements not accepted as essential for plant growth. Adjusting soil reaction and fertilizer practice to crop requirements. Principles underlying the purchase of fertilizers—the use of fertilizers. Application of liquid fertilizers—of dry fertilizers, and their influence on germination and seedling growth. Bibliography. Index of proper names. Subject index.

Note: A comprehensive survey in which major aspects of the subject and minor ones, such as the fertilization of fish ponds, are all discussed. The title notwithstanding, barnyard manure and compost are included, as well as chemical fertilizers. The book is

UNITED STATES DEPARTMENT OF AGRICULTURE

Science in farming Washington, D C. Government Printing Office, 1947 944 p illus. 24 cm. (United States Department of Agriculture. Yearbook of agriculture 1943–1947) $2 25 7466

Contents (abridged) Backgrounds. Men who went before. What is farm research? Animals: Breeding better livestock. Drugs to control parasites. Animal diseases. New ideas in feeding. Thyroprotein for cows. Artificial breeding. Hormones in reproduction. Vitamin A for dairy cattle. What to feed a cow Advances in feeding calves. Cross-breeding dairy cows. Progress in hog production. Developments in sheep. News about goats. Breeding better poultry Feeding poultry Horses and mules. Plants: Genetics and farming. Plant growth regulators. Day length and flowering. About hydroponics Finer strawberries ahead. Healthier tomatoes. The story of hybrid onions. Breeding healthy potatoes. Soybeans for the South. New kinds of sugarcane. Saving our sugar beets. New kinds of tobacco. What makes cotton good? New varieties of wheat. Corn hybrids for the South. Disease-resistant oats. Tailor made sorghums. Grasses for hay and pasture. New legumes for the South. Trees. Better timber from farms. Hybrid forest trees. Forests for old fields. Soils. Better soils, better food. Organic matter in soils. Soil organisms and disease. Ways to till the soil. Managing surface runoff. The control of salinity Phosphate fertilizers. Use of nitrogen fertilizers. The liming f soils. The use of minor elements. Making more of irrigation. Insects The chemistry of DDT Aerosols for insects. New insect repellents. DDT i the home. Crops that resist insects. Control of forage pests. Insecticides for cotton. Orchard insecticides. Insecticides for vegetables. Controlling pests of stock. News about bee diseases. More honey from bees. New products New uses for farm crops. Penicillin. Rutin for the capillaries. Dairy byproducts. New goods from wood. Uses for vegetable wastes. Starch from wheat. Paper from flax. Food and clothing: Known nutrients in milk. Unidentified nutrients. Dried foods in the home. Freezing food at home. Fabrics without mildew New practices. Some new farm machines. Air war against pests. Machine-made forests. Equipment for oil corps. Sugarcane culture. Storing grain in small bins. Shell-cooled potato storage. Pests in stored products. Fungi in forest products. Advances in rodent control. New trends in marketing. Conclusions. Index.

Note Alfred Stefferud, editor writes in his "Note to the reader": "This book was prepared primarily for farmers, but we have always had in mind other persons whose interests and work have to do with gardening, chemistry beekeeping, stock raising, conservation, horticulture, housekeeping, and such. The articles were written by various specialists in the Department of Agriculture. There are extensive sections of photographic illustrations, and many of the articles are accompanied by brief lists of references. The volume was the first after 1942 in an annual Yearbook series begun in its present form in 1936 and interrupted by World War II.

VAUGHAN, LAWRENCE MOORE, AND LOWELL S HARDIN

Farm work simplification This publication is jointly sponsored by the Work Simplification Committees of the American Farm Economic Association and the American Society of Agricultural Engineers. New York John Wiley & Sons, Inc 1949 145 p illus. 22 cm. $3 24 7467

Contents. What work simplification is. What savings can be made. The principles of effective work Basic consumers of labor Simplifying handwork. Reducing chor travel. Using equipment and work crews effectively Principles may be applied to all work. How results may be used. Research in work simplification How to organize and conduct study Four types f analysis. Case studies of individual farms. Self-analysis by farmers. Training in work simplification Short courses for in-service training. A sample classroom demonstration. High-school and college instruction. Index.

Note. A short, well-organized book which is devoted primarily to practical ways of simplifying farm work. The methods described are based upon actual experiences of persons working in the field at state agricultural colleges.

WALLER, INGRID NELSON

Where there is vision, the New Jersey Agricultural Experiment Station, 1880–1955 New Brunswick Rutgers University Press, 1955 284 p illus 23 cm. $5 00 7468

Note. This official history is not the usual formal document filled with names and dates, but is a warmly written narrative of highlights in the history of the Agricultural Experiment Station of the state of New Jersey The title notwithstanding, it deals primarily with events of the quarter-century terminating in 1955. The research described ranges all the way from studies of the best way to roast frozen meats to the discovery of streptomycin.

WHITE, JOHN

John White's the farmer's handbook. New edition Revised by N W Sellers. Norman University of Oklahoma Press, 1952 462 p. illus 24 cm. $4 95 7469

Contents Grain crops. Legumes and grasses. Fiber and oil crops. Other field crops. Sugar and sirup crops. Garden and truck crops. The orchard. Trees on the farm. Berries. Beef cattle. Dairy cattle. Hogs. Horses, mules, asses, ponies. Sheep and goats. Feeds and feeding. Soil management. Beekeeping. Fish and wildlife. Farm engineering. A little about a lot. Index.

Note: A compact, practical reference book on farming practices and farm crops in the United States of America. The amount of space devoted to specific topics varies from few lines to several pages, but in most instances the information is adequate for practical farm needs. The book is particularly useful for its tabular and other compact statements of useful information, such as descriptions of the diseases of cattle, the composition ... of different feedstuffs, the requirements of various crops for fertilizer materials, and the composition of standard fruit and vegetabl sprays. A considerable amount of miscellaneous information, suc as pointers on the safe handling of guns, is also included. Th first edition was published in 1948. In this second edition, the boo is 22 pages longer.

SOILS AND FERTILIZERS

ANDREWS, WILLIAM BAKER

The response of crops and soils to fertilizers and manures Second edition. State College Miss. Published by W B Andrews, 1954 459 p illus. 23 cm. $4.50 7470

Contents (abridged) Crop response to sources of nitrogen. The use of anhydrous ammonia and aqua ammonia as sources of nitrogen. The use of cyanamid as the source of nitrogen. The effect of fertilizers on the vailable lime, phosphate, and potash in soils. Calculating the effect of fertilizers on the lime contents of soils. The use of legumes to supply nitrogen. The effect of leguminous green manures on the lime and potash content of the soil. The effect of harvesting nitrogen phosphorus, potash, and other elements in crops on the yield of crops which follow Soil organic matter. The agricultural importance of lime. The response of crops and soils to phosphorus. The response of crops t potash and soda. Production and use of commercial nitrogenous fertilizers. The effect of placement of fertilizers on the yield and stand of crops. Returning the itrogen, phosphorus, and potash harvested in crops to the soil in manure. Fertilizing ponds for fish production. The effect of fertilizers on the yield and feeding value of hay and pasture crops. Index of authors. Index of subjects.

Note. Intended as textbook for students and as handbook for farmers, this volume brings together data formerly scattered in the literature of agronomy and discusses its significance. Specifically it accumulates representative information on the response of crops and soils to fertilizers and manures, it organizes the data so that it may be easily interpreted, and it evaluates the data in terms of normal cost of fertilizers and prices of crops. Bibliographical sources for the data are presented at the ends of the chapters.

BAUM, E L AND OTHERS, editors

Methodological procedures in the economic analysis of fertilizer use data. Edited by E. L. Baum Earl O Heady and John Blackmore.

list of soil preferences by plants for vegetables, herbs, small fruits, fruit trees, perennial and annual flowers, shrubs, vines, ground covers, bulbs and lawns.

KELLOGG, CHARLES EDWIN

The soils that support us an introduction to the study of soils and their use by men. New York. The Macmillan Company 1941 370 p. illus. 22 cm. $4.95 7484

Contents (abridged) Preface. In the first place. The building material for soils. Life and the soil. The parts of a soil. The main zones and groups. Soils of cold places and of dry places. Soils of the grasslands, deserts, forested lands (temperate) and forested lands (warm and tropical). Man uses the soil. Soils for cultivated crops. Plowing and digging. Fertilizers and lime. Control of water on the land. When do soils "wear out?" Planning the use of the soil. Soil and our future. Appendix. Soil classification and soil maps. Descriptive outline of the great soil groups. Bibliography for further reading. Glossary. Index.

Note An introduction to the study of soils and their use by man. Scientific information of the origin of soils, their formation, classification, and management is presented in nontechnical language, with emphasis on man's relation to the soil and the ecological factors in systems of agriculture and soil science.

LYON, THOMAS LYTTLETON AND OTHERS

The nature and properties of soils. A college text of edaphology. By T. Lyttleton Lyon, Harry O. Buckman, and Nyle C. Brady. Fifth edition. Revised by Harry O. Buckman and Nyle C. Brady. New York The Macmillan Company 1952 591 p. illus. (part col'd) 24 cm. $6.00. 7485

Contents: The soil in perspective. The supply and availability of plant nutrients in mineral soils. Some important physical properties of mineral soils. Soil colloids, their nature and practical significance. The organisms of the soil. The organic matter of mineral soils. Forms of soil water, their movement, and their plant relationships. Vapor losses of soil moisture and their regulation. Liquid losses of soil water and their control. Soil air and soil temperature. The origin, nature, and classification of parent materials. Soil formation, classification and survey. Organic soils—nature, properties, and utilization. The soil reaction, soil acidity and alkalinity. Lime and its soil-plant relationships. The nitrogen economy of soils. The supply and availability of phosphorus and potassium. Fertilizers and fertilizer management. Farm manure and green manure. The fertility management of mineral soils. Index.

Note: In this standard work, the nature and properties of soils are covered from a scientific standpoint, and this knowledge is related to the maintenance of good soil conditions in agriculture. The fourth edition was published in 1943. In this edition all except five of the chapters have been either drastically revised or almost wholly rewritten. Some of the material, such as the chapters on soil water, soil colloids, and soil structure, has been recast at the simpler level. The number of illustrations has been more than doubled. Also revised and brought up to date are the bibliographical references, which are given in footnotes.

MILLAR, CHARLES ERNEST AND L. M. TURK

Fundamentals of soil science Second edition. New York John Wiley & Sons, Inc 1951 510 p. illus. (part col'd) 24 cm. $5.75 7486

Contents: Materials for soil development. Processes of soil development. Physical properties of soils. Classification of soils. Chemical properties of soils. Soil reaction. Lime and its use. Soil moisture. Soil organisms—kinds, numbers, activities, and relation to soil productivity. Soil organic matter. Cover and green-manure crops. Farm manure. Nutrient requirements of plants. Fertilizers and fertilizer materials. Fertilizer practices. Conserving soil. Soil fertility maintenance and productivity rating of soil. Soils and agriculture of arid regions. Irrigation. Soil resources. Acreage of farmland in the United States. Acreage of arable land and land requirement. Land policies of the United States. Glossary. Index.

Note. An inclusive introduction from the agricultural viewpoint. At the time of writing, the authors were Professors of Soil Science at Michigan State College. The first edition was published in 1943. In this edition, special attention is given to the advances in fundamental knowledge since then. The treatment of the chemical properties of soils, and the formation and classification of soils has been revised and expanded. However, the special chapters on truck and lawn soils which are included in the first edition have been dropped.

MILLAR, CHARLES ERNEST

Soil fertility New York John Wiley & Sons, Inc., 1955 436 p. illus. 24 cm. $6.75 7487

Contents: The development of agriculture. Essentials for plant growth. The soil solution and nutrient absorption by plants. Colloids and soil productivity. Soil reaction and liming. Soil organic matter. Nitrogen and crop production. Phosphorus. Potassium. Calcium and magnesium. Sulfur. Major and minor nonessential elements. Soil deficiencies and determination of nutrient needs of crops. Activities of soil organisms that affect productivity. Green manures, crop residues, and composts. Animal manures. Contributions of commercial fertilizers to soil productivity. Rotations and farming systems. A summary of old field experiments. Index.

Note. The fundamental aspects of the fertility of agricultural soils rather than practical applications of the knowledge are emphasized in this book. Much of the text consists of condensed descriptions of experimental results, and there is extensive citation of the research literature. Implications for practice are pointed out but are not elaborated. There are 118 tables of data and, in addition, many of the 34 figures are graphical representations of experimental results. Some material is included on factors other than soil fertility in the growth of plants, for example, the effects of atmospheric temperature. The author is Professor Emeritus of Soil Science in Michigan State College.

NELSON L. B., AND J. R. ADAMS, editors

Fertilizer use and crop yields in the United States by The Fertilizer Work Group, National Soil and Fertilizer Research Committee in cooperation with The Soil and Water Conservation Research Branch and the Production Economics Research Branch, Agricultural Research Service United States Department of Agriculture Washington D. C. Government Printing Office 1954 75 p. illus. 26 cm. (United States. Department of Agriculture Agriculture handbook no. 68) $0.50. 7488

Contents: Introduction. Procedure. Evaluation. Fertilizer use by regions. Southern States, by W. E. Colwell. North Central states, by K. C. Berger. Northeastern states, by M. Drake. Western states, by J. P. Conrad. Crop response tables. Southern states. North Central states. Northeastern states. Western states.

Note: This publication is a pioneer work of research produced by the co-operative labors of soil scientists, agronomists, horticulturists, and agricultural economists located in all of the 48 states. The last 60 of the 75 pages of the handbook consist of over 100 crop response tables giving a nationwide summary of fertilizer-response data. Average fertilizer rates, and acreages, yields, and fertilizer use are shown in these tables region by region and state by state for the chief crops, including corn grain, wheat, rye, barley, oats, soybeans, peanuts, tobacco, rice, flaxseed, sugarcane, sugar beets, potatoes, vegetables, hay and pasture and cover crops.

RICHARDS L. A., editor

Diagnosis and improvement of saline and alkali soils. United States Salinity Laboratory staff Contributing authors L. E. Allison, L. Bernstein, C. A. Bower, J. W. Brown, M. Fireman, J. T. Hatcher, H. E. Hayward, G. A. Pearson, R. C. Reeve, L. A. Richards, L. V. Wilcox. Agricultural Research Service.

used as an agricultural college textbook and also as a reference manual by advanced farmers and those who advise farmers, such as county agricultural agents in the United States of America. An extensive bibliography which in this edition runs to 43 pages, is included. The fourth edition was published in 1947 The chapter on application of liquid fertilizers is new in this edition and all of the chapters carried over from the preceding edition have been revised, some of them extensively There are now 193 figures and 192 tables.

FAULKNER, EDWARD HUBERT

Plowman's folly Norman University of Oklahoma Press, 1943 161 p 20 cm. $1 00 7477

Contents. The margin of error What is soil? Soil does not erode. Traditions of the plow Research : unsponsored unconventional. Proof on field scale. Soil by machine. King weather deposed. The treachery What about soil types? Coals to Newcastle. Exit pests. Weedless farming. Mother earth can smile again.

Note The author's thesis, based on his own successful experiments, is that farming without a plow means better crops and more of them, the end of soil erosion, no more artificial fertilizers and drainage systems, less damage from drought and bad weather and easier control of weeds and insect pests.

FAULKNER, EDWARD HUBERT

A second look Norman University of Oklahoma Press 1947 193 p 21 cm. $2 00 7478

Contents (abridged) Real soil. Substandard soils. Rewards for your work. Soil "needs. Nature's soil makers. Vanishing pests. Tile treachery What we eat. Real food. The farmer's income. Future farming.

Note In his *Plowman' folly* described above, the author attacked the use of the plow in agriculture and advocated instead a system of surface cultivation which was designed to add large quantities of organic matter to the top few inches of soil. The book started a good deal of controversy and many articles were written—some of which attacked, and others of which defended, the author's statement. In this sequel the author answers some of the criticisms that were made and retracts or modifies some of his original claims, but mainly he strengthens his case by citing additional experience with his system, and by describing additional evidence in support of the importance f organic materials in agricultural soils.

GUSTAFSON, AXEL FERDINAND

Using and managing soils New York Mc Graw Hill Book Company Inc. 1948 420 p illus. 24 cm (McGraw Hill rural activities series W A Ross, consulting editor) $4 48 7479

Contents Getting acquainted with the soil. Selecting land for farming and country living. Tilling and managing crop soils. Controlling water in soils. Controlling soil erosion. Managing acid soils. Managing alkali soils. Keeping up organic matter and nitrogen in soils. Conserving and using farm manures. Growing and using green-manure corps. Selecting and using commercial fertilizers. Planning systems f crop rotation. Managing pasture soils. Managing garden, fruit, and lawn soils. Keeping soils productive over the years. Appendix. Visual aids. Index.

Note A relatively simple presentation of the subjects mentioned in the chapter titles. It is designed for vocational agricultural courses and for reading by farmers. Modern conservation and cultural practices are described in fair detail and from the practical standpoint, but there are no references to related literature.

HUNGER SIGNS IN CROPS, a symposium Prepared by Firman E Bear and others Revised edition Washington, D C. National Plant Food Institute, 1949 390 p. illus (part col d) 26 cm $4 50 7480

Contents Why do plants starve? by G. D Scarseth and N J. Volk. Plant-nutrient deficiency in tobacco, by J E. McMurtrey Jr. Deficiency symptoms of corn and small grain, by G. N Hoffer and R. A. Krantz. Plant-nutrient deficiency symptoms in the potato, by H. P Cooper and L. Donald. Plant-nutrient deficiencies in vegetable or truck crops, by J J Skinner and E. R. Purvis. Nutrient-deficiency symptoms in deciduous fruits, by O. W Davidson and W P Judkins. Plant-nutrient deficiency symptoms in legumes, by W L. Nelson and F E. Bear Symptoms of citrus malnutrition, by A. F Camp and others. Appendix. Index.

Note The symptoms and effects of deficiencies in soil nutrients that are essential to plant growth are described in this valuable work. A clearly written text is supplemented by 118 illustrations reproduced in black and white and 124 plates in color. Though written by eminent specialists in plant nutrition, the book is addressed primarily to persons with practical interests, such as agricultural extension workers, chemists in the fertilizer industry and scientific farmers. The chapter titles are the same as in the first edition, 1941 but there has been much revision, and most of the chapters are signed with the name of an additional contributor.

JENNY, HANS

Factors of soil formation, a system of quantitative pedology New York McGraw-Hill Book Company, Inc., 1941 281 p. illus. 23 cm (McGraw Hill publications in the agricultural sciences, L. J Cole, consulting editor) $5 50 7481

Contents Definitions and concepts. Methods of presentation of soil data. Time as a soil-forming factor. Parent material as soil-forming factor. Topography as a soil-forming factor. Climate as a soil-forming factor. Organisms as a soil-forming factor.

Note. In this advanced treatise on theoretical soil science, the author brings together the wealth of material available in many parts of the world and fits it into a logical frame to form quantitative system of pedology Soil characteristics and profile features are graphically correlated with climate, vegetation, parent material, topography time, and human influences. Critical discussions of the fundamental concepts of formation classification and productivity of soils are included. Although emphasis is placed on soils of the United States of America, numerous illustrations from Europe and tropical regions enlarge the scope of the book.

KELLEY, WALTER PEARSON

Alkali soils their formation properties and reclamation. New York Reinhold Publishing Corporation, 1951 176 p illus. 24 cm. $5.50. 7482

Contents. Introduction. Origin and accumulation of salts in soils. Effects of salts and soils. Soluble salts and exchangeable bases of alkali soils. Formation of sodium carbonate and evolution of alkali soils. Irrigation in relation to alkali soils. Alkali soils in relation to plant growth. Reclamation f alkali soils. Selected bibliography Index.

Note The control of alkalinity in soils is fundamentally chemical problem, and this book deals almost entirely with the chemical aspects. It is of interest to chemists doing laboratory research on the problems of alkalinity and also to soil chemists and agronomists working directly with soil reclamation or irrigated agriculture. The author is Professor Emeritus of Soil Chemistry at the University of California.

KELLOGG, CHARLES EDWIN

Our garden soils. New York The Macmillan Company 1952 232 p. illus. 22 cm. $4 00 7483

Contents Natural soils. What place? The garden needs good skeleton. Organic matter the gardener's chair Plenty of well-behaved water Soil acidity and how to change it. Balancing the plant nutrients. More about lawns and grades. Starting plants and moving them. Planning the garden. Appendices: Soil maps. Some soil preferences of selected plants. Planting suggestions and yields of selected vegetables. For further reading. Index.

Note. A handbook about garden soils for the amateur gardener, written in nontechnical language by the Soil Survey Chief of the U S. Department of Agriculture. The book will be equally useful to those who wish to adapt their soils to certain kinds of plants and to those who wish to know what kinds of plants will grow best on the soils they have. The author tells how to determine soil types, how to maintain proper amounts of organic matter and moisture, how to control soil acidity and how to balance plant nutrients. The appendices contain much useful information including

UNITED STATES DEPARTMENT OF AGRICULTURE. *Soil Survey Staff*

Soil survey manual. By Soil Survey Staff Bureau of Plant Industry Soils and Agricultural Engineering, Agricultural Research Administration, United States Department of Agriculture. Washington, D C. Government Printing Office, 1951 503 p. illus. (part col'd) 24 cm. (United States. Department of Agriculture. Handbook no. 18) $3.00. 7494

Contents: Soil and landscape. Character of soil maps and reports. Purpose of soil maps and reports. Preparation for field work. Plotting and quantity of field data. Examination and description of soils in the field. Parent materials of soils. Land form, relief, and drainage. Identification and nomenclature of soil horizons. Soil color. Soil texture, coarse fragments, stoniness and rockiness. Soil structure. Soil consistence. Soil reaction. Special formations in soil profiles. Organic matter and roots. Accelerated soil erosion. Vegetation. Land use. Units of soil classification and mapping. The soil mapping legend. *Placing* soil boundaries in the field. Collection and examination of soil samples. Estimating and mapping of salts and alkali in the soil. Yield predictions and soil management practices. Soil correlation and inspection. Soil grouping on the map. The soil survey report. Reconnaissance soil mapping. General bibliography. Special bibliography of soil surveys. Appendixes: Map preparation with the plane table. Map preparation with compass traverse. Notes on map compilation and reproduction. Sample descriptions of soil areas. Guide to map scales. Index.

Note: A guide and reference book for soil scientists engaged in soil classification and mapping. It covers methods and problems of making and interpreting detailed basic soil surveys in the United States and territories. The work is a revision and enlargement of U. S. Department of Agriculture Miscellaneous publication no. 274, Soil survey manual, by Charles E. Kellogg, issued September, 1937 and superseding it.

WAKSMAN SELMAN ABRAHAM

Soil microbiology New York John Wiley & Sons, Inc., 1952 356 p. illus. 23 cm. $6.75 7495

Contents: Historical. The microbiological population of the soil as a whole. Occurrence of specific microorganisms in the soil. Decomposition of plant and animal residues in soils and in composts. Humus—nature and formation. Decomposition of soil organic matter and liberation of carbon dioxide. Transformation of nitrogen in soils: nitrate formation and nitrate reduction. Nitrogen fixation—symbiotic—nonsymbiotic. Transformation of mineral substances in soil by microorganisms. Higher plants and soil microorganisms. Associative and antagonistic effects of soil microorganisms. Disease-producing microorganisms in the soil and their control. Stable manures, composts, and green manures. Microorganisms and soil fertility. Recent developments in soil microbiology. Index.

Note: An introductory survey in which there is more emphasis on those aspects of the subject which are important to an understanding of soil fertility. Although introductory, the treatment is not elementary. The book is addressed to such readers as upperclass undergraduate students in agricultural colleges and to graduate students and other scientists who find themselves in need of a fairly advanced survey. The chapters are supplemented by useful selected bibliographies. The book replaces two other works by the author, Principles of soil microbiology, second edition, Baltimore, 1932, and The soil and the microbe, New York, 1931, and includes some material that appeared in those works. However, [illegible] has been carried over which [illegible] still valid, and the greater part of the material in the present title is new. There are 130 figures and 17 tables.

WORTHEN EDMUND L., AND SAMUEL R. ALDRICH

Farm soils their fertilization and management. Fifth edition. New York John Wiley & Sons Inc. 1956 439 p. illus. (part col'd) 22 cm. $4.96 7496

Contents: The soil that feeds us. Soils, climate, and crops. Getting acquainted with soil. How to fit plant and nutrients. Fertilizers for higher yields. Organic matter—life of the soil. Liming to correct soil acidity. Conserve and use farm manure. Water management, erosion control, drainage, and irrigation. Muck and peat soils. Special suggestions for individual crops. Keeping soils productive—land use, rotations, fertility. Soil maps, land judging, and soil classification. How to buy a farm. Glossary. Appendix. Index.

Note: A standard work used both as a text in agricultural schools and as a book of background information and guide to practice for farmers. In a simple, basic style, it presents some fundamental information on soils and fertilizers and a wide range of information on good soil management practices. The chapter on practices applicable to specific crops is a useful feature, although the primary emphasis of the book is on knowledge and techniques that are generally applicable. The first edition was published in 1927 and the fourth edition in 1948. In the fifth edition, the book has been extensively reorganized and rewritten and is essentially a new work. Although written at the same level, there is somewhat more emphasis on principles, while specific recommendations on such points as rates of fertilizer applications have been omitted.

CONSERVATION

ALLEN DURWARD L.

Our wildlife legacy New York. Funk & Wagnalls Company 1954 422 p. illus. 22 cm. $5.00. 7497

Contents: Part I, Numbers at work. The pilgrim's progress. They grow in the soil. The one-year plan. So many and no more. The management strategy. [illegible] Room and board. Part II, [illegible] The harvest. [illegible] the land. [illegible] Part III, The reading and the outlook. [illegible] The pilgrim's goals. Reference notes. Bibliography. Index.

Note: A balanced presentation of present-day wild life problems in the United States of America, written by a biologist of the United States Fish and Wildlife Service. The book gives the background necessary for an understanding of the fields of wildlife management and land-use ecology by explaining what is happening among the populations of birds, mammals, and fish that inhabit the fields, forests, and waters of the United States. The author's viewpoint is that these populations form an integral part of present-day civilization and should be planned for, managed, and conserved. The book is well suited for the general reader interested in the outdoors and for supplementary reading in school and college courses touching upon conservation.

ARCHER, SELLERS G

Soil conservation. Norman University of Oklahoma Press, 1956 305 p. illus. 22 cm. $3.75 7498

Contents: The field of conservation. Planning for soil conservation. Crop-land treatment. Contour agriculture. Farm forestry. Nature areas, or wildlife on the farm. Special programs in conservation. Public assistance in conservation. Bibliography. Index.

Note: The volume is a popular treatment of the conservation of soil, written by a specialist of the U. S. Soil Conservation Service. The author writes from his own experience with farmers, teachers, and landowners, and it is to these especially, although also to the general public, that the book is addressed. The history and principles of proper land use are explained and the importance of planning is emphasized. The book also provides guidance to enable the farmer to take advantage of the technical and financial aid on soil conservation offered by the Federal Government and by the individual state governments. The publication is useful to farmers, teachers, landowners, and teachers and students of agriculture.

BENNETT HUGH HAMMOND

Elements of soil conservation. Second edition. New York McGraw Hill Book Company Inc., 1955 358 p. illus. 24 cm. $4.20. 7499

Contents: The erosion problem in the United States. Extent of erosion. Effects of erosion. How erosion takes place. Rates of erosion and runoff. Climate and soil erosion. Rainfall penetration. A national program of soil conservation. Farming for conservation of soil and water. Use of vegetation in soil and water conservation. Contouring. Terracing. Channels and outlets. Gully control. Control

Washington, D C. Government Printing Office, 1954 160 p illus. 27 cm (United States. Department of Agriculture. Agriculture handbook no 60) $2 00 7489

Contents Introduction. Origin and nature of saline and alkali soils. Determination of the properties of saline and alkali soils. Improvement and management of soils in arid and semiarid regions in relation to salinity and alkali. Plant response and crop selection for saline and alkali soils. Quality of irrigation water Methods for soil characterization. Methods of plant culture and plant analysis. Literature cited. Glossary Appendix. Symbols and abbreviations. Conversion formulas and factors. Chemical symbols, equivalent weights, and common names. Soil sampler and core retainer Modulus of rupture apparatus.

Note: A technical publication for agricultural soil scientists, this handbook brings together and summarizes information that should be useful, particularly to professional agricultural workers, for the diagnosis of saline and alkali soils. The handbook is intended primarily as a practical guide for those who are confronted with soil, plant, and water problems involving salinity and alkali. The first five chapters provide a basis for the evaluation and interpretation of measurements. The procedures and measuring methods given in the final chapters are those with which the U S. Salinity Laboratory Riverside, California, has had experience and are considered to have general applicability in the diagnosis and improvement of saline and alkali soils.

SHAW, BYRON T , editor

Soil physical conditions and plant growth Compiled by the Joint Committee on Soil Tilth, American Society of Agronomy and American Society of Agricultural Engineers New York Academic Press, Inc., 1952 491 p illus 24 cm. (Agronomy a series of monographs, prepared under the auspices of the American Society of Agronomy Volume II) $10 00 7490

Contents Soil as a physical system, by L. T Alexander and H. E. Middleton. Mechanical impedance and plant growth, by J F Lutz. Soil water and plant growth, by L. A. Richards and C. H. Wadleigh. Soil aeration and plant growth, by M. B. Russell. Soil temperature and plant growth, by S. J. Richards and others. Epilogue, by B. T Shaw Index.

Note This work is the result of planned effort to prepare a critical statement of the current knowledge of the relationships between plant growth and soil physical conditions including not only the mechanical conditions of soil but also water content, aeration, temperature, etc. The chapters are based on literature surveys and are accompanied by extensive bibliographies. The authors are leaders in soil research associated with colleges of agriculture and government research agencies. The book is addressed primarily to graduate scientists, agricultural engineers, and other persons with similar scientific backgrounds and interests in basic knowledge of agricultural soils.

THORNE, D W , AND H. B PETERSON

Irrigated soils their fertility and management. Second edition New York McGraw Hill Book Company Inc. 1954 392 p. illus. 24 cm $7 00 7491

Contents Problems of irrigated regions. Soil as medium for plant growth. Soil and water relations. Soil, water and plant relations. The salt problem Evaluating land for irrigation. Source and quality of irrigation water Measuring irrigation water Planning a farm for irrigation. Irrigation practice. Drainage. Reclamation and management of saline and alkali soils. Control of the physical properties of soil. Control of the biological properties of soil. Maintaining organic matter in soil. Minerals and plant growth. Fertilizer elements and fertilizer materials. Using fertilizers. Soil management for general field crops. Soil management for fruit vegetable and specialty crops. Farm planning. Glossary Appendix. Index.

Note: A guide to the principles and practices of irrigation agriculture, written by two professors of the Utah State Agricultural College. Emphasis is upon the soil management problems of irrigation rather than upon the engineering problems. Such matters as the maintenance of a suitable level of organic matter, control of alkalinity and the use of fertilizers on irrigated soils are covered rather fully The level of treatment assumes an elementary knowledge of chemistry mathematics and physics on the part of the reader The book is suitable for use by advanced college students of agriculture, farmers who are graduates of agricultural colleges, and agricultural extension workers. Fairly extensive bibliographies are included in the chapters. In comparison to the first edition published in 1949 the scope and level are unchanged, but there has been considerable reorganization and both extensive deletion and addition of material.

TISDALE, SAMUEL L , AND WERNER L. NELSON

Soil fertility and fertilizers. New York The Macmillan Company 1956 430 p. illus. 24 cm $7 75 7492

Contents. Introduction—fertilizers in a changing world. Soil fertility—past and present. Growth and the factors affecting it. Elements required in plant nutrition. The forms and behavior of soil nitrogen. Soil phosphorus. Soil potassium, calcium, magnesium, and sodium. The secondary and trace elements. Nitrogen fertilizers—their properties and manufacture. Phosphate fertilizers. The manufacture and properties of potassium fertilizers. Manufacture and properties of materials other than lime containing the secondary and trace elements. The manufacture and properties of mixed fertilizers. Farm manure. Liming. Soil fertility evaluation. Fundamentals of fertilizer application. Cropping systems and soil management. Economics of lime and fertilizer use. Attacking soil fertility problems. Index.

Note. A well-organized introduction to soil fertility which is designed primarily for the instruction of advanced undergraduate students in agricultural colleges who have completed basic course on soils. It presents briefly and in a readable style the accumulated basic knowledge on plant nutrients and their behavior in the soil, then takes up the practical applications. The latter are covered from the viewpoint of experts in agronomy and soil fertility and such advanced and technical procedures as the analysis of plant tissues in soil fertility evaluation and the application of solutions of plant nutrients to foliage are discussed, along with standard topics. The discussions are condensed but reference to research reports and other literature in which more detail is available are supplied. The first-named author is Director of the Soil Testing Division of the North Carolina Department of Agriculture and his coauthor is associated with the American Potash Institute, Inc.

UNITED STATES DEPARTMENT OF AGRICULTURE

Atlas of American agriculture. Physical basis including land relief, climate, soils, and natural vegetation of the United States. Prepared under the supervision of O E. Baker Contributions from the Weather Bureau Bureau of Chemistry and Soils, Bureau of Plant Industry, Forest Service Bureau of Agricultural Economics Washington D C. Government Printing Office, 1936 6 v in 1 illus. (part col d) 27 cm. $17 00 7493

Contents. Introduction. Land relief by F J Marschner, 1936, 6 p. Climate Temperature, sunshine, and wind, by Joseph B. Kincer 1928 34 p. Climate Frost and the growing season, by William Gardner Reed, 1918, p. 29–40. Climate Precipitation and humidity by J B. Kincer 1922 48 p. Part III: Soils of the United States, by C. F Marbut, 1935 98 p. The physical basis of agriculture Natural vegetation Grassland and desert shrub, by H L. Shantz Forest, by Raphael Zon, 1924 29 p.

Note The series of colored maps of the United States published in this volume are accompanied by text, graphs, selected references, and, in the case of the last two parts, photographic illustrations. The publication is of permanent reference value to students of agriculture, of climate, soils, and natural vegetation of the United States. The maps would also be useful to persons considering farming from the commercial standpoint or seeking homes in the United States, and who wish information as to climatic, topographic, and soil conditions in any given section of the country The various parts are also sold separately

they show that the topsoil which is so essential to the maintenance of civilization can be conserved, and they describe some of the conservation measures that have been put into practice in the United States of America and elsewhere. The book is directed to general readers, and it is of interest both from the standpoint of general history and that of soil conservation.

DAVISON, VERNE ELBERT

Bobwhites on the rise. With illustrations by Wallace Hughes New York Charles Scribner's Sons, 1949 150 p. illus. 24 cm. $3.75 7506

Contents: Bobwhite and its range. Prevailing problems. Traditions [illegible]. The bobwhites' habits. Food is their greatest need. Cover, too, is essential. Wildlife land and its management. Woodland management. The place of fire. Cropland. Pastures. Idle land. Organized shoots. Bobwhite numbers and hunting. The things to do, in quick [illegible]. Loss to encourage production. Bibliography.

Note: "Dedicated to those who hunt the bobwhite quail and to the landowners, [illegible] can grow more of them," this volume for [illegible], [illegible], and game preserve owner presents land management [illegible] the chief influence on the welfare and production of the bobwhite. It shows what practices applied to wildlife lands can lead to conditions favorable to the increase in numbers of this popular game bird. The author writes on the basis of two decades of experience with game management in various sections of the range of the bobwhite quail in the United States of America.

GABRIELSON IRA NOEL

Wildlife refuges. New York The Macmillan Company 1943 257 p. illus. 24 cm. $5.00. 7507

Contents: History of the refuge movement. Purposes, values and limitations of refuges. Types of refuges. Management of refuges. Alaska's great land [illegible]. Special refuges. The [illegible] [illegible]. Migratory refuges. General wildlife refuges. Mysterious [illegible]. Patuxent wildlife research refuge. Migratory waterfowl refuges. Refuges on lands used primarily for other purposes. Refuges administered by other Federal agencies. State refuges. Private refuges. Canadian and Mexican refuges. Bibliography. Index.

Note: This book tells the story of the national wildlife refuge system. It includes also the history and status of all types of wildlife refuges, public and private, in the *United States of America* and gives an over-all picture of conditions at the time of the writing.

GABRIELSON IRA NOEL

Wildlife management. New York The Macmillan Company 1951 274 p. illus. 22 cm. $4 75 7508

Contents: The problems of wildlife management. Research in wildlife management. Education in wildlife management. Regulation of human harvest of wild populations. Inventories. Refuges in wildlife management. Artificial propagation. Population controls. Manipulation of upland environment. Manipulation of environment for aquatic forms. Sportsmanship. Administration and wildlife management. Can public hunting and fishing be maintained? Index.

Note: A thoughtful study by the director of the United States Fish and Wildlife Service, of present-day problems in the field of wildlife management and their solutions. The author appraises present wildlife management activities, indicating the advances made over the past half-century and taking into consideration the fact that farming, engineering projects, lumbering and other activities must continue side by side with the habitat for wild populations. He emphasizes the necessity for balanced programs and particularly the need for outside checks on projects and practices to be certain they are serving the needs of wildlife. The book is illustrated with photographs and contains bibliographical references at the ends of the chapters.

GEORGE ERNEST J

Thirty-one-year results in growing shelter belts on the northern Great Plains. Washington, D C Government Printing Office 1953 57 p. illus. 23 cm. (United States. Department of Agriculture. Circular no 924) $0.25 7509

Contents: Introduction. Project area. Cooperative procedure. *Planting sites. Planting* plans and methods. Making and maintaining records. Review of literature. Plantings made and shelterbelts grown. First-year survival, by species. Growth and survival for study period, by species. Factors affecting results. Conclusions. Summary. Literature cited.

Note: The northern *Great Plains* in Montana, Wyoming, and the Dakotas is an area almost treeless in nature and has climatic conditions unfavorable to the growth of trees. This circular presents the details and summarizes the results of co-operative project of testing shelterbelt species and methods carried on by farmers in this area over the 31-year period 1916–1946. It tells what was learned about selecting shelterbelt sites, selecting tree and shrub species for use in different parts of the belt, and how the trees and shrubs should be spaced. It gives figures on growth in height and in crown spread, resistance to cold, and survival for 12 species of deciduous trees, 6 of coniferous trees, and 6 of deciduous shrubs.

GRAHAM, EDWARD HARRISON

The land and wildlife. New York Oxford University Press 1947 232 p illus. 22 cm. $4 00 7510

Contents: Wildlife heritage. Three centuries. First the land. *Meadow and swamps.* Ponds and waters. Streambanks and ditches. Field borders and roadsides. Windbreaks and hedges. Gullies, odd areas, and spoilbanks. Cropland, pasture, and woodlot. Forests and range. Wildlife prospect. The cost and the harvest. Wildlife, land, and people. Bibliography. Index.

Note: In treating the specialized problem of how to protect American wildlife in our competitive economy the author has succeeded in combining textbook, popular treatise, and practical manual. Without minimizing the value of game preserves and other governmental activities, he devotes the major part of his study to converting expansion of the land practices which must be adopted by the individual farmer. Practical kinds of man-made protection are discussed and described in detail; the results of earlier experiments are listed; and available statistics in actual dollar and cents gain to the farmer are presented. Photographs are numerous and excellent, and the bibliography extensive.

GREENE, LEE SEIFERT, AND OTHERS

Rescued earth a study of public administration of natural resources in Tennessee. By Lee S Greene Virginia Holmes Brown, *and* Evan A. Iverson. Knoxville Published for the Bureau of Public Administration by The University of Tennessee Press, 1948. 204 p. illus. 23 cm. $2.25 7511

Contents: The growth of conservation administration. Resource conservation in the present. *Administrative management. Financing* resource conservation. Administrative relationships. Physical achievements in conservation. Retrospect. Index.

Note: A treatise on federal, state, and local administration of natural resources in the state of Tennessee, including mines, minerals, forests, public lands, fish, and wildlife, and including the Tennessee Valley Authority. The legal substructure of resource management rather than the inventory of natural resources is emphasized.

GUSTAFSON A. F., AND OTHERS

Conservation in the United States. Third edition. By A. F Gustafson, C. H. Guise, W J Hamilton, jr and H. Ries. Ithaca Comstock Publishing Associates, a division of Cornell University Press 1949 534 p. illus. 24 cm. $5.00 7512

Contents: Introduction. The development of conservation. The soil. Water—its uses and its conservation. Soil depletion and erosion. Soil conservation. Forests and forest lands. The development and status of forest conservation. Forest conservation—a program for the future. Parks—national and state. The western grazing

of erosion on stream banks. Water spreading. Wildlife and soil conservation. Farm ponds for water storage. Stubble-mulch farming. Farm drainage. Farm irrigation. The place of trees and shrubs in soil and water conservation. Upstream flood control. Field trips. Bibliography. Correlated list of visual aids. Index.

Note An elementary but fairly inclusive treatment of the subject. Its chief use is as a textbook in agricultural schools, but it is useful also as a source of general information on the economic significance of soil erosion, on the activities of various United States governmental agencies concerned with soil conservation, and on the practical techniques of preventing and retarding erosion. The author is one of the most eminent authorities on soil conservation in the United States of America and was from 1935 to 1951 Chief of the Soil Conservation Service of the United States Department of Agriculture.

BENNETT, HUGH HAMMOND

Soil conservation. New York McGraw Hill Book Company Inc, 1939 993 p illus 23 cm (McGraw Hill series in geography) $12 00 7500

Contents (abridged) The problem in the United States. Erosion and civilization. Results of erosion. Processes and types of erosion. Climate and soil erosion. Relation of erosion to crop yields, sedimentation. Geology and soil erosion. A national program of soil conservation. The place of forestry in soil and water conservation. Contouring. Terracing. Gully prevention and control. Control of erosion on highways. Wildlife and soil conservation. Soil conservation and flood control. Early efforts toward erosion control. Erosion problems in foreign countries. Soil conservation surveys.

Note Describes land loss, due to soil erosion, and the progressive waste of productive earth under the wash of rain and the sweep of wind, with its broad implications of social and economic decline. The relationship between erosion, wasted rain, floods, and the increasingly serious problem of sedimentation is explored. Measures of soil defense are outlined in a program of national conservation action.

BLACK, JOHN D

Biological conservation with particular emphasis on wildlife New York McGraw Hill Book Company Inc 1954 328 p illus 24 cm. $5 50 7501

Contents Part I, Basic considerations The need for conservation Historical review Essentials of life. Soil. Water Part II, The environment Basic ecology Standing water Running water. Grasslands and wildlife. Forests. Part III, Fish and other aquatic animals Game and pan fishes. Rough fishes. Forage fishes. Reptiles and amphibians. Invertebrates. Part IV Birds Upland game birds. Ducks and geese Shore birds. Predatory birds. Songbirds and non-game birds. Part Mammals Fur bearers Game mammals. Predatory mammals. Other mammals. Part VI, Solving the problem Administration of conservation. Annotated bibliography Film guide Index.

Note Background information concerning soil, water grasslands, and forests is presented in this introductory college textbook. Against this background the life histories of the chief forms of animal life in the United States of America are sketched and some of the problems of conserving them are discussed. Wildlife is interpreted to include not only the game birds and mammals, but also the non-game forms, such as songbirds and exotic birds, rodents and whales. Special attention is given to the freshwater aquatic forms of wildlife.

BUNCE ARTHUR CYRIL

Economics of soil conservation Ames The Iowa State College Press 1942 227 p illus 23 cm $3 50 7502

Contents Definitions of terms. Efficiency capacity elasticity and intensity The relationship of rent to the elasticity of production and intensity of land use Exploitation of virgin fertility and the intensive and extensive margins. Price changes and conservation. The individual and fertility maintenance. The individual and conservation when exploitation induces erosion or soil deterioration. Society and conservation. Method of social control over land use. Problems of measurement in conservation planning. War and conservation. The formulation of public policy and action. Selected readings. Index.

Note. This book is concerned with production economics as applied to agriculture, the use of the land by the individual, and the various aspects of soil conservation as related to society The need for more accurate methods of social accounting and the necessity of developing techniques of evaluating social gains and losses are stressed and related to specific problems in soil conservation.

BUTLER, M D

Conserving soil. New York D Van Nostrand Company Inc., 1955 321 p. illus. 24 cm. $4 20 7503

Contents Unit I, Introduction: What conserving soil means. How settlement affects soil. Factors to consider Unit II, Soil resources factors. Soil. Water Organic matter Plant nutrients in the soil. Unit III Jobs that improve land Summer and fall work. Good-weather jobs. Jobs to control soil movement by wind. Streambank control. Unit IV Conservation tools: Grasses and legumes. Trees. Unit V Watersheds: Flat willow creek. Drainage to the St. Lawrence, Red, and Mississippi rivers. Jones Creek. The Muskingum watershed. The Tennessee watershed. Yazoo River watershed. Buffalo Creek. The Pequest river The Sandstone Creek watershed. The Los Angeles river watershed.

Note An elementary survey of principles and practices. It is directed primarily to young people who are studying in agricultural schools in preparation for careers in farming, and more particularly to the Future Farmers of America, an organization of such youth. In it, the case for soil conservation and recommended soil conserving practices are presented in a simple, readable style. Some information is included on engineering aspects of soil erosion control, such as the construction of terraces. The histories of several soil conservation projects are recounted in outline form in the chapters at the end of the book.

COLMAN, E A.

Vegetation and watershed management an appraisal of vegetation management in relation to water supply, flood control and soil erosion Sponsored by the Conservation Foundation New York The Ronald Press Company, 1953 412 p illus 24 cm. $7 00 7504

Content Part I, Water yield and its control: Introduction Water yield in the United States. Problems of water-yield control. Part II, Principles of water yield control The watershed and the reservoir Control by structural works. Vegetation and hydrologic processes. Control by vegetation. Vegetation and structural works. Part III, Vegetation and water yield control Vegetation regions of the United States. Introduction to research. Alternative kinds of vegetation. Croplands. Fire. Grassed lands. Tree-covered lands. The opportunities and the challenge. Bibliography Index of names. Index of subjects.

Note A well-organized synthesis and critical interpretation of research studies and observations bearing on relations among vegetation on watersheds, water yields, and soil erosion. The principal thesis is that management of watershed lands is as important part of water management as is the control of water in streams and groundwater basins. The research work reviewed includes field operations, such as study of the effects on water yield and soil erosion of cutting the vegetation but leaving it on the land, and the effects of annual burning of litter on forest areas. Areas of the subject in which further research is needed are pointed out, and the social and economic problems of effective watershed management are discussed briefly

DALE TOM, AND VERNON GILL CARTER

Topsoil and civilization Norman University of Oklahoma Press 1955 270 p. illus. 22 cm. $3 95 7505

Content An overview The Nile valley Mesopotamia. The Mediterranean region. Crete and Lebanon. Syria and Palestine Greece North Africa Italy and Sicily Western Europe. Here and there—past and present The United States. Bibliography Index.

Note A panoramic survey of the effects of soil erosion upon the fate of nations. The authors' thesis is that the use or misuse of the land has been determining factor in the survival of the peoples occupying the land They outline the rise and fall of civilization in the Nile valley the Mediterranean region, North Africa, and in every instance show that the effect of soil erosion led to the permanent decline of kingdom, city or state Finally

SEARS, PAUL BIGELOW

Deserts on the march. Revised edition. Norman University of Oklahoma Press, 1954 178 p. illus. 20 cm. $2 75 7519

Contents Introduction to second edition, by L. Bromfield. Man, maker of wilderness. The wisdom of the ages. Hungry Europe. Far Eastward, poor Lo. The overbalance. *Prairie* [illegible] to [illegible]. The great pattern. Cold figures. Only God can make a tree. Leaves of grass. Mud. Wet deserts. Dust. It must be the weather. Pests. The way through. Where is the soil? Deserts in retreat.

Note A well-written popular account of events which reduced to deserts what were once fertile areas of the United States of America. The author describes the mistakes which have been made in the treatment of forest and grass lands, and outlines the steps which can and are being taken to rectify these mistakes. The concluding chapter, which tells of the advances made in the conservation of our soil resources in the period 1935–1947 is new in this edition, and there are several other changes.

SHEPARD WARD

Food or famine the challenge of erosion. New York The Macmillan Company 1945 225 p. illus. 20 cm. $4.00. 7520

Contents Erosion and hunger. Natural and human forces in the soil crisis. The Democratic revolution in soil conservation. The importance of forest management. Public controls over land use. A land conservation work corps. Public acquisition of low-grade land. Financing land reconstruction. Our lands control our towns. Integral watershed development. Agricultural science and education. Toward world conservation. Index.

Note A carefully considered approach to soil conservation as a world-wide problem. The author's survey of the steps so far taken in the United States of America toward soil conservation, forest management, and flood control is followed by recommendations for a long-range program of co-operation between land owners and government agencies. Considerable space is given to the legal and financial problems involved in public acquisition and management of land that cannot be effectively managed by private owners. Action necessary for carrying out a program of public ownership is outlined.

SMITH GUY HAROLD editor

Conservation of natural resources. Third edition. New York John Wiley & Sons, Inc. 1950. 552 p. illus. 25 cm. $6.75 7521

Contents The development of conservation in America, by A. J. Wright. The public domain and its disposal, by S S Visher. The land and people and their utilization, by L. A. Wolfanger. Soil conservation, by W A. Rockie. Tree crops, by J. R. Smith. American irrigation, by R. E. Brown. Grassland resources, by H. C. Hanson and W C. Whitman. Reclamation of wet and overflow lands, by G J Miller. The agricultural prospect, by G. H. Smith. Our forest resources, by G. D Dillar. The practice of forest conservation, by G D Dillar. Water supply for domestic and industrial use, by J H. Garland. Water power and its conservation, by G. H. Smith. Our waterways and their utilization, by E. J Foscue. Floods and flood control, by G H Smith. Conservation in the mineral kingdom, by W M. Myers. The mineral fuels, by E. W Miller. Conservation of wildlife, by C. A. Dambach. Fisheries for the future, by H E Martin. Recreational resources, by E. C. Prophet. The conservation of man, by E Huntington. State and local planning, by L. Durand, jr. National planning and the conservation of resources, by G H. Smith. Index.

Note A new and revised edition of a textbook which covers the entire field of conservation in a manner to interest the general reader as well as the college student. Nine new authors appear among the contributors to this edition. The book retains the general arrangement and organization of the earlier editions, but most of the chapters have been rewritten, a large number of illustrations have been added, and the entire make-up modernized.

TRIPPENSEE, REUBEN EDWIN

Wildlife management. New York Mc Graw Hill Book Company Inc., 1948–53 2 v illus. 23 cm (The American forestry series Henry J Vaux consulting editor) Vol. I, $6 50 vol. II $7.50 7522

Contents (abridged) Volume I. Upland game and general principles. Farm wildlife. The farm as wildlife habitat. Cottontail rabbit. Pheasants. Bobwhite quail. Tree squirrels. Forest wildlife: Wildlife management in the forest. Black bear. Deer. Ruffed grouse. Wild turkey American woodcock. Wilderness wildlife. Management of wilderness areas. American elk. Bighorn sheep. Grizzly bear Moose. Pronghorn antelope. Rocky mountain goat. Woodland caribou. Diseases and parasites of wild animals, by K. C. O'Kane. Miscellaneous wildlife relationships: Predatory relationships. Game production and harvest. Refuges. Winter feeding. Wildlife administration. General references. Index. Volume II. Fur bearers, waterfowl, and fish Foundations of wildlife production. Fur bearers. Waterfowl. Fish. General references. Index.

Note In this book the basic knowledge of wildlife which is essential to planning and conservation problems and the technique of managing fields and forests so as to ensure the maintenance of the wildlife population are both covered in detail. The author is Professor of Wildlife Management at the University of Massachusetts, and his treatment of the subject is more scientific than is sometimes found in books on wildlife management. A considerable portion of the two-volume set is devoted to chapters on individual species. In general, each species is discussed as to geographical distribution, life history ecology and management, with particular attention given to such aspects as food habits and data on population densities. The chapters are accompanied by extensive literature lists. The work is used both as a text in college courses and as a reference book by professional workers in the field and by sportsmen and other amateurs who are interested in wildlife conservation.

UNITED STATES. NATIONAL PARK SERVICE

Fading trails, the story of endangered American wildlife prepared by a committee of the United States Department of the Interior National Park Service, Fish and Wildlife Service, Daniel B Beard, chairman, Frederick C. Lincoln and others. Illustrations by Walter A. Weber Edited by Charles Elliott. New York The Macmillan Company 1942 279 p. illus. (part col d) 22 cm. $4.00. 7523

Contents: Foreword. Primitive days. Civilization's heavy hand. American casualties. Plans and progress. The grizzly bear. The bighorn. The woodland caribou. The sea otter. Rare fur bearers. The manatee. The wolf. The [illegible] bear. The California condor. The [illegible]. The trumpeter swan. The [illegible] grouse. The Hudsonian godwit. The snail kite. The Florida crane. The roseate spoonbill. The whooping crane. The swallow-tailed kite. The white heron. The ivory-billed woodpecker. The Puerto Rican parrot. The Great Lakes whitefish. The Atlantic salmon. The lobster The green turtle. The American crocodile. Close to the shadows. Selected bibliography Index.

Note An authoritative and dramatic presentation of the story of American wildlife—its discovery, exploitation, and present status. Wildlife authorities offer reasons for the extinction of some species of wildlife found by the first explorers of the New World, and tell what species are now endangered and why. There are life stories for each animal, bird and fish listed in the contents. Thirty-six illustrations included half-tone drawings and full-color plates.

UNITED STATES SOIL CONSERVATION SERVICE

A manual on conservation of soil and water Handbook for professional agricultural workers. Washington, D C. Government Printing Office, 1954 208 p. illus. 23 cm. (United States. Department of Agriculture. Agriculture handbook no. 61) $0 60 7524

Contents What is soil erosion? Classifying land capability Preventing and controlling gullies. Woodland improvement. Terracing. Stripcropping Cover crops. Soil-depleting, soil-conserving, and soil-building crops. Pasture improvement. Rangeland improvement. Conservation irrigation. Farm drainage. Conservation measures.

Note This handbook explains the causes, processes, and consequences of soil erosion and depletion, and describes the major soil- and water-conservation measures which, when applied to the land in correct combinations, [illegible] reduce or prevent soil erosion.

lands. Fish and fisheries. Game and fur resources. Conservation of other useful wildlife. Economics of mineral resources. The metals. Coal. Petroleum and natural gas. The nonmetallic minerals. Selections for supplementary reading. Index.

Note. The importance of natural resources and the problems of conserving them in the United States of America are the principal topics of this book. Techniques of conservation are a secondary but prominent theme. The field is covered broadly with attention paid to the state of all natural resources including soil, water wildlif and minerals. The picture that is drawn of the exploitation of such resources as wildlif is a dismal one. On the other hand, legislation and other corrective measures now being applied are adequately described. The first edition was published in 1939 and the second edition in 1944 Considerable material has been carried over from the second edition to the third edition. There has been some reorganization of the book some sections have been revised and extended later statistical data have been inserted, and literature published to about the close of 1938 added to the selected bibliography

LEOPOLD, ALDO

Game management. Drawings by Allan Brooks New York Charles Scribner's Sons, 1933 481 p illus 23 cm. $6 00 7513

Contents Part I, Management theory: History of ideas in game management. Mechanism of game management. Properties of game populations—fluctuation and density—movements, tolerances, and sex and flock habits. Game range. Part II Management technique Measurement of game populations. Game census. Measurement and diagnosis of productivity Game refuges. Control of hunting. Predator control. Control of food and water. The control of cover Control of disease. Accidents. Miscellaneous techniques. Part III, Game administration. Game economics and esthetics. Game policy and administration. Game as profession. Appendix Bibliography Glossary of terms used in game management. Breeding potential tables. Index.

Note. This book is recognized as landmark in the development of the conservation of game animals by scientific management in the United States of America. Although ritten 23 years ago and not since revised, it is nevertheless still basic ork for those who are preparing t enter this field professionally governmental officials concerned with conservation, and sportsmen who ish to be enlightened on the principles of game conservation. It contains very wide range of information on the habits and ecology of wild animals and also much knowledge that is basic to other fields of conservation of natural resources.

MARTIN, ROSCOE C , editor

TVA, the first twenty years a staff report. University Alabama Published jointly by University of Alabama Press and The University of Tennessee Press, Tennessee, 1956 282 p 24 cm. $4 50 7514

Content Introduction, by H. A. Curtis. The meaning of TVA, by G. R. Clapp. Part I, Framework for operation Legal foundations, by J C. Swidler Administrative foundations, by J Oliver Personnel administration by H. L. Case. Financial administration, by J H. Clark. Part II, Physical development of the valley: The river control system, by H. Wiersema. River transportation, by E. P Ericson. The power program, by G. S. Wessel. Reservoir land management, by C. W Nash. Part III, Social and economic development of the valley Fertilizer—Munitions and agriculture, by L. G. Allbaugh. Forestry by J O Artman. Health, by O. M. Derryberry Recreation, by R. M. Howes. Economic development an appraisal, by J V Krutilla. Part IV Some broader implications f the TVA TVA and state and local government, by L. L. Durisch. TVA in its larger setting, by E. A. Ackerman. Retrospect and prospect, by R. C. Martin. Index.

Note A quasi-official work, written by staff members of the Tennessee Valley Authority It had its origin in a series of lectures first delivered at Florida State University and the chapters as published are designed for general eading. Together they afford broad view of the aims, methods, and results of an epoch-making effort toward the conservation and development of the natural resources of a large region.

OSBORN, FAIRFIELD

Our plundered planet Boston Little Brown and Company, 1948 217 p 20 cm. $3 50 7515

Contents Part I, The planet The long view The dim yet potent years. The new geologic force—man. Life begets life. The flattery of science. Part II, The plunderer Asia—then and now Mediterranean lands and Africa. Russia. Europe, England and Australia. The New World. Conclusion. Acknowledgments. Bibliography and reading list.

Note. A thoughtful but nonetheless passionate plea for drastic and large-scale action toward the conserving of the natural resources f the earth particularly its soil. The underlying thesis is that man is only one element in a complex biological scheme, but he is the element which alone has the power and apparently the will to throw the entire plan out of balance. Most of the book is devoted to accounts of the damage which already has been done and some of the larger effects of it already observed. In the last part, the author makes some well considered proposals for remedying the situation.

PARKS, WILLIAM ROBERT

Soil conservation districts in action. Ames The Iowa State College Press, 1952 242 p. illus 24 cm. $4 50 7516

Contents. Beginnings of the soil conservation district. Nature of the soil conservation district. Gearing local districts into national conservation program. Role of district supervisors. Increasing supervisor's role in district administration. Value of district in achieving soil conservation. Future of the soil conservation districts. Appendix. Index.

Note. In the United States of America the soil conservation district is a legally independent unit of local government which works in co-operation with and essentially under the technical direction of the soil conservation service of the national government. The purpose of local soil conservation districts is to organize and to carry out such soil conservation techniques as terracing, construction of waterways, and reforestation. This book presents an outline of the history of such districts and thorough survey of their experience over a period of 15 years. There is some emphasis on the legal and management aspects, but accomplishments are also described.

PARSON, RUBEN L

Conserving American resources. Englewood Cliffs, N J Prentice-Hall Inc., 1956 550 p. illus 23 cm. $8 65 7517

Contents. The idea and the book. Natural environment and resources. Water on the land. Our soils—basic wealth. Land management—approach to conservation. Water conservation. Soil depreciation. Soil conservation. Forest exploitation. Permanent forests and perpetual timber supply Spoliation and restoration of our dry grasslands. Wildlife—functions and abuses. Wildlif conservation. Resources for recreation inspiration, and instruction. Resources of or bordering seas. Conservation of minerals. Prospect and responsibility Teaching aids. Selected bibliography Index.

Note. The style and illustrations of this book make it obvious that the author has made definite effort to reach wider audience than might be reached by a more sedate presentation. The illustrations include some cartoon type drawings and many photographs of extreme examples of soil erosion. The style is lively and that. Although chapter is included on the conservation of mineral resources, the primary subject is conservation of the soil and of the forests and wildlif that live on it.

PATTERSON ROBERT L

The sage grouse in Wyoming. Sketches by Charles W Schwartz. Denver Alan Swallow 1952 341 p illus 24 cm. $5 00 7518

Contents (abridged) Part I, The sage grouse and its environment. Part II, The natural history of sage grouse populations. Part III, Sage grouse and man. Part IV Restoration and management. Part V Appendix. Literature cited. Index.

Note A comprehensive study from the conservation standpoint of the sage grouse (also commonly called sage hen) *Tetrao urophasianus*. It was sponsored by the Game and Fish Commission of Wyoming, and most of the work was done within the boundaries of that state However the results of the study are applicable to the sage grouse throughout its natural range and some of the findings are generally applicable to the conservation of other game birds. Covered are not only the expected points such as the effects of disease and predation, but also critical discussions of land reclamation programs hich brush destruction of the natural sagebrush habitat.

Agriculture

Drainage and Irrigation

Note A comprehensive and detailed treatise. It covers not only the broad aspects as named in the chapter titles, but also sub-topics such as the proportion of rainfall intercepted by the foliage of plants. The published literature has been skillfully digested, and statements in the text are keyed to the lists of references which accompany the chapters. Numerous tables of data such as "Permissible velocities in canals excavated through different soils" are included. It is written on a professional level and is directed to such readers as advanced students of agricultural engineering, practicing irrigation engineers, and other persons with technical interests in irrigation. A wide range of information on engineering structures associated with irrigation projects is provided in the second volume.

ISRAELSEN ORSON WINSO
Irrigation principles and practices. Second edition. New York John Wiley & Sons, Inc., 1950. 405 p. illus. 23 cm. (The Wiley agricultural engineering series edited by J Brown-
lee Davidson) $7.50. 7531

Contents Purposes and problems. Sources and storage of irrigation water. Measurement of irrigation water. Conveyance of irrigation water. Pumping water for irrigation. Irrigation methods. Farm irrigation implements and structures. Basic soil and water relations. The flow of water in soils. Storage of water in unsaturated soils. Time of irrigation. Saline and alkali soils. Drainage of irrigated lands. Consumptive use of water by H. F. Blaney and O. W. Israelsen. Irrigation of cereals, forage, and root crops. Irrigation of [illegible]. Irrigation in humid climates. Social and administrative aspects of irrigation, by J. H. Maughan. Appendixes. Problems and questions. References. Index.

Note The revised edition of this textbook for college and university students covers the same field as the first edition, but the work has been changed and improved in the light of 18 years of additional study and experience. Some chapters have been entirely rewritten, and others contain major changes. A new chapter is devoted to the drainage of irrigated lands. The references have been brought up to date and are now grouped at the end of the book. The publication is of value to farmers concerned with large-scale irrigation problems and to agronomists, agricultural engineers, and civil engineers, as well as to students. The volume includes a folding map of the United States of America to show mean annual precipitation, and lines and figures indicating average annual evaporation in depth in inches.

ROE, HARRY BURGESS AND QUINCY CLAUDE AYRES
Engineering for agricultural drainage. New York McGraw Hill Book Company Inc., 1954 501 p. illus. 24 cm. (McGraw Hill publications in agricultural engineering Quincy
C. Ayres consulting editor) $8 00 7532

Contents Introduction. Soils in relation to drainage. Water properties of soils. Rainfall and runoff. Drainage of irrigated lands. The soil-moisture control problem on peat and muck lands. Cost of drainage. Drainage administration and law. Appendices. Literature cited. Index.

Note In this authoritative book, drainage of agricultural lands is presented as a facet of the broader field of the management of agricultural lands. Nevertheless, the greater part of the space is devoted to the design and construction of drainage systems. Both drainage with open ditches and drainage with buried tile are covered. Modern machinery for the digging and cleaning of ditches and for the laying of tile is described. Minor topics, such as the treatment of soft spots in the bottom of trenches dug for the laying of tile, are discussed along with the larger problems. Tabulated engineering data are included on such matters as the spacing and depth of tile drains. There are 67 references in the bibliography. The book is organized for use as a text in agricultural engineering, and it is useful also to farmers and practicing engineers.

ROE, HARRY BURGESS
Moisture requirements in agriculture. Farm irrigation. New York McGraw Hill Book Company Inc., 1950 413 p. illus. 24 cm. (McGraw Hill publications in agricultural engineering Quincy C. Ayres, consulting
editor) $7 75 7533

Contents: General considerations. Sources and disposition of soil moisture. Flow and measurement of water. Interrelations of irrigation and drainage. Fundamental principles of irrigation and problems of agriculture under it. Time of irrigation. Use of water in irrigation. Irrigation methods. Irrigation structures and works for the farm. Pumping in irrigation. Irrigation of specified crops. Irrigation farming. Legislative and administrative features of irrigation. Supplemental irrigation in humid regions. Literature cited. Literature consulted but not specifically cited. Index.

Note: An introductory but inclusive work in which particular attention is given to agriculture and farm irrigation in the United States of America west of the Mississippi River. It covers both the engineering and the agricultural phases of the subject. The author explains in elementary terms the hydraulics of mechanical distribution of water within farming areas and on individual farms and correlates that explanation with modern soil science. A feature of the book is its detailed presentation of the water requirements of different types of crops as determined by recent experiments and scientific research and a corresponding presentation of the methods whereby these requirements may best be met. The book is suitable both as a textbook for colleges training engineers in agriculture and as a practical guidebook for farmers, technicians, and engineers directly concerned with problems of irrigation.

SUTTON JOHN G
Design and operation of drainage pumping plants. Washington, D C. Government Printing Office 1950. 81 p. illus. 23 cm. (United States. Department of Agriculture.
Technical bulletin. No. 1008) Gratis. 7533A

Contents (abridged) Conditions for pumping. Relation of pumping plant to general plan of drainage. Location of pumping plants. Foundation conditions—soil borings. Storage at suction bay. Determination of static lifts. Determination of runoff to be pumped. Formula for maximum plant capacity. Plant capacity for Louisiana and Texas. Plant capacity for Florida. Minimum runoff pumped. Selection of pumps. Priming equipment. Selection of power equipment. Design of building and accessory structures. Farm pumping plants. Tests of pumping plants. Operation of the pumping plant. Literature cited. Appendix.

Note: Superseding Technical bulletin no. 390, this bulletin provides recommendations for the design and operation of drainage pumping plants for all parts of the United States. Attention is given both to plants of larger size, as for drainage and levee districts, and of smaller size, useful for installation on individual farms either to drain low areas or to supplement irrigation systems. Included in the illustrations are tables and figures presenting technical data, photographs, drawings, and plans of pumping systems.

UNITED STATES. BUREAU OF RECLAMATION
Canal linings and methods of reducing costs. Washington D C. Government Printing Office, 1952 69 p. illus. 23 cm. $0 25
7534

Contents: Introduction. Types of canal linings. Concrete linings. Shotcrete linings. Asphaltic linings. Earth-material linings. Miscellaneous linings. Standardization of canal sections. Justification for canal lining. Seepage investigations. Appendix: Canal linings installed by the Bureau of Reclamation since 1946. Appendix. Summary of seepage tests.

Note Methods of reducing costs of concrete canal linings and development of new types of lining are notable technical achievements of the United States Bureau of Reclamation. This bulletin summarizes and brings up to date all available information on the lower cost canal lining program, presents the results of laboratory research, field installations, economic studies, and investigations of seepage measuring devices; describes new developments in equipment and methods of constructing lined canals, particularly those of small size; and gives current conclusions and recommendations as to the value of various types of linings and their suitability for use under various field conditions.

UNITED STATES. BUREAU OF RECLAMATION
Water measurement manual. A manual pertaining to measurement of water for irrigation projects. Washington, D C. Gov

improve fertility and increase yields. The handbook was prepared for the use of officials, technicians, and agriculturists concerned with controlling wind and water erosion and making better use of rainfall available and irrigation water not only in the United States of America, but in other countries as well.

VOGT, WILLIAM
Road to survival, with an introduction by Bernard M Baruch. Illustrations by Stuart I. Freeman New York William Sloane Associates, Inc., 1948 335 p illus. 22 cm. $4 00 7525

Contents. Introduction by Bernard M. Baruch. The earth answers back. Energy from earth to man. As mankind thinketh. Industrial man—the great illusion. That the use be fitting. The long knives. The land on edge. Man-spawn and war-spawn. Man versus geography The dying land. The lion and the lizard. History of our future. References. Reading list. Index.

Note The author' experience as conservationist and his ability as stylist are utilized to present his grim thesis with force and clarity He maintains that the civilized world is bent on self-destruction through the avenues of land depletion and overpopulation. Although major emphasis is given to the problem in the United States of America, other regions (especially Latin America) are not ignored. Salvation is suggested through drastic reforms in conservation of natural resources, and an intelligent program of birth control—the possibility of both being predicated upon education, public financing, and wise legislation. The book is non-technical in language and is addressed directly to the layman. Its dramatic tone may alienate number of scientifically trained readers who would prefer greater objectivity of presentation. There are diagrams, references to textual citations, and short annotated list of suggested further reading.

WING, LEONARD WILLIAM
Practice of wildlife conservation. New York John Wiley & Sons Inc 1951 412 p illus 24 cm. $6 00 7526

Contents Conservation and management. The biological base of management. Techniques of field investigations and practices. Farm game and its management. Farm game birds and mammals. Forests and forest wildlife management. Game birds of the forest. Forest game mammal management. Game management in the open range. Southern wildlif species. Northland wildlife. Fur-bearer management. Wildfowl management. Lake fish management and improvement. Stream improvement and management. Songbird and nongame conservation and management. Treatment of rare, threatened, and persecuted species. State powers and controls. Federal wildlife controls in the United States. Provincial and federal wildlif spheres in Canada. Administration and regulation. Index.

Note. The chapter headings indicate the detailed subject content of this book on wildlife conservation and game management. The uthor has written on the basis of experience in various parts of North America. The book is especially suited for instruction at the college level, and it will be of interest and use also to the general eader who wishes to be informed on wildlife conservation and to the professional conservationist who needs reference work covering the entire field of conservation theory and practice.

YOCOM, CHARLES FREDERICK
Waterfowl and their food plants in Washington Seattle Wash University of Washington Press 1951 272 p illus 24 cm $5 00 7527

Contents (abridged) Waterfowl and their status in Washington. Waterfowl that winter in Washington and their relative abundance. Survey of nesting and resident waterfowl in eastern Washington, summers 1947 and 1948 Brood studies. Migration. Waterfowl and their relationship to hunting. Parasites and diseases. Management. The important food and cover plants for waterfowl in Washington Typhaceae. Sparganiaceae. Potamogetonaceae. Juncaginaceae. Alismaceae. Hydrocharitaceae. Gramineae. Cyperaceae. Lemnaceae. Polygonaceae. Chenopodiaceae Ceratophyllaceae Nymphaeaceae. Ranunculaceae. Cruciferae. Haloragidaceae. Lentibulariaceae. Summary Literature cited. Subject index. Plant and cover food index.

Note. This is study based upon field observations, of the wild swans, geese and ducks of the state of Washington with special attention to their food habits and to the native aquatic food plants and their distribution within the State. The expressed objective of the publication is to lay the groundwork for future research. Systematic descriptions are given of the distribution of 42 species of waterfowl. Descriptions, drawings, keys, and distribution maps of 126 species of cover and food plants utilized by the fowl are included. Ninety literature references are cited.

DRAINAGE AND IRRIGATION

FREVERT, RICHARD K , AND OTHERS
Soil and water conservation engineering. New York John Wiley & Sons, Inc., 1955 479 p illus. 22 cm. (The Ferguson Foundation agricultural engineering series) $8 00 7528

Contents Introduction. Precipitation. Infiltration, evaporation, and transpiration. Runoff. Soil physics. Soil erosion principles. Wind erosion control. Contouring, strip cropping, and tillage. Vegetated outlets and watercourses. Terracing. Gully control. Embankments and reservoirs. Headwater flood control. Field surface drainage. Open ditches. Subsurface drainage principles. Subsurface drainage design. Installation and maintenance of subsurface drains. Pumps and pumping. Sprinkler irrigation. Land clearing. Legal aspects of soil and water conservation. Appendix. Index.

Note. Designed for agricultural engineering students, the observations of this textbook on hydrology soil, physics, erosion, etc., are applicable throughout the United States of America. The authors describe established techniques and good practices and provide calculations and design data where required. Selected chapter references cover Experiment Station bulletins, journal articles and books.

GOLZÉ, ALFRED R.
Reclamation in the United States. New York McGraw Hill Book Company Inc. 1952 451 p illus. 24 cm (Civil engineering series Frederic T Mavis, consulting editor) $8 50 7529

Contents History of reclamation in the United States. Economics of reclamation. Reclamation law Participating agencies. Investigation and authorization of proposed projects. Single-purpose projects. Multiple-purpose projects. River-basin development. Allocations of cost. Repayment by water users. Repayment by power and other users. Financing the reclamation program. Estimating the cost. Programming and accounting. Settlement. Operation and maintenance. Appendix: Irrigation statistics—17 western states 1940–1950. Index.

Note A comprehensive work covering reclamation in the sense of "the process of reclaiming the desert lands of the western United States of America, through irrigated agriculture, supported by coordinated development of hydroelectric power Its purpose is twofold, (1) to provide instruction material for college courses in engineering and economics relating to reclamation and (2) to provide reference material for research or review of the reclamation programs of the United States. Bibliographical references appear at the ends of the chapters. The author is Director of Programs and Finance in the United States Bureau of Reclamation.

HOUK, IVAN E.
Irrigation engineering New York John Wiley & Sons Inc. 1951–56 2 v illus. 24 cm. Vol. I $11 00 vol. II $14 00 7530

Contents Volume I. Agricultural and hydrological phases. Introduction Irrigation soils. Soil fertility Moisture in irrigated soils. Soil-moisture movements. Climatic factors. Runoff and streamflow Snow melting and runoff forecasting. Evaporation from water surfaces. Land evaporation and transpiration. Irrigation and water requirements. Losses and waste of irrigation water Irrigation of saline and alkali soils. Irrigation preparations and procedures. Name index. Subject index. Volume II. Projects, conduits, and structures. Irrigation projects and their feasibility Planning irrigation projects. Studies of project lands. Studies of project water Conveyance of irrigation water Canals and ditches. Linings in canals and ditches. Flumes on irrigation projects. Pipes on irrigation projects. Tunnels on irrigation projects. Conveyance and control structures. Protective and miscellaneous structures. Diversion dams and intakes. Storage dams. Spillways and outlet works at dams. Gates and valves at irrigation structures. Fish protection at irrigation structures. Name index. Subject index.

[illegible] comprehensive enough and advanced enough to make it useful as a reference book as well as [illegible] text. [illegible] are included.

BARGER, EDGAR LEE, AND OTHERS

Tractors and their power units. By E. L. Barger, W. M. Carleton, E. G. McKibben and Roy Bainer. New York, John Wiley & Sons, Inc., 1952. 4[illegible]5 p. illus. 23 cm. $7.75. 7539

Contents (abridged): History and development of the tractor. Power and power measurement. Thermodynamic principles of internal combustion engines. Tractor fuels. Carburetion and fuel injection. Ignition systems. Engine cooling and [illegible] systems. Lubricants and lubrication systems. [illegible] Governors. Engine types and development. [illegible] of the tractor [illegible] Operator's comfort, convenience, and safety. Clutches and brakes. Transmissions, differentials, and final drives. Traction and traction devices. Tractor tests and performance. Tractor maintenance and repair. Tractor power cost economics. Appendix. Index of authors. Index of subjects.

Note: A tractor written from the engineering viewpoint. It applies particularly to farm tractors but much of the material is applicable also to larger machines such as are used in construction. [illegible] The book is intended for students enrolled in agricultural engineering courses, but it contains material of value to anyone concerned with the [illegible] of tractors. Lists of references [illegible] are included.

BARRE, HENRY JOHN, AND L. L. SAMMET

Farm structures. New York, John Wiley & Sons, Inc., 1950. 650 p. illus. 23 cm. $7.75. 7540

Contents (abridged): Materials and methods of use—wood, concrete, masonry. Types of structural frames. Heat and heat transfer. [illegible] Heat flow through walls—insulation. Temperature [illegible] in walls. [illegible] Dairy buildings. Poultry housing. Principles of crop and feed preservation and storage. Storage of fruit and vegetable crops. Storage of grains. Farm house. Estimating construction costs. [illegible] Introduction to structural design. [illegible] Appendix. Index.

Note: A book on the engineering of farm structures rather than on their planning and building. It relates standard methods of structural analysis and design to the problems encountered by architects or agricultural engineers in designing farm buildings. Standard building materials are covered as well. [illegible] The book is intended primarily for students of agricultural engineering, but [illegible] also suitable also as [illegible] reference manual.

CARTER, DEANE G

Farm buildings. *Line drawings by Keith H. Hinchcliff.* Fourth edition, rewritten; previous editions by Deane G. Carter and W. A. Foster. New York, John Wiley & Sons, Inc., 1954. 291 p. illus. 23 cm. $5.50. 7541

Contents: Introduction. Resources for planning. Farm and farmstead planning. Basic planning for farm buildings. Environmental conditions in farm buildings. Building materials—wood and wood products. Concrete and masonry units. Manufactured building materials. Structure of farm buildings. The parts of structure. Calculating costs and quantities. Farm dairy housing. Beef cattle and sheep housing. Hog housing. Farm poultry housing. Storing and conditioning ear corn. Grain storage and conditioning. Feed-storage structures. Housing farm machinery and equipment. Buildings for limited or special use. The farmhouse. Appraisal of farm buildings. Farm-building management. Appendix. Index.

Note: A compact, introductory treatment of the subject, designed for use as [illegible] textbook in colleges of agriculture and of interest also to architects concerned with the design of farm buildings, and to agricultural extension workers and practical farmers. It provides [illegible] broad view of the subject with more attention given to principles of planning and design, labor-saving, and materials than to actual construction techniques. The third edition was published in 1941. In the fourth edition the emphasis has been shifted even more toward principles and basic considerations, and more attention is given to contemporary trends in planning farm housing for efficiency and labor saving. There is much new text, and most of the illustrations are new.

DAVIS, ELIZABETH GOULD, compiler

Rural electrification in the United States. A bibliography of selected references. Washington, D. C. Government Printing Office 1954. 145 p. [illegible]3 cm. (United States. Department of Agriculture. Bibliographical bulletin no. [illegible]4) $0.45. 754[illegible]

Contents: Bibliographies. Development. Annuals. Chronological. By state. Rural electric cooperatives. General. Programs. Organization and management. Legal aspects. Distribution and load. Utilization and load building. Rates and consumption. Line costs and construction. Power sources. Effects. General. Farm production. Rural [illegible] industry. Index.

Note: A selected and classified list of book and periodical references to material on the historical, sociological, economic, and philosophical aspects of rural electrification in the United States. Technical and engineering phases of rural electrification are included only when they contain material bearing on costs or other factors affecting distribution of electricity. Most of the 17[illegible] entries are for items published between 1[illegible] and 1[illegible]. Call numbers indicate location of publications in the U. S. Department of Agriculture Library.

GRAY, HAROLD E.

Farm service buildings. New York, McGraw-Hill Book Company, Inc., 1955. 455 p. illus. 23 cm. (McGraw-Hill publications in agricultural engineering. Quincy C. Ayres, consulting editor) $7.50. 7543

Contents: Part I, Development and planning of farm buildings: Introduction. Planning farm service buildings—the farmstead. Part II, Materials of construction: Wood. Wood—fasteners. Concrete and masonry products. Manufactured building materials. Part III, Structural requirements. Loads on farm service buildings. Base construction of concrete and masonry. The main frame. Floor and ceiling support. Roof framing. Covering layers. Part IV, Environmental control: Fundamentals applicable to environmental control. Design procedures for environmental control. Part [illegible] Buildings for housing livestock: Dairy cattle housing. Poultry housing. Beef, sheep, and swine housing. Part VI, Storage buildings: Machinery housing and farm shop. Grain storage. Apple storages. Potato storages. Silos. Part [illegible], Remodeling farm buildings. Appendix. Index.

Note: A substantial work on all kinds of farm buildings—except housing for people—currently used on farms in the United States of America. It covers planning, materials, structural details, and the design of buildings for specific uses. A few examples of design calculations are included. It contains some information on equipment used within buildings such as feeding cribs. It covers both traditional methods of construction and relatively new methods, such as pole construction. Special devices such as timber connectors are described, and their uses in farm structures are illustrated. It is organized for use as [illegible] textbook in agricultural college courses, and is valuable also to practical farmers, agricultural extension workers, and builders who are concerned [illegible] th the construction of farm buildings.

GULVIN, HAROLD E.

Farm engines and tractors. New York, McGraw-Hill Book Company, Inc., 1953. 397 p. illus. 24 cm. (McGraw-Hill publications in agricultural engineering. Quincy C. Ayres, consulting editor) $6.50. 7544

Contents: Engine nomenclature. Engine terminology. The four-stroke-cycle, single-cylinder and multicylinder engines. The otto two-stroke-cycle engine. The Diesel engine. A comparison of spark-ignition and compression-ignition engines. Engine fuels. Fuel systems. Lubricants. Lubrication systems. Cooling systems. Ignition systems. Power transmission and drive systems. Auxiliary power

ernment Printing Office, 1953 271 p. illus. 19 cm $1 50 7535

Contents Introduction. Weirs. Parshall flumes. Submerged orifices. Current-meter gaging stations. Special measurement methods for open channels. Water-stage recorders, stilling wells, and gages. Measurement methods for pressure conduits. Bibliography Tables. Appendix.

Note This manual has two principal purposes: " to describe the common and standard methods and devices used by the Bureau of Reclamation for irrigation water measurement in the western United States and to acquaint irrigation system operators with several methods of measurement which cannot be classed as standard, according to present practice, but which may be used where the degree of accuracy obtainable is consistent with the requirements. The manual supersedes the booklet, *Measurement of irrigation water* five editions of which were published by the Reclamation Bureau during the period from 1913 to 1940, and the tentative edition of the *Manual for measurement of irrigation water* published in 1947 It is intended primarily for the use of irrigation works operators, ditch riders, and others in the irrigated western United States of America. It is useful also to engineers concerned with the design operation, and maintenance of devices and structures used in measuring irrigation water Forty-nine separate tables for measuring water flow are grouped together at the end of the manual.

UNITED STATES DEPARTMENT OF AGRICULTURE

Water Edited by Alfred Stefferud Washington, D C Government Printing Office, 1955 751 p illus. 24 cm. (United States Department of Agriculture The yearbook of agriculture, 1955) $2 00 7536

Contents (abridged) Our need for water The story of water as the story of man, by B. Frank. Animals and fowl and water by J F Sykes. The needs and uses of water by plants, by L. Bernstein. Water and the micro-organisms, by P R. Miller and F E. Clark. Where we get our water: From ocean to sky to land to ocean, by W C. Ackermann and others. The water in the rivers and creeks, by W B. Langbein and J V B Wells. Underground sources of our water by H. E. Thomas. Is weather subject to cycles? by L R. Tannehill. Hauling down more water from the sky by C. Gardner Jr Measuring snow to forecast water supplies, by R. A. Work. Fog, mist, dew and other sources of water by F W Went. Conversion of saline waters, by D S. Jenkins and others. Water and our soil How rainfall and runoff erode soil, by B. Osborn. Retention and transmission of water in soil, by L. A. Richards. Caring for our watersheds Conservation begins on the watersheds, by C. B Brown and W T Murphy The possibilities of land treatment in flood prevention, by H. O. Mateer and others. Frozen soil and spring and winter floods, by H. C. Storey The management of public watersheds, by G. R. Salmond and A. R. Croft. Water and our forests How to get more snow water from forest lands, by B C. Goodell and H. G. Wilm. Managing forests to control soil erosion, by E. G. Dunford and S. Weitzman. Soil surveys on forest and range lands, by J L. Retzer and E. A. Colman. Water for irrigation Supplemental irrigation in humid regions, by M. M. Tharp and C. W Crickman. Surface irrigation methods, by J T Phelan and W D Criddle. Preparing land for efficient irrigation, by J G Bamesberger Pumping ground water so as to avoid overdraft, by D C. Muckel. Replenishing ground water by spreading, by D C. Muckel and L. Schiff. Irrigation water and saline and alkali soils, by M. Fireman and H. E. Hayward. Water and our crops Climate as an indication of irrigation needs, by H. F Blaney Soil moisture in relation to plant growth, by C. H. Wadleigh. How to measure the moisture in the soil, by H. R. Haise. When to irrigate and how much water to apply by S. A. Taylor and C. S. Slater Irrigation of tobacco, peanuts, and soybeans, by D M. Whitt and C. H. M. van Bavel. Irrigating cotton to insure higher yields, by B A. Krantz and others. The irrigation and culture of rice, by C. R. Adair and K. Engler Growing 100-bushel corn with irrigation, by H. F Rhoades and L. B. Nelson. The irrigation of sugar beets, by J L. Haddock. Our ranges and pastures Farming where rainfall is 8–20 inches a year by F L. Duley and J. J. Coyle. Irrigation practices for pastures and forage crops, by J R. Carreker and J H. Lillard. Development and improvement of coastal marsh ranges, by R. E. Williams. Gardens, turf and orchards Irrigating orchards in dry regions, by F J Veihmeyer and A. H. Hendrickson. Drainage of fields: Technical problems and principles of drainage, by T W Edminster and J van Schilfgaarde. Systems for draining the surface, by K. V Stewart, Jr and I. L. Saveson. Tile drainage—its installation and upkeep by K. H. Beauchamp. The use of pumps for drainage, by J G. Sutton. Drainage of peat and muck lands, by J C. Stephens. Water and our wildlife Managing watersheds to provide better fishing, by H. P Olson and others. The need of wildlife for drinking water, by L. W Swift. Wetlands and the management of waterfowl, by S. P Shaw and W F Crissey Pure water for farms and cities: The encroachment of salt water into fresh, by G. G. Parker Pollution—a growing problem of a growing nation, by C. E. Schwob. Treating waste water for cities and industries, by R. E. Fuhrman. Safe sewage disposal for rural homes, by H. L. Garver. What research is doing on problems of water in agriculture, by C. P Barnes. Appendixes. Index.

Note. This large, cyclopedic volume, written by many specialists, has as its chief purpose the explaining of the nature, behavior, use, and conservation of water in agriculture. However, many other topics related to the use of water are also discussed. The emphasis is on facts to help farmers and others reach correct decisions in matters of water utilization and control. The book contains 16 pages of photographs, as well as line illustrations and charts in the text.

UNITED STATES DEPARTMENT OF AGRICULTURE LIBRARY

Drainage of agricultural land a bibliography of selected references. Compiled by Elizabeth Gould Davis and Marie L. Gould. Washington, D C. Government Printing Office, 1956 200 p. 23 cm. (United States. Department of Agriculture. Miscellaneous publication. No. 713) $0.60 7537

Contents Sources consulted. General. Research. Soil science in relation to drainage. Hydrology in relation to drainage. Legislation and finance. Special problems in drainage Irrigated lands. Peat and muck soils. Forests. Mosquito control. Drainage practices: Surface drainage. Open-ditch drainage. Subsurface drainage. Pump drainage and wells. Dams, dikes, and levees. Equipment. Drainage needs and effects. Projects and programs: North America. Central America and the West Indies. South America. Continental Europe. British Isles. Africa. Asia. Australia, New Zealand, and the Pacific Islands. Index.

Note. A numbered bibliography running to 1,573 items, arranged by topics, of publications on the subject of agricultural drainage for the period 1935–1953. Included are books, bulletins, government publications, journal articles, and theses. The majority of the entries are in English and pertain to North American conditions, but there is also considerable representation of items in foreign languages. In cases where the listed work is in a language that does not employ the Roman alphabet, the title is given in English. A brief note as to contents is added when the title is not explicit.

FARM MACHINERY AND BUILDINGS

BAINER, ROY, AND OTHERS

Principles of farm machinery By Roy Bainer R. A Kepner and E L. Barger New York John Wiley & Sons, Inc., 1955 571 p. illus 22 cm (The Ferguson Foundation agricultural engineering series) $8 75 7538

Contents Research and development in farm machinery Field capacities and cost analysis. Materials of construction. Elements of rotary power-transmission systems. Hydraulic controls and power-take-off drives. Tillage force analysis and hitching. Soil tillage—moldboard-type tools. Disk tools. Miscellaneous tillage equipment. Earth-moving equipment. Crop planting. Row-crop cultivation, flaming, and thinning. Application of fertilizers. Hay harvesting—mowing, raking, and baling. Forage chopping and handling. Seed cleaning and sorting. Grain and seed harvesting. Corn picking and shelling. Cotton harvesting. Harvesting of root crops. Spraying and dusting. Farm transport. Appendix. Index.

Note A broad treatment of farm machinery from the engineering standpoint. Typical machines are described, but the emphasis is on their engineering. Such devices as hitches for implements drawn by tractors are analyzed in terms of force relations, and formulas are given for the calculation of such relations. Details of very specialized mechanisms, such as the topping mechanism on a sugar beet harvester are illustrated. The book is introductory to the subject

Moses Ben Duncan and Kenneth R. Frost

Farm power New York John Wiley & Sons, Inc., 1952 484 p. illus. 24 cm. $5 75 7550

Contents (abridged) Part I, Relation of farm power to agriculture. Farm power development and utilization. Part II, Internal-combustion engines. Internal-combustion engine principles. Valve and engine timing. Fuels and combustion. Ignition methods. Diesel engines. Fundamentals of electric ignition. Starting and lighting systems. Governors and governor controls. Engine cooling. Lubrication. Engine troubles. Part III, Tractors. Clutches. Transmissions. Differentials and final drives. Pulley attachments, power take-offs, and power lifts. Tractor controls. Air cleaners. Spark arresters. Traction members. Power measurement. Hitches and drawbars. Tractor selection and management. References. Index.

Note Although the title indicates a general treatment of power on farms, the book is limited to tractors and their engines. The treatment is practical, and it is also simple in the sense that no previous experience with mechanical engineering on the part of the reader has been assumed. On the other hand, such aspects as tractor transmissions are discussed in adequate detail for the farmer's purposes. The book is intended primarily for students at agricultural colleges. It can be used also as a source of general information about tractors and their elements. There is a five-page bibliography

Phipps Lloyd J., and others

Farm mechanics text and handbook. New edition. By Lloyd J Phipps H. F McColly L. L. Scranton, and the late G. C. Cook. Danville, Ill. The Interstate Printers & Publishers, 1954 757 p. illus. 24 cm. $4.25 7551

Contents Introduction. Farm shop work. Shop tools and equipment. Woodwork and farm carpentry. Painting, refinishing and glazing. Welding. Hot and cold metal work. Sheet metal work. Rope and leather work. Farm power and machinery. Farm motors. Belts and tractors. Transmission of power. Farm machinery. Farm buildings and conveniences. Farm buildings. Concrete work. Farm home conveniences and sanitation. Fencing. Rural electrification. Soil and water management. Processing farm products. Appendix. Index.

Note Both a textbook for courses in farm mechanics offered to vocational students of agriculture and a reference book for use on the farm, this volume covers a wide range of building and repair operations. It is organized in five parts whose titles are given above, and in 51 chapters. Tools and techniques are described very specifically. There are several hundred illustrations, and each of the chapters contains a list of references to books and bulletins in which additional information may be found. The volume is well indexed for reference use.

Roehl, Louis Michael

Fitting farm tools. Third edition—revised. Milwaukee The Bruce Publishing Company 1940. 120 p. illus. 23 cm. $1.00. 7552

Contents Grinding the farm tools. Small saws. Large saws. Farm-tool saws. Fitting miscellaneous tools. Index.

Note A practical and well-illustrated manual for farmers and agricultural students. Directions for the sharpening of saws, grinding of farm tools, and fitting of handles to farm tools are given.

Sampson Harry O., and others

Farm shop skills in mechanized agriculture. By Harry O Sampson, Albert S. Mowery Harold L. Kugler Chicago American Technical Society 1955 395 p. illus. 22 cm. $4 95 7553

Contents The farm shop. Woodworking with hand tools. Woodworking with power tools. Painting of farm buildings and equipment. Concrete and concrete masonry construction. Soldering and pipe fitting. Metal working on the farm. Welding practices on the farm. Fitting shop and farm tools. Using electricity on the farm. Maintaining farm machinery. Farm shop projects. Index.

Note The amazing range of woodworking and metalworking operations carried out in farm shops in the United States of America is well covered in this practical book. Included are not only common repairs on farm machinery but also simple building, motor repairing and welding. The operations are described in a simple, straightforward style. There are more than 430 illustrations of excellent quality.

Schaenzer, J P

Rural electrification. Fifth revised edition. Milwaukee The Bruce Publishing Company 1955 378 p. illus. 23 cm. $3 75 7554

Contents Electricity the silent partner. How electricity is made and distributed. Serving the farm consumer. Wiring materials. Wiring maintenance and repair. Wiring the farmstead. Wiring the home. Wiring the barn and outbuildings. Lights and lighting. Electric motors. Fractional-horsepower motor applications. Ensilage cutters. Feed grinders. Wood sawing. Hay and grain handling and drying. Farm water supply. Electric power for irrigation. Poultry-house lighting. Electric poultry equipment. Pig and lamb brooders. The milking machine and cream separator. Dairy refrigeration. Other electrical equipment for the dairy. The barn cleaner and silo unloader. The electric fence and the cow trainer. The electric hotbed. Sweet-potato curing and storage. Home and farm freezers. Laundry and cleaning equipment. Kitchen and household equipment. Appendix. Index.

Note An elementary book used primarily as a text in organized agricultural courses at the secondary school level. It is useful also for home study by farmers and others who need an elementary practical discussion of electricity and electrical appliances on the farm. In this edition, there are 316 illustrations, and many of them are reproductions of photographs of electrical equipment used on farms in the United States of America.

Smith Harris Pearson

Farm machinery and equipment. Fourth edition. New York McGraw Hill Book Company Inc., 1955 514 p. illus. 24 cm. (McGraw Hill publications in agricultural engineering Quincy C. Ayres, consulting editor) $7.50. 7555

Contents Farm machinery and its relation to agriculture. Materials of construction. Mechanics. Transmission of power and component parts of machines. Lubricants and lubrication. Hydraulic power lifts and rubber tires. Selection of farm machinery. Tillage history and requirements. Primary tillage equipment. Secondary tillage equipment. Planting equipment. Weed-control equipment. Sprayers and dusting equipment. Fertilizing equipment. Hay and forage harvesting equipment. Grain harvesting equipment. Corn harvesting equipment. Cotton harvesting equipment. Miscellaneous harvesting equipment. Crop-processing equipment. Laboratory equipment. Appendix. Index.

Note An agricultural college textbook of comprehensive scope which is used also as a manual of information for farm equipment managers and dealers, and agricultural extension workers. It describes types of machines and principles rather than the products of specific manufacturers. The third edition published in 1948 was a very extensive revision made to cover the development of new machines introduced after the close of World War II. This fourth edition is the result of another such revision. It reflects the continued rapid expansion of mechanization of agriculture in the United States of America and the constant development of new machinery. The material has been reorganized, and new chapters have been added on such topics as hydraulic power lifts, rubber tires, and weed control equipment. Many new illustrations have been added.

Turner, Arthur William and Elmer J Johnson

Machines for the farm, ranch, and plantation. New York McGraw Hill Book Company Inc., 1948. 793 p. illus. 24 cm. $6.00. 7556

Contents (abridged) Part I, Seedbed-preparation machines. Part II, Crop-planting machines. Part III, Crop-tillage machines. Part IV, Harvest and harvest-handling machines. Part V, Mechanical power and transportation machines. Part VI, General-service machines and barn and product equipment. List of visual aids. Index.

systems. Performance. Selecting tractor or engine. The tune-up. Tractor operation. Appendixes. Abbreviations used. Reference aids. Index.

Note. An elementary practical text designed for instruction in vocational agricultural schools and for reading by farmers who operate tractors. Its purpose is to convey information that will be helpful in the selection and operation of internal combustion engines and tractors for farm use. Mechanical elements of engines and transmissions, fuels, and lubricants are all discussed in a simple style. In the chapter on selection of tractors and engines, several pages are devoted to the tests of tractors, which are carried out by the Agricultural Engineering Department of the University of Nebraska, the results of which provide detailed information on the performance of specific makes and models of tractors. Maintenance of engines and tractors is covered, but repairs are not.

HENDERSON, S M , AND R. L PERRY

Agricultural process engineering New York John Wiley & Sons, Inc., 1955 402 p illus 22 cm. $8 50 7545

Contents: The engineering approach. Fluid mechanics. Fluid-flow measurements. Pumps. Fans. Size reduction. Cleaning and sorting. Materials handling. Heat transfer Air-vapor mixtures (the psychrometric chart) Drying. Refrigeration. Process condition observations, records, and controls. Cost analysis. Process analysis and plant design. Manual operation economy Appendixes. Index.

Note. The engineering aspects of such processes as the drying of grain, the grinding of feeds, the packing of meat, and the freezing of vegetables are treated in this book which is organized for use as text in agricultural engineering. The variety of devices, whose principles are explained, is unexpectedly large for instance, there are five pages on bucket elevators. Although all of the types of devices of interest are described descriptive matter is subordinated to engineering analysis. The expository text includes many worked examples. Literature references are included, and there are other useful reference features such as tables of engineering data.

JONES, FRED R.

Farm gas engines and tractors Third edition New York McGraw Hill Book Company, Inc. 1952 489 p. illus 24 cm. (McGraw Hill publications in agricultural engineering, Quincy C Ayres consulting editor) $7 00 7546

Contents (abridged) Farm power sources and adaptability History and development of the internal-combustion engine and farm tractor Types of farm tractors. Thermodynamic principles and applications—engine cycles and efficiencies. Tractor-engine types and construction. Valves and valve operation. Fuels and combustion. Fuel-supply and carburetion systems. Air cleaners. Cooling and cooling systems. Governors and governing systems. Ignition methods—fundamentals of electric ignition. Storage cells and batteries. Diesel-engine construction and operation. Electric generators—starters—lighting. Lubricants and lubrication systems. Tractor clutches. Tractor transmissions and accessories. Tractor chassis—traction devices—pneumatic tires—steering mechanisms. Tractor power rating—Nebraska power tests. Tractor hitches and field operation. Gas-engine and tractor servicing and maintenance. Economics of tractor utilization. Materials of construction—power transmission. Appendix. Index.

Note An up-to-date textbook which is useful not only in agricultural college courses, but also as practical manual for mechanics and service men, and for owners and operators of tractors. It is illustrated with 415 photographs and drawings and 42 tables, and each chapter is concluded with bibliographical references. For the third edition the author has completely revised a large part of the subject matter A chapter has been added on basic thermodynamics and its application to heat-engine design. Such new developments as the use of LP gas as tractor fuel, hydraulic transmissions, and hydraulic controls are clearly presented. The illustrations have also been revised.

JONES, MACK M

Shopwork on the farm Second edition. New York McGraw Hill Book Company Inc. 1955 626 p illus. 24 cm (McGraw Hill rural activities series W A. Ross, consulting editor) $7 00 7547

Contents: Planning and equipping a home farm shop. Sketching and drawing. Woodwork and farm carpentry Power woodworking saws. The jointer. Painting, finishing, and window glazing. Sharpening and fitting tools. Rope work. Leather work. Concrete work. Soldering and sheet-metal work. Cold-metal work. The metalworking lathe. Farm blacksmithing. Pipework and simple plumbing. Electric arc welding. Oxyacetylene welding and cutting. Repairing and reconditioning machinery Maintaining electrical equipment. Correlated list of visual aids. Index.

Note: Practical information on the use of tools, and on the materials and the various skills needed in maintaining and repairing farm buildings and machinery forms the contents of this book. Outstanding features are an abundance of clear illustrations and summarized lists of the practical points of specific operations, such as soldering and welding. It is used as text in agricultural courses in high schools and vocational schools and as a reference book on farms. The first edition was published in 1945. In this second edition, the book has been considerably *extended to include* more information on power tools, welding, and various other topics.

McCOLLY, H. F , AND J W MARTIN

Introduction to agricultural engineering. New York McGraw Hill Book Company, Inc., 1955 553 p illus. 24 cm. (McGraw Hill publications in agricultural engineering Quincy C Ayres, consulting editor) $7.50 7548

Contents (abridged) Part I, Engineering in agriculture: The development of agricultural engineering. Agricultural engineering applications. Part II, Agricultural mechanics. Agricultural mathematics. Forces and simple machines. Drawing and lettering. Agricultural construction. Part III, Farm power: History of engines and the farm tractor. Selection and management of tractor power. Part IV Farm machinery Materials used in farm machinery Machine elements and the transmission of power. Selection and management of farm machines. Part V Rural electrification Basic electricity and electrical terms. Using electricity on the farm. Part VI, Processing agricultural products. Crop processing on the farm. Food processing. Part VII, Farm structures and conveniences. Farm-buildings investment and economics. Farm-structure requirements. Materials for farm structures. Care and maintenance of farm structures. Farm and home conveniences. Part VIII, Soil- and water-conservation engineering: Farm surveying and mapping. Soil-erosion control. Land drainage. Surface methods of irrigation. The sprinkler method of irrigation. Index.

Note: A broader view of the field of agricultural engineering than is common is presented in this textbook. There are—to cite examples—discussions of heating systems for farm residences, the lighting of poultry houses, and methods of testing the drawbar pull of tractors, as well as the expected decreases of land drainage, irrigation systems, etc. The book is an introduction as stated in the title, and most of the topics are treated descriptively Literature references are given. The authors are Professors of Agricultural Engineering in Michigan State University and the University of Idaho.

MORFORD, V J

Farm arc welding a handbook for building repairing and servicing farm equipment. Cleveland James F Lincoln Arc Welding Foundation 1954 460 p. illus. 22 cm. U.S.A. $2 00 elsewhere, $2 50 7549

Contents (abridged) Part I, General welding information: Using the farm welder Planning and equipping the farm shop. Suggested procedure in welding and cutting. Part II, Repair alteration and construction of farm equipment. Repairing farm equipment. Hard-surfacing farm tools. Tillage and fertilizer handling equipment. Mowing and forage handling equipment. Harvesting and crop processing equipment. Elevators, loaders and conveyors. Farm [illegible] trailers, trucks and machinery transports. Power units. Hitches, [illegible] and hoists. Farm buildings. Household equipment. Recreational equipment. Part III, Useful information Tables. Index.

Note Both the repair and construction of metal equipment used on farms are covered in this useful, fully illustrated book. The techniques described are based on the use of electric arc welding. Many dimensional drawings are included along with large number of photographs of farm equipment built or repaired by arc welding.

Note: A history of developments in the application of chemistry to the theory and practice of agriculture from the time of Democritus to the period of Liebig. The book gives a chronological account of attempts to apply chemical principles to the interpretation of the phenomena of plant and animal life as well as of their success in agriculture. Brief accounts are included of the lives, researches, and publications of 53 different investigators, with special stress upon the influence they exerted on subsequent developments. There are numerous quoted excerpts from the original writings and 32 facsimiles of title pages and drawings from classic publications.

DUTCHER, RAYMOND ADAMS AND OTHERS

Introduction to agricultural biochemistry by R. Adams Dutcher Clifford O Jensen and Paul M. Althouse. New York John Wiley & Sons Inc., 1951 502 p. 22 cm. $7.00. 7562

Contents (abridged): Part I, General and introductory: Chemistry of living matter. Physical state of matter. Carbohydrates. The lipids. Proteins. Enzymes. Biological oxidations. Part II, The plant: Seed germination. The soil and its relation to plant growth. Fertilizers. Pesticides. Plant chemistry. Part III, The animal: Foods and feeding stuffs. Digestion of foods. The chemistry of blood, lymph, and body tissues. The vitamins. Energy metabolism. Lipid metabolism. Protein metabolism. Protein nutrition. Mineral metabolism. Mineral nutrition. Appendix. Index.

Note: This book is primarily a textbook for use in agricultural colleges, but its compact discussions of such topics as protein metabolism could be useful to students in fields other than agriculture. Previous study of inorganic and organic chemistry is assumed in the treatment. The book is designed for approximately the same audience as Dutcher and Haley's *Introduction to agricultural biochemistry* but the contents are largely new.

FREAR, DONALD ELISHA HARDING editor

Agricultural chemistry a reference text. New York. D Van Nostrand Company Inc., 1950–51 2 vols. illus. 25 cm. $12.50 per vol. Set, $22.00. 7563

Contents: Volume I, Principles of agricultural chemistry: Part I, Some fundamental materials and processes common to plants and animals: Chemistry of the carbohydrates, by M. L. Wolfrom. Chemistry of the lipids, by J. B. Brown. Chemistry of the amino acids and proteins, by C. M. Stevens. Part II, Chemical processes of fundamental importance in agriculture: Chemistry of enzymes and their action, by G. F. Somers. Biological oxidations, by V. R. Potter. Biophysical phenomena and cell chemistry, by M. W. Lisse. Part III, Plant chemistry: Plant metabolism—general features, by K. V. Paige. Absorption and utilization of inorganic substances in plants, by D. R. Hoagland and P. R. Stout. The chlorophylls and photosynthesis, by J. F. Stauffer. Plant pigments other than the chlorophylls, by F. P. Zscheile. Utilization of carbohydrates in plants, by J. F. Stauffer. Absorption and utilization of nitrogen compounds in plants, by F. B. Schroeder. Plant hormones and other regulatory factors, by J. van Overbeek. Part IV, Animal chemistry: Animal metabolism—general features, by B. H. Schneider. Digestive processes, by B. H. Schneider. Energy metabolism, by L. Voris. Carbohydrate metabolism, by M. K. Kuhl. Lipid metabolism, by J. B. Brown. Protein metabolism, by G. H. Pritham. Absorption and utilization of inorganic substances by J. K. Loosli. The vitamins, by N. B. Guerrant. Part V, Soil chemistry: The minerals of the soil, by C. D. Jeffries. Colloids of the soil, by E. A. Hauser. Soil organic matter, by J. E. Dawson. Subject index. Volume II, Practical applications of agricultural chemistry: Part I, Chemistry of major agricultural products: The chemistry of seed and cereal crops, by V. R. Moore. The chemistry of fruit and vegetable crops, by H. W. von Loesecke and E. L. Karlson. The chemistry of forage crops, by J. T. Sullivan. The chemistry of meat and meat products, by R. C. Miller. The chemistry of milk and dairy products, by A. H. Johnson. The chemistry of eggs and poultry products, by R. M. Conrad. Part II, Fertilizers and soil amendments: Nitrogenous fertilizers, by S. F. Thornton. Potassium fertilizers, by J. D. Romaine. Phosphate fertilizers, by C. A. Black and W. H. Pierre. Mixed fertilizers, by S. F. Thornton. Liming materials, by A. C. Richer. Minor element supplements, by E. R. Purvis. Part III, Nutrition of farm animals: The nutrition of dairy cattle, by S. R. Smith. The nutrition of beef cattle, by R. H. Graham. The nutrition of horses and mules, by P. B. Pearson and C. F. Winchester. The nutrition of sheep and goats, by P. B. Pearson. The nutrition of poultry, by H. W. Titus. The nutrition of swine, by R. C. Miller. The nutrition of domestic and fur-bearing animals, by A. E. Schaefer. Part IV, Pesticides: Insecticides, by D. E. H. Frear. Fungicides, by D. E. H. Frear. Herbicides, by D. E. H. Frear. Part V, Commercial agricultural chemistry: Inventions and patents relating to agricultural chemistry, by C. W. Rivise and A. D. Caesar. Chemurgic applications of agricultural products, by J. R. Clayton. Subject index.

Note: A comprehensive survey of agricultural chemistry is presented in this work. Each of the chapters discusses in some detail the chemical aspects of some phase of the growing or processing of plants and animals of agricultural importance. Concluding each chapter is a bibliographical list of references. The work is especially suitable for reference use by such readers as (1) university graduate students in the various branches of agricultural chemistry, (2) county agents, extension workers, and business men who need working knowledge of such products as feeds, fertilizers, and insecticides, and (3) research investigators in the agricultural sciences who need information on subjects bordering on their own specialties. The volumes can be used independently of one another.

MITCHELL, JOHN WILLIAM AND PAUL C. MARTH

Growth regulators for garden, field and orchard. *Chicago The University of Chicago* Press, 1947 129 p. illus. (part col d) 22 cm. $2.50 7564

Contents: Introduction. Weed control. Vegetative propagation and transplanting. Prevention of growth in stored plant material. Preventing fruit-drop. Ripening fruit. Improving fruit-set and the production of seedless fruit. Other plant responses to growth-regulating substances. Key to abbreviations of firm names used in lists of commercial preparations. Index.

Note: The present volume has been written primarily for the layman. It provides concise, nontechnical information for amateur gardeners, farmers, and homeowners. For the convenience of such readers, trade names under which the various hormones are marketed in the United States of America are listed, together with the names of the manufacturers. Among the practical uses described of these chemicals are improving the keeping qualities of stored potatoes, killing weeds without injuring the grass in lawns, rooting plant cuttings, making female holly plants produce berries, [illegible] the set of pears and keeping apples from dropping until fully ripened.

ECONOMIC BOTANY

AMES, OAKES

Economic annuals and human cultures. Cambridge Mass. Botanical Museum of Harvard University 1939 153 p. illus. 29 cm. $3.00. 7565

Contents: Preface. The significance of the angiosperm seed. Antiquity of economic plants. Economic plants through the Pleistocene. The more important economic annuals. Plants as measures of cultural time. Index. Errata.

Note: The author develops the theory that "man, evolving with his food plants, developed horticulture and agriculture in both hemispheres at a time which may well have reached far back into the Pleistocene." Tables on the descent of flowering plants and herbaceous annuals based on geologic records and economic annuals through the Pleistocene are included. The bulk of the book consists of the section devoted to the more important economic annuals. For these annuals the Linnaean identification, detailed history of economic use, and diagrammatic illustrations are given.

ARTSCHWAGER, ERNST

Anatomy and morphology of the vegetative organs of *Sorghum vulgare* Washington D C. Government Printing Office, 1948. 55 p. illus. 23 cm. (United States. Department of Agriculture. Technical bulletin no. 957) $0.20. 7566

Contents: Previous investigations. Materials and methods. Gross morphology. Morphology of the stalk. Morphology of the leaf. Anatomy of the stem. Anatomy of the leaf. Anatomy of the root. Literature cited.

Note. A comprehensive guide to the selection, operation, care, general maintenance, and storage of agricultural machinery of practical value to agricultural students, farm machinery dealers, and farmers. The mor common types of machines, such as ploughs, drills, harvesters, and tractors, are discussed in detail, but attention is also given to less-well-known machines, such as hemp cutters, tung-nut hullers, and transplanters. Numerous illustrations depicting practical operations in the use and repair of specific machines are included.

WIK, REYNOLD M

Steam power on the American farm Philadelphia University of Pennsylvania Press, 1953 288 p illus 23 cm. $5 00 7557

Contents: Steam power comes to the farm. The portable agricultural steam engine. Portable steam engines used for threshing purposes. Self-propelled agricultural steam engines. The steam-engine boom, 1885–1912 The heyday of steam power on the farm. Distribution, financing, and sale f steam traction engines. Thresher men's organizations and schools. The development of the tractor and the decline of steam power Notes. Appendix. Bibliography Index.

Note. A history of the use of steam engines in agricultural operations in the United States of America. Most of the engines discussed were self-propelled and were used to operate machines for threshing grain. However there were also other uses, such as the grinding of sugar cane and the operation of saw mills, and these are described also. E ery facet of the subject is covered, even the difficulties of manufacturers in collecting money due from the customers to whom they sold machines. The final chapter deals briefly with the introduction of farm engines and tractors powered by internal combustion engines, a development that soon brought about the end of the use of steam power on the American farm. The book is a scholarly account based on wide review of the source material. It was written under the sponsorship of the American Historical Association. The "Notes"—which are primarily citations of sources—and the bibliography together occupy 55 pages.

WOOLEY, JOHN COCHRAN

Planning farm buildings Third edition. New York McGraw Hill Book Company Inc. 1953 303 p illus. 24 cm. (McGraw Hill publications in agricultural engineering Quincy C Ayres, consulting editor) $5 50 7558

Contents New farming practices and equipment affecting buildings. Planning buildings for size and quality Estimating the cost of new and value of old buildings. Protecting the investment in farm buildings. Expressing ideas in the form of sketches and working and illustratir drawings. Planning a working environment for the dairy cow Planning buildings that will contribute to the production of high-quality milk. Planning housing for young dairy stock. Planning dairy buildings and equipment for efficiency in daily operation. Planning for the intermittent and seasonal operations that support the daily routine. Planning housing for the beef-cattle enterprise. Planning buildings for the hog enterprise. Planning housing for the farm poultry flock. Planning housing for a broiler egg- or turkey-production enterprise. Housing the sheep enterprise. Planning storage for grain and forage. Planning storage for machinery supplies, and equipment. Remodeling old buildings to meet new management practices. Planning field and yard fencing and equipment. Planning for the farm home. Planning for utilities on the farm. Combining housing for the different enterprises at the farmstead. References. Appendixes. Index.

Note A practical book on the planning of buildings for specific farm purposes. It does not deal with structural design or with construction operations. A wide variety of buildings, as indicated by the chapter titles, is covered. In addition the chapter entitled Planning for utilities on the farm covers such matters as planning for water supply sewage disposal, and fire protection. The book is organized so that it may be used as an agricultural college text or as reference book by agricultural extension workers and others who advise farmers and by practical farmers themselves. It is complementary to the author's *Repairing and constructing farm buildings.*

WOOLEY, JOHN COCHRAN

Repairing and constructing farm buildings. New York McGraw Hill Book Company, Inc., 1952 261 p illus 24 cm. (McGraw Hill rural activities series W A Ross consulting editor) $4 40 7559

Contents. Part I, Repairing farm buildings Introduction to Part I Terminology of repair and construction. Disposing of roof and yard drainage. Repairing f undations. Repairing basement walls and floors. Repairing and replacing parts of barn frames. Repairing and re-covering exterior walls. Repairing windows and repairing and replacing doors. Repairing and re-covering old roofs. Insulating old buildings. Ventilating existing buildings. Repairing silos. Repairing ceilings, walls, and floors in farm houses. Part II, Constructing farm buildings. Introduction to Part II: Constructing farm buildings. Staking out a new building. Exca ating for construction of farm buildings. Mixing and placing concrete. Constructing foundation. Erecting the framework of a farm building. Framing gable, gambrel, and hip roofs. Framing Gothic-roof buildings. Constructing yard fences and gates. Appendix General-purpose lumber. Wood fasteners. Paint for farm buildings. Wood preservatives. Definition of parts and terms used in repair and construction of farm buildings. Correlated list of visual aids. Index.

Note: A practical book for the farmer who wants to learn how to construct and repair his own buildings or for contractors and carpenters engaged in such work. It presents in nontechnical language all necessary details for the construction and repair of various types of farm buildings, including the farm home. Carefully prepared line drawings add to the usefulness of the book. While not intended as a textbook, the book should be of service in agricultural education and also for persons who need information on construction and repair for purposes of supervision of carpenters and inspection of finished work.

AGRICULTURAL CHEMISTRY

AHLGREN, GILBERT HAROLD, AND OTHERS

Principles of weed control By Gilbert H. Ahlgren, Glenn C. Klingman and Dale E. Wolf New York John Wiley & Sons, Inc., 1951 368 p illus. 22 cm. $6 00 7560

Contents. Introduction. Principles of control and eradication. Chemicals used in weed control. Physiological effects of herbicides. Field crops grown in rows. Small grains and flax. Grasslands and rights-of-way Drilled and broadcast legumes. Vegetables and fruits. Drainage and irrigation ditches, stream banks, lakes, and ponds. Turf, lawns, and ornamental plants. Brush and undesirable trees. Soil sterilants. Defoliation. Poisonous weeds. Special weed problems. Application equipment. Appendix. Author index. Subject index.

Note An indication of the impact of science upon agriculture is found in the fact that most of this book is devoted to weed control by chemicals. Calcium cyanamide, 2 4-D 2, 4, 5-T and other chemicals now in use or that ha been tried in practical weed control are described. Techniques of chemically controlling weeds in various crops or chemically controlling particular weeds are covered. There are good lists of references and more than 100 illustrations.

BROWNE, CHARLES ALBERT

A source book of agricultural chemistry Waltham The Chronica Botanica Company, 1944 290 p illus. 26 cm. (Chronica Botanica. Volume 8, no 1 1944) $6 00 7561

Contents Agricultural chemistry in ancient times. Thales. Early Greek nature philosophers. Democritus. Aristotle. Experimental science in the later Greek epoch. Practices. Cato. Pliny Secundus. Relations of medicine and pharmacy to agricultural chemistry Dioscorides. Agricultural chemistry in the alchemical and iatrochemical periods: Paracelsus. Palissy. Duchesne. Bacon. Sala. Van Helmont. Glauber. Plattes. Agricultural chemistry in the time of the early Royal Society: Boyle. Redi. Hooke. Mayow Grew Winthrop, the younger. Clayton. Woodward. Hales. Tull. Agricultural chemistry in the early phlogiston period Becher. Stahl. Boerhaave. Réaumur. Duhamel. Margraf. Home. Wallerius. Agricultural chemistry in the late phlogiston period Black. Priestley. Ingen-Housz. Senebier. Cavendish. Scheele. Agricultural chemistry during the chemical revolution. Lavoisier. Thaer and Einhof. Chaptal. Hermbstaedt. De Saussure. Davy. De Candolle. Agricultural chemistry at the beginning of the modern period Wiegmann. Schuebler. Sprengel. Boussingault. Mulder. Liebig. Indexes. Addendum.

pharmaceutical materials than to others, terms pertaining to the crude drug materials of foodstuffs, perfumes, dyestuffs, waxes, etc., are also included. Definitions are compact and are usually expressed in technical terms. Plants are entered under their scientific names, and references to these are made from vernacular names in English, German, French, Spanish and other names used [illegible] countries. A few terms totally outside economic botany are included, for example, "vara, [illegible] unit of length. An appendix that follows the dictionary proper contains several bibliographies of books and periodicals, [illegible] list of terms describing properties and therapeutic uses of drugs, and [illegible] supplement of terms collected too late to be entered in the main alphabet. The book is useful as reference aid to persons engaged in the crude drug trade and to botanists, druggists and physicians.

KLOSE, NELSON

America's crop heritage the history of foreign plant introduction by the Federal Government. Ames The Iowa State College Press, 1950. 156 p. illus. 24 cm. $5.00. 7573

Contents: Early American agriculture. Search for new crops, 1770–1840. Federal promotion of crops. Leadership of the Patent Office, 1836–62. The commissionership, 1862–98. Major importations. Later experiment. Plant introduction under Knapp and Marlatt. Recent years. Plant introduction of the twentieth century. Appendix. Index.

Note: A somewhat informal history of an important activity in the development of agriculture in the United States of America. As the subtitle indicates, it is limited to the efforts of the National Government in introducing and testing new plants. Even within this limitation, the account is rather generalized, and only the most prominent men and the most important importations are given much space. However, information is assembled in the book that had not been readily available to students of the history of agriculture and of the economic development of the United States of America.

MUENSCHER, WALTER CONRAD

Weeds. Second edition. New York The Macmillan Company 1955 560 p. illus. 22 cm. $10.00. 7574

Contents (abridged): Part I, General—weeds and their control. Definitions and importance of weeds. Weeds of special habitats. The control of weeds. Part II, Weeds arranged according to family together with key. Glossary. Ready reference data. Literature references. Index.

Note: A standard and authoritative reference volume. Primarily it is an aid in the identification of plants which, because of their competition with plants of horticultural value or other undesirable characteristics are recognized as weeds. As shown above, there are three preliminary chapters on characteristics and habits of weeds, on how weeds are disseminated, on losses caused by weeds, on weeds that are troublesome pests in special horticultural environments and on the control of weeds. The discussion of the control last mentioned [illegible] somewhat limited in value because of the emphasis in this edition of chemical methods of control. However, methods of control other than chemical ones are adequately covered. The greater part of the space is devoted to the systematic descriptions of weed plants. In these information is given on scientific names, popular names, habits and habitats, range in continental United States and Canada, morphology and control. The plants are described verbally and are also shown in drawings of excellent quality. The descriptions of species are preceded by [illegible] key to identification. The first edition was published in 1935, and described 500 species. Descriptions of 71 additional species have been added in this second edition, and there are 1 new plates. Nomenclature has been revised and literature published since the first edition was prepared has been added to the bibliography.

ROBBINS WILFRED WILLIAM AND OTHERS

Weed control, a textbook and manual, by Wilfred W Robbins Alden S. Crafts, and Richard N Raynor Second edition. New York McGraw Hill Book Company Inc., 1952 503 p illus. 24 cm. (McGraw Hill publications in the agricultural sciences R. A. Brink, consulting editor) $8.00 7575

Contents: Weeds and human affairs. Reproduction of weeds. Methods of preventing the introduction and spread of weeds. Ecology of weeds. Principles of weed control. Tillage methods of weed control. Biological control of weeds. Use of chemicals in weed control. Properties and functions of herbicides. Selective herbicides—foliage contact applications. Selective herbicides—foliage contact applications—oils. Selective translocated herbicides—foliage contact applications—hormone-like substances. Selective herbicides—root applications. Nonselective herbicides—foliage contact applications. Nonselective herbicides—translocated foliage applications. Nonselective herbicides—root applications. Evaluation of combinations of chemical applications. Equipment for applying herbicides. Special weed problems—weeds of grasslands and turf. Special weed problems—cropped areas. Special weed problems—noncropped areas. Special weeds. Appendix: Convenient measures. Required nozzle capacities to apply desired number of gallons of spray per acre. Cost per unit weight of active ingredient. Common and scientific names of weeds used in text. General references. Author index. Subject index.

Note: A critical review of currently useful methods, organized so that it may be used both as [illegible] textbook in agricultural college courses and [illegible] reference book for practical farmers and agricultural extension workers. It has undergone complete revision to cover such developments since the 1942 edition as the discovery of 2,4-dichlorophenoxyacetic acid as [illegible] selective weed killer, the introduction of trichloroacetic acid and its salts, isopropyl phenylcarbamate, and maleic hydrazide, and other types of advances, including soil studies and improved methods of marketing and applying herbicides. The new edition contains new illustrations, additions to the bibliographies, and enlarged sections on specific weeds, the weeds of different crops, and special weed problems. The book has been somewhat reduced in size, principally by the condensing of illustrative material; the figures, mostly photographic, have been reduced in number from 202 in the first edition to 151.

SCHERY ROBERT W

Plants for man. New York Prentice-Hall, Inc. 1952 564 p. illus. 26 cm. $8.75 7576

Contents: Part I, Introduction Man [illegible] dependence upon plants. Man's economic interest in plants. Part II, Products from the plant cell wall: Forests available to man. The forest belts of North America. Wood and its uses. The forests, man, and the future. Fibers. Part III, Cell exudates and extractives. Latex products. Pectins, gums, resins, oleoresins, and similar exudates. Vegetable tannins and dyes. Essential oils for perfumes, flavors, and industrial uses. Medicinals, insecticides, and herbicides—tobacco. Vegetable oils, fats, and waxes. Carbohydrate extractives—sugars and starches. Part IV Plants and plant parts used primarily for food and beverage: Food plants. The cereals. Other food seeds and forages. Vegetables—root, stem, and leaf crops. Fruits. Beverage plants. Of microorganisms and miscellanea. Index.

Note: A readable, encyclopedic work on the plants and plant products that are useful to man. It is organized so that it may be used either as an introductory text in economic botany or as [illegible] source of information for general readers. Plants of considerable economic importance are given several pages of space, while those of minor importance are discussed in [illegible] single paragraph. The book is generously illustrated and the chapters are accompanied by selected references for supplementary reading. The index is full.

TUKEY H. B editor

Plant regulators in agriculture. New York John Wiley & Sons, Inc., 1954 269 p. 24 cm. $6.50. 7577

Contents: An introduction to plant regulators, by H. B. Tukey. Principles of plant growth and how plant regulators act, by C. L. Hamner and H. B. Tukey. The chemical nature of plant regulators, by A. G. Norman. Encouragement of roots by plant regulators, by V. T. Stoutemyer. Control of flowering and fruit setting by plant regulators, by E. H. Wittwer. Parthenocarpy and fruit development in relation to plant regulators, by L. C. Luckwill. Abscission and plant regulators, by F. T. Addicott. Plant regulators to prevent preharvest fruit drop, delay foliation and blossoming, and thin blossoms and young fruits, by L. P. Batjer. Maturing and ripening as influenced by application of plant regulators, by W. S. Stewart. Inhibition of sprouting by plant regulators, by O. Smith. Plant regulators and plant breeding, by E. L. Emsweller. Plant regulators for weed control in lawn, garden, orchard, and nursery, by R. F. Carlson and J. E. Moulton. Plant regulators for weed control in field crops, by C. J. Willard. Plant regulators for weed control in the tropics, by J. van Overbeek. Plant regulators for vegetation control on non-crop land, by E. C. Barnes. Equipment and methods for the application of plant regulators, by A. E. Mitchell. Index.

Note: This book was planned as [illegible] source of background information for such persons as county agricultural agents and others who advise farmers, amateur gardeners, public highway officials, etc.

Note. In this bulletin the morphology and anatomy of the sorghum plant are treated in detail because of the value to the geneticist and the pathologist of a knowledge of the structure of the plant organs. One hundred fifty-two different varieties of sorghum grown at the experimental farm at State College, New Mexico, furnished the material for the study and the illustrations which it contains.

FIFIELD, COLBURN CHARLES, AND OTHERS

Quality characteristics of wheat varieties grown in the western United States, by C C Fifield, C E Bode, H. C Fellows, Ray Weaver, J F Hayes, Alfred Christie, B E Rothgeb and Elwood Hoffecker Washington D C Government Printing Office, 1945 35 p illus 23 cm (United States Department of Agriculture. Technical bulletin no 887) $0 10 7567

Contents Introduction. Materials. Methods. Experimental results Agreement between field and nursery and irrigated and nonirrigated tests. Comparison of varieties of winter wheat. Comparison of varieties of spring wheat. Varieties in California. Commercial utilization and experimental characterization of varieties. Interrelations of quality characteristics Protein content and yield of grain. Protein content of grain and of flour Carotenoid content of grain and of flour. Relations involving bread-loaf volume. Bread-loaf volume, cooky factor and cake grain and texture. Relations involving cooky factor Relations involving cake grain-and-texture scores. Cake grain and texture and cooky factor Literature cited.

Note. Printed in this pamphlet are data relating to the quality characteristics of 44 varieties of wheat grown in experimental plot and nursery trials in the western United States of America, mostly without but in some cases with irrigation. Included were the important commercial and a number of new varieties. The study was undertaken co-operatively by western agricultural experiment stations and the United States Department of Agriculture. The publication is useful in assisting millers, bakers, and the grain trade in utilizing the wheat produced in the western states, and in guiding agronomists in recommending varieties to be grown under similar environmental conditions.

FOGG, JOHN MILTON, JR

Weeds of lawn and garden a handbook for eastern temperate North America Illustrations by Léonie Hagerty Philadelphia University of Pennsylvania Press 1945 215 p 21 cm. $3 00 7568

Contents (abridged) Introduction Why some plants are weeds. The geographic origin of weeds. The extermination of weeds. Chemical controls. Weeds as soil indicators. Illustrations and descriptions of weeds. Glossary Bibliography Index.

Note An unpretentious but useful guide which is suitable chiefly for amateur gardeners. It contains clear drawings and descriptions of 175 weeds which are common to the region mentioned in the title. When the immature form of the weed differs considerably from the mature plant, the former is also shown in order to aid in the early eradication of the weed. Methods of control are described very briefly—chemical control, for example, being covered in somewhat less than three pages, and other methods being covered in a line or two in the description of the weed itself.

GILMAN, JOSEPH CHARLES

A manual of soil fungi. Ames The Iowa State College Press 1945 392 p illus. 23 cm. 7569

Contents. Phycomycetes. Ascomycetes. Fungi imperfecti. Mycelia sterilia.

Note. A reference book designed to assist research workers in the fields of biology and agriculture in the identification of fungi which have been isolated from the soil. Mushrooms, plant pathogens not isolated directly from the soil, and forms from leaf mold and decayed wood not fully incorporated in the soil are not included. The book is based on a survey of the literature of the subject and provides descriptions of the growing characteristics of those species which have been cultivated artificially Keys to classes, orders, species, and families facilitate the problem of identification. A 10-page bibliography and a glossary are included. A second edition was published in 1957 450 p., $7.50.

HERMANN, F J

A botanical synopsis of the cultivated clovers (*Trifolium*) Washington, D C. Government Printing Office, 1953 45 p. illus. 23 cm (United States. Department of Agriculture. Agriculture monograph no. 22) $0.25 7570

Contents: Introduction. Key to cultivated clovers. *Trifolium pratense. Trifolium campestre. Trifolium dubium. Trifolium fragiferum. Trifolium tomentosum. Trifolium resupinatum. Trifolium hybridum. Trifolium repens. Trifolium ambiguum. Trifolium alexandrinum... Trifolium glomeratum. Trifolium subterraneum. Trifolium medium. Trifolium pratense. Trifolium striatum. Trifolium arvense. Trifolium alexandrinum. Trifolium incarnatum. Trifolium hirtum. Trifolium lappaceum.*

Note. A key for the identification of species and detailed descriptions of each of 20 clovers, many of them relatively newcomers to America, which have demonstrated such desirable agronomic qualities that they are now widely grown on a commercial basis in the United States. The key and descriptions are published to help the interested layman in distinguishing the different species of clovers. For each species are given scientific name, common name, bibliographical references, scientific description, range, and a line drawing.

HILL, ALBERT FREDERICK

Economic botany a textbook of useful plants and plant products. Second edition. New York McGraw Hill Book Company Inc. 1952 560 p illus 24 cm (McGraw Hill publications in the botanical sciences, Edmund W Sinnott, consulting editor) $8 00 7571

Contents (abridged) Introduction The importance and nature of plant products. Industrial plants and plant products. Forest products, wood and cork. Rubber and other latex products. Gums and resins. Essential oils. Fatty oils and waxes. Sugars, starches, and cellulose products. Drug plants and drugs. Food plants: The major cereals. The minor cereals and small grains. Legumes and nuts. Vegetables. Fruits of temperate regions. Tropical fruits. Food adjuncts. Spices and other flavoring materials. Beverage plants and beverages. Appendix. Bibliography Index.

Note. An introductory survey of the economical products derived from plants. It is designed for use as a textbook, but it serves equally well as a reference book. In both public and private libraries it is used to supply general information on such plant products as cherry gum, gum arabic, kola nuts, and Spanish moss. Though it is limited to books published since 1936, the bibliography is a helpful feature. In this edition, there is a fair amount of new material, including discussions of 140 additional species. There are 280 figures, most of which are reproductions of photographs.

HOCKING, GEORGE MACDONALD

A dictionary of terms in pharmacognosy and other divisions of economic botany a compilation of words and expressions relating principally to natural medicinal and pharmaceutical materials and the plants and animals from which they are derived their chemical composition, applications, and uses, together with some other materials derived from the plant animal and mineral kingdoms of current economic interest Springfield Ill. Charles C Thomas, 1955 284 p. illus. 25 cm. $9 75 7572

Note A dictionary of terms from various fields of economic botany Although more of the terms pertain to medicinal and

Agriculture

[illegible]

WELLS, JAMES S.
Plant propagation practices. New York The Macmillan Company 1955 344 p. illus. 23 cm. $7.50. 7583

Contents: [illegible]

Note: [illegible]

PLANT DISEASES

BARNES, HELEN VIRGINIA, AND JESSIE M ALLEN, compilers
A bibliography of plant pathology in the tropics and in Latin America. Washington, D C. Government Printing Office 1951 78 p. 27 cm. (United States. Department of Agriculture. Bibliographical bulletin no. 14) $0.40. 7584

Contents: Introduction, by F. L. Wellman. A bibliography of plant pathology in the tropics and in Latin America. Index of [illegible]. Index of plant diseases.

Note: This bibliography, listing [illegible] references on phytopathology in the tropics and Latin America, covers the years 1937 through 1949. [illegible]

CATION, DONALD AND OTHERS, editors
Virus diseases and other disorders with viruslike symptoms of stone fruits in North America. Publication committee Donald Cation, chairman. Washington, D C. Government Printing Office 1951 276 p. illus. (part col d) 24 cm. (United States. Department of Agriculture. Agriculture handbook 10) $2.00. 7585

Contents. Introduction. Virus diseases of peach. Virus diseases of sweet cherry. [illegible] Virus diseases of plum and prune. [illegible] Virus diseases of almond. [illegible] Literature cited. Appendix: Common and scientific names of plants. List of authors. Host-disease index.

Note: This handbook brings together up-to-date information about more than 40 known virus diseases affecting stone fruits in the United States of America, and also covers certain [illegible] Many photographs, [illegible] in black and white and in color [illegible] The chapters, each devoted to [illegible] The following subheadings occur in typical chapters: name of the disease, name of the causal virus, history, geographic distribution, economic importance, host range, symptoms, [illegible] The publication is useful to plant pathologists, fruit growers, nurserymen, students, and regulatory officials.

CHESTER, KENNETH STARR
The nature and prevention of the cereal rusts as exemplified in the leaf rust of wheat. Waltham Chronica Botanica Company 1946. 269 p. illus. 27 cm. (Annales cryptogamici et phytopathologici. Volume IV) $5.50. 7586

Contents (abridged): Introduction: names and history of the disease. Origin, distribution, and economic importance. Effect of the rust on the host plant and its yield. [illegible] Etiology. Physiologic specialization. Factors affecting rust survival and development. [illegible] Control of [illegible] rust by [illegible] Control by rust resistance. Bibliography. Author index. General index.

Note: An inclusive survey of the knowledge of leaf rusts of wheat, viewed as an exclusive of the whole cereal rust problem. It is based on a thorough survey of the international literature, and references are incorporated in the text to the [illegible] in the bibliography. The author's underlying theme is that the cereal rusts can be kept under control and the world is saved from starvation only by the vigilance of plant breeders and specialists in plant diseases who work constantly on the problem throughout the world. [illegible] The two final chapters are devoted to the most important technique yet developed—that of breeding varieties of wheat which are resistant to rust—and it is shown that even this technique must be constantly pursued in order to keep pace with the variations in rusts which adapt them to propagation on the new resistant varieties. The bibliography is 19 pages long.

CHESTER, KENNETH STARR
Nature and prevention of plant diseases. Second edition. New York McGraw Hill Book Company Inc., 1947 525 p. illus. 23 cm. (Blakiston books on agriculture) $7.50. 7587

Contents: Significance of plant disease in agriculture. Types of plant disease. Fungi. Diseases caused by basidiomycetes: Rusts, Smuts. Fleshy fungi, mycorrhizae. Diseases caused by ascomycetes. Diseases caused by imperfect fungi. Diseases caused by phycomycetes and related fungi. Damping-off and related troubles. Diseases caused by bacteria. Diseases caused by viruses. Diseases caused by parasitic seed plants and algae; epiphytes. Diseases caused by nematodes or eelworms. Physiogenic diseases. The methods of studying plant diseases. [illegible] and parasitic disease. Etiology and epiphytology of disease. Principles and procedures in the control of plant diseases. Control of plant diseases by regulation. Control of

on the use of herbicides and other plant regulators. It presents for readers with technical education the basic scientific facts and chemistry of compounds that regulate plant growth and describes the uses of the regulators that are commercially available. It contains a number of useful tabulations on such matters as the influence of growth regulators on the maturity and ripening of fruits. Although much information is included on methods of application, the book is not intended as a manual of application techniques. References are included to literature in which these techniques and other aspects of the subject are described in more detail.

VESTAL, PAUL ANTHONY, AND RICHARD EVANS SCHULTES

The *economic* botany of the Kiowa Indians, as it relates *to the* history of the tribe With a foreword by Clyde Kluckhohn. Cambridge, Mass Botanical Museum of Harvard University, 1939 110 p illus 27 cm $5 00 7578

Contents. Introduction. Historical notes. Materials and methods. Key to the pronunciation of Kiowa words. Economic plants of the Kiowa. Enumeration of Kiowa uses. Discussion of the foregoing botanical notes. I. Distribution studies, II. Borrowing. Conclusions. Summary Bibliography Explanation of the plates. Index.

Note In this work the technique of geographical botany is used to show relationship between the known history of Kiowa Indians and the geographical distribution of the plants used as foods, medicines, and symbolic plants. The uses of plants by the one-time nomadic, hunting Kiowa are correlated before, and after settlement by the tribe on a reservation in Oklahoma. Many plants which are in use today are the same ones which were employed as far back as the actual and traditional history of the tribe can be traced. Other plants, some important, have been acquired since settlement on the reservation. The most important recent acquisition is peyote, which has brought numerous changes in ceremonies and medicines.

WILSON, CHARLES MORROW, editor

New crops for the new world. New York The Macmillan Company, 1945 295 p illus 24 cm. $4 50 7579

Contents The undeveloped field of tropical fruits, by W Popenoe. Maize in the new world, by E. Anderson. The fattening of livestock breeds, by A. O. Rhoad. Palm oils and waxes, by M. L. Bomhard. Rubber returns to Latin America, by W N Bangham. Cinchona, the "fever" tree, by W Popenoe. Drug and medicinal crops, by E. C. Higbee. Biological control of insect pests, by C. P Clausen. Forest resources of tropical America, by A. Bevan. Silks from South America, by O. E. Adamson. Bamboos in the new world, by A. Lee. Peppers for the Americas, by A. T Erwin. Flowers for the new world, by B. Y Morrison. Cane sugar production, by P Honig. Introducing American plants to the Americas, by B. Y Morrison. Launching new crops for the Americas, by V C. Dunlap.

Note A survey designed for general reading, of recent efforts to introduce new crops and to re-introduce old ones on a commercial basis, together with expert appraisals of opportunities for further investigation and development. Most of the material is concerned with the Latin American countries, especially their tropical and subtropical regions. Each chapter is written by a specialist, but the book is designed for nonspecialists and general readers. There is more emphasis on the historical and economic than on the botanical and genetic aspects of the crop plants. The activities of both commercial firms and government agencies are described.

PLANT PROPAGATION

ADRIANCE, GUY W AND FRED R. BRISON

Propagation of horticultural plants *Second* edition New York McGraw Hill Book Company, Inc., 1955 298 p illus 24 cm. (McGraw Hill publications in the agricultural sciences R A Brink consulting editor) $6 50 7580

Contents: History and development of horticulture. The structure of plants. Inflorescences, flowers, fruits, and seed. Special plant-growing equipment. Methods of propagation. Germination of seeds. Methods of seedage. Layerage. Cuttage. Bulbs and other modified structures. Graftage. Methods of grafting. Methods of budding. Propagation of important horticultural plants. Transplanting. Pruning. Index.

Note. A broad rather than a detailed presentation of basic information and practice. The primary purpose of the book is to serve as a textbook for students of agriculture. It covers the techniques of propagation that are important in the production of horticultural plants, but does not describe all of them in full detail. The chapter on methods of grafting, for example, is only 18 pages long; however it includes references to 11 experiment station publications and journal articles. The first edition was published in 1939 Much new material has been added in this edition, and there has been some reorganization of the book. There are now 158 figures and a selection of recent literature has been added to the chapter bibliographies.

HAYES, HERBERT KENDALL, AND OTHERS

Methods of plant breeding, by Herbert Kendall Hayes, Forrest Rhinehart Immer and David Clyde Smith. Second edition. New York McGraw Hill Book Company, Inc., 1955 551 p illus 24 cm (McGraw Hill publications in the agricultural sciences, R. A. Brink consulting editor) $4 00 7581

Contents. The role of plant breeding. The genetic and cytogenetic basis of plant breeding. Heterosis. Mode of reproduction in relation to breeding methods. Techniques in selfing and crossing. The pure-line method of breeding naturally self-pollinated plants. Hybridization as method of improving self-fertilized plants. The backcross method of plant breeding. Breeding for disease resistance —for insect resistance. Special techniques. Inheritance in small grains and flax. Cotton and sorghum breeding. Development of methods of corn breeding. Inheritance in maize. Forage-crop improvement. Breeding other cross-pollinated plants. Seed production. Some commonly used measures of type and variability Correlation and regression in relation to plant breeding. Chi-square tests. Field-plot technique. Experimental designs and statistical methods for simple plant-breeding experiments. Heritability Literature citations. Glossary Appendix. Index.

Note. The purpose of this textbook for college courses is "to summarize the methods of breeding that have been developed for various categories of crop plants, to explain the reasons by particular methods are chosen for certain types of crop-improvement problems, and to introduce principles of field-plot technique and of statistical analysis that are adapted for particular uses. Concise reviews are included of the mode of inheritance of important characters of certain crops, notably corn, in order to illustrate the value to the breeder of inheritance as an aid in planning the breeding program. The first edition was published in 1942. Significant among the additions in this second edition are an expanded treatment of heterosis, summary of the current status of breeding for insect resistance, review of the present viewpoint of breeding forage crops, including both legumes and grasses, and a chapter on heritability which differentiates between variability due to genetical and environmental causes. The literature citations have been revised. In addition to its use in college courses, the book is useful as a reference summary for agricultural extension workers and others.

KAINS, MAURICE GRENVILLE, AND L. M. MCQUESTEN

Propagation of plants a complete guide for professional and amateur growers of plants by seeds, layers, grafting and budding, with chapters on nursery and greenhouse management. Revised and enlarged edition. New York Orange Judd Publishing Company, Inc. 1942 639 p. illus. 23 cm. $6.00 7582

Contents. Introduction. Germination. Seed testing. Vegetative propagation. Layerage, division, separation. Classes of cuttings. Root inhibition on cuttings by growth substances. Propagating structures. Transplanting. Greenhouse fumigation. Grafting—general considerations. Methods of grafting. After-treatment of grafts.

[illegible] in the transmission of plant diseases. Insect transmission of [illegible] compared with insect transmission of plant [illegible]. [illegible] in the study of insect transmission of plant [illegible].

Note: The [illegible] brings together the accumulated facts of insect transmission of plant diseases, [illegible] the phenomena from the standpoint of three broad [illegible], [illegible] as well as the standpoint of practical plant pathology.

[illegible], Roderick

Diseases of cereals and grasses in North America (fungi, except smuts and rusts). New York. The Ronald Press Company 1950. [illegible] p. 24 cm. $5.00. 7594

Contents: The Fungi. [illegible]. Literature cited. Index of fungi. Index of hosts and grasses.

Note: A systematic, descriptive [illegible], designed to aid plant pathologists in the identification of parasitic fungi and the diseases of the grass family caused by them. [illegible] fungi associated with parasitic fungi are also included. The geographic area covered includes North America, Central America, and Hawaii. The [illegible] of each species includes [illegible] description of the [illegible] fungus and of disease symptoms in the host, [illegible] by hosts and parasites, world distribution, and [illegible]. The author [illegible] plant pathologist on the staff of the Agricultural Experiment Station of the State College of Washington.

[illegible]vens, Neil Everett, and Russell B. [illegible]vens

Disease in plants: an introduction to agricultural phytopathology. Waltham. Chronica Botanica Company. 195[illegible]. [illegible]19 p. [illegible]4 cm. $5.00. 7595

Contents: Plants, plant disease, and human welfare. The effect of disease on plants. Causes, agents of plant disease. Viruses. Bacteria and fungi. Flowering plants, nematodes, and insects. Nutritional factors, [illegible] effects, chemical injury. Factors influencing the development of pathogenic diseases. The host. The pathogen. Weather and soil. Insects. Variation and physiological specialization in plant pathogens. Introduced hosts and pathogens. Disease control. The economy of disease control. Chemical treatment. Seed treatment. Soil treatment—crop rotation. [illegible]. Breeding for disease resistance. Market pathology. [illegible] plant disease problems. General index. Index of persons.

Note: A survey in which the emphasis is on the aspects of plant disease which are of general interest and applicability. On [illegible] points, such as the [illegible], [illegible], there is little or no elaboration; on the other hand, such aspects as methods of [illegible] are adequately described. Descriptions of individual diseases are in general not included, but types of diseases are discussed. The style is condensed. For example the chapter on breeding plants for resistance to disease [illegible] only 10 pages long. However, [illegible] supplemented by [illegible] selected bibliography. Social and economic aspects are covered in general, and the economy of various [illegible] control measures [illegible] compared.

Summers, Eaton Melrose, and others

Mosaic of sugarcane in the United States, with special reference to strains of the virus by Eaton M. Summers, E. W. Brandes, and R. D. Rands. Washington, D. C. Government Printing Office. 1948. 124 p. illus. 23 cm. (United States. Department of Agriculture. Technical bulletin no. 955) $0.35. 7596

Contents: High lights of sugarcane mosaic and the current development of resistant varieties. Theories of causation. Proof of [illegible]. Need for practical control. Developing resistant, adapted varieties. Geographic origin of [illegible]. Need for continuous variety replacement. Host range of the sugarcane mosaic virus. Sugarcane species and varieties. Other grass hosts. Epidemiology [illegible]. Local spread of mosaic in the field. Vectors. Strains of the mosaic virus. Historical. Discovery of differential variation. Comparative infection experiments. Summary of different symptoms produced on certain sugarcane varieties by seven strains of the mosaic virus. Key for identification of strains and substrains of mosaic virus. Key for identification of strains and substrains of the sugarcane mosaic virus differentiated in this study. Regional and varietal survey. Recovery from mosaic. Importance of recovery. Recovery among commercial varieties in Louisiana. [illegible] of recovery. Literature cited.

Note: Mosaic, [illegible] typical virus disease of the leaf-mottling type, has been [illegible] serious problem at one time or another in practically every country that produces sugarcane. It was [illegible] major cause of the [illegible] of the Louisiana sugar industry in 1925–26. The production of mosaic-resistant varieties of sugarcane is one of the main objectives in the cooperative varietal improvement program of the Division of Sugar Plant Investigations of the United States Department of Agriculture, the American Sugar Cane League, and the Louisiana Agricultural Experiment Station. This bulletin presents data from studies of strains of the mosaic [illegible] and their effect on different varieties of sugarcane.

United States. Department of Agriculture

Plant diseases. Edited by Alfred Stefferud. Washington, D. C. Government Printing Office. 1953. 940 p. illus. (part col'd) 24 cm. (United States. Department of Agriculture. The yearbook of agriculture 1953) $2.50. 7597

Contents (abridged): Oats and causes. Three billion dollars [illegible], by J. I. Wood. Bacteria—small and mighty, by A. J. Riker and A. C. Hildebrandt. Viruses, [illegible] of mankind, by C. W. Bennett. [illegible] pathogenic fungus, by W. W. Diehl. Resistance, antidotes, and [illegible], by L. R. [illegible]. The tiny but destructive nematodes, by A. L. Taylor. The effect of weather on diseases, by P. R. Miller. The effects of soil fertility, by G. L. McNew. Using chemicals to combat root diseases, by J. R. Christie. Treating seeds to prevent diseases, by R. W. Leukel. How nurseries get virus-free fruit stock, by L. C. Cochran and others. Breeding for resistance to disease, by G. H. Coons. Grasses and legumes. The many ailments of clover, by E. W. Hanson and K. W. Kreitlow. Sources of healthier alfalfa, by F. R. Jones and O. F. Smith. Bacteria, fungi, and viruses on soybeans, by H. W. Johnson and D. W. Chamberlain. Leaf diseases of range grasses, by J. R. Hardison. Cotton. Fusarium and nematodes on cotton, by A. L. Smith. The rot that attacks 2,000 species, by L. M. Blank. Bacteria and fungi on seedlings, by D. C. Neal. The leaf spots of cotton plants, by L. M. Blank. Food and feed grains. Rust rots of wheat, oats, rye, barley, by J. J. Christensen. The rusts of [illegible], oats, barley, rye, by J. H. Martin and R. C. Salmon. The smuts of wheat, oats, barley, by C. S. Holton and V. F. Tapke. Some smuts and rusts of corn, by A. J. Ullstrup. Several diseases of corn, by A. J. Ullstrup. Vegetable crops. Fungi diseases of beans and lima beans, by W. J. Zaumeyer and H. R. Thomas. Root rots, [illegible] and blights of peas, by W. T. Schroeder. The important diseases of lettuce, by G. W. Bohn. Hazards to onions in many areas, by J. C. Walker. Control of diseases of potatoes, by R. A. [illegible]. The fungi that cause rot in sweetpotatoes, by H. T. Cook. Preventing the diseases of peppers, by C. Wilson. Ways to combat disorders of tomatoes, by S. P. Doolittle. Developing healthier vegetables, by H. R. Thomas and W. J. Zaumeyer. Sugar crops. Rots, blights, and leaf diseases of sorgo, by E. V. Abbott and P. E. Beauchamp. Sugarcane and its diseases, by E. V. Abbott. The tobacco plant. The pests that make [illegible] tobacco, by E. E. Clayton. Soil fumigation to control root [illegible], by J. C. Gaines and T. W. Graham. Some ornamentals. Infectious diseases of carnations, by K. F. Baker and R. W. Jones. Virus diseases of the chrysanthemum, by P. Brierley. Some fungi that attack gladioli, by R. O. Magie. Nematodes in bulbs, by W. D. Courtney. Viruses on roses, by P. Brierley. Aster yellows, by L. O. Kunkel. Fruits and nuts. Scab of apples, by G. W. Keitt. Rust diseases of apple, by D. H. Palmiter. Powdery mildew on apples, by E. [illegible]. Scab on the pear, by J. R. Kienholz. Brown rot of peach, by J. C. Dunegan. Bacterial spot of peach, by J. C. Dunegan. Anthracnose of peach, by D. H. Petersen. Cherry leaf spot, by F. H. Lewis. Virus diseases of stone fruits, by L. C. Cochran and E. L. Reeves. Bacterial canker of stone fruits, by E. E. Wilson. Virus diseases of citrus fruits, by J. M. Wallace and T. J. Grant. Virus diseases of strawberries, by W. B. Bewert. Red stele disease of strawberry, by W. F. Jeffers and D. H. Scott. Virus diseases of the strawberry, by H. E. Thomas and C. P. Marcus, jr. The cultivated highbush blueberry, by A. C. Goheen. Filberts and Persian walnuts, by P. W. Miller. After harvest. Market diseases caused by fungi, by G. B. Ramsey and M. A. Smith. Postharvest [illegible] diseases, by L. P. McColloch. Injuries from chilling and freezing, by L. P. McColloch. Mechanical and chemical injuries, by G. B. Ramsey. Using chemicals to stop

plant disease by inducing resistance. Control of plant diseases by cultural methods. Glossary Index.

Note. This work, prepared by member of the faculty of Oklahoma Agricultural and Mechanical College, covers the causes and prevention of plant diseases in manner suited to formal courses in colleges of agriculture. It discusses the leading diseases f the major crops grown extensively in the United States of America, emphasizes the recognition of these diseases, and indicates in detail the latest generally approved methods f their control. In this edition there has been some rearrangement of the chapters, and new material has been added on several diseases, including apple bitter rot, sugar cane red rot, cabbage yellows, early blight of potato and tomato, aster yellows, sugar beet curly top phloem necrosis of elm, and golden nematode f potato. The reference lists of pertinent literature have been revised to include recent material.

DICKSON, JAMES G

Diseases of field crops. Second edition. New York McGraw Hill Book Company, Inc., 1956 517 p illus. 24 cm. (McGraw Hill publications in the agricultural sciences, R. A. Brink, consulting editor) $8 50 7588

Contents Section I, General introduction Introduction. Physiological anatomy of plant groups in elation to disease. Section II, Diseases of cereals and grasses: Barley diseases. Corn diseases. Millet diseases. Oat diseases. Rice diseases. Rye diseases. Sorghum, Sudan grass, and Johnson grass diseases. Sugarcane diseases. Wheat diseases. Grass diseases. Section III, Diseases of legumes Alfalfa and sweetclover diseases. Clover diseases. Soybean diseases. Peanut diseases. Diseases of other legume crops. Section IV Diseases of fiber and other field crops. Cotton diseases. Flax diseases. Tobacco diseases. Appendixes. Index.

Note A concise work used primarily as textbook in agricultural college courses, but useful also as a reference book. It describes the causative organisms, symptoms and effects, etiology and control f diseases to which each crop is subject. It was based on a wide survey of the international literature, and extensive bibliographies are noteworthy feature. The first edition was published in 1947 Although the organization of this second edition is essentially the same, most chapters appear to have been revised, some f them very extensively in order to incorporate the results published in the literature published as recently as 1954 is now cited, and nomenclature has been revised to conform to the recommendations of the International Botanical Congress. The author is Professor of Plant Pathology in the University of Wisconsin.

DODGE, BERNARD OGILVIE, AND HAROLD W RICKETT

Diseases and pests of ornamental plants. Revised edition New York The Ronald Press Company 1948 638 p illus 24 cm $6 00 7589

Contents (abridged) Part I, Diseases and pests in general Plant diseases—plant diseases classified by symptoms—plant diseases classified by cause. Bacteria and fungi. Insects and other animal pests. Control—culture—exclusion—resistance—poisons—heat—biologic control. Part II, Diseases and pests of particular hosts. Index.

Note A relatively comprehensive manual. It is intended for use by home gardeners but is full enough to be useful in professional horticulture. The greater portion of the book is devoted to a listing of plant diseases and pests of specific hosts, given under the botanical names f the plant hosts, which are arranged in alphabetical order The symptoms and appearance of the disease are indicated along with the scientific and common name of the disease and methods of control are outlined. The first four chapters present general outline of the causes, effects, and means of preventing or overcoming plant diseases.

ELLIOTT, CHARLOTTE

Manual of bacterial plant pathogens. Second, entirely revised edition. Waltham Chronica Botanica Company 1951 186 p illus. 27 cm (Annales cryptogamici et phytopathologici Volume x. Edited by Frans Verdoorn) $6 50 7590

Contents: Part I, Bacterial plant pathogens. Part II, Bacterial species reported in the literature from plants but not recognized as valid plant pathogens. Index of genera and species of plant hosts. Index of genera and species of bacteria.

Note: A reference book of primary interest to professional workers in plant pathology It is organized as a dictionary with the scientific names of the pathogens arranged alphabetically The entry for each organism contains variety of information, including literature references, concise physical descriptions, behavior in various standard tests, optimum temperature, thermal death point, hosts, geographical distribution, and methods of control. The nomenclature adopted in this edition is that of the 1948 edition of Bergey's *Manual f determinative bacteriology.*

HORSFALL, JAMES G

Principles of fungicidal action. Waltham Chronica Botanica Company, 1956 280 p. illus 24 cm. $6.50 7591

Contents Introduction. Fungicidal action and its measurement. Protection and its measurement. Mobilization of a residual protectant. Permeation into the fungus. Disruption of cellular organization. Effect on mitosis, morphology and growth. Effect on metabolism of the fungus. Chelation of needed metals. The action of metals. The action of sulfur. Action of organic sulfur compounds. Action of quinones and other ketones. The action of heterocyclic compounds. Chemotherapy of plant diseases. Bibliography General index. Author index.

Note. A substantial amount of information on compounds that kill fungi or inhibit their growth has accumulated in the literature. This knowledge is organized and presented critically in this book. The mechanisms or principles of the toxic and inhibitory effects are the primary subjects. In the second and third chapters, the author describes criteria and techniques for the measurement of fungicidal action, and in the chapters that follow he discusses, first, the mechanisms of toxicity and inhibition, such as disruption of cellular organization, and interference with normal metabolism, and, second, the fungicidal actions of specific compounds. The book is based on the literature and references are made from all important statements in the text to the source articles, including the author's own papers in journals. The bibliography is 18 pages long.

LANGFORD, MICHAEL HENDRIX

South American leaf blight of hevea rubbertrees. Washington, D C. Government Printing Office, 1945 31 p. illus. 23 cm. (United States Department of Agriculture. Technical bulletin no 882) $0 10 7592

Contents Co-operative rubber-planting program. Blight-control program. Factors influencing disease development and severity. Host susceptibility The fungus. Environmental conditions. A system of classifying hevea clones for resistance. Other leaf spots associated with leaf blight. Resistance tests at Turrialba, Costa Rica. Clones recommended for field plantings. Literature cited.

Note. The fungus *Dothidella ulei* is the cause of South American leaf blight, the chief obstacle to the successful cultivation in tropical America of the Para rubbertree, the world's foremost source of rubber This bulletin reports the results of a four-year study of the influence of environmental factors on leaf blight severity and gives the results of a series of resistance tests on hevea plant material assembled from many parts of the world.

LEACH, JULIAN GILBERT

Insect transmission of plant diseases. New York McGraw Hill Book Company Inc., 1940 615 p illus 23 cm (McGraw Hill publications in the agricultural sciences L. J Cole, consulting editor) $9 00 7593

Contents Introduction. The interrelationships of plants and insects. Symbiosis between insects and microorganisms and its significance in plant pathology The relation of insects to the spread and development of plant diseases. Plant diseases caused by toxicogenic insects. Insects and bacterial diseases. Insects and phytofungus diseases. Insects and virus diseases. Insects and other small animals pathogenic Protozoa. Mites, nematodes, and physiology of as vectors of plant diseases. The anatomy and insect ... The anatomy plants in relation to infection and insect ... in the transmission of plant and physiology of insects in relation to the ... in relation to insect diseases. The inocula of plant pathogens ... habits of insects in ... transmission. The feeding and breeding

Locusts, insects, and weeds controlled by chemicals for the control of soil pests, by E. M. Crailey and F. E. Whitehead. Pesticides in banana culture, by N. C. Thornton. Use of pesticides for stored products in tropical countries, by R. R. Lester. Pest control in citrus production in tropical and subtropical America, by A. F. Camp. Weed control in Puerto Rico, by T. J. Muzik. Arthropod parasites in the African and new world tropics, by H. H. Schwardt and others.

Note. Papers on the chemical control of diseases, weeds, and insects encountered in the growing of the principal food crops in the tropics and semi-tropics have been collected in this volume. Six of the papers are accompanied by bibliographical references. The book is of interest to at least four groups: manufacturers of agricultural chemicals, tropical agricultural research workers, extension agents concerned with introducing improved methods of tropical agriculture, and persons engaged in raising crops (except [illegible]) in the tropics.

BAILEY STANLEY FULLER, AND LESLIE M SMITH

Handbook of agricultural pest control. New York Industry Publications, Inc. 1951 191 p. illus. 20 cm. $3.25 7604

Contents: Introduction. Section I, Chemicals: The agricultural chemicals. Physical and chemical properties. Compatibility. Containers. Fumigants and fumigation. Toxicology and residues. Spray oil specifications. Section II, Machines: Spraying machines. Rates of delivery of spray machines. Rates of application for sprays. Dusts and dusting. Aircraft. Section III, Miscellaneous. Reference tables and formulas for mosquito control operators. Hazards. Miscellaneous topics. Tables and formulas. Terms and symbols.

Note: A brief, well-constructed handbook containing up-to-date factual information useful in the use of insecticides, fungicides, weed killers, etc. There are 101 tables in addition to formulas scattered through the text. Trade names of chemicals are included occasionally to clarify the materials designated by chemical names. It is a useful book for progressive farmers, agricultural pest control operators, agricultural advisers, and research workers wanting precise guidance in handling, measuring, and applying agricultural chemicals. The authors are Professors of Entomology in the University of California.

BAKER, WILLIAM ALFONSO AND OTHERS

Biological *control of the European corn* borer in the United States, by W. A. Baker, W. G. Bradley and C. A. Clark. Washington, D. C. Government Printing Office, 1949 185 p. illus. 23 cm. (United States. Department of Agriculture. Technical bulletin no. 983) Gratis. 7605

Contents (abridged): Introduction. Synonymy. Importations. Domestic collections. Laboratory breeding. Storage of parasite material. Emergence. Parasite shipments. Colonization and sampling methods: Liberation procedure. Field sampling procedure. Imported parasites in [illegible] status in the United States. Imported parasites not known to be established in the United States. Parasite complexes at test points in the United States. Utilization of native hosts by imported parasites. Field status of native parasites. Insect predators. Birds. Diseases. Summary. Literature cited.

Note: A scientific report by three entomologists of the Bureau of Entomology and Plant Quarantine on the results of investigations conducted between 1919 and 1940 to reduce the losses of field and sweet corn due to the European corn borer. These investigations largely took the form of experiments with the introduction of various dipterous and hymenopterous insects parasitic upon the corn borer. Methods of introduction and colonization of the parasites are described, and figures are tabulated to show results by years, localities, and species of parasites released. Individual attention is given 21 different imported species of insect parasites. Briefer treatment is given to 29 native insect parasites and to insect predators, birds, and diseases as biological methods of control.

BROWN ANTHONY WILLIAM

Insect control by chemicals. New York John Wiley & Sons, Inc. 1951 817 p. illus. 22 cm. $15.00 7606

Contents: Insecticides of the mid-twentieth century and their properties. The structure of organic chemicals and their toxicity to insects. Susceptibility of insects to the entry of poisons. The pharmacology of poisons for insects. Equipment developed for the application of insecticides. The application of insecticides from aircraft. Toxicity and hazards to man and domestic animals. Toxicity of insecticides to plant growth. Chemical control of insects feeding on *plants. Chemical control of* insects affecting man and animals. Insecticides and the balance of animal populations.

Note: The author has managed to cover practically all aspects of the subject, from what is known about the relations between molecular structure and toxicity to comparisons between airplanes and helicopters in the application of dusts. The gist of the available information is given in all *instances*, and most practical workers in the field will find it adequate. Literature citations are given for all the important statements in the text. Most of the bibliographies appended to the chapters run to several hundred references; hence the book can be used as a guide to the literature.

CLAUSEN C P

Biological control of insect pests in the continental United States. Washington, D. C. Government Printing Office, 1956 151 p illus. 23 cm. (United States. Department of Agriculture. Technical bulletin no. 1139) $0.45 7607

Contents: Worldwide search for effective natural enemies. Organizations conducting biological control work. Microbial control of insect pests. Utilization of native parasites and predators. Effect of insecticides on natural enemies. Ants in relation to biological control. Mass culture of parasites and predators. Results of biological control. *Fruit insects. Field* and garden insects. Insects affecting forest, shade, and ornamental trees and shrubs. Miscellaneous insect pests. The established parasites and predators. Literature cited. Index to genera and species.

Note: The first half of this pamphlet is devoted to general considerations on biological control of insect pests in the United States of America, to descriptions of 33 fruit insect pests, 39 field and garden insect pests, 16 tree insect pests, and 4 other insect pests which have been subject to biological control measures, and to summaries of the work that had been done up to the year 1950 with each pest, to introduce and establish specific enemy species. The second half contains brief accounts of the importation, colonization, recovery and effectiveness in the field of each 95 species *of parasites and predators now established in the continental* United States of America.

COTTON RICHARD T

Pests of stored grain and grain products. Revised edition. Minneapolis Burgess Publishing Company 1956 306 p illus. 22 cm. $4.00 7608

Contents: Grain and its conservation. Rodent and bird pests of stored grain. The insect pests of stored grain. Prevention and control of insect infestation in farm-stored grain. Control of insects in grain stored in elevators and warehouses. Detection of insect infestation. The insect problem in flour mills. Practical control methods in the mill and flour warehouse. Fumigants and fumigation. The common fumigants. Flour mill and warehouse fumigation. Fumigation in atmospheric vaults and vacuum chambers. Heat sterilization. Protecting stored seed from insect attack. Index.

Note: A manual of practical information about the pests of stored grain and products made from it such as flour. Control measures for rodents, birds, and insects are explicitly described for conditions under which grain is stored on the farm, in elevators, in warehouses, in flour mills, and in the home. Most of the space is devoted to practical methods of control, but methods which have been proposed but not yet developed, such as the use of electromagnetic energy for killing insects in stored grain, also are mentioned, and literature reference is given. A substantial number of the 108 figures illustrate insect pests and techniques of application of fumigants and insecticides. The author is associated with the Bureau of Entomology and Plant Quarantine of the United States Department of Agriculture.

CRUMB S E.

The larvae of the Phalaenidae. Washington, D. C. Government Printing Office, 1956 356

spoilage, by J R. Winston and others. Ailments of house plants, by F A. Weiss. Wilt, rust, and pasmo of flax, by H. H. Flor Diseases of the avocado by G. A. Zentmyer Some important diseases of coffee, by F L. Wellman. Glossary Index. Color plates.
Note. A collection of practical discussions, based on scientific research, covering the entire range of plant diseases. Information is included on the cause and control of the diseases of all important crop plants. The volume concludes with a complete index and a separate section of 32 colored plates.

WALKER, JOHN CHARLES

Diseases of vegetable crops New York McGraw Hill Book Company, Inc, 1952 529 p illus 24 cm (McGraw Hill publications in the agricultural sciences, R. A. Brink, consulting editor) $8 00 7598

Contents Diseases of asparagus. Diseases of bean and lima bean. Diseases of beet and chard. Diseases of carrot and parsnip. Diseases of celery and parsley Diseases of crucifers. Diseases of cucurbits. Diseases of lettuce, endive, escarole, chicory salsify and globe artichoke. Diseases of onion, garlic, leek, chive, and shallot. Diseases of pea. Diseases of pepper and eggplant. Diseases of potato. Diseases of rhubarb. Diseases of spinach. Diseases of sweet potato. Diseases of tomato. Index.
Note A technical manual in which is brought together essential information on the nature and control of most diseases of vegetable crops, together with bibliographical references to pertinent research papers. Under each vegetable or group of vegetables, the diseases are described one by one. For most diseases a brief history is given, followed by discussions of symptoms, causal organism, disease cycle, control measures, and references to the literature. Emphasis is upon the disease rather than upon its treatment, although the treatment is summarized. The work is both a text for college courses in plant pathology and a reference volume for agricultural extension workers.

WALKER, JOHN CHARLES

Plant pathology New York McGraw Hill Book Company Inc., 1950 699 p illus 24 cm. (McGraw Hill publications in the agricultural sciences R. A. Brink, consulting editor) 7599

Contents History of plant pathology Nonparasitic diseases. Bacterial diseases. Diseases incited by plasmodiophorales. Diseases incited by phycomycetes—by fungi imperfecti—by ascomycetes—by basidiomycetes—by phanerogamic parasites—by nematodes. Virus diseases. Relation of environment to disease development. Host parasite interactions. Disease control through exclusion and eradication. Disease control through protection. Disease control through host resistance. Index.
Note An introductory textbook for undergraduate college students of botany and agriculture. The broad principles of the subject are developed from fairly intensive studies of representative diseases. For the diseases discussed there is a general overview an account of symptoms, causal organisms, the disease cycle, varietal resistance, control, and a list of general and specific references. The style is clear and concise and extensive lists of literature citations are included. There are 149 illustrations. A second edition was published in 1957 707 p. $10.00.

WEINDLING, RICHARD

Bacterial blight of cotton under conditions of artificial inoculation Washington D C Government Printing Office, 1948 59 p illus 23 cm. (United States. Department of Agriculture. Technical bulletin no 956) $0 20 7600

Contents Infection and disease reaction of individual leaves Materials and methods. Factors affecting infection of leaves. Factors affecting susceptibility Discussion. Artificially induced epidemics in relation to varietal resistance and epidemiology Methods. Greenhouse experiments. Field experiments. Miscellaneous studies Moisture relations in infection by *Xanthomonas malvacearum*. Vascular infection. Survival of *Xanthomonas malvacearum* in plant tissue. Natural spread of bacterial blight. Literature cited. Appendix.
Note The bacterial blight of cotton, caused by *Xanthomonas malvacearum*, which results on the cotton plant in angular leaf spot, black arm, and bacterial boll rot, is a common disease in all cotton-producing countries and is the subject of the investigations reported in this pamphlet. Emphasis in the experiments, which were carried on mostly at Clemson, South Carolina, between 1942 and 1945 was placed on (1) the host-parasite relationships fundamental in epidemics of the disease, involving intensive studies on infection of individual leaves, and (2) methods for producing epidemics by artificial inoculation, including greenhouse and field experiments on the epidemiology of the disease. The statistical results of the researches are presented in twenty-five tables appearing in the appendix.

WESTCOTT, CYNTHIA

Plant disease handbook. New York D Van Nostrand Co Inc., 1950 746 p. illus. 24 cm. $10 00 7601

Contents: Introduction. Garden chemicals and their application. Classification of plant pathogens. Plant diseases and their pathogens. Host plants and their diseases. List of agricultural experiment stations. Glossary Selected bibliography Index.
Note: A substantial reference manual. There are two main parts. "Plant diseases and their pathogens," about 360 pages in length, furnishes concise semitechnical descriptions of the diseases. The second main part "Host plants and their diseases," about 240 pages in length, is arranged by plant names with the diseases to which a particular plant is susceptible listed under the plant name. The book is more comprehensive than is required by the average home-gardener but it is a valuable reference book for libraries, agricultural extension workers, and advanced amateur gardeners.

WOLF, FREDERICK ADOLPH

Tobacco diseases and decays. Durham N C Duke University Press, 1935 454 p. illus 23 cm. (Duke University publications) 7602

Contents (abridged) Preface. Introduction. The seed bed as related to the problem of control of tobacco diseases. Nutritional diseases. Diseases due to unfavorable water relations. Disorders and diseased conditions of tobacco that are little known and non-infectious. Diseases caused by viruses. Bacterial diseases of tobacco. Diseases of the growing crop caused by fungi. Diseases caused by nematodes. Diseases caused by parasitic flowering or seed plants. Decays of tobacco during curing, during fermentation and storage, and after manufacture. Bibliography Index.
Note. This volume was written to aid the grower in the identification of tobacco diseases and to inform him regarding the causes and control of each disorder and for all others who are interested in the tobacco industry: manufacturers, investigators, plant pathologists, agricultural advisers, and students. A revised edition, 396 p., $7.50, was issued by the same publisher in 1957

INSECT PESTS AND PESTICIDES

AMERICAN CHEMICAL SOCIETY SYMPOSIUM ON PESTICIDES IN TROPICAL AGRICULTURE

Pesticides in tropical agriculture. A collection of papers comprising the Symposium on Pesticides in Tropical Agriculture, presented before the Division of Agricultural and Food Chemistry at the 126th meeting of the American Chemical Society New York, N Y., September 1954 Washington D C. American Chemical Society 1955 102 p. illus. 23 cm. (Advances in chemistry series no. 13, edited by the staff of Industrial and Engineering Chemistry) $3 00 7603

Contents Use of pesticides on basic food crops in the tropics, by J S. Niederhauser and D Barnes. Factors influencing the demand for pesticides in tropical agriculture, by E. J. Hambleton. Pesticides in sugar cane, by E. M. Summers. Pesticides for cotton in the tropical Americas, by C. F Rainwater and J. T Presley Chemical control of pests and diseases of cacao, by R G. Orellana. Control of rubber diseases by chemicals, by F L. Wellman. Coffee

Note A standard survey of the origin, chemistry, methods of preparation, uses, and analyses of insecticides, fungicides, and herbicides. The evolution of its title: *Chemistry of insecticides and fungicides*, 1942, *Chemistry of insecticides, fungicides and herbicides*, 1944, and now *Chemistry of the pesticides*, reflects the constant evolution and extension of chemical means of controlling agricultural pests. The subject is covered primarily from the chemical viewpoint, although toxicity and uses are discussed briefly. Extensive references to the literature are included. This third edition represents major revision involving both reorganization and extensive rewriting. There is now less emphasis on analytical methods, although these are still described briefly, and more emphasis on chemical structure and methods of preparation. Information on all the important new pesticides introduced since the second edition was written has been added, and the bibliographies have been revised to include the recent literature.

GRESSITT, J LINSLEY

The coconut rhinoceros beetle (Oryctes rhinoceros) with particular reference to the Palau Islands. Honolulu Bernice P Bishop Museum, 1953 157 p. illus. 26 cm. (Bernice P Bishop Museum. Bulletin 212) $3 00 7615

Contents (abridged) Introduction. Taxonomy, morphology and biology. Ecological relationships in the Palau Islands. Invertebrate inhabitants of feeding and breeding sites. Control. Quarantine and legislation. The rhinoceros beetle in Samoa. The rhinoceros beetle in other countries. Conclusions. Bibliography. Index.

Note A study of one of the most serious insect pests of the coconut palm. Primarily it is an ecological study; however, it includes also some discussion of taxonomy, morphology and biology and considerable discussion of means of control. A full range of information is presented on the feeding and breeding habits of the insect and it is shown that it will feed on a number of plants other than the coconut palm. It was based on approximately five months' field and laboratory work in the Palau Islands in 1952. In addition to the field and laboratory work, the author—who is entomologist on the staff of the Bernice P Bishop Museum—has surveyed the literature and incorporated the pertinent findings of other investigators. The bibliography contains 310 references. In conclusion, the author makes definite recommendations of procedures for the control of the coconut rhinoceros beetle.

GUNTHER, FRANCIS A. AND ROGER C BLINN

Analysis of insecticides and acaricides a treatise on sampling, isolation and determination, including residue methods. New York Interscience Publishers Inc., 1955 696 p. illus. 24 cm. (Chemical analysis, a series of monographs on analytical chemistry and its applications editors B L. Clarke and I. M. Kolthoff) $14.00 7616

Contents Section I, Problems in securing quantitative residue data. Persisting residues as an analytical problem. Presampling considerations. Sampling considerations. Sample processing. Preanalysis or cleanup treatment. The analyses. Interpretation of data. Analytical bookkeeping. Health hazards in residue laboratories. Section II, Problems in analyzing technical grade materials and formulated products. Composition analysis of technical grade materials and formulated products. Section III, Sampling, measuring, processing, cleanup, and analytical methods. Field sampling procedures. Measurement of samples. Processing procedures. Cleanup procedures. Analytical procedures. Appendixes: Detailed ultraviolet spectra. Detailed infrared spectra. Index.

Note Accurate quantitative analyses of insecticide residues on crops and of insecticides ingredients in commercial mixtures are more difficult to achieve than most other kinds of analytical determinations required in agricultural and industrial chemistry. This book, written by two staff members of the University of California Citrus Experiment Station, provides a detailed guide to tested sampling, isolation and determination procedures. It is written for professional analytical chemists, and the procedures it describes are such as would be carried out in well-equipped agricultural and food industry laboratories. The first three sections containing the chapters on sampling, data interpretation, safety practices and other matters ancillary to the actual analytical techniques runs to 110 pages. A few more than 350 pages are devoted to specific analytical procedures for 50 substances currently in use or being tested for use as insecticides, or acaricides. The appendix contains reproductions of ultraviolet and infrared spectra for about 50 substances. Literature references are of course included.

HOUGH WALTER SENEFF AND A. FREEMAN MASON

Spraying, dusting and fumigating of plants. Principles and applications. Revised edition. New York The Macmillan Company 1951 726 p. illus. 22 cm. $6.95 7617

Contents Part I, Principles: Development of pest control on plants. Insecticides. Fungicides. Miscellaneous spray ingredients, pesticides, and compatibility. Spraying and dusting machines. Construction and operation of spraying and dusting equipment. Fumigation. Soil treatment for control of insects, diseases, and weeds. Growth regulators. Herbicides. Seed treatment. Part II, Applications: Orchard-fruit troubles. Bush-fruit and strawberry troubles. Grape troubles. Cranberry troubles. Citrus troubles. Vegetable and truck-crop troubles. Cotton troubles. Tobacco troubles. General insect feeders. Poison baits. Appendix. Index of authors. Index of subjects.

Note A comprehensive volume on the control of plant pests, diseases and weeds, in the United States of America and Canada. It has been completely rewritten from the original edition of 1928. In the first part, up-to-date information is presented on all phases of the subject, including equipment, chemical compounds, and methods of application. Part II contains brief descriptions of diseases and destructive insects, with keys for diagnosis and discussions of best current remedies. The book contains many illustrations, charts, and formulas, and has bibliographical references in footnotes. It is a practical book which has particular value as a reference work for persons growing fruits and vegetables commercially and for persons working in agricultural experiment stations.

HOWARD LELAND OSSIAN

A history of applied entomology (somewhat anecdotal) (with 51 plates) Washington, D C. The Smithsonian Institution 1930 564 p. illus. 24 cm. (Smithsonian miscellaneous collections. Volume 84 Publication no 3065) $2.25 7618

Contents (abridged) Part I, North America: United States. Canada. Mexico. Part II, Europe: Old European writers on entomology. The Phylloxera of the grapevine and its influence on European applied entomology. Great Britain, Ireland, France and other countries. Part III, Asia. Part IV Africa. Part V Australia and the Pacific. Part VI, South and Central America and the West Indies. Part VII, Medical entomology. The international use of parasites. The practical use of predatory and parasitic insects. Importance of the insect enemies of weeds. Conclusion. Index.

Note A fairly comprehensive record of economic or applied entomology summarizing the work and accomplishments of numerous scientists and institutions throughout the world in the control of insects injurious to plants of commercial value. As indicated by the title, the account is presented as an informal history based on the author's personal contacts in many of the countries treated and upon the literature of the field, rather than as a critical scientific evaluation of the results. A brief history of entomological work in each country precedes the account of modern methods. Included also is a chapter on medical entomology and insect-borne diseases. There are about 230 photographs of leading entomological workers of various countries.

KING W V

Chemicals evaluated as insecticides and repellents at Orlando Fla. Entomology Research Branch, Agricultural Research Service. Washington, D C. Government Printing Office, 1954 397 p. 26 cm. (United States. Department of Agriculture. Agriculture handbook no. 69) $2.25 7619

p illus 23 cm. (United States Department of Agriculture. Technical bulletin no 1135) $1 25 7609

Contents. Introduction. Method of study Sources of material. Key to subfamilies. Subfamily Agaristinae. Subfamily Acronyctinae. Subfamily Heliothinae. Subfamily Acontiinae. Subfamily Cuculliinae. Subfamily Erastriinae. Subfamily Bagisarinae. Subfamily Hypeninae. Subfamily Phalaeninae. Subfamily Hadeninae. Subfamily Ufeinae. Subfamily Amphipyrinae. Subfamily Plusiinae. Subfamily Lithacodiinae. Subfamily Sarrothripinae. Subfamily Catocalinae. Subfamily Herminiinae. Appendix. Literature cited. Index.

Note The Phalaenidae, formerly known as the Noctuidae, is the largest family of Lepidoptera, and includes many important plant pests, among which the best known are the cornworm or tomato fruitworm, the tobacco budworm, and the many kinds of cutworms and armyworms. Because the larvae are responsible for the damage caused by members of this group the larvae are the forms most frequently observed and associated with economic injury In this bulletin the larvae of the family are for the first time classified. Seventeen subfamilies are differentiated, and under each subfamily are grouped the species belonging to it. A key to the subfamilies and keys to the species under each subfamily are provided. For each species are indicated: scientific name, scientific description, notes, distribution within the United States of America and Canada, and food plants on which the larva thrives. Enlarged scale drawings on 11 plates provide the major portion of illustrations.

DE ONG, E R

Chemistry and uses of pesticides Second edition of "Chemistry and uses of insecticides" New York Reinhold Publishing Corporation, 1956 334 p illus 23 cm. $8 75 7610

Contents Introduction. Arsenical compounds. Copper compounds. Sulphur and its compounds. Miscellaneous inorganic compounds. Petroleum and its products. Fumigants and fumigation. Plant derivatives. Synthetic organic insecticides and fungicides, repellents seed protectants. Organic herbicides and rodenticides. Cold, heat, dehydration and radiation as pesticides. Appendixes Dictionary of pesticides. Glossary Tolerances for pesticide residues in or on fresh fruits and vegetables. Official antidotes. Index.

Note A broad, compactly written treatment. The change in title reflects the fact that the scope has been extended to include all chemicals used against pests, including not only insecticides but also fungicides, herbicides and rodenticides. All the commercial chemicals are described and, in addition, there is a short survey of the usefulness of cold, heat, dehydration and radiation in the control of pests. Most of the chapters are devoted to groups of compounds, and the organization of these is as follows A prefatory paragraph or group of paragraphs followed by short, alphabetically arranged articles on individual compounds and, finally literature references. For each compound, chemical names and synonyms, chemical and physical properties, toxicity uses are given as well as variety of other information In comparison to the first edition, the whole book has been revised and largely rewritten.

DETHIER, VINCENT GASTON

Chemical insect attractants and repellents New York McGraw Hill Book Company Inc. 1947 289 p illus 23 cm $6 50 7611

Contents Introduction. Nature of chemical attractants. Essential oils, resins, and related substances. Fermentation products (alcohols, acids, aldehydes, esters, carbinols) Protein and fat decomposition products (fatty acids, amines, ammonia, carbon dioxide) Olfactometers and threshold concentrations. Baits and traps. Repellents. Chemical basis of taste and olfaction. Evolution of feeding preferences. Author index. Subject index.

Note Despite the title, this book is not a manual of recipes for the manufacture of insect attractants and repellents nor guide to the practical use of such substances. Instead, it reviews what is known about the scientific bases, especially the physical and physiological factors, that underlie the effectiveness of such compounds. The results of experiments that have been reported are digested and references are made to the original publications. Experimental techniques and pertinent aspects of insect behavior are described. The author is Professor of Zoology and Entomology at Ohio State University

FENTON, FREDERICK AZEL

Field crop insects. New York The Macmillan Company, 1952 405 p illus. 22 cm. $6 00 7612

Contents. Introduction. Insect abundance and distribution. Insect biology Insecticides. The application of insecticides. Crop sprayers and dusters for insecticides. Physical and mechanical control. Cultural control. Biological control. Plant quarantine and pest control campaigns. Leaf and plant destroying insects. Sap sucking insects. Fruit feeding insects. Soil inhabiting insects. Borers and other internal feeding insects. Feeders on floral parts and seeds. Feeders on broken seeds and farinaceous material. Index.

Note. A general introductory treatment designed mainly for use in agricultural college courses. It covers both insects that attack growing crops in the field and those that attack storage grains. The descriptions of harmful insects occupy more than half of the book, but they include not only biological information but also specific discussions of control. The author is Professor and head of the Department of Entomology in Oklahoma Agricultural and Mechanical College.

FREAR, DONALD E H.

A catalogue of insecticides and fungicides compiled by Donald E. H. Frear with a foreword by F F Lininger Waltham Chronica Botanica Company, 1947–48 2 v 27 cm. (Annales cryptogamici et phytopathologici. Volumes 7–8) *Vol. I* $6 50, vol. II $5.50 $12 00 set. 7613

Contents (abridged) Volume I, Chemical insecticides: Introduction Arrangement of compounds, coding system. General. Organic compounds. Subclassification. Inorganic compounds. Specific instructions and conventions. Abbreviations, references, etc. Chemical insecticides. Condensation products—insecticides. Miscellaneous insecticides. References and author index. Numerical patent list. Volume II, Chemical fungicides and plant insecticides: Chemical fungicides. Condensation products. Plant product fungicides. Miscellaneous fungicides. Plant insecticides. Miscellaneous plant products. References and author index. Numerical patent list. Index of chemical compounds.

Note. A valuable reference book for professional workers in chemistry plant pathology and economic entomology It is one of the results of work done under Project 999 of the Pennsylvania Agricultural Experiment Station, which was set up during World War II to find new insecticides and fungicides. It was the belief of the leaders of this project that before any concerted effort could be made to search for new chemicals, previous work in the field should be surveyed completely This catalogue, therefore, is the result of a comprehensive search of the published literature and of an appeal to workers in the field for unpublished data. Widely used compounds, such as nicotine, lead arsenate, and sulfur are not included but for less common compounds, the catalogue is practically complete up to January 1944. The main part of the catalogue is arranged by coding system especially for the work. Here the compound is described in chemical terminology and its uses are indicated concisely References are made then to the bibliography in which the source articles and patents are cited in full.

FREAR, DONALD E H

Chemistry of the pesticides Third edition. New York D Van Nostrand Company Inc., *1955 469 p. illus. 23 cm. $9 75* 7614

Contents. Introduction. Part I, Synthetic organic insecticides. DDT 1,2,3 4,5,6-hexachlorocyclohexane (benzene hexachloride) and lindane. Chlordane, aldrin, dieldrin, heptachlor, toxaphene and related compounds. Organic phosphorus insecticides. Miscellaneous synthetic organic insecticides. Fumigants. Part II, Natural organic insecticides Insecticides derived from plants—nicotine Pyrethrum and allethrin. Rotenone and rotenoids. Miscellaneous insecticides derived from plants. The oils. Part III, Inorganic insecticides. The arsenicals. Fluorine compounds and miscellaneous inorganic insecticides. Part IV Fungicides Organic fungicides. Copper compounds. Sulfur and inorganic sulfur compounds. Mercury compounds and miscellaneous inorganic fungicides. Part Herbicides. Organic herbicides. Inorganic herbicides. Part VI, Adjuvants Part VII, Rodenticides. Index.

[illegible]

PYENSON, LOUIS L.

Elements of plant protection. With line drawings by [illegible]. New York, John Wiley & Sons, Inc. [illegible] (Wiley farm series) $4.50. [illegible]

Contents: [illegible]

Note: [illegible]

SHEPARD, HAROLD HENRY

The chemistry and action of insecticides. New York, McGraw-Hill Book Company, Inc., 1951. 504 p. illus. 24 cm. $8.50. 7626

Contents: Introduction. Arsenic compounds. Fluorine compounds. [illegible] Copper compounds. [illegible] Plant products: [illegible] Appendix. Index.

Note: [illegible] of the United States Department of Agriculture.

STEINHAUS, EDWARD ARTHUR

Principles of insect pathology. New York, McGraw-Hill Book Company, Inc., 1949. 757 p. illus. 24 cm. (McGraw-Hill publications in the agricultural sciences. R. A. Brink, consulting editor) $12.00. 7627

Contents: Introduction. Mechanical, physical, and chemical injuries. Diseases of nutrition and metabolism. [illegible] Bacterial infections. Fungous infections. Virus infections. Protozoan infections. Nematode infections. Applied insect pathology and biological control. Author index. Subject index.

Note: An introductory but comprehensive survey of [illegible] The author is Associate Professor of Insect Pathology at the University of California.

TEXAS. AGRICULTURAL AND MECHANICAL COLLEGE. ENGINEERING EXPERIMENT STATION.

Handbook on aerial application in agriculture. A compilation of information emanating from research and conferences conducted by the Texas Engineering Experiment Station, the Texas Agricultural Experiment Station and the Texas Agricultural Extension Service of the Texas A. & M. College system. College Station, Texas, The Short Course Office, A. & M. College of Texas, 195[illegible]. 145 p. illus. [illegible] cm. $2.50. [illegible]

Contents: Aircraft, by F. E. Weick. [illegible]

Note: A handbook summarizing the important experimental and practical developments in the use of airplanes in agriculture. [illegible]

UNITED STATES. AGRICULTURAL MARKETING SERVICE. BIOLOGICAL SCIENCES BRANCH. STORED-PRODUCT INSECTS SECTION.

Stored grain pests. Revised August 1955. Washington, D. C., Government Printing Office, 1955. 46 p. illus. 23 cm. (United States. Department of Agriculture. Farmers' bulletin no. 1260) $0.25. 7629

Contents: Popular classification of grain pests. Grain weevils. Grain borers. Grain moths. Flour moths. Grain and flour beetles. [illegible] Mealworms. Dermestid beetles. Spider beetles. [illegible] Cockroaches. Flour or grain mites. Parasites of grain pests. How grain becomes infested. How to prevent primary infestation.

Contents. Sources of compounds tested. Classification of chemicals. Test insects. Evaluation of materials against the body louse. Mosquito larvicides. Flies and mosquitoes. Cockroach toxicants. Flea toxicants. Tick toxicants. Chigger toxicants. Mosquito repellents. Flea repellents. Tick repellents. Synergists. Summary of results of screening tests. Table I, Relative effectiveness of chemicals tested as insecticides and repellents. Table II, Larvicide tests against Southern house and yellow-fever mosquitoes. Table III, Tests of space and residual sprays against house flies and yellow-fever mosquitoes. Table IV Tests against cockroaches. Table V Additional tests of toxicants against fleas. Table VI, Additional tests of toxicants against ticks. Table VII, Additional mosquito-repellent tests. Table VIII Tests of repellents against fleas and ticks. Table IX, Tests of pyrethrum synergists against body lice.

Note Reported in this publication are the results of various chemical tests for insecticidal and repellent action on about 11,000 compounds received for testing between 1942 and 1952 at the Orlando Laboratory of the Bureau of Entomology and Plant Quarantine. The primary data is presented in Table I, covering 821 pages, in which are shown for each compound the name of the chemical its effects upon lice, mosquito larvae, flies, ticks, and chiggers, and its effectiveness as a repellent on skin and on clothes. The handbook is of value to entomologists, chemists, and other scientists interested in the development of new insecticides or in the effects of chemicals on insecticidal activity

METCALF, CLELL LEE, AND W P FLINT

Destructive and useful insects their habits and control By C L Metcalf and W P Flint. Revised by R. L Metcalf Third edition. New York McGraw Hill Book Company Inc., 1951 1,071 p illus. 24 cm (McGraw Hill publications in the agricultural sciences R. A Brink, consulting editor) $12 50 7620

Contents: Insects as enemies of man. The value of insects to man. The external morphology of insects. The internal anatomy and physiology of insects. The mouth parts of insects. Development and metamorphosis. The place of insects in the animal kingdom. The orders of insects. Insect control. Apparatus for applying insecticides. Insects injurious to corn. Insects injurious to small grains. Insects injurious to legumes. Cotton insects. Tobacco insects. Insects injurious to vegetable gardens and truck crops. Insects injurious to deciduous fruits and bush fruits. Citrus insects. Insect attacking shade trees and shrubs. Insect pests of green house plants and the flower garden. Household insects and pests of stored grains, seeds, and cereal products. Insects injurious to domestic animals. Insects that attack and annoy man and affect his health. Index.

Note. A thorough treatment of principles and practice in economic entomology which is used both as a text in college courses and as a reference manual and guide for agricultural extension workers, farmers, fruit growers, etc. The preceding edition was published in 1939 For this edition, parts of the book were entirely rewritten, and other parts were substantially revised and augmented. The chapter on insect control, increased 40 per cent in length, now contains descriptions including structural formulas of more than 150 substances used in the control of insects. The chapter on apparatus for applying insecticides has been completely modernized, and new illustrations of the latest types of equipment have been added. Literature lists have been revised to include the recent literature. There are now 334 figures.

METCALF, ROBERT L

Organic insecticides their chemistry and mode of action New York Interscience Publishers, Inc., 1955 392 p illus. 24 cm. $8.50 7621

Contents Nicotine, nornicotine, and anabasine. Rotenoids. Pyrethroids. Joint action of insecticides. Organic thiocyanates. Dinitrophenols. Dichlorodiphenyltrichloroethane. Acaricides. Benzene hexachloride. Cyclodiene insecticides. Organic phosphorus insecticides. Carbamates. Miscellaneous insecticides. Insecticide resistance. Index.

Note: An authoritative survey of the accumulated knowledge on the chemistry mode of action and toxicology of the organic insecticides. Although it has been developed from and is intended to supersede the author's *Mode of action of organic insecticides*, Washington, D C., 1948, the scope is broader and as might be expected, the information included is more up to date. In effect, the book is a literature survey organized as indicated in the above table of contents. Papers published as late as 1954 are cited. Most of the chapters are organized on the following plan, chemistry relation of structure to activity mode of action mammalian toxicology No index to authors cited is supplied, but the subject index is exceptionally detailed. The book is usable as a reference book of data and a guide to literature for professional workers in such fields as insecticide development, agricultural extension work and public health.

PAINTER, REGINALD HENRY

Insect resistance in crop plants. New York The Macmillan Company, 1951 520 p. illus. 22 cm. $9 50 7622

Contents. Introduction. The mechanisms of resistance. Factors that affect the expression of the permanence of resistance. Resistance to insects in wheat. Resistance to insects in corn. Resistance to insects in cotton. Resistance to insects in sorghums. Resistance to insects in potato. Methods and problems in breeding for resistance to insects in crop plants. Selected supplementary bibliography Index.

Note: This book is a comprehensive survey and digest of the published literature pertaining to the control of injurious insects by growing strains and varieties of crop plants that have high degree of resistance to insect attack. Numerous examples of such resistance are known and the literature is voluminous. The author has summarized it under the headings noted above and has included references to the source articles. The specially titled "Selected supplementary bibliography" is supplementary to the extensive bibliographies appended to the chapters. The author has been the head of co-operative study of insect resistance in crop plants at the Kansas Agricultural Experiment Station since 1926.

PARKER, J R, AND OTHERS

Observations on mass flights and other activities of the migratory grasshopper by J R. Parker, R C. Newton, and R. L. Shotwell Washington, D C Government Printing Office, 1955 46 p. illus. 23 cm. (United States Department of Agriculture. Technical bulletin no 1109) $0 20 7623

Contents. Methods of obtaining data. Changes in distribution and population density preceding 1938 flights. Flights in 1938. Flights in 1939 Flights in 1940. Other observations on flights. Structure and coloration of adult migrants. Increases in crop losses and control costs due to flights. Future flights. Summary Literature cited.

Note The Bureau of Entomology and Plant Quarantine of the U S. Department of Agriculture collected extensive data during the summers of 1938–1940 on the mass flights of the Rocky Mountain grasshopper (*Melanoplus mexicanus*) in those years, the most spectacular and extensive flights since those of 1874–1877 Most of the 1938 flights originated in north-central South Dakota. Flights in 1939 and 1940 originated in the same neighboring states. A summary of the data, together with information supplied by entomologists in the states and the Canadian provinces where flights took place, is presented in this bulletin.

PEAIRS, LEONARD MARION, AND RALPH HOWARD DAVIDSON

Insect pests of farm garden and orchard. Fifth edition. New York John Wiley & Sons, Inc., 1956 661 p. 24 cm. $8.50 7624

Contents Importance of insects to man. Structure and development of insects. Classification of insects. Natural insect control. Applied insect control—Chemical—Mechanical, cultural, biological, legislative. Insecticide formulations, applicators, and dilution table. Insects injurious to various crops—Grasses and cereal grains—Cotton —Leguminous crops—Solanaceous crops—Greenhouse, flower, and vegetable crops—Cucurbit and cruciferous crops—Asparagus, beets, onions, and other vegetable crops—Various fruit and shade trees, and ornamental plants—Pome fruits—Stone fruits—Grapes—Small fruits —Citrus—Stored products and household goods—Man and domestic animals. Index.

Note Designed for use both as textbook in courses in economic entomology at the college level and as a practical reference book for agricultural extension workers and practical farmers, the book is compact, general summary of information on the important

WILCOX, JOSEPH AND OTHERS

Investigations of the tomato fruitworm its seasonal history and methods of control by Joseph Wilcox, A. F Howland, and Roy E. Campbell. Washington, D C. Government Printing Office, 1956 47 p. illus. 23 cm. (United States. Department of Agriculture. Technical bulletin no. 1147) $0.25 7634

Contents: Introduction. Damage to tomatoes. Life history and habits. Parasitism. Control. Phytotoxicity of insecticides. Picking practices as an aid in control. Destruction of crop remnants. Insecticide residues. Summary. Literature cited.

Note: A bulletin reporting scientific studies of the biology and control of the tomato fruitworm (Heliothis zea [Boddie]) carried on from 1934 through 1952 mostly in southern California. In these studies the habits of the insect on the tomato plant were analyzed, and various control measures were tested. The results are presented in 13 illustrations and in 31 tables as well as in the text of the pamphlet. The insect is also known as the corn earworm and the cotton bollworm, and is a major pest on these crops as on tomatoes.

FIELD AND VEGETABLE CROPS

ANDREWS, WILLIAM BAKER, editor

Cotton production, marketing and utilization. State College, Mississippi W. B. Andrews, 1950 476 p. illus. 24 cm. $4.50 7635

Contents: Shifts in cotton production among and within states, and some related factors, 1800–1949, by H. P. Todd. Cotton varieties and breeding, by J. F. O'Kelly. The response of cotton to fertilizers, by W. B. Andrews. Cotton diseases, by A. L. Smith. Cultural practices, by H. P. Smith. Cotton insect control, by W. B. Andrews. Harvesting cotton, by H. P. Smith. Cotton ginning, by C. A. Bennett. Warehousing for market, by J. H. Todd. Cotton fiber technology, by F. L. Gerdes. Cotton classing and standardization, by A. R. Cox. Cotton markets and marketing, by A. R. Cox. The spinning, weaving, finishing and marketing of cotton products, by J. F. Bolgen and others. Uses of cotton and its substitutes, by R. B. Evans. World cotton production and trade, by D. S. Murray. Cottonseed, by J. F. Moloney. Index of authors. Index of subjects.

Note: The editor of this work was associated with the Mississippi Agricultural Experiment Station, and other contributors are associated with agricultural colleges, the U. S. Department of Agriculture, or with associations such as the National Cottonseed Products Association at the time of writing. A compact style is used in most of the chapters, and a wide range of information is presented. Recent developments, such as mechanical cotton picking, are described along with long established techniques. Each chapter is supplemented by a useful bibliography.

BANADYGA, ALBERT ALEXANDER

Cucumbers for pickles a 1948 survey of literature dealing with their production. Oak Park, Illinois National Pickle Packers Association 1949 276 p 24 cm. $3.00 7636

Contents: Introduction—importance and distribution of pickle industry. Cultural practices. Diseases. Insects. Flower mites. Physiology, breeding, and genetics. Varieties. Summary. Bibliography—cucumber references. Appendix. Reports by stations.

Note: In the first part of this book the available information on the culture and breeding of pickle cucumbers is summarized. In the second part the international literature down to 1948 is listed with the usual bibliographical details. Although the book contains information that is valuable to farmers, it is intended more for agricultural extension workers and others who are professionally concerned with the growing of pickle cucumbers. The pickling of cucumbers is not included.

BARNHART FLOYD

Cotton. Fifth edition. Caruthersville, Mo. The author 1956. 390 p illus. (part col'd) 24 cm. $3 75 7637

Contents: The place of cotton. Cotton crop reports. Estimating yield of cotton. Judging and exhibiting cotton stalks and bolls. Elementary cotton marketing. Some factors which lower the grade of cotton. Harvesting cotton. Ginning. Soils, their composition, formation, and classification. Soil, most important factors for farmers. Fertilizers. Types and varieties of cotton. Selecting, delinting, and treating planting seed. Preparing soil for planting. Planting cotton. Cultivation of cotton. Structure and development of insects. Cotton insects and their control. Diseases of cotton, by G. M. Watkins. Appendix. Index.

Note: A practical handbook and textbook written especially for use in the vocational agriculture departments of secondary schools throughout the cotton belt of the United States.

BROWN HOWARD DEXTER, AND CHESTER S HUTCHISON

Vegetable science. Edited by R. W. Gregory Philadelphia J B Lippincott Company 1949 452 p. illus. 24 cm. $6.50 7638

Contents. The importance of vegetables. Food value of vegetables. Cost accounts. Vegetable classification. Soils and fertilizers. Green manures. The growing environment. Plant growing and plant-growing structures. Equipment. Irrigation and drainage. Storage of vegetables. Seed production and plant breeding. Diseases and pest control. Marketing vegetables. Home gardening. The potato. Sweet potato, yam, taro, and dasheen. Tomatoes, eggplant, and peppers. Beans and peas. Cole crops. Perennial crops. Sweet corn and popcorn. Cucurbits or vine crops. Salad crops. Greens. Root crops. Bulb crops. Index.

Note: An introductory text which is, however, sufficiently technical and detailed to make it of value to practical farmers. Agricultural practices which conserve the soil and at the same time permit the economical production of vegetable crops are emphasized. One hundred fifty-four figures, the majority of which are reproductions of photographs, 43 tables, and selected lists of literature references supplement the exposition. The authors are members of the faculty of Ohio State University.

CHRISTIDIS BASIL G., AND GEORGE J HARRISON

Cotton growing problems. New York McGraw Hill Book Company Inc., 1955 633 p. illus. 24 cm. $9 75 7639

Contents (abridged) Part I, Cotton varieties: Varietal characteristics. Cotton breeding. Leading cotton varieties. Part II, Crop rotation and soil cultivation. Part III, Fertilization. Nutrient requirements. Commercial fertilizers. Other means for increasing soil fertility. Part IV The cotton seed. Viability. Seed treatment before sowing. Recently recommended treatments. Part V Planting: Planting date. Spacing. Planting the seed. From seed to seedling. Part VI, Cultural methods Tillage, weed control, thinning, topping, defoliation, and desiccation. Irrigation. Part VII, Insect pests and diseases. Part VIII, Harvesting the crop. Index.

Note. Brought together in this treatise are the results of scientific experiments on the culture of cotton which have been carried out in the United States of America, Egypt, India, Greece and other countries over the past three decades. Most of the information presented has been published in the international literature, including journals, bulletins of agricultural experiment stations, etc. The results of some experiments conducted in Greece are published in this volume for the first time. Modern developments such as chemical weed control, defoliation, and mechanical harvesting, are described along with soil cultivation and fertilization. The book is of interest to scientists who are concerned with research on the cotton plant and cotton growing and to large-scale growers and advanced students in agricultural colleges. The senior author is Director of the Cotton Research Institute at Sindos, Greece, and the co-author was formerly Principal Agronomist attached to the United States Department of Agriculture's Cotton Field Station at Shafter, California.

COX JOSEPH FRANK AND LYMAN E. JACKSON

Crop management and soil conservation. Second edition. New York John Wiley & Sons, Inc., 1948. 572 p. illus. 21 cm. (The Wiley farm series A. K. Getman and E. R. Eastman editors) $5 48. 7640

Note. This bulletin describes, pictures, and discusses the chief insect pests of stored grain in the United States of America, and briefly suggests measures for the prevention of infestation. It is designed for practical use by grain farmers, grain shippers, millers, and grain dealers.

UNITED STATES DEPARTMENT OF AGRICULTURE

Insecticides and repellents for the control of insects of medical importance to the Armed Forces Prepared by the Orlando, Fla., Laboratory of the Entomology Research Branch, Agricultural Research Service. Washington, D C. Government Printing Office, 1955 91 p illus. 23 cm (United States. Department of Agriculture. Circular no 977) $0.35 7630

Contents Introduction. Chemistry of insecticides and repellents DDT Methoxychlor and TDE. Benzene hexachloride. Chlordane and heptachlor Dieldrin and aldrin. Isodrin and endrin. Pyrethrum and allethrin. Pyrethrum synergists. Other insecticides. Insecticide formulations. Repellents. Military-issue items. Control of mosquitoes Control of mosquito larvae. Control of adult mosquitoes. Airplane applications. Control of flies Residual sprays. Space sprays. Poisoned baits. Larvicides. Control of human lice and scabies Body lice. Head and crab lice. Scabies. Control of other medically important arthropods. Bed bugs. Cockroaches. Fleas. Ants. Sand flies. Black flies. Ticks. Chiggers. Repellents. Repellents applied to the skin. Repellents applied to clothing. Protection of animals from insect attack. Toxicology of insecticides and repellents Nature of hazards. General precautions. DDT Pyrethrum and allethrin. Methoxychlor TDE. BHC (benzene hexachloride) Lindane. Chlordane. Toxaphene. Dieldrin. Aldrin. Heptachlor Phosphorus insecticides. Repellents. Literature cited.

Note: During World War II and for 10 years thereafter thousands of new chemicals and chemical formulations were investigated under Army and Navy auspices as insecticides and repellents. This publication summarizes the results of the research in this field. Although the work was carried on principally to develop control methods applicable under military conditions, most of the methods developed are also with modifications applicable to civilian problems. The circular supersedes Miscellaneous publication no. 606, 1946.

UNITED STATES DEPARTMENT OF AGRICULTURE

Insects Edited by Alfred Stefferud Washington D C Government Printing Office 1952 780 p illus. (part col'd) 24 cm. (United States. Department of Agriculture. The year book of agriculture 1952) $2 50 7631

Content (abridged) Introducing the insects How many insects are there? by C. W Sabrosky Fossil insects, by F M. Carpenter. How insects live by E. O. Essig. How insects choose their food plants, by C T Brues. How to know an insect What kind of insect is it? by C. F W Muesebeck. How to collect and preserve insects for study by P W Oman. Insects as helpers Insect friends of man, by F C. Bishopp. Pollination by native insects, by G. E. Bohart. Breeding bees, by O. Mackensen and W C. Roberts. Insecticides and bees, by F E. Todd and S. E. McGregor. Insects to control weed, by J K. Holloway and C. B. Huffaker. Insects as destroyers. Losses caused by insects, by G. J Haeussler Carriers of human diseases, by F C. Bishopp and C. B Philip. Insects and helminths, by E. E. Wehr and J. T Lucker Insects and the plant viruses, by L. D Christenson and F F Smith. The nature of insecticides How insecticides are developed, by R. C. Roark. The organic insecticides, by C. V Bowen and S. A. Hall. The inorganic insecticides, by R. H. Carter Aerosols and insects, by W N Sullivan and others. Applying insecticides Using insecticides effectively by E. J Newcomer and others. Research on aerial spraying, by J S. Yuill and others. Machines for applying insecticides, by H. Ingerson and F Irons. Warnings as to insecticides Toxicity to livestock, by R. D Radeleff and others. Residues, soils, and plants, by W R. Borrell. Residues on fruits and vegetables, by R. A. Porter and J E. Fahey Insecticides and the pure food law by P B. Dunbar Resistance to insecticides Insects are harder to kill, by B. A. Porter Fumigants Fumigating soils and plants, by R. Latta and M. C. Lane. Fumigating stored foodstuffs, by R. T Cotton. Quarantines How insects gain entry by K. B. Sevin. Our domestic quarantines, by H. J Conkle. Inspections at terminals, by A. P Messenger Other controls. Insects, enemies of insects, by R. D. Burks. Parasites and predators, by C. P Clausen. Infectious diseases of insects, by E. A. Steinhaus. The vapor-heat process, by A. C Baker. Cold treatment of fruits, by H. H. Richardson. Radiant energy and insects, by A. H. Yeomans. Weather and climate, by H. B. Mills. Resistant crops, the ideal way by C. M. Packard and J H. Martin. Economic entomology Surveys of insect pests, by G. J Haeussler and R. W Leiby The insecticide industry by L. S. Hitchner. The industrial entomologist, by E. M. Searls. Extension work in entomology by M. P Jones. Insects, man, and homes Household insects, by L. S. Henderson. Mosquitoes, by H. H. Stage. Insects on cotton. Progress in research on cotton insects, by C. F Rainwater. The pink bollworm, by L. F Curl and R. W White. Insects and vegetables. Potato aphids, by W A. Shands and B. J. Landis. Sweetpotato weevil, by R. A. Roberts. The pea aphid, by J E. Dudley Jr and W C. Cook. The beet leafhopper, by J R. Douglass and W C. Cook. Insects on fruit. The oriental fruit fly by W Carter The Mexican fruit fly by P A. Hoidale. The Japanese beetle, by C. H. Hadley and W E. Fleming. Insects on field crops. Cereal and forage insects, by C. M. Packard. Grasshoppers, by J R. Parker. The Mormon cricket, by C. Wakeland and J R. Parker The chinch bug, by C. Wakeland. The European corn borer by W G. Bradley Insects that attack tobacco, by D. J. Caffrey Pests on ornamentals. Insect pests of flowers and shrubs, by C. A. Weigel and R. A. St. George. Livestock and insects: Flies on livestock, by G. W Eddy Ticks, lice, sheep keds, mites, by E. F Knipling. Screw-worms, by W G. Bruce. Cattle grubs, by R. W Laake and I. H. Roberts. Forests, trees, and pests. The spruce budworm, by R. C. Brown. Bark beetles in forests, by F P Keen. The gypsy moth, by J. M. Corliss. Insects and wildlife Insects and the lower vertebrates, by O. B. Cope. Bibliography and appendix. A selected list of publications, by L. L. Haynes and J S. Wade.

Note. A cyclopedic work on applied entomology Agricultural aspects are emphasized, but there is also much material on general phases, such as the relation of insects to disease. Although the authors include many outstanding entomologists, the work is addressed to farmers, amateur collectors, and general readers rather than to professionals. Seventy-two colored plates, each of which illustrates a different insect in various stages of its development, are included.

WATKINS, T C, AND L B NORTON

Handbook of insecticide dust diluents and carriers. 2nd edition revised and edited by D Weidhass and J L Brann, jr Caldwell, N J Dorland Books 1955 233 p. illus. 19 cm. $4 75 7632

Contents (abridged) Classification of insecticide dust diluents and carriers. Introduction to the data sheets. Index.

Note. A useful reference book on the inert substances used in insecticide dusts. Most of the space in it is devoted to data sheets on specific products such as sulfur, diatomite, attaclays and gypsum. For each product listed data are given on chemical analyses and on properties such as specific gravity abrasion index, particle size, and pH. The names of producers of these materials in the United States of America are listed.

WEIGEL, CHARLES ADOLPH AND L. G. BAUMHOFER

Handbook on insect enemies of flowers and shrubs. Washington, D C. Government Printing Office, 1948 115 p. illus. 23 cm. (United States. Department of Agriculture. Miscellaneous publication no. 626) $0.45 7633

Contents. How insects develop and feed. General plant pests. Insects attacking specific plants, arranged by plants. Insecticides. Table of measures. Where insecticides may be purchased. When and how to apply insecticides. Quantity of sprays or dusts to apply (DDT-insecticides). Spraying and dusting equipment. Appendix Index.

Note. Superseding Farmers bulletin 1945 *Insect enemies of the flower garden*, this publication is a concise, useful handbook of information to enable the gardener to recognize the common insect and related pests of the flower garden and to apply the proper remedies.

ministration in cooperation with the Bureau of Plant Industry Soils, and Agricultural Engineering. Most of the work on this manual was performed under a project authorized by the Research and Marketing Act of 1946 Washington, D C. Government Printing Office, 1952. 440 p. illus. 24 cm. (United States. Department of Agriculture. Agriculture handbook no. 30) $4.00. 7646

Contents: Introduction. Seed sampling and testing equipment. Obtaining the seed sample. Procedures for determining purity composition. Application of purity procedures to specific groups of genera. Application of purity procedures to specific groups of seeds. Procedures for determining germination. Application of germination procedures to specific groups. Examination for noxious-weed seeds. Origin of seeds. Testing for trueness of variety. Testing for moisture. Tolerances. Calculations, records, and reports. Identifying characters of seeds. Development, structure, and hereditary characteristics of seeds. Physiology of seeds. Pathological considerations in use of seeds. Literature cited. Selected references. Available publications on seed testing. Glossary. Appendix: List of botanical names. List of plant names. List of botanical and common names. Index.

Note: A book of instructions for seed technologists and laboratory workers, showing how to conduct laboratory tests and presenting also background information of a practical nature. Procedures are given for the testing of all kinds of agricultural and vegetable seeds, domestic and imported. A central section of 34 plates gives drawings of the seeds of 324 species of grasses, grains, vegetables, and forest trees. The manual supersedes the Department's Miscellaneous publication no. 437 Testing farm seeds in home and school, published 1942.

KNOTT JAMES EDWARD

Vegetable growing Fifth edition, thoroughly revised, with 88 illustrations. Philadelphia Lea & Febiger 1955 358 p. illus. 24 cm. $5.00 7647

Contents: Part I, General considerations. Vegetable growing. Classification of vegetables. Factors affecting plant growth. Protecting equipment. The seed supply. Seedage. Producing plants. Soils and their preparation for planting. Maintaining soil organic matter. Fertilizing the crop. Cropping systems. Moisture supply and weed control. Insect and disease control. The garden layout. Storage. Marketing. Part II, Cool season crops. The perennials. Potherbs and greens. The cole crops. The salad vegetables. The bulb crops. The root crops. Broad beans and peas. The potato. Miscellaneous cool season crops. Part III, Warm season crops. The sweet potato. Beans. The solanaceous fruits. The vine crops. Sweet corn. Miscellaneous warm season crops. Index.

Note: A compactly written survey of techniques of growing the kinds of vegetables which are currently of some importance as market crops in United States of America. It is designed primarily for use as a textbook in college courses, and is useful also as a general reference book on commercial vegetable growing. A short chapter is included on the home garden and, of course, much of the information in other chapters is applicable also to the growth of vegetables on a small scale. The space is divided almost evenly between the two parts of the book. The first part is devoted to basic principles and techniques. Although the treatment is reasonably up to date, the author makes no pretense of including the last word on such rapidly changing topics as insecticides. In the second part, the important commercial varieties, cultural practices and harvesting techniques are described for each crop. Literature references are given in both parts of the volume, and this fifth edition includes references to literature published as recently as 1954.

LAURITZEN JOHN IRVIN AND OTHERS

Inversion of sucrose and other physiological changes in harvested sugarcane in Louisiana, by John I. Lauritzen, R. T Balch, and Charles A. Fort. Washington, D C. Government Printing Office, 1948. 65 p. illus. 23 cm. (United States. Department of Agriculture. Technical bulletin no. 939) Gratis. 7648

Contents: Summary. Review of literature. Storage conditions. Varieties. Sampling. Methods of analysis: Hand-mill juice. Cane. Sampling. Preparation. Analysis. Determination of soluble dry solids. Experimental data: Temperature and high moisture and true purity. Rooting and sprouting. Inversion of sucrose and other conditions. Rooting and sprouting. Inversion of sucrose and other changes. Temperature and high and low moisture conditions. Temperature and inversion at common extraction deficit at different temperatures. Some factors affecting the loss of moisture. Relation of humidity and moisture loss to inversion of sucrose. Effect of maturity on inversion of sucrose. Discussion and conclusions. Literature cited.

Note: A report of the findings of a series of investigations carried out between 1933 and 1944 at the United States Sugar Plant Field Station, Houma, Louisiana.

MACGILLIVRAY, JOHN H.

Vegetable production, with special references to western crops. New York The McGraw Hill Book Company Inc., 1953 397 p. illus. 23 cm. $6.00. 7649

Contents: Production principles. Types of vegetable production. Classification of vegetables. Economic importance and production areas. Soils for vegetable production. Physiological factors affecting vegetable production. Improvement of vegetables through plant breeding. Quality and characteristics of seed. Plant growing. Pollination of vegetables. Fertilizers, manures, and organic matter. Preservation of vegetables. Vegetable grades and grading. Food value of vegetables. Insect and disease control. Cultural practices: Group A, Cool season crops tolerant of slightly freezing weather. Group B, Cool season crops damaged near harvest by freezing weather. Group C, Cool season crops which thrive over wide range of temperature and are tolerant of frost. Group D, Warm season crops intolerant of frost. Group E, Warm season crops requiring continuous warm weather. Index.

Note: Developed in a course at the University of California, this book emphasizes the vegetables and cultural practices of the western states of the United States of America. Since this region produces large volumes of vegetables for shipment to other sections, a practically complete range of the vegetables which are important as crops in the United States is covered. Many of the cultural practices described are local and are representative of large-volume production, including production on irrigated soils. General principles and production practices are described in the first part of the book, and cultural practices for individual vegetable crops are described in the second part. In the latter part, the information given on most crops includes a short account of history and history, statistical data on producing areas, data on food values, a description of the principal varieties, data on climatic and soil requirements, discussions of fertilizers, planting, irrigation and harvesting practices, and concise descriptions of insect pests and diseases with methods of control. Literature references, most of which are to publications of the national and state governments, are given for each vegetable. In addition to its use as a text in agricultural courses, the book is useful as a practical reference manual by agricultural extension personnel and practical farmers.

MACK, WARREN B., AND OTHERS

Vegetable and fruit growing. By Warren B Mack, Russell E. Larson, David G White, and Harry O Sampson. Philadelphia. J B Lippincott Company 1956. 560 p. illus. 23 cm. $4 40. 7650

Contents. The fruit and vegetable industry. Suitable climate for fruits and vegetables. The importance of productive soils. Maintaining soil fertility. Regulating soil moisture. Pests and their control. Tomatoes, peppers, and eggplants. Sweet corn and popcorn. Beans and peas. Cole crops. Root vegetables. Onions and other bulb vegetables. Cucurbits or vine crops. Salad vegetables. Cooking greens and savory herbs. Asparagus and rhubarb. Strawberries. Bramble fruits. Cranberries, blueberries, currants, and gooseberries. Grapes. Cherries and plums. Peaches. Apples and pears. Reference material. Index.

Note: Current practices in the growing of fruits and vegetables in the northeastern section of continental United States of America are described in this book. The treatment is elementary and practical, and the book is intended for students in schools of vocational agriculture, in introductory courses in horticulture at the college level, and for independent reading by farmers and young people preparing for careers in horticulture. The discussions of such matters as the maintenance of soil fertility are limited primarily to good practices and make little reference to the basic scientific knowledge. The descriptions of individual crops include not only

Contents (abridged) Part I, Balancing crop production and maintaining fertility Surveying crop production from the farm management standpoint. The nature and use of crop plants. The nature of soils. Protecting our soil from erosion. Manuring, fertilizing, and liming field crops. Securing the best crop varieties. Growing seed on the farm. Preparing seed beds—planting and cultivating crops. Marketing crops and co-operative programs. Controlling crop diseases. Controlling insect pests. Controlling weeds. Part II Corn growing. Wheat and rye growing. Oats, barley buckwheat, and flax growing. Sorghum growing. Growing soybeans and cowpeas. Growing the clovers. Growing lespedeza and other legumes. Growing grasses and legumes for hay and pasture. Managing pastures. Potato growing. Field-bean growing. Growing special field-truck crops. The home-farm food supply Food from the garden, fields, woods, and ponds. Index.

Note. A simple but authoritative treatment intended chiefly for classes in rural high schools but useful also to general readers who desire an introduction to the current methods of crop production and soil conservation.

DELORIT, RICHARD J, AND HENRY L. AHLGREN

Crop production, principles and practices New York Prentice-Hall, Inc., 1953 629 p illus 22 cm. $6.35 7641

Contents. The nature and importance of plants. Growth and reproduction. Corn. Wheat. Oats. Barley Rye. The sorghums. The millets. Flax. Buckwheat. Potatoes. The true clovers. Alfalfa. Sweet clover Soybeans. Cowpeas. Field peas. Lespedeza. The perennial forage grasses. Pastures. Haymaking. Grass silage. Weeds. Crop rotation and green manuring. Improvement of plants. Appendixes. Index.

Note. A textbook designed for the instruction of agricultural students enrolled in vocational schools and classes rather than in colleges. Its coverage is as inclusive as are typical college texts on crop production, but is written in simpler language. Another feature is that it is not limited to grain crops and potatoes, but includes also the legumes and grasses. Many of the 273 figures are reproductions of photographs.

GARNER, WIGHTMAN W

The production of tobacco Revised first edition. New York McGraw Hill Book Company Inc 1951 520 p illus 23 cm. $7 50 7642

Contents (abridged) Part I, The tobacco industry: The tobacco plant and its product, commercial leaf tobacco. History of the tobacco industry and present distribution of production in the United States. Part II, Growing, curing, and marketing the crop. Tobacco varieties. Soils and cropping systems for tobacco. Fertilization of the tobacco crop. The seed bed or plant bed. Transplanting, field care of the crop and harvesting. Curing the leaf. Grading and marketing Tobacco diseases and their control. Insect pests f tobacco and their control Part III, Physiology chemistry and genetics of tobacco Morphological, anatomical, and chemical characteristics of tobacco. Elements of quality in tobacco and factors influencing them Mineral nutrition of tobacco Characteristics of tobacco soils. Climate, weather and cultural practices in relation to yield and quality Curing, fermentation, and aging of tobacco. Tobacco genetics and breeding. Tobacco manufactures. Bibliography Index f authors. Subject index.

Note. A comprehensive work in which the agricultural aspects of tobacco are given most of the space and allied topics, such as the manufacture of tobacco products, are treated more concisely The book is suitable for use as a textbook in agricultural colleges and as a source of general information on tobacco production and marketing. It describes chiefly agricultural practices in the United States of America, but practices in other countries are outlined. The 15-page bibliography includes, among other citations, many references to the publications of agricultural experiment stations in the United States. The first edition was published in 1946. This "revised first edition contains minor revisions of some f the economic data.

HAWTHORN, LESLIE R.

Vegetable and flower seed production. New York McGraw-Hill Book Company, Inc. 1954 626 p illus. 24 cm '$9 50 7643

Contents: Part I, The vegetable- and flower-seed industry Business of seed growing. The development of the vegetable- and flower-seed industry Environmental factors related to seed production. Breeding in relation to seed production. Part II, Vegetable seed crops. Umbelliferae. Liliaceae. Compositae. Cucurbitaceae. Gramineae. Leguminosae. Cole crops of the Cruciferae. Root crops of the Cruciferae. Chenopodiaceae. Solanaceae. Miscellaneous vegetables. Part III, Flower seed crops: The flower-seed industry Growing the annual flower seeds. Growing the perennial and biennial flower seed. Part IV Handling the matured crop: Harvesting and milling equipment. Seed storage. Handling and marketing. Index

Note: A reliable and useful book on the production of egetable and flower seeds for the seed industry It deals with such matters as climatic and soil requirements, cultural practices, storage, diseases and insect enemies of the various flower and egetable crops whose seeds are grown on commercial basis. Hybridizing and other aspects of seed production based on genetics are not covered, nor is the commercial production of grass seed. The book is organized so that it may be used as a textbook in advanced college courses in agriculture and also as a reference book by seedsmen, county agents, and farmers who are interested in the potentialities of seed crops. It was based on a wide survey of the literature which is cited in bibliographies appended to the chapters. The authors are both specialists in horticultural science.

HUELSEN, WALTER A.

Sweet corn. New York Interscience Publishers Inc., 1954 409 p illus. 22 cm. (Economic crops, a series of monographs on the chemistry, physiology, and technology of food and food products, Z I. Kertesz, editor) $10.50 7644

Contents: History of sweet corn. Taxonomy and morphology Open pollinated varieties and their use. Breeding sweet corn hybrids. Factors affecting germination and growth of the seed. Physiological aspects of germination, growth, and maturity Author index. Subject index.

Note. Both the culture of sweet corn as crop and its processing as human food are covered in this comprehensive book, which is based on a wide review of the literature. References are made from all important statements and data in the text to citations of the source articles. The book is, therefore, both a comprehensive survey of the subject and guide to the literature. The author is member of the faculty of the College of Agriculture of the University of Illinois.

INGHAM VAN WIE, editor

Practical field crop production for the Northeast an elementary introduction to agronomy By Gilbert H. Ahlgren, Robert S. Snell John C Anderson, and Milton A. Sprague. Revised edition. New Brunswick Rutgers University Press 1952 423 p. illus. 23 cm. $5 00 7645

Contents (abridged) Crops and humanity Crops and livestock. Crops for direct marketing. Grasses and legumes. Seed and seed treatment. Soil and water conservation practices. Corn production in the Northeast. Small-grain production. Breeding and producing seed of the small grains. The main hay crops. Making good hay. Corn and hay-crop silage. The economy of pasture production. Management of pasture areas. White potatoes. Sweet potatoes. Soybeans and field beans. Tobacco. Weed control. Crop rotations. Appendix. Glossary Index.

Note When this book was written, all of the authors were members of the faculty of Rutgers University and then were associated with agricultural education in the region with which the book is concerned. The book is an elementary and practical text designed primarily for use in agricultural courses at the high-school level and extension courses offered by agricultural colleges. The elementary level notwithstanding, it provides wide range of authoritative and useful information on contemporary agriculture and farming practices in northeastern continental United States of America, region characterized by its aried types of farming. There are 74 tables and 148 figures.

JUSTICE, O L, editor

Manual for testing agricultural and vegetable seeds. United States Department of Agriculture, Production and Marketing Ad

[illegible] control, irrigation, and new developments in marketing practice, such as [illegible]. Literature published since the first edition [illegible] has been added to the bibliography which now contains [illegible] references. The book is suitable for use as a textbook in agricultural colleges and as a practical manual for vegetable growers.

[illegible]IVERS, ARTHUR FREDERICK

Production of drug and condiment plants. Washington, D. C., Government Printing Office, 1948. 99 p. illus. 23 cm. (United States. Department of Agriculture. Farmers' bulletin no. 1999) Gratis. 7657

Contents: Economic background. The more important plants. [illegible] Propagation, culture, and general handling: Propagation. Culture. Harvesting. Drying. Distillation of volatile oils. [illegible] and storing. Marketing. Culture of individual species: [illegible] Angelica. Anise. Arnica. Basil. [illegible] Caraway. Castor-bean. Catnip. [illegible] Coriander. Cumin. Dandelion. [illegible] Fennel. Gentian. Ginger. Ginseng. Goldenseal. [illegible] Lavender. [illegible] Lovage. Marjoram. [illegible] Mustard. [illegible] Peppermint. [illegible] Sage. [illegible] Spearmint. [illegible] Tansy. Tarragon. Thyme. Valerian. [illegible] Wormwood (American). Wormwood.

Note: Superseding Farmers' bulletin no. 663, this manual is a practical guide for those interested in the production on a commercial scale of drug plants and leaf and seed condiments in the United States of America. Many of these medicinal and condiment plants are imported regularly from abroad. The bulletin indicates [illegible] grown in the United States and gives practical directions for their cultivation. Related bulletins are *Farmers' bulletin 1977 [illegible]*, and *Farmers' bulletin [illegible]*.

SPRAGUE, GEORGE F., editor

Corn and corn improvement. New York, Academic Press, Inc., 1955. 699 p. illus. 23 cm. (A series of monographs prepared under the auspices of the American Society of Agronomy; general editor: A. G. Norman) $11.50. 7658

Contents: History and origin of corn, by P. Weatherwax and L. F. Randolph. Vegetative morphology, by J. E. Sass. Structure and arrangement of reproductive organs, by P. Weatherwax. The [illegible] of maize, by M. M. Rhoades. Corn breeding, by G. F. Sprague. Mineral nutrition of corn, by J. D. Sayre. Climatic requirements, by R. H. Shaw. Corn culture, by G. H. Stringfield. Production of hybrid corn seed, by J. M. Airy. Popcorn, by A. M. Brunson. Sweet corn, by G. M. Smith. Diseases of corn, by [illegible]. The most important corn insects, by [illegible]. Industrial utilization, by G. F. Sprague. The nutritive value of corn, by [illegible]. The world production of corn, by G. F. Sprague. Index.

Note: In the United States of America, corn (known in most other countries as maize; botanical name, *Zea mays*) is the most important crop grown for animal feed, and [illegible] is important in other countries of the world. Great strides have been made in its culture in recent decades, largely because [illegible] has been the subject of extensive scientific study and experimentation. Much of the knowledge gained in these studies and experiments [illegible] in the chapters of this monograph. The titles listed above indicate the book's scientific and cultural scope. Each of the chapters [illegible] an independent monograph of the subject treated in [illegible] based on an extensive survey of the literature, and includes [illegible] bibliography. A number of the chapters include [illegible]. Weatherwax's "Structure and development of reproductive organs," for example, contains 39 figures. The book [illegible] of interest to botanists, and other scientists engaged in agricultural research, plant breeding, etc.

STANTON, T. R.

Oat identification and classification. Washington, D. C., Government Printing Office, 1955. 2[illegible]6 p. illus. (part col.) 23 cm. (United States. Department of Agriculture. Technical bulletin no. 1100) $1.50. 7659

Contents: Introduction. Previous investigations. Present investigations: Extent and nature of plant material. Identification procedure. Preparation of descriptions, histories, and distribution. The oat plant, its characters, and their value for classification. Morphological characters. Stem characters. Leaf characters. Panicle characters. Spikelet characters. Lemma characters. Awn characters. Caryopsis characters. Physiological characters. Classification of the genus *Avena*. Key to the species and subspecies. Large naked oat. Small naked oat. Wild red oat. Red oat. Desert oat. Slender oat. Sand oat. Abyssinian oat. Short oat. Wild oat. Common oat. (Common) tree oat. (Common) side oat. Literature cited. Index to species, varieties, and synonyms.

Note: This bulletin covers the description, history, distribution, and synonymy of the botanical and agricultural varieties of oats grown commercially. Also described are certain varieties of known, or potential, plant-breeding and taxonomic value that are grown and recognized primarily by agricultural experiment stations and other research institutions. The 12 species and subspecies are described in order, and under them are described a total of 227 varieties, of which 145 belong to the true oat subspecies. For each variety, in addition to the scientific description, the history, distribution, and synonyms are given. Spikelets and kernels of more than half the varieties are shown in [illegible] photographic illustrations.

STATEN, HI WILLIAMSON, AND MELVIN D. JONES

Farm crops judging, identification and grading. New York, McGraw-Hill Book Company, Inc., 1951. 251 p. illus. 24 cm. $5.00. 7660

Contents: Part I, The art and science of judging: Judging [illegible] Judging teams, and [illegible]. The art and science of judging. [illegible] Methods of giving reasons. [illegible] Training judging teams. Rules and regulations pertaining to crop judging contests. Calculation of the contestants' scores and score tabulation. Collection and preparation of fair exhibits. [illegible] Part II, Identification of farm crops, weeds, and diseases: Small grains. Sorghums. Forage grasses. Legumes. Other crops. Weeds. Diseases. Part III, Commercial grading: Grain, hay and cotton. Glossary. Bibliography. Index.

Note: The first part of this book is devoted chiefly to the judging of exhibits of agricultural crops at fairs and in contests of other kinds. It is a practical and fairly detailed manual, that is of interest not only to persons who will act as judges, but also to farmers and others who enter such competitions. The second part is a concise descriptive list of varieties of farm crops grown in the United States of America, of common weeds that infest them, and of diseases to which they are subject. Here, most verbal descriptions are supplemented by reproductions of drawings and photographs. The third part is a very short outline of the commercial grading of such crops as grain, hay and cotton.

THOMPSON, HOMER COLUMBUS

Vegetable crops. Fourth edition. New York, McGraw-Hill Book Company, Inc., 1949. 611 p. illus. 24 cm. (McGraw-Hill publications in the agricultural sciences. R. A. Brink, consulting editor) 7661

Contents: Vegetables and vegetable growing. Classification of vegetables. Soils and soil preparation. Manures. Soil-improving crops. Commercial fertilizers and lime. Seeds and seed growing. Plant growing and plant-growing structures. Planting vegetable crops in the open. Cultivation, mulches, and chemical methods of weed control. Irrigation. Rotation, succession, and intercropping. Control of diseases and insects. Marketing. Storage of vegetables. Perennial crops. Potherbs or greens. Salad crops. Cole crops. Root crops. Bulb crops. The potato. The sweet potato. Beans and peas. Solanaceous fruits. The cucurbits or vine crops. Sweet corn, okra, martynia. Literature cited. Index.

Note: A standard work since the publication of the first edition in 1923. It includes both theoretical and practical information [illegible] the chief vegetables of the nation. There are frequent references to experimental investigations, but the full descriptions of methods and findings the reader is referred to the source articles. The greater part of the book is devoted to descriptions of vegetables grown in the United States of America and to descriptions of good horticultural practices. A fifth edition, [illegible] p., illus., was published in 1957.

cultural practices, but also the names and characteristics of the leading varieties cultivated in the region to which the book pertains. Illustrations are numerous and consist primarily of reproductions of photographs of crops and cultural techniques.

MARTIN, JOHN HOLMES, AND WARREN H. LEONARD

Principles of field crop production. New York The Macmillan Company, 1949 1,176 p illus 22 cm. $6 75 7651

Contents (abridged) Part I, General principles of crop production Crop plants in relation to environment. Botany of crop plants. Crop improvement. Tillage practices. Fertilizer green-manuring, and rotation practices. Seeds and seeding. Harvest of field crops. Pastures and pasturage. Weeds and their control. Part II, Crops of the grass family: Indian corn or maize. Sorghums. Sugarcane. Wheat. Rye. Barley Oats. Rice. Millets. Perennial forage grasses. Part III, Legumes: Alfalfa. Sweetclover The true clovers. Lespedeza. Soybeans. Cowpeas. Field beans. Peanuts. Miscellaneous legumes. Part IV Crops of other plant families Buckwheat. Flax. Cotton. Tobacco. Sugar beets. Potatoes. Miscellaneous industrial crops. Sweetpotatoes. Part V Appendix: Seeding; seed and plant characteristics. The percentage composition of crop products. Glossary Index.

Note. An introductory but fairly inclusive textbook for use in agricultural courses. Somewhat less than one-third of the space is given to discussions of general principles and practices. The remainder of the space is occupied by descriptions of both major and minor crop plants. The discussions of the major plants are fairly long and are organized under subheadings, such as economic importance, adaptation, origin and history botanical description, general description, cultural and harvesting practices, uses, diseases and finally literature references. Crops of lesser importance are discussed somewhat more briefly The first-named author is senior agronomist in the Bureau of Plant Industry of the United States Department of Agriculture; the second is Professor of Agronomy in Colorado Agricultural and Mechanical College.

PRESLEY, JOHN T

Cotton diseases and methods of control. Revised November 1954 Washington, D C Government Printing Office, 1954 21 p illus (part col'd) 23 cm. (United States. Department of Agriculture. Farmers bulletin 1745) $0 20 7652

Contents Seedling diseases. Nematode injury Fusarium wilt. Verticillium wilt. Cotton root rot. Bacterial blight. Boll rots. Internal collar rot. Cotton rust. Ascochyta blight. Minor leaf spots. Acromania, or crazy top. Potash hunger or "rust. Crinkle leaf, or manganese toxicity Lightning injury 2 4-D injury

Note. T control diseases, the grower needs to know what organisms cause them, what the symptoms are, and the most effective control measures. This bulletin, prepared especially for cotton growers, gives such information on the more important diseases of cotton in the United States of America. It is revision of the edition prepared in 1935 by D. C. Neal and W W Gilbert.

RATHER, HOWARD C, AND CARTER M HARRISON

Field crops Second edition. New York McGraw Hill Book Company Inc 1951 446 p illus. 24 cm. (McGraw Hill publications in the agricultural sciences R. A. Brink, consulting editor) $6 50 7653

Contents. The significance of farm crops. Classification of farm crops. Field crops in relation to farm management. Soil conservation and management. Tillage and cultivation. Legumes for forage. Perennial forage grasses. Annual forage crops. Haymaking. Silage. Pastures and pasture management. The production of forage seed. Corn. Wheat and rye. Oats and barley Miscellaneous grain and seed crops. Small-grain and -seed harvest. Large-seeded legumes. Potatoes and sweet potatoes. Sugar crops. Cotton. Tobacco. Crop improvement. Appendix. Index.

Note. A book that enjoys wide use as text in short courses in agricultural colleges. It is written from the standpoint f practical agriculture, and describes the major crops grown as field crops in the United States of America, omitting fruits, garden vegetables, and specialized crops grown on relatively few acres. The treatment of individual crops varies, but generally speaking, soil and climatic conditions, economic importance, leading varieties, diseases and pests, and seeding and cultural practices are covered. Both in the general chapters at the beginning of the book and in the chapters on individual crops, there is emphasis on soil conservation practices, rotation of crops, etc. The first edition was published in 1942. Some revisions wer made in most chapters in preparing this second edition, but the book is not completely up to date on the culture of some crops, such as sugar beets.

ROSE, DEAN HUMBOLDT, AND HAROLD T COOK

Handling, storage, transportation, and utilization of potatoes a digest of information on the subject published mostly from 1938 to 1948 Washington, D C Government Printing Office, 1949 163 p illus. 23 cm. (United States. Department of Agriculture. Bibliographical bulletin no 11) Gratis. 7654

Contents Introduction. Varieties. Harvesting, handling and mechanical injury Grading, washing, and waxing. Vine killers. Precooling and transportation. Dormancy Storage (structures and operation) Potatoes in storage. Composition and dietetic value. Vitamin C content. Cooking quality Darkening of potatoes on cooking. Processing and byproducts. Consumer and market preferences. Diseases. Insect damage. Nematodes. Review papers. Conclusion.

Note One of series of digests planned to cover the biology and physical handling of important horticultural crops during the marketing period. The title and sub-title indicate the scope of the publication. Each chapter consists of a review of the literature of the subject of the chapter, followed by complete listing of bibliographical references. The conclusion brings out the importance of careful handling of potatoes at all stages following their harvest.

SANDO, W J

Buckwheat culture. Washington, D C. Government Printing Office, 1956 23 p. illus. 23 cm. (United States. Department of Agriculture. Farmers' bulletin no. 2095) $0 15 7655

Contents: Description of the plant. Climatic requirements. Soil adaptation. Soil preparation. Rotation. Fertilizers. Varieties. Seed and seeding. Harvesting. Threshing. Yield. Diseases and insects. Uses of buckwheat. Milling.

Note. Buckwheat (Fagopyrum spp.) is minor grain crop important for two main reasons, (1) it is considered the best grain crop to grow on land of low fertility (2) it matures quickly and can be grown when other crops fail or planting is delayed beyond the usual seeding date. It is raised chiefly in the northern portion of the United States of America, from Minnesota to Maine and in Canada and Europe. This bulletin is practical guide to its culture and harvesting. It supersedes Farmers' bulletin 1835.

SHOEMAKER, JAMES SHELDON

Vegetable growing Second edition. New York John Wiley & Sons, Inc. 1953 515 p. illus. 22 cm. $6 50 7656

Contents: Vegetable seed production. Perennial vegetable crops. Salad crops. Bulb crops. Legume or pulse crops. Root crops. Cole crops. Green crops. Potato. Sweetpotato. Solanaceous fruits. Vine crops. Miscellaneous vegetables, mushrooms, and herbs. Herbicides, insecticides and fungicides. References. Index.

Note. A comprehensive work on commercial vegetable growing in the continental United States of America and Canada. All of the vegetables now grown as crops for market are discussed from the growers' standpoint. The scientific aspects of seed selection, soil requirements, planting techniques, cultivation, insect and disease control, and harvesting are described for each crop. Other cultural techniques, such as greenhouse forcing and irrigation, are discussed for the crops to which they are applicable. The chapter on seed production is an important one for the grower even though he is interested in seeds only in regard to their selection. The first edition was published in 1947 Although much material has been carried over without change, numerous revisions have been made, including new material on hybrid varieties, on weeds, diseases and

[illegible]

Wolfe, T. K., and M. S. Kipps

Production of field crops, a textbook of agronomy. Fourth edition. New York. McGraw Hill Book Company, Inc., 1953. 495 p. illus. 23 cm. (McGraw Hill publications in the agricultural sciences. R. A. Brink, consulting editor) $6.50. 7663

Contents (abridged): [illegible]

Note: [illegible]

Work, Paul, and John Carew

Vegetable production and marketing. Second edition. New York. John Wiley & Sons, Inc., 1955. 537 p. illus. 22 cm. $4.24 7669

Contents: [illegible]

Note: [illegible]

history. The first edition was published in 1948. In the second edition data on production and the literature references have been revised.

GRASSES AND GRASSLANDS

Ahlgren, Gilbert H.

Forage crops. Second edition. New York. McGraw Hill Book Company, Inc., 1956. 536 p. illus. 24 cm. (McGraw Hill publications in the agricultural sciences. R. A. Brink, consulting editor) $7.50. 7670

Contents: [illegible]

Note: [illegible]

Allred, B. W.

Practical grassland management. Edited by H. M. Phillips. Danville, Ill. Interstate Printers and Publishers, Inc., 1957. 285 p. illus. 23 cm. $3.75 7671

Contents: [illegible]

Note: [illegible]

UNITED STATES DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE

Handbook of official grain standards of the United States. Standards for wheat, effective August 2, 1954, corn, effective January 20, 1937, barley, effective July 1, 1956, oats, effective June 1, 1947, feed oats and mixed feed oats, effective July 1, 1935, rye, effective July 1, 1951, grain sorghums and flaxseed, effective July 1 1935 soybeans, effective September 1 1955 and mixed grain, effective July 1, 1935 Important features of grain inspection This publication was formerly issued as an unnumbered publication under the same title. Washington, D C Government Printing Office, 1956 104 p illus 15 cm (United States. Department of Agriculture Miscellaneous publication 722) $0.35 7662

Contents Grain standards Wheat standards. Corn standards. Barley standards. Oats standards. Feed oats standards. Mixed feed oats standards. Rye standards. Grain sorghums standards. Flaxseed standards. Soybeans standards. Mixed grain standards. Important features of grain inspection: Inspection requirements. Misrepresentation. Appeals, findings, and fees. Licensing of inspectors. Penalties. Regulations. Basis of inspection. Sampling of grain. Spout sampler or "Pelican." Grain probe (trier) and sampling canvas. Sample divider (Boerner sampler) Dockage tester Grain-testing sieves. Basis of determination for test weight per bushel. Standard method of making test-weight-per-bushel determination. Methods of making moisture tests. Electric moisture meter Equipment used in grain inspection.

Note. This handbook reprints the official standards for 11 kinds of grain marketed in the United States of America, showing classes and grades of each and defining them. The last 20 pages are devoted to miscellaneous information for persons concerned with grain-inspection work.

WALLACE, HENRY AGARD, AND EARL N BRESSMAN

Corn and corn growing 5th edition revised by J J Newlin, Edgar Anderson and Earl N Bressman New York John Wiley & Sons, Inc 1949 424 p illus. 21 cm (The Wiley farm series A K Getman and E R. Eastman editors) $5 50 7663

Contents History of corn. Importance of corn. Corn breeding. Corn genetics. Classification of corn. Development and parts of the corn plant. Preparation of the seed bed. Corn soils and fertilization f seed bed. Planting Cultivation. Weeds—prevalence and methods of control. Controlling insects, diseases, and other pests. Corn for fodder and silage. Corn performance trials. Sweet corn. Popcorn. Waxy corn. Corn as affected by temperature and rainfall. Growing, harvesting, and processing seed corn. Harvesting the crop. Feeding and marketing corn Cost of corn production. Competing corn-growing regions. Economic factors affecting corn prices. The interrelationship between corn and hogs. Problems and community studies. Corn products and their uses. Corn statistics. Glossary Index.

Note A comprehensive handbook on corn (maize) for students, farmers, and others with practical interests in this crop. The fifth edition has been extensively changed, rearranged, and modernized from the fourth edition f 1937 Emphasis in the new edition is on the tremendous changes in corn-growing practices since the previous edition. Among these are the greatly increased use of hybrid corn, the adaptation f mechanical equipment on farms (reflected in the reduction of number of illustrations showing horse-drawn equipment from 10 in the fourth edition to 1 in the fifth edition) increased application of fertilizers in corn-growing, and the introduction of new chemical methods for controlling weeds and insects. The statistical figures in the final chapter as elsewhere in the volume, have been brought up to date, as have the references at the ends of the chapters.

WATTS, RALPH L, AND GILBERT SEARLE WATTS

The vegetable growing business. Illustrated. Revised edition New York Orange Judd Publishing Company, Inc., 1947 542 p illus. 23 cm. $6.00 7664

Contents General view Locations and soils. Seeds. Plant growing. Management. Fertility program. Planting. Cultivation and weed control. Irrigation. Insects and diseases. Harvesting, packing and marketing. Storage. Cole crops. Salad crops. Tomatoes, peppers and eggplant. Bulb crops. Greens. Root vegetables. Perennial crops. Peas and beans. Potato and sweet potato. Sweet corn. Cucurbits. Okra, martynia and herbs. Vegetable forcing. Appendix. Index.

Note Large scale commercial growing of vegetables rather than home vegetable gardening is treated in this book. The space is about evenly divided between the chapters on general aspects such as the maintenance of fertility and the chapters on individual crops. In the latter the individual crops are described as to climatic and soil requirements, varieties, cultural practices, harvesting and marketing. The book is used both as text in agricultural colleges and as source of information by agricultural extension workers and farmers.

WEATHERWAX, PAUL

Indian corn in old America. New York The Macmillan Company, 1954 253 p. illus. (part col'd) 26 cm. $7.50 7665

Contents. Introduction—the problem. What to call the plant. Historical sources. How the Spanish found corn. How corn first went to Europe. How the Old World received corn. Where corn grew in old America. How corn was grown. Corn used for foods and drinks. Unusual uses of corn. Conservation of the cornlands. Corn from Asia? The search for wild corn. Maize and its relatives. The pod corn problem. Wild maize reconstructed. How the Indian improved corn. Corn and the culture of old America. Bibliography Index.

Note. Primarily this book is painstaking account of the status of corn (maize) and the system of agriculture and household arts based on it in 16th century America. Secondarily it is survey of the still unsolved problem of the origin of corn. The author, botanist and an authority on the history of corn based the work on an extensiv literature search as well as field investigation. However the book is much more readable than many scholarly productions and it is interestingly illustrated. There is a seven-page bibliography of sources.

WILSON, HAROLD K., AND WILL M MYERS

Field crop production, agronomic principles and practices. Philadelphia J B Lippincott Company, 1954 674 p. illus. 23 cm. $6.00 7666

Contents. The history of agronomy Plants and plant growth. Climate in relation to plant growth. Soils and their relation to plant growth. Crop sequence and maintenance of soil fertility Tillage in agriculture. Small grains and their culture. Corn. Sorghums, by A. F Swanson. Rice. Harvesting, storage, and marketing of grains. Annual legumes for forage and soil improvement. Biennial and perennial legumes for forage. Large seeded legumes grown primarily for seed. Annual forage grasses. Perennial cool season grasses. Perennial warm season grasses. Pastures of the northern humid region. Pastures of the southern humid region. Hay and grass silage. Sugar plants. Cotton, by D. G. Sturkie. Tobacco. Minor crop plants. Weeds. Crop improvement by plant breeding. Producing quality seed. Index.

Note: In this up-to-date textbook based upon research the authors present the elementary principles and practices of field crop production for college students. At the conclusion of each chapter is set of review questions and a list of selected references.

WILSON, HAROLD K.

Grain crops Second edition. New York McGraw Hill Book Company Inc., 1955 296 p illus. 24 cm (McGraw Hill publications in the agricultural sciences R. A Brink, consulting editor) $6 50 7667

Contents. Grain crops and environment. Plant classification. Distribution of grain crops. Crop rotation. Soils for grain crops.

The typical chapter is short; but the main facts are always presented, and each chapter is supplemented by references to longer treatments in professional periodicals. The book is organized so that it may be used as text in agricultural colleges. However, it is also useful reference manual for agricultural leaders and others in need of specific information about forage grasses.

JOINT COMMITTEE ON GRASSLAND FARMING

The new grassland-livestock handbook. Revised edition. Norman University of Oklahoma Press, 1955 48 p. illus. 20 cm. $0.50. 7677

Contents: Grassland for long profits. Establishing grassland program. Pasture—foundation of the grassland program. Irrigated pastures. Hay. Grass silage. Crop processing containers & storage structures. Machinery. Conclusions.

Note: An unpretentious but authoritative pamphlet addressed to practical farmers. It provides reliable and practical information in question-and-answer form on grassland farming. The committee that sponsors represents 19 agricultural, biological, and trade associations.

LUSH, R. H.

Pasture production and management. New York McGraw Hill Book Company Inc., 1952. 193 p. illus. 23 cm. $4.25 7678

Contents: History of pastures. Economic importance of pastures and other grassland. Pasture plants. Establishing new pastures. Management of old pastures. Supplementary pastures. Irrigated pastures. Nutritive value of pastures. Pastures for dairy cattle. Pastures for beef cattle. Pastures for sheep and goats. Pastures for horses and mules. Pastures for swine. Pastures for poultry. Utilization of grassland. Grassland pests and diseases. Control of weeds [illegible] grassland. Pasture demonstrations, contests, and techniques. General pasture recommendations. Bibliography. Index.

Note: An elementary practical manual written from the viewpoint of small farmers rather than that of operators of large ranches. It covers both the establishment of new pastures and the renovation of old. Some information is included on most aspects of the subject except costs, but no topic is covered in cyclopedic style. A series of 13 tables provides data on fertilizer requirements for pastures of varying types, the nutritive value of pasture forages, etc. The book [illegible] suitable for use as text in agricultural school courses and as first book on the subject for practical farmers. It contains an extensive bibliography of pamphlets and other publications available from the national and state governments in the United States of America at the time the book was written. The bibliography includes the other types of literature, such as books.

PRINCE, FORD S.

Grassland farming in the humid Northeast. Princeton. D Van Nostrand Company Inc., 1956. 441 p. illus. 24 cm. (The grassland farm series edited by William A. Wheeler) $6.50. 7679

Contents: What is grassland farming? Grass and soil conservation. Climate, soils, and grass. Extraordinary grassland crops. Seed mixtures. Semipermanent pastures. Grass silage. Hay and hay making. Permanent pastures—use and renovation. The economics of grassland farming. Adapting machinery to grassland farming. Utilization of grass by dairy animals. Utilization of grass by other livestock. Lime for grasslands. High fertility for grasslands. Alfalfa. Ladino clover. Other important legumes. Smooth bromegrass and timothy. Orchardgrass, tall fescue, and other grasses. Annual crops [illegible] grassland farming. Forage crop pests. Forage and pasture programs. Index.

Note: The farming practices described in the book were in part developed and are all applicable in the northeastern segment of continental United States of America and adjacent regions of Canada. Although the establishing and maintenance of pastures is primary topic, the book covers all phases of grassland farming including the growth, curing and storage of forage crops for winter use. The results of many research studies published in recent years have been incorporated, along with descriptions of good farming practices. The author [illegible] Professor of Agronomy at the University of New Hampshire, and the book is organized for use as text in agricultural colleges. However, each of its chapters contains section entitled "Summary and recommendations" which makes its contents readily available to practical farmers and to those who advise them, such as agricultural extension workers. The book is illustrated with numerous photographs of legumes, grasses, pastures, etc.

SERVISS GEORGE H., AND GILBERT H. AHLGREN

Grassland farming. New York John Wiley & Sons Inc., 1955 146 p illus. (part col d) 22 cm. $2 96 7680

Contents. Growing grassland crops. Using forage in livestock feeding. Growing forage for profit. Selecting legumes. Selecting grasses. Choosing seed and establishing seedlings. Adding lime and fertilizer. Managing pastures. Managing hay crops. Preserving forage. Conservation cropping. Equipping the grassland farm. Index.

Note: A brief but authoritative and useful presentation of information on grassland farming. Those aspects of the subject which are of most interest and value to practical farmers are compactly discussed in style that is easy to comprehend. The book is suitable for use as text in introductory courses offered at the high school and vocational school level, and for reading by practical farmers. Selected literature references are included.

STATEN HI WILLIAMSON

Grasses and grassland farming. Introduction by Louis Bromfield. New York The Devin-Adair Company 1952 319 p. illus. 22 cm. $5.00 7681

Contents. Man and grass. Grass the money maker. Building better pastures. Good pasture management. Year-round pastures. Regrassing abandoned land. Scorched earth. Grass for gully prevention. Down to the grass roots. Producing and harvesting grass seed. Grasses for the hay and pasture region. Grasses for the cotton belt. Grasses for the prairies. Grasses for the plains. Grasses for the western United States. Tailor-made grasses. Grass breeding. Appendix. Bibliography. Index.

Note: A practical discussion of the role of grass in the feeding of livestock. It is not textbook but is addressed to farmers and ranchers on the one hand and soil conservationists, teachers, and lay readers on the other. The author indicates the changes which have been reducing the acreage of tall grass prairie in the United States of America and the means whereby the trend may be reversed to the advantage of the national economy. He further shows how the individual farmer by study of his grasses and legumes can greatly develop them and thus increase his livestock profits, how the farmer by starting new grasses adapted to his soil and climate can raise new milk and beef income, and how the farmer can obtain maximum production per acre and at the same time conserve the stand of grass and the richness of the soil. Much practical information is included about the kinds of grasses for various purposes, and there are sketch maps to show distribution of different prairie grasses in the United States.

STODDART LAURENCE A., AND ARTHUR D SMITH

Range management. Second edition. New York. McGraw Hill Book Company Inc., 1955 433 p. illus. 23 cm. (The American forestry series. Henry J Vaux, consulting editor) $7.50 7682

Contents: Development of range management in the United States. Physical features of the western United States affecting range use. Grazing regions of the United States. Plant physiology in relation to grazing. Plant ecology in relation to grazing. Technical methods. Range inventory and condition classification. Relationship of native forms to ranges and range use—grazing to timber, water production, and soil conservation. Poisonous-plant problems on the range. Nutrition in relation to range management. Livestock management and ranch-operation problems. Securing proper range use. Increasing undesirable range plants. Artificial seeding of range lands. Range improvements. Index.

Note: Written by two faculty members of Utah State Agricultural College, the book deals in thorough manner with the management of range lands, such as are characteristic of many sections of western United States of America. The discussion is not limited to this area, but the range management principles and practices of the region predominate. The emphasis is on ecological

ARCHER, SELLERS G, AND CLARENCE E BUNCH

The American grass book. A manual of pasture and range practices Norman University of Oklahoma Press, 1953 330 p. illus 24 cm. $3 95 7672

Contents (abridged) Section I, Permanent agriculture based on grass. The importance of grass. Grass in soil development. Grass the conservator Section II, Planting grass The change to grassland. Choosing the grass that fits the farm. Using the land that fits the grass. Preparing the land. Planting operations. Section III, Management of grasslands. Take half and leave half. Management of native pastures and ranges. Management of tame pastures. Management of irrigated pastures. Section IV Seed production. Section V Grasses. Characteristics of individual grasses and legumes. List of grasses. Descriptions of individual grasses. Section VI, Legumes. List of legumes. Descriptions of individual legumes. Section VII, Pasture and hay mixtures. Bibliography Index.

Note. Grasses and legumes as pasture are the subjects of this reference manual. About half of the book deals with modern range practices. The other half is devoted to descriptions of individual grasses and legumes accompanied by photographic illustrations and maps showing distribution of the individual species in continental United States of America. Although written chiefly to help farmers and ranchers plan and establish grasslands on a sound basis, the book could also be used as a college textbook.

DONAHUE, ROY L, AND OTHERS

The range and pasture book. By Roy L. Donahue, Everett F Evans and L I Jones. Englewood Cliffs, N J Prentice-Hall, Inc., 1956 406 p illus 23 cm. $6 00 7673

Contents. Grasslands and their use. Grasslands pay The important grasses. Legumes in grassland agriculture. Pastures. Range management. Hay and silage. Grasses for soil and water conservation Grassland watersheds. Grasslands and wildlife. Principles of grassland agriculture. The grassland program. Three blades of grass. Bibliography Index.

Note The broad aspects of grassland agriculture in continental United States of America are combined in this book, with explicit discussions of good practices. The treatment is elementary but authoritative and up to date. The book is suitable for use as text in vocational schools and for reading by anyone who is in need of a book on this subject that is easy to understand. The bibliography provides a good selection of other books, including more advanced books, on grassland management and the raising of livestock on pasture and range. The volume is lavishly illustrated with 278 figures, most of which are reproductions of photographs.

HANSON, A. A, AND H. L CARNAHAN

Breeding perennial forage grasses. Washington, D C Government Printing Office, 1956 116 p illus. 23 cm (United States. Department of Agriculture. Technical bulletin no 1145) $0 40 7674

Contents Introduction. Problems and concepts. Adaptation and natural selection. The role of cytogenetics. Heritability Combining ability Breeding objectives. Breeding procedures. Multiplication and varietal release. Experimental techniques. Conclusion. Literature cited.

Note. Interest in grassland farming and increased use of forage crops in agricultural systems bring attention to possibilities of developing new and better varieties of the major forage grass species. This bulletin appraises the problems confronting the forage grass breeder and summarizes the techniques and methods that are at his disposal. Among the experimental techniques summarized are propagation of breeding materials, induction of flowering in the greenhouse, isolation and hybridization, harvesting seed, threshing and processing seed, note-taking systems, maintaining records, plot technique, and botanical analysis.

HARLAN, JACK R.

Theory and dynamics of grassland agriculture Princeton D Van Nostrand Company, Inc., 1956 281 p. illus 24 cm. (The grassland farm series edited by William A. Wheeler) $6 75 7675

Contents Some principles of grassland geography Some principles of grassland ecology Grasslands of the world. Evolution in the grass family The leguminosae. Some principles of plant physiology Some properties of soils. Some principles of animal nutrition. On the application of fundamentals. Mensuration of forages. Theory of range management. Theory of pasture management. Index.

Note. More advanced and fundamental in viewpoint than the frankly practical texts and manuals, this book is suitable for use as a textbook in advanced college courses and as background reading for specialists in agronomy Its chapters on geography are not essential reading for practical farmers, but they supply a helpful background for specialists and those preparing for specialization in this area of agriculture. The chapters on the evolution of grasses and on plant physiology are more closely related to practice, but even these are not directed to farmers. In contrast, the group of chapters that begins with "On the applications of fundamentals" are related directly to practical management of grasslands and are of interest to such readers as agricultural extension workers. Short lists of suggested reading are included in some of the chapters. The author is Professor of Agronomy at Oklahoma Agricultural and Mechanical College.

HUGHES, HAROLD DE MOTT, AND OTHERS, editors

Forages, the science of grassland agriculture. Under the editorial authorship of H. D Hughes Maurice E Heath, and Darrel S. Metcalfe. Ames The Iowa State College Press, 1951 724 p illus. 26 cm. $5 95 7676

Contents. Part I Forages and productive agriculture Forages in our advancing civilization, by H. D Hughes. What is grassland farming? by M. E. Heath. Economic aspects of forage production, by E. O. Heady Forages and soil conservation, by G. M. Browning. Soil fertility and the nutritive value of forages, by R. L. Lovvorn and W W Woodhouse, Jr. Forage statistics, by D S. Metcalfe. Part II Forage grasses and legumes. The botany of grasses and legumes, by D S. Metcalfe. Legume and grass seed production, by R. A. Hollowell. Forage crop breeding, by I. J Johnson. The inoculation of legumes, by O. N Allen. Alfalfa, by H. M. Tysdal. Red clover and alsike clover by C. P Wilsie. Sweetclover, by W K. Smith. Ladino and other white clovers, by E. A. Hollowell. Lespedeza, by C. A. Hein. Crimson clover, by E. A. Hollowell. Birdsfoot trefoil, by H. D Hughes and H. A. MacDonald. The vetches, by R. McKee. Other legumes, by R. McKee. The bluegrasses, by E. V. Fergus. The brome grasses, by L. C. Newell and K. L. Anderson. Timothy by M. W Evans. Orchardgrass, by W M. Myers. Bermuda-grass, by G. W Burton. Dallisgrass, Bahiagrass, and Vasey grass, by H. W Bennett. Reed canarygrass, by M. E. Heath and H. D. Hughes. The fescues, by R. Y Bailey The ryegrasses, by H. A. Schoth. Redtop and the bentgrasses, by J A. De France. The wheatgrasses, by C. McKee. Johnsongrass, carpetgrass, and other grasses for the humid South, by H. W Bennett. Other grasses for the North and West, by V B. Hawk. Cereals as forage, by M. A. Sprague. Sorghums for forage, by J. R. Quinby and R. E. Karper Millets and kochia, by W W Worzella. Rape, kale, and similar forages, by C. S. Dorchester Part III, Forage production practices. Soil, climate, and use in choosing forage crops, by O. S. Aamodt. Establishment of new seedings, by C. J. Willard. Fertilization of forages, by G. O. Mott. Weed control in forages, by C. J. Willard. Hay and pasture seedings for the Northeast, by V. G. Sprague. Hay and pasture seedings for the Central and Lake states, by H. L. Ahlgren. Hay and pasture seedings for the humid South, by D G. Sturkie. Hay and pasture seedings for the northern Great Plains and Intermountain states, by L. C. Newell. Hay and pasture seedings for the southern Great Plains, by R. C. Potts. Hay and pasture seedings for the Pacific Coast states, by A. L. Hafenrichter. Part IV Forage utilization What is quality hay? by G. Bohstedt. Mechanization of haymaking and storage, by E. L. Barger Grass-legume silage, by C. R. Bender Dehydration of forage crops, by A. C. Arny R. E. Miller Emergency hay and pasture crops, by D. R. Permanent pastures, by M. A. Hein. Rotation pastures, by M. Dodd. Range pasture, by D A. Savage. Irrigated pastures, by William L. Peterson. Forages for dairy cattle, by R. E Hodgson. Sheep are efficient of forages with beef cattle, by R. F Fuelleman. Forage utilization by horses of forages, by W G. Kammlade. Forage for poultry by D C. Kennard. Terminology by G. O. Mott. Author Index. Subject index.

Note. Each of the short chapters in this comprehensive work was written for it by a college professor or other specialist. He is recognized as an eminent authority on the specific topic of his chapter.

The typical chapter is short; but the main facts are always presented, and each chapter is supplemented by references to longer accounts in professional periodicals. The book is organized so that it may be used as a text in agricultural colleges. However, it is an useful reference manual for agricultural leaders and others in need of specific information about forage grasses.

JOINT COMMITTEE ON GRASSLAND FARMING

The new grassland-livestock handbook. Revised edition. Norman University of Oklahoma Press, 1955 48 p. illus. 20 cm. $0.50 7677

Contents: Grassland for long profits. Establishing grassland program. Pasture—backbone of the grassland program. Irrigated pasture. Hay. Grass silage. Crop processing containers & storage structures. Machinery. Conclusion.

Note: An unpretentious but authoritative pamphlet addressed to practical farmers. It provides sensible and practical information in question-and-answer form on grassland farming. The committee that prepared it represents 19 agricultural, biological, and trade associations.

LUSH, R. H.

Pasture production and management. New York. McGraw Hill Book Company Inc. 1952. 193 p. illus. 23 cm. $4.25 7678

Contents: History of pastures. Economic importance of pasture and other grassland. Pasture plants. Establishing new pastures. Management of old pastures. Supplementary pastures. Irrigated pastures. Nutritive value of pastures. Pastures for dairy cattle. Pastures for beef cattle. Pastures for sheep and goats. Pastures for horses and mules. Pastures for swine. Pastures for poultry. Utilization of grassland. Grassland pests and diseases. Control of weeds in grassland. Pasture demonstrations, contests, and techniques. General pasture recommendations. Bibliography. Index.

Note: An elementary practical manual written from the viewpoint of small farmers rather than that of operators of large ranches. It covers both the establishment of new pastures and the renovation of old. Some information is included on most aspects of the subject except costs, but no topic is covered in cyclopedic style. A series of 13 tables provides data on fertilizer requirements for pastures of varying types, the nutritive value of pasture forages, etc. The book, suitable for use as a text in agricultural school courses and as a first book on the subject for practical farmers. It contains an extensive bibliography of pamphlets and other publications available from the national and state governments in the United States of America at the time the book was written. The bibliography includes also other types of literature, such as books.

PRINCE, FORD S

Grassland farming in the humid Northeast. Princeton. D Van Nostrand Company Inc., 1956. 441 p. illus. 24 cm. (The grassland farm series edited by William A. Wheeler) $6.50. 7679

Contents: What is grassland farming. Grass and soil conservation. Climate, soils, and grass. Establishing grassland crops. Seed mixtures. Improvement pastures. Grass silage. Hay and hay making. Permanent pastures—use and renovation. The economics of grassland farming. Adapting machinery to grassland farming. Utilization of grass by dairy animals. Utilization of grass by other livestock. Lime for grasslands. High fertility for grasslands. Alfalfa. Ladino clover. Other important legumes. Smooth bromegrass and timothy. Orchardgrass, tall fescue, and other grasses. Annual crops in grassland farming. Forage crop pests. Forage and pasture programs. Index.

Note: The farming practices described in this book were in part developed and are all applicable in the northeastern segment of continental United States of America, and adjacent regions of Canada. Although the establishment and maintenance of pastures is a primary topic, the book covers all phases of grassland farming including the growth, cutting and storage of forage crops for winter use. The results of many research studies published in recent years have been incorporated, along with descriptions of good farming practices. The author, Professor of Agronomy in the University of New Hampshire, and the book is organized for use as a text in advanced courses. However, each of its chapters contains a section entitled "Summary and recommendations" which makes its contents readily available to practical farmers and to those who advise them, such as agricultural extension workers. The book is illustrated with numerous photographs of legumes, grasses, pastures, etc.

SERVISS GEORGE H., AND GILBERT H. AHLGREN

Grassland farming. New York John Wiley & Sons, Inc., 1955 146 p. illus. (part col d) 22 cm. $2 96 7680

Contents: Growing grassland crops. Using forage in livestock feeding. Growing forage for profit. Selecting legumes. Selecting grasses. Choosing seed and establishing seedlings. Adding lime and fertilizer. Managing pastures. Managing hay crops. Preserving forage. Conservation cropping. Equipping the grassland farm. Index.

Note: A brief but authoritative and useful presentation of information on grassland farming. Those aspects of the subject which are of most interest and value to practical farmers are compactly discussed in a style that is easy to comprehend. The book is suitable for use as a text in introductory courses offered at the high school and vocational school level, and for reading by practical farmers. Selected literature references are included.

STATEN HI WILLIAMSON

Grasses and grassland farming Introduction by Louis Bromfield. New York The Devin-Adair Company 1952 319 p. illus. 22 cm. $5.00. 7681

Contents: Man and grass. Grass the money maker. Building better pastures. Good pasture management. Year-round pastures. Regrassing abandoned land, scorched earth. Grass for gully prevention. Down to the grass roots. Producing and harvesting grass seed. Grasses for the hay and pasture region. Grasses for the cotton belt. Grasses for the prairies. Grasses for the plains. Grasses for the western United States. Tailor-made grasses. Grass breeding. Appendix. Bibliography. Index.

Note: A practical discussion of the use of grass in the feeding of livestock. It is not a textbook but is addressed to farmers and ranchers on the one hand and soil conservationists, teachers, and lay readers on the other. The author indicates the abuses which have been reducing the acreage of tall grass prairie in the United States of America and the means whereby the trend may be reversed to the advantage of the national economy. He further shows how the individual farmer by a study of his grasses and legumes can greatly develop them and thus increase his livestock profits, how the farmer by starting new grasses adapted to his soil and climate can realize new milk and beef income, and how the farmer can obtain maximum production per acre and at the same time conserve the stand of grass and the richness of the soil. Much practical information is included about the kinds of grasses for various purposes, and there are sketch maps to show distribution of different prairie grasses in the United States.

STODDART LAURENCE A. AND ARTHUR D SMITH

Range management. Second edition. New York McGraw Hill Book Company Inc., 1955 433 p. illus. 23 cm. (The American forestry series. Henry J Vaux, consulting editor) $7.50 7682

Contents: Development of range management in the United States. Physical features of the western United States affecting range use. Grazing regions of the United States. Plant physiology in relation to grazing. Plant ecology in relation to grazing. Technical methods. Range inventory and condition classification. Relationship of native forms to ranges and range use—grazing in timber, water production, and soil conservation. Poisonous-plant problems on the range. Nutrition in relation to range management. Livestock management and ranch-operation problems. Securing proper range use. Eradicating undesirable range plants. Artificial seeding of range lands. Range improvements. Index.

Note: Written by two faculty members of Utah State Agricultural College, this book deals in a thorough manner with the management of range lands, such as are characteristic of many sections of western United States of America. The discussion is not limited to that area, but the range management principles and practices of that region predominate. The emphasis is on ecological

relationships and on management practices that are both practical and productive of the most forage suitable for grazing. Conservation is an underlying theme but is not stressed. Some information is included on the management of cattle and sheep while on the range. Extensive literature references are a feature of most chapters. In this second edition, there are 116 figures, many of which are photographs of range scenes. The first edition was published in 1943 and it was very extensively revised and augmented for this second edition in text, illustrations, and bibliographies.

THARP, BENJAMIN CARROLL

Texas range grasses With drawings by Clare Y Whaley Austin University of Texas Press, 1952 125 p illus 26 cm. $4 00 7683

Contents: Introduction. The longleaf pine region. The coastal prairie region. The Fayette prairie region. The mesquite-chaparral region. The coastal mainland dunes region. The oak-hickory-mesquite region of the Llano uplift. The oak juniper region of the Edwards plateau and the Lampasas Cut plain. The montane forest and oak savanna region. The live oak-mesquite savanna region. The foothill-Mesa-Valley region of the trans-Pecos Texas. The sandy south plains region. The high plains region. The mesquite savanna region. The western cross timbers region. The eastern cross timbers region. The oak-hickory forest region. The pine-oak forest region. The blackland prairie region. Summary notes on Texas range grasses and their relatives beyond Texas borders. Appendixes The chemical composition of grasses from three Texas regions. Texas range and forage grasses, a comprehensive analytic list distribution and relative abundance of the more important species. Bibliography

Note. A survey of the distribution and relative abundance of the 148 species of grasses which are important as grazing plants in Texas. Following the geographic introductory sections, the 18 vegetational regions of the state are described and the distribution of their grasses analyzed. The work is written in nontechnical fashion, and 25 species are illustrated in full-page drawings for purposes of identification. The publication was prepared as a basis for further research and study in the program of Texas grassland improvement launched by the Grass Research Project of the Plant Research Institute.

UNITED STATES DEPARTMENT OF AGRICULTURE

Grass. Washington, D C Government Printing Office, 1948 892 p illus (part col'd) 24 cm. (United States. Department of Agriculture. Yearbook of agriculture 1948) $2 00 7684

Contents (abridged) Grass in the nation's life. Soil, grass, conservation Environment of natural grassland. How soils develop under grass. The tools of flood control. Grasses that fix sand dunes. Forage for livestock Soils, crops, minerals, animals. Grassland crops as feed for horses. The vital 10 percent for poultry Sheep, goats, and grasslands. Use of forage in feeding hogs. Grass for the production of beef. Dairy cattle must have good forage. The use and value of pastures The management of grazing. Management of irrigated pastures. Grass in natural forested areas. Soil management on farm pastures. Storage of forage: Principles of making hay The costs and ways of making hay Ensiling hay and pasture crops. Grass and rotations: Grass and the yields of cash crops. Fertilizers for grass in rotations. The range, a major resource How range forage grows. The major range types. Planning range conservation. Spacing water holes to save grass. Wildlife, a resource of the range. How to control noxious plants. Enemies of grass. Some diseases of forage grasses. Some diseases of forage legumes. Some of the insects. Grass for happier living Sod is ideal for playing fields. Pointers on making good lawns. Safety and beauty for highways. Airfields and flight strips. The search for better grass The breeder's ways and means. Wanted—a paragon for the range. Immigrants to our grasslands. Domesticated grasses in conservation. Improved varieties of alfalfa. Clovers that make a crop. The other pasture legumes. Developing grasses for special uses. Grass in the ten regions. The Northeastern states. Corn Belt and Lake states. Grasslands in the South. The Southern Great Plains. The Mountain region. The Pacific Coast states. Grasslands in Alaska. Grasslands in Hawaii. Grasslands in Puerto Rico. Grass in charts and tables. Lists of plant names. Scientific names. Common names. For further reference. Index.

Note: An exceptionally complete treatise on grass in all its varieties, uses, and localities. It was written by staff specialists of the United States Department of Agriculture, and grasses grown in the United States are emphasized. The book is divided into four parts: the first an examination of grass as it applies to people anywhere, with emphasis on livestock, soils and conservation the second, a series of studies of grass in the regions of the United States of America, with emphasis on varieties and uses; the third, a handbook describing systematically the most important and most useful grasses, legumes, and associated plants, the last, a section of charts and tables, including recommended hay and pasture mixtures and quantity of seed per acre for various states, followed by a bibliography of 24 pages and an index. In addition, there are included two extensive sections of photographic illustrations, one of the sections in full color

WHEELER, WILLIAM ARCHIE

Forage and pasture crops. A handbook of information about the grasses and legumes grown for forage in the United States. Prepared under the auspices of The Field Seed Institute of North America, with the cooperation and assistance of the agronomists, forage crop specialists, and other specialists of the United States Department of Agriculture and the state agricultural colleges and experiment stations. New York D Van Nostrand Company, Inc., 1950 752 p. illus. 23 cm. $10 00 7685

Contents. Part I, Forage and pasture crops—general: Grasses and legumes as forage and pasture crops. Soils and fertilizers for forage and pasture crops. Inoculation of legumes. Green manure and cover crops. Establishment and management of pastures. Hay making. The making of silage. Improving our forage and pasture crops. Pests of forage and pasture crops. Part II, Special crops—legumes: Alfalfa. True clovers. Sweetclover Lespedeza. Vetch and field pea. Cowpea, soybean, and velvetbean. Lotus-trefoils. Southern legumes for forage and soil improvement. Part III, Special crops—grasses: Timothy Orchardgrass. Bluegrasses. Bromegrasses. Fescues. Other northern forage grasses. Wheatgrasses. Buffalograss and gramas. Other Great Plains grasses. Southern forage grasses. Sorghums, Sudangrass, and Johnsongrass. Millets. Part IV Seed tables and references: Tables; data on seed, nomenclature, and adaptation of grasses and legumes. References, by State, U.S.D.A., and miscellaneous, cross-references by authors. Index.

Note. A comprehensive handbook of information about the legumes and grasses grown for forage and pasture in the United States of America. The general part takes up pasture crops, their distribution, soil requirements, methods of cultivation and harvesting, breeding for improvement, and their diseases and pests. Summaries and references are given at the ends of the chapters. The parts describing the individual legumes and grasses cover origin, history distribution, description, adaptation, selecting and preparing the land for planting, sowing the seed, cultivation and harvesting, the pests, weeds, and diseases of each of the legumes and grasses in turn, with suitable illustrations, notes as to regional cultural requirements, descriptions of the chief varieties, summaries, and bibliographical references. The book is of value to all persons concerned with grass and legume crops, including college students and teachers, soil conservation specialists, county agents, farmers, stockmen, and seedsmen.

GARDENING

AMERICAN ROSE ANNUAL 1956 Edited for the American Rose Society by Fred J Nisbet, with the assistance of Margaret E. Harbaugh. Columbus American Rose Society, 1956 261 p illus. (part col'd) 20 cm. $4.50 7686

Contents (abridged) Roses in western Europe, 1955, by E. De T Bechtel. Perpetual flowering roses, by V Young. Tests with fungicides for blackspot, by L. M. Massey and J. A. Naegele. Use of chemicals in Preservation of rose budwood, by E. W Lyle. Germination breaking seed dormancy in hybrid roses, by D. Morey Nematodes as pests of roses, by G. D. Rowley in Rosa ... by H. M. W R. Jenkins. Maintaining soil fertility for roses, by ... Waddoups. Difference in resistance to spring freezes in rose varieties, by H. R. Rosen. New approach to the breeding of hardy roses, by F L. Skinner Growing roses in a dry climate by R. C. Ward. New roses of the world. Patented roses in the United States. Index.

Note: Although directed more to amateur gardeners than to professional nursery men and growers of roses, this annual publication contains information of interest to both groups. The material in it ranges all the way from poems about the rose to articles on hybridizing and other technical subjects. Considerable space is always devoted to describing new varieties and experience with established ones. A permanent feature, under the title *Proof of the pudding*, summarizes the reports of selected members and co-operating sources on the response of new varieties to culture in their localities. A new variety is carried in this feature for five years after its introduction, and on the basis of the reports made to the American Rose Society is assigned a numerical rating of its over-all excellence.

BAILEY LIBERTY HYDE

The garden of gourds, with decorations. New York. The Macmillan Company 1937 134 p. illus. (part col'd) 24 cm. $2.98. 7687

Contents: Cucurbita pepo, and the yellow-flowered gourds. Cucurbita *Cucurbita pepo* var. *ovifera*. *Cucurbita-Pelon* gourd. Cucurbita *Cucurbita* *Cucurbita ficifolia*. *Cucurbita maxima* var. *turbaniformis*. *Cucurbita foetidissima*. *Cucumis* and *Cucumis anguria*. *Cucumis dipsaceus*. *Lagenaria siceraria*. *Luffa*, the vegetable sponge. *Trichosanthes anguina*. *Benincasa hispida*. *Momordica charantia* and *M. balsamina*. *Momordica cochinchinensis*. *Cyclanthera*. *Echinocystis lobata*. Index.

Note: A book of pen-and-ink drawings of the various species of gourds, with maps, semitechnical descriptive text for the interested layman. The advantages of the gourds as garden plants and ornaments for the home are indicated.

BAILEY LIBERTY HYDE AND ETHEL ZOE BAILEY compilers

Hortus second, a concise dictionary of gardening, general horticulture and cultivated plants in North America. New York The Macmillan Company 1941 778 p. illus. 26 cm. $12.50. 7688

Note: A concise dictionary of gardening and horticulture, based on the author's Hortus, New York, 1930, but it has been revised, reset, and issued in new format. It is designed to present in a single volume a comprehensive record of the plants in cultivation on the North American continent, a convenient reference book for cultural methods, backgrounds of plants, special types of horticulture, uses of plants, soil requirements, transplanting, propagation, methods, diseases and botanical names, spelling, definitions of terms, nature habitats, present range, distribution. It is useful to gardeners, growers, nurserymen, dealers, propagators, garden club members, landscape architects, botanists, teachers, and students.

BUSH-BROWN LOUISE, AND JAMES BUSH-BROWN

America's garden book. New revised edition. New York Charles Scribner's Sons, 1952 1,242 p. illus 21 cm. 7689

Contents: Soil and soil improvement. Design. Construction problems. Lawns. Ground covers. Vines. Trees. Shrubs. Hedges. Annuals. Biennials. Herbaceous perennials. Bulbs, corms, and tubers. Lilies. Roses. Rock and wall gardens. The woodland garden. Water and bog gardens. The herb garden. City gardens. Flower pot gardens. Coldframes and hotbeds. The small greenhouse. House plants and the window garden. The control of undesirable plants. The home fruit garden. The home vegetable garden. Garden practices. Tools and garden equipment. Propagation. Plant diseases and pests. Diseases and insect pests of trees and shrubs. Diseases and insect pests of common garden plants. Miscellaneous insect pests, rodents, and animals. Garden calendar. Maps. Glossary. Index.

Note: A standard comprehensive handbook of garden making and related matters that are of interest to home owners in the United States of America. It is addressed mainly to persons who design their own gardens and so assume the major responsibility for their planting and maintenance. However, the book does contain reference features, such as long lists of plants classified by various qualities and requirements, that are useful to professional landscape gardeners. Revisions and additions in the present edition are not major. A new chapter on the control of undesirable plants has been substituted for the former chapter on the culture of plants in nutrient solutions. A new edition, also designated as "new revised edition" was published early in 1958, 763 p., $7.95.

CHRISTOPHER, EVERETT P

The pruning manual based on "The pruning-manual" by Liberty Hyde Bailey New York The Macmillan Company 1956 320 p. illus. 22 cm. $5.00. 7690

Contents: An introduction to pruning. Plant structure as related to pruning. Plant growth in relation to pruning. Pruning techniques. Pruning apple trees. Pruning pears, peaches and other deciduous fruits. Pruning evergreen fruits, nut trees and shrubs. Pruning dwarf trees. Grapes. Pruning small fruits. Pruning shade and ornamental trees. Prevention and repair of damage to trees. Pruning shrubs and vines. Pruning roses. Nursery practices. Grafting. Forestry. Response to special treatments. Pruning tools. Index.

Note: As noted in the title, this book is based on Bailey's *Pruning-manual* which was first published in 1898 and for half a century enjoyed the status of a standard work. In its new version the book remains a comprehensive, practical guide to the pruning of all kinds of fruits, vines and shrubs of horticultural interest. Both principles and techniques are discussed, and where there is variety of established methods as for grapes, the various methods are compared. There are 52 figures in the text and 13 plates.

CLARKSON ROSETTA E.

Herbs, their culture and uses. Illustrated by Tabea Hofmann. New York The Macmillan Company 1942 226 p. illus. 24 cm. $3.75 7691

Contents: Introduction. Why have herbs in your garden? Herb arrangements in the garden. Propagation of herbs. Outdoor planting. Cu... herb plantings. The country garden. Fragrant herb garden. Indoor herb gardens. Harvesting and drying. Herb dyes. Potpourri. Herb products. Herb vinegars. The use of herbs in cooking. Herb teas and beverages. Marketing of herbs. Tabular monographs on 101 useful herbs. Herb tables. Index.

Note: For the advanced amateur gardener who wishes to grow herbs.

DE GRAAFF JAN

The new book of lilies. New York M. Barrows and Company Inc., 1951. 176 p. illus. (part col'd) 21 cm. $3.50. 7692

Contents: The lily. How to grow lilies. In the garden. Growing lilies indoors. On parade. How to multiply. How new kinds are made. Progress to date. Lily troubles. Lily lists. Reference chart of species and varieties. Lily language. Glossary. Index.

Note: A complete and up-to-date book on the growing of lilies in the United States of America. The author has included an account of his own work in developing and propagating lilies in Holland, England, and the United States. The reference chart lists type, country of origin, year of introduction, season of bloom, height, dominant color, flower form, spacing in planting, stem roots, scent, and remarks for 115 species and varieties commonly grown. The section of color plates give full-page photographic reproductions of 37 varieties in full color. The work is useful both to amateurs and to commercial growers.

EDMOND JOSEPH B., AND OTHERS

Fundamentals of horticulture a textbook designed for courses in general horticulture. By J B Edmond, A. M. Musser and F S Andrews. New York McGraw-Hill Book Company Inc., 1951. 502 p. illus. 24 cm. 7693

Contents (abridged): Part I, Plant growth and development. Fundamental plant processes, tissues, and structures. The water supply. The nutrient supply. Part II, Principal horticultural practices. Propagation. Climate, soils, and soils. Plant growing structures. Transplanting—cultivating—irrigating. Pruning. Control of pests. Preservation. Part III, Principal horticultural crops: The tree fruits. Grapes, and small fruits. Nut fruits—subtropical fruits—

relationships and on management practices that are both practical and productive of the most forage suitable for grazing. Conservation is an underlying theme but is not stressed. Some information is included on the management of cattle and sheep while on the range. Extensive literature references are a feature of most chapters. In this second edition, there are 156 figures, many of which are photographs of range scenes. The first edition was published in 1943 and it was very extensively revised and augmented for this second edition in text, illustrations, and bibliographies.

THARP, BENJAMIN CARROLL.

Texas range *grasses* With drawings by Clare Y Whaley Austin University of Texas Press, 1952 125 p illus 26 cm. $4 00 7683

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Note. A survey of the distribution and relative abundance of the 168 species of *grasses* which are important as grazing plants in Texas. Following the geographic introductory sections, the 18 vegetational regions of the state are described and the distribution of their grasses analyzed. The work is written in nontechnical fashion, and 23 species are illustrated in full-page *drawings* for purposes of identification. The publication was prepared as a basis for further research and study in the program of Texas grassland improvement launched by the Grass Research Project of the Plant Research Institute.

UNITED STATES DEPARTMENT OF AGRICULTURE

Grass Washington, D C. Government Printing Office, *1948* 892 p illus. (part col'd) 24 cm. (United States. Department of Agriculture. Yearbook of agriculture 1948) $2 00 7684

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WHEELER, WILLIAM ARCHIE

Forage and pasture *crops*. A handbook of information about the grasses and legumes grown for *forage in the United States*. Prepared under the auspices of The Field Seed *Institute of North America*, with the cooperation and assistance of the agronomists, *forage crop specialists* and *other specialists* of the United States Department of Agriculture and the state agricultural colleges and experiment stations New York D Van Nostrand Company, Inc., *1950* 752 p. illus. 23 cm. $10 00 7685

Contents. Part I, Forage and pasture crops—general: Grasses and legumes as forage and pasture crops. Soils and fertilizers for forage and pasture crops. Inoculation of legumes. Green manure and cover crops. Establishment and management of pastures. Hay making. The making of silage. Improving our forage and pasture crops. Pests of forage and pasture crops. Part II, Special crops—legumes: Alfalfa. True clovers. Sweetclover. Lespedeza. Vetch and field pea. Cowpea, soybean, and velvetbean. Large-trefoils. Southern legumes for forage and soil improvement. Part III, Special crops—grasses. Timothy. Orchardgrass. Bluegrasses. Bromegrasses. Fescues. Other northern forage grasses. Wheatgrasses. Buffalograss and gramas. Other Great Plains grasses. Southern forage grasses. Sorghums, Sudangrass, and Johnsongrass. Millets. Part IV Seed tables and references. Tables: data on seed, nomenclature, and adaptation of grasses and legumes. References, by State, U.S.D.A., and miscellaneous; cross-references by authors. Index.

Note. A comprehensive handbook of information about the legumes and grasses grown for forage and pasture in the United States of America. The general part takes up pasture crops, their distribution, soil requirements, methods of cultivation and harvesting, breeding for improvement, and their diseases and pests. Summaries and references are given at the ends of the chapters. The parts describing the individual legume and grass crops cover origin, history distribution, description, adaptation, selecting and preparing the land for planting, sowing the seed, cultivation and harvesting, weeds, and diseases of each of the legumes and grasses in turn, with suitable illustrations, notes as to regional cultural requirements, descriptions of the chief varieties, summaries, and bibliographical references. The book is of value to all persons concerned with grass and legume crops, including college students and teachers, soil conservation specialists, county agents, farmers, stockmen, and seedsmen.

GARDENING

AMERICAN ROSE ANNUAL *1956* Edited for the American Rose Society by Fred J Nisbet, with the assistance of Margaret E. Harbaugh. Columbus American Rose Society 1956 261 p illus. (part col d) 20 cm. $4.50 7686

Contents (abridged) Roses in western Europe, 1955, by E. De T. Bechtel. Perpetual flowering roses, by N Young. Tests of fungicides for blackspot, by L. M. Massey and J. A. Naegele. Preservation of rose bedwood, by R. W. Lyle. Use of chemicals in breaking seed dormancy in hybrid roses, by D. Hoerr. Germination in Rosa canina, by G. D. Rowley. Nematodes as pests of roses, by W. R. Jenkins. Maintaining soil fertility for roses, by H. M. Waddoups. Differences in resistance to spring freezes in rose varieties, by H. R. Rosen. New approach to the breeding of hardy roses, by F. L. Skinner. Growing roses in dry climates, by R. C. Ward. New roses of the world. Patented roses in the United States. Index.

HUME, H. HAROLD

Azaleas kinds and culture. New York. The Macmillan Company 1956 199 p. illus. (part col'd) 23 cm. $6.00 7700

Contents: Azaleas—an appreciation. Azalea botany. Where azaleas will grow. Deciduous azaleas. Persistent-leaved azaleas. Propagating azaleas. Soils and their preparation. Planting azaleas. Culture and care. Feeding azaleas. Pruning azaleas. Azaleas in gardens. Azaleas as pot plants. Greenhouse culture. Insect and mite pests. Azalea diseases. Index.

Note: A reliable, fully illustrated manual written from the horticultural viewpoint. It contains a short chapter on the botany of the azaleas, but all of the other chapters pertain to horticultural aspects such as desirable varieties for gardens, culture, propagation, and disease control. Both outdoor culture and greenhouse forcing are covered. There are eight full-page plates in color, and 48 in black-and-white.

HUME, H. HAROLD

Camellias kinds and culture. New York The Macmillan Company 1951 271 p. illus. (part col'd) 23 cm. $6.50 7701

Contents: Camellia geography. Camellia history. Camellia botany. Camellia classifications. Japonica camellias. Sasanqua varieties. Miscellaneous camellias. Naming camellia varieties. Propagating camellias. Soils and soil fertility. Planting camellias. Fertilizing camellias. Culture and care. Pruning and training. Camellias in gardens. Pot and greenhouse culture. Camellia diseases. Insects and other [illegible]. Index.

Note: A comprehensive book on the history and classification, kinds and varieties, and propagation and culture of camellias. The author wrote it [illegible] to be helpful to amateur camellia growers and covers all the details of care of the plant necessary to the achievement of success in the raising of this flower. The introductory chapters on the geography, history and botany of the camellia cover about 40 pages; the remainder of the volume is about equally divided between the descriptions of the varieties of camellias and the methods of culture. The work is handsomely illustrated with eight plates in full color and many others in black and white.

HUME, H. HAROLD

Hollies. New York The Macmillan Company 1953 242 p. illus. (part col'd) 23 cm. $6.75 7702

Contents: Holly and man. Botany of hollies. American holly varieties. English hollies. Chinese holly. Japanese holly. Miscellaneous evergreen hollies. Deciduous hollies. Chinese hollies. Intermediate hollies. Holly propagation. Holly pollination. Planting hollies. Holly culture. Values and uses. Holly enchantment. Holly pests. Index.

Note: Written primarily from the horticultural viewpoint, the book is a monograph on the trees and shrubs of the family Aquifoliaceae, popularly known as hollies. It provides morphological descriptions of the recognized species and varieties and described horticultural groups, such as the English hollies. It supplies, also, practical information on propagation and culture. There is a generous number of illustrations of several kinds. Some are plates reproduced in color; a considerable number are [illegible] reproductions of photographs, and some are reproductions of line drawings.

JEFFERSON, THOMAS

Thomas Jefferson's Garden book, 1766–1824 with relevant extracts from his other writings. Annotated by Edwin Morris Betts. Philadelphia The American Philosophical Society 1944 704 p. illus. 24 cm. (American Philosophical Society Memoirs. Volume XXII) $5.00 7703

Contents: Garden book for the years 1766–1824, with relevant extracts from Jefferson's other writings: Early years (1766–1775). Revolutionary period (1776–1783). Minister to France (1784–1789). Secretary of State (1790–1793). Monticello interlude (1794–1796). Vice President (1797–1800). President (1801–1808). Retirement (1809–1826). Appendices. Bibliography. Index.

Note: The varied entries in Jefferson's Garden book not only show us what he was doing and planting at Monticello, Poplar Forest, and his other estates, but also give a clue to his interests in introducing new plants and improving horticulture, viticulture, and many other aspects of the rural life of his time. The gardens and grounds at Monticello were experimental plots where new plants were introduced and nurtured, and are tied up with the agricultural and horticultural needs of the United States of America, as shown by Jefferson's attempts to introduce the cultivation of olive trees and dry rice into South Carolina and Georgia, mainly for improving the living conditions of the slaves. There are seven appendices giving Jefferson's summary of his meteorological journal, remarks on the water supply at Monticello, lists of plants sent by Jefferson to Paris, and other related extracts.

LEVISON, JACOB JOSHUA

The home book of trees & shrubs. A complete guide to the design, planting, and care of the home grounds, with information on lawns, woodlands, flower borders, garden accessories, and the identification of trees. Second edition, completely revised, enlarged, and reset. New York Alfred A. Knopf 1949 524 p. illus. 28 cm. $12.50. 7704

Contents: What trees can teach us. Structure and habits of trees and shrubs. Types and kinds of trees and shrubs. Planning the home grounds. When and how to plant. Trees and shrubs for every purpose. Trees and shrubs for color. Worth-while, interesting trees and shrubs not commonly seen. The care of trees and shrubs. Pruning, wounds, cavities, and bracing. How to control insects and diseases. The ailments of trees and shrubs. Common insect pests. Common diseases. The wooded portion of the place. Lawns. Flower borders, herbs, and wild gardening. Accessories. How to identify some of the most common trees. Some good books on trees and shrubs. Common names and botanical equivalents. Index.

Note: This guidebook by a distinguished arboriculturist is a reference tool for the homeowner, amateur and professional gardener, and landscape designer; a reference book in which trees and shrubs are discussed from the standpoint of their characteristics and uses in the landscaping of gardens and grounds around dwellings. Its basic purpose is to tell in detail how to select and handle trees and shrubs for the individual's own grounds and how to obtain good results most economically. Related matters, such as garden furniture, are discussed briefly. The illustrations include numerous reproductions of plantings and landscapes. Tables and outlines are used to advantage for clarity and conciseness.

MCFARLAND, JOHN HORACE, AND OTHERS

Garden bulbs in color by J. Horace McFarland, R. Marion Hatton, Daniel J. Foley. Revised edition. New York The Macmillan Company 1941 296 p. illus. (part col'd) 23 cm. $3.95 7705

Contents: Foreword. Introduction. Bulbs through the ages. Definitions. Bulbs in the landscape. A note on planting bulbs. Bibliography. Tulips. Narcissus. Lilies. Other bulbs. Index.

Note: A compilation of information on many varieties of plants grown from bulbs, corms, and tubers for the amateur gardener. Some lesser-known names, domestic and foreign, are introduced. Notes on culture are included, but the main intention is that of description of items, assisted by numerous illustrations in color drawn from seed catalogues. The nomenclature used is mainly that of Bailey's Hortus, New York, 1930.

MACNEIL, ALAN AND ESTHER MACNEIL

Garden lilies. New York Oxford University Press, 1946. 226 p. illus. (part col'd) 21 cm. $5.00. 7706

Contents: Part 1: Geographic sources of origin. The bases of selection. Placement suggestions. Notes on color. Planting. Culture and propagation. Lilies for pots and exhibition. Natural hazards and pests. Diseases. Lilies through the ages. Part 2: A list of lilies. Addenda. Bibliography. Index.

Note: An expertly written manual. It is exactly suited to the needs of the more serious type of amateur gardener, and it is technical enough to be of interest to the professional gardener too. The space is almost equally divided between the two parts. In

ture. Vegetable crops. Commercial floriculture. The nursery plants. Horticulture and the home. Index.

Note. An introductory textbook on the growing of fruit, flower and vegetable crops. Basic information on plant growth and on practices that are common to the production of many crops is emphasized. The authors are members of the faculties of colleges in the southern United States of America, and the book deals mainly with the horticulture of that region. The second edition was published in 1957 436 p., $6.75.

ELLIS, CARLETON, AND M W SWANEY

Soilless growth of plants Second edition, revised and enlarged by Tom Eastwood. New York Reinhold Publishing Corporation, 1947 277 p illus. (part col'd) 22 cm $6 50 7694

Contents General plant physiology General types of soilless culture. Water culture. Sand culture. Gravel culture. The nutrient solution. Technical control of nutrient solution. Technical control of the plant culture. General plant culture. Common detriments. Special chemicals. Analyses of the nutrient solution. Selected reference list. Index.

Note A comprehensive manual. Knowledge accumulated during the nearly ten years' circulation of the first edition has been incorporated in the present revision. The new material includes experience gained in several large-scale hydroponic gardens developed by the U S. Army Air Forces on Pacific islands during World War II. Revising has been carried out so extensively that, except for few of the illustrations, very little of the original text remains.

FREE, MONTAGUE

All about African violets, the complete guide to success with Saintpaulias Garden City Doubleday & Company, Inc., 1951 304 p illus (part col'd) 22 cm. $3 50 7695

Contents. What are African violets? Growing conditions. Soils. Fertilizers. Pots and potting. Watering. Trouble avoidance and cure. General care and growing for exhibition. Adding to your collection. Greenhouse culture. Propagation. Species and varieties of Saintpaulia. Glossary Index.

Note A book for amateurs on the raising of currently popular houseplant. Mainly it covers culture in dwellings, but there is one chapter on culture in greenhouses. The subject is covered in detail with particularly explicit discussions of such troublesome problems as watering. There are 5 color plates and 111 illustrations reproduced in black and white. All of the latter are reproductions of photographs.

FREE, MONTAGUE

All about house plants, their selection, culture and propagation, and how best to use them for decorative effect. Fully illustrated with color photographs and halftones and with drawings by Eva Melady John Brimer, George Hollrock & Maud H Purdy Garden City Doubleday & Company Inc., 1948 329 p illus (part col d) 22 cm. $3 95 7696

Contents (abridged) Part I, Plants indoors: Give them a chance to live. Terrariums. Small plant arrangements. Part II, Culture Soils, Fertilizers. Growing plants without soil. Pots and potting. Watering. Rest periods for house plants. Pinching, pruning, training. Propagation. House-plant enemies. Part III, Types of house plants: Flowering plants. Foliage plants. Part IV Lists of plants. General list of house plants. Plants for special conditions. Index.

Note. A general treatment which is intended for the amateur grower of plants in the home. It is exceptionally comprehensive for book of this type, and the discussions of cultural practices and plant varieties are thorough enough to be useful to the advanced amateur and fancier The text proper is supplemented by 17 illustrations in color and 30 black and-white reproductions of photographs in addition to numerous line drawings. Fundamental operations such as potting are shown in step-by-step sequence. The author is a widely known authority on horticulture.

FREE, MONTAGUE.

Gardening, a complete guide to garden making With 73 halftones & 125 line drawings Revised edition New York Harcourt, Brace and Company and The American Garden Guild, 1947 550 p illus. 22 cm. $4 95 7697

Contents Selecting and planning the property Grading. Walks. Soil improvement. Manures and fertilizers. The lawn. Trees and shrubs. Foundation planting. Vines and their supporting structures. Hedges. Flower beds and borders. Hardy herbaceous perennials. Annuals and biennials. Flowering bulbs. Rose garden. Rock and wall gardens. Water gardens. The city garden. Roof gardens, window and porch boxes, vases, hanging baskets. Herb garden, ferns, wild garden. The vegetable garden. The fruit garden. Plants in the house. Coldframes and hotbeds. Greenhouses. Plant propagation. Pruning ornamental trees and shrubs. Winter protection. Garden enemies. Tools and labels. Odds and ends. The gardener's year—a few reminders. Index.

Note: A comprehensive and practical guide for both beginners and experienced gardeners. Gardening operations and plants are thoroughly described and illustrated. Principal changes in this edition include replacement of some plant articles with newer ones and revision of the material on pests and diseases to include the most recent methods of controlling them.

GERICKE, WILLIAM FREDERICK

The complete guide to soilless gardening. New York Prentice-Hall Inc., 1940 285 p. illus 23 cm. $3 75 7698

Contents Introduction. Apparatus. Nutrient solutions. Water. Planting. Physical conditions. Symptoms of change. Tomatoes and other vine crops. Potatoes. The root vegetables. Leaf vegetables. Seed vegetables. Perennial vegetables and berries. Field crops. Herbaceous annual flowers. Flowers from bulbs, corms, tubers, and rhizomes. Flowering woody perennials. Commercial, garden, and home production. Mineral composition of plants. Sand culture. Hydroponics and agriculture. Glossary Index.

Note A textbook and manual for the amateur as well as the professional, giving the fundamentals of hydroponics or production of crops without soil, the theory of which was first presented in 1929. The author points out that in 1940 the art was still in the experimental stage and that although hydroponics requires a larger expense per unit area than agriculture, experience has shown that it is profitable commercially because of increased yield and quality of product. The main purpose of the book is to aid the beginner The work contains numerous illustrations of practical applications as well as detailed methods for raising each particular type of vegetable, fruit, or flower Formulas of chemicals required for plant food are also included.

HERTRICH, WILLIAM

Palms and cycads their culture in southern California as observed chiefly in the Huntington Botanical Gardens. San Marino, Calif. The Henry E. Huntington Library and Art Gallery 1951 141 p illus (part col d) $5.00. 7699

Contents Historical background. The palm garden. Cultural notes. Palms Group I, Pinnate or feather-leaved palms. Group II, Palmate or fan-leaved palms. Cycads. Index. Index to illustrations.

Note. Described in this book are the palms and cycads which have been grown—and most of which are still growing—in the Huntington Botanical Gardens at San Marino, California. Although it consists chiefly of species and varieties indigenous to subtropical regions, the collection is an extensive one. It is described primarily from the horticultural viewpoint. There are general comments on culture and, in addition, the accounts of species and varieties sometimes include notes on the experience with them in the Huntington Botanical Gardens, for example, on their degree of hardiness to low temperatures. Aside from the cultural notes, the descriptions of form are concerned chiefly with such details as height, general appearance, shape, color of the leaves, etc. The book is fully illustrated with reproductions of photographs.

[illegible]

QUILLIN, ELLEN DOROTHY (SCHULZ)

Cactus culture. Illustrated with drawings by Ben Carlton Mead. Revised edition. New York: Orange Judd Publishing Company, Inc., 1942. 153 p. illus. 21 cm. $3.50. 7714

[illegible]

ROCKWELL, FREDERICK FRYE, editor

10,000 garden questions answered by 15 experts, with 400 illustrations and temperature and planting maps. F. F. Rockwell, editor; associate editors, Montague Free, T. H. Everett, and Esther C. Grayson. Garden City: The American Garden Guild, Inc., and Doubleday Doran and Company, Inc., 1944. 1457 p. illus. 20 cm. $4.95 7715

[illegible]

SHEPHERD, ROY E.

History of the rose. New York: The Macmillan Company, 1954. 264 p. illus. 21 cm. $4.75 7716

[illegible]

[illegible]

SHOEMAKER, JAMES S.

General horticulture. Second edition. Philadelphia: J. B. Lippincott Company, 19[illegible]. 454 p. illus. 24 cm. $5.50. 7717

[illegible]

SHOEMAKER, JAMES S., AND BENJAMIN J. E. TESKEY

Practical horticulture. New York: John Wiley & Sons, Inc., 1955. 374 p. illus. (part col'd) 22 cm. $4.20. 7718

[illegible]

STEFFEK, EDWIN F.

Wild flowers and how to grow them. New York: Crown Publishers, Inc., 1954. 192 p. illus. (part col'd) 23 cm. $3.95 7719

[illegible]

Part I the selection of lilies for specific environments and lily culture are covered In Part II over 170 species of lilies and lily hybrids are described, chiefly as to their appearance, time of flowering, and cultural requirements. The *bibliography* comprises an excellent selection of the literature on lilies.

MUENSCHER, WALTER CONRAD, AND MYRON ARTHUR RICE

Garden spice and wild pot herbs With *illustrations* cut on wood by Elfriede Abbe. Ithaca *Comstock Publishing Associates*, a division of Cornell University Press, 1955 211 p illus 28 cm $5 75 7707

Contents Introduction. Descriptions of the herbs. Treatment of the herbs. *Wild* pot-herbs. The classification and naming of plants. Illustrations of seeds. Glossary Index.

Note. An attractive volume, artistically illustrated. One of its distinguishing features in comparison to other books on herbs is that the plants described are carefully identified. Botanical names and vernacular names in English, French, German, and Italian are given. As herb books go, the discussions of the plants are conservative that is to say there is much less of legend and folklore than is customary In addition to the *botanical* identifications, the plants are described morphologically their uses, actual and reputed, are discussed and cultural directions are given. Altogether there are 56 plates of illustrations.

MUSSER, HOWARD BURTON

Turf management A publication of the United States Golf Association. Foreword by James D Standish, jr New York McGraw Hill Book Company, Inc., 1950 354 p. illus. 24 cm. $7 00 *7708*

Contents. Broad relationships in the production of special-purpose turf. Soil and turf relationships. Fertilizers and lime in turf production. Drainage and *irrigation*. Special-purpose turf grasses. Turf propagation. Turf maintenance. Weed control. Turf diseases and related *damage*. *Control* of insects and other pests. *Elements of golf*-course design. Golf-course operation. Appendix. Index.

Note. This book, which is devoted *exclusively* to the establishment, care, and upkeep of golf turf, public park lawns, and other large areas of *turf grasses*, was prepared under the sponsorship of the United States Golf Association. It is an authoritative presentation of all phases of large-scale turf development and maintenance, with the most emphasis on golf course grass problems. There is no bibliography The appendix contains list of fertilizers, liming and soil-amendment materials, turf seeds, weed-control chemicals, and tabulated information on various grasses. The author is Professor of Agronomy at Pennsylvania State College.

NORTHEN, HENRY T, AND REBECCA T NORTHEN

The complete book of greenhouse gardening New York The Ronald Press 1956 353 p illus. (part *col'd*) 22 *cm*. $6.50 7709

Contents Gardening under glass. Selecting and building your greenhouse. Managing your greenhouse. Soils and nutrition. Growing plants from seed. Propagating plants. Controlling shape size, and flowering time. Plant pests. Diseases of greenhouse plants. Common cut flowers. Unusual cut flowers. Pot plants. The amaryllis family Exotic foliage and flowering plants. Begonias. Bromeliads. Ferns. Gesneriads. Orchids. Poinsettias and their relatives. *Flowering* and foliage plants of various families. Cacti and other succulents. Bulbs for forcing. Bulbs for continuous growth. Greenhouse and outdoor garden. Vegetables. Index.

Note: A useful book which is addressed primarily to amateur gardeners. It provides wide range of rather *detailed* information on *the culture* of flowers in small greenhouses, and condensed information on the growing of greenhouse vegetables for home use It describes not only expected techniques, but also some unusual ones such as the growing of fuchsias from seed. It is written in simple, *direct style* and is generously illustrated with reproductions of both diagrams and photographs.

NORTHEN, HENRY T, AND REBECCA T NORTHEN

The secret of the green thumb. New York The Ronald Press Company 1954 431 p. illus. 22 cm. $5 00 *7710*

Contents. Life story of plants. Supply lines and operating centers. Water. Plants at work—oxygen. Food *for growth—sugar*. Light. Temperature. Soils and nutrition. Plant hormones. Seasonal phenomena. Planting and propagation. *Flowering*. Plant breeding. Science explains heredity Insects and other garden pests. Bacteria, viruses, and fungi. Plants without seeds. The seed plants. Evolution. Plant communities. Conservation. Index.

Note. An unusual presentation of *scientific information related* to gardening. The relationship is obvious in the chapters on such topics as light, temperature, *planting* and propagation, and less so in the chapters on plant communities and conservation. However, even the latter chapters are so written *that the dedicated gardener* will find them of interest. In most of the chapters, scientific information *that will be helpful to most amateur gardeners* is explained in a simple, nontechnical style, and the verbal explanations *are supplemented* by pictures of which there are *111* in the book.

NORTHEN, REBECCA TYSON

Home orchid growing. Princeton D Van Nostrand Company, Inc., 1950 286 p illus. 23 cm. $6 95 *7711*

Contents. Orchids as a hobby Adult cattleyas and their care. The cattleya species. Hybrids. Seedlings from flask to community pot. Seedlings from community pot to first bloom. Growing and sowing your own seed. The orchid tribes, the arides tribe. The cattleya tribe. The cymbidium tribe. The cypripedium tribe. The dendrobium tribe. *The odontoglossum* tribe. Collectors' items. Mineral nutrition. Diagnosing orchid ailments. Hybridizing your orchids. The care and use of cut flowers. *Bibliography Appendices*: Key to the tribes and genera of the orchid family Sources of orchid plants and supplies. Index.

Note. An explicit, *practical guide for amateur growers*, especially those who wish to grow orchids in their homes and in small greenhouses on a noncommercial basis. The illustrations include six plates in color and several hundred black-and-white illustrations. The author wife of Henry T *Northen, Professor of* Botany in the University of Wyoming, is an eminent amateur grower of orchids.

PIRONE, PASCAL POMPEY

Maintenance of shade and ornamental trees Second edition. New York Oxford University Press, 1948 436 p. illus 24 cm. $8.50 7712

Contents: Foreword, by L. H. Bailey Part I. General maintenance practices: The normal tree. The *soil* and its relation to trees. Transplanting trees. *Fertilizers* and their use. Pruning trees and treating wounds. Cavity treatments. Bracing and cabling. Trees suitable for streets and roadsides. *Part II*. Specific abnormalities of trees: Diagnosing tree troubles. Non-parasitic injuries. Insect control. Spraying equipment and practices. *Tree diseases* and their control. General parasitic diseases. Diseases and insect pests of deciduous street and roadside trees. *Disease and insect pests* of deciduous ornamental trees and some shrubs. Diseases and insect pests of evergreen trees and some shrubs. Appendix. *Selected* bibliography Index.

Note. A useful and authoritative *reference manual* for such persons as landscape architects, park superintendents, and specialists in the care of trees. Although termed a *second edition* by the publisher the text of the original pages seems not to have been changed. Instead a 11-page appendix has been added to cover advances in insecticides, fungicides, etc., and references are made from this appendix to the *body of the book where the same* subject is discussed more fully About one page of references has been added to the bibliography

POST, KENNETH

Plants and flowers in the home. *New York* Orange Judd Publishing *Company* Inc., 1944 198 p. illus. 20 cm. $3 50 7713

Contents: Environment and plant growth. Care of plants. Where to use plants. Reproduction. *Flowering* plants. Foliage plants.

preparing the present edition are not extensive, but there is some newly added material on new developments of practical importance, such as constant level irrigation. Figures given in the chapter on costs of production have been revised [illegible] them by 30% in order to align them to 1948 conditions has been [illegible].

LAURIE, ALEX, AND VICTOR H. RIES

Floriculture fundamentals and practices. Second edition. New York McGraw Hill Book Company Inc., 1930. 525 p. illus. 24 cm. (McGraw Hill publications in the agricultural sciences R. A. Brink, consulting editor) $7.50. 7726

Contents: How plants grow. Soils. Fertilizers. Horticultural machinery. Soilless culture. Cold frames, hotbeds, and greenhouses. Garden design. Propagation of plants. Lawns. Annuals. Perennials. Flowering bulbs. The rock garden. Roses. Water gardening. Woody plants. House plants. Insect pests and plant diseases. Greenhouse management. Index.

Note: A standard work used both as a text in agricultural colleges and as a manual of practical information by persons with interests in commercial floriculture. The treatment of most topics is concise, hence, a considerable range of information is included, some of it very specific. Bibliographies are included. The greater part of the text is unchanged from that of the first edition published in 1942, but important revisions have been made in some parts such as the discussion of pest control.

POST KENNETH

Florist crop production and marketing the application of scientific facts to the production and marketing of florist cut flowers, potted plants and bulbs grown in the greenhouse or in the field. New York Orange Judd Publishing Company Inc., 1949 891 p. illus. 24 cm. $10.00 7727

Contents (abridged): Part I. The florist business. The structure of plants. The production of new varieties. Temperature and growth. Light and growth. The effects of gases. Soils and fertilizers. Water uses and application. Propagation of plants. Cut flowers. Potted plants. Troubles. Structures for growing plants. Part II. Plant culture and marketing. Authors' index. Subject index.

Note: A comprehensive manual of sound practices in the growing of flowers and potted plants as crops for market. The first part, [illegible] a little over one-third of the book's length and is composed of the chapters whose titles are given above. The second part is composed of 19 chapters on the culture and marketing of various species. Although the viewpoint from which the book is written is strictly practical, the author has gone to some pains to draw attention to the findings of scientific experiments pertaining to such matters as the response of various species to light, effectiveness of various techniques of soil sterilization, and control of diseases. References to the literature are given throughout the volume. There are numerous pictures of equipment and of plants. The author is a member of the faculty of New York State College of Agriculture, Cornell University.

FRUIT CULTURE

ANDERSON HARRY WARREN

Diseases of fruit crops. New York McGraw Hill Book Company Inc. 1956 501 p. illus. 23 cm. (McGraw Hill publications in the agricultural sciences R. A. Brink, consulting editor) $8 50 7728

Contents: Introduction. Diseases of pome fruits. Diseases of drupe or stone fruits. Diseases of brambles. Diseases of grapes. Diseases of strawberries. Diseases of gooseberries and currants. Diseases of the cranberry. Diseases of the blueberry. Index.

Note: An authoritative treatise in which the accumulated knowledge of the diseases of the classes of fruits named in the above chapter titles is presented. It was based on a wide survey of the literature and references to the original publications are given. However, the discussions of the diseases are complete enough to provide the average user of the volume with adequate information without reference to the source literature. The individual diseases are discussed as to history, geographic distribution, economic importance, symptoms, causal organism, hosts, disease cycle, relation to environment, and control. The viewpoint is primarily horticultural. Condensed morphological descriptions of causal organisms are included, though printed in smaller type. Most of the 94 figures are reproductions of photographs. The author is Professor of Plant Pathology in the University of Illinois.

BARTHOLOMEW, ELBERT THOMAS, AND WALTON B SINCLAIR

The lemon fruit its composition physiology and products. Berkeley and Los Angeles University of California Press 1951 163 p. illus. 24 cm. $4.50. 7729

Contents (abridged): General information. Composition and physiology. Products and their uses. Literature cited. Author index. Subject index.

Note: Essentially this work is a compact summary of information which has been gathered from the technical literature. Botanical and biochemical aspects are covered in the first two parts. The third part, which is only 8 pages long, contains information on the commercial importance and uses of the whole fruit and its components. Horticultural aspects are not covered. The book is useful as a reference volume and a guide to the technical literature. There is a 12-page bibliography.

BROOKS, REID M., AND CLARON O HESSE

Western fruit gardening a handbook for the home gardener on fruit varieties climatic adaptations soil, water and nutrient requirements pruning and propagation control of diseases and pests. Illustrations by Beverley Farmer Berkeley University of California Press, 1953 287 p. illus. 24 cm. $4.50 7730

Contents: Part I, Growing fruit plants: Planning your fruit garden. Care of young and mature trees. Pruning. Propagating your own selection of varieties. Growing fruit in limited space. Part II, Western fruits. Part III, Troubles of fruit plants: Kinds of diseases and pests. Control Measures. Implements. Index.

Note: Because of the varieties of climate, many kinds of fruits can be grown in the western states of continental United States of America. Forty-eight kinds suitable for these regions, ranging from almond to the [illegible] and including apples, apricots, avocados, cherries, dates, grapes, grapefruit, lemons, olives, oranges, pears, pomegranates, raspberries and walnuts, are considered in the book. Each kind is described as to climatic requirements, hardiness, varieties, soil, nutrients and water requirements, harvesting, diseases, and pests. Preceding the discussion of individual fruits are several short chapters on general aspects of tree culture such as planting, watering, fertilizing, and propagating. The book is directed to gardeners, especially those who are interested in raising fruit for home use.

BROOKS REID M. AND H. P OLMO

Register of new fruit and nut varieties 1920–1950. By Reid M. Brooks and H. P Olmo with the assistance of cooperating horticulturists Berkeley University of California Press, 1952 206 p. 24 cm. $3 00. 7731

Contents: Register of varieties: Almond. Almond-peach. Apple. Apricot. Avocado. Blackberry. Blueberry. Butternut. Carissa. Carob. Chaenomeles. Cherry. Cherry plum. Chestnut. Cranberry. Currant. Date. Elderberry. Fig. Filbert. Gooseberry. Grape. Grapefruit. Guava. Hickory. Lemon. Lime. Mango. Natal plum. Nectarine. Orange. Orangequat. Papaya. Peach. Pear. Pecan. Persimmon. Plum. Plumcot. Pomegranate. Prune. Quince. Raspberry. Strawberry. Tangelo. Tangerine. Tangor. Tung. Walnut. White sapote. Patented varieties. Varieties by place of origin. Index.

Note: A compilation of lists of new varieties of fruits and nuts originated in North America during the years 1920 to 1950 inclusive. The lists were published originally in the *Proceedings* of the American Society for Horticultural Science. Information given for

native lilies. Lobelias, red and blue. The mallow group. Mandrake or May apple. Marsh marigold. Meadow-beauty or deergrass. Three bog orchids. The phloxes. Pipsissewas. Prickly pear cactus. Purple coneflower Early saxifrage and blue-eyed grass. The showy orchis. A quartet of silenes. The dependable spiraeas. The spring beauty Swamp pink. Trailing arbutus or Mayflower The trilliums. Trout lilies unlimited. Twinflower or deervine. The violets. The water lilies. Wild calla. Wild geranium. Wild ginger Wild lupine. Wintergreen and partridgeberry Wood sorrel. Yellow stargrass. Index.

Note: The purpose of this book is to describe the principal groups of American wild flowers and to offer suggestions on transplanting and growing them. The first part gives a general introduction to the subject. In the second part, each of 71 kinds of plants is treated in detail under the following headings "Description "*Where they grow*" Blooming season, "Culture, "Species. Many of the descriptions are accompanied by photographic illustrations. The section of colored illustrations consists of 50 plates reprinted from *Wild flowers of America*, by H. W Rickett, illustrated by Mary Vaux Walcott and Dorothy Falcon Platt, 1953.

WESTCOTT, CYNTHIA

The plant doctor, the how, why and when of disease and insect control in your garden. Revised edition 1950 with a calendar for the Northeast and special chapters for other sections. Line drawings by the author Philadelphia J B Lippincott Company, 1950 231 p illus. 21 cm. $3 50 7720

Contents The plant doctor's calendar· February March. April. May June. July August. September October November Special troubles in the Middle West. Special troubles in the Southeast. Special troubles in the Southwest. Special troubles in California. Special troubles in the Northwest. Alphabetical miscellany List of agricultural experiment stations. Index.

Note: An established reference handbook used by noncommercial gardeners in the United States of America. It presents a considerable range of simple, practical information on insecticides application and other control measures. The first edition was limited to the northeastern United States, but the book now covers the whole nation. However that portion which is arranged by calendar month still refers only to the area around New York City The alphabetical miscellany is an extensive list of common garden plants with their diseases and descriptions of the preferred treatments. Although of no use to specialist, the book is a handy one for its intended audience.

WISTER, JOHN CASPAR

Bulbs for home gardens. New York Oxford University Press 1948 270 p illus. 22 cm. $5 00 7721

Contents Introduction Definitions, examples of uses, and sources of supply Culture. Types of bulb gardening. Some well-known bulbs for the spring garden. Crocus. Bulbs for the rock garden. Bulbs in the wild garden. Hyacinths. Daffodils. Daffodil culture. Tulips—history and cultivation. Tulips—garden varieties. Some other spring and summer-blooming bulbs. Lilies. Gladiolus. Half hardy summer-flowering bulbs. Tender bulbs. Appendices Daffodils. Tulips. Index.

Note An excellent manual on the subject for amateur gardeners, even those who have advanced far enough in their hobby to be interested in the importation of unusual varieties. Expert and detailed instructions for the planting and care of flower bulbs which may be grown successfully in the United States of America are given. Much advice is included on the selection of varieties and on the sources of special information, such as the societies in the field and names of leading breeders. In addition to the varieties named in the text, the appendix contains extensive lists which give the dates of introduction of all the leading varieties.

WYMAN, DONALD

Shrubs and vines for American gardens. New York The Macmillan Company 1956 442 p illus (part col'd) 24 cm $8 00 7722

Contents: Introduction. Hardiness. Order of bloom. Ornamental fruits. Foliage colors. Shrubs for various purposes. General list of recommended plants. Vines. Bamboos. The naming of horticultural varieties. Secondary plant list. Index.

Note. A reference book for home gardeners, landscape architects, and nurserymen. It is designed as a guide in the selection of shrubs and vines according to such characteristics as color time of blooming, hardiness to frost. It contains list of plants recommended by the author and a supplementary list of plants of secondary interest. Other useful lists, such as a classification according to color of fruit, are included. The General list of recommended plants" is 155 pages long and provides such information for individual species as botanical and popular names, height, hardiness, color of flower time of flowering, color of fruit, color of foliage, habitat and a general comment such as: "One of the handsomest of evergreens with lustrous green foliage, very similar to that of holly an excellent ornamental shrub growing well in either sun or partial shade.

WYMAN, DONALD

Trees for American gardens. New York The Macmillan Company, 1951 376 p. illus. 24 cm. $7 50 7723

Contents. Introduction. Hardiness. Order of bloom. Ornamental fruits. Foliage colors. Trees for various purposes. Street and highway planting. One hundred tree champions. Dwarf trees. General list of recommended trees. Secondary list of trees. Index.

Note. Essentially a reference manual for landscape architects, nurserymen, and amateur gardeners concerned with selecting trees to meet specific growing conditions or produce desired landscaping effects. Seven hundred and forty-five species of trees are described and grouped according to degree of hardiness, date of blooming, autumn coloration, and other characteristics important in gardening. Emphasis is placed on the landscaping qualities of the trees, and only brief attention is given to planting methods and general care.

COMMERCIAL FLORICULTURE

GARDNER, VICTOR RAY

Basic horticulture. Revised edition. New York The Macmillan Company, 1951 465 p. illus. 24 cm. $6 50 7724

Contents The place of horticulture in American agriculture. Classifications of plants. Plant structure and plant growth. Specialized buds and stems. Temperature relations of plants. Water as a limiting factor. Light as limiting factor. Plant nutrients as limiting factors. Water and nutrient intake, translocation, and utilization. Carbohydrates. Growth and fruitfulness. Flower-bud differentiation and flowering habits. Training horticultural plants. Pruning. Flowers, fruits, and seeds. Propagation. Hormones and growth regulators. The culture of annuals. The culture of biennials, herbaceous perennials and bulbous plants. The culture of woody perennials. Plant pests and the injuries caused by them. Control of plant ills. Weeds and their control. Some general questions and problems. Suggested laboratory exercises. Glossary Index.

Note An inclusive exposition of the fundamental principles of horticulture for beginning students in agricultural colleges. Emphasis is upon the understanding of plants—their structure, how they grow and the way in which they react to different environments. As factual information and illustrative material, the author presents material which he has found useful in the presentation of the subject at Michigan State College. This edition contains newly added chapters on hormones and on the control of weeds.

LAURIE, ALEXANDER AND D C KIPLINGER

Commercial flower forcing· the fundamentals and their practical application to the culture of greenhouse crops. Fifth edition. New York McGraw Hill Book Company Inc., 1948 550 p illus. 24 cm. $6 75 7725

Contents. Status and development of the industry Greenhouse construction and heating. Factors influencing plant growth. Soils. Growing ornamental green house crops in gravel culture. Fertilizers. Reproduction. Diagnosing greenhouse ills. Major crops. Minor crops. Miscellaneous cut flower crops. Bulbs, corms, and tubers. Flowering pot plants. Foliage plants. Forcing hardy plants. Cloth house. Wholesale marketing. Costs of production. Index.

Note. This work is both standard text for use in agricultural colleges and reference manual used in the commercial green house industry The authors were teachers of horticulture at Ohio State University in which state the green house industry has reached comparatively high state of development. Revisions made in

pany Inc., 1952 739 p. illus. 23 cm. (McGraw Hill publications in the agricultural sciences R. A. Brink, consulting editor) $10.00. 7737

Contents (abridged) Section I, Water relations: The intake and utilization of water. Orchard soil management methods and moisture conservation. The response of fruit plants to varying conditions of soil moisture and humidity Irrigation. Section II, Nutrition: Fruit nutrients and their absorption. Manufacture and utilization of carbohydrates. The limitations of the reproductive process, surpluses and deficiencies. The application of nitrogen-carrying fertilizers. Section III, Temperature relations of fruit plants: Growing-season temperatures. Winter killing and hardiness. Winter injury Protection against frost. Section IV Light relations. Section Growth regulators. Section VI, Pruning: Growing and bearing habits. Pruning, the method. Pruning with special reference to particular fruits. Section VII, Fruit setting: The structures and processes concerned in fruit formation. Unfruitfulness associated with internal factors. Unfruitfulness associated with external factors. Fruit setting as an orchard problem. Glossary Index.

Note As the title is intended to indicate, this book is concerned with fundamental factors in fruit production rather than specific cultural practices. Its 35 chapters are devoted to such matters as soil-water relationships, translocation of nutrient elements in the plant, the factors of winter injury photoperiodic response, and the factors in fruit setting. Although much of the discussion is pertinent to fruits of all kinds, there is more emphasis on tree fruits. The book was based on wide literature survey and extensive lists of literature cited are included. The second edition was published in 1939 The major changes in this third edition are the addition of the section (four chapters) on light relations and growth regulators and the dropping of the sections on propagation and on geographic influences in fruit production which appeared in the second edition. Less extensive revisions have been made in the chapters carried over but some information has been added to all of them, and selection of the literature published since the writing of the second edition has been added to the lists of references.

Hedrick Ulysses Prentiss

Fruits for the home garden. New York Oxford University Press, 1944 171 p. illus. 22 cm. $3 75 7738

Contents: Fruit-garden foresight. Propagating fruits. Planting plans. The first year. Care of fruit garden. The art of pruning. Controlling orchard pests. The apple. The pear. The peach. The plum. The cherry The grape. The bush fruits. The bramble fruits. The strawberry Index.

Note: This manual is addressed primarily to the gardener faced for the first time with the problem of planting fruit garden. Soil and climatic requirements are specified for each kind of fruit, together with advice on the choice of the most suitable kind and the methods of improving soil conditions for the growing of fruit. Suggestions and directions are also provided on how many varieties should be planted, the correct distances between plants, and the arrangement of the garden. Details of life-span, time required between planting and fruit bearing, and harvesting methods are included.

Hedrick, Ulysses Prentiss

Grapes and wines from home vineyards. New York Oxford University Press, 1945 326 p. illus. 22 cm. $6.00 7739

Contents (abridged) Part I, The home vineyard The grape plant. Propagation. Climate, sites, and soils. Care of vineyard. Insects and fungi Pruning Old World grapes in eastern America. Grape-breeding. Varieties of grapes. Part II, Wines from home vineyard American wines. The home winery The care of new wine. Wine drinks. Wine in cookery Index.

Note This is well-organized manual of American grapes and although is slanted primarily toward the serious amateur, it should prove of considerable interest to professionals as well. The treatment account is complete, from the selection of proper vineyard site to the manner of holding the glass for savoring the wine. Characterized by pleasing literary style, the book is still essentially practical. The author is particularly careful not to minimize the time, trouble, and expense concomitant with successful pursuit, nor does he allow unnecessarily extravagant claims for the superiority of American wines over European. There are numerous drawings, photographs, and tables and an extensive list of recipes, but no bibliography

Shoemaker, James Sheldon

Small fruit culture a text for instruction and reference work and a guide for field practice. Third edition. With 75 illustrations. New York McGraw Hill Book Company Inc. 1955 447 p illus. 23 cm. $7.00 7740

Contents: Introduction. Grape culture. Strawberry culture. Bramble-fruit culture. Currant and gooseberry culture. Blueberry culture. Cranberry culture. References. Index.

Note: More reference book than text, this standard work is used for both purposes. It deals in thorough manner with the kinds of small fruits named in the chapter titles. More than 100 pages are devoted to the strawberry—to take an example. The important producing regions of the United States of America and of Canada are first described, then follow history; descriptions of commercially important varieties, information on duration of planting, yield and cost of production; methods of propagation; soil and moisture requirements, climate and weather factors; preparation of the soil setting out of plants, control of pests and weeds; irrigation; mulching; fertilizing; harvesting and marketing practices. The other fruits are covered in similar fashion. The second edition was published in 1948. Although the chapter titles are the same in this third edition, important changes have been made, especially on new varieties, insect and disease control, irrigation, and (for some crops) newer harvesting and marketing practices. The bibliography an important feature of earlier editions, has been extended to 421 references and to include literature published as recently as 1953.

Southwick Lawrence

Dwarf fruit trees. Edited by Ed Robinson. New York The Macmillan Company 1948. 126 p. illus. 22 cm. (The "Have-more" plan reference library edited by Ed Robinson) $1.95 7741

Contents: Why have dwarf trees? What dwarf trees are. What is good dwarf? Planning dwarf orchard. How to buy or propagate your own dwarf trees. Special directions for planting dwarfs. Pruning the dwarf orchard. Thin for bigger fruit. Soil management and fertilization. A simplified program for pest control. Harvesting—best time to pick fruits. How to store fruits. Espaliers, fascinating hobby Growing dwarf trees for sale. Index.

Note: For suburban dwellers and small-scale farmers, dwarf fruit trees have several advantages over trees of standard size. This book is addressed to such gardeners, and it provides detailed descriptions of all phases of dwarf fruit tree cultivation, from the time of the initial propagation of the tree until the fruit is ready for harvesting. The book is well illustrated with photographs showing the right and wrong way of doing things, and such operations as planting, pruning, staking, etc., are clearly explained with the aid of diagrams.

Talbert Thomas Jesse

General horticulture principles and practice of orchard, small fruit, and garden culture. Illustrated with 129 engravings. Philadelphia Lea & Febiger 1946 452 p. illus. 24 cm. $4 00 7742

Contents: The horticultural industry Factors affecting fruitfulness. Varieties, pollination, and fruit thinning. Propagation. Sites, locations, and plantings. Soil management and fertilization. Pruning deciduous fruit trees. Insects of fruit crops. Diseases of horticultural crops. Spraying and dusting. The pome fruits. The stone fruits. Grape culture. Strawberry culture. Cane and bush fruit culture. Nut tree culture. Growing vegetables. Beautifying the home grounds. Tropical and subtropical fruits. Handling and distributing horticultural crops. Index.

Note: Fruit crops, Philadelphia, 1930 written by the author and A. E. Murneek, has under the present title been extensively revised, and has been expanded by the addition of five chapters on topics which were not treated in the earlier work. As before, the work presents contemporary view of horticultural crops and practices in the United States of America, and is intended primarily for students in agricultural colleges. It is useful also as manual of information for persons who are considering fruitgrowing as an occupation. The reference lists appended to the chapters serve as guides to books, government bulletins, circulars, etc.

each variety includes place and date of origination, name of originator date of commercial introduction, U S. A. patent number with assignment if any parentage when known, brief description or characterization of fruit and tree, and time of bearing when significant. The lists were compiled with the co-operative assistance of 86 American and Canadian horticulturists located in 42 states and 4 provinces. Varieties are included only if they have shown promise of becoming commercially important or appear to have unusual characteristics useful to the breeder of new forms.

CHANDLER, WILLIAM HENRY

Deciduous orchards Second edition, thoroughly revised. With 113 illustrations Philadelphia Lea & Febiger, 1951 436 p illus 24 cm. $6 50 7732

Contents. Part I, The tree and its flowers and fruit The deciduous orchard tree. Deciduous orchard buds. Classification of deciduous orchard trees. Growth and flower bud formation. Pollination and the setting of fruit. The growing fruit. The mature fruit. Part II, Deciduous orchard environments Climate for deciduous orchards. Deciduous tree roots and the soil. The water supply in tree and fruit. Nutrients for trees. Essential elements and some others that influence trees. Part III, Growing and training deciduous orchard trees. Propagation of deciduous orchard trees. Transplanting trees from the nursery to the orchard. Response of deciduous trees to pruning. Part IV Deciduous orchard species Pome fruits. Stone fruits. The mulberry and the fig. The persimmon, the northern papaw and some other fruits. Edible nut trees. The tung-oil tree. Recent papers. Index.

Note: A standard textbook used in courses in fruit growing in agricultural colleges. Although some information on cultural practices is included, the main emphasis is on background information such as the processes of flower bud formation, pollination, the studying of fruit tree nutrition, and influence of climate, etc. The first edition was published in 1942 This edition has almost the same number of pages nevertheless, important revisions have been made in all chapters. References to 270 recent papers have been incorporated in the text. However several bibliographies appended to chapters were not revised although the need for revision is evident. A third edition revised was published in 1957 492 p., $7.50.

CHILDERS NORMAN FRANKLIN

Fruit science, orchard and small fruit management. Edited by R. W Gregory Philadelphia J B Lippincott Company 1949 630 p illus 24 cm $6 50 7733

Contents Introduction. Establishing the fruit planting Apple regions, production, and varieties. Pruning apple trees. Soil management for apples. Flower-bud formation, pollination, and fruit set in the apple. Thinning apple fruits. Grafting and budding apple trees. Freezing injury to apples. Harvesting and packing apples. Storing apples. Marketing apples. Pear and quince culture. Peach, nectarine, apricot, and almond. Culture of plums. Cherry culture. Control of insects and disease. Judging contests and exhibitions. Freezing preservation of fruits. Grape growing. Strawberry growing. Bush berry culture. Appendix. Index.

Note A practical text written by a staff member of the New Jersey Agricultural Experiment Station. Designed primarily for use in agricultural college courses, enough matter has been included to make it useful also in agricultural extension work and as orientation for young farmers who are thinking of growing fruit. There are 304 figures, many of which have been reproduced from photographs, more than 40 tables, and a useful selected list of pertinent books, government publications, and current journals.

CHILDERS, NORMAN FRANKLIN editor

Mineral nutrition of fruit crops deciduous and evergreen tree and small fruits. New Brunswick, N J Horticultural Publications, Rutgers University 1954 907 p illus 23 cm $10 00 7734

Contents Apple nutrition, by D Boynton. Avocado and mango, by S. J Lynch. Blueberry and cranberry by J C. Cain and G. J Galletta. Bush fruits nutrition by J W Eckert. Cherry nutrition, by F B. Wann. Citrus nutrition, by P F Smith and W Reuther Leaf analyses of citrus, by W Reuther and P F Smith. Grape nutrition, by E. G. Christ and A. Ulrich. Special photographic section Boron deficiency Calcium deficiency Copper deficiency Iron deficiency Nitrogen deficiency Manganese deficiency Magnesium deficiency Molybdenum deficiency Potassium deficiency Sulfur deficiency Zinc deficiency Other problems. Edible nuts, by E. L. Proebsting and E. F Serr Peach nutrition, by H. K. Bell and N. F Childers. Pear nutrition, by D. Boynton. Plum prune, and apricot, by R. C. Lindner, N R. Benson, and R. M. Bullock. Strawberry nutrition, by D L. Matlock. Tung nutrition, by M. Drosdoff, and others. Isotopic tracers in fruit nutrition, by S. H. Wittwer and H. B. Tukey Chelated metals for growing plants, by I. Stewart and C. D Leonard. Experimentation with orchard trees, by G. F Potter and B. G. Sitton. Mineral contents of important fruit plants, by L. M. Shannon. Index of authors. Index of subjects. Corrigenda.

Note. A systematic review of the literature bearing on mineral nutrition and mineral deficiency in the various fruit crops of the United States. Each crop is surveyed in detail by a research specialist. Typical is the 78-page chapter covering apple nutrition, which is divided as follows. Growth and fruiting habit. Soil aeration and moisture. Nitrogen. Potassium. Magnesium. Calcium. Iron. Manganese. Zinc. Copper Phosphorus. Boron. Literature cited. Under each mineral are indicated such considerations as its presence in the soil, its absorption and use, specific responses of the specific fruit to the specific mineral, visible symptoms of the deficiency and control of the deficiency The lists of literature appearing at the ends of the chapters are extensive. The book is fitted for use as an advanced textbook of the subject and also as a reference compendium for agricultural research workers in the field of fruit nutrition.

CONDIT, IRA JUDSON

The fig Foreword by Walter T Swingle. Waltham Chronica Botanica Company 1947 222 p. illus. 27 cm. (A new series of plant science books, Frans Verdoorn, editor Volume XXX) $5 50 7735

Contents (abridged) The fig in song and story History and distribution. Systematic botany General botany Caprification. Fig breeding. Fruit characters. Fig varieties. Some fig districts of the Old World. Other fig districts. Climatology Propagation. Fig culture. The fresh fig crop. The dried fig crop. Fig products. Chemistry and food value. Economics and marketing. Diseases. Insects and other pests. Bibliography Index.

Note. A comprehensive monograph in which all aspects of the subject are touched upon but in which topics of current interest, such as fig culture, are accorded most of the space. The work is essentially a condensed summary of the literature. References have been carefully made from the text proper to the very extensive bibliography The author a specialist in horticulture, is widely known for his writing on the fig.

DARROW, GEORGE MCMILLAN, AND OTHERS

Blueberry growing by George M. Darrow, J B Demaree, and W E. Tomlinson, Jr Revised 1951 Washington D C. Government Printing Office, 1952 53 p. illus. 23 cm. (United States. Department of Agriculture. Farmers bulletin no 1951) Gratis. 7736

Contents (abridged) Development of the blueberry industry Important species: Lowbush blueberry Highbush blueberry Dryland blueberry Evergreen blueberry Mountain blueberry Rabbiteye blueberry Highbush varieties and their culture. Soil and climatic requirements. Varieties and their characteristics. Need for cross-pollination. Growing and care of seedlings and native plants. Planting and cultivation. Maintaining soil fertility Good drainage essential. Irrigation often profitable. Mulching. Pruning. Harvesting and marketing. Yields. Uses. Blueberry diseases. Blueberry insects.

Note. A summary of information on selecting and growing blueberries in home gardens and commercial plantings, and protecting them from diseases and insects. Most of the space is given to the highbush varieties, which are the chief varieties grown commercially in the United States.

GARDNER, VICTOR RAY, AND OTHERS

The fundamentals of fruit production. By Victor Ray Gardner Frederick Charles Bradford and Henry Daggett Hooker Jr Third edition New York McGraw Hill Book Com-

PELLETT FRANK CHAPMAN

American honey plants, together with those which are of special value to the beekeeper as sources of pollen. Fourth edition, revised and enlarged. 30 illustrations. New York. Orange Judd Publishing Company Inc., 1947 457 p. illus. 2[illegible] cm. $[illegible] 7748

Note: [illegible]

PELLETT FRANK CHAPMAN

A living from bees. Revised edition. Illustrated. New York. Orange Judd Publishing Company Inc. 1946. 353 p. illus. 20 cm. $4.00. 7749

Contents (abridged): [illegible]

Note: [illegible]

ROOT A. I., AND OTHERS

The ABC and XYZ of bee culture an encyclopedia pertaining to scientific and practical culture of bees. By A. I. Root revised by E. R. Root, assisted by H. H. Root and M. J. Deyell. Medina, Ohio The A. I. Root Company 1954 703 14 p. illus. 23 cm. $4.25 7750

Note: [illegible]

SECHRIST EDWARD LLOYD

Amateur beekeeping. With illustrations by Frank Norris Todd. New York The Devin-Adair Company 1955 148 p. illus. 21 cm. $3.50. 7751

Contents: [illegible]

Note: An introductory and elementary guide to beekeeping. [illegible]

in the appendix [illegible] list of journals of beekeeping and [illegible] list of other books for the guidance of readers who find that they need additional or more detailed information.

ANIMAL HUSBANDRY

ANDERSON ARTHUR LAWRENCE

Introductory animal husbandry Revised edition. New York The Macmillan Company 1951. 701 p. illus. 24 cm. $6.75 7752

Contents (abridged): [illegible]

Note: [illegible]

ANDERSON ARTHUR LAURENCE

Swine management, including feeding and breeding. Edited by R. W Gregory Philadelphia J B Lippincott Company 1950. 531 p. illus. 22 cm. (Agricultural management series prepared under the general supervision of R. W Gregory) $4.40. 7753

Contents: [illegible]

Note: [illegible]

ASDELL, S. A.

Cattle fertility and sterility Boston Little Brown and Company, 1955 227 p. illus. 21 cm. $5.50 7754

Contents: [illegible]

Note: [illegible]

TALBERT, THOMAS JESSE

Growing fruit and vegetable crops 72 illustrations Philadelphia Lea & Febiger, 1953 350 p illus 25 cm. $4 50 7743

Contents. Origin and improvement of fruits and vegetables. Growth and fruitfulness. A new enclosure for horticultural crops. Budding and grafting fruit trees. Culture of apples, pears and quinces. Pruning pome fruits, the apple, pear and quince. Culture of the peach nectarine, apricot and almond. Culture of cherries and plums. Growing strawberries. Growing grapes. Growing cane and bush fruits. Some neglected native fruits. Controlling rodents harmful to horticultural crops. Windbreaks and cold injury The home fruit garden. Diseases and insects and sprays and spraying. Growing vegetable crops. Root, legume and bulb crops. Salad, green and cole crops. White potato and sweet potato crops. Solanaceous crops; tomato, eggplant and peppers. Cucumber muskmelon and watermelon. The pumpkin and squash and miscellaneous vegetables. Vegetable disease and insect control. Marketing and storage of vegetables and fruits. Index.

Note A comprehensive introduction to the culture of the fruits and vegetables grown in commercial quantities in the United States of America. The titles of the chapters are listed above. In those chapters devoted to specific groups of fruits or vegetables, types and varieties, soil requirements, hardiness, cultural practices and diseases are described. However the descriptions of none of these aspects is very detailed. The chapters on disease and insect control, marketing, etc., also are surveys other than detailed treatments. Unusual features of the book include a chapter on th multiflora rose as a hedge for the enclosure of land areas devoted to horticultural crops, and a chapter on wild fruits in the continental United States, which in the author's opinion are worth study and cultivation.

WEBBER, HERBERT JOHN, AND LEON DEXTER BATCHELOR, editors

The citrus industry With the collaboration of Elbert Thomas Bartholomew, Walter Tennyson Swingle, Homer Dwight Chapman and others Berkeley University of California Press, 1943 1048 p illus (part col d) 25 cm. $10 00 7744

Contents Volume I. History and development of the citrus industry by H. J Webber Plant characteristics and climatology by H. J. Webber The commercial citrus regions of the world—their physiographic, climatic, and economic characters, by H. J Webber. The botany of citrus and its wild relatives of the orange sub-family by W T Swingle. Cultivated varieties of citrus, by H. J Webber General morphology histology and physiology by E. T Bartholomew and H. S. Reed. The mineral nutrition of citrus, by H. D Chapman and W P Kelley Seed reproduction—development of gametes and embryos, by H. B. Frost. Genetics and breeding, by H. B Frost. Bud variation and bud selection, by A. D. Shamel. Bibliography Index.

—— Volume II Production of the crop Berkeley University of California Press, 1948 933 p illus (part col'd) 25 cm. $10 00 7745

Contents Nursery methods, by H. J Webber Rootstocks their character and reactions, by H. J Webber Choice of rootstocks, by L. D Batchelor and M. B. Rounds. Selection of orchard site, by E. R. Parker Planning and planting the orchard, by R. G. LaRue and M. B. Rounds. Cultivation, or tillage, by W R. Schoonover and L. D Batchelor Principles and methods of pruning, by R. W Hodgson. Principles and methods of irrigation, by M. R. Huberty Diseases and their control, by H. S. Fawcett and L. J. Klotz. Biological control of insect pests, by H. S. Smith. Biological control of citrus insects by parasitic fungi and bacteria, by H. S. Fawcett. Insects and mites and their control, by A. M. Boyce. Quarantine and quarantine service, by H. S. Smith. Injury by rodents and its control, by T L. Storer Protecting the citrus orchard against frost, by F D Young and W E. Harmon. Effects of freeze—treatment and recovery of injured trees, by H. J Wilder Index.

Note: A comprehensive study of the botany genetics, climatic and soil requirements, reproduction and culture of citrus fruits. Although it is presentation of basic knowledge, it is ritten for practical growers as ell as for agricultural college students and research workers. Emphasis is placed on American conditions and methods. The bibliography in the first volume is an extensive history of the basic literature. The results of rootstock experiments at the California Citrus Station are reported in detail in the second volume.

ZIELINSKI, QUENTIN BLISS

Modern systematic pomology Dubuque Wm. C. Brown Company, 1955 296 p. illus. 28 cm. $5 00 7746

Contents: Part I. Introduction. Systematic pomology and its significance. History of plant classification. Botanical structure of fruits and flowers. Principles of systematic pomology The origin of cultivated fruit plants. Plant nomenclature. Plant identification. Descriptions of fruits and plants. Literature of systematic pomology The origin and improvement of fruit varieties. Chronological outline of important developments in systematic pomology Part II: Apricots. Cherries. Plums and prunes. Peaches and nectarines. Almonds. Apples. Pears and quinces. Blueberries, huckleberries and cranberries. Currants and gooseberries. Strawberries. Blackberries and raspberries. Grapes. Walnuts and butternuts. Pecans and hickories. Filberts and chestnuts. The citrus group. Sub-tropical, tropical, and other fruits. Glossary Index.

Note. A college textbook for beginning courses in systematic pomology organized on the basis of the author's experience in research and teaching in taxonomy genetics, and variety improvement. The material is presented in two divisions of approximately equal length the first is general treatment of the theories of fruit growing, including the basic botanical and horticultural background the second is a systematic enumeration of 12 genera of fruit plants widely grown in North America, followed by chapters treating the nuts, the citrus fruits, and 31 genera of sub-tropical and tropical species. Part II includes for each genus metechnical description, together with brief consideration of the geographic and ecological distribution of the family represented. In the chapters devoted to fruits, the leading horticultural varieties of each fruit are named. Each of the two parts concludes with selected bibliography

BEEKEEPING

GROUT, ROY A., editor

The hive and the honey bee, a new book on beekeeping to succeed the book "Langstroth on the hive and the honeybee." Edited by R. A. Grout with the collaboration of a staff of specialists Revised edition. Hamilton, Ill. Dadant & Sons, 1949 652 p. illus. 24 cm. $4 00 7747

Contents The beekeeping industry by R. A. Grout. Races of bees, by A. Z. Abushady The honey-bee colony—a history by O. W Park. Activities of honey bees, by O. W Park. The honey comb, by H. C. Dadant. Beekeeping equipment, by H. C. Dadant. First considerations in keeping bees, by G. H. Cale. The apiary by M. G. Dadant. Common practices in management, by G. H. Cale. Management for extracted honey production, by G. H. Cale. Extracting the honey crop, by R. A. Grout. The production of comb honey by C. E. Killion. The production of bulk comb honey by W. L. Lyle. The overwintering of productive colonies, by C. L. Farrar. Honey by V G. Milum. Marketing the honey crop, by E. R. Willson. The honey bee as a pollinating agent, by J. I. Hambleton. Sources of nectar and pollen, by F C. Pellett. The anatomy of the honey bee, by R. E. Snodgrass. Production and uses of beeswax, by R. A. Grout. The production of queens and package bees, by M. G. Dadant. Injury to bees by poisoning, by J E. Eckert. Diseases and enemies of the honey bee, by A. P Sturtevant. Index.

Note. A comprehensive manual in which the emphasis is definitely on the practical aspects of beekeeping but in which there is also considerable discussion of biological aspects. It goes back to the first edition, published in 1853 of L. L. Langstroth's *Langstroth on the hive and the honeybee* and includes numerous editions of that classic revised by Langstroth during his lifetime and later by Charles Dadant and C. P Dadant. In 1946, the first edition in which the chapters were written by a number of contributors appeared and this edition is the first revision of it. In comparison to the 1946 edition, there are three new chapters—those by Abushady Willson and Hambleton—and extensive revisions have been made in several of the other chapters. There are now 303 figures, and several of the authors have documented their chapters with footnote references to pertinent literature.

reference data and 120 figures. Most of the latter are reproductions of photographs. Literature references are included in the chapters.

CARROLL, W E. AND J L. KRIDER

Swine production. Second edition. New York. McGraw Hill Book Co., Inc., 1956 496 p. illus. 24 cm. (McGraw Hill publications in the agricultural sciences R. A. Brink, consulting editor) $6.50. 7761

Contents: Part I, Organization as a factor in the cost of production: Functions of the swine enterprise. Characteristics of swine and of their production. The enterprise and the farm. Important landmarks in the development of the swine industry in the United States. Part II, Establishing the swine enterprise as a factor in the cost of production: Number and kind of hogs affect cost of production. Breed and cost of production. Founding the herd and cost of production. Maintaining and improving the herd. Part III, Management as a factor in the cost of production: The system of management may affect costs. Management as a factor in the number of pigs farrowed—and quality of pigs weaned. Managing fattening pigs as a factor in the cost of production. Equipment as a factor in the cost of production. Part IV, Feed as a factor in the cost of production: The importance of feed in swine-production costs. Nutrient allowances for swine. Cereal grains as swine feeds. Milk, animal, and marine products. Protein and vitamin supplemental feeds of plant origin and antibiotics. Forage crops for swine. Formulation of rations for efficient production. Preparation of feeds and methods of feeding. Feeding the breeding herd and young pigs. Marketing hogs as a factor in profits. Index.

Note: A comprehensive work in which the basic principles and present-day practices of pig production are treated at the agricultural college level. It includes extensive citations of research studies and long bibliographies. Although the main emphasis is on principles, good farm practices including housing, formulation of rations, etc., are described in detail. There are 73 figures. The first edition was published in 1950. The organization and scope are the same in this edition, but sections of chapters have been revised to cover new developments in breeding, management, etc., and to describe new breeds.

CASSARD DANIEL W

Approved practices in feeds and feeding Edited by Elwood M Juergenson. Danville, Ill. The Interstate Printers and Publishers, Inc., 1956 305 p illus 21 cm. $2.00 7762

Contents: Opportunities in livestock feeding. Approved practices in livestock feeding. Use of feed by animals. Types of feeds. Determination of balanced rations. Mixing and preparation of feeds. Feeds for beef cattle. Feeds for sheep. Feeds for dairy cattle. Feeding hogs. Feeding horses. Comparative values of feeds. Feeding equipment and work simplification. Troubles from improper feeding. Feed composition tables. Daily requirements tables. Glossary. Index.

Note: A small reference handbook of good practices in the feeding of domestic livestock. All of the practices listed have been tested and found to be sound in research, when conducted by state agricultural experiment stations, the United States Department of Agriculture, and farmers. Much of the information presented has been taken from government documents and other reports of research; nevertheless, few references to the source publications are given. Useful information on feeding racks and related equipment is included, together with some drawings of such equipment. The book is intended for the use of practical farmers including those who are not in the livestock business but maintain a few animals as part of a family subsistence enterprise. It is written in a simple, straightforward style and is well organized for quick reference.

CLAWSON MARION

The western range livestock industry New York McGraw Hill Book Company Inc., 1950 401 p. illus. 24 cm. (The American forestry series Walter Mulford, consulting editor) $6 50 7763

Contents: What is "range"? Range livestock in the nation. Delineation of the range region. Climate of the range region. Plant cover in relation to range livestock production. Other natural factors. General economic structure of the range region. Land ownership. Administration of federal range lands. Livestock numbers and production rates. Economic utilization of feed and forage. Range livestock fattening and marketing. General characteristics of ranches. Ranch organization and management principles. Cattle ranches. Sheep ranches. Ranch values and incomes. Grazing land values and grazing fees. Credit for the range livestock industry. Meat consumption. Geography of meat and animal prices. Income from sale of meat animals. Competition among meats. Wool. Factors affecting the supply of meat. Range livestock industry in the second World War. Conclusions and a look ahead. Index.

Note: An authoritative survey, largely from the economic point of view, of the industry of raising beef cattle and other domestic animals on the open, unfenced grazing areas in the western portion of the United States of America. The area covered is mainly one in which the forage consists of native plants and which, because of low rainfall or rough topography, is not suitable for other forms of agriculture. The problems discussed relate to the best utilization of the available pasture so as to produce meat and wool in the most profitable ways, taking the long-range viewpoint. The 48-plate illustrations include both graphs on which much economic data are represented and photographs of scenes of the industry. The author is in the Industry Bureau of Land Management of the Department of Interior of the United States Government.

COLLINS SPELMAN B

Profitable sheep. Illustrations by Richard F Johnson. New York The Macmillan Company 1956. 310 p. illus. 21 cm. $5.25 7764

Contents: Entering the business. Pre-breeding and breeding management of ewes. The care of pregnant ewes. Equipment for lambing. The lambing barn and its use. Lambing time. Growing the lambs. Health control for growing lambs—marking—pest control—worming. Marketing lambs and surplus stock. Growing wool, shearing, and marketing wool. Sheep psychology—handling sheep. Prevention and treatment of disease and other sheep troubles. Index.

Note: A well-written, practical book addressed to beginners in sheep raising and to students taking courses in agricultural colleges. It is outstanding for its sympathetic view of sheep husbandry and for the detail with which the care and management of sheep are covered. It includes not only the expected material but also a variety of minor but useful detail, such as information on techniques of driving sheep along a road, which is also in use by automobiles. Much of the information presented is applicable to the management of sheep wherever they are located. The book was written against a background of experience in the western range country of the United States of America.

CRAMPTON E. W

Applied animal nutrition the use of feedstuffs in the formulation of livestock rations. Drawings by Evan L. Gillespie. San Francisco W H. Freeman and Company 1956 458 p. illus. 22 cm. $6.50. 7765

Contents: Section I, What are feedstuffs: Terms and definitions used in connection with feeds. The proximate analysis of feeds. Schemes of describing the energy value of feeds. Schemes of describing protein values of feeds. Digestible nutrients. Section II, Nutritional requirements of animals: The energy requirements of animals. Requirements for protein. Requirements for minerals, vitamins, and miscellaneous additives. Feeding standards. Section III, The nutritional characteristics of some common feeds: A classification of feeds. Basal feeds. Protein supplements. Vitamin and mineral supplements and miscellaneous additives. Roughages. Section IV, Ration formulation: Translation of feeding standards to meal mixture specifications. The preparation of flexible formulas for meal mixtures. The preparation of mixed mineral supplements. Flexible formulas for cattle meal mixtures. Flexible formulas for swine meal mixtures. Section V, Appendices: Miscellaneous feeding guides. Feedstuffs control and legislation. Miscellaneous tables and charts. Index.

Note: Basic scientific information on nutrition is co-ordinated with the practical formulation of feeds for farm animals in this book. Advanced students in agricultural colleges are the intended audience. However the book is potentially useful also to large-scale farmers who mix their own feeds and to commercial manufacturers of animal feeds. Many tables of data are included, and many formulas for feeds. The author is a member of the faculty of McGill University. The formulas given are based on feedstuffs commonly available in both Canada and the United States of America. Likewise, the discussions of governmental control and

beginning of the volume are devoted to the basic anatomy and physiology. Beginning with the sixth chapter, the topics discussed are directly related to the management of cattle breeding. However even in these chapters, the emphasis is on the basic physiological and pathological information, and there is no attempt to describe explicitly such a matter as the technique of artificial insemination. Although it contains much information of value to practical cattle breeders, the book is directed more to biologists concerned with research on cattle, veterinarians, and specialists concerned with the direction of extensive breeding programs. Literature references are an important feature. There are 50 figures.

BAILEY, J W

A veterinary handbook for swinemen St. Paul The Webb Publishing Company, 1955 261 p illus 24 cm $3 95 7755

Contents. Practical pointers for owners. From the veterinarian's standpoint. Contagious diseases. Digestive troubles. Mammary troubles. Respiratory troubles. Skin troubles. Nervous troubles. Urinary troubles. Reproductive troubles. Miscellaneous troubles. Baby pig troubles. Appendix Commoner diseases. Index.

Note A useful reference book directed to farmers. Written by veterinarian, it deals with not only the diseases of swine but also with management practices that aid in the prevention of disease. Specific disorders are discussed as to cause, symptoms, diagnosis, treatment and prevention. Most of the 70 figures are reproductions of photographs that show techniques of administration of medicines, operations such as the clipping of teeth, and manifestations of disease.

BENNETT, RUSSELL H.

The compleat rancher, with drawings by Ross Santee. New York Rinehart & Company, Inc., 1946 246 p illus 22 cm. $3 00 7756

Contents The country. The apprenticeship. The critter. The ranch homestead. Fencing and haying. The horse. Ranch recreations. Ranch economics. Conclusion. Bibliography

Note. An informal but nonetheless keen analysis of the business of beef cattle production on ranges in the United States of America. It is addressed particularly to persons who are thinking of going into the business. It is written in narrativ style, and is printed without subdivisions or subheads within the chapters. Also, there are no tables or other statistical apparatus such as usually characterize books on this subject. The illustrations are limited to such things as decorative chapter heads. The style and the format are obviously intended to facilitate reading. The book can be considered as light reading of a fruitful kind for persons who are sufficiently attracted by ranch lif to consider devoting time or money to it.

BIEN, CORABEL, AND MARIE GOULD, compilers

Tropical beef cattle industry in the western hemisphere. Washington D C Government Printing Office 1952 157 p 23 cm. (United States Department of Agriculture. Bibliographical bulletin no 19) Gratis. 7757

Contents. General Adaptation. South America. Central America. Mexico. United States. West Indies. Hawaii. Physiology hygiene and sanitation Physiology and morphology Diseases. Pests and parasites. Management Breeding and breeds. Feeds and feeding. Pasture and range Management. Fertilizers. Land clearing. Soils. Winter. Browse. Forage plants. Poisonous plants. Weeds. Products. Index.

Note. A bibliography of 1 749 numbered items, mostly dated between 1940 and 1950 pertaining to the beef cattle industry in the American tropics. Most of the references are in the English, Spanish, and Portuguese languages. The bibliography includes within its scope the economics of the industry the breeds adapted to warm, humid climates, the care and management of beef cattle in the tropics, feeding and utrition, diseases and parasites, pastures and forage plants. The index brings out important subjects in each publication, and includes also the names of uthors, editors, and translators. Some of the references are annotated, and the longer references show contents or partial contents. Florida and the Mexican Gulf coastal regions of the United States of America are included, as are the West Indies and all of Central America and the northern half of South America, excepting Bolivia and Paraguay which are omitted because climatic conditions in these two countries differ from those in the humid tropics.

BRIGGS, HILTON MARSHALL

Modern breeds of livestock. New York The Macmillan Company, 1949 772 p illus. 24 cm. $7 00 7758

Contents: Section I, The breeds of cattle: Shorthorn. Polled Shorthorn. Hereford. Polled Hereford. Aberdeen-Angus. Galloway and West Highland. Brahman and associated breeds. Milking Shorthorn. Red Poll. Holstein-Friesian. Jersey Guernsey Brown Swiss. Ayrshire. The American dairy cattle. Section II, The breeds of hogs. Berkshire. Hampshire. Poland China. Spotted Poland China. Duroc. Chester White. Yorkshire and the Tamworth. Hereford, Minnesota No. 1 and Minnesota No. 2 Section III, The breeds of sheep and goats: Merino. Rambouillet. Southdown. Hampshire. Shropshire. Oxford. Dorset. Cheviot. Suffolk. Corriedale, Columbia, Targhee, Panama, Romeldale, and Montadale. The long-wool breeds. Karakul. Angora goat. The breeds of milk goats. Section IV The breeds of horses. Arabian. Thoroughbred. Standardbred. Hackney American saddle horse. American quarter horse. Morgan. Tennessee walking horse. Palomino. Percheron. Belgian. Shire, Clydesdale, and the Suffolk. The breeds of ponies. American Jack. Index.

Note: A reference manual in which breeds of livestock currently recognized and bred in the United States of America are described and their history outlined. Such points are covered as origin, foundation of the breed, activities of outstanding breeders, important breeding developments in the U. S. A. and elsewhere, the influence of outstanding individuals of the breed, descriptions of prominent families and herds, lists of champions and winners, history and activities of U S. A. associations concerned with the breed and, finally the titles of the U S. A. periodicals currently published about the breed. There are 201 illustrations most of them are reproductions of photographs of outstanding animals. A few literature references are included as footnotes. The author is now dean and director of the College of Agriculture, University of Wyoming.

BUNDY, CLARENCE E , AND RONALD V DIGGINS

Livestock and poultry production principles and practices Englewood Cliffs, N J Prentice-Hall Inc., 1954 608 p illus 23 cm. $6.55 7759

Contents (abridged) Livestock feeding and nutrition. Profitable pork production. Profitable beef production. Profitable production of dairy products. Profitable production of dual-purpose cattle. Cattle diseases and parasites. Profitable sheep production. Profitable poultry production. Reproduction and inheritance. Index.

Note Elementary basic principles and good practices in livestock farming are well described in this vocational school text. All kinds of livestock and poultry which are of major agricultural importance in the United States of America are covered, and practices are described in considerable detail. Most of the 330 figures are reproductions of photographs. Some features not always found in elementary texts include good lists of references to the literature and 59 tables of reference data.

BUNDY, CLARENCE E , AND RONALD V DIGGINS

Swine production. Englewood Cliffs, N J Prentice-Hall Inc., 1956 337 p. illus. 23 cm. $6 00 7760

Contents Opportunities in swine production. Breeds of swine. Selection of breeding and feeding stock. Feed selection in swine nutrition. Swine breeding. Feeding and management during gestation. Feeding and management during farrowing and suckling time. Feeding and management from weaning to market. Pasture periods. Feeding and management from weaning to market. Pasture crops for swine. Buildings and equipment. Disease and parasite control. Swine marketing. Swine records. Fitting and showing. Index.

Note. Although written at an elementary level, this book provides an authoritativ and useful introduction to good practices in the raising of swine. It is addressed to students of farming who are studying at the vocational level and to practical farmers. Present-day methods are described, even such relatively new developments as the use of hybrid boars. There are 54 tables of

Contents: History and development of the beef cattle industry. Distribution, adaptation, and the future of the beef cattle industry. Types and breeds of beef and dual-purpose cattle. Establishing the herd; selecting and judging beef cattle. Systems of beef production. Breeding beef cattle. Feeding beef cattle. Beef cattle management. Range cattle management. Buildings and equipment for beef cattle. Beef cattle health, disease prevention, and parasite control. Marketing and slaughtering cattle. Selecting, fitting, and showing beef cattle. Appendix. Index.

Note: A text directed both to students in agricultural courses and to practical stockmen. Its first seven chapters are essentially the same as the first seven chapters in the section "Beef cattle" of the author's *Animal science*, described above; but there are some changes, and beginning with the eighth chapter additional material is presented. There are 243 illustrations.

ENSMINGER, M. E.

Horse husbandry. Danville, Ill. The Interstate, 1951. 336 p. illus. 24 cm. (Animal agriculture series) $4.00. 7772

Contents: History and development of the horse and mule industry. Distribution, adaptation, and the future of the horse and mule industry. Types and classes of light horses according to use. Types and classes of work horses and mules. Breeds of light horses. Breeds of draft horses. Selecting and judging horses. Determining the age and height of horses. Unsoundnesses and stable vices. The horse in action. Breeding horses. Feeding horses. Buildings and equipment for horses and mules. Horse and mule health, disease prevention, and parasite control. Equitation. Appendix. Animal units. Weights and measures of common feeds. Gestation tables. All-time top sales. United States and world records for thoroughbreds. The breed associations. Breed publications. State agricultural experiment stations. Index.

Note: In this work on the care and breeding of horses under current conditions in the United States of America, the emphasis is on light horses, such as are used for racing, riding, hunting, etc. The book is addressed to beginners and nonspecialists, but it contains enough material to make it useful to those who are interested in horse raising from a practical standpoint. For each breed of horse described, the author gives origin and native home, characteristics, adaptation and use, and present status. The 144 figures include many reproductions of photographs of horses and numerous line drawings of such operations as saddling and mounting.

ENSMINGER, M. E.

Sheep husbandry. Second edition. Danville, Ill. The Interstate Printers and Publishers, 1955. 587 p. illus. 24 cm. (Animal agriculture series) $4.00 7773

Contents: History and development of the sheep industry. Distribution, adaptation, and the future of the sheep industry. Types and breeds of sheep. Establishing the flock; selecting and judging sheep. Systems of sheep production. Breeding sheep. Feeding sheep. Sheep management. Range sheep management. Buildings and equipment for sheep. Sheep and goat health, disease prevention, and parasite control. Marketing and slaughtering sheep and lambs. Wool and mohair. Glossary of wool terms. Goats. Selecting, fitting, and showing sheep. Appendix. Index.

Note: An authoritative text designed for use by students in technical courses in agriculture and by practical ranchers. Several of its chapters are essentially identical with chapters in the author's *Animal science*, described above. However, it contains much additional material. Current practices in the United States of America are specifically described. There are 232 illustrations.

ENSMINGER, M. EUGENE

Swine husbandry. Danville, Ill. The Interstate, 1952. 378 p. illus. 24 cm. (Animal agriculture series) $4.00 7774

Contents: History and development of the swine industry. Distribution, adaptation and the future of the swine industry. Types and breeds of swine. Establishing the herd; selecting and judging swine. Breeding swine. Feeding swine. Grains and other high energy feeds for swine. Protein and vitamin supplements for swine. Pastures for swine. Buildings and equipment for swine. Swine health, disease prevention and parasite control. Central marketing and packer slaughtering of hogs. Selecting, fitting and showing swine. Appendix. Animal units. Weights and measures of common feeds. Gestation table. All-time top sales. The breed associations. Breed publications. Swine publications. State agricultural experiment stations. Index.

Note: A well-organized, practical description of good techniques in swine production. The treatment is elementary enough for use in agricultural courses in high schools and colleges, yet sufficiently detailed for the guidance of farmers and swine raisers. The choice of feeds, methods of feeding, and disease prevention are discussed in considerable detail. One hundred fifty-five figures and more than 30 tables supplement the textual material.

FOHRMAN, M. H., AND OTHERS

A crossbreeding experiment with dairy cattle, by M. H. Fohrman, R. E. McDowell, C. A. Matthews, and R. A. Hilder. Washington, D.C. Government Printing Office, 1954. 127 p. illus. 23 cm. (United States. Department of Agriculture. Technical bulletin no. 1074) $0.45 7775

Contents: Introduction. Review of literature. Plan of the experiment. Foundation animals. Two-breed crosses. Three-breed crosses. Progeny of the three-breed crosses. Sister groups. Production of Beltsville crossbred cows in cooperating dairy herds. Sires used on the crossbreeding project: Holstein sires. Red Dane sires. Jersey sires. Order of sire-breed rotation. Persistency of production by the crossbreds. Body weights of the crossbred females. Discussion. Summary and conclusions. Literature cited.

Note: Crossbreeding of cattle became practical on a general scale with the introduction of practical techniques of artificial insemination. Before 1939 there was comparatively little available published information on crossing breeds of dairy cattle. In that year, when the use of hybrid corn by farmers was expanding rapidly and crossbreeding with poultry, swine, and sheep had been studied experimentally, interest among dairymen in the possibilities of crossbreeding led the Bureau of Dairy Industry of the U. S. Department of Agriculture to begin crossbreeding experiments at Beltsville, Maryland. The purpose of the program was to develop knowledge on the subject which would provide a sound basis for advising the operators of milk-producing farms on what results to expect if they should cross breed as a means of producing better replacements for their milking herds. Breeds used were Holstein, Guernsey, Jersey and Red Dane. In this publication are reported, in text, chart, and tabular form, the breeding performance and milk and butterfat production of the individual animals used on the project which had had time to complete a normal first-lactation period. The evidence indicated that female progeny of crossbred cows, when sired by production-proved bulls, developed into very satisfactory dairy animals.

GORMAN, JOHN ALEXANDER

The western horse: its types and training. Danville, Ill., The Interstate, 1949. 396 p. illus. 22 cm. $3.50. 7776

Contents: Part I, Training: Training the colt. Training the young horse to work. Training the stock horse. Horse hunting. Restraining devices. Training and gaiting the pleasure saddle horse. Trick training. Rodeos and western shows. Horse shows and recreation. Horse racing. Part II, Types of western horses. Light breeds of horses. Types of western stock horses. Remount horses. Wild horses. Draft horses and mules. Part III, Shipping and marketing horses. Reducing losses in shipping. Marketing horses. Index. Breed associations.

Note: "Western" in the title of this book refers of course to the western part of the United States of America, a region in which all types of horses are raised, most of them under range conditions, and in which most of the "cow ponies" are produced. The book is about evenly divided between the discussions of training methods and the descriptions of types of horses. The style is simple. The book is useful as a general source of information on how western horses are bred and trained. The author is chairman of the Department of Animal Husbandry, Washington State College.

JUKES, THOMAS H.

Antibiotics in nutrition. New York, Medical Encyclopedia, Inc., 1955. 128 p. illus. 23 cm. $4.00. 7777

Contents: Introduction. Mechanism of the antibiotic growth effect. Effect of feeding antibiotics on the requirement for nutrients. Antibiotics in animal production. Physiologic and other effects of dietary antibiotics. Bibliography. Name index. Subject index.

legislation pertain both to Canada and the *United States*. Lists of "Suggested reading" are included in most chapters, but the author did not attempt a comprehensive bibliography

DEYOE, GEORGE P, AND OTHERS

Raising livestock. By George P Deyoe, W A Ross and W H Peters Second edition New York McGraw Hill Book Company, Inc., 1954 540 p illus 24 cm. (McGraw Hill rural activities series W A. Ross consulting editor) $7 50 7766

Contents. Engaging in the livestock business. Selecting livestock. Feeding livestock. Providing housing and equipment for livestock. Caring for and handling livestock. Keeping livestock healthy and sound. Breeding and improving livestock. Keeping and using livestock records. Marketing livestock and livestock products. Preparing and processing livestock products for home use. Appendices. Index.

Note A sound, practical introduction to livestock raising. It emphasizes those practices which are best suited to farms in the United States of America. However much of the information presented is applicable to the care and management of cattle, horses, sheep and swine in other regions as well. The material is arranged according to operations rather than according to kind of animal. The chapter on housing and equipment, for example, covers buildings and equipment for hogs, dairy cattle, beef cattle, sheep horses and mules. The book is written in an elementary readable style, and is used for the instruction of students who are taking their first courses in the subject in vocational agricultural courses and for home study by young people on farms and ranches who are just entering the livestock business. It contains 261 figures, but only a few literature references. One of the appendixes provides a list of films and other visual aids suggested for use with the book in teaching.

DEYOE, GEORGE P, AND J L KRIDER

Raising swine. New York McGraw Hill Book Company, Inc, 1952 447 p illus. 24 cm (McGraw Hill rural activities series W A. Ross, consulting editor) $6 25 7767

Contents Engaging in swine raising. Selecting and purchasing swine. Keeping and using records. Planning feeding program for swine. Feeding swine. Providing facilities for raising swine. Handling and caring for swine. Keeping swine healthy Breeding and improving swine. Marketing swine. Preparing and processing pork for home use. Correlated list of visual aids. Index.

Note Good practices in the raising of swine under conditions which prevail in the United States of America are described in simple language and in rather full detail in this book. The main emphasis is on the raising and marketing of meat animals however the raising of breeding stock is also discussed. The book is suitable for the guidance of young people who are interested in raising hogs as 4-H club enterprise and for practical farmers. It is fully illustrated.

DIGGINS, RONALD V, AND CLARENCE E BUNDY

Beef production Englewood Cliffs, N J Prentice-Hall Inc 1956 335 p illus. 23 cm. $5 85 7768

Contents Opportunities in beef cattle production Breeds and breed selection. Selecting and establishing the breeding herd. Selection of feeder cattle. Feeds and feed utilization by beef cattle. Feeding and management of the breeding herd. Feeding and management of calves. Feeding and management of stockers and fattening cattle. Beef cattle housing and handling equipment. Keeping cattle healthy Buying and selling beef cattle. Reproduction, inheritance, and breeding systems in beef cattle. Fitting and showing beef cattle. Index.

Note. A thoroughly illustrated, practical book. It is written in elementary style, but provides wide range of up-to-date information on good practices in the breeding and management of beef cattle, including adequate discussions of feeding and specific formulas for rations. It is suitable for use by students in vocational agricultural courses and practical farmers. References to more technical literature are provided in bibliographies appended to the chapters.

DYKSTRA, RALPH RALPH

Animal sanitation and disease control. Revised and enlarged Danville Ill. The Interstate Printers-Publishers, 1955 887 p. illus. 21 cm. $4 00 7769

Contents (abridged) Part one, Some animal health factors. The anatomy and physiology of the organs of digestion in animals. Vitamins, minerals and hormones as health requirements. Animal housing and control. Animal surroundings and manure disposal. Part two, Some animal disease factors: Hereditary factors and abnormalities. Animal care and disease. Commercially sales, community sites, and transit losses. Part three, Some disease control guides: The quarantine. Disinfecting premises. Pasture rotation and sanitation. Destroying ailing animals and disposal of carcasses. Part four, Infections and their handling Guides in the selection of chemical disinfectants and their modes of action. Non-chemical disinfection. Methods of application of chemical disinfectants. Part five, Some insecticides, larvacides and their use on premises and hosts: Disinfecting buildings and animals. Rats, and some other rodents, and their control. Part six, Non-infectious, sporadic ailments. Some secondary ailments. Control and cosmetic devices, and ailments. Some surgical ailments. Plant, food, and chemical poisonings. Deficiency ailments. Part seven, Infectious and communicable ailments of barnyard fowl: Some infectious and communicable ailments of barnyard fowl. Part nine, Parasites and disease Some larger (macroscopic) parasites. Ektoparasites and their role. Part ten, Miscellaneous information: Some special methods of diagnosis. Artificial feeding of orphaned animals. Methods of administering medicine to animals. Livestock breeding problems. Artificial insemination or artificial breeding. Some diseases common to man and animals. Part eleven, Livestock sanitary bureaus, boards, and commissions, and the veterinarian. Index.

Note. Another revised and enlarged edition of standard work on disease control in farm animals. It is addressed to students enrolled in agricultural courses and to farmers rather than to veterinarians. In it much ground is covered in an elementary practical way

ENSMINGER, M E

Animal science. Third edition. Danville, Ill. The Interstate Printers and Publishers, 1955 1,152 p illus. 24 cm. (Animal agriculture series) $6 50 7770

Contents (abridged): General sections: The field of animal science. Some principles of genetics and animal breeding. Feeding livestock. Livestock barns, shelters, and equipment. Animal health, disease prevention, and parasite control. Beef cattle. Distribution, adaptation, and the future of the beef cattle industry. Types and breeds of beef and dual-purpose cattle. Systems of beef production. Breeding beef cattle. Feeding beef cattle. Central marketing and packer slaughtering of cattle and calves. Sheep and goats: Distribution, adaptation, and the future of the sheep industry. Types and breeds of sheep. Systems of sheep production. Breeding sheep. Feeding sheep. Wool and mohair. Goats. Swine Distribution, adaptation, and the future of the swine industry. Types and breeds of swine. Breeding swine. Feeding swine. Horses: Distribution, adaptation, and the future of the horse industry. Breeds of horses. Selecting and judging horses. Breeding horses. Feeding horses. Appendix Space requirements of buildings and equipment for beef cattle, sheep, swine, and horses. How to determine the size silo to build. State colleges of agriculture. New animal frontiers through research. Index.

Note: A reference book on animal husbandry as it is practiced in the United States of America. It is organized in 51 chapters of which a selection is listed by title above. Much attention is given both to descriptions of breeds and to descriptions of breeding, feeding and marketing practices. The book is written in an elementary style and is designed primarily for the use of such readers as students in agricultural colleges, beginners in animal husbandry and practical farmers. In this third edition there are 415 figures, and most of them are reproductions of photographs of animals, of typical and noted animals, and of farm scenes. The author is Chairman of the Department of Animal Husbandry of the State College of Washington.

ENSMINGER, M E

Beef cattle husbandry Second edition. Danville, Ill. The Interstate Printers and Publishers, 1955 597 p illus. 24 cm. (Animal agriculture series) $4 00 7771

Animal Husbandry

[illegible] beef cattle, swine, and sheep husbandry, by C. F. [illegible] and J. X. [illegible]. The use of estrogens to stimulate [illegible], by J. F. Sykes. The [illegible] in cattle and goats, by J. F. Sykes. The use of [illegible] for milk production, by J. W. Thomas.

Note: The papers presented at this symposium [illegible] the use of hormones in livestock and poultry production. The basic physiologic knowledge and the results of experimental investigations are very compactly presented. The literature is covered up to the end of 1951. [illegible] applications which in the [illegible] production [illegible] of meat, milk, and eggs. Problems that still require research [illegible] 1953 are discussed.

PERRY ENOS J., editor

The artificial insemination of farm animals. Second revised edition. New Brunswick. Rutgers University Press. 1952. 341 p. illus. 23 cm. $5.00. 7783

Contents: [illegible], by E. J. Perry. Advantages and limitations [illegible], by E. J. Perry. The organs of reproduction, by J. Edwards. The [illegible] of hormones in reproduction, by R. P. Reece. General [illegible], by E. J. Perry. Factors influencing the quality and quantity [illegible], by E. J. Perry. Cattle, by E. J. Perry. Sheep and goats [illegible], by E. J. Perry. [illegible], by C. E. [illegible]. Horses and jackstock, by V. [illegible]. Swine, by E. J. Perry. Dogs, by E. P. [illegible]. [illegible], by J. W. Bartlett. [illegible], by J. W. Bartlett. [illegible] of semen, by J. W. Bartlett. [illegible], by E. J. Perry. The shipping of semen, by [illegible]. E. J. Perry. [illegible] in artificial insemination, by J. A. [illegible]. Feeding and management of bulls, by J. W. Bartlett. Index.

Note: The second revised edition of this standard work on the artificial insemination of farm animals has been brought up to date in all its parts and contains an added chapter on the artificial insemination of dogs. Covering both principles and procedures of the subject, the publication is a complete exposition of the subject and may be equally well used as a textbook in agricultural colleges and as a manual of practice for those concerned with artificial insemination programs.

PETERS WALTER H., AND ROBERT H. GRUMMER

Livestock production. Second edition. New York. McGraw Hill Book Company Inc., 1954. 415 p. illus. 24 cm. (McGraw Hill publications in the agricultural sciences R. A. Brink, consulting editor) $6.00. 7784

Contents: Section I. The field of animal production. The importance of animals. Improvement of animals through breeding. Progress in animal feeding. The care and health of animals. The beginnings of livestock. Selecting the livestock enterprise. Judging livestock. Section II. Beef cattle production. Products and adaptations of beef cattle. Breeding beef cattle. Feeding beef cattle. The management and care of beef cattle. Judging beef cattle. Market classes and grades of cattle. Section III. Dairy cattle production. Products and adaptations of dairy cattle. Breeding dairy cattle. Feeding dairy cattle. Management and care of dairy cattle. Judging dairy cattle. Section IV. Swine production. The products and adaptations of swine. Swine breeding. Swine feeding. The management and care of swine. Judging swine. Market classes and grades of swine. Section V. Sheep and goat production. The products and adaptations of sheep and goats. Breeding sheep and goats. Feeding sheep. The management and care of sheep. Judging sheep. The market classes and grades of sheep. Section VI. Horse and mule production. Uses and adaptations of horses. Breeding horses. Feeding horses. The management and care of horses. Judging horses. Mule production. Index.

Note: A broad survey of livestock production, particularly as it is practiced in continental United States of America, is provided in this college textbook. The general aspects of animal husbandry are discussed, then the uses, breeds and general principles of the management of the chief kinds of domesticated livestock are described. Farm and range practices are not covered in detail, but references are made to books in which detailed descriptions are available. The first edition was published in 1942. The scope and organization are unchanged in this second edition, but data on production, prices, etc., were revised, and a few other changes were made.

RHOAD ALBERT O

Breeding beef cattle for unfavorable environments a symposium presented at the King Ranch Centennial Conference. Austin University of Texas Press. 1955 248 p. illus. (part col'd) 24 cm. $4.75 7785

Contents: Modern [illegible] nature of evolution, by E. M. [illegible]. Introduction—the impact of science on ranching, by [illegible] D. W. Williams. Part I. The unfavorable environment. [illegible] of the British beef breeds in the tropics and subtropics, by [illegible]. The [illegible] J. C. Bonsma. Heat tolerance in cattle, by D. H. K. Lee. The effects of climate on reproduction, by J. Hammond. Climatic stress [illegible], by G. H. Kerr. The effects of [illegible] on [illegible] production, by F. B. [illegible]. [illegible] fertility in relation to [illegible] production, by C. L. [illegible] and W. D. [illegible]. Breeding [illegible] production, by C. L. Lambill and W. D. Lamb. Breeding range [illegible], by W. G. Whaley. Part II. [illegible] for difficult environments, by W. G. Whaley. Part II. [illegible] beef cattle for the unfavorable environment. The Santa Gertrudis [illegible], by R. J. [illegible] of heritability in breeding programs, by J. L. Lush. [illegible] breeds in [illegible] problems in population genetics, by L. M. Winters. [illegible], by E. J. Warwick. The place of crossbreeding and inbreeding, by E. J. Warwick. The development and maintenance of a high genetic standard, by R. T. Clark. Quality of beef as related to grade and laboratory tests [illegible]. The improvement of indigenous breeds in subtropical environments, by J. C. Bonsma. Improved Indian breeds [illegible], by J. S. [illegible]. Procedures used in developing the Santa Gertrudis breed, by A. O. Rhoad. The [illegible] of [illegible] research and practice, by T. [illegible]. Our one hundred years of [illegible] ranching—what next? by R. J. Kleberg, Jr. Appendix. Index.

Note: The King Ranch in Texas, which celebrated in 1953 the centennial of its founding, is renowned not only for its size [illegible] but also for pioneering work in [illegible] management and for the development of the Santa Gertrudis breed of cattle, a breed well adapted to the climate of Texas and to other regions with similar climates. Appropriately, its centennial was celebrated by a symposium [illegible] on the physiology of cattle, cattle breeding, and management. The papers they delivered are published in this volume. Many of the papers are accompanied by literature references and digests of discussion.

RICE, VICTOR ARTHUR, AND OTHERS

Breeding better livestock, by Victor Arthur Rice Frederick Newcomb Andrews, and Everett James Warwick. New York. McGraw Hill Book Company Inc., 1953 465 p. illus. 24 cm. $7.00. 7786

Contents: Section I. Background for animal breeding: An introduction to animal breeding. Animal domestication and development. Section II. Mechanisms of reproduction. The male's part in reproduction. The female's part in reproduction. Fertility and sterility. Management of breeding males—females. Artificial insemination. Pregnancy and birth. Section III. Mechanisms of heredity: Background of heredity. Physical basis of heredity. Primary laws of heredity. Secondary laws of heredity. How heredity works. Genetic variation. Nongenetic variation. Fact and fancy in breeding. Section IV. The art of breeding. Inbreeding. Outbreeding. Crossbreeding and linecrossing. General principles of selection. Selecting dairy cattle—beef cattle [illegible] The breeder's art. List of visual aids. Index.

Note: An introductory but fairly substantial text on the practical breeding of farm animals. The historical background is outlined in the first two chapters; all of the other chapters are devoted to basic knowledge and descriptions of techniques and standards of research in breeding. There are 141 figures, a majority of which are reproductions of photographs of selected animals. There are also more than 30 tables of useful data. Only animals of agricultural importance in the United States of America are discussed. The book is organized for use as a text in courses in animal husbandry.

RICE, VICTOR ARTHUR, AND FREDERICK NEWCOMB ANDREWS

Breeding and improvement of farm animals. With chapter on Selection in meat animals by Everett James Warwick. Fourth edition. New York McGraw Hill Book Company, Inc., 1951 787 p. illus. 24 cm. (Mc-

Note: The published literature, together with unpublished observations of some research scientists, bearing on the nutritional aspects of antibiotics, is concisely summarized in this monograph. The main emphasis is on investigations of antibiotics in the nutrition of farm animals. Some results from clinical medicine and from experimentation on laboratory animals and human subjects also are included. There are 25 tables of data. In the last few pages, the author has drawn certain conclusions. However the book is essentially an organized guide to the literature. There are 439 entries in the bibliography and the names of the authors of the cited works are assembled in the name index.

LUSH, JAY LAURENCE

Animal breeding plans Third edition. Ames The Iowa State College Press, 1945 443 p illus 24 cm. $7 00 7778

Contents Background on animal breeding. Genetic principles in animal breeding. Breeding plans based on selection. Breeding plans based on relationship. Breeding plans based on somatic likeness. Other topics concerning breeding plans. Topics relating to reproduction. Summary Subject index.

Note. A manual of information for the livestock grower interested in perfecting inherited characteristics of his animals. The book is also intended as a text for agricultural-college students who have completed courses covering such topics as stock judging, history of breeds, herdbook study and the genetics, embryology anatomy and physiology of farm animals. It is recognized as one by the most outstanding books on a practical application of genetics to animal breeding. Bibliographic references are appended to most of the chapters. Revision of the chapters on sire indexes was the only major change made in preparing the third edition.

MAYNARD, LEONARD A., AND JOHN K. LOOSLI

Animal nutrition. Fourth edition New edition New York McGraw Hill Book Company, Inc., 1956 484 p illus. 23 cm (McGraw Hill publications in the agricultural sciences R. A. Brink, consulting editor) $7 50 7779

Contents. General bases of nutrition. The nutrients and their metabolism. The measurement of body needs and feed values. Nutritive requirements for body processes and productive functions. Appendix. Visual-aids bibliography Name index. Subject index.

Note In this standard work, the basic principles and the more important experimental findings in nutrition are related to the metabolism of farm animals. The scientific knowledge that is the foundation of good feeding practices is the subject rather than feeds and feeding. However the presentation is such that the relations to actual practices in livestock feeding are obvious. Source publications are cited in footnotes, with emphasis on the pioneer studies and on recent work. The names of the authors of the cited literature are brought together in the author index, thus making the book useful as a guide to the literature. The third edition was published in 1951 The chapter on growth stimulating substances is new in this fourth edition. Some revisions have been made in most of the chapters carried over from the preceding edition.

MORRISON, FRANK B

Feeds and feeding a handbook for the student and stockman By Frank B Morrison assisted by Elsie B Morrison and Spencer H Morrison. Twenty second edition unabridged Ithaca The Morrison Publishing Company 1956 1 165 p illus 24 cm $9.50 7780

Contents (abridged) Part I, Fundamentals of animal nutrition Digestion, absorption, and use of food. Measuring the usefulness of feeds. Proteins—fats—carbohydrates. Minerals in livestock feeding. Vitamins in livestock feeding. Growth—fattening—reproduction. Production of milk, work, and wool Balanced rations—feeding standards. Economy in feeding livestock. Part II, Feeding stuffs Pasture and other forage. Hay and haymaking. Silage and crops for silage. Legumes for forage. Indian corn and sorghums for forage. Roots, tubers, and miscellaneous forages—poisonous plants and poisonous feeds. Corn and oat grains and their by-products. The other cereals and by-products. Miscellaneous concentrates. Manurial value of feeding stuffs. Part III, Feeding farm animals. Feeding and caring for dairy cows. Feed and care of beef cattle—methods and costs of beef production—veal production. Feeding and caring for sheep and lambs—fattening lambs—goats. Feeding and caring for horses. Feeding and care of swine. Feeding and caring for poultry Appendix Table I, Average composition of American feeds, digestible nutrients mineral and fertilizing constituents, digestion coefficients. Table III, Morrison feeding standards for farm animals. Table V Vitamin content of feeding stuffs. Table VII Example rations for farm animals. Table X, Amino acid content of certain feeds. Table XI, Productive and metabolizable energy of feeds for poultry Index.

Note. This work has been used in its various editions for almost 60 years. It is a comprehensive digest of the published knowledge concerning the nutritional requirements and the feeding of the larger farm animals, together with full information concerning the composition, use, and value of the many different feedstuffs, especially those of importance in the United States of America. It is used both as a textbook in agricultural colleges and as a reference manual by large-scale and medium-scale livestock breeders and feeders. The chapters are accompanied by lengthy bibliographies. The 21st unabridged edition was published in 1948. In preparing this edition, sections of chapters were revised so as to include new data and results from investigations published since the 21st edition was written; references to recent literature were added to the bibliography and the useful and extensive tables in the appendix of data on the composition and digestible nutrients of feedstuffs were revised. The author's *Feeds and feeding abridged*, published in a ninth edition early in 1958 696 p., $4.75 is based on this book.

NATIONAL RESEARCH COUNCIL. AGRICULTURAL BOARD COMMITTEE ON FEED COMPOSITION

Composition of concentrate by-product feeding stuffs Prepared under the auspices of the Committee on Feed Composition of the Agricultural Board Washington, D C. National Academy of Sciences—National Research Council, 1956 126 p. 28 cm. (National Academy of Sciences—National Research Council. Publication 449) $3.00 7781

Contents. Guide for use of tables. Tables of composition Proximate composition. Mineral composition. Vitamin composition. Amino acid composition. Energy and carbohydrate composition. Appendix. Contributors of unpublished data. Industry State agricultural experiment stations. State feed control laboratories. Federal agencies.

Note. The Committee on Feed Composition was established in 1946 for the purpose of providing precise information on the nutrient value of feeding stuffs available in the United States of America for livestock and poultry production. In this publication addressed to agricultural extension personnel and farmers, the Committee provides basic information in tabular form on the composition of concentrate by-product feeding stuffs. Data are presented for 38 nutrients showing percentages (maximum, minimum, and mean) of composition of the various products, which are divided into the following groups oil seed and legume by-products, cereal milling by-products, root, fruit, and vegetable by-products, brewers and distillers by-products, packing house by-products, milk by-products, marine by-products, mineral supplements, yeasts and yeast by-products and miscellaneous by-products.

NATIONAL RESEARCH COUNCIL

Hormonal relationships and applications in the production of meats, milk and eggs, a report of the Committee on Animal Nutrition Prepared by the Subcommittee on Hormones J F Sykes, chairman Washington, D C National Research Council 1953 54 p. 24 cm. (National Research Council Publication 266) o p 7782

Contents: Introduction. The use of estrogens for fattening poultry by F W Lorenz. Thyroprotein and antithyroid drugs in poultry feeding, by F W Hill. Some uses of drugs and hormones

[illegible], Leon Frazier

How to breed dogs: a regular exposition of the results, principles underlying reproduction and heredity in dogs, with special reference to their practical application. Revised edition. New York: Orange Judd Publishing Company, Inc., [illegible] p. illus. 24 cm. 7793 $5.00

[illegible]

Note: [illegible]

Williams, David Willard

Beef cattle production in the South. Second edition. Danville, Ill.: The Interstate, 1950. 450 p. illus. [illegible] cm. $5.00 7794

Contents (abridged): Historical development and distribution. Judging beef cattle. Breeds of beef cattle. Breeding beef cattle. Feeds and feeding. Marketing beef cattle. Handling and management practices. Showing beef cattle. Pastures. [illegible] Equipment for beef production. Appendix. Glossary of terms. Selected references. Index.

Note: [illegible]

Winters, Laurence M.

Animal breeding. With chapters on selection and the effectiveness of selection by William Rempel, and chapters on fertility and artificial insemination by John N. Cummings. Fifth edition. New York: John Wiley & Sons, Inc., 1954. 420 p. illus. 22 cm. $5.95 7795

Contents: The economic importance of animal improvement. The breed background. Reproductive organs. Gametogenesis and the physical basis of heredity. The breeding cycle and the sex hormones. Fertilization and prenatal development. The role of heredity. Fundamental Mendelism and animal breeding. Lethals. Sex. Selection. Effectiveness of selection. Inbreeding. Crossbreeding. Purebred breeding. Grading. Fertility. Artificial insemination. Building superior germ plasm. Bibliography. Glossary. Index.

Note: A standard work used for many years as an agricultural college textbook and [illegible] by livestock breeders. It covers both the pertinent basic knowledge of genetics and related subjects that are important in practical breeding programs for farm animals. Although the mechanisms of reproduction and heredity and the results of important experiments are given considerable space, the treatment of them is directed to students of practical agriculture in agricultural colleges and to breeders of farm animals. Beginning with the chapter on selection, the practical aspects of animal breeding are presented in some detail. The first edition was published in 1 [illegible] and the fourth edition in 1948. In this fifth edition, the most noteworthy additions are the contributed chapters [illegible] are mentioned in the subtitle. Several of the chapters carried over from the preceding edition, notably those on inbreeding and [illegible], have been extensively revised, and portions of [illegible] have been revised or [illegible]. [illegible] published since the fourth edition was written, including some published as recently as 1952, has been added to the 14-page bibliography.

DAIRYING AND DAIRY PRODUCTS

Adams, Harold S.

Milk and food sanitation practice. Cambridge, Mass.: Harvard University Press, 1947. 311 p. illus. 24 cm. $5.[illegible] 7796

Contents: Milk sanitation: History and public health importance of milk control. Planning and administering [illegible] milk control program. [illegible] Fundamentals of sanitary milk production. Undulant fever [illegible] The pasteurization process. Plans for the modern pasteurization plant. Pasteurization plant equipment and inspection. [illegible] Laboratory procedures used to evaluate [illegible] Bibliography [illegible] milk supply. The sanitary control of frozen desserts. [illegible] Food sanitation: The food control problem. [illegible] The [illegible] of food establishment sanitation. [illegible] of food handlers. Bibliography [illegible] Appendix. Index.

Note: [illegible]

American Public Health Association

Standard methods for the examination of dairy products, microbiological and chemical. Tenth edition. Microbiological methods formulated by committees of the American Public Health Association and approved for publication by the American Public Health Association. Chemical methods compiled by the Committee on Editing Methods of Analysis of the Association of Official Agricultural Chemists and approved for publication by that Association, including current changes to date of last annual meeting in Washington, September 29–October 1, 1952. New York: American Public Health Association, Inc., 1953. 345 p. illus. (part col'd) 24 cm. $5.00. 7797

Contents: Selection and interpretation of quality tests. Microbiological methods for milk and cream. Detection of special bacterial groups or species. Microbiological methods for butter—[illegible]—ingredients used in frozen dairy foods—frozen dairy foods. Tests for sanitization of equipment and containers. Phosphatase methods to determine pasteurization. AOAC, official. Chemical methods. Screening tests. Index.

Note: A reference work that enjoys [illegible]-official status in the United States of America. It describes specifically procedures for tests and interpretation of the results of tests of dairy products. Some of the methods described are taken from the Official methods of analysis of the Association of Official Agricultural Chemists. The work is revised periodically. Changes made by this tenth edition were not numerous. However, several methods have been revised and several new ones recognized. Retention of tests in each new edition and addition of new tests are both decided upon by a joint editorial committee of the American Public Health Association and the Association of Official Agricultural Chemists. Bibliographies are included, and for some chapters are very extensive.

Graw Hill publications in the agricultural sciences, R. A. Brink, consulting editor) $8 50 7787

Contents: Section I, Animals and man up to the present. Animal breeding—present and past. Early man and animal domestication. Animal origins and progression. Section II, Mechanisms of reproduction The male's part in reproduction. The female's part in reproduction. Reproductive efficiency Lowered fertility and sterility Pregnancy and parturition. Mammary development and the initiation of lactation. Artificial insemination. Section III, Mechanisms of heredity History and problems of genetics. The principles of heredity The principles of variation. Sex determination. Section IV The art of breeding. Systems of breeding—unrelated animals. Systems of breeding—related animals. General considerations in selection. Selection in dairy cattle. Selection in meat animals. Selection in horses. Retrospect and prospect. Appendix: Livestock record associations. Name index. Subject index.

Note. A standard textbook for agricultural college courses. Each section has been brought up to date with added data to cover new developments and added material in the bibliographies and illustrations. Among the advances covered are: the broadened recognition of the fundamental aspects of animal agriculture and shifting emphasis among the various classes of livestock; further developments in the hormonal regulation of sex manifestations and the widespread adoption of artificial insemination and continuing delineation and refinement of the basic laws of inheritance and their application to livestock improvement.

SAUNDERSON, MONT HARRIS

Western stock ranching Minneapolis The University of Minnesota Press, 1950 247 p. illus 24 cm. $5 00 7788

Contents. Resources and ranches. Livestock management economics. Grazing land use. Choice of feed crops for ranch use. Markets, prices, and incomes. Business management. Planning the management program of the ranch. The use of federal public lands. Common and botanical names of range plants. Bibliography Index.

Note The author of this book is a Range Economist associated with the United States Forest Service, and he has covered the subject of stock raising in western United States of America from the economic and management standpoint. Land, use, labor market prices, and management of grazing areas (both private and public) are among the important aspects discussed in some detail. Areas of the United States of America which are suited to ranching and the chief types of stock ranches are described in the first chapter

SELF, MARGARET CABELL

Horses their selection, care and handling New York A. S Barnes and Company, Inc *1943 170 p illus 23 cm. $3 75* 7789

Contents Selection of the horse. Selection and care of equipment. The stable. General care. First aid. Handling the horse. Cause and control of vices. Riding. Driving. Starting the child. The show ring. Glossary Index.

Note. A guide which emphasizes the everyday handling of horses. The book is designed for the person owning his own driving or saddle horse, and is intended to teach the rudiments of worthwhile hobby and its benefits. Well-chosen pictures and clearly drawn diagrams supplement and illustrate the text.

SMITH, WILLIAM WESLEY

Pork production With a chapter on *Sanitation and disease control* by L M Hutchings. Third edition New York The Macmillan Company 1952 616 p illus 22 cm $6 50 7790

Contents General view Feeding and handling the herd in the breeding season. Feeding pregnant sows and gilts. Care and feeding of the sow and litter Size of litters—birth weight of pigs—milk flow of sows. Housing and general management of the breeding herd. Food demands of the growing and fattening pig. Food deficiencies of the cereal grains. Forage crops. Methods of feeding on forage. Hogging-off corn and other crops. Protein supplements—dairy by-products—packing house and similar products. Protein supplements of plant origin. The cereal grains and other carbonaceous feeds. The cost of producing pork. Marketing. Factors affecting the price of hogs. Judging. Breeds of hogs. Breeding. Sanitation and disease control. Index.

Note. A standard book on the subject used both as a text in agricultural college courses and as reference book. All aspects of the subject which are of interest to the practical hog raiser are covered in considerable detail. References to the literature are included. The previous edition appeared in 1937 In the third edition there has been extensive revision in order to describe new management practices and to include research information published in the recent literature. Economic data have also been revised. The number of figures has been increased to 112

SNAPP, ROSCOE R

Beef cattle. With a chapter on sterility by Harry Hardenbrook, jr Fourth edition. New York John Wiley & Sons, Inc., 1952 641 p. illus. 23 cm. $6 50 7791

Contents. Part I, General aspects of the beef-cattle industry Phases and areas of beef production. The relation of beef cattle to general farming. The relation of beef cattle to soil fertility Part II, The breeding herd Advantages and disadvantages. When to start. Selection. Reproduction and mating. Pregnancy Parturition. Summer management. Winter management. Weaning, dehorning, castration, and marking calves. Feeding and care of young cattle. Part III, Fattening cattle for market. Fattening cattle. The importance of age in growth and fattening. The importance of grade and sex in feeder cattle. The use of grain in fattening cattle. Carbonaceous concentrates and their use. Protein requirements. The principal nitrogenous concentrates. Roughage and its use. Corn silage as a feed for fattening cattle. A comparison of various silages. Grass as a feed for fattening cattle. Miscellaneous feeding stuffs. The preparation of feeds for beef cattle. Methods of feeding. Part IV General problems in beef production: Baby-beef production. The marketing of cattle. The financial aspect of beef production. Fitting cattle for show and sale. Buildings and equipment for beef cattle. Diseases and parasites affecting beef cattle. Sterility Index.

Note. After 13 years this comprehensive textbook and manual has again been revised and brought up to date. Included in the fourth edition are reports on new breeding and feeding techniques introduced since the previous edition, new methods of calculating rations and estimating the feed required to winter or fatten beef cattle of different ages and weights, new data on grass silage, new material on artificial insemination, and a special chapter on sterility in beef cattle. Additions have also been made to the chapters on fitting cattle for show and sale, on buildings and equipment, and on diseases, parasites, and poisonous plants. Four chapters of introductory and background materials and the lists of references at the ends of the chapters which appeared in the previous edition have been omitted. The new edition contains 110 illustrations and 243 tables.

TOWNE, CHARLES WAYLAND, AND EDWARD NORRIS WENTWORTH

Shepherd's empire, with drawings by Harold D Bugbee. Norman University of Oklahoma Press, 1946 364 p illus. 22 cm. $3.50. 7792

Contents Columbus. Cortés, and the conquistadors. Sheep at the missions. New Mexican and Californian dons. Gold diggers, soldiers, and saints. Under the Lone Star The Indian—friend and foe. The day of the great sheep trails. Cattlemen war on woolies. Sheep against the sea. Predators take their toll. Poison plants and droughts. Herders and the herded. Lambing and shearing. Men behind the flocks. Bibliography Index.

Note: A fascinating historical account of sheep herding in what is now continental United States of America. The story begins with the introduction of sheep to the American continent by the Spanish conquerors of Mexico, and it is carried down to recent years. Much space is given to the often murderous rivalry between cattlemen and sheepmen in the western United States during the latter part of the nineteenth century. Although it is solidly based on contemporary documents, and statements in the text are liberally fortified with footnote citations of the sources of the data, the adventures of shepherding are played up. The book is of value to students of the history of agriculture, but it is also exciting reading for laymen with an interest in the western United States.

[illegible] standards. Standardization of the fat content of milk and cream. Pasteurization of milk. Bottling milk—capping and hooding. Cleaning milk bottles. Washing and sterilizing bottles, cans and equipment. [illegible] Churning. Washing the butter. Working the butter. Storing butter. Soft cheeses. Cottage cheese. Neufchâtel and cream cheese. Testing dairy products. Index.

Note: A manual of practical information written for the guidance of dairy workers engaged in the manufacture and processing of milk, ice cream, butter, and soft cheese. It is intended to be used as a handy reference and which will provide answers to questions regarding the composition of milk and its products, [illegible], types of equipment needed and methods of operation, [illegible] and [illegible], accepted standards, etc. Almost half of the volume deals with the making of ice cream mixes (for which [illegible] are included) use of flavors, and [illegible] and freezing methods. In an effort to make the material readily accessible, the main topics within each chapter are arranged alphabetically.

Gilmore, Lester Odell

Dairy cattle breeding. Edited by R. W Gregory Philadelphia. J B. Lippincott Company 1952 604 p. illus. 23 cm. $6.50. 7803

Contents: Domestication. Inheritance and environment. Basic [illegible] in breeding. Gene frequency analysis. Sex. Reproductive efficiency. Multiple births. Lethals. Nonlethal physical characters. Color and color patterns. Blood typing. Disease resistance. Growth and development. Milk secretion. Efficiency of feed utilization. Longevity and miscellaneous physiological characteristics. The [illegible] process. How production is inherited. Type and production. [illegible] bulls. Evaluating dams and cow families. Pedigrees. Herd analysis. Inbreeding. Outbreeding. Extending the use of well-bred bulls and cows. Artificial breeding. Co-operative bull [illegible]. Purebred cattle. Index.

Note: This publication is an exclusive textbook for agricultural college students and teachers which can also be of use to dairy cattle breeders, to officials of breed registry and artificial breeding organizations, and to vocational agriculture students and teachers. The author concentrates on the breeding of dairy livestock, except in certain chapters wherein animals relating to all cattle are presented, such broader knowledge being considered helpful to the student for an understanding of the breeding of dairy livestock. These chapters are those dealing with domestication, environmental variations, reproduction, inherited characters, and systems of breeding. Illustrations number 171, aside from 116 tables. Bibliographical references are given in footnotes, and study questions are given at the ends of the chapters.

Goss, Emery F

Techniques of dairy plant testing. Ames Iowa State College Press, 1953 350 p. illus. 23 cm. $5.00. 7804

Contents: Sampling for the Babcock test. Fat in milk—cream—ice cream—skim milk, buttermilk, and whey—in homogenized, chocolate, evaporated, and sweetened condensed milks. Moisture, fat, and salt in butter—cheese. Acidity in milk and its products. Solids in milk and its products. Using the lactometer. Methylene blue and resazurin tests. Phosphatase test for Pasteurization. Checking the strength of alkali cleaning solutions and the hardness of water. Testing chemical sterilizing solutions. Mojonnier test for fat and solids. Appendix. Index.

Note: A textbook and reference manual of tests for such substances as fat and water, and such properties as acidity, of dairy products. It describes detailed procedures for all of the standard tests, and explains their principles. Numerous illustrations depict apparatus and testing techniques. Literature references are included. The book was developed in courses given at Iowa State College.

Hammer, Bernard Wernick

Dairy bacteriology Third edition. New York John Wiley & Sons Inc., 1948. 593 p. illus. 24 cm. $7.50 7805

Contents: Bacterial count on milk. Tests for the general quality of raw milk. Milk fermentations. Contamination of milk and its control. Bacteriology of filtration, clarification, and separation. Growth of bacteria in milk and cream. Milk enzymes. Spread of diseases through milk and milk derivatives. Pasteurization. Bacteriology of evaporated milk. Bacteriology of sweetened condensed milk. Bacteriology of milk powder. Bacteriology of ice cream. Bacteriology of butter and cultures. Bacteriology of fermented milk preparations. Bacteriology of butter. Bacteriology of cheese. Bacteriology of dairy-plant water supplies. Index.

Note: A concise presentation of the essential facts relating to the bacterial aspects of dairy processes, methods, and controls. The volume is a standard work and is intended for use in agricultural colleges and as a reference manual for research workers in the dairy industry. Emphasis is placed on fermentation in milk and its derivatives. As in the previous editions, knowledge of elementary bacteriology on the part of the reader has been assumed. This edition has been considerably enlarged. A new chapter on dairy-plant water supplies has been added, and milk powder, butter, and cheese are discussed at greater length.

Harrison, Edwin Shepherd

Judging dairy cattle. Text by Edwin S. Harrison. Photographs by Henry A. Strohmeyer Jr., and John T Carpenter Jr New York John Wiley & Sons Inc., 1940. 132 p. illus. 28 cm. $5 75 7806

Contents: The true type cow and the score card for the cow of each of the five leading dairy breeds. Head and neck of the dairy cow. The mammary system of the dairy cow. The legs and feet of the dairy cow. The chest, chine, rump and shoulders of the dairy cow. Faults and [illegible] on parts of cows. Judging dairy heifers. Judging dairy bulls. Index.

Note: This manual presents, in pictorial form, a complete study of the variations in the conformation of the dairy cow. The text matter describes the features for which the reader must look, and explains what effect the variations have upon the usefulness of the cow. Definite, practical problems in judging are illustrated in the comparison between types. The discussion of these comparisons are intended to train the reader to base his judgments upon accepted scientific foundations. The profuse photographic illustrations include some of the most famous animals in the principal dairy breeds.

Henderson, H. O., and Paul M Reaves

Dairy cattle feeding and management. Fourth edition. New York John Wiley & Sons, Inc., 1954 614 p. illus. 22 cm. $6.50. 7807

Contents: Development of dairying. The components of plants and animals. The work of digestion. The use of feed in the body. Milk secretion. Selection of feeds. Desirable characteristics of rations. Minerals and vitamins. The development of feeding standards. Balancing rations. Feeding for milk production. Effect of abnormal and unusual rations. Making and feeding silage. Hay and haymaking. Pastures. Some details in dairy cattle management. Milking the dairy herd. Raising the dairy calf. Care and development of the dairy heifer. Feeding and care of the bull. The principles of dairy-cattle breeding. The selection of a sire. Establishing a herd. Artificial breeding of dairy cattle. Maintaining breeding efficiency. Dairy cattle health. Keeping records on the dairy farm. Programs of the breed registry associations. The purebred dairy cattle business. Marketing dairy cattle. Fitting dairy animals for show and sale. Production of high-quality milk. Marketing milk. Dairy buildings. Types and arrangements. Dairy barn and milk-house equipment. Appendix. Index.

Note: A practical textbook on the feeding and management of dairy cattle. It is organized for use in agricultural college courses, and its scope and level of treatment are such that it is also useful as a guide for practical farmers. The basic information that would be expected in a good textbook is present, and it is accompanied by a wide range of information on good farm practices. Breeding and feeding practices are emphasized. Selected literature references are given. The preceding edition was published in 1933. Six new chapters have been added in this edition, and the chapters carried over have been extensively revised so as to incorporate such important advances as artificial insemination.

Herrington, Barbour Lawson

Milk and milk processing New York McGraw Hill Book Company Inc., 1948. 343 p. illus. 23 cm. (McGraw Hill publications in the agricultural sciences R. A. Brink, consulting editor) $6.00 7808

Contents (abridged): The dairy industry. Milk—its nature and properties. The fats of milk. The principal proteins of milk. Lactose

DIGGINS, RONALD V, AND CLARENCE E BUNDY

Dairy production Englewood Cliffs, N J Prentice-Hall, Inc., 1956 342 p illus 23 cm. $5 65 7798

Contents Dairy products in human nutrition. Opportunities in dairying. Selecting a breed. Selecting foundation stock. Nutritional requirements for milk production. Feeding the producing herd. Feeding young dairy stock. Feeding and management of the herd sire. Management of dairy cattle. Reproduction, inheritance, and breeding systems in dairy cattle. Housing and equipment. Keeping cattle healthy Marketing dairy products. Fitting and showing dairy cattle. Index.

Note. Similar in style and organization to other books on animal husbandry by this team of authors, this book is addressed both to students and vocational agricultural courses and to practical farmers. It describes in an elementary readable style, the basic principles and good practices in dairying. Practices are described in detail, with references given to other books in which more technical matter on the same subjects are vailable. Each chapter contains a summary in which the gist of the chapter is recapitulated. There are 205 illustrations, and most of them are reproductions of photographs of cattle, techniques in dairy management, dairy equipment, and scenes on dairy farms.

ECKLES, CLARENCE HENRY

Dairy cattle and milk production Revised by Ernest L Anthony Contributing authors H O Henderson, N P Ralston, and R. E Becker Fifth edition New York The Macmillan Company, 1956 587 p. illus. 22 cm $6 75 7798A

Contents. Introduction. Origin and classification of domesticated cattle. The dairy type. Holstein-Friesians. Jerseys. Guernseys. Ayrshires. Brown Swiss. Minor breeds. Dual-purpose cattle. General consideration in selecting a breed. Selection of the individual cow Selection of the cow by records. Selection, care, and management of the sire. Dairy cattle breeding. Calf feeding and raising—calfhood diseases. The growing heifer Artificial breeding. Registered herds—the aesthetic and business sides of the purebred business. Care and management. Milking factors influencing the quantity and quality of milk. Common ailments of cattle. Digestion in the ruminant. Feeding for milk production. Characteristics of common feeds. The feeding standard and the calculation of rations. The silo and silage. Pastures and soiling crops. Barns for cows. Handling manure—material for bedding. Appendix. Index.

Note A long-established agricultural textbook. In it full descriptions of dairy breeds raised in the United States of America are combined with discussions of the management of dairy cattle. Diagrams and photographs of barns and related equipment are included, and there are more than 70 pages of reference data. The fourth edition was published in 1950. Considerable text has been carried over from it to this fifth edition but there has also been considerable revision. As indicated on the title page, there are three new contributors who hav rewritten chapters that appeared in the fourth edition. The most extensive changes are to be found in the chapters on breeding, artificial insemination, growth and nutrition. The chapters on dairy cattle breeds which have always been an outstanding featur of the book are unchanged except for revision of statistics and records of production.

ECKLES, CLARENCE HENRY, AND OTHERS

Milk and milk products, prepared for the use of agriculture college students. By Clarence Henry Eckles Willes Barnes Combs and Harold Macy Fourth edition. New York McGraw Hill Book Company Inc., 1951 454 p illus. 24 cm. (McGraw Hill publications in the agricultural sciences, R A. Brink, consulting editor) $6 00 7799

Contents (abridged) The constituents of milk. Factors influencing the composition of milk. Milk and dairy products as food. Microorganisms. The Babcock methods for determining fat in milk and cream. Common dairy processes. Market milk. The manufacture f dairy products—butter—cheese—ice cream—condensed milk, dry milk, milk by-products. Dairy arithmetic. Appendix: Methods for bacteriological analysis of milk. Roese-Gottlieb method for fat determination (official A.O.A.C.) Babcock method for fat determination (official A. O. A. C.) Table for calculating total solids in milk from specific gravity and fat percentage. Table for determining the total solids of sweet and sour cream buttermilk from the lactometer reading. Market grades of creamery butter. Tentative U.S. standards for grades of American Cheddar cheese. Specific grading requirements for non-fat milk solids. Index.

Note. A standard work used both as an introductory text and as a practical guide for dairy plant personnel. The arrangement and scope are the same as in the preceding edition published in 1943 and much of the text has not been altered. However, useful revisions have ben made, particularly in the statistical material and in the tests described in the chapters on the Babcock method, miscellaneous tests, and in the appendix.

ESPE, DWIGHT, AND VEARL R. SMITH

Secretion of milk. Fourth edition. Ames Iowa State College Press, 1952 291 p. illus. 23 cm. $4 95 7800

Contents Evolution of the mammary gland. Anatomy of the udder. Hormonal interrelations in mammary gland development. Hormonal interrelations in lactation. Physiological and biochemical aspects of lactation. Physiology of milking. Mechanics of milking. Physiological factors affecting the quantity and quality of milk. Effect of feed on the amount and composition of milk. Environmental factors affecting lactation. Index.

Note. This book is standard critical review and digest of the literature pertaining to milk production in dairy cows. Each of the chapters consists of concise text key-numbered to an extensive list of literature references. Many points are made that are of value to the practical farmer but the chief uses of the book are as a supplementary text in agricultural college courses and reference handbook in research. In the present edition, the chapter arrangement has been somewhat reorganized, and literature published as late as 1950 has been covered.

FARRALL, ARTHUR W

Dairy engineering Second edition. New York John Wiley & Sons, Inc., 1953 477 p. illus. 24 cm. $7 00 7801

Contents. Physical and chemical properties of milk. Simple mechanical principles. Power transmission. Electrical power and equipment. Hydraulics and pumping. Heat measurement, transfer and control. Steam and its use in the dairy Principles of refrigeration. Insulation and cold-storage rooms. Heaters; coolers, heat-exchange equipment, and milk-storage tanks. Ice-cream freezing equipment. Homogenizers. Pasteurizing equipment. Evaporating and drying equipment. Can washing and sterilizing equipment. Bottle washers, fillers, and cappers. Cream and butter handling equipment. Cheese and casein plant equipment. Equipment maintenance. Dairy plant design, layout, and utilization. Appendix. Index.

Note A comprehensive and practical treatise on the design of sanitary dairy plants, on the equipment used in them, and on the maintenance of equipment. As their titles indicate, some of the chapters are devoted to basic matters such as fundamental mechanical principles. However these topics are covered essentially in outline form, and most of the space is given to information specifically pertinent to plants for the processing of dairy products. The first edition was published in 1942. In this second edition the book is some 70 pages longer and contains a wide range of revised and additional information. Somewhat more emphasis has been placed on plant design. Literature published since the first edition was written has been added to the bibliography There are now 199 figures and 84 tables.

FOUTS, EVERETT LINCOLN, AND THEODORE R. FREEMAN

Dairy manufacturing processes, a hand book for dairy plant workers and short course students New York John Wiley & Sons, Inc., 1948 237 p 24 cm $5 00. 7802

Contents (abridged) Ice cream manufacture, sherbets and ices. Dairy products used in making ice cream. Figuring ice cream mixes. Freezing the ice cream. Flavoring ice cream. Sherbets and ices. Market milk and related products: Composition of milk, definitions.

[illegible] ... member of the faculty of the University of Illinois.

OLSON THOMAS [illegible]

Elements of dairying. Revised edition. New York. The Macmillan Company 1950. [illegible] p. illus. 22 cm. $6.00. 7815

Contents (abridged): Part I, Dairy cattle: [illegible]

Note: A [illegible]

PETERSEN, W. E.

Dairy science, its principles and practice. Second edition. Edited by R. W. Gregory. Philadelphia. J. B. Lippincott Company 1950. 695 p. illus. 24 cm. $6.50. 7816

Contents (abridged): The history of dairying. [illegible]

Note: A comprehensive volume [illegible]

ROADHOUSE, CHESTER LINWOOD AND JAMES LLOYD HENDERSON

The market-milk industry. Second edition. New York. McGraw Hill Book Company, Inc., 1950. 716 p. illus. 24 cm. (McGraw Hill publications in the agricultural sciences. R. A. Brink, consulting editor) $[illegible]. 7817

Contents: History and development of the market-milk industry. The composition of milk and its physical and chemical properties. [illegible]

Note: A college textbook [illegible]

SPEARING, JACK

Fitting and showing dairy cattle. Ames. The Iowa State College Press, 1952. 97 p. illus. 20 cm. $2.00. 7818

Contents: Selection of the show herd. [illegible]

Note: Techniques of preparing dairy cattle for display and judging [illegible]

THOMAS, ROY HILMAN, AND OTHERS

Dairy farming in the South. By Roy H. Thomas, Paul M. Reaves, and C. W. Pegram. Revised edition. Danville, Ill. The Interstate, 1949. 431 p. illus. 21 cm. $2.50. 7819

Contents: The importance of dairying in the South. [illegible]

Note: A practical textbook designed for use in agricultural courses in high schools and colleges. [illegible]

and the carbohydrates. The minor constituents of milk. Variation in the composition of milk. Acidity Microorganisms. Pasteurization. Creaming and cream separation. Homogenization. The market-milk industry The butter industry Concentrated milks. The dry-milk industry The ice-cream industry The cheese industry The casein industry The Babcock test. Lactometry Index.

Note. A brief but authoritative treatment. It covers the chemistry of milk and milk products in some detail, describes the various processes which milk undergoes before it is sold to the consumer, and surveys briefly the economics and techniques of the industries based on milk. The main use of the book is as a textbook in introductory courses in dairy science, but the information it provides on milk as a food and on the American milk-marketing industries makes it useful to several groups of readers including workers in the nutrition field and consumers.

HUNZIKER, OTTO FREDERICK

The butter industry, prepared for factory, school and laboratory Third edition, rewritten and enlarged La Grange, Ill The Author 1940 821 p illus 23 cm. U S and Canada, $6 50, other foreign countries, $7 00 7809

Contents (abridged) History and development. Creamery organization. Steam, power refrigeration, water-tempering. Creamery equipment. Factory sanitation. Care of milk and cream on farm and in transit. Separation of milk, why cream tests vary Systems of cream buying. Receiving—grading, sampling, weighing, can washing. Neutralization of sour cream. Pasteurization systems. Methods for removal of objectionable flavors. Starters. Cream ripening. Churning. Washing, salting, working, moisture control. Packing. Creamery overrun, utilization of by-products. Markets, imports, exports, consumption. Cold storage. Composition and properties of butter Butter defects. Butter scoring. Factory tests. Index.

Note A standard work for practical use in the butter industry and for use as a textbook in agricultural colleges.

JUDKINS, HENRY FOREST, AND MERRILL J MACK

The principles of dairying testing and manufactures Third edition, revised by Merrill J Mack. New York John Wiley & Sons Inc, 1941 315 p illus 23 cm. $5 00 7810

Contents The general scope of the dairy industry The secretion of milk. The composition and properties of milk. Factors affecting the composition of milk, particularly the butterfat content. The sampling of milk and cream. The Babcock test for whole milk. The Babcock test for milk products. Testing milk for total solids. The bacteriology of milk. Quality tests for milk. Keeping milk and butterfat records. Essentials in the production and handling of market milk on the farm. Market milk from farm to consumer The separation of cream. Butter making. Ice cream making. Cheese making. Miscellaneous dairy products. The food value of milk and its products. Appendices. Index.

Note. This third edition of an elementary book on dairying has been revised and expanded. Treatment of the subject is largely from the standpoint of handling milk and milk products, with general survey of the whole field of dairy technology

KNODT, C B

Successful dairying New York McGraw Hill Book Company Inc 1954 381 p. illus. (part col d) 24 cm (McGraw Hill rural activities series W A. Ross consulting editor) $6 00 7811

Contents Getting started in dairying. Selecting dairy cattle. Raising dairy calves. Raising and managing dairy heifers. Raising and managing the herd sire. Providing feed for dairy cows. Providing housing for dairy cattle. Managing the dairy herd. Keeping dairy cattle healthy Producing high-quality milk and cream. Marketing dairy products and cattle. Handling dairy products in the farm household. Appendixes. Locations of agricultural colleges. Bulletins and leaflets, U S. Department of Agriculture. Farm magazines. Supplementary texts. A complete dairy record. Correlated list of visual aids. Index.

Note. A practical text of broad scope and much detail. It covers the traditional topics and, in addition, some uncommon ones, such as the feeding of potatoes to dairy cattle, the technique of making potato silage, the sulfur dioxide method of grass silage preservation. Also, it contains an 80-page section—much of which has been reprinted from publications of the United States Department of Agriculture—on buildings for the housing of dairy cattle. All techniques included are explicitly described. The book is directed both to students enrolled in agriculture courses and to practical farmers. It contains approximately 200 illustrations, the majority of which are reproductions of photographs.

LAMPERT, LINCOLN MAXIMILIAN

Milk and dairy products, their composition, food value, chemistry, bacteriology and processing New York Chemical Publishing Company, Inc., 1947 291 p illus. 22 cm. $7.00 7812

Contents (abridged) Milk, its value as a food and its composition. The vitamins in milk. Some fundamentals of dairy bacteriology Pasteurization—raw milk versus pasteurized milk. Diseases that may be carried and spread by infected milk and infected milk products. Grades of milk. Human milk—goat's milk. Cream—skim milk—buttermilk—whey Homogenized milk—soft curd milk—frozen milk—chocolate milk—evaporated milk—condensed milk. Ice cream. Principles of dairy tests—examples in dairy arithmetic. Appendix. Bibliography Index.

Note. A book of information for the layman and dairyman that deals in a semitechnical way with the properties and processing of milk for human consumption, and with some of the products, such as butter and cheese that are made from milk. The bibliography contains 111 references for readers who want additional information on the subject. This book appears to be aimed at persons who are beginning work in dairy plants and desire information about the industry It is useful also as reference book for consumers. Specific information is given on milk products, their qualities, and their processing. The author is Senior Dairy Chemist of the California Department of Agriculture.

LASCELLES, H R.

Western dairying Danville, Ill. The Interstate, 1951 280 p illus 21 cm. $3.00 7813

Contents Factors that influence milk production in the West. Rentals, partnerships and leases. Grass. The cow The bull. Production testing and record keeping. The shelter Feeding under western conditions. Disease control. Pricing milk. The show ring. Sources of material. Index.

Note. A practical introductory text on the breeding and management of dairy cattle under the economic and agricultural conditions prevailing in the western states of the United States of America. It is addressed primarily to young people, especially students in high schools and members of 4-H clubs. However, the subject is covered explicitly and thoroughly enough to make the book useful to anyone in need of an introductory view of this branch of western agriculture. Selected literature references are included.

NEVENS, WILLIAM BARBOUR

Principles of milk production New York McGraw Hill Book Company, Inc. 1951 443 p. illus. 24 cm. (McGraw Hill publications in the agricultural sciences R. A. Brink, consulting editor) $6 00 7814

Contents (abridged) Part I, Dairy farming affords many incentives. Production of milk an important phase of agriculture. Part II. Feeding, breeding, and managing dairy cattle Feeding dairy cattle: feeding cows during the barn-feeding season—the composition and nutritive value of feeds—mineral and vitamin needs—feeding dairy cattle during the pasture season. Breeding dairy cattle: Selection—systems of breeding—artificial insemination. Raising the dairy calf. Part III, Dairy-cattle breeds and selection of individual animals Part IV Milk secretion, production of high-quality milk, and marketing milk. Part The business aspects of dairy farming. Part V, Growing and preparing feeds for milk production. Good soil management essential to successful feed-crop production. Pastures on most farms may be improved. Making high-quality hay Silage has an important place in milk production. Part VI, Better buildings for milk production. Index.

Poultry

[illegible]

POULTRY

BIESTER, HARRY EDWARD, AND L. H. SCHWARTE, [illegible]

Diseases of poultry. Third edition. Ames, The Iowa State College Press, [illegible] 1245 p. illus. [illegible] cm. [illegible]

[illegible]

Note: An established encyclopedic [illegible]

WOODWARD, THOMPSON ELWYN, AND R. R. GRAVES

Results of inbreeding grade Holstein-Friesian cattle. Washington, D. C., Government Printing Office, [illegible] p. illus. [illegible] cm. (United States. Department of Agriculture. Technical bulletin no. [illegible]) Gratis. [illegible]

[illegible]

Note: [illegible]

NAPP, WILLIAM WODIN, AND WILLIAM BARBOUR NEVENS

Dairy cattle: selection, feeding and management. Fourth edition. New York, John Wiley & Sons, Inc., 1955. 4[illegible]0 p. illus. (part col'd) 22 cm. $4.[illegible]6. 7827

Contents: Dairy farming contributes to national welfare. Selecting and breeding dairy cattle. Feeding dairy cattle. Managing dairy cattle. The financial aspects of dairy farming. Milk secretion, care and merchandising of milk. Producing roughages for dairy cattle. Providing good buildings for dairy cattle. Looking into the future. Index.

Note: A standard work used in its various editions since 19[illegible] as [illegible] textbook for agricultural-college students and [illegible] manual for practical farmers. It is authoritative, well-organized, and written in [illegible] style that is easy to read. Principles are emphasized. However, there are also many detailed descriptions of specific operations in the management of dairy cattle. The third edition was published in 1943. This fourth edition is the result of [illegible] considerable reorganization and revision. The scope and level of treatment remain the same, but [illegible] wide range of information has been added in various chapters. The lists of references now consist largely of literature published since the third edition was written.

CARD, LESLIE ELLSWORTH

Poultry production. Formerly by Lippincott and Card. Eighth edition thoroughly revised with 216 illustrations and 4 plates, 2 in color. Philadelphia, Lea & Febiger, 1952. 416 p. illus. 24 cm. $5.00. 78[illegible]9

Contents: The poultry industry. The structure of the chicken and the formation of the egg. Principles of poultry breeding. Selection and improvement. Incubation. Brooding and rearing. Houses and equipment. The principles of poultry nutrition. The feeds. The nutrient requirements of poultry. Management practices. Controlling diseases and parasites. Marketing poultry products. The business of poultry keeping. Index.

Note: A long-established text, widely used in agricultural college courses and to [illegible] lesser extent by practical farmers. The presentation is more advanced and there is more emphasis on basic matters, such as the biology of evolution, than would be appropriate in [illegible] book for beginners [illegible] the subject. Almost the all of [illegible] instruction. Nevertheless, the main emphasis is on the application of [illegible] findings to practical poultry farming. In the revision, the chapter on breeds and the extensive [illegible] which were [illegible] feature of earlier editions have been dropped. On the other hand, valuable material has been added on poultry breeding and improvement, poultry houses, and recent developments in nutrition.

chapters have been added. There are 174 figures, but no bibliography

Trout, George Malcolm

Homogenized milk a review and guide East Lansing Michigan State College Press, 1950 233 p illus 23 cm. (Michigan. Agricultural Experiment Station Bulletin Memoir series No 9) $3 75 7820

Contents An introduction to homogenized milk. Effect of homogenization on the physical and chemical properties of milk. Effect of homogenization on the fat and proteins of milk. Processing homogenized milk. Problems associated with homogenized milk and their control. Laboratory control. Qualities of homogenized milk with which the consumer may be concerned. Literature cited. Author index. General index.

Note. The Michigan Agricultural Experiment Station began in 1930 a series of studies of milk homogenization. This volume brings together the results of these studies, presenting them against a background of pertinent historical information, other scientific studies, and recent commercial applications and usages. It is a complete guide to the subject, with a bibliography of 451 citations.

United States Department of Agriculture Agricultural Marketing Service

Federal and state standards for the composition of milk products Revised September 1956 Washington, D C Government Printing Office 1956 15 p 26 cm (United States Department of Agriculture Agriculture handbook no 51) Gratis. 7821

Contents Introduction. Whole milk. Skim milk. Defatted milk. Cultured buttermilk. Chocolate milk. Chocolate drink. Half and half. Cream. Evaporated milk. Sweetened condensed (whole) milk. Sweetened condensed skim milk. Plain condensed skim milk. Dry whole milk. Nonfat dry milk. Plain ice cream. Fruit, nut, or chocolate ice cream. Sherbet (milk) Frozen custard. Ice milk. Butter Asiago cheese. Blue cheese. Brick cheese. Caciocavallo siciliano cheese. Camembert cheese. Cheddar cheese. Cottage cheese. Colby cheese. Cook cheese. Cream cheese. Edam cheese. Gammelost cheese. Gorgonzola cheese. Gouda cheese. Granular cheese. Gruyère cheese. Hard cheese. Hard grating cheese. High moisture jack cheese. Limburger cheese. Monterey cheese. Munster cheese. Pineapple cheese. Neufchatel cheese. Parmesan cheese. Provoloni cheese. Romano cheese. Roquefort cheese. Sap sago cheese. Semisoft cheese. Swiss cheese. Part skim cheddar cheese. Part skim spiced cheese. Semisoft part skim cheese. Skim milk cheese. Soft ripened cheese. Spiced cheese. Washed curd cheese. Miscellaneous cheese. Specialty and miscellaneous dairy products.

Note A reference publication for the use of those needing information on legal standards for the composition of milk and manufactured dairy products in the United States of America. It presents in tabular form the official requirements or acceptable minimums of the National Government and the States and Territories for such components of dairy products as fat.

Van Slyke, Lucius L, and Walter V Price

Cheese a treatise on the manufacture of American cheddar cheese and some other varieties—intended as a textbook for the use of dairy teachers and students in classroom and workroom—prepared also as a handbook and work of reference for the daily use of practical cheese-makers in cheese factory operations Revised and enlarged New York Orange Judd Publishing Company Inc. 1949 522 p illus. 23 cm $6 00 7822

Contents. The constituents of milk. Variations in the proportions of constituents of milk. Composition and quality of cheddar cheese. Standardization of milk for cheese. Milk constituents and the yield of cheese. Methods of paying for milk for cheese making. Microorganisms and cheese making. The quality of milk for cheese making. Starter Essentials of cheese making. Cheddar cheese making—preliminary steps—cutting to milling—salting to shipment. Modifications of the cheddar process. Defects in cheddar cheese—moisture, acidity and flavor—body and texture—color and finish. Judging and describing the attributes of cheddar cheese. Technology of cheddar cheese ripening—curing treatments—losses of weight. Changes during the ripening of cheddar cheese. Packaging cheddar cheese. Process cheese. Cottage cheese. Cream and Neufchatel cheese. Whey and its utilization. The cheese factory Analytical methods. Index.

Note: A standard treatise on the manufacture of American cheddar cheese and some other varieties of cheese. It is used as textbook in courses in cheese-making in schools of agriculture and food technology and as a manual for orientation and reference by practical cheese makers. The subject is covered in full detail, even down to test methods for various properties of cheese, such as tests for fat, moisture, and acidity The first edition was published in 1927 and the third edition in 1936. In this fourth edition, the book has been enlarged by 151 pages, and a wide range of new information has been added. Literature published since 1937 has been added to the list of references that accompany the text.

Wheeler, Richard G, and John D Black

Planning for successful dairying in New England Cambridge, Mass Harvard University Press 1955 321 p illus. 24 cm. $5 00. 7823

Contents. Problems and objectives. The region and its farms. Land and its use in forage production. Improving the forage program on one farm. Buildings, equipment, and labor. Mechanization opportunities on one farm. Market outlets and prices. Some rules for successful dairying. Opportunities for improvement—the general pattern—adjusting herd size—other problems. Poultry enterprises on dairy farms. Other enterprises on dairy farms. Income prospects in dairying and in off-farm work. Regional production implications. Exploiting opportunities. Index.

Note An economic study of dairying in the six northeastern states of the United States of America which are known collectively as New England. Dairying is a major agricultural enterprise of the region. Many of its farms are exclusively devoted to the production of milk, while many others combine milk production with other enterprises such as potato growing. The study was carried out under grants made to Harvard University by the Charles H. Hood Dairy Foundation. It involved the detailed analysis of the layouts and practices on 241 individual farms. The work is included here because of the light it throws on the equipment of farms and farming practices in this region.

Whittier, Earle Ovando, and Byron H. Webb

Byproducts from milk New York Reinhold Publishing Corporation, 1950 317 p. illus. 24 cm. $6 00 7824

Contents The byproducts of milk. Beverages from byproducts. Dried products. Fermentation products from whey Condensed products. Canned products Cheese and cheese products. Bakery products. Casein and whey products. Lactose. Miscellaneous food products. Casein and whey protein. Lactose. Index.

Note A comprehensive presentation of the technology of manufacturing food and nonfood products from milk. It is based on review of the literature, including patents and government publications, statements in the text are keyed to the reference lists. Certain products such as butter and cheese which are fully covered in other books are either omitted or discussed only in selected aspects. For example, cheddar cheese is not included, but there is considerable discussion of cheese spreads. The book is especially useful for the information that it provides on a host of minor products such as acidophilus milk, chocolate-flavored milk, lactic acid, whey concentrates, cottage cheese, canned cream, salad dressings, and casein. Flow sheets are included for the manufacture of calcium lactate, casein, and lactose. The authors hold positions with the Bureau of Dairy Industry in the United States Department of Agriculture.

Wilster Gustav Hana

Practical butter manufacture. Eighth edition Corvallis, Ore. Published by OSC Co-

poultry farming. A third edition was published in 1934. In this fourth edition, the scope is essentially the same, but a wide range of information has been added on such topics as the use of artificial illumination to increase egg production and the use of antibiotics in rations.

HUTT FREDERICK BRUCE

Genetics of the fowl. New York McGraw Hill Book Company Inc., 1949 590 p. illus. 23 cm. (McGraw-Hill publications in the agricultural sciences R. A. Brink, consulting editor) $8.00 7836

Contents: Domestic birds. Cytology Variations in the skeleton. Structural variations in the skin. Variations in the plumage. Variations in the color of the skin. Variations in the color of the plumage. Lethal genes and miscellaneous characters. Variations in body size. Egg production. Variations in eggs. Genetic resistance to disease. Genetic aspects of reproduction. Linkage. Genetics in practice. Appendix: Symbols for the genes of the fowl. Glossary Author index. Subject index.

Note: Intended for use as a text and reference book for agricultural college students, this work surveys accumulated knowledge of heredity and variation in the domestic fowl (chicken) The student is assumed to have had an introductory course in genetics, but the poultryman who has not had such a course should not have difficulty in understanding the book. Much of the text consists of digest of the literature of the subject. The final chapter tells how genetic knowledge may contribute to the breeding of better fowls.

IVES, PAUL POMEROY

Domestic geese and ducks a complete and authentic handbook and guide for breeders, growers and admirers of domestic geese and ducks. Illustrated by Franklane L. Sewell and Arthur O Schilling and others. New York Orange Judd Publishing Company Inc. 1947 372 p. illus. 22 cm. $4.00 7837

Contents (abridged): Part 1, Geese: History habits, traditions and general peculiarities in geese. Breeds of geese. Selecting for breeding. Hatching and rearing. Fattening geese. Exhibiting geese. Marketing. "Geese must have grass." Part II, Ducks: General nature, various types, adaptability of different breeds. Breeds of ducks. Breeding ducks. Hatching Feeding. Marketing Establishing a duck farm. Exhibiting ducks. Diseases of ducks. Sexing day old ducklings. Ten favorite recipes for preparing duck. Index Part 1, Geese; Part II, Ducks.

Note: The subtitle of this volume is an accurate description of its purpose. The book is suited both to the large-scale breeder and to the householder or farmer who desires to raise geese and ducks on a small scale. Considerable material is included on the histories of the breeds.

JULL, MORLEY ALLAN

Poultry breeding Third edition. New York John Wiley & Sons, Inc., 1952 398 p. illus. 24 cm. $6.50. 7838

Contents: Breeds and varieties of chickens. Physiology of reproduction. Mechanism of inheritance. Color characters. Morphological characters. Gene linkage and blood group antigens. Fertility and hatchability Viability Meat production. Egg production. Egg characters. Selection methods. Index.

Note: A standard treatise in which accounts of genetic mechanisms and descriptions of commercially desirable characteristics in poultry that are basic to breeding are given most of the space. However, these topics are covered from the viewpoint of practical breeders. Also in this edition, the final chapter outlines practical methods for the selection of breeding stock. Each of the chapters is supplemented by a substantial list of literature references. The work was extensively rewritten for this edition. Text, illustrations, and bibliographies have all been revised.

JULL, MORLEY ALLAN

Poultry husbandry Third edition. New York McGraw Hill Book Company Inc., 1951 526 p. illus. (part col d) 24 cm. (McGraw Hill publications in the agricultural sciences R. A. Brink consulting editor) $6.50. 7839

Contents: The poultry industry The breeds of chicken. The biology of the chicken. Breeding principles. Breeding practice. Incubation principles and practice. Rearing principles and practice. Housing and yarding principles and practice. Feeding principles. Feeding practice. Disease prevention and control. Marketing eggs. Marketing poultry Economics of production. Index.

Note: A standard textbook for agricultural college courses. Essentially it is a complete guide to the principles and methods of modern poultry husbandry. In this edition it has been revised to bring it thoroughly up to date in all its parts, including text, illustrations, tables, and selected lists of references.

JULL, MORLEY ALLEN

Successful poultry management. Second edition. New York McGraw Hill Book Company Inc., 1951 447 p. illus. (part col d) 23 cm. (McGraw Hill rural activities series W A. Ross consulting editor) $6 95 7840

Contents: Keeping good stock. Culling to maintain efficient production. Breeding for more efficient production. Renewing the flock. Brooding and housing the growing stock. Housing the laying flock. Providing chickens with good nutrition. Feeding for efficient meat and egg production. Controlling losses from mortality and other causes. Marketing eggs. Marketing chickens. Making a success of the chicken business. Appendixes: References. Correlated list of visual aids. Index.

Note: An introductory and practical book directed more to general farmers and owners of small flocks rather than to large-scale poultry farmers. It is suitable also as a first book for agricultural college students. The title notwithstanding, it considers chickens only not ducks, geese, turkeys or other poultry It provides basic, practical information on such topics as breeding and culling, and describes proven techniques in detail. On the other hand, techniques of limited applicability or suitable only for most expertly managed enterprises, such as the keeping of laying hens in cages, are dealt with more briefly The first edition was published in 1943. The chapter titles and chapter arrangement are the same in this second edition; nevertheless, new information has been added on diet, commercial production of broilers, etc. Data on economic aspects, such as production costs, have been revised, and some new literature has been added to the bibliography

KLEIN GAY T

Starting right with poultry Edited by Ed Robinson. New York The Macmillan Company 1947 177 p. illus. 22 cm. $2 95 7841

Contents: Should you keep a flock of chickens? The poultry house and its furniture. Selecting a breed and getting a start. Brooding chickens. Feeding layers. Raising broilers, roasters, and capons. Keeping the flock healthy How to pick the layers. Other poultry problems. Preparation and preservation of poultry and eggs. If you want to expand. Flock records. Poultry cooking. Ways to serve eggs. Index.

Note: A simplified presentation aimed at persons interested in poultry raising on a small scale. It does not compare in subject coverage or range of detail with full-size introductory texts, but it does describe methods and equipment.

KLEIN GAY T

Starting right with turkeys edited by Ed Robinson. New York The Macmillan Company 1946. 129 p. illus. 22 cm. $2 95 7842

Contents: Is the small turkey project practical? Selecting a breed and getting a start. Housing your turkeys. Brooding poults. The turkeys grow up. Keeping the flock healthy Producing your own poults. Killing and dressing. Preservation of turkeys. Records and scheduling of work. If you want to expand. Ways to cook turkeys. Index.

Note: This book is similar in purpose and scope, and is part of the same series as the author's *Starting right with poultry*, described above.

CHARLES, THOMAS BURR, AND HOMER O STUART

Commercial poultry farming Eighth edition. Danville, Ill The Interstate, 1950 540 p illus 24 cm $4 00 7830

Contents Incubation. Hatchery practices. Brooding practices. Battery brooding and laying cages. Broiler production. Capons and caponizing. Principles of feeding. Feeding chickens. Feeding adult birds. Rearing and range management. Selection. Breeding and sex distinction. Trapnesting and pedigreeing. Improvement programs. Marketing. Fattening. Housing and appliances. Management factors. Poultry diseases. Egg formation. Classes, breeds, varieties, strains. Turkey production. Index.

Note. This work in its various editions has been used as an agricultural school textbook for many years. It provides an introductory but substantial survey of practical knowledge, together with relatively full discussions of improvement programs. All major phases of the subject are discussed from the selection of eggs for incubation to the packing and marketing of the eggs and dressed birds. It is not now up to date on such matters as the use of hormones in caponizing or the effects of antibiotics in promoting growth. There are scattered references to government publications, but both the bibliography and the index are inadequate.

FUNK, ERNEST M, AND M RICHARD IRWIN

Hatchery operation and management. New York John Wiley & Sons Inc., 1955 349 p illus. 23 cm. $7 50 7831

Contents: Development and use of artificial incubation. Development of the hatchery industry The hatchery and its equipment. Flock selection and pullorum testing. Poultry improvement. Breeds, varieties, strains, crosses, and grades of chicks. Factors influencing the hatchability of eggs. Incubation principles and practices. Securing hatching eggs. Cost of producing baby chicks. Factors affecting hatchery profits. Advertising and selling. Organization of work in the hatchery Hatchery correspondence and office procedure. Chick delivery methods. Measuring chick quality Prevention and control of disease in the hatchery Brooding and rearing. *References.* Index.

Note. The operation of commercial hatcheries which hatch chicken eggs and sell the young chicks to farmers is an extensive business in contemporary United States of America. It requires not only a knowledge of the principles f incubation and the operation of incubators, but also some knowledge of the genetics of chickens, diseases of chickens, and considerable knowledge of the principles of managing small enterprises. All of these aspects are covered thoroughly in this book. Although the importance of flock selection is emphasized, there is less discussion f poultry genetics than might be expected. There are numerous illustrations and a four page list of references to the literature. The first-named author is Professor of Poultry Husbandry in the University of Missouri, and his co-author is president of a large poultry enterprise in the same state.

HABERMAN, JULES J

Poultry farming for profit. Englewood Cliffs N J Prentice-Hall Inc., 1956 239 p illus. 23 cm. $4 95 7832

Contents Part I, Planning the farm Choosing a poultry farm. How to obtain credit for farming. Housing the poultry flock. Part II, Brooding and rearing management Selecting your stock. Brooding units. Managing the growing chick—the first eight weeks. Feeding the young and growing bird. How to reduce chick and pullet mortality Range management. Surgical and chemical caponizing. Part III, Laying flock management Selecting and housing the pullet flock. How to feed the laying flock. Artificial lighting for maximum egg production. The production and marketing of quality eggs. Culling to increase profits. Dressing chickens on the farm. Part IV Reduce mortality—increase profits. Preventing poultry losses. Sanitation. Anatomy and physiology of the fowl. How to diagnose poultry diseases. Addresses of state agricultural experiment stations. State poultry diagnostic laboratories. Index.

Note. A practical inclusive introduction to poultry farming, written for persons who are thinking of going into this type of farming. It describes good practices in poultry management, and also discusses related topics of interest, such as points to look for in the selection of a farm and the marketing of poultry products. Approximately 80 pages are devoted to the diagnosis and treatment of poultry diseases.

HEUSER, GUSTAVE F

Feeding poultry Second edition. New York John Wiley & Sons, Inc., 1955 632 p. 23 cm. $7 95 7833

Contents The feeding problem. Objects and principles in feeding poultry Composition of plants, animals, and rations. Measuring the value of feeds. Poultry feeds—cereals, seeds, and other seed constituents—animal protein supplements—vegetable protein supplements—green feeds and vegetable products. Factors in making a poultry ration. Feeding systems and practices. Health feeding. Feeding and management of young chickens. Feeding and management for egg production. Feeding and management of breeders. Fattening or finishing of poultry Feeding turkeys. Feeding waterfowl. Feeding other species of birds. Economics of feeding. Appendix. Index.

Note A monographic survey in which a wide range of information gathered from the author's own research and from the literature is presented in a well-organized form. The presentation is both critical and well documented. Lists of references, some of them running to scores of citations, are included in each chapter. Theory experimental results, and practice are all covered. The book is directed to advanced students of poultry husbandry ho are taking courses in agricultural colleges, and is useful also to feed manufacturers and farmers who raise poultry on large scale. The first edition was published in 1946. The chapter titles are almost the same in this second edition, but some information has been added to most chapters, and substantial amount has been added to many The length of the book has been increased by almost 100 pages.

HEUSER, GUSTAVE F, AND OTHERS

Poultry management, by G F Heuser G O Hall and J H Bruckner Philadelphia. J B Lippincott Company, 1952 565 p. illus. 22 cm (Agricultural management series prepared under the general supervision of R W Gregory) $10 00 7834

Contents. The poultry industry Breeds of poultry—their nature, characteristics, and uses. Principles and practices of poultry breeding. Culling the farm flock. Housing the flock. Feed nutrients and poultry feeds. Hatching the chicks. Brooding and rearing. Growing young stock. Feeding hens for production. Producing market poultry Marketing poultry products. Poultry and egg shows. Diseases and parasites of poultry Growing turkeys. Index.

Note. A practical, comprehensive text. It is written in simple language and is addressed to such readers as students taking their first formal course in the subject, and to farmers now engaged in poultry farming or thinking of engaging in it. Economic aspects, such as the relations between the umber of laying hens per man working on the farm and labor income from the enterprise, are adequately discussed. However most of the space is devoted to descriptions f good practices. There are 87 tables of data on various aspects such as optimum levels of humidity in incubators and composition of mixed feeds. There are numerous illustrations and adequate bibliographies.

HURD, LOUIS M

Modern poultry farming. Fourth edition. New York The Macmillan Company, 1956 575 p illus. 22 cm. $7 50 7835

Contents The business of poultry-keeping. Investment, returns and expenses in poultry farming. Starting a poultry enterprise. Choosing a breed. Poultry-houses and equipment. Hatching the eggs. Requirements for brooding chickens. Brooding, feeding and rearing. Rations and feeding practices for chickens. What's in a ration? Rations and feeding practices for laying hens. Vitamins. Artificial illumination as a means of increasing egg production. Marketing eggs. Marketing poultry. Culling and selecting poultry by external characters. Selection and management of breeders for egg production. Principles of breeding poultry for egg production. Prevention and control of diseases and parasites. Turkeys, guinea fowls and peafowls. Ducks, geese and swans. Pigeons. Pheasants. Appendix. Index.

Note. A long-established practical manual. It is directed to beginners in poultry raising and to general farmers who need dependable manual of good practices. Most of the space is devoted to chickens and to egg production, but there are four chapters on other kinds of poultry Tested practices based on the best available scientific knowledge are described in simple, straightforward style. The first edition was published in 1928 under the title *Practical*

Contents: Nutrients and their functions. Digestion and absorption. Metabolism. Hormones and nutrition. Utilization of food. Nutrition and reproduction. Nutrient requirements and allowances. Quality of flesh and eggs as affected by diet. Nutritional diseases and [illegible]. Nutritive properties of feedstuffs. Metabolic antagonists and [illegible] in [illegible] feeds. Individual feedstuffs. Management and feeding. Formulating diets. Useful information for formulating diets. Addendum: Energy values of feedstuffs for poultry. Vitamin B_{12} and the unidentified growth factors. Feed [illegible]. Hemorrhagic disease. Index.

Note: A wide range of information on poultry nutrition and poultry feeds is presented in this book. The various aspects of the subjects which are named in the chapter titles are discussed concisely. There are many tables of data, and the chapter entitled Formulating diets contains explicit formulas for standard kinds of poultry feeds. Obviously the information presented has been culled from the literature, but few literature references are given. The technical nature and broad scope of the book suit it to the use of such persons as trained agricultural extension workers and the managers of very large-scale poultry enterprises than to small farmers.

WINTER, ALDEN RAYMOND AND E. M FUNK

Poultry science and practice. Edited by R. W Gregory Fourth edition. Philadelphia J B Lippincott Company 1956 662 p. illus. 24 cm. $6.50. 7850

Contents (abridged) The poultry industry. Classes, breeds, and varieties of chickens. Breeding principles and practices. Incubation principles and practices. Rearing principles and practices. Housing principles and practices. Feeding principles and practices. Disease and parasite prevention and control. Marketing eggs. Marketing poultry. Poultry farm management. Turkey varieties and breeding problems. Turkey production and management. Ducks, geese, and miscellaneous poultry. Appendix. Index.

Note: A comprehensive work designed and used both as a text in agricultural college courses and as a reference manual by agricultural extension workers and practical farmers. A [illegible] range of information is presented in the text and tables, and the treatment is thorough. Both small and large-scale packing methods are covered.

FUR AND GAME ANIMALS

ASHBROOK, FRANK GETZ

Fur farming for profit. Revised and reset. New York Orange Judd Publishing Company Inc., 1948. 429 p. illus. 22 cm. $5.00. 7851

Contents: History and development of fur farming. Fur farming [illegible] to beginners. Selecting [illegible] fur farming site. Essentials of breeding. Essentials of feeding. General management of the fur farm. Prevention and treatment of diseases. Fox farming. Mink farming. Raising other fur animals. Transporting live animals. Pelting. Marketing furs. Associations and co-operatives. Fur animal exhibitions. Index.

Note: A general introductory presentation of the subject for students in agricultural colleges, persons who are considering fur farming as a business, and established fur farmers. The chapter "Raising other fur animals" discusses the fur animals (other than fox and mink) that apparently can be raised profitably under present conditions and also those, such as skunk, that thrive in captivity but do not return a profit. Throughout the book, emphasis is placed on practical methods that have proved profitable. The first edition was published in 1928. In the present edition, the book has been very extensively [illegible] revised and new discussions such new developments as [illegible].

BACHRACH MAX

Fur a practical treatise. Third edition. Englewood Cliffs N J Prentice-Hall, Inc., 1953 660 p. illus. 24 cm. $10.00 7852

Contents (abridged) Section [illegible] Fur world chronology and physical geography. Section II, Technical details of peltry valuation. Morphological details of the skin and hair. Grading peltries into [illegible]. Section III, Peltry details of the rodent family. Section IV Peltry details of the cat family. Section [illegible] Peltry details of the dog. Section VI, Peltry details of the bear-raccoon family. Section VII, Peltry details of the weasel family. Section VIII, Peltry details of the pouched animals family. Section IX, Peltry details of the hoofed animals family and miscellaneous groups. Section X, Ranching, buying, and distributing peltries. Section XI, Processing and handling peltries. Section XII, Data for research study: Microscopy and its relation to fur peltries. Microscopical study of guard hair and fur fibers. Appendix. Bibliography. Index.

Note: A comprehensive work in which all furs of commercial importance are described under the following headings: natural history and habitat of the animal from which the fur is obtained, pelt, characteristics, special qualities, grades and other merchandising details. Of special interest is the collection of microphotographs of the longitudinal sections of various fur fibers. Although designed primarily for the guidance of dealers in fur, the book is also of value to breeders of fur animals.

GREENBERG DAVID BENJAMIN

Raising game birds in captivity New York D Van Nostrand Company Inc., 1949 224 p. illus. 26 cm. $3.50. 7853

Contents: The importance of wild life in nature's scheme of things. The business of farm game bird production. Game bird classification. Artificial incubation. Artificial brooding. Hatching and rearing with bantams. The nutrition and feeding of game birds. Wing clipping, pinioning, brailing, etc. Predators and their control. Pheasants. The growing pheasant. The story of a young pheasant farm. Bobwhite quail. The chukar (chukor) partridge. The Hungarian partridge. The McCarty pens for raising pheasants, bobwhites, chukars, and Hungarians. Wild turkeys. Aquatic game birds. The marketing of game birds. Appendixes: Official organizations concerned with wildlife protection. Publications on game birds. Index.

Note. A comprehensive illustrated manual on breeding, raising, and selling game birds. It describes in detail the best methods of incubating, brooding, raising, and marketing the several varieties of game birds. It also covers the equipment needed to raise game birds and includes many plans and drawings for pens, incubators, brooders, etc. It is valuable to game breeders and conservation department officials and to others interested in raising game birds, either for food or for purposes of stocking shooting preserves or government lands. Attention is called to the laws of the states of the United States of America governing the marketing of game birds.

FISH CULTURE AND FISHERIES

DAVIS, HERBERT SPENCER

Care and diseases of trout. Revised edition, 1946. Washington, D C. Government Printing Office, 1946. 98 p. illus. 23 cm. (United States. Fish and Wildlife Service. Research report no. 12) $0.40. 7854

Contents: Introduction. Care of breeding trout. Care of ponds and raceways. Trout foods. Feeding methods. Improvement of stock. Parasites and diseases. General considerations. General principles of disease control. Sterilization of ponds and raceways. External animal parasites. Internal animal parasites. Bacterial diseases. Miscellaneous diseases. Literature cited.

Note. The third and most extensive revision of this publication, which is intended for reference and guidance of persons operating trout hatcheries. The work covers the general care of the trout, their ponds and raceways. Trout foods and methods of feeding are discussed, with special attention to the use of dry products for supplementing fresh meat in the diet. Improvement of stock by selective breeding is given consideration. The section on parasites and diseases covers 50 pages and includes a detailed account of each disease, including the characteristic symptoms, etiology, pathology and methods of control. The figures include drawings and photomicrographs of the more important organisms that cause trout diseases and their effects on the tissues. The bibliography is five-and-one-half pages in length.

DAVIS, HERBERT SPENCER

Culture and diseases of game fishes. Berkeley University of California Press 1953 332 p. illus. 24 cm. $5.00. 7855

Contents: Part I, Culture of game fishes: History of fish culture. Location and construction of trout hatcheries. Propagation of trout. Care and rearing of trout. Artificial trout foods. Prepara-

MARBLE, DEAN R, AND FRED P JEFFREY

Commercial poultry production New York The Ronald Press Company, 1955 415 p. illus 24 cm. $6 00 7843

Content The poultry industry in the United States. Poultry breeding. Selection of foundation stock. Culling and breeder selection. Formulating poultry rations. Feeding practices. Hatchery management. Brooding and rearing. Housing the laying flock. Laying flock management. The production and marketing of eggs. The production and marketing of poultry Poultry diseases. The economics of poultry farming. Turkey production. Ducks and geese. Appendix. Index.

Note. An eminently practical book designed for use as a text in agricultural colleges and as source f information and guidance for agricultural extension workers and practical farmers. Although there is a chapter on turkeys and another on ducks and geese, chickens are the principal subject. The raising of chickens for both eggs and meat production is covered, but there is somewhat more emphasis on the former than on the latter Good practices are concisely described in a simple, straightforward style. Equipment is described, and the advantages and disadvantages of specialized systems, such as the keeping of laying hens in cages, are well discussed. Most of the 110 figures are reproductions of photographs.

MARSDEN, STANLEY J, AND J HOLMES MARTIN

Turkey management. Sixth edition Danville Ill The Interstate Printers & Publishers Inc, 1955 999 p illus 21 cm $7 00 7844

Contents Starting with turkeys. Rearing problems. Feeding practice. The feeding stuffs. Nutrient requirements. Preparation for market. Marketing data and practices. Turkey shows and showing. Classification, origin, and history Varieties. Breeding principles and practices. Management of breeding stock. Trapnesting, pedigreeing, sexing and caponizing. Incubation. Disease prevention and sanitation. Deformities, injuries and vices. Diagnosis and control of diseases and parasites. Appendix. Index.

Not A comprehensive, practical manual f turkey production as it is currently practiced on farms in the United States of America. The first edition was published in 1939 and the fifth edition in 1949 All the sub-topics named in the above chapter titles are covered in detail. The book is addressed primarily to practical growers. It is useful also for reference purposes to such persons as agricultural extension workers who advise farmers. It was extensively revised in this edition, so as to incorporate advances in utrition, breeding, marketing, etc. The long lists of references to the literature that ere formerly included ha been replaced by short, selected lists to recent literature.

NAETHER, CARL A.

The book of the pigeon Third, completely revised edition Philadelphia David McKay Company 1944 242 p illus 21 cm. 7845

Content Billing and cooing. Breeding and keeping. Lofts—equipment and management. Homes at any cost. Fleet ings—origin, care, handling, management, and breeding. Fancy breeds. For pelf and palate. Commercial breeds Concerning foreign doves. Glossary Pigeon literatur Index.

Not Intended for the novice as ell as for the experienced fancier this book affords practical and up-to-dat information pertaining to every important phase of modern pigeon-keeping. Approximately 100 varieties, including fancy racing, utility pigeons and foreign doves, are described. Helpful hints are offered on the care, housing, feeding, and breeding of these varieties. The subjects of the anatomy physiology and diseases of the pigeon are not included. A fourth revised edition as issued by the same publisher early in 1951 245 p., $3.00.

RICE, JAMES E, AND HAROLD E BOTSFORD

Practical poultry management Sixth edition New York John Wiley & Sons, Inc. 1956 449 p illus. (part col d) 22 cm $4 24 7846

Contents: Brooding and feeding chickens. Preventing and treating chick diseases, parasites, and lice. Caring for young stock past the brooding period. Housing laying and breeding stock. Principles of housing poultry Feeding laying and breeding stock. Principles of feeding and formulating rations. Maintaining egg production summer and winter Using artificial illumination. Preparing eggs for market. Preparing poultry meat for market. Keeping records of the flock. Studying the records. Diagnosing common diseases, parasites, pests, and vices in adult stock. Treating diseases and combating parasites, pests, and lice. Culling the flock. Principles of selection. Selecting and mating the breeders. Renewing the flock. Hatching the eggs. The art of knowing chickens. Shall I be a poultryman? Anatomy and physiology of the domestic fowl. Formation of the egg and chick. Index.

Note This book has long enjoyed the status of standard manual and illustrated guide to the principles and practices of successful poultry raising. It is especially suitable for beginners in poultry husbandry whether studying the subject in agricultural colleges and vocational schools or engaging in it on farms. The subject is treated in an elementary practical manner The fifth edition was published in 1949 This sixth edition is the product of an extensive reorganization and augmentation without, however changing the level of treatment or scope of the earlier editions. One chapter was deleted and some others condensed. Numerous changes ere made in the illustrations.

SEIDEN, RUDOLPH, editor

Poultry handbook an encyclopedia for good management of all poultry breeds. Foreword by Cliff D Carpenter Second edition. Princeton D Van Nostrand Company Inc., 1952 444 p illus. 24 cm. $6 95 7847

Note: A practical reference book of information useful in the management of poultry Definitions of terms and concise discussions of specific topics are arranged in one alphabet, with abundant cross references. Terms such as "bracket" are defined in few lines, while topics such as hopper" are discussed in an article as long as two pages. Many subjects are discussed, but material on nutrition and treatment of diseases predominate. Enough information is given under most headings to serv the needs of county agents and practical farmers In addition, references are given to the original articles and bulletins. There is generous number of illustrations. The first edition was published in 1947 The new material in the second edition appears in an 11-page section near the end of the volume under the heading "The new drugs, feed supplements, remedies, and practices.

TAYLOR, LEWIS WALTER, editor

Fertility and hatchability of chicken and turkey eggs New York John Wiley & Sons Inc. 1949 423 p. illus. 22 cm. $6 75 7848

Contents. The nutrition of the breeding flock, by W W Cravens. Formation of the hen's egg, by D C. Warren. Fertility in chickens and turkeys, by J E. Parker The care of hatching eggs before incubation, by E. M. Funk. Biochemistry of the developing embryo egg, by A. L. Romanoff. Physical conditions in incubation, by W M. Insko, Jr Genetics and physiology of embryonic development, by H. R. Moseley and W Landauer Diseases in relation to hatchery operations, by W R. Hinshaw Education and research in fertility and hatchability by L. W Taylor. Appendix: Supplementary references. Incubation trouble-shooting chart. Glossary Index.

Note. A review of all significant literature through 1947 on factors influencing fertility and hatchability of chicken and turkey eggs. It was published at the instigation of the International Baby Chick Association. Particular consideration is given by the authors to evaluation of results obtained from past research and to problems remaining to be solved. The book can serv both as college textbook and as a source of information for those concerned with the practical applications of the subject. Extensiv lists of pertinent literature are included.

TITUS, HARRY W

The scientific feeding of chickens. Revision of second edition (with addendum) Danville Ill The Interstate Printers & Publishers Inc. 1955 297 p. illus. 21 cm. $3 00 7849

E. E. Coker. The natural resources of North Carolina, by H. J. Lane. A preliminary survey of marine angling in North Carolina, by F. LaMonte. Part II, Economics of the fisheries of North Carolina, by R. F. Taylor. Bibliography. Appendix. Index.

Note: A comprehensive monograph that covers the biological, practical, economic, and legal aspects. Although limited to marine species that are of some importance in North Carolina, the book is of more than local interest, because the marine products gathered by North Carolina fishermen are identical with those gathered by fishermen of many other regions. Similarly the discussions of economics and marketing are of general interest along at least the Atlantic seaboard of the United States of America. The book is essentially a skilled synthesis of published literature and it includes much information, especially economic information, that had not been published hitherto. Bibliographies and numerous statistical tables are included.

UNITED STATES. FISH AND WILDLIFE SERVICE

Fishery publication index, 1920–54 Publications of the Bureau of Fisheries and fishery publications of the Fish and Wildlife Service by series, authors and subjects. Washington, D. C. Government Printing Office, 1955 254 p. 26 cm. (United States. Fish and Wildlife Service. Circular 36) $1.50. 7863

Contents: Introduction. Publication series. Administrative reports. Circulars. Conservation bulletins. Current fisheries statistics. Documents. Economic circulars. Fishery bulletins. Fishery circulars. Fishery leaflets. Investigational reports. Market development leaflets. Progressive fish-culturist. Regulatory announcements. Research reports. Separates. Special scientific reports. Special scientific reports—fisheries. Statistical digests. Statistical lists. Test kitchen series. Author index. Subject index.

Note: This circular provides a list of the various fisheries series published 1920–1954 by the United States Government Printing Office, followed by author and subject indexes to the contents of these series. The compilation was a joint undertaking of the Department of the Interior Library and the Fish and Wildlife Service. Publications issued by the Bureau of Fisheries before 1920 were indexed in *An analytic subject bibliography of the publications of the Bureau of Fisheries, 1871–1920* by R. M. E. MacDonald, 1921. 306 p. Bureau of Fisheries document 899, no longer in print.

WALFORD LIONEL ALBERT editor

Fishery resources of the United States. Illustrated by Katherine Howe. Washington, D. C. Public Affairs Press, 1947 134 p. illus. (part col'd) 30 cm. $5.00. 7864

Contents (abridged): The fishery resources of the United States and its territories. Pacific fishery resources: Salmons. Sardines. Mackerels. Herring. Halibut. Anchovies. Clams. Crabs. The fur seal resource (*Callorhinus ursinus cynocephalus*). World fishery resources: Tunas. Atlantic fishery resources: Groundfishes (in general). Haddock (*Melanogrammus aeglefinus*). Cod (*Gadus callarias*). Whiting (*Merluccius bilinearis*). Halibut (*Hippoglossus hippoglossus*). Herring (*Clupea harengus*). Mackerels. Salmon (*Salmo salar*). Alewives. Shad (*Alosa sapidissima*). Menhaden (*Brevoortia tyrannus*). Flounders. Weakfish (*Cynoscion regalis*). Striped bass (*Roccus saxatilis*). Pompano (*Trachinotus* spp.). Bluefish (*Pomatomus saltatrix*). Tarpon (*Tarpon atlanticus*). Reptiles and amphibians. Diamond-back terrapins (*Malaclemys* spp.). Crustaceans: Lobster (*Homarus americanus*). Crabs. Mollusks: Soft-shelled clam (*Mya arenaria*). Hard-shelled clam (*Mercenaria mercenaria*). Scallops. Mussels (*Mytilus edulis*). Oysters. Fresh water fishery resources: Brook trout (*Salvelinus fontinalis*). Rainbow trout (*Salmo irideus*). Lake trout (*Cristivomer namaycush*). Rock bass (*Ambloplites rupestris*). Muskellunge (*Esox masquinongy*). Great Lakes fishery resources. Pond fish culture. Sponges. Seaweeds. Fishery resources of Puerto Rico and the Virgin Islands. Fishery resources of Hawaii. Water pollution and the fisheries. Economics of United States fisheries. Index.

Note: An authoritative volume of facts and figures for the general or special reader interested in salt-water and fresh-water fish and in the conservation of fishery resources. The discussions of specific varieties of fish usually cover classification, life habits, fishing methods, market preparation, uses, and the annual production of fish in pounds. The material is presented largely from the standpoints of the economic importance and the need for planned conservation efforts. The volume is profusely illustrated with informal although scientifically correct drawings of the various food and game fishes, maps showing their geographic ranges, and diagrams indicating commercial fishing techniques.

tion of the Pacific salmons. Propagation of grayling, pikeperch, pike, and muskelunge. Construction and operation of fishponds. Propagation of the black basses and other centrarchids. Propagation of the channel catfish. Propagation of minnows and suckers. The farm fishpond. Part II, Parasites and diseases of game fishes. General considerations of parasites and diseases. External animal parasites. Internal animal parasites. Bacterial diseases. Miscellaneous diseases, including those of uncertain origin. Appendixes. Construction of drip incubator Siphon egg picker Construction of the circular pool. Methods of counting small fish. Terms used by fish culturists to designate fish of various ages and sizes. Culture of Daphnia. Prolonged treatment for control of external parasites on hatchery fish. Bibliography Index.

Note. An illustrated handbook for persons concerned with the tending of freshwater fish in hatcheries. The book is the first of its type since the *Manual f fish culture*, published by the United States Government more than 50 years ago. It takes account of all recent research in this field, much of it by federal and state agencies. The first half of the manual is devoted to the propagation and rearing of game fishes, with special attention to trout. The second half, on fish diseases and parasites, is a practical exposition for the use of fish culturists without special training in pathology of parasitology

DAVISON, VERNE ELBERT

Farm fishponds for food and good land use. Washington, D C Government Printing Office, 1947 29 p illus 23 cm (United States. Department of Agriculture Farmers' bulletin 1983) Gratis 7856

Contents. Introduction. Management of fishponds. Laws. How to stock a pond with fish. Fertilizing. Weed control. Fishing. Draining the pond. How to build a good pond Choosing location. Clearing the site. Installing overflow and drain pipes. Building the dam. The flood spillway Deepening the edges. Diking the shallow end. The finished pond. Protecting the pond from erosion. Old ponds and small lakes.

Note Superseding Farmers' bulletin no. 1938 this bulletin points out that, when suitable site for farm pond exists, a properly developed and managed pond may provide both food and pleasure to the farm family It is intended for those who wish lasting pond which may be fished many times a year It tells how to select site how to build the pond, and how to insure rapid production of an ample supply of fish.

EDMINSTER, FRANK CUSTER

Fish ponds for the farm New York Charles Scribner's Sons, 1947 114 p illus 26 cm. $3 95 7857

Contents Fish ponds yesterday and today Location of the pond. Building the pond. Landscaping the pond area. Preparing old ponds for fish management. Some fundamental biologic facts and principles. Developing good fishing. The fish harvest and pond maintenance.

Note An inclusive, practical manual on the building and management of small ponds for the raising of fish for food. It is generously illustrated with diagrams and charts and with numerous photographs which show both pond-building operations and completed ponds.

HAGEN, WILLIAM, JR.

Pacific salmon hatchery propagation and its role in fishery management. Washington D C Government Printing Office 1953 56 p. illus. 23 cm (United States Fish and Wildlife Service Circular 24) $0.30 7858

Contents. The Pacific salmon Lif history Chinook. Red. Silver. Pink. Chum. Steelhead trout. The homing instinct. Economic value. Hatchery propagation f Pacific salmon Early history and objectives. Circumstances requiring hatchery propagation. Methods. Diseases. Foods for hatchery salmon. The hatchery and fishery management. The salmon hatchery Hatchery ater supply The hatchery building. Rearing ponds. Trapping adult salmon. Adult holding ponds. Personnel, equipment and facilities. Literature cited.

Note. The salmon of the Pacific coast of continental United States of America ha long been and important food source. Population growth and industrial development has interfered with the natural reproduction of the species because of rivers and streams becoming either polluted or dammed or both. Artificial propagation of salmon has been resorted to as a means of offsetting losses in natural spawning. This booklet is a review of salmon-hatchery techniques and management. It describes the life history of the Pacific salmon and explains the equipment used and the methods followed in hatchery propagation.

JOHNSON, HARLAN E, AND RICHARD F BRICE

Use of impounded water for fish culture. Washington, D C Government Printing Office. 1953 35 p illus 22 cm. (United States. Fish and Wildlife Service. Research report 35) $0 20 7859

Contents (abridged) Dorena Dam and Reservoir. Facilities for experiments. Water analyses and temperature data. Hatchery experiments. Conclusions. Literature cited.

Note The report of a series of experiments which were carried out to determine if water from reservoirs behind dams could be used successfully in fish-cultural operation. The water used as taken from the Dorena Dam in Oregon, and data from analyses and temperature operations are presented in tables and graphs. Hatchery techniques used in the experiments are described. On the basis of the results of the experiments the authors concluded that impounded water is suitable for use in fish hatcheries if attention is paid to aeration and temperature control.

ROUNSEFELL, GEORGE A, AND W HARRY EVERHART

Fishery science, its methods and applications New York John Wiley & Sons, Inc., 1953 444 p illus 24 cm. $7 75 7860

Contents. Introduction. Road to management How do produce knowledge? Relation of life history to management. Natural populations. Factors limiting abundance. Criteria for separating populations. Effects of exploitation. Factors affecting estimation of population size. Methods of estimating population size. Fish ponds Construction and stocking of fish ponds. Fertilization and management f fish ponds. Fishing gear Types of fishing gear and their use. Protection against hazards. Fishways. Screens and racks. Pollution. Improvement of habitat. Habitat improvement. Control of undesirable species. Tagging of fish Types of tags and information sought. Techniques of tagging and recovery Age and growth. How to determine age. Growth. Collecting basic data. Fishery statistics. Stream and lake surveys. Managing natural populations. Management techniques. Artificial propagation of salmonids as a management tool. Regulations and their effect. Problems. Appendix. Fishery journals. Glossary Index.

Note An authoritative presentation of the scope and methods of applied biology in the study of and management of fish populations. Included also is wide range of accumulated knowledge on factors that determine the fate of fish in their natural habitats. The style is technical but not so technical as to make the book incomprehensible to the educated lay reader who is interested in one or more aspects of the subject. However the book is more suited to the needs f preparing for professional work in fish research and management and graduate biologists who are entering this field from some other field of biology Bibliographies are included.

TAYLOR, HARDEN FRANKLIN, AND OTHERS

Survey of marine fisheries of North Carolina. By Harden F Taylor and a staff of associates Chapel Hill The University of North Carolina Press 1951 555 p. illus. 26 cm. $5 00 7861

Contents (abridged) Foreword, by R. E. Coker Part 1, Hydrography of North Carolina marine waters, by Marshall. Part II, Biology and natural history of the economic species Introduction, by H. F Taylor The menhaden, by W A Ellison, Jr The edible finfishes of North Carolina, by E. W Roelofs. The oyster and other mollusks in North Carolina, by A F Chestnut The shrimps in North Carolina, by C. Broad. The blue crab in North Carolina, by by J C. Pearson. The diamond-back terrapin in North Carolina, by

particularly to veterinarians and to students who have not had previous training in laboratory procedures. The directions for laboratory procedures used are explicit and detailed. Special procedures that are valuable only in research work are set in smaller type. A table entitled "Data for differentiation of disease-producing bacteria in domestic animals" occupies twenty-eight pages and furnishes a wide range of information. Lists of related literature are appended to the chapters. The second edition was published in 1941. The chapter entitled "Diagnostic interpretation in clinical medicine" is new in the third edition. Important changes have been made in the chapters on hematology and in several other chapters. There are now 73 black-and-white text figures and four plates in color

DREGUSS MIKLÓS N., AND LOUISE S LOMBARD

Experimental studies in equine infectious anemia. With 28 illustrations and 16 tables. Philadelphia University of Pennsylvania Press, 1954 203 p. illus. (part col d) 24 cm. $6.50. 7871

Contents History and geographic distribution. Natural transmission of the infection. Symptomatology. Clinical diagnosis. Properties of the virus. Methods of laboratory diagnosis. Hematology. Hemagglutination. Pathogenesis. Transmission to laboratory animals. Cultivation of the virus in chick embryos. Immunization experiments. Histopathology. Therapy and control. Concluding remarks. Bibliography. Index.

Note: A monograph based on (1) the results of a program of intensive research carried out at the School of Veterinary Medicine at the University of Pennsylvania over a six-year period, and (2) a comprehensive survey of the international literature. Although there are over 1,200 citations of the literature, more space is given to the techniques and results of the experimental studies. These included efforts to find a suitable small laboratory animal, to develop rapid laboratory diagnostic tests, and to find a means of preventive immunization against the disease. These goals were not attained, but a base was built for further research on equine infectious anemia.

DUKES H. H. AND OTHERS

The physiology of domestic animals. Seventh edition. Ithaca Comstock Publishing Associates a division of Cornell University Press, 1955 1,020 p. illus 24 cm. $9 75 7872

Contents Part 1 Introductory—the circulating fluids of the body. Physicochemical basis of physiological phenomena, by E. A. Hewitt. Blood. Lymph, cerebrospinal fluid, synovial fluid. Part 2 Circulation of the blood. Heart. Flow of blood in the blood vessels. Vasomotor mechanisms. Part 3 Respiration. Mechanics of respiration. Transport and exchange of gases. Regulation of respiration. Respiration in birds. Part 4 Digestion and absorption. Digestion—introductory considerations. Prehension, mastication, salivary secretion, deglutition. Digestion in the simple stomach. Digestion in the ruminant stomach. Digestion in the small intestine. Digestion in the large intestine. Intestinal movements. Digestion in the chicken. Absorption. Part 5, Water and electrolytes—kidney and urine—skin. Water, electrolytes, and acid-base balance by M. R. Kare. Kidney and urine. Skin. Part 6, Intermediary metabolism, by J. A. Dye. Carbohydrate metabolism. Protein metabolism. Fat metabolism. Part 7 Energy exchange—minerals and vitamins. Energy metabolism. Temperature regulation. Minerals and vitamins. Part 8, Muscular activity and the nervous system. Muscular activity. Activity of peripheral nerve. Neurons, receptors, synapses, effectors. Spinal cord and reflex action. Brain-stem and cerebellum. Postural reflexes. Cerebral hemispheres. Autonomic nervous system. Vision. Hearing, smell, and taste. Part [illegible] Endocrine organs, reproduction, and growth, by J. A. Asdell. Endocrine organs. Female generative organs. Male generative organs. Growth. Appendix. Lecture demonstrations in physiology. Index.

Note: Based upon the author's experience in teaching animal physiology and upon the literature of veterinary science, this book is a standard, comprehensive text in physiology for students of veterinary medicine. In preparing the new edition, all parts were revised and enlarged to some extent, and the number of illustrations was increased from 184 to 233. As in the previous edition, there are extensive bibliographical references in each part. These not only give authority for statements in the text, but also can be used as a guide to further reading and study

FOUST H. L., AND ROBERT GETTY

Atlas and dissection guide for the study of the anatomy of domestic animals. Third edition. Ames Iowa State College Press, 1954 105 p. illus. (part col'd) $4.50 7873

Contents Hints for the beginner. Dissection of the dog: Muscular system. Angiology and neurology. Abdomen and pelvis. Pelvic limb. Cephalic area. Directions for dissection of large animals: Head and neck. Thorax and thoracic limb. Abdomen, pelvic region, and pelvic limb.

Note: A standard laboratory manual designed for the guidance of students of veterinary medicine, written by the former and present heads of the Department of Veterinary Anatomy of Iowa State College. In the present edition, there are 46 plates of generous size pertaining to the dissection of the dog, horse, cow, pig, cock and hen. In addition to the plates and their descriptive legends, there are 19 pages of text and literature references. The second edition was published in 1947. In this edition, the number of plates has been increased by nine, and the accompanying text has been expanded slightly

FRANK E. R.

Veterinary surgery Minneapolis Burgess Publishing Company 1953 302 p illus. 28 cm. $6.50. 7874

Contents. Anesthesia. Surgical technic. Miscellaneous infections. Wounds and their care. Neoplasms and cysts. Fractures and dislocations. Affections of the head and neck. Affections of the shoulder and front limb. Affections of the thoracic and abdominal cavities. Affections of the tail, anus, rectum, vagina and penis. Affections of the posterior limb. Index.

Note: A useful manual of surgery on the larger farm animals. Procedures are described concisely but in sufficient detail for practical use. The book is suitable for advanced students of veterinary science who have already studied anatomy, histology, and other basic sciences and for practicing veterinarians. There are 277 illustrations, most of which are reproduced from photographs; and there are references to additional literature. The book is reproduced from typewritten copy in order to make frequent revisions practical. This is the fifth edition. In comparison to the preceding edition, there has been some reorganization of the material, about 30 pages of new matter have been added, and there are 20 more illustrations.

GETTY ROBERT

Atlas for applied veterinary anatomy Minneapolis Burgess Publishing Company 1955 227 p. illus. (part col d) $6.50. 7875

Contents (abridged) Neurology. Splanchnology. Digestive system. Respiratory system. Urogenital system (male genital organs). Urogenital system (female genital organs). Angiology. Myology. Osteology and arthrology. Aesthesiology. The chicken.

Note: A reference book and dissection guide developed in the Department of Veterinary Anatomy of Iowa State College. There are 98 full-page plates, many of which contain reproductions of more than one photograph or drawing pertaining to the gross anatomy of the cow, horse, pig, dog and chicken. The plates are accompanied by legends which identify the parts that can be seen. In each section, the plates are preceded by brief guides for the student-dissector.

HABEL ROBERT E.

Guide to the dissection of the cow Third edition. Ann Arbor J W Edwards, Inc., 1955 127 p. illus. 22 cm. $1.00 7876

Note: A handbook for college students of veterinary medicine. As the title indicates, it is strictly a manual of dissection, not a textbook of bovine anatomy. In this edition, there are 15 figures and a five-page bibliography. The author is Associate Professor of Veterinary Anatomy in the New York State Veterinary College.

HABERMAN JULES J

The farmer's veterinary handbook. By Jules J Haberman assisted by Mary L. Holcomb. Englewood Cliffs, N J Prentice Hall Inc., 1953 305 p. illus. 23 cm. $4 95 7877

VETERINARY MEDICINE

ADVANCES IN VETERINARY SCIENCE. Edited by C. A Brandly and E L Jungherr Volume I. New York Academic Press, Inc , 1953 431 p illus. 23 cm. $9 00 7864

Contents. Animal diseases and human welfare, by K. F Meyer Virus diseases, by J A. Baker and C. J York. Sulfonamides, by D K. Detweiler and S. F Scheidy Antibiotics, by S. F Scheidy and D K. Detweiler The infertility problem f cattle, by D E. Bartlett and W L. Boyd. Bovine mastitis, by W N Plastridge. Swine diseases, by S. H. McNutt. Veterinary public health, by J H. Steele. Author index. Subject index.

—— Volume II New York Academic Press, Inc., 1955 449 p illus. 23 cm. $10 00 7865

Contents: Epizootiology ■ virus diseases, by R. E. Shope. Mycoses of animals, by C. W Emmons. Respiratory diseases of poultry by H. Van Roekel. The blood groups of animals, by L. C. Ferguson. Diseases caused by deficiencies of trace elements, by L J Cunningham. Photosensitization in animals, by N T Clare. Rumen dysfunction, by A. T Phillipson. Bovine ketosis, by J C. Shaw Tickborne rickettsioses in South Africa, by D A. Haig. Vibriosis, by W N Plastridge. Effectiv control of internal parasites, by D C. Boughton. Author index. Subject index.

Note. These volumes are the first two published in a series which is planned to review the progress in the more active fields of research pertinent to veterinary science and in the application of the newer knowledge to the art and practice f veterinary medicine and veterinary public health." They contain the monographic reviews whose titles and authors are listed above. Each review is a critical survey of the literature pertinent to its specific topic. Recent literature is emphasized, but the uthors were not limited to the literature published during specific year or any other cir cumscribed period. A list of references of considerable length is included in each monograph. Contributors to the series include scientists working in New Zealand, South Africa, and Scotland, as well as the United States of America.

BAKER, EUSTACE THURMAN

The home veterinarian s handbook a guide for handling emergencies in farm animals and poultry New York The Macmillan Company 1944 191 p illus 21 cm. $3 50 7866

Note. In this book approximately 700 terms and subjects are arranged in alphabetical order and defined briefly The definition, symptoms, first aid, and special cautions for each disease are given in brief outline, and in many cases the reader is advised to call veterinarian rather than attempt home treatment himself. There are 54 photographs of actual cases in the author's ex perience, and an index for ready reference.

BENBROOK, EDWARD A AND MARGARET W SLOSS

Veterinary clinical parasitology Second edition. Ames Iowa State College Press 1955 206 p illus 23 cm. $6 50 7867

Contents (abridged) Section I, Fecal examination in the diagnosis of parasitism. Section II, Examination for mites of the skin and of the internal organs. Section III, The diagnosis of louse infestations. References. Index.

Note. A practical manual ritten to assist eterinarians in making an accurate diagnosis of parasitic diseases in domestic animals. Clear concise descriptions of suitable laboratory techniques and other methods of identification are supplemented by numerous reproductions of microphotographs showing ova, oocysts, sporocysts and larvae, as ell as adult specimens of various parasites. The first edition was published in 1948. There are 271 figures in this second edition, including the microphotographs just mentioned as well as other illustrations. Literature published since the first edition was written has been added to the list of references, hich is now 23 pages long. The senior author is Head of the Department of Veterinary Pathology at Iowa State College, and his co-author is member of the faculty of the same department.

BIERER, B W

A short history of veterinary medicine in America. East Lansing Michigan State University Press, 1955 113 p. 21 cm. $3 00. 7868

Contents Out of the ancient past. Animal plagues and agricultural progress. Disease control through scientific progress. Medical schools and scientific progress. Bibliography

Note. Essentially a long essay this book in its first chapter sketches some high points of the development of eterinary medicine in other countries before the coming of the white man to America, but is primarily concerned with the development of veterinary medicine in the United States of America. E en in the chapters on American aspects the book is description of landmarks rather than thorough history Nevertheless, it is useful as a background to the study and practice of veterinary medicine and as an account of a phase of agricultural history The author's style reads easily and an extensive bibliography is included.

CALHOUN, M LOIS

Microscopic anatomy of the digestive system of the chicken. Ames Iowa State College Press 1954 108 p illus 23 cm. $3.50 7869

Contents Review of literature. Gross anatomy Materials and methods. Results. Discussion. Summary Literature cited. Additional references.

Note The results of detailed microscopic study of the entire digestive tract of the chicken are presented in this book. There are 44 plates, three of hich are representations of gross anatomy while the balance depict microanatomy Many of the plates in the latter group contain reproductions of t microphotographs. The plates are prefaced by comprehensi critical review of the literature and by a descripti text. The work, originally master thesis, was first published in the Iowa State College *Journal of science* Volume VII, 1933 but has been augmented in this edition by the addition of several plates and additions to the text, especially to the review of the literature.

COFFIN DAVID L

Manual of veterinary clinical pathology Third edition. Ithaca N Y Comstock Publishing Associates, a Division of Cornell University Press 1953 322 p. illus. (part col d) 24 cm. $5 50 7870

Contents Microscopic techniques for clinical pathologic examinations. How to collect, pack and ship specimens for laboratory diagnosis. Parasitologic examinations. Urine examinations. Interpretation of urinary findings. Diagnostic interpretation in clinical chemistry Hematology Interpretation of hematologic findings. Diagnostic methods in bacterial disease Diagnosis of bacterial diseases. Diagnosis of mycotic diseases. Diagnosis of protozoan blood diseases. Diagnosis of protozoan genital infection Diagnostic methods in virus diseases. Fertility examinations. Poultry and game-bird autopsy Formulas and techniques. Inde

Not A concise presentation intended for use by both students of veterinary medicine and practicing eterinarians. It deals chiefly with microscopic and other office and laboratory techniques that may be used as aids in diagnosis. Step-by Step directions are included for collecting specimens and performing autopsies. There are directed

Note A reference manual and textbook devoted to the bacteria and mycotic organisms which are of interest in veterinary medicine. The methods and techniques of bacteriological research are briefly discussed, but the greater part of the volume is devoted to descriptions of specific organisms, their occurrence, diseases which they produce, morphology, staining characteristics, and methods of culture. In this edition the chapters dealing with Proteus, organisms of the genera Brucella, Streptococcus and Staphylococcus, and staining methods have been revised. The work is designed for students and research workers in veterinary science, and for practicing veterinarians.

KRÁL, FRANK, AND BENJAMIN J NOVAK

Veterinary dermatology Introduction by John D Beck. 162 illustrations in 124 figures. Philadelphia J B Lippincott Company 1953. 325 p. illus. 26 cm. $10.00. 7883

Contents: Basic survey. Examination of the skin. Causes and classification of skin disorders. Skin inflammations, dermatitis, eczema. Moist eczema in dogs. Urticaria. Drug eruptions. Food rashes. Photosensitization. Hypertrophic changes of the skin. Skin tumors. Functional disorders of the skin. Gangrene of the skin. Skin manifestations in the course of infectious diseases caused by viruses—in the course of infectious diseases caused by bacteria—caused by fungi—caused by Protozoa. Dermatoses associated with helminth parasites. Dermatoses associated with Helminths. Acarine dermatoses associated with ticks and mites. Dermatoses caused by insects (insecta). Appendix. Index.

Note: Claimed to be the first complete text published in the English language on its subject, this book is an authoritative and comprehensive manual. It is organized so that it is equally valuable as a text for students in veterinary colleges and as a reference book for practicing veterinarians. Except for the three preliminary chapters which have a total of only 23 pages, the volume is entirely devoted to descriptions of specific diseases of the skin and the skin manifestations of diseases of other systems. The essays on individual diseases vary somewhat but, generally speaking, each one provides a general clinical description of the disease, a description of the causal organism or other agent, and discussions of symptoms, prognosis and treatment. Numerous formulas for ointments and other medicines are included. Bibliographies of the related literature are a special feature, and the names of authors whose works are cited are assembled in the bibliographic index.

LEAHY JOHN R. AND PAT BARROW

Restraint of animals Second edition. Ithaca. Cornell Campus Store, Inc., 1953 269 p. illus. 20 cm. $3 75 7884

Contents: Introduction. Basic rope work. Horse. Cow. Pig. Dog. Cat. Fur bearing animals. Sheep and goats. Laboratory animals. Poultry.

Note: A useful manual of information on methods of catching and restraining animals. It is directed to college students of veterinary medicine, practicing veterinarians, and farmers. All of the methods described require only simple apparatus, or none in the case of small animals. The volume is fully illustrated.

LITTLE, RALPH B., AND W N PLASTRIDGE, editors

Bovine mastitis a symposium. New York McGraw Hill Book Company Inc., 1946 546 p. illus. 23 cm. (McGraw Hill publications in the agricultural sciences Leon J Cole consulting editor) $9.00. 7885

Contents: Introduction. Anatomy of the udder, by M. A. Emmerson. Physiology of milk secretion, by C. W Turner. Pathology of mastitis, by L. B Sholl. Diagnosis of mastitis: Examination of the udder, by L. J. Tompkins. Examination of udder secretion, by W N Plastridge and C. S. Bryan. Bacteriology of mastitis, by R. B. Little and others. Serological classification of the mastitis streptococci, by A. W Stableforth. Environmental and hereditary factors, by R. B. Little. Transmission, by R. B. Little. Mastitis in heifers, by O. W Schalm. Eradication of chronic mastitis, by W. N. Plastridge. Vaccination in the control of bovine mastitis, by C. S. Bryan and W N Plastridge. Treatment of bovine mastitis, by O. W Schalm and R. B. Little. Public-health significance of bovine mastitis, by J. H. Brown. Relation of bovine mastitis to quality of dairy products, by E. O. Anderson. Stable hygiene in the control of mastitis for the production of clean milk, by C. S. Bryan and others. Recommendations for state control programs, by O. W Schalm and others. Mastitis in goats, by C. S. Bryan. Appendix: Indirect tests for evidence of mastitis. Preparation of defibrinated blood and serum. Fluid mediums. Solid mediums. Staining methods. Special mediums and tests. Addendum. Index.

Note: Although composed of separate papers, this work is a comprehensive treatise on the subject. The papers were written for the book, and together they present both the current knowledge of the disease and the more important techniques used in controlling it. They are intended for veterinarians, public health officials, and other persons with professional interests in the subject. Each paper is accompanied by a good-sized list of references to the pertinent literature.

MCCAY CLIVE MAINE

Nutrition of the dog Second edition. Ithaca Comstock Publishing Company Inc. 1949 337 p. illus. 22 cm. $3 50. 7886

Contents: Men and their dogs. Carbohydrates for dogs. Fat in the diet of dogs. Proteins for dogs. Amino acids and protein derivatives. Mineral requirements of dogs. Fat-soluble vitamins. Water-soluble vitamins. Modern dog foods. The ingredients of dog foods. Plant foods. Testing dog foods. Blood and bone. Practical feeding and management of dogs. Kennels and equipment. Parasites and their control. Questions about foods. A shelf of books for the dog owner. Index of persons. Index of subjects.

Note. Offering more than the title suggests, this book is a guide to the care and the feeding of dogs. The style is sufficiently non-technical to make the book available to the average owner of a dog, but the wide range of information included, together with the extensive literature references, gives the book enough substance to make it valuable to veterinarians as well. Each chapter includes an introductory section of general information which is then developed on a more technical level. This edition incorporates recent advances and is more than twice as long as the first edition published in 1943. Statements in the text are keyed to the bibliographies.

MERCHANT I. A., AND R. A. PACKER

Veterinary bacteriology and virology Fifth edition. Ames Iowa State College Press, 1956 850 p. illus. 24 cm. $9.90 7887

Contents (abridged) Part I, General biology of microorganisms: Scope and history of bacteriology. Physiology of microorganisms. Bacteriological technic and methods. Sterilization and disinfection. Antibiotic agents. Part II, Infection, resistance, and immunity: Mechanism of infection. Principles of immunity. Phagocytosis. Anaphylaxis and allergy. Part III, Classification and characteristics of pathogenic bacteria, yeasts, and molds. Part IV The filtrable viruses: General characteristics of viruses. Methods used in the study of viruses. Classification of viruses. Index.

Note: A standard work, the first edition of which was published in 1940 and the fourth edition in 1950. It is primarily a textbook for introductory courses in bacteriology and virology in colleges of veterinary medicine. It is used also as a reference book by practicing veterinarians, scientists engaged in veterinary research, etc. The present edition is organized in the four parts whose titles are given above, and in 54 chapters, of which only a few are listed above. About equal emphasis is given to physiology and morphology. In Parts III and IV there are systematic discussions in which the following points are covered for most of the genera: synonyms and history, distribution and transmission, morphology, cultural requirements, resistance, biochemical properties, antigenic structure, pathogenicity, immunity and laboratory diagnosis. In comparison with the fourth edition, revised sections are to be found in many chapters and in some chapters, such as those on the viruses, the changes are extensive. A selection of the literature published since the fourth edition was written has been added to the bibliographies.

MERCK AND COMPANY INC.

The Merck veterinary manual a reference handbook of diagnosis and therapy for the veterinarian. Rahway N J Merck & Co., Inc. 1955 1,385 p. 17 cm. $7.50. 7888

Contents: Part I: Allergy. Blood, lymphatic, and cardiovascular. Breeding and obstetrics. Digestive system. Endocrine. Eye and ear. Genito-urinary. Infectious diseases. Metabolic disturbances. Musculoskeletal. Neoplasms. Nervous system. Nutrition. Parasitic diseases. Physical influences. Respiratory. Skin and connective tissue.

Contents: Cattle diseases and conditions. Swine diseases and conditions. Diseases and conditions of sheep and goats. Diseases and conditions of horses. Diseases and conditions of fowl. Addresses of state livestock sanitary officials. Agricultural experiment stations in the U S. Index.

Note: A reference book designed for use by practical farmers. It is organized according to kind of animal as noted in the above contents. Within the individual chapters diseases are described individually with the descriptions arranged in alphabetical order according to the name of the disease. Diseases are discussed as to causes, symptoms, treatment and preventive measures. Treatments within the abilities of the average farmer are described more fully than those requiring the attention of a veterinarian. Techniques of a veterinary nature not related to disease treatment, such as castration, are covered also. However most of the discussions of treatment are brief. A considerable part of the value of the book lies in its suggestions for prevention of disease.

HADLEY, FREDERICK BROWN

Principles of veterinary science Fifth edition, illustrated Philadelphia W B Saunders Company, 1954 546 p illus. (part col'd) 21 cm $5 00 7878

Contents. Part I, Anatomy and physiology of animals. Introductory The animal world. The animal body as a whole. The skeletal system. The muscular system. The nervous system. The circulatory system. The respiratory system. The digestive system. The urogenital system. The special systems. Part II, Animal diseases: Maintaining animal health. Veterinary medicines. Principles of livestock hygiene and sanitation. Hygiene of breeding and feeding. Hygiene of meat and milk. Veterinary pathology Wounds and wound infections. Diseases of the digestive organs. Mineral and vitamin deficiency diseases. Veterinary surgery Veterinary obstetrics. Disturbances of the reproductive organs. Other noncommunicable diseases. Some communicable diseases. Veterinary parasitology Poisons and poisonings. Index.

Note. A long-established textbook for college courses. The author distinguishes between veterinary science and veterinary medicine, and has designed this book to meet the needs of students who are interested in veterinary science as phase of animal husbandry rather than those of students who are preparing for the veterinary profession. The sections on structure and function are designed to be of practical value in judging animal form, capacity and productivity as well as in the solving of problems connected with the feeding and breeding of animals. The fourth edition appeared in 1949 In this fifth edition the former chapter on veterinary hygiene has been replaced by three chapters on livestock hygiene and sanitation and public health aspects of meat and milk production. Also, important changes have been made in the chapters on diseases.

HAGAN, WILLIAM ARTHUR, AND DORSEY WILLIAM BRUNER

The infectious diseases of domestic animals, with special reference to etiology, diagnosis, and biologic therapy Second edition. Ithaca, New York Comstock Publishing Company Inc., 1951 920 p illus 24 cm. (Comstock series in veterinary medicine William Arthur Hagan consulting editor) 7879

Contents (abridged) Part I, The mechanisms of infection and resistance The causes of disease. The protective mechanisms of the body Toxins and antitoxins. The lytic antibodies. The agglutinins and precipitins. Phagocytosis. Hypersensitization. Part II, Chemotherapy Part III, The pathogenic bacteria. Part IV Bacteria-like pathogenic organisms of uncertain classification Part V The pathogenic fungi. Part VI, The pathogenic protozoa. Part VII, The viruses. Index.

Note. A successful textbook for the instruction of college students of veterinary medicine. It is useful also to graduate practitioners of veterinary medicine and research workers as a reference manual and guide to the literature. Although arranged largely according to standard biological groups, there is little emphasis on morphology and classification. Instead, for each organism such matters are discussed as culture, pathogenicity for experimental animals, disease manifestations in domestic animals, modes of transmission, diagnosis, chemotherapy etc. Also if the organism is pathogenic to man this fact is stated. The authors are faculty members of the New York State Veterinary College at Cornell University The third edition was published in 1957 943 p., $10.50.

JONES, L MEYER

Veterinary pharmacology and therapeutics. Ames Iowa State College Press, 1954 850 p. illus. 26 cm. 7880

Contents (abridged) Part I, Introduction. Part II, Drugs acting locally on the skin and mucous membranes. Part III, Drugs acting on the digestive tract. Part IV Drugs acting on the central nervous system. Part V Drugs anesthetizing the peripheral nerves. Part VI, Drugs acting upon the autonomic nervous system. Part VII, Drugs acting upon the blood and heart. Part VIII, Systemic anti-infective drugs—sulfonamides. Part IX, Systemic anti-infective drugs—antibiotics. Part X, Internal parasiticides and antiparasitics. Part XI, External parasiticides and antiparasitics. Part XII, Drugs influencing tissue metabolism. Part XIII, Drugs acting directly upon the reproductive system. Part XIV Drugs having special lethal effect. Index.

Note. A comprehensive textbook on drugs of veterinary interest and their uses in veterinary medicine. Background information on the historical development of veterinary pharmacology on the sources of drugs, drug standards, dosage forms, prescription writing, methods of drug administration, and the general principles of pharmacodynamics is covered briefly in the first part. The other parts f the book are devoted to the classes of drugs named in their titles. Together the parts contain 60 chapters. Most of the individual chapters are devoted to descriptions of individual drugs arranged in appropriate subclasses. In most instances the drug is described, and its chemistry method of administration, physiological effects, clinical uses and dosage are concisely described. If a drug is useful on several domestic animals, there are separate discussions of the uses, dosages, etc. for each animal. Literature references are included in the chapters. The author is Professor of Veterinary Pharmacology in Iowa State College. The second edition as published in 1957 946 p., $11.50.

JONES, THOMAS CARLYLE, AND CHESTER A. GLEISER, editors

Veterinary necropsy procedures. Sponsored by The Armed Forces Institute of Pathology and The American Veterinary Medical Association. Philadelphia J B Lippincott Company 1954 136 p. illus (part col'd) 26 cm. $7 50 7881

Contents: The importance of the necropsy by E. A. Benbrook. General principles of necropsy procedure, by H. Smith. Necropsy procedure for the horse, by H. Smith. Necropsy procedure for cattle and sheep, by P Olafson. Necropsy procedure for swine, by L. M. Roderick. Necropsy procedure for the dog and cat, by D L. Coffin. Necropsy procedure for chickens and other birds, by E. L. Stubbs. Necropsy procedure for laboratory animals, by C. Olsen Jr Necropsy procedures for wild animals, by L. J. Goss. Preparation of necropsy protocols, by T C. Jones. Selection and preparation of specimens for laboratory examination, by R. Randall. The collection and preservation of parasitologic specimens, by H. J Griffiths. Suggestions for facilitating laboratory diagnosis of various diseases, by H. R. Seibold. References. Index.

Note. An authoritative and comprehensive manual of good technique in the postmortem examination of animals. It was planned and written to fill gap in English-language literature of eterinary medicine. Procedures are described explicitly and clearly illustrated. The techniques of laboratory diagnostic tests are not included, but the collection of specimens for such tests are adequately described. The list of reference is selected one, classified by disease. There are 50 figures, containing somewhat higher umber of illustrations.

KELSER RAYMOND ALEXANDER AND HARRY W SCHOENING

Manual of veterinary bacteriology Fifth edition. Baltimore The Williams & Wilkins Company 1948 767 p. illus 23 cm. $6.50 7882

Contents (abridged): Bacteria, their morphology physiology and classification. Bacteriological methods. Infection and immunity Bacterial variation. Pathogenic organisms of the class Schizomycetes. Pathogenic fungi. The Protozoa. The filtrable viruses and Rickettsiae. Serology Hematology Preparation of eterinary biological products. Bacteriological examination of milk and water.

has been [illegible] than might be expected, there being only 17 [illegible]. The author is Professor of Veterinary Medicine and [illegible] in the New York State Veterinary College at Cornell University.

ROONEY JAMES R., II

Guide to the dissection of the horse. Third edition. Illustrated by Pat Barrow Ann Arbor J W Edwards, Inc., 1956 183 p. illus. 32 cm. $2.00. 7895

[illegible] A companion work to Habel, Guide to the dissection of the [illegible], described above. It is intended for the use of students in colleges of veterinary medicine, and its purpose is to serve as a guide for the systematic dissection of the horse cadaver. In this edition, there are 17 full-page plates, containing [illegible] larger number of illustrations, and a [illegible]-page bibliography.

RUNNELLS RUSSELL A.

Animal pathology Fifth edition. Ames Iowa State College Press 1954 718 p. illus. (part col'd) 23 cm. $9.50 7896

Contents: Part I General pathology. Introduction. Predisposing [illegible] of disease. The causes of disease (etiology). Disturbances of development. Disturbances in the nutrition and growth of cells. Disturbances of cell metabolism. Death. Defenses of the body against [illegible]. Disturbances in circulation. Tumors. Part II, Special pathology of the systems. Cardiovascular system. [illegible] system and the blood. Respiratory system. Digestive system. Urinary system. Genital system. Nervous system. Part III, Special pathology of the specific infectious diseases. [illegible] bacterial diseases. [illegible] bacterial and protozoan diseases. [illegible] bacterial and fungus diseases. [illegible] virus diseases. [illegible] virus diseases. [illegible] virus diseases. [illegible] diseases with [illegible]. Part IV Special pathology of food-deficiency diseases. Deficiencies of water, [illegible], carbohydrates, and minerals. Vitamin deficiencies. Appendix. Index.

Note: An introduction to the pathology of domestic animals which [illegible] used as [illegible] text in veterinary colleges in the United States of America and other countries. It is used also as a reference book by practicing veterinarians. While pathology is the principal subject, there [illegible] descriptions of the etiology, symptoms, etc., of specific diseases. Revisions and augmentations were made in several chapters in preparing the fifth edition. Among the [illegible] additions is [illegible] discussion of the effects of ionizing radiation on domestic animals. A selection of literature published since the fourth edition was written has been added to the bibliographies. There are now 216 illustrations, and the length of the volume has been increased by approximately 80 pages.

SISSON SEPTIMUS

The anatomy of the domestic animals. Fourth edition. Revised by James Daniels Grossman. With 736 illustrations, many in color Philadelphia W B Saunders Company 1953 972 p. illus. (part col'd) 26 cm. $15.00. 7897

Contents (abridged): Osteology: Skeleton of the horse—The ox—The sheep—The pig—The dog. Arthrology. Myology. Splanchnology. Respiratory system. Urogenital system. Male genital organs. Female genital organs. Angiology. Blood-vascular system of the horse. Lymphatic system. Blood-vascular system of the ox. Lymphatic system of the ox and sheep. Circulatory system of the pig. Circulatory system of the dog. Neurology—the nervous system. [illegible]. The sense organs and common integument of the horse—Of the ox—Of the pig—Of the dog. The chicken: Skeleton of the chicken. Myology. Digestive system. Respiratory system. [illegible] and female generative organs. Circulatory system. Nervous system. Index.

[illegible] First published in [illegible] the work has held for many years the status of [illegible] standard text in schools of veterinary medicine. It provides [illegible] systematic introduction presented from [illegible] comparative viewpoint. The illustrations are of outstanding quality and are well reproduced. The third edition [illegible] published in [illegible]. In preparing this edition, most of the illustrations of the third edition were retained, some deleted, and [illegible] few new ones [illegible] added. No important changes were made in the text.

UDALL, DENNEY HAMMOND

The practice of veterinary medicine with one hundred and sixteen illustrations. Sixth revised edition. Ithaca, N Y The author, 1954 811 p. illus. 24 cm. $8.50 7898

Note: A standard reference book, used by both students and practicing veterinarians. It provides concise, systematic descriptions of the diseases of the larger farm animals including swine. For each disease information on the etiology, morbid anatomy, symptoms, and recommended treatment is given.

UNITED STATES. DEPARTMENT OF AGRICULTURE

Keeping livestock healthy edited by Gove Hambridge and Marion Julia Drown. Washington, D C. Government Printing Office, 1942 1,276 p. illus. 23 cm. (United States. Department of Agriculture. Yearbook of agriculture 1942) $3.25 7899

Contents: 1942 yearbook [illegible]. Foreword—Keep 'em healthy! by C. R. Wickard. Keeping livestock healthy—a summary by G. Hambridge. Part I, Fundamentals of disease and insect control. Losses caused by animal diseases and parasites. Causes of disease. Protective mechanisms against disease. The endocrine glands in health and disease. The relation of genetics to disease. Artificial insemination and disease control. Disinfection and disinfectants. New research aids in disease control. Origin and spread of important insect pests of animals. Regulatory activities in animal-disease control. Fighting disease with knowledge. Part II, Important general diseases common to several species: Tuberculosis and its eradication. Anthrax. Foot-and-mouth disease. Parasites and insects affecting livestock. Bacterial infections and parasites common to man and animals. The screwworm and blowfly problem. Nutritional diseases of farm animals. Plants poisonous to livestock. Part III, Common diseases and parasites of horses and mules. Equine encephalomyelitis. Equine infectious anemia, or swamp fever. Periodic ophthalmia of horses. Glanders. Dourine. Miscellaneous diseases of animals. Internal parasites of horses and mules. Mange in equines. Horse bots and their control. Some insect pests of horses and mules. Part IV Diseases and parasites of cattle. Brucellosis of cattle. Johne's disease. Bovine mastitis. Blackleg. Shipping fever, or hemorrhagic septicemia. Milk fever. Miscellaneous diseases of cattle. Cattle coccidiosis. Cattle tick fever. Anaplasmosis. [illegible] diseases of cattle. Cattle scab and its control. Tapeworm and roundworm parasites of cattle. Bovine genital trichomoniasis. Cattle grubs, or heel flies. The stablefly. The horn fly. Cattle lice. Cattle injuries caused by ingesting foreign objects. Poison poisoning in cattle. Nutritional diseases of cattle. Part [illegible] Diseases and parasites of swine: Hog cholera. Swine erysipelas. Enteritis of swine. Swine influenza. Miscellaneous diseases of swine. Brucellosis (infectious abortion) in swine. Mange of swine. Hog lice. Internal parasites of swine. Trichinosis. Salt tolerance and salt poisoning of swine. Nutritional diseases of swine. Part VI, Diseases and parasites of sheep and goats. Foot rot of sheep. Sore mouth of sheep and goats. Miscellaneous diseases of sheep and goats. Internal parasites of sheep and goats. Sheep scab and its control. Sheep ticks. Goat lice. Pregnancy disease of sheep. Lunger disease of sheep. Part VII, Common diseases and parasites of poultry. Pullorum disease. Fowl paralysis and other forms of the avian leukosis complex. Respiratory diseases of chickens and turkeys. Fowl pox (sorehead). Psittacosis. Miscellaneous diseases of poultry. Internal parasites of poultry. Coccidiosis of the chicken. Poultry lice and their control. Poultry mites. The fowl tick. Bedbugs as pests of poultry. The pigeon fly. Nutritional diseases of poultry. Part VIII, Common diseases and parasites of dogs and cats. Rabies and its control. Distemper of dogs. Three [illegible]. Miscellaneous diseases of dogs and cats. Internal parasites of dogs and cats. Mange of dogs. Ticks affecting dogs. Fleas. Running fits (fright disease). Nonparasitic skin diseases of dogs and cats. Nutritional diseases of dogs and cats. Part IX, Wildlife diseases and parasites. Diseases of wildlife and their relationship to domestic livestock. Diseases of fur-raised game birds. Diseases of fur animals. Index.

Note: This volume is [illegible] comprehensive, popular handbook on the diseases and parasites that attack domestic animals. The chapters are written by various scientists of the Department of Agriculture. Effort [illegible] made to give both the needed practical information and the scientific background of each disease. To this end, for most of the diseases described, the following facts are treated: history, symptoms, diagnosis, treatment, method of eradication,

Part II, Toxicology Part III, Poultry Part IV Fur laboratory and zoo animals. Part V Addendum. Part VI, Index.

Note A useful and reliable work which contains concise descriptions of the diseases and other disorders of all animals for whose care the practicing veterinarian is likely to be concerned, and in addition, compact presentations of basic information on nutrition and other factors in animal health. Diseases are discussed as to causal agents symptoms, diagnosis and treatment. The part entitled Addendum covers such techniques as oxygen therapy veterinary radiology laboratory diagnostic tests, body temperatures, and disposal of dead animals. The volume is well indexed.

MILLER, MALCOLM EUGENE

Guide to the dissection of the dog. Third edition Ithaca, N Y The author, 1952 369 p illus 28 cm $5 75 7889

Contents (abridged) Introduction. The skeletal system. The muscular system. The thorax, neck and pectoral limb. The abdomen pelvis and pelvic limb. The head, the central nervous system, the articulations. Bibliography Index.

Note. The author of this book is Head of the Department of Veterinary Anatomy of the New York State Veterinary College of Cornell University The book was designed for use by beginning students in this College and in other undergraduate colleges of veterinary medicine. It provides detailed directions for the laboratory dissection of a dog cadaver and simultaneously describes the anatomy The text is supplemented by 219 figures, most of which are reproductions of well executed drawings made directly from dissections.

MORGAN, BANNER BILL, AND PHILIP A. HAWKINS

Veterinary protozoology Revised edition Minneapolis Burgess Publishing Company, 1952 187 p illus 28 cm. $5 00 7890

Contents General introduction. Protozoa of the horse. Protozoa of cattle. Protozoa of sheep and goats. Protozoa of swine. Protozoa of the dog and cat. Protozoa of poultry Protozoa of fur bearers. Diagnosis of protozoan infections. Appendix Nomenclature. Parasite-host list. Treatment schedule. Index.

Note A practical handbook for students and graduate practitioners of veterinary medicine. It deals with the protozoan parasites occurring in the domesticated animals of continental North America. Following list of Protozoa of veterinary importance and a general introduction, the parasitic organisms of each animal are briefly described in terms of their morphology pathology life histories, transmission, diagnosis, treatment, and control. Gaps in the knowledge are pointed out with view toward stimulating further research. A special chapter deals with diagnostic techniques. Good lists of literature are included. The first edition was published in 1948. It was well revised for this second edition.

MULLIGAN, RICHARD MICHAEL

Neoplasms of the dog Baltimore The Williams & Wilkins Company 1949 135 p. illus. 23 cm. $4 00 7891

Contents Introduction. Mammary neoplasms. Epithelial neoplasms of skin and adnexa. Neoplasms of mesenchymal origin and of nerve sheath cells. Melanoma. Mast cell sarcoma, lymphosarcoma, histiocytoma. Neoplasms of endocrine glands. Other neoplasms. Technical supplement. Bibliography Index.

Note A compact monograph in which most of the space is given to the commoner neoplasms while the uncommon ones are described rather briefly It is concerned with diagnosis and classification, not with treatment. However data relating incidence to age and sex are included. There are 59 plates, most of which contain reproductions of more than one photograph. Microphotographs of neoplastic tissues predominate, but there are also number of photographs of gross specimens. The book is of interest to teachers and students of veterinary pathology and to practicing veterinarians.

NATIONAL RESEARCH COUNCIL

A review of bloat in ruminants a report of the Committee on Animal Health of the Agricultural Board. Revised 1955 Prepared by the Subcommittee on Bloat, H. H. Cole, chairman. Washington, D C National Academy of Sciences—National Research Council, 1956 64 p 24 cm (National Academy of Sciences—National Research Council. Publication 388) $2 00 7892

Contents. Introduction. Microbiology of the rumen, by R. E. Hungate. Sources of rumen gases, by M. Kleiber Chemical constituents of plants as related to the bloat problem, by W D. Maclay and C. R. Thompson. Physiology of the rumen as related to bloat, by R. W Dougherty Experimental production of bloat, by C. F Huffman. Etiology of bloat, by C. F Huffman and H. H. Cole. Prevention of bloat, by H. H. Cole and H. W Colvin, Jr. Treatment of bloat, by R. W Dougherty Summary of significant findings relating to the bloat problem. References.

Note. The present state of knowledge concerning bloat in ruminants and particularly bloat in domestic cattle is surveyed in this pamphlet, which contains the papers whose authors and titles are given above. There is a bibliography of 354 literature references. The work complements and re-evaluates a previous review of the subject published in the *Journal of animal science*, vol. 4, 1945.

NEWSOM, ISAAC ERNEST

Sheep diseases. Baltimore The Williams & Wilkins Company, 1952 352 p illus. 24 cm. $7 00 7893

Contents Part I, Infectious diseases. Diseases due to bacteria. Diseases due to fungi. Diseases due to protozoa. Diseases due to filterable viruses. Diseases due to rickettsiae. Part II, Parasitic diseases: Diseases due to external parasites. Diseases due to internal parasites. Part III, Non-infectious diseases: Diseases due to deficiency Neoplasms. Diseases of the digestive system. Diseases of the respiratory system. Diseases of the urinary system. Diseases of the genital system. Diseases of the circulatory system. Diseases of the nervous system. Diseases of the skin and of the ear Part IV Poisons. Diseases due to inorganic poisons. Diseases due to organic poisons. Diseases due to poisonous plants—photosensitization. Diseases due to plants containing hydrocyanic acid (prussic acid) Diseases due to plants containing selenium. Diseases due to other plants. Index.

Note. An inclusive textbook and reference manual which is devoted entirely to discussions of specific diseases. The typical essay on a disease covers such points as etiology symptoms, morbidity mortality anatomy treatment, and literature references. The essays on parasitic diseases contain also descriptions of the life cycles of the parasites. There are 118 illustrations and lots of literature references. The book is of interest to practical sheep breeders, veterinarians, agricultural extension workers, and students of veterinary medicine. The author is Dean of Veterinary Medicine of Colorado Agricultural and Mechanical College.

ROBERTS, STEPHEN J

Veterinary obstetrics and genital diseases. Ithaca The author distributed by Edwards Brothers Inc. Ann Arbor, Michigan 1956. 551 p illus 29 cm. $10 50 7894

Contents Part I, Obstetrics Introduction. Obstetrical anatomy Examinations for pregnancy Gestation period—embryology fetal membranes and placenta. Physiology of the gestation period. Diseases and accidents during the gestation period. Parturition. The causes of dystocia. Procedures preliminary to the handling of dystocia. Obstetrical operations for relieving dystocia. Diagnosis and treatment of the various types of dystocia. Injuries and diseases of the puerperal period. Part II, Genital diseases Physiology of reproduction. Infertility in the mare. Infertility in the cow Infertility in sheep and goats. Infertility in swine. Infertility in dogs and cats. Infertility in male animals. Artificial insemination. Index.

Note An introductory textbook which is at the same time comprehensive enough to make it useful for reference. It is designed primarily for the instruction of students in colleges of veterinary medicine and is useful also to practicing veterinarians. The presentation is critical one, and there are many such passages as, "Some authors have suggested that certain male animals develop excessive fatness because of an endocrine disturbance such as hypothyroidism, that predisposes the male to infertility This is possible but has not yet been proved. The chapters on infertility constitute a major part of the volume, although all of the topics mentioned in the chapter titles are discussed in considerable detail. Literature references are included in all chapters. The volume con-

has fewer illustrations than might be expected, there being only 17 figures. The author is Professor of Veterinary Medicine and Obstetrics in the New York State Veterinary College at Cornell University.

ROONEY JAMES R., II

Guide to the dissection of the horse. Third edition. Illustrated by Pat Barrow Ann Arbor J W Edwards Inc., 1956 183 p. illus. 22 cm. $2.00. 7895

Note A companion work to Habel, Guide to the dissection of the ox, described above. It is intended for the use of students in colleges of veterinary medicine, and its purpose is to serve as a guide in the systematic dissection of the horse cadaver. In this edition, there are 12 full-page plates, containing somewhat larger number of illustrations, and [illegible]-page bibliography.

RUNNELLS RUSSELL A.

Animal pathology Fifth edition. Ames Iowa State College Press 1954 718 p. illus. (part col'd) 23 cm. $9.50. 7896

Contents: Part I. General pathology Introduction. Predisposing factors of disease. The causes of disease (etiology) Disturbances of development. Disturbances in the nutrition and growth of cells. Disturbances of cell metabolism. Death. Disturbances of the body [illegible]. Disturbances in circulation. Tumors. Part II, Special pathology of the systems: Cardiovascular system. Hemopoietic system and the blood. Respiratory system. Digestive system. Urinary system. Genital system. Nervous system. Part III, Special pathology of the specific infectious diseases. Suppurative bacterial diseases. Nonsuppurative bacterial and protozoan diseases. Granulomatous bacterial and fungus diseases. Epitheliotropic virus diseases. Neurotropic virus diseases. Viscerotropic virus diseases. Virus diseases with disturbances of leucocyte [illegible]. Part IV, Special pathology of food-deficiency diseases. Deficiencies of water, [illegible], carbohydrates, and minerals. Vitamin deficiencies. Appendix. Index.

Note An introduction to the pathology of domestic animals which is widely used as a text in veterinary colleges in the United States of America and other countries. It is used also as a reference book by practicing veterinarians. While pathology is the principal subject, there are some discussions of the etiology, symptoms, etc., of specific diseases. Revisions and rearrangement were made in several chapters in preparing this fifth edition. Among the major additions [illegible] discussion of the effects of ionizing radiation on domestic animals. A selection of literature published since the fourth edition was written has been added to the bibliography. There are now 274 illustrations, and the length of the volume has been increased by approximately 50 pages.

SISSON SEPTIMUS

The anatomy of the domestic animals. Fourth edition. Revised by James Daniels Grossman. With 736 illustrations many in color Philadelphia W B Saunders Company 1953 972 p. illus. (part col'd) 26 cm. $15.00. 7897

Contents (abridged): Osteology Skeleton of the horse—The ox—The sheep—The pig—The dog. Arthrology Myology Splanchnology Respiratory system. Urogenital system. Male genital organs. Female genital organs. Anatomy. Blood-vascular system of the horse. Lymphatic system. Blood-vascular system of the ox. Lymphatic system of the ox and sheep. Circulatory system of the pig. Circulatory system of the dog. Neurology—the nervous system. [illegible] The sense organs and common integument of the horse—Of the ox—Of the pig—Of the dog. The chicken. Skeleton of the chicken. Myology. Digestive system. Respiratory organs. Male and female generative organs. Circulatory system. Nervous system. Index.

Note First published in 1910, this work has had for many years the status of a standard text in schools of veterinary medicine. It provides a systematic introduction presented from a comparative viewpoint. The illustrations are of outstanding quality and are well reproduced. The third edition was published in [illegible]. In preparing this edition, some of the illustrations of the third edition were revised, some deleted, and a few new ones were added. No important changes were made in the text.

UDALL, DENNEY HAMMOND

The practice of veterinary medicine with one hundred and sixteen illustrations. Sixth revised edition. Ithaca, N Y The author 1954 811 p. illus. 24 cm. $8.50 7898

Note A standard reference book, used by both students and practicing veterinarians. It provides concise, systematic descriptions of the diseases of the larger farm animals including swine. For each disease information on the etiology, morbid anatomy, symptoms, and recommended treatment is given.

UNITED STATES. DEPARTMENT OF AGRICULTURE

Keeping livestock healthy edited by Gove Hambidge and Marion Julia Drown. Washington D C. Government Printing Office 1942 1,276 p. illus. 23 cm. (United States. Department of Agriculture. Yearbook of agriculture 1942) $2.25 7899

Contents: 1942 yearbook committee. Foreword—Keep 'em healthy, by C. R. Wickard. Keeping livestock healthy—a summary by G. Hambidge. Part I, Fundamentals of disease and insect control. Losses caused by animal diseases and parasites. Causes of disease. Protective mechanisms against disease. The endocrine glands in health and disease. The relation of nutrition to disease. Artificial insemination and disease control. Disinfection and disinfectants. How research aids in disease control. Origin and spread of important insect pests of animals. Regulatory activities in animal-disease control. Fighting disease with knowledge. Part II, Important general diseases common to several species: Tuberculosis and its eradication. Anthrax. Foot-and-mouth disease. Protozoa and insects affecting livestock. Bacterial infections and parasites common to man and animals. The screwworm and blowfly problem. Nutritional diseases of farm animals. Plants poisonous to livestock. Part III, Common diseases and parasites of horses and mules. Equine encephalomyelitis. Equine infectious anemia, or swamp fever. Periodic ophthalmia of horses. Glanders. Dourine. Miscellaneous diseases of equines. Internal parasites of horses and mules. Mange in equines. Horse bots and their control. Some insect pests of horses and mules. Part IV, Diseases and parasites of cattle. Brucellosis of cattle. Johne's disease. Bovine mastitis. Blackleg. Shipping fever, or hemorrhagic septicemia. Milk fever. Miscellaneous diseases of cattle. Cattle coccidiosis. Cattle tick fever. Anaplasmosis. [illegible] diseases of cattle. Cattle scab and its control. Tapeworm and roundworm parasites of cattle. Bovine genital trichomoniasis. Cattle grubs, or heel flies. The stablefly. The horn fly. Cattle lice. Cattle injuries caused by ingesting foreign objects. Plant poisoning in cattle. Nutritional diseases of cattle. Part V, Diseases and parasites of swine: Hog cholera. Swine erysipelas. Enteritis of swine. Swine influenza. Miscellaneous diseases of swine. Brucellosis (infectious abortion) in swine. Mange of swine. Hog lice. Internal parasites of swine. Trichinosis. Salt tolerance and salt poisoning of swine. Nutritional diseases of swine. Part VI, Diseases and parasites of sheep and goats: Foot rot of sheep. Sore mouth of sheep and goats. Miscellaneous diseases of sheep and goats. Internal parasites of sheep and goats. Sheep scab and its control. Sheep ticks. Goat lice. Pregnancy disease of sheep. Lamb diseases of sheep. Part VII, Common diseases and parasites of poultry: Pullorum disease. Fowl paralysis and other forms of the avian leukosis complex. Respiratory diseases of chickens and turkeys. Fowl pox (diphtheria). Pneumonia. Miscellaneous diseases of poultry. Internal parasites of poultry. Coccidiosis of the chicken. Poultry lice and their control. Poultry mites. The fowl tick. Bedbugs as pests of poultry. The pigeon fly. Nutritional diseases of poultry. Part VIII, Common diseases and parasites of dogs and cats: Rabies and its control. Distemper of dogs. Feline enteritis. Miscellaneous diseases of dogs and cats. Internal parasites of dogs and cats. Mange of dogs. Ticks affecting dogs. Fleas. Running fits (fright disease). Nonparasitic skin diseases of dogs and cats. Nutritional diseases of dogs and cats. Part IX, Wildlife diseases and parasites. Diseases of wildlife and their relationship to domestic livestock. Diseases of farm-raised game birds. Diseases of fur animals. Index.

Note This volume is a comprehensive, popular handbook on the diseases and parasites that attack domestic animals. The chapters are written by various scientists of the Department of Agriculture. Effort was made to give both the needed practical information and the scientific background of each disease. To this end, for most of the diseases described, the following facts are treated: history, symptoms, diagnosis, treatment, method of eradication,

literature cited. The book is intended to be of use to students of agriculture and technical workers as well as to farmers and veterinarians.

UNITED STATES LIVESTOCK SANITARY ASSOCIATION

Foreign animal diseases, their prevention, diagnosis and control. *Trenton, N J U S Livestock Sanitary Association, 1954* 265 p. illus. 20 cm $1 75 7900

Contents Animal disease problem. Disease control requirements. Local, state and federal responsibility Diseases affecting swine—Cattle—Sheep—Cattle and sheep—Cattle, sheep and swine—Horses—Chickens and other poultry Appendices.

Note This manual is the report of committee of the U. S. Livestock Sanitary Association which is charged with the responsibility of studying the threat of foreign animal diseases that might enter the United States and Canada either by accident or by deliberate acts of sabotage. It presents in a concise, standardized form information on the etiology history clinical features, pathology diagnosis, prognosis, epizootiology control, import restrictions, public health aspects (where applicable) and literature references for between 20 and 30 exotic diseases. It is directed primarily to veterinarians. The information included on treatment and control together with the literature references make the book potentially useful in countries where the diseases are established.

WAY, ROBERT F

The anatomy of the bovine foot, a pictorial approach. Philadelphia University of Pennsylvania Press, 1954 58 p. illus. 27 cm. $4.00. 7901

Note. Addressed primarily to practicing veterinarians and to advanced students who are preparing for this profession, this book provides [illegible] illustrations of the anatomical structures found in the metacarpo-phalangeal (or metatarso-phalangeal) region of the foot of cattle. The illustrations are all reproductions of drawings, and they are large enough so that the details of the depicted structures are clear. They are accompanied by one-page discussions. The author is a member of the faculty of the School of Veterinary Medicine of the University of Pennsylvania.

FORESTRY

ALLEN, SHIRLEY WALTER

An introduction to American forestry. Second edition. New York, McGraw-Hill Book Company, Inc., 1950. 413 p. illus. 24 cm. (The American forestry series, Walter Mulford, consulting editor) $6.50. 7902

Contents: Man and the forest. Building the country with forests. Where our forests are and what they produce. What [illegible] forest is. What forestry is. Forestry that starts with [illegible] forest. Forestry that [illegible] has [illegible]. Defending the forest from fire. Defending the forest from attacks of insects and other animals. Defending the forest from fungous pests and from the elements. Measuring the forest. Harvesting the forest crop. Making forest products adaptable and durable. Beneficial influences and services from the forest. Forestry as [illegible] public policy in the United States. How the Forest Service and other Federal bureaus practice forestry. How the states and communities practice forestry. The practice of forestry on private lands. Education in forestry—the profession of forestry. Forestry and national planning. Appendix. Selected forest-fire statistics. American forest schools. Index.

Note: An inclusive, introductory work used primarily as [illegible] text in college courses and secondarily as [illegible] source of general information about forestry and forest conservation in the United States of America. It is written in [illegible] style, and most of the material is descriptive. The first edition was published in 1938. [illegible] since revisions are apparent in this edition but the book has not been extensively revised.

BAKER, FREDERICK STORRS

Principles of silviculture. New York, McGraw-Hill Book Company, Inc., 1950. 414 p. illus. 24 cm. (The American forestry series, Walter Mulford, consulting editor) $7.00 7903

Contents: Introduction. Forests in general—their form and composition. Ecological classifications of forests. Classification by site, quality and density. Tolerance and crown classes. Water supply of the forest. [illegible] of water by the forest. The photosynthetic process. Nitrogen and mineral nutrition (forest soils). Production of seed. Dissemination of seed. Overwintering losses of seed. Germination of seeds. Establishment, mortality of seedlings. Growth of trees in general. Height growth of trees. Growth of trees in diameter. Growth of trees in volume. Growth of stands. Biology of the growth of stands. Bibliography. Index.

Note: A college textbook in which the chief emphasis is on the physiological aspects of trees and forestry. There are full discussions of such topics as transpiration, the development of [illegible] in the succession stage, survival of seedlings under various conditions, and relations between growing space and production of merchantable timber. A bibliography of 519 references is included. The book is an extensive revision of the first half of the author's *Theory and practice of silviculture*, New York, 1934.

BAXTER, DOW VAWTER

Pathology in forest practice. Second edition. New York, John Wiley & Sons, Inc., 1952. 601 p. illus. 24 cm. $8.50 7904

Contents: Forest disease. The fungi that cause disease. Loss and appraisal of damage. Relation of nursery site and practice to disease incidence. Relation of site and cultural practice to disease incidence in plantations. Relation of site and cultural practice to disease incidence in the mature forest. Relation of fungi and certain other forest pests to disease in the mature forest. Relation of fire and uses of slash and pack loans to disease incidence. Handling and treatment of forest products in relation to decay and certain other defects. Discolorations, stains, and molds in forest (and allied) products. Index.

Note: A practical treatment of tree diseases in the sense that the subject is treated from the viewpoint of professional foresters and others who are concerned with silviculture or with the marketing and use of lumber. Disease in [illegible] and in ornamental tree plantings also is covered from [illegible] practical viewpoint. Approximately equal emphasis is placed on descriptions of tree diseases and on their control. A wide range of useful information has been added in this edition. The new material pertains both to recent developments in the understanding of specific diseases and in control methods.

BELYEA, HAROLD CAHILL

Forest measurement. New York, John Wiley & Sons, Inc., 1931. 319 p. illus. 24 cm. $4.50. 7905

Contents: Introduction to forest measurement. The instruments used in forest measurement. Units of volume. Log rules. Measurements of volume—scaling. The determination of volume in standing trees. The determination of volume in forests. The application of statistical methods. Graphs and curves. Alinement charts and nomographic curves. Form and taper. Volume tables. The age of forests. The study of growth. The yields of forests. Bibliography. Appendix. Index.

Note: This book describes the measurement of forest products, of individual trees, and of forest areas from the practical as well as the theoretical standpoint. Included are the numerous "rules of thumb" which should be known to every timber cruiser, and the more technical refinements of mathematical formulae which only the forest engineer is capable of using. Special attention is paid to the measuring of growth and yield, the development of yield tables, and the application of statistical methods to forest mensuration and to the development of alinement and nomographic charts.

BOERKER, RICHARD HANS DOUAI

Behold our green mansions, a book about American forests with photographs and maps. Chapel Hill, The University of North Carolina Press, 1945. 313 p. illus. 24 cm. $1.50. 7906

Contents: What is conservation? Forest resources of the United States. Recreation for the people. Relation of forests to wild life. Forests and the water supply. Holding the soil. Forests and flood control. Lumber and its by-products. The forest as livestock range. Forestry and agriculture. Fire, the destroyer. Insect enemies. Tree diseases and forest protection. Leadership of the Federal government. Progress of the states in forest protection. Forestry problems in the South. Community forests. Economic factors in private forestry. Index.

Note: The author has presented here with considerable success [illegible] picture of the history of American timber resources and of their very closely integrated role with other phases of our social and economic structure. Although the steps taken by the Federal government in the past several decades are recognized as valuable, there is [illegible] throughout the text the need for [illegible] far more effective kind of forest control: an active, national program, geared to future needs, rather than the mere protection of existing stocks. The questions involved in public ownership of forest lands are treated somewhat indirectly with [illegible] careful avoidance of the larger controversial aspects. The numerous photographs are excellent; there are also diagrams and occasional bibliographic footnotes.

BOYCE, JOHN SHAW

Forest pathology. Second edition. New York, McGraw-Hill Book Company, Inc.,

1948 550 p illus 23 cm (The American forestry series, Walter Mulford, consulting editor) $8 50 7907

Contents. Introduction. Disease. The fungi. Noninfectious diseases. Seedling diseases. Root diseases. Foliage diseases of hardwoods. Foliage diseases of conifers. Stem diseases Rusts of conifers, cankers of conifers, cankers f hardwoods, galls, witches'-brooms, and fasciations, diebacks and wilts. Stem diseases caused by mistletoes, dwarf mistletoes, lichens, and climbers. Stem diseases. decay The rots. Deterioration of dead timber Deterioration of forest products. Decay sap stains. Principles of forest-disease control. Appendices. Fungicides. List of common names f plants used with scientific equivalents. Index.

Note. A comprehensi description of the various diseases which attack forest trees of the United States of America and Canada and of the methods employed in their control. The book is intended for use as a college text and reference manual, and is based on courses given at Yale University No attempt is made to deal with culture methods and other pathological techniques. The general scope and arrangement of this edition remain the same as in the earlier edition, but the material has been revised to incorporate developments which have occurred since 1938.

BRAUN, EMMA LUCY

Deciduous forests of eastern North America. New York McGraw Hill Book Company, 1950 596 p illus 23 cm. $10 00 7908

Contents Part I, Introduction: The forest. Forest ecology and terminology Part II, The deciduous forest formation The deciduous forest as whole. The mixed mesophytic forest region. The western mesophytic forest region—a transition region. The oak-hickory forest region. The oak-chestnut forest region. The oak-pine forest region. The southeastern evergreen forest region. The beech-maple forest region. The maple-basswood forest region. The hemlock-white pine-northern hardwoods region. Part III, The evolution of the present pattern of forest distribution Problems of forest distribution. The paleobotanic record. Disjunct occurrences of species and communities and their significance in forest migration. A brief physiographic history of eastern United States. A chronologic account of forest development correlated with physiographic history The relationships of climaxes and the climax elements of the forest regions. Bibliography Index of scientific and common names. Subject index.

Note. An important reference book written on the basis of more than 23 years of field study throughout the deciduous forests of eastern North America, supplemented by study of the literature of the subject. It provides a broad view of the entire forest area, portraying the present pattern and so far as possible reconstructing the pattern of the original forest, presenting data on composition and aspect of forest communities in all parts of the forest area, and tracing through geologic time the development and distribution of forests in eastern North America. The bibliography includes about 500 references and the illustrative material consists of 84 photographs, 91 tables, and nine maps.

BROWN, NELSON COURTLANDT

Logging, the principles and methods of harvesting timber in the United States and Canada. New York John Wiley & Sons Inc. 1949 418 p illus. 24 cm. $6 50 7909

Content (abridged) Part I, General introduction Forest utilization. Forest resources and stumpage valuation. Forest labor and housing. Partial cutting (selective logging) Part II, Preparation of logs for transport Felling and bucking. Part III, Minor log transportation Animal skidding. Tractor logging. Power logging—cable-hauling systems. Part IV Loading for transport. Part Major land transportation Chutes. Wheeled vehicles—animal and tractor draft. Sleds. Motor trucks. Forest railroads. Part VI, Major water transportation Floating and driving. River and lake rafts and booms. Ocean rafts. Flumes. Barges and steamers. Summary of regional logging methods. Index.

Note: The several books by Professor Brown on various aspects of the lumbering industry are well known to students of forestry and to the industry The present volume brings together in revised form two earlier works *Logging—principles and practices*, New York, 1934 and *Logging—transportation* New York, 1936. It constitutes practical guide to the methods and techniques of felling, handling, collecting, and transporting lumber as practiced in the United States of America and Canada Particularly valuable are the descriptions of equipment, the tabulations of data regarding operating costs and production estimates, and the numerous photographs and diagrams illustrating operating methods. The extensive bibliographies contained in the two earlier volumes ha e been omitted in this revision.

BRUCE, DONALD, AND FRANCIS X. SCHUMACHER

Forest mensuration. Third edition. New York McGraw Hill Book Company, Inc., 1950 483 p illus. 23 cm (American forestry series, Walter Mulford, consulting editor) $7 00 7910

Contents (abridged) Part I, Direct measurement: Measurement of diameter—height—volume—age. Direct estimate by sampling. Averages. Measures of dispersion and the normal curve of error. Sampling. Part III, Indirect estimate based on one or more independent variables. The graphic method of rectangular coordinates. Effectiveness of free-hand curves in t variables. The board foot and the log rule. Estimation of the method of least squares. Estimation by means of two independent variables. The alinement chart. Estimates based on four variables—taper tables and volume tables derived therefrom. Timber cruising. The use of aerial photographs in cruising. Part IV Prediction of growth and yield. Appendix. Index.

Note The principles and basic techniques of forest mensuration, including both standing timber and cut logs, are the subject of this college textbook. The various methods of estimation are presented and methods of handling the variables so that the estimating procedure will yield useful figure are clearly discussed. Practical considerations such as planning the sampling of a forest so as to make the best use of the timber cruiser's time are mentioned. The first edition as published in 1935 and the second in 1942. Several chapters were rewritten and the chapter on aerial photographs was added in preparing this third edition.

CHAPMAN, HERMAN HAUPT, AND WALTER H. MEYER

Forest mensuration New York McGraw Hill Book Company, Inc. 1949 522 p illus. 24 cm. $7 75 7911

Contents (abridged) Elementary computations. Cord or stacked measure. Cubic volume f logs. The measurement of board feet in the log. Construction of log rules. Piece products. Determination of volume f felled trees for the construction of volume tables. Local tree volume tables. The construction of standard volume tables for cubic feet. The construction of alinement charts for standard volume tables for cubic feet. The construction of standard volume tables for board feet. The construction and application of taper tables. The measurement of diameters of standing trees. The measurement of heights of standing trees. The boundary survey and determination of total area. Timber estimating for cubic and cord measure. Timber estimating for board feet by use of log rules. Measurement of piece products in the tree. Fundamental statistical techniques. The age of trees and stands. The growth of trees and of stands. Normal yield tables for even-aged stands and their construction. Periodic and current growth in diameter based on stand tables. Growth percentage. Sample plots. The forest survey or inventory Appendix. Index.

Note. Forest mensuration is treated on an advanced but practical level in this work. The table of contents indicates the wide scope. Not only are log rules and volume tables discussed but the other techniques that may concern foresters and timber surveyors such as the establishing of boundaries in lands surveyed long ago are covered also. Problems, such as the varying contents of the cord and the accuracy of established log rules, are analyzed. The estimating of growth and yields is fully discussed. Extensive bibliographies are included. The book is text for college students of forestry and manual for graduate foresters. It supersedes H. H. Chapman and D B. Demeritt, *Elements of forest mensuration*, 1932

CLINE, ALBERT COLLINS, AND S H SPURR

The virgin upland forest of central New England a study of old growth stands in the Pisgah Mountain section of southwestern New Hampshire. Petersham Mass. Harvard Forest 1942 58 p. illus. 23 cm. (Harvard Forest. Bulletin no 21) $0 50 7912

Contents: Introduction. Description of the Pisgah Mountain area. Method of study. The original forest. Disturbing influences in the virgin forest. Associations within the Pisgah virgin forest. Ecological status of the tree species. Shrubs and herbs. Soils. Summary and conclusions. Appendix. Bibliography

Note: A monograph on the old-growth forest land situated in Cheshire county New Hampshire, in the northwest corner of the town of Winchester, covering an area of approximately 2,000 acres. Tables are presented giving average composition and volume, forest cover types and distribution, associations following old and recent disturbances, stand descriptions and histories, and frequency of occurrence of shrubs and herbs. Destructive agencies independent of man are also discussed.

Craighead Frank Cooper, and others

Insect enemies of eastern forests. Washington, D C. Government Printing Office, 1950. 679 p. illus. 24 cm. (United States. Department of Agriculture. Miscellaneous publication no. 657) $2 75 7913

Contents: Introduction: Relation of insects to forest and ornamental trees. Prevalence and activity of forest insects. Insects and disease. The control of forest insects: Natural control factors and influences. Silvicultural control of forest insects. Insects attacking shade and ornamental trees. Borers in living trees. Insects in nurseries and young plantations. Insects attacking forest products. Bark beetle control. Insecticidal control of insects in the forest, by F P Keen. The use of beneficial insects in the control of forest tree pests, by R. C. Brown. The zoological position of insects and some of their common relatives: Crayfish and sowbugs. Millipedes and centipedes. Scorpions. Pseudoscorpions. Spiders. Harvestmen. Mites, ticks, and red spiders. Marine borers, by R. A. St. George. The forest insects: Practical keys to the orders, families, and genera of forest insects, based on types of injury. Important orders of insects. The termites, by T E. Snyder. Grasshoppers, katydids, walkingsticks, and related forms, by H D. Wygant. Sucking insects, by W L. Baker and others. The beetles, by F C. Craighead and others. Butterflies and moths, by J. V Schaffner Jr. The flies, by R. T. Webber. Hymenoptera: The sawflies and horntails, by J. V Schaffner, Jr., and William Middleton. Bees, wasps, ants, and parasites, by P B. Dowden. Literature cited. Index.

Note: This publication treats in [illegible] practical manner the more important forest insects of the United States of America, east of the Great Plains (or, roughly east of the 100th meridian). The insects are described in systematic order with numerous illustrations, chiefly photographic. Keys to assist in identification are frequent. There [illegible] considerable discussion of practical control methods. The work is [illegible] companion volume to F P Keen, *Insect enemies of western forests* (United States. Department of Agriculture. Miscellaneous publication no. 273).

Davis, Kenneth P

American forest management. New York McGraw Hill Book Company 1954 482 p. illus. 23 cm. (The American forestry series. Henry J Vaux, consulting editor) $7.50 7914

Contents: Part I. Foundations of management: Nature, purpose, and scope of forest management. The forest management situation in the United States. Site, stocking, and spacing. Forest yield and yield tables. Growth. Volume, growing stock, and yield of the fully regulated forest. Determination of the cut. Regulation of even-aged forests. The nature and structure of uneven-aged management. Application of uneven-aged management—cost analysis. Determination of the rotation. Organization and subdivision of the forest for management. Timber management planning and plans. Part II. Valuation: Valuation principles. Interest and investment. The arithmetic of interest. Valuation of forest land and of the timber stand. Valuation of stumpage. Valuation of the tree. Valuation of financial alternatives. Appraisal of damages. Bibliography. Appendix. Index.

Note: An authoritative exposition of principles and practice of forest management directed toward [illegible] sustained yield of merchantable timber from the managed forest. Forestry is represented as business and forest management as [illegible] *kind of business management*. Accordingly there is considerable emphasis on the economics of timber growing. Part [illegible] on management is 281 pages in length, [illegible] [illegible] on valuation is 167 pages long. Both parts are written at [illegible] mature level and are intended for the instruction and guidance of advanced students of forestry and practicing foresters. The author is Professor of Forest Management in the University of Michigan.

Eyre, F H., and W M Zillgitt

Partial cuttings in northern hardwoods of the Lake states twenty year experimental results. Washington, D C. Government Printing Office, 1953 124 p. illus. 23 cm. (United States. Department of Agriculture. Technical bulletin no 1076) $0 40 7915

Contents: Introduction. Characteristics of the northern hardwood forest: Extent and composition. Ecological position, reproductive capacity and species characteristics. Soils and sites. Injurious biological and physical factors. Age and stand structure. Relative value of component species. Summary of characteristics. Management of mature stands. Problems of silviculture and management. Description of experimental area and cuttings. Growth and mortality under different kinds of cutting. Stocking, stand structure, and cutting cycle. Growing quality timber. Natural regeneration. Slash disposal and fire protection. Hemlock stands—a special problem. Recommended silvicultural methods for mature hardwood stands. Treatment of second growth: Characteristics of second-growth stands. Timber stand improvement. Possibilities of commercial thinnings and improvement cuttings. All-aged versus even-aged silviculture. Summary. Literature cited. Appendix.

Note: Within the present century lumbering practice in the hardwood forests of the Lake states—Michigan, Wisconsin, Minnesota—has been gradually altered from clear cutting to [illegible] practice of selective or partial cutting. Those responsible for directing the cutting looked toward sustained-yield forestry in which growth balances cut, but had no extensive scientific proof of the advantages of the newer methods. In 1926, tests were started on the Upper Peninsula Experimental Forest at Dukes, Michigan, to try out partial cuttings and to compare them with the commercial practices then prevailing. This bulletin presents [illegible] comprehensive report of these experiments over the first 20 years.

Flick, Frances Josephine compiler

The forests of continental Latin America (including European possessions) A bibliography of selected literature, 1920–1950 Washington, D C. Government Printing Office, 1952 193 p. 23 cm. (United States. Department of Agriculture. Bibliographical bulletin no 18) $0 45 7916

Contents. Sources consulted. General. Argentina. Bolivia. Brazil. Central America: British Honduras. Costa Rica. Guatemala. Honduras. Nicaragua. Panama. El Salvador. Chile. Colombia. Ecuador. The Guianas: British Guiana. French Guiana. Surinam (Dutch Guiana). Mexico. Paraguay Peru. Uruguay Venezuela. Periodicals. Index.

Note: An annotated bibliography of books and periodicals published between 1920 and 1950. A total of 1,917 books and articles is listed. For each item are given author, title, publication data. Brief annotation follows where scope of the article is not clearly indicated in the title. Outside the scope of the bibliography are such commodities as Hevea rubber, cinchona, and palm products, which are subject to separate bibliographic treatment. Also omitted, or included only incidentally are references on taxonomic botany, wood technology, forest legislation, commodity production statistics, and trade statistics.

Forbes Reginald D

Forestry handbook. Edited for the Society of American Foresters by Reginald D Forbes. Staff editor Arthur B Meyer New York The Ronald Press Company Inc. 1955 1 143 p. illus. 24 cm. $15 00 7917

Contents: Forest mensuration. Forest management—volume tables—yield tables and stocking—cutting budget and annual cut. Geology and soils. Silvics and silviculture. *Protection against fire.* Protection against insects and diseases. Forest wildlife management. Watershed management. Forest range management. Forest recreation. Materials, structures, and facilities. Utilization and wood technology. Economics and finance. Logging. Surveying. Forest road engineering. Aerial photography. Communications. Chemistry and physics of wood. Chemical and physical tables and definitions. Mathematical formulas and definitions. General index.

Note A professional-grade reference book designed for use by practicing foresters and other persons who has technical interests in forestry and forest products. Its comprehensive scope is apparent from the section titles quoted above. The sections are, in most instances, composed of very compact statements of basic information and tabulations of useful data. A bibliography is included in each one. Some of the sections, for instance that on forest road engineering, are generously illustrated. The general index runs to 41 two-column pages and is exceptionally detailed.

FRANK, BERNARD

Our national forests Norman University of Oklahoma Press, 1955 238 p illus. 23 cm. $4 00 7918

Contents How it came about. Profit, pleasure—and something more. Within these borders. Ten thousand loyal servants. Questions for the future. Appendixes National forest recreational and scientific resources. National forests in the United States by states. Stream flow from western national forests. Forest and grazing lands on national forests. Annual values of national forest properties. Index.

Note: The history of the national forests in the United States of America, their current status and their value in regard to the conservation of soil and wildlife, the preservation of recreational areas and a constant supply of timber are recounted in this semi-popular book. The techniques of forestry practices are not described, but the benefits of good forestry management are implied throughout the book. The first appendix is a 39-page state-by-state list of the national forests and their principal features.

GRAHAM, SAMUEL ALEXANDER

Forest entomology Third edition. New York McGraw Hill Book Company, Inc., 1952 351 p illus 24 cm. (The American forestry series, Walter Mulford, consulting editor) $6 50 7919

Contents: Introduction. Historical review Detection and appraisal. Reproductive potential. Environmental resistance. Population levels. Direct control tree insects. Direct control by chemical methods. Insecticides and their effects. Methods of indirect control. Indirect control by parasites and predators. Indirect control by silvicultural practices. Leaf-eating insects. Sap-sucking insects. Meristematic insects. Phloem insects. Phloem-wood insects. Wood destroyers. Bibliography Index.

Note. An introductory work addressed primarily to college students of forestry but potentially valuable to any mature reader in need of survey of the problem f control of insects injurious to forests. The subject is treated from the viewpoint of forestry and even in the chapters on kinds f insects, the author has not attempted to name all the injurious insects. The emphasis is on biological and chemical and control methods and on matters related to control, such as the effects of weather The second edition was published in 1939 In comparison this edition represents very extensive revision with much material on such topics as chemical control, that did not appear in the 1939 edition. There are now 85 figures and a 22-page classified bibliography

GUISE, CEDRIC HAY

The management of farm woodlands Second edition New York McGraw Hill Book Company Inc., 1950 356 p illus 24 cm. (The American forestry series, Walter Mulford, consulting editor) $6 00 7920

Contents. Farm woodlands and forestry The structure and physiology of trees. Ecology of woodlands. The volumes of woodland products. Surveys and maps. The volumes of trees and stands. The increment and yield of growing timber The care and improvement of woodlands. Establishing new woodlands—forest planting. Protection of farm woodlands. The utilization of woodland products. The marketing of woodland products. The durability and preservative treatment of farm timbers. Woodland management. Index.

Note: A standard description of forestry principles and practices applicable to the management of small woodlots and timber stands on farms in the United States of America and especially in the northeastern part of this country The emphasis is on principles and practices that will produce a continual and profitable yield. The book is used chiefly as a college text, however, it is also suitable for use as a manual of practical information. The first edition was published in 1939 This edition lacks most of the statistical material that appeared in the first edition, but useful material has been added on such topics as timber estimating, logging methods, and tree planting.

HAWLEY, RALPH CHIPMAN, AND PAUL W STICKEL

Forest protection. Second edition New York John Wiley & Sons, Inc., 1948 355 p. 24 cm $5.50 7921

Contents (abridged) Man as a source of injury to the forest. Forest fires. Fire prevention. Presuppression activities in fire control detection—communication, transportation and firebreaks—equipment and personnel—fuel reduction and fuel mapping—fire-danger rating—fire-control policy and objectives. Fire suppression. Forest fire insurance. Protection against injurious plants. Protection against insects. Protection against domestic animals. Protection against wildlife. Protection against atmospheric agencies. Appendix. Author index. Subject index.

Note. A general treatment of the agencies that are injurious to forests. Each agency is described as to economic significance, nature and extent of the injury to the forest, and the methods of control. Although the authors have not attempted a comprehensive manual of control methods, they do mention the main details of most techniques and supply references to literature in which fuller discussions may be found. The book is used chiefly as a college text. In addition to routine rewriting to take care of recent developments in the field, this edition is characterized by rather extensive rearrangement of topics in sequence, inclusion of recent references in the chapter bibliographies, and a considerably expanded and more efficient topical index.

HAWLEY, RALPH CHIPMAN, AND DAVID M SMITH

The practice of silviculture. Sixth edition. New York John Wiley & Sons, 1954 525 p. illus. 23 cm. $7.50 7922

Contents. The place of silviculture in forestry Reproduction methods: treatment of stand during the period of regeneration or establishment. The clearcutting method. The seed-tree method. The shelterwood method. The selection method. Methods based on vegetative reproduction. Artificial reproduction by seeding or planting. Slash disposal and prescribed burning. Intermediate cutting: treatment of a stand during the portion of the rotation not included in the period of regeneration. Fillings, improvement in salvage cuttings, pruning, methods of controlling cuttings. In conclusion. Appendix. Author index. Subject index.

Note. This book presents the principles of silviculture against a background of contemporary forestry practice in continental North America, particularly the United States of America and Canada. The best silvicultural practices for these regions are described in considerable detail, and references are given to the professional literature. The first edition was published in 1921 and the fifth edition was published in 1946. This sixth edition is the result of thorough revision and considerable enlargement of the fifth edition. There is more emphasis on ecological principles.

HUNT, STUART SHERMAN

European larch in the northeastern United States, a study of existing plantations. Petersham, Mass Harvard Forest, 1932 45 p. illus 22 cm. (Harvard Forest. Bulletin no. 16) $0.50 7923

Contents: Introduction. Distribution of European larch. Growth and yield. Silvical characters and their influence upon the establishment of larch plantations in the northeast. Susceptibility to injury Culture and management. Summary Properties and uses. Bibliography

Note. A brief, nontechnical account of the qualities of the European larch from the standpoint of practical forestry This tree, native of the high mountains of central Europe, has been successfully planted in the United States of America for about 100 years and is well known for its soil improving qualities, its rapid height growth, and its durability in outdoor construction without the use of creosote and other preservatives. Twenty-nine titles are listed in the bibliography

JOINT COMMITTEE ON FORESTRY OF THE NATIONAL RESEARCH COUNCIL AND THE SOCIETY OF AMERICAN FORESTERS

Problems and progress of forestry in the United States. Washington D C. Society of American Foresters, 1947 112 p. 25 cm. $1.75. 7924

Contents (abridged) Part I, The forest situation in the United States: American forests today. Effect of war on American forests. Forests of Alaska. Forest ownership. The field of wood utilization, by G. A. Garratt. Part II, Public responsibilities and action in forestry: National aspects of the forest problem. National forests. National parks. Other federal forests. Organization of federal action in forestry. State forests. Part III, Problems of private forestry: Factors retarding practice of forestry by private owners. Forestry in the Pacific Northwest, by T. T. Munger. Forestry in the north-[illegible], by I. F. Eldredge. Part IV, Public action in advancing private forestry: Public cooperative activities in forestry. Forest protection. Wildlife conservation. Range management and forest grazing. Forest taxation. Forest fire insurance and credits. Public [illegible]. Part [illegible] Education and [illegible] of cutting on private forests. Part [illegible] Education and research in forestry: Forestry education. Postwar employment of foresters. What kind of students should be admitted to professional forestry curricula? by H. Schmitz. Research in forestry. Summary of recommendations.

Note: The above committee was appointed in 1942 with the threefold purpose of: studying the present forest situation in the United States, evaluating the activities and accomplishments of various branches of forestry, and determining what problems are already being met by existing forest agencies. The present volume is a report of the committees' findings and recommendations. The information is intended for professional foresters, timber owners, educators, and conservation officials.

LARSON, AGNES MATHILDA

History of the white pine industry in Minnesota. Minneapolis University of Minnesota Press 1949 432 p. illus. 23 cm. $7.50 7925

Contents: Minnesota's forest treasure. The lumber industry comes to the Upper Mississippi valley. The home market stimulates the mills at St. Anthony and Winona, 1850–1870. The pinelands of the St. Croix delta become the property of lumbermen. Logging in the St. Croix forests. Rafting and selling downriver. Railroads broaden the market for the white pine of the Upper Mississippi, 1870–1890. Lumber and logs on the Mississippi after 1870. Growth of sawmills in Minnesota, 1870–1890. Logging and driving, 1870–1900. Life in the woods. The downriver sawmills are stilled. The lumber industry in Minneapolis reaches its height, 1890–1905. The Duluth district sends its white pine eastward. The pinelands of northern Minnesota become private property. The operation of [illegible] land laws in the pineland area. The [illegible] of state lands in the pineland area. The new age in logging and sawing. Marketing and prices, especially after 1890. The white pine in the building of the state. Index.

Note: A full-scale history based upon consultation and study of original company records and interviews with persons formerly active in an extensive regional industry. The story is told in detail of the co-operation of the promoters and managers of little and big business units and the lumberjacks and other workers in lumber [illegible], with the help of tools and machines and rivers and lakes, felled the trees, manufactured the lumber and sent it to market. A section of 16 pages of illustrations includes reproductions of many original photographs of loggers at work.

LILLARD RICHARD GORDON

The great forest. New York Alfred A. Knopf 1947 399 p. illus 24 cm. $5 75 7926

Contents (abridged) The backwoods system. Hunting in the wilderness. Cabin in the clearing. Fever and fire. Subsidy for independence. Harvest for progress. Romance in the making. Lumberjack, sawdust, and rafting. Crusade for conservation. Protest from labor. Forest in the machine age. Sylvan heritage. Appendices. Sources of principal quotations. Bibliography. Index.

Note: Of permanent interest to foresters, timber owners, and conservationists, this interesting study contains much for the student of American economic and social history as well as for general readers. In skilful prose the author presents the story of the forest in the United States of America, not as an isolated unit but as a primary influence through three centuries in shaping the American way of life. Careful consideration is given the impact of the forest on colonial personality (development of the "frontier type") on American war and peace, on economics and agriculture, and especially on capital and labor, so that the pageant of the country's history is seen to center around its timber resources. Illustrations are well chosen and numerous, and supplementary and bibliographical material is extensive.

LUTZ, HAROLD JOHN AND ROBERT F CHANDLER, JR.

Forest soils. New York John Wiley & Sons, Inc., 1946. 514 p illus. 22 cm. $7.00 7927

Contents. Introductory. Soil-forming minerals. Soil-forming rocks. Disintegration and decomposition of minerals and rocks. Forest soil organisms. The organic matter of forest soils. Nature and properties of soil colloids. General physical properties of forest soils. The water relations of soils, particularly forest soils. General chemical properties of forest soils. Soil formation. Forest soil classification. Soil erosion and forest-soil deterioration. Appendix. Author index. Subject index.

Note: Essentially this work is a textbook for use in courses offered to forestry students. It provides rather detailed information on the formation, characteristics, and conservation of forest soils as distinguished from soils used for agriculture. It contains very extensive reference lists to which statements in the text are keyed; and it may therefore be used also as a survey guide to the literature of the subject.

MCKINNON FINDLAY STEWART AND OTHERS

Cut-over old field pine lands in central New England a regional study of the composition and stocking of the ensuing volunteer stands by F S. McKinnon G R. Hyde, and A. C. Cline. Petersham, Mass. Harvard Forest, 1935 80 p. illus. 23 cm. (Harvard Forest. Bulletin no. 18) $0.50 7928

Contents: Introduction. Review of related studies. Cut-over old field pine land: conditions immediately following logging. Method of collecting data. Analysis of data. Conclusion. Bibliography and appendix.

Note. To ensure a reliable appraisal of growing stock conditions on the cut-over "old field" pine lands of central New England and to bring conclusive evidence to bear on the question of their susceptibility to cultural treatment, the authors examined 225 individual stands within an area of 1,500 square miles. The findings show that over three-quarters of the area formerly covered with pine now supports mixed hardwood stands, and that the great majority of these have at an early age the requisites of high quality sawtimber production.

MEYER, HANS ARTHUR, AND OTHERS

Forest management. By H. Arthur Meyer Arthur B Recknagel and Donald D Stevenson. New York The Ronald Press Company 1952 290 p. illus. 24 cm. $6.00. 7929

Contents. Part I, Introduction: Scope and objectives of forest management. History and present status of forest management. Part II, General organization of forest property for management: Ownership, boundaries, and subdivisions of forests. Maps and classification of forest conditions. Actual growing stock and growth. The development and improvement of forests. Business aspects of forest management. Part III, Forest regulation: Problems and scope of forest regulation. The normal even-aged forest. The normal uneven-aged forest. Methods of regulation of cut. Part IV Management plans: Types and forms of management plans. Farm woodlands and other small forest properties. Management plans for medium and large forests. Control and revision of management plans. Index of names. Index of subjects.

Note: The chief distinctive feature of this text is its presentation of the principles of forestry from the standpoint of American conditions, where such factors as higher labor costs and lower product costs make inapplicable some of the principles and techniques developed in Europe. Such problems as the determination of

a "best" plan of rotation are discussed against the historical background and the economic, technical, and silvicultural factors in American forestry As the title indicates, the book is about management. Though problems of finance, logging, protection, etc., are noted as closely influencing the execution of management plans, they are not developed. Both European and United States of America literature is included in the lists of literature references. One of the authors is a college teacher of forestry one is on the staff of a large paper company and one is a staff member of the United States Department of Agriculture.

PRESTON, JOHN FREDERICK

Farm wood crops. New York McGraw Hill Book Company, Inc., 1949 302 p illus 24 cm. (The American forestry series, Walter Mulford, consulting editor) $6 00 7930

Contents Introduction. National aspects of farm woodlands of the United States. Financial value of woodlands in the farm business. Other farm woodland values. Problems of forestry on the farm. Assistance available to farmers. Farm planning involving the woodland. Developing a farm woodland enterprise. Practices on farm woodlands. Establishment of new woodlands. Tools and equipment. Building a farmer clientele. Appendixes. References in the text. Bibliography Glossary Index.

Note This book is concerned primarily with the principles of handling farm woodland as a branch of general farming and secondarily with the actual techniques of forestry It is a simplified text book of farm forestry intended both as a text for students and as a technical guide for farmers wishing to develop a farm-woodland enterprise. It may also be useful to conservationists who wish to show farmers the financial and other advantages of farm-woodland enterprises.

RAUP, HUGH MILLER, AND REYNOLD E CARLSON

The history of land use in the Harvard Forest. Petersham, Mass. Harvard Forest, 1941 64 p illus 23 cm. (Harvard Forest. Bulletin no 20) $0 65 7931

Contents Forward. Introduction. Previous work. Methodology History of agriculture. Local industries. Petersham in decline. Forest history Appendix. Bibliography

Note. This history since 1733 of the land in the Harvard Forest of 2,300 acres at Petersham, Massachusetts, is based upon the premise that present-day forest management cannot be carried on effectively without some knowledge of past land use. Although the study is chiefly of interest to foresters, it also presents a valuable picture of the economic and social development of this typical small New England town.

SAND NORBERT H, AND MILTON M BRYAN editors

Managing the small forest. By Forest Service, Soil Conservation Service and Extension Service Washington D C Government Printing Office 1947 61 p illus. 23 cm. (United States Department of Agriculture. Farmers bulletin no 1989) Gratis 7932

Content Introduction. Silviculture—growing and tending the forest What a small forest should look like. Helping the forest to grow Harvesting the timber crop. Perpetuating the forest Planting trees What trees to plant Sow seeds or plant seedlings. Preparing to plant seedlings. Planting the seedlings. Protecting the small forest Fire. Disease. Insects Grazing damage. Other protection. Measuring the forest Integrated use. Measuring and grading sawlogs. Estimating standing timber Veneer logs. Poles and piling. Pulpwood. Ties. Mine timbers. Bolts and billets Fuel wood. Cutting the timber crop Tools. Handling sawlogs. Cutting other timber products. Caring for timber products Selling forest products Finding a market. Sales contracts. Cooperatives for selling timber Sample timber sale agreement.

Note. The information in this publication is intended to provide the owner of the small forest with simple rules of good forest management so that his trees may be vigorous and productive.

SHIRLEY, HARDY LOMAX

Forestry and its career opportunities. New York McGraw Hill Book Company, Inc., 1952 492 p illus 24 cm. (The American forestry series Henry J Vaux, consulting editor) $6 75 7933

Contents The meaning of forestry Forestry throughout the ages. The development of forestry in the United States. Forest regions. Protecting forests. Forest care and use. Harvesting timber crops. Lumber manufacture and sale. Wood, its nature, and uses. Wood chemistry paper and plastics. Secondary forest products. Wildlife and range management. Forests and recreation. Protecting soil and watersheds. The business of forestry Social benefits of forestry World and national forest resources. Recent programs and progress. Proposed programs of forestry The profession of forestry Employers of foresters. Forest employment by regions and fields. Education in forestry Research in forestry Administration in forestry Trends and outlook in forestry Index.

Note. A survey book that presents a picture of contemporary forestry in relation to the national and world economy and also describes the scope and techniques of forestry It is addressed particularly to young people who are thinking of adopting forestry as a career but its scope is wide enough to make it useful to general readers and others in need of general information on forestry The author is Dean of the College of Forestry of Syracuse University

SOCIETY OF AMERICAN FORESTERS

Fifty years of forestry in the U S A. Edited by Robert K. Winters. Washington Society of American Foresters 1950 385 p 24 cm $4 00 7934

Contents. The first half century by Robert K. Winters. Forest protection, by H. T Gisborne. Silviculture, by F S. Baker. Forest management, by H. H. Chapman. Forest utilization, by Nelson C. Brown. Range management, by L. A. Stoddart. Forest wildlife management, by Warren W Chase. Forest influences, by Bernard Frank. U S. Forest Service, by Lyle F Watts. U S. Department of the Interior by John F Shanklin. Other Federal agencies, by S. Blair Hutchison. State forestry by Joseph S. Illick. Industrial forestry by W B. Greeley Farm forestry by Joseph F Kaylor. The Society of American Foresters, by Shirley W Allen. Citizen and trade associations dealing with forestry by Charles A. Gillett. Education in professional forestry by Ralph S. Hosmer. Forest research, by S. B. Show Appendixes. Literature cited. Index. [Samuel T Dana. American and world forestry]

Note. The major aspects of the development of forestry in the United States of America are covered in this sponsored work. Considerable attention is paid to the enactment of legislation, the growth of government agencies, and the development of forestry as a profession. Apparently because of space restrictions many of the chapters are little more than outlines, but important dates are given and outstanding men and associations are named. The bibliographies are not comprehensive but are limited more or less to the publications referred to by the various authors in their papers.

SOCIETY OF AMERICAN FORESTERS

Forestry and related research in North America. Prepared by Frank H Kaufert and William H. Cummings for the Society of American Foresters Forestry Research Project. Washington D C Society of American Foresters 1955 280 p. illus. 23 cm. $5 00. 7935

Contents (abridged) Part I, Forestry and related research in the United States. Recommendations and goals. Research in our national economy The importance of forests and related resources. Development of forestry research. Scope of the present study The national program summarized. Timber production research. Forest products and utilization. Forestry-related management research—Recreation. Forestry wild-life—Range—Watershed management. Part II, Forestry and related research in Canada, prepared by Samuel T Dana. Part III, Forestry and related research in Mexico, prepared by Enrique Beltran. Index.

Note The accomplishments of forestry research in the United States of America, [illegible] current status and recommended goals for

the forests are all discussed in this authoritative survey. Agencies engaged in forestry research are named and data are given on expenditures on forestry research in 1953. Much the same pattern is followed in the part on Canada. In contrast, the Mexican survey is largely devoted to a review of published literature.

SOCIETY OF AMERICAN FORESTERS

Forestry terminology. A glossary of technical terms used in forestry. Original edition compiled and edited by Committee on Forestry Terminology, Ralph C. Hawley, chairman. Revised edition compiled and edited by Committee on Forestry Terminology, Edward N. Munns, chairman. Washington, D.C. Society of American Foresters 1950. 93 p. 26 cm. 7936

Note: An alphabetical listing, with definitions, of words and terms used by foresters. The scope of the contents is shown by the names of the ten subcommittees of the Committee on Forestry Terminology responsible for the publication: Forest entomology. Forest fire. Forest pathology. Lumbering and wood-using industries. Forest management. Forest mensuration. Range management. Recreation and wildlife. Silviculture. Wood technology; these subcommittees decided on terms to be included and excluded and were responsible for the drafting of the definitions. Some words have been included which were omitted from the 1944 edition, added definitions have been given for many terms, and in certain cases definitions have been rewritten. A total of 2640 words and terms are defined, aside from which the vocabulary contains many cross references. A new edition was published in 1958, $1.50.

SPAULDING, PERLEY

Diseases of North American forest trees planted abroad. An annotated list. Northeastern Forest Experiment Station, Forest Service. Washington, D.C. Government Printing Office, 1956. 144 p. 23 cm. (United States. Department of Agriculture. Agriculture handbook no. 100) $0.45 7937

Contents: Introduction. The diseases: Viruses. Bacteria. Fungi. Mistletoes. Host index of the diseases. Species planted abroad. Locations of foreign plantings.

Note: This is the first of a projected line of handbooks on the diseases of North American forest trees resulting from a survey of the infectious forest-tree diseases of the world. The term trees is used in the broad sense to include trees, shrubs, and woody vines, but diseases of fruit and nut trees are included only if the trees are growing in a wild state. The causal agents include viruses, bacteria, fungi, and the mistletoes; by definition, diseases caused by the lichens and those caused by animals, e.g., insects and nematodes, were excluded from the survey. The handbook lists and describes the foreign plant pathogens that have been reported to attack North American trees abroad, indicates the seriousness of the attack, and includes a host list of these diseases. Lists are also given of the chief foreign plantings of North American trees.

SPURR, STEPHEN HOPKINS

Aerial photographs in forestry. New York. The Ronald Press Company 1948. 340 p. illus. 24 cm. $6.50 7938

Contents (abridged): Part I, Aerial photographs: Types of aerial photographs. Films, filters, and theory of photography. Scale and focal length. Obtaining and handling aerial photographs. Part II, Aerial surveying: Overcoming displacement by radial line triangulation. Transfer of detail from single photographs. Stereoscopy. Stereoscopic transfer of planimetric detail. Topographic mapping from aerial photographs. Part III, Photo-interpretation: Techniques and principles of photo-interpretation. Tree species. Stand density and crown diameter. Tree heights. Part IV, Forestry applications: Forest mapping. Volume estimation from aerial photographs. Use of photographs in control of ground inventory. Index.

Note: A considerable amount of periodical literature on the applications of photogrammetric techniques to forestry has appeared, but this seems to be the pioneer book. It is mainly a digest and critical review of the literature which is cited in bibliographies appended to the chapters. It is useful to advanced students of forestry and others interested in investigating and extending the present techniques, and to managers of large tracts of forests. The author is Associate Professor of Forestry at the University of Minnesota.

SPURR, STEPHEN HOPKINS

Forest inventory. New York. Ronald Press Company 1952. 476 p. illus. 24 cm. $8.50 7939

Contents: Part I, Forest measurement: Tree measurement. Measurement of trees and stands on aerial photographs. Sample plots. Part II, Volume estimation: Tree-volume computation. Theory of tree-volume estimation. Methods of volume table construction. Total cubic-foot volume. Factors affecting total cubic-foot volume. Merchantable cubic-foot tree volume. Board-foot tree volume. Tree-volume tables for use with aerial photographs. Direct estimation of stand volume. Part III, Growth estimation: The growth of trees and stands. Continuous inventory. Stem analysis. Stand-table projection. Yield tables. Growth tables. Density. Site. Growth correlations. The two-way method of predicting growth. Part IV, Sampling and inventory design: Theory of sampling. Sampling applied to forest inventories. Ground surveys. Aerial photographic surveys. Combined photographic and ground surveys. Aerial photocruise tests. Large-scale European and American surveys. Bibliography. Index.

Note: The increasing use of aerial photographs in determining not only the kind of trees on a forest area but also—in some cases—the volume of harvestable timber has prepared the way for this comprehensive, critical presentation of currently useful techniques of forest mensuration. The uses and limitations of aerial photographs are discussed fully and practical techniques for combining aerial surveys with the ground cruising of sample plots are described. The book is addressed to advanced students of forestry and to persons who are professionally in charge of large-scale forestry and timber projects. Information from the published literature and original material based on the author's investigations are both included. Literature citations are included in the text and the book concludes with a comprehensive bibliography.

SWEZEY, OTTO H.

Forest entomology in Hawaii: an annotated check list of the insect fauna of the various components of the Hawaiian forests. Edited by R. H. Van Zwaluwenburg. Published in collaboration with the Hawaiian Botanical Society and the Hawaiian Entomological Society. Honolulu. Bernice P. Bishop Museum 1954. 266 p. illus. 25 cm. (Bernice P. Bishop Museum. Special publication 44) $4.00 7940

Note: A reference book on the insects which are associated with the trees in Hawaiian forests. It covers the subject comprehensively from the standpoint of entomology rather than of forestry or economic entomology. The arrangement is by host plant. The information given establishes the relationship between the hosts and the insects and cites the literature in which the original description of the insect is to be found. The insects themselves are not described; however, pictures of a considerable number of them are included. The bibliography runs to 17 pages and constitutes a useful guide to the literature on Hawaiian insect fauna. The volume is fully indexed.

TOUMEY, JAMES WILLIAM

Foundations of silviculture upon an ecological basis. Second edition, revised by Clarence F. Korstian. New York. John Wiley & Sons, Inc., 1947. 468 p. illus. 24 cm. $6.50 7941

Contents: Introduction—Definitions and generalities. Part I, Environment of forests: Solar radiation. Air temperature. Atmospheric moisture. Climate. Soil conditions. Soil moisture and its influence on forest vegetation. Physiographic conditions. Biotic factors. Interaction of site factors. Part II, Influence of forests on their environment: Reaction of forest vegetation on its physical environment. Effect of forests on animal life, particularly mankind. Part III, For-

ests: Form and life of forest trees. Differentiation and development of stands. Reproduction, growth, and yield of stands. Tolerance. Forest vegetational units and their classification. Origin and development of forest communities—forest succession. Appendix. Common and technical names of trees. Bibliography Index.

Note: A comprehensive study of the distribution of forest vegetation in the United States of America and of the various causes which affect its existence and growth. The book is intended for use in college courses in silvics, and the treatment assumes a prior knowledge of botany and plant physiology This edition has been enlarged to include some of the more recent advances in forestry ecology and plant physiology A few chapters have been rewritten, but the general scope and arrangement of the earlier edition have been retained. Approximately 30 references to articles and books published after the 1917 edition are cited in the 32-page bibliography

UNITED STATES DEPARTMENT OF AGRICULTURE

Trees, the yearbook of agriculture, 1949 Washington, D C. Government Printing Office, 1949 944 p illus. (part col'd) 24 cm. (United States. Department of Agriculture. The yearbook of agriculture, 1949) $2 75 7942

Contents (abridged) The editor to the reader by A. Stefferud. The tree: A tree is living thing, by N T Mirov Trees remembered and remembering, by G. H. Collingwood. Trees and homes: Trees for the country home, by W H. Larrimer City trees, by L C. Root and C. C. Robinson. Shade trees for the Northeast, by A. M. Waterman and others. Shade trees for the Southeast, by E. M. Lindgren and others. Shade trees for the Plains, by R. Wright and T W Bretz. Shade trees for the Rockies, by L. S. Gill. Shade trees for California, by W W Wagener. Shade trees for the north Pacific area, by T W Childs. Forests and men: The community of trees, by J H. Buell. Forest types of the United States, by W A. Dayton. Forests and soils, by J T Auten and T B Plair Forest renewal, by L. I. Barrett. Direct seeding of trees, by W R. McQuilkin. Amateur tree breeders? Why not? by E. J Schreiner Production of planting stock, by F M. Cossitt and others. The small woodland Cash crops from small forests, by R. E. McArdle. Cooperatives and small woodlands, by A. W Bratton. Windbreaks and shelterbelts, by J H. Stoeckler and R. A. Williams. The job of planting trees survey by P C. Wakeley and G. W Jones. How to care for your small forest, by M. M. Bryan. Harvesting the small forest, by A. M. Sowder The farmer and Christmas trees, by A. M. Sowder Company forests: Large private holdings in the North, by H. L. Shirley Private forestry in the West, by C. L. Tebbe and H. J Andrews. Forestry on large ownerships in the South, by J H. Stone and others. Naval stores, the industry by J Ward. N val stores, the forests, by C. E. Ostrom and J. W Squires. The national forests The people's property by C. M. Granger Appalachian comeback, by M. A. Mattoon. The AuSable cooperative, by J E. Frason. Evolution of management on Chippewa, by H. B. Wales. Forestry in the Black Hills, by A. F C. Hoffman and T Krueger. New security for forest communities, by D J Kirkpatrick. Rebuilding southern forest, by F A. Albert. Pine forests of California, by B. O Hughes and D Dunning. Forests of Alaska, by B. F Heintzleman. The administration of national forests, by E. W Loveridge. Projects of many uses State forests, by S. G Fontanna. Community forests, by G. A. Duthie. Arboretums, places of beauty and science, by W H. Larrimer and E. J Schreiner Insects, diseases, parasites. Insects in the forest, a survey by F C. Craighead and J M. Miller The key to protection by S. A. Rohwer The spruce budworm, by R. C. Brown and others. Pine bark beetles, by F P Keen. Insects in wood products, by T E. Snyder Controlling the tussock moth, by P H Roberts and J C. Evenden. Diseases and the forest, by L. M Hutchins. Dutch elm disease, by R. U Swingle and others. Blister rust on white pine, by J F Martin and P Spaulding. Breeding and selecting pest-resistant trees, by R. B Clapper and J M. Miller The airplane in forest-pest control, by J S. Yuill and C. B. Eaton. Fire, friend and enemy Building a fire organization, by R. S. Pierce and C. A. Gustafson. Forest fire danger by G. L. Hayes. Fighting fires from the air by C. S. Crocker Fire as tool in southern pine, by A. W Hartman. Fun in the forests New values in the minds of men, by L. F Kneipp. Trail riding in the wilderness, by S. W Allen. Treasures of the nation, by C. L. Wirth and J H. Gadsby Safety for forest visitors, by R. S. Monahan. Forests and wildlife Forests as a wildlife habitat, by L. W Swift. Trees and food from acorns, by A. A. Downs. Managing Utah's big-game crop, by D I. Rasmussen and D M. Gaufin. Forests and fish, by P R. Needham and F W Johnson. Action on the Blue Ridge, by T C Fearnow and L. T Quinn. Watersheds and how to care for them, by G. W Craddock and C. R. Hursh. T help control floods, by G. R. Phillips and B. Frank. Wood in use: Seasoning of wood, by R. C. Rietz. Preservative treatment of wood, by T R. Truax. Fungi and wood, by C. Hartley The gluing of wood, by D. Brouse. Chemicals from wood, by A. J Stamm. The Forest Products Laboratory by G. M. Hunt. The foresters' calling: Education in forestry by S. T Dana. Teachers and conservation, by J L. Bostwick. National forest personnel, by H. D Cochran. Industrial forestry associations, by C. Collins. Picturing forests from the air, by R. D. Garver Railroads and foresters, by R. N Hoskins. Yesterday and today: The history of forestry in America, by W N Sparhawk. Today and tomorrow: Forest resources and the nation's economy by E. C. Crafts and M. A. Dietz. The world forest situation, by S. B. Show. A national program for forestry by L. F Watts. Lists and other aids: Important forest trees of the United States, by E. L. Little, Jr. Fifty trees from foreign lands, by E. L. Little, Jr. Key for the identification of woods without the aid of a hand lens or microscope, by A. Koehler. Trees best adapted for special purposes. A vacation guide National forests. Natural areas. Areas administered by the National Park Service. Public forest-tree nurseries. State forestry agencies. Publications of the Forest Products Laboratory For further reading a bibliography Some words woodsmen use. Index.

Note: The purpose of this large collection is explained in the words of the editor: "We have tried here to put into clearer perspective some items of history importance, administration, and outlook that so far have been in scattered form. We have tried to tell the essentials of choosing, planting, and growing trees as farm crop, as a renewable national treasure, as a necessary part of country and city life. We have tried to make a book that is practical and useful for all Americans and interesting and inspiring for those who are unaware of the beauty and delight of the woods. The papers were written for the work by many outstanding specialists in forestry conservation and related fields.

UNITED STATES FOREST SERVICE

Woody plant seed manual. Prepared by the Forest Service. Washington, D C. Government Printing Office, 1948 [i.e. 1949] 416 p. illus. 27 cm. (United States. Department of Agriculture Miscellaneous publication no. 654) $3 75 7943

Contents (abridged) Part I, Seed and its development: Flowering. Pollination and seed formation. Seed structure. Types of seed. Seed ripening. Germination. Biological changes during germination. Types of germination. Seed production and dispersal. Source of seed. Collection, extraction, and storage. Treatment of seed prior to sowing. Seed testing. Literature cited. Part II, Bibliography Use list: Wood production. Erosion control. Shelter belts. Wildlife purposes. Ornamental planting. Glossary Index of plant names used in part II.

Note: A manual of information on all phases of woody-plant seed handling for seedsmen, nurserymen, and foresters. It contains the results of more than 20 years of studies. The information on such points as the time of seed ripening, behavior of the seed after planting, viability storage of seed, and pretreatment to induce prompt germination is based on both laboratory and field tests and practices. The first part gives general principles on the various phases of seed handling from formation of the seed to sowing; the second part provides detailed yet concise information on the seeds of all principal American species and varieties of trees and shrubs, including data on distribution and use, discussions of seeding habits, methods of seed collection, extraction and storage, seed germination, and nursery and field practice, with illustrations of the seeds and seedlings. As the manuscript of the manual was completed for publication at the beginning of World War II, the bibliography for the most part lists no publications later than 1941

WACKERMAN, ALBERT EDWARD

Harvesting timber crops. New York Mc Graw Hill Book Company Inc. 1949 437 p. illus. 24 cm. (The American forestry series Walter Mulford consulting editor) $6.75 7944

Contents. Introduction. Part I, Considerations preliminary to actual harvesting: Timber crops—the goal of forestry The development of forest industries in America. The origins of modern timber-harvesting methods. Planning the timber harvest. Wood

bles. Part II, Preparation of trees for removal from the forest. Marking of trees to cut. The felling operation. Bucking felled trees. Barking, skidding, and peeling. Tools used in felling, bucking, and processing trees. Part III, Movement of products from the forest. Bunching products in the forest. Skidding forest products. Loading forest products. Transportation of products from the forest. Part IV, Organization and control of harvesting operations. Measurement of forest products. Organization of harvesting operations. Costs and records. Regional harvesting practices: The Northeast, by F. C. Simmons. The Lake states, by G. Brouhard. The western pine region, by T. J. Orr, Jr. The Douglas fir region, by W. D. Reynolds. California redwood, by E. Fritz. Southern hardwoods, by E. R. Lien. The southern pine region, by W. C. Hammerle. Selected references. Index.

Note: A well-organized text which is designed for college students of forestry and practical foresters. Emphasis is on the forestry aspects rather than on the engineering aspects of harvesting, although the third part of the book dealing with the movement of products from the forest necessarily covers certain of the engineering phases of the operations. A feature of the volume is the section on regional harvesting practices, written by regional authorities on timber harvesting in different parts of the United States of America.

WAKELEY PHILIP C

Planting the southern pines. Washington, D.C., Government Printing Office 1954 233 p. illus. 27 cm. (United States. Department of Agriculture. Agriculture monograph no. 18) $2.75 7945

Contents: Introduction. Planting policies. Seed. Nursery practice. Planting. Plantation care. Summary of important points. Literature cited. Appendix.

Note: An illustrated summary of available technical knowledge on pine planting, the bulk of it drawn from studies conducted by the Southern Forest Experiment Station since 1922 and from records of Region 8, U. S. Forest Service. Some of the findings are here published for the first time. The publication supersedes U. S. Department of Agriculture, Technical bulletin, 492. The author places main emphasis on the four principal southern species of pine: loblolly (*Pinus taeda* L.), slash (*Pinus caribaea* Engelmann), longleaf (*Pinus palustris* Mill.) and shortleaf (*Pinus echinata* Mill.). In the appendix are 35 pages of useful information on such topics as safety rules, insecticides, fungicides, guide to drying of seed, directions for germination tests, and directions for correct planting with hand tools.

WESTVELD RUTHFORD HENRY

Applied silviculture in the United States. Second edition. New York John Wiley & Sons, Inc., 1949 590 p. illus. 24 cm. $6 75 7946

Contents: Northeast spruce-hardwood region. New England white pine region. Oak region. Allegheny hardwood-pine-hemlock region. Southern Appalachian region. Southern pine region. Southern bottomland hardwood region. Central hardwood region. Lake States region. Douglas-fir region. Northern Rocky Mountain region. Lodgepole pine region. Southwest ponderosa pine region. California pine region. Northwest ponderosa pine region. Black Hills ponderosa pine region. Redwood region. Southeastern Alaska. Appendix: Common names of trees and their scientific equivalents. Common names of insects and their scientific equivalents. Common names of diseases and some of their causal agents with their scientific equivalents. Author index. Subject index.

Note: A textbook on the application of silviculture in the 18 chief forest regions of the United States of America. It presents the fundamental principles of the ecology and economics of each of the forest regions with a view to giving the student a broad outlook of silvicultural problems. The book may also be useful as a reference book for the practitioner, especially since it contains at the close of each chapter a comprehensive list of references. The revised edition takes account of advances in silviculture since 1939. In the handling of data on prices, costs, and profits the author has, wherever possible, substituted references to dollars and substituted man-hours of time or ratios to show relative values. Other changes include those made to conform with revised lists of tree names and forest-type classifications and additions to the bibliographies so as to include references to publications issued 1939–1948.

WESTVELD RUTHFORD HENRY, AND RALPH H. PECK

Forestry in farm management, by R. H. Westveld and the late Ralph H. Peck. Second edition, revised by R. H. Westveld. New York John Wiley & Sons, Inc., 1951 340 p. illus. 24 cm. $5.50. 7947

Contents (abridged): Forest trees in balanced agriculture. Growing forest-tree crops. How to improve and perpetuate existing farm forests. How to establish new farm forests. Measuring volumes and growth of farm forests. Making trees into the most valuable wood products. Marketing farm-forest products. Management of farm forests for special products. How farm forests may aid wildlife. Appendix. Index.

Note: The value and usefulness of forests to farmers, the methods of handling them, and the means of making them real farm assets are set forth in this book. It is divided into two parts, the first giving an account of the fundamental principles of modern farm forestry, the second (the appendix) presenting certain basic information, such as log and volume tables. The second edition has been brought up to date and expanded and in some respects reorganized. It discusses the new equipment and the new techniques of the decade between the first edition and the second edition, the most notable being the power saws and the tree-planting machines which have reduced both the amount of labor needed and the cost of harvesting and planting trees. The references at the ends of the chapters have been revised. A new chapter has been added on the public and private aid available to farm-forest owners in the United States of America. Persons concerned with forests on farms, whether as farmers or county agricultural agents or teachers of vocational agriculture or students in agricultural colleges, find this book of basic value.

WILDE S A., AND G K. VOIGT

Analysis of soils and plants for foresters and horticulturists (diagnosis of soil productivity by field and laboratory methods) Ann Arbor J W Edwards, Inc., 1955 117 p. illus. 22 cm. $3 75 7948

Contents (abridged): Introduction. Part I, Analysis of physical properties of soils. Part II, Analysis of chemical characteristics of soils. Part III, Analysis of ground water. Part IV, Analysis of biological and microbiological properties of soils, organic residues, and composts. Part V, Floristic and mensuration analyses. Part VI, Analyses of plant tissue. Part VII, Analysis of nursery stock. *Appendices:* Notes pertinent to chemical analysis of soils. Soil fertility standards for raising nursery stock and critical content of nutrients in soils of planting sites. Conversion factors commonly used in soil and timber analyses. International atomic weights of elements important in soil analyses.

Note: This book discusses the special problems of analysis of forest soils and other soils supporting woody plants, and describes specific techniques for physical, chemical and fungal investigations. Among the techniques offered for the analysis of physical properties are ones for determination of organic matter content, water holding capacity and air permeability. Included among those for chemical characteristics are techniques for determination of exchange properties, total carbon, and available nutrient elements. The techniques for analyses of biological and microbiological properties include several for detection of mycorrhizae and the determination of the effect of volatile substances released by soil humus and composts. All are described explicitly. Selected literature references are included in each section. The book is addressed to scientists and technicians who are familiar with the general principles and techniques of chemical analyses, and is designed for practical use in connection with the management of forests, nurseries, and orchards. The authors are members of the faculty of the University of Wisconsin.

FOREST PRODUCTS

BROWN NELSON COURTLANDT

Forest products the harvesting, processing and marketing of materials other than lumber including the principal derivatives, extractives and incidental products in the

United States and Canada. New York John Wiley & Sons, Inc., 1950 399 p illus 21 cm $6 50 7949

Contents (abridged) Part I, Introduction, economics, and general considerations. Relative importance of principal forest products. Technical properties in relation to uses. Decreasing use of special products. Farm woodlands as sources of forest products. Principal developments and advances made in recent years. Part II, Construction materials Veneers and plywood. Cross ties. Shingles and shakes. Part III, Chemically derived products. Wood pulp and its products. Wood-distillation products. Rubber Maple sugar and sirup. Part IV Wood containers. Part V Mechanically reduced products Excelsior Wood flour Wood densification. Part VI, Wood as fuel. Part VII, Miscellaneous products. Bark (other than for tannin) Christmas trees and decorations. Wild fruits, edible nuts, and tree seeds. Glossary of some terms as used with forest products. Bibliography of forest products. Index.

Note The ancestry of this book goes back to the author's *Forest products* which appeared in 1919 and was revised and published in a second edition in 1927 In 1937 the book was again revised and published under the title of *Timber products*. Now the original title has been restored. The book remains a treatise and reference book on the harvesting, processing, and uses of forest products other than sawn lumber In the present edition, the economic data hav been revised and a good share of the descriptive text has been completely rewritten. Also there are discussions of many new topics, such as sandwich type of wall panels, compressed wood, and insulating wool from tree bark. As in earlier editions, minor forest products, such as spruce gum and Spanish moss, are covered as well as major products.

BROWN, NELSON COURTLANDT

Lumber manufacture conditioning, grading distribution, and use. New York John Wiley & Sons, Inc. 1947 344 p illus 22 cm. 7950

Contents History economics, and general considerations. The manufacture of lumber Conditioning by air seasoning and kiln drying. Remanufacture. Grades and inspection. The small sawmill. Sizes and price relationships. Merchandising, distribution, and use. Shipping and traffic. Export. Lumber trade associations. Index.

Note A survey of the manufacture of lumber that may be used either as text in schools of forestry or as a book of background information by persons engaged in the manufacture or sale of lumber The economics of the industry and its technology are given almost equal emphasis. There is considerable resemblance to the author's earlier *The American lumber industry* (1923) but there is so much new material, and the older material that has been used has been so thoroughly revised, that this is fairly called new work. In 1957 the publisher reported that a new edition was in press.

PANSHIN, ALEXIS JOHN, AND OTHERS

Forest products their sources production and utilization. By A J Panshin E S Harrar W J Baker, and P B Proctor New York McGraw Hill Book Company Inc., 1950 549 p illus. 24 cm (The American forestry series Walter Mulford, consulting editor) $8 00 7951

Contents Part Economics of forest utilization Timber resources and their importance in the economy of the United States. Wood residues and the related problems of wood-utilization research. The relation of wood properties to wood utilization. Part II, Wood products: Round timbers. Mine timbers. Railroad ties. Wood furniture. Veneers and plywood. Wood containers. Shingles and shakes. Wood flour Sawdust and shavings. Wood fuel. Minor wood products. Part III, Chemically derived products from wood Pulp and paper Thermal- and sound-insulation materials. Cellulose filaments and film. Carbonization and destructive distillation of wood. Wood saccharification. Part IV Derived and miscellaneous forest products N val stores. Maple sirup and sugar Tannins and dyes. Wood in the plastics industry Minor forest products. Index.

Note. A college textbook which is useful also as an elementary reference book in institutional and personal libraries. The first part occupies only 51 pages. The rest of the space is devoted to specific descriptions of forest products which are currently manufactured in the United States of America or are imports of economic importance. Individual products are described in adequate detail and the methods of manufacturing each one are also described. Flow charts are used frequently to diagram processes, and illustrations are included to show special machines and techniques. Selected literature references are included.

RECORD, SAMUEL JAMES, AND ROBERT W HESS

Timbers of the New World New Haven Yale University Press, 1943 640 p. illus. 27 cm. $15 00 7952

Contents (abridged) Gymnosperms. Angiosperms. Explanation of wood descriptions. Lists of families classified with reference to special properties and uses of their bark, lea es, and timber. Sources of information and material. Bibliography Explanation of the photomicrographs. Index.

Note. An encyclopedia covering the trees and larger shrubs of the entire western hemisphere, exclusive of the Pacific islands. The bulk of the treatise concerns Latin America. The book describes the trees and their woods; supplies the vernacular trade and scientific names, and indicates their present and potential economic value in classified lists which suggest substitute woods and possible sources of rubber resins, oil tannins, dyestuffs, drugs, and fibers.

SMITH, J RUSSELL

Tree crops, a permanent agriculture. New York The Devin Adair Company, 1953 408 p illus 22 cm. $6 00 7953

Contents (abridged) How long can we last? Tree crops—the way out. The plan—an institute of mountain agriculture. A stock food and man-food tree—the carob. A stock feed tree—the honey locust. The real sugar tree. The persimmon—a pasture tree for the beasts and kingly fruit for man. A corn tree—the oak as forage crop. Nuts as human food. The pecan—king of hickories—a type study in tree crops. Some suggested lines of work—the unexplored realm. A peep at the tropics. Tree crops and farm management. Appendices. Index.

Note. Primarily this book is strong plea for more attention to trees as producers of food for animal and human consumption. The author's thesis is that trees conserve soil and that if the same attention were given to their breeding and culture as has been given to other types of crops, such as the grain crops, they would be as important in the production of food and at the same time would protect the soil from depletion and erosion. Much information is included on suitable trees, yields from them, their effects on the soil, on human elfare, etc. Proposals for research are outlined. The volume is illustrated ith 137 figures, most of hich are reproductions of photographs f trees, uts and fruits, scenes of soil erosion, orchards, and tree plantings.

STAMM, ALFRED J, AND ELWIN E HARRIS

Chemical processing of wood New York Chemical Publishing Company 1953 595 p. illus 23 cm $12 00 7954

Contents Wood as chemical raw material. The constituents of wood. Structure of wood. Surface properties of ood. Mechanical and thermal properties of wood and wood products. Drying wood. Preservative and fire-retardant treatments. Modified woods. Wood-base plastics and boards. Pulp and paper Pulp boards and paper-base laminates. Cellulose derivatives. Tree exudates. Destructive distillation of wood. Extractives. Wood hydrolysis. Hydrogenation of wood and wood products. Miscellaneous products from wood. Index.

Note This book covers not only processes in hich wood is used as a chemical raw material but also processes in which wood is chemically treated to improv its structural or other properties. Each of the chapters is based on an extensiv literature survey and is accompanied by long bibliography Uses and processes are described in sufficient detail to enable the technically trained reader to decide in most instances whether he wishes to look up the source articles or not. The disadvantages of wood as ra material are discussed along with the advantages. Cost data on some processes are included but in many instances they are based on prices prevailing in 1945 or earlier

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Author Index

Author Index

Author Index

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Author Index

Author Index

Author Index

Author Index

Author Index

Author Index

Author Index

Author Index

Author Index

Author Index

Author Index

SUBJECT INDEX

Subject Index

Subject Index

Subject Index

Subject Index

Subject Index

Subject Index

Subject Index